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AMA-61850-ServerSim-G **Server-Simulator for IEC 61850**

Data Sheet

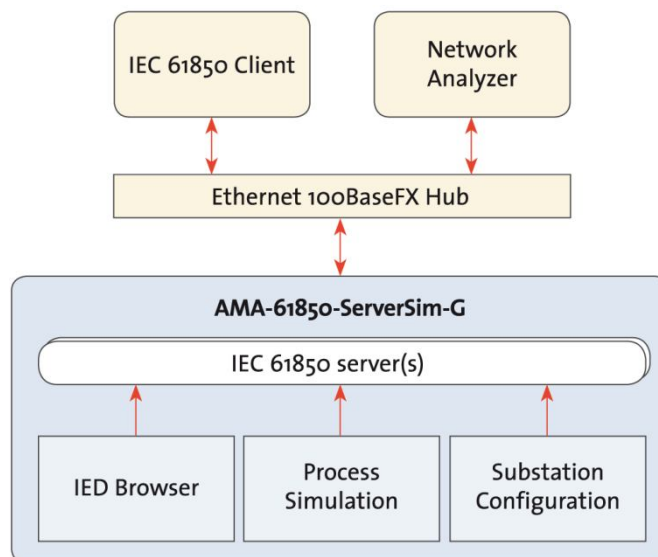
December 2013

1. Introduction

The “AMA-61850-ServerSim-G” offers you the capability to test client type systems like RTUs substation HMI or SCADA systems using IEC 61850 communication. With the product **AMA-61850-ServerSim-G** software license you can test clients without the need for real physical IEC 61850 server devices (IEDs). The AMA-61850-ServerSim-G is able to simulate up to 250 server devices with one software license. Each simulated server device can also act as a GOOSE publisher at the same time.

The server’s Data Model is configured by a separate configuration file for each simulated Server IEC 61850. The configuration file is in SCL format (SCD, ICD, CID and IID) acc. to IEC 61850-6. The SCL file specifies the Data Model of the server, including Data Sets and Control Blocks. Reporting behaviour is configured by Report Control Blocks and the GOOSE publisher by GOOSE Control Blocks. In addition the SCL file defines Common Data Classes and Logical Nodes acc. to IEC 61850-7-3 and IEC 61850-7-4. The data definition can be easily extended for additional Logical Nodes and Common Data Classes, as specified in companion standards like standard IEC 61850-7-410, or IEC 61400-25-2 or according to user-specific definitions. In this way you are able to test an IEC 61850 client system communicating with multiple simulated server devices combined with one or more real server devices.

The user may configure the Process Data Simulation for each simulated server separately using a Graphical User Interface (GUI).



AMA-61850-ServerSim-G, typical test configuration

2. Features of the AMA-61850-ServerSim-G

- The AMA-SYSTEMS Server Simulator supports the following IEC 61850-7-2 classes with their associated services – mapping as specified by IEC 61850-8-1:
 - Server
 - Application Association - TPAA
 - Logical Device
 - Logical Node
 - Data
 - Data Set
 - Reports - buffered and unbuffered
 - Log
 - Control
 - Generic Object-Oriented Substation Event (GOOSE) Publisher
 - File Transfer

- Easy configuration of data models via configuration file in SCL format. Separate SCL files for each simulated server possible.

- Easy extension of the data model: all Common Data Classes and Logical Nodes, as defined in IEC 61850-7-3 and IEC 61850-7-4 respectively, are supported as well as CDCs and LNs defined in companion standards like IEC 61400-25 and user-specific CDCs and LNs.

- Easy configuration of process data simulation via file and/or via graphical user interface. Separate configuration for each simulated server possible.

- High variety of simulation models available, including simulation models for Control Model and Quality.

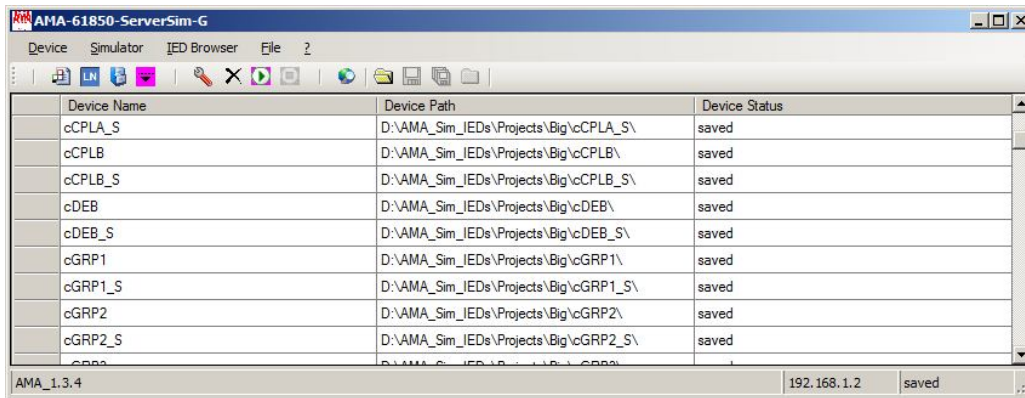
- With the saving and loading functions configured servers can be stored in projects. The user is able to set up and reuse different configurations.

- Easy configuration of complex device and process behaviour by scripting simulation events. Allows the user to implement multiple system failures, mass reports, etc...

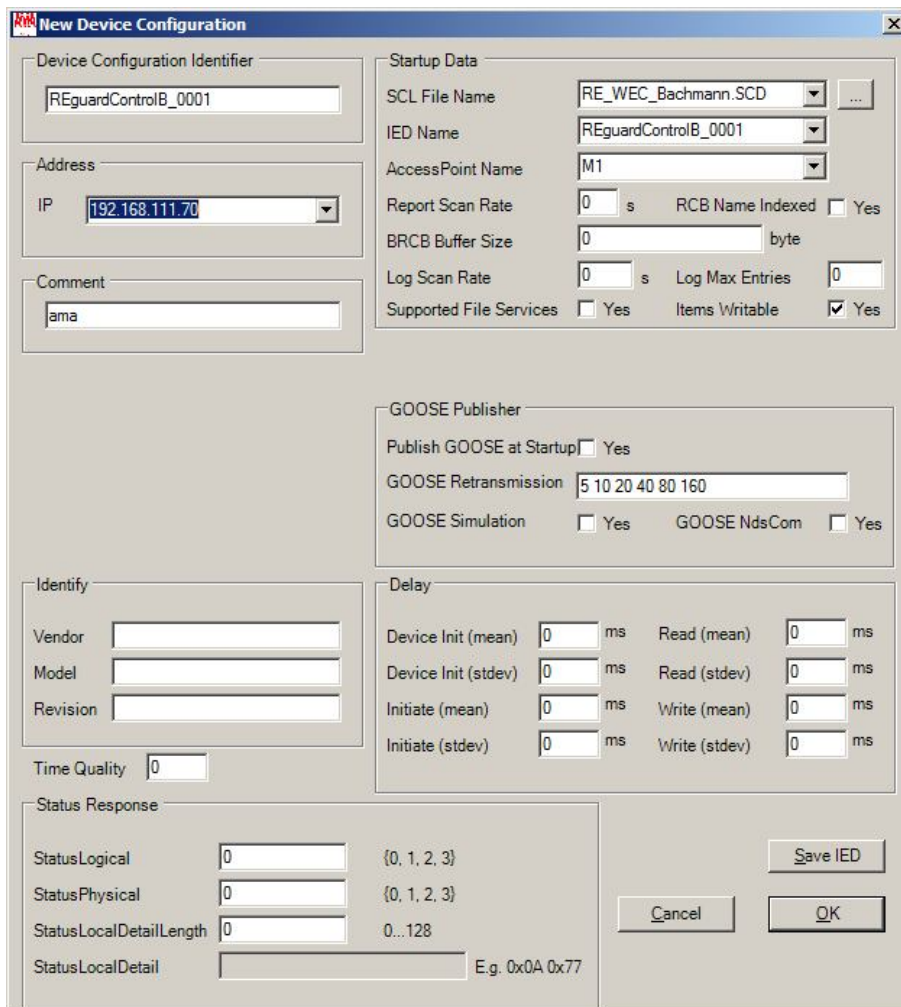
- Fast and easy setup of systems with a large number of devices by using the integrated copying function.

- Easy installation on a computer running MS Windows operating system.

3. Simulator Graphical User Interface (GUI)



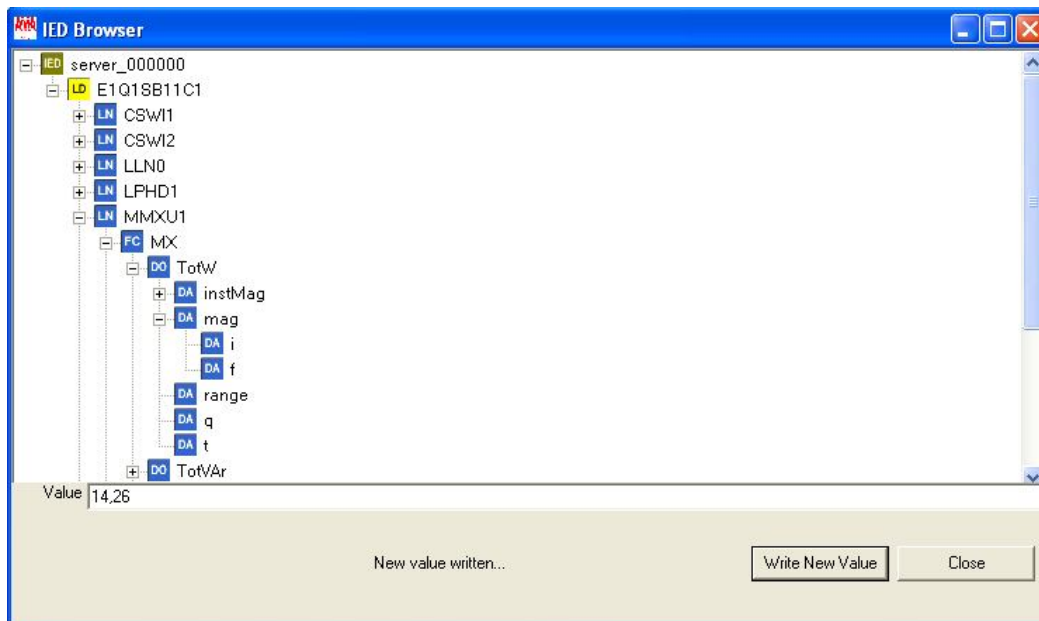
AMA-61850-ServerSim-G: Main window



AMA-61850-ServerSim-G: Window "New Device Configuration"

4. IED Browser

The IED Browser displays the IED's data model for any of the configured IEDs. In addition the IED Browser enables the user to select a Data Attribute from the data model and to write a new value to it – e.g. to trigger the sending of an IEC 61850 report due to data changes. The IED Browser can also connect to external real IEDs.



AMA-61850-ServerSim-G: Window "IED Browser"

5. System Requirements and Support

5.1 System Requirements

Computer with operating system MS Windows XP (x86 or x64), MS Windows Server 2003 (x86 or x64), MS Windows 7 (x86 or x64) or MS Windows Server 2008 (x86 or x64) with at least 1 GB RAM and one Ethernet network interface card. In addition, a USB port is required for the copy protection dongle.

The actual required hardware resources (CPU, RAM, ...) depend on the number of server devices to be simulated, the volume of the data models, and on the actual configuration of the process data simulation.

5.2 Technical Support

For technical Support a Maintenance & Support Contract (validity period: 1, 2 resp. 3 years available) should be agreed. Software Updates by CD are also included in the M & S Contract.

A Training of at least one day is highly recommended. If Training is booked the Maintenance & Support for the first 12 months after Purchase Order will be free of charge.

6. Part Number

- **AMA-61850-ServerSim-G:**
- Version including support of GOOSE publisher.

We offer specific Training and Workshops on request. Also Maintenance & Support Contract are available on yearly basis to make sure to have continued access to our Technical Support Team. With a M&S Contract also free Updates are available, as Upgrades for AMA licenses are released continuously.

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