EMPURON **PREM**
Monitoring of Primary/Secondary Reserve Energy

Powerful monitoring and reporting of primary reserve energy supply

EMPURON PREM is a powerful solution for electrical power grid operators to monitor and analyse the automatic control action of power supply companies, to react in case of maloperation. The cutting-edge architecture enables a huge data amount to be managed.

Data for plant power, contracts and global data are made available by the scalable database solution **EMPURON HIS** in terabyte dimensions.

EMPURON VISUAL ensures the required presentation of all energy generation data and paints a complete picture of network frequency and performance of power plants.

Cutting-edge technology of EMPURON PREM

- **EMPURON PREM** is a stand-alone solution. Thus all tasks can be done independent from the protected control system and all calculations can easily be adjusted to the needs.
- **EMPURON PREM** has the ability to process numerous calculations in parallel (multi tenancy capabilities).
- **EMPURON PREM** is able to monitor and analyze the automatic controller action independent from a particular manufacturer of control systems.
- **EMPURON HIS** is a high performance data storage which is capable of storing data in cycles down to 1 second for years.
- The calculations based on cyclic values are optimized and provide an excellent throughput of values.
- **EMPURON PREM** User Interfaces are fully web-based and thus can be used in any location, protected by firewall standard technology.
- All it needs to run the **EMPURON PREM** User Interfaces is a JAVA Runtime Environment on any platform and network access. The needed program modules are loaded from the server automatically, and the division of work between the client and the server is completely hidden from the user.
- **EMPURON PREM** provides powerful reporting and evaluation modules with automatic and dynamic reporting capabilities.

EMPURON **PREM**

- Data Warehouse
- Calculation Engine
- Middleware
- Reporting and Business Intelligence (BI)
- Data Management for Reserve Energy
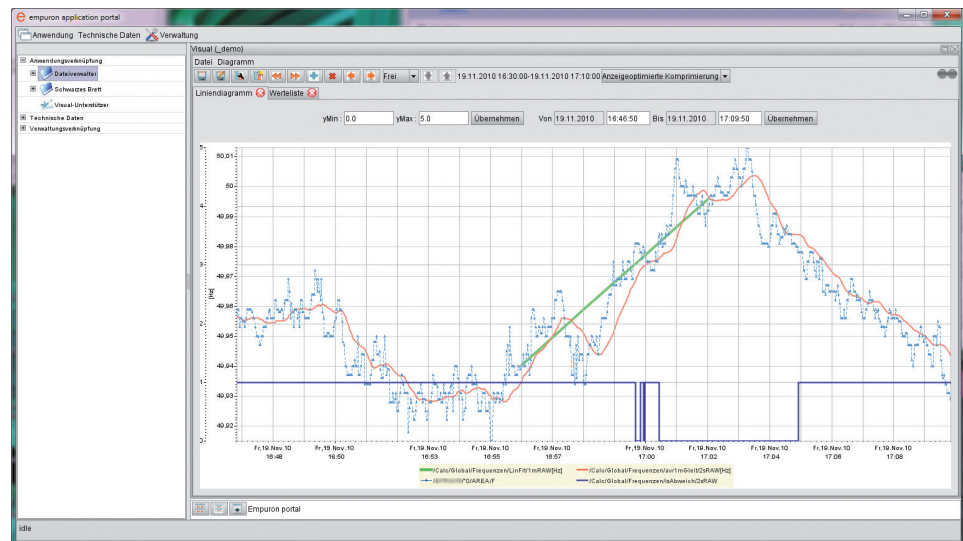- Application Server
- Alarm Management

Dynamic Reporting
Time-controlled in a pre-defined period of time, it is possible to search for events of faults. For the time of the fault event reports are generated automatically.

EMPURON AC will inform a configurable group of persons about new reports by mail, voicemail or SMS.

Overview of EMPURON PREM

- Formula definition interface.
- Provision of calculations for grouping plant power values to "total provider values".
- IF-THEN-ELSE-expression in formulas allow the generation of status time series and conditional summing.
- Data Warehouse based on importing functions and **EMPURON HIS**.
- Visualization interface with charting capabilities.
- Powerful reporting engine providing reports in many output formats.
- Redundancy functionality for servers and database
- Platform independence for server and clients
- Compatibility with MS SQL server and ORACLE databases
- Data filters and access rights definitions provide access to defined data and reports.

Frequency curve together with status "frequency low", "linear fit" curve and "moving average" curve