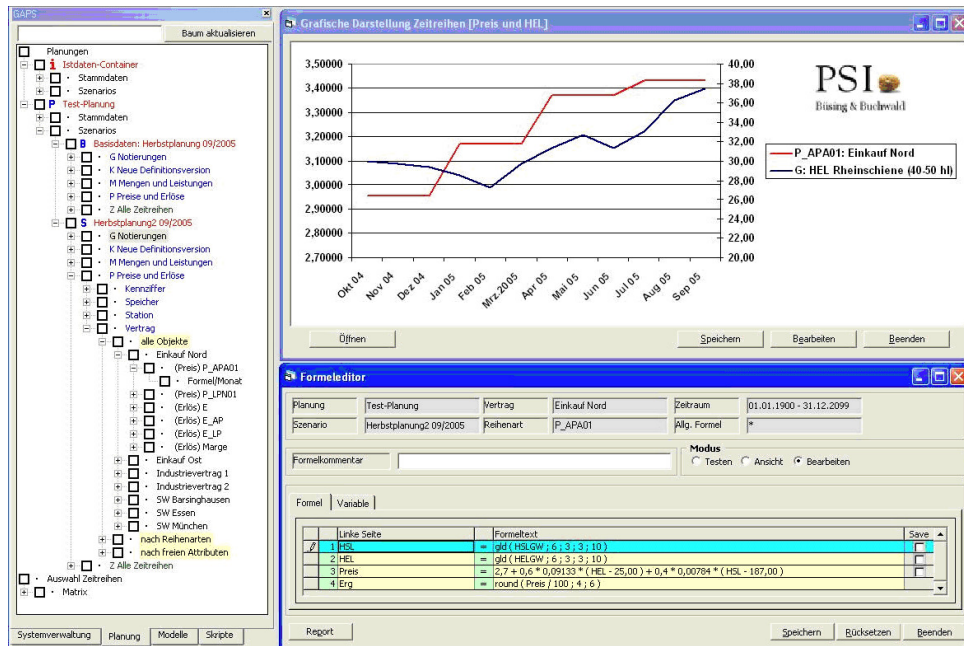


GAPS—The Tools for Gas Data Analysis and Planning



Application

- Short, medium and long term planning of gas purchases and sales
- Support for the purchase and sales departments in their daily business
- Central information hub for the enterprise.

Tasks

The tasks of GAPS are:

- Provision of methods for the commercial planning of gas purchase and sales
- Determination of the most economic utilization of contracts while observing all defined constraints
- Provision of analysis and valuation methods for purchase and sales projects
- Support for the requirement of the German KonTraG (risk assessment)
- Provision of tools and procedures for the valuation of existing contracts and those to be closed in the future.
- Management of medium term short and long positions

Characteristics

GAPS has been designed and implemented to cope with the requirements of the liberalized markets. Its main characteristics are:

- Comprehensive model of the gas trading process (purchase and sales)
- Multi-client capability
- Versatile user rights management.

Plans can be established as independent plans or as those having a dependency on other plans. For each plan a set of scenarios can be defined.

Planning Objects are used to build the model. Planning objects are, for example, Customers, contracts, stations, lines.

Planning Objects are associated with time series of different type. Those *Time Series Types* are volume, energy, prices, revenues, parameters and moving averages. For each type an arbitrary number of Time Series Sub-Types, such as discounts on the energy rate or energy price bandwidth, can be added.

The time series can be combined by applying mathematical expressions. These expressions can be defined using the GAPS Formula Editor. Its special characteristics are:

- Easy to learn syntax
- Definition of templates
- References to objects and time series.

The data stored in GAPS' database tables can be retrieved for reporting using the GAPS standard tools. The characteristics of the GAPS reporting system are:

- Time series explorer
- Graphics editor managing the formats
- Flexible report generator.

Advanced Planning and Analysis Functions comprise:

- Optimization (purchases and sales)
- Gross profit planning
- Margin analysis
- Static price analysis
- Temperature regression
- Correction of temperatures.

The GAPS Design

GAPS has been designed as a multi-user client/server system.

It is based on the industry standard three tier architecture comprising the database server, the application server and the clients.

GAPS uses the Oracle RDBMS as one of the core components.

The optimization kernel is provided by SAS.

Processes requiring substantial CPU time for calculations are executed on the application server, thus relieving the database server from this task and improving the performance.

Summary

GAPS is

- **GENERIC**; the system design is based on a user definable, freely configurable time series, planning object and property model.
- **UNIVERSAL**; its flexible time series can be configured by the to the requirements. Any variable can be referenced as a parameter.
- **FLEXIBLE**; user definable combinations of mathematical and specific methods (e.g. regression, take-or-pay and make-up, carry forward, etc.) and parameters individual for each time series type and sub-type.
- **POWERFUL**; the system supports the user in selecting and editing large data volumes
- **VARIABLE**; the system supports the user in the calculation of variants and alternatives with its special system topology
- **FUTURE PROOF**; GAPS can be extended by new types of time series, objects, methods and functions.

GAPS

GAPS was developed by PSI Energy Markets GmbH together with "Verbundnetz Gas Aktiengesellschaft", Leipzig.

PSI Energy Markets GmbH

Kriegerstraße 1E

30161 Hannover

GERMANY

Phone: +49 5105 5212-60 and 59

Fax: +49 5105 5212-77

E-Mail: info-EM@psi.de

<http://www.psi-energymarkets.com>

<http://www.psi.de>

