

High Voltage Grid

The Task

An electricity-grid operator develops a new system for the automatic calculation of electricity prices. Pricing algorithms are very complex, because:

- large competitors dominate the market.
- the state constantly adapts the regulatory framework.
- the asset structure of the high-voltage transmission grid is complex.
- the marketing/pricing strategy changes very quickly.

The new system replaces manual processes and needs to calculate and track all the consequences of a price change. Due to the structure of the business domain the new solution is developed around a set of two domain-specific modelling languages, one for the actual pricing strategy and one for the modelling of the power distribution grid. Since the users of these modelling languages are not familiar with traditional software modelling, they have to be provided with comfortable graphical editors.



The Highlights

Thanks to the new domain-specific modelling language, the pricing analysts can introduce new pricing strategies into the system directly.

The solution features a Java-based component architecture using design patterns that allow UML models independent of the implementation language: The technology includes Codagen GenIt MDA tool, Java, SOA, XML and Oracle 8i.

The Benefits

- The system goes live as planned.
- The costs remain within the original expectations. By streamlining the process “calculate prices per customer” the new functionality is more reliable.
- The intuitive user interface of the new web-based solution is easy to learn.
- Operational and maintenance costs are reduced significantly.