



German Emissions Trading Authority

Emission reporting based on a Forms Management System

In collaboration with the official authorities of the various German regions, the DEHSt (German Emissions Trading Authority) receives reports on annual CO₂ emissions from the operators of plants subject to emission trading provisions. In accordance with the German Greenhouse Gas Emission Trading Act and various organizational decisions, the business processes of the DEHSt, which is part of the Federal Environment Agency, are to be fully mapped in electronic form. This solution has been implemented by Siemens as general contractor working in partnership with Materna GmbH, based on Lucom's Forms Management System "FormsForWeb®".

The project

The complex data in the emission reports is recorded online by plant operators, with the aid of the BundOnline 2005 basic component Forms Management System (FMS).

Expert assessors verify this data as part of a separate role within FMS. Via the virtual post service (VPS) of the DEHSt, the expert assessor hands over the verified emission report, which bears an official electronic signature, to the plant operator. The latter submits the report, supplemented with a further official signature, to his responsible regional authority. After processing, this electronic data is passed on to the DEHSt by the authorities in the federal state, via the VPS.

All communication takes place via the Internet. In order to guarantee that the procedure provides the requisite data security and legal certainty, VPS 2.0 is here used as BundOnline 2005 basic component data security with project-specific enhancements. The DEHSt thus holds the emission reports in the form of XML and PDF documents, with the necessary official signatures.

"During the first emission reporting period, about 99 percent of the total of 1,850 reports expected have already been created using the Web application."

Dr. Thomas Bigalke,
Federal Environment
Agency, German
Emissions Trading
Agency (DEHSt)



All plant operators have an account in the DEHSt's emission trading register for their emission authorizations. The concluding step in the "Emission reporting" business process involves the accounts being debited according to the emissions reported.

The challenge

- Tight schedule (September 2005 – February 2006)
- Complex technical requirements
- Complete electronic recording of reports on the Internet (paperless process)
- High expectations of user behavior at the end of the reporting period
- Plant operators' heterogeneous IT infrastructure

The solution

The DEHSt offers its customers a free software solution to prepare their emission reports which enables the efficient collation of the requisite data and information at the plant operator's end. The Forms Management System employed can be used as a central tool for electronic reporting: It takes the form of a server-based application which can be accessed via the Internet, and which meets the requirements in terms of the content and structure of the emission reports as set out in the European Union's monitoring guidelines. Use of the software in an appropriate manner creates a complete and properly formulated report in line with the stipulations of the monitoring guidelines.

Technical basis

The DEHSt is implemented on the basis of Lucom's FormsForWeb. The redundant design of the systems guarantees high availability of the application, with 24x7 support provided by the Service Desk at the Center for Information Processing and IT in Frankfurt.

Technical components:

- Five FSC Blade BX 620 for production purposes, divided into the zones: web, application, database (as requested by the Federal Office for Information Security)
- Two additional failover servers for web- and database-configuration

Hardware:

- FSC PRIMERGY Dual Server Blade BX620 with Intel Xeon processors

Software:

- Suse Linux ES 9.3
- Apache 2 Web-Server
- Apache Tomcat
- Oracle-DB 10g

Our services

- Serving as general contractor for the complete solution and the system concept
- Handling the IT design for the overall solution
- Creating the hosting concept
- Implementing the XML interface for downloading and uploading the emission reports
- Implementing the complex reporting forms
- Commissioning the complete system and "going live"
- Performing system tests and providing training

Benefits for DEHSt

- Cost savings in applications, data storage and communications
- Enhanced data quality
- Significant reduction in processing times
- Greater effectiveness thanks to a web-based workflow without media breaks
- Ease of use and extended availability 24x7
- Maximum data security

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