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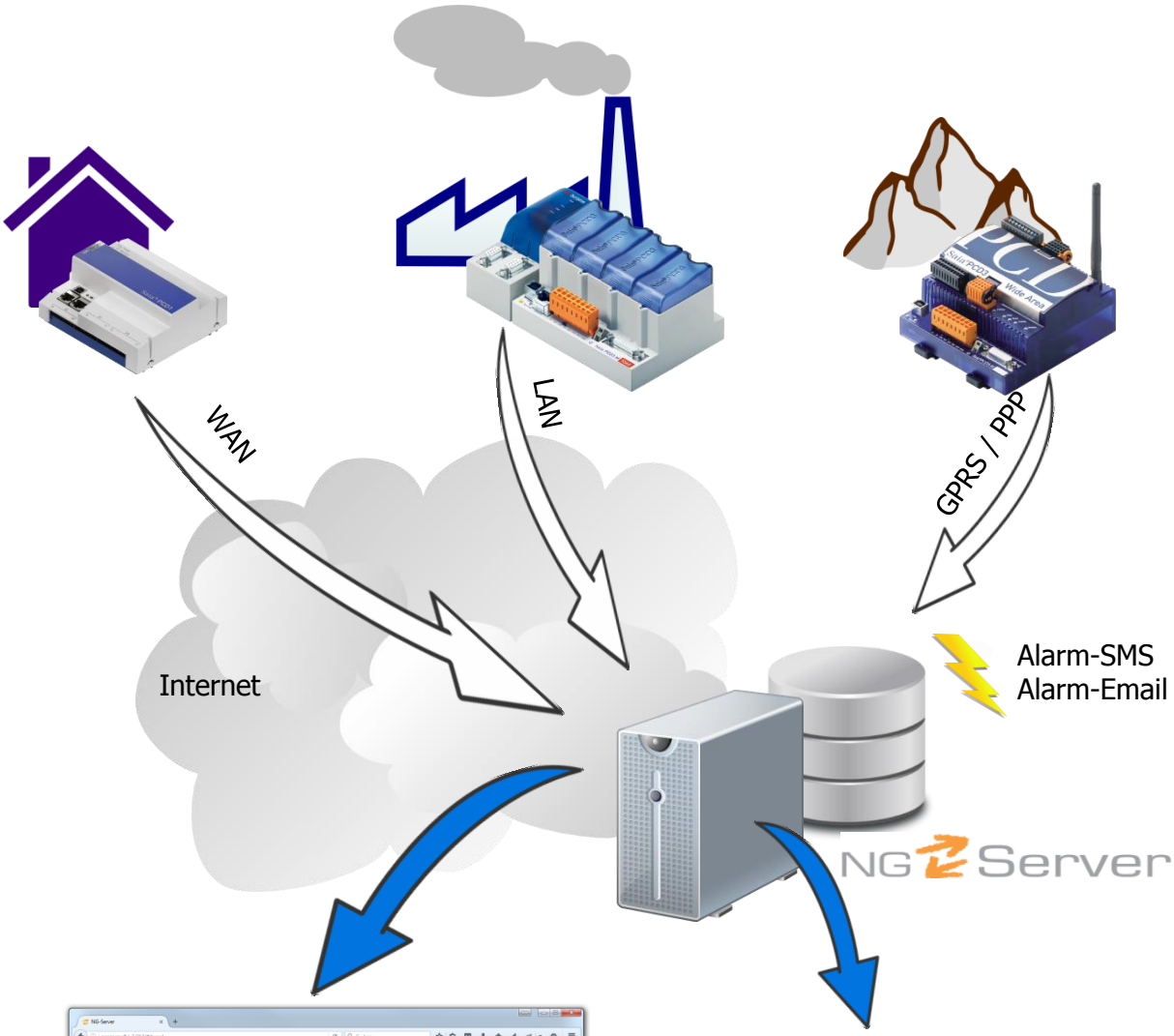
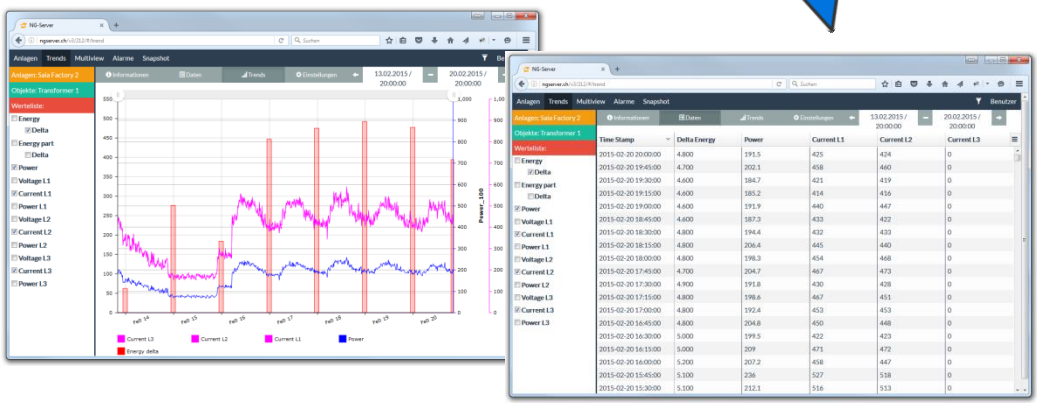
NG Server

Centralized data acquisition with Saia PCD® systems





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Introduction
NG-Server is a standard package designed to collect data from remote sites. Data can be transmitted using Ethernet (LAN/WAN) networks or GPRS/PPP. The communication is initiated from the PCD toward the server (Push mode). All data are saved in a centralized MySQL database. A Web-interface offers a selective access to the values with tabular and graphical representations. Each user has its own access right and can select its language (English, French, German).

Typical applications
- ✓ Energy Distribution / Consumption
- ✓ Cooling / Heating Systems
- ✓ Building Maintenance
- ✓ Heavac Applications
- ✓ Power Plant Monitoring
- ✓ Water Distribution / Pumping stations
- ✓ Environmental Values (Temperature, Humidity)
- ✓ Production Data Acquisition

Concept
The package is based on Saia PCD® systems. A dedicated FBox library is handling the temporary data storage on the Saia PCD®. The data packages are regularly sent to the server over the network connection. NG-Server is a modular solution and includes several components for data reception, the database management, a Web-server and alarm transmission via SMS or Email. Auxiliary modules are available for instance, for execution of background tasks and data export and archiving.

Main advantages
- ✓ Fully buffered data handling and transmission with external site autonomy
- ✓ No need for inbound access to the external sites
  (no VPN required, no Router configuration)
- ✓ Access to all data of all sites over the Internet without online connection
- ✓ Simple and efficient site commissioning with a minimum of server configuration
- ✓ Included diagnostics, functional supervision, life check and error reporting

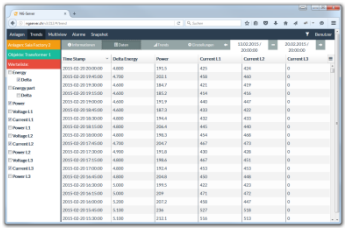
Technologies used

Saia PCD®:	GPRS Modem, Ethernet, TCP/IP, DHCP, DNS, etc…
Windows PC:	VB.NET, MySQL, Apache Web-Server, PHP, HTML5…

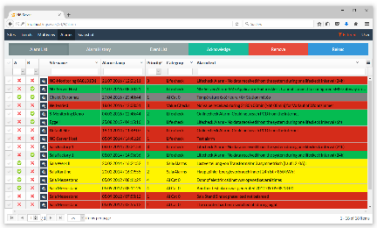
Internet demo at www.ngserver.ch (user: saia, password: 3280)

Analysis using graphs

Value tables for details



Alarm overview



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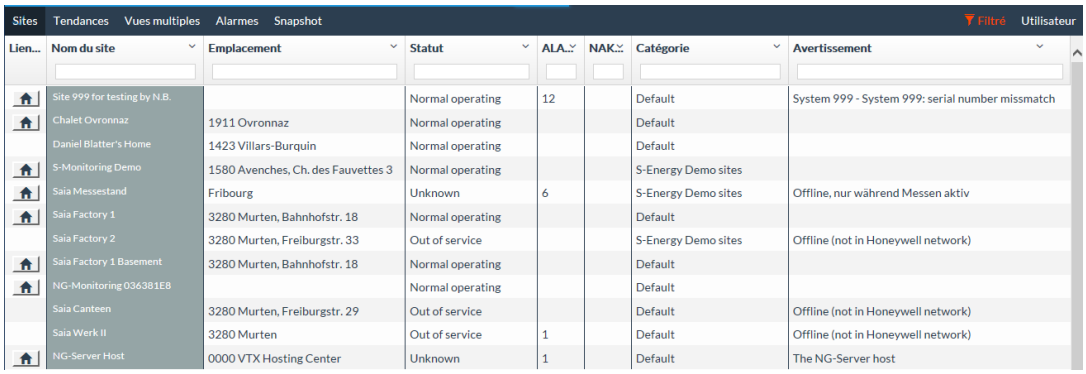
Data display on Web pages

A standard Web interface is available for the display of the stored data. The values are organized by site and objects (e.g. building / energy counter). The sites can be grouped by categories or regions and offer an efficient access to the desired values.

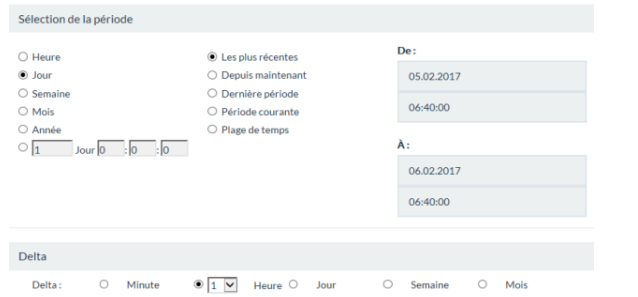


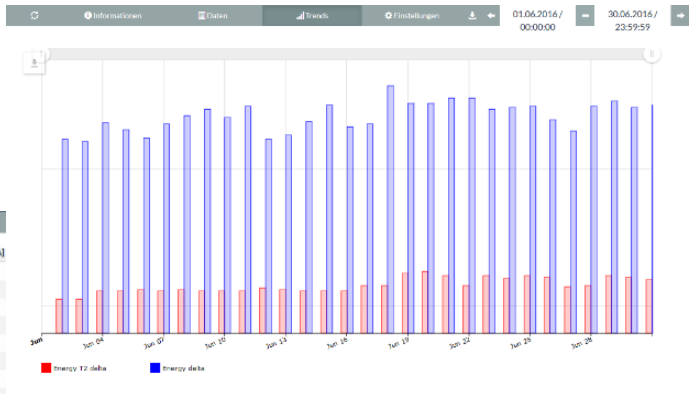
Lien...	Nom du site	Emplacement	Statut	ALA...	NAK...	Catégorie	Avertissement
	Site 999 for testing by N.B.		Normal operating	12		Default	System 999 - System 999: serial number missmatch
	Chalet Ovronnaz	1911 Ovronnaz	Normal operating			Default	
	Daniel Blatter's Home	1423 Villars-Burquin	Normal operating			Default	
	S-Monitoring Demo	1580 Avenches, Ch. des Fauvettes 3	Normal operating			S-Energy Demo sites	
	Saia Messestand	Fribourg	Unknown	6		S-Energy Demo sites	Offline, nur während Messen aktiv
	Saia Factory 1	3280 Murten, Bahnhofstr. 18	Normal operating			Default	
	Saia Factory 2	3280 Murten, Freiburgstr. 33	Out of service			S-Energy Demo sites	Offline (not in Honeywell network)
	Saia Factory 1 Basement	3280 Murten, Bahnhofstr. 18	Normal operating			Default	
	NG-Monitoring 036381E8		Normal operating			Default	
	Saia Canteen	3280 Murten, Freiburgstr. 29	Out of service			Default	Offline (not in Honeywell network)
	Saia Werk II	3280 Murten	Out of service	1		Default	Offline (not in Honeywell network)
	NG-Server Host	0000 VTX Hosting Center	Unknown	1		Default	The NG-Server host

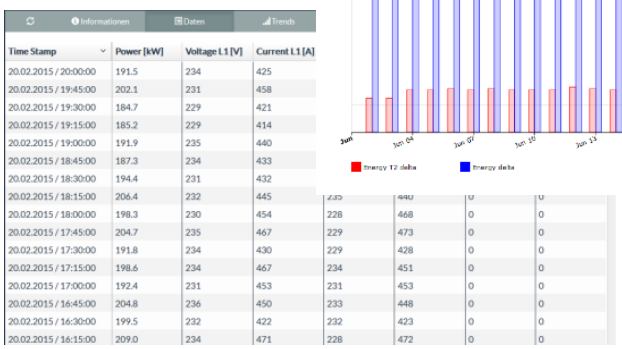
Additional information can be sown on the site overview, like an actual site status or an alarm summary for each site. A specific link can be added to each site. It offers for instance a quick link into Web pages in the PCD system.

Tabular and graphical trend Views

The data can be displayed in table form or on graphical trend views. Each value can be displayed or hidden. The time range is selected freely or by mean of predefined options (one hour, one day, one week). When large quantities of data are requested, a grouping is automatically activated. For counting values (energies, volumes), periodical consumption values are computed (daily, weekly, monthly consumptions). The selected data can be downloaded in CSV file for further treatment. Graphical views are downloadable in picture format.







Time Stamp	Power [kW]	Voltage L1 [V]	Current L1 [A]
20.02.2015 / 20:00:00	191.5	234	425
20.02.2015 / 19:45:00	202.1	231	458
20.02.2015 / 19:30:00	184.7	229	421
20.02.2015 / 19:15:00	185.2	229	414
20.02.2015 / 19:00:00	191.9	235	440
20.02.2015 / 18:45:00	187.3	234	433
20.02.2015 / 18:30:00	194.4	231	432
20.02.2015 / 18:15:00	206.4	232	445
20.02.2015 / 18:00:00	198.3	230	454
20.02.2015 / 17:45:00	204.7	235	467
20.02.2015 / 17:30:00	191.8	234	430
20.02.2015 / 17:15:00	198.6	234	467
20.02.2015 / 17:00:00	192.4	231	453
20.02.2015 / 16:45:00	204.8	236	450
20.02.2015 / 16:30:00	199.5	232	422
20.02.2015 / 16:15:00	209.0	234	471

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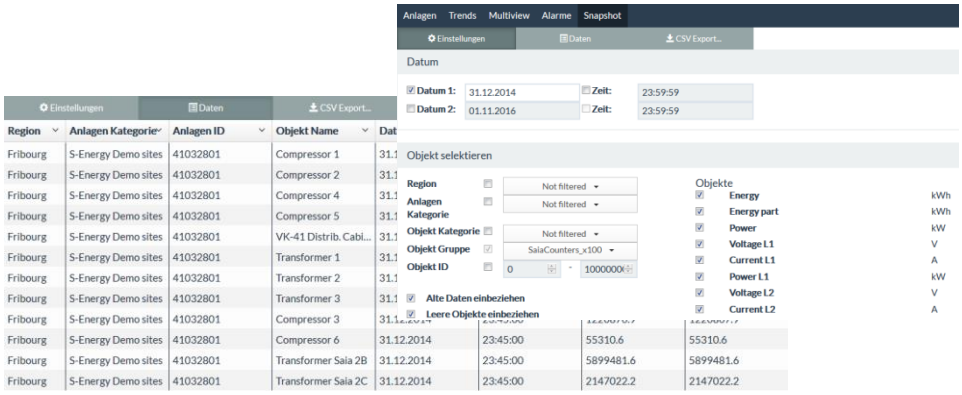
Multiview

For comparison of values from different systems, the **Multiview** function is used to combine them on a common table or graphic view. In this mode, the timestamps are automatically rearranged as to be common to all displayed values.

Snapshot

With the **Snapshot** feature, an overview of several values at a fix date is displayed. All values corresponding to user selectable options are collected on a same list. This data list can also be downloaded as CSV file for further treatment.



Customer specific reports and documents

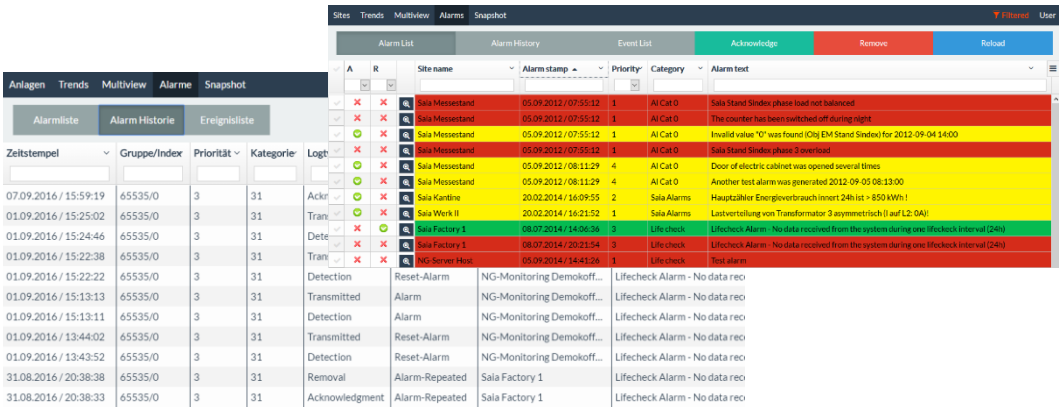
For particular cases where the standard views and CSV files are not optimal and when automatic reports must be generated, specific background tasks can be setup. The generated documents can be accessed using the built-in File Explorer.

Supervision of systems and values

The NG-Server systems can also check if each system does regularly transmit its data. An alarm is automatically generated in case of failure. Furthermore it is also possible to supervise the quality of some values and to generate alarms in case of anomalies (e.g. missing or frozen values).

Alarms and alarm history

Alarms are also grouped and can be filtered by region, site or categories. Each alarm can be acknowledged and deleted from the list. For analysis of alarm situations, a detailed history of all events is available.



Optional modules can be setup for automatic transmission of alarms per SMS or Email. Destinations are defined by mean of regions and categories while priorities define the transmission period (Day / Night / Weekends / Holidays).

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