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Introduction

These documents were created for all our customers and Siemens engineers, which are involved in engineering and/or commissioning of IEC61850 Ethernet networks in substations. Because of more and more requests regarding how to setup and design IEC61850 Ethernet networks, the product management of the energy automation department decided to publish some design recommendations and to provide predefined configuration files of the Ruggedcom switches. In that way the IEC61850 projects all over the world will be more similar and the commissioning phase will speed up.

How to work with the documents

Use the document "**Overall workflow**" to have a thread through the complete setup-phase of the communication network.

Several designs are recommended. For every design there is a network sketch available document "**Network Sketch Design xx**". In that sketch you see how to connect the devices together, also at which ports.

The dedicated document "**Description Design xx**" describes the design more in detail.

The xls-files "**design xx RSG2100 switch yyy.csv**", which are dedicated to the designs contain the necessary configuration data for the Ruggedcom switches.

The files can be uploaded directly to the Ruggedcom switches with the Ruggedcom file transfer utility. "**RC-TFTP-1.16.1**".

Useful tools

RC-TFTP-1.16.1 (Ruggedcom freeware)
Download the configuration files to the Ruggedcom switches:
The tool is available at http://www.ruggedcom.com/software/mibs/RC-TFTP-1.16.1.zip or siemens.siprotec.de/download_neu/html_nav/ind_app_d.htm. Follow "applications" and "IEC61850" navigation.

Netview (Siemens freeware)
Online monitoring tool for Siprotec devices; shows the most relevant communication parameters.
The tool is available at http://siemens.siprotec.de/download_neu/html_nav/ind_sw_e.htm. Follow "Software" and "Netview" navigation.

IEC-Browser (Siemens freeware)
With IEC-Browser you can browse online the complete IEC structure of each Siprotec device (and also third-party devices) and simulate the reporting functionality of the station unit.
The tool is available at http://siemens.siprotec.de/download_neu/html_nav/ind_sw_e.htm. Follow "Software" and "Netview" navigation.

Goose online monitoring
Online monitoring tool for GOOSE traffic; shows also the most relevant GOOSE parameters. Superior tool to support and accelerate the commissioning and test phase of your substation. Can be purchased at your local Siemens sales office (starting Q1/2009).

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