



Eurogate

Eurogate removes its mainframe to improve flexibility and dramatically reduce costs

Challenge

Eurogate needed to improve performance levels and reduce its IT operations costs to increase profitability. To achieve this, the company looked to reduce excessive mainframe costs and improve system flexibility.

Solution

- > Micro Focus Server™
- > Micro Focus Studio™

Eurogate

Eurogate is Europe's leading container terminal logistics group. Together with Contship Italia, the network operates ten container terminals from the North Sea to the Mediterranean. The range of services offered is completed by intermodal services and specialized logistics management. Established in 1999 and with a turnover of 12.5 million TEU (standard containers) in 2009, Eurogate is Europe's leading terminal operator.

Economic challenges driving change

The global economic crisis and decline in foreign trade delivered a harsh blow to the container industry. The container turnover for the Port of Hamburg, the second largest container harbor in Europe, was approximately 25% lower in 2009 than 2008. The Eurogate Group operates a large container terminal in the Port of Hamburg with a turnover of around two million TEUs. Eurogate needed to reduce related IT operations costs and increase profitability to address the challenges that the economy presented.

Eurogate IT Services is a wholly owned subsidiary of Eurogate and operates a computer center and standard software for commercial applications, and also develops software in-house. Two systems are of key importance for controlling and managing the container terminal: The operating system for ship and yard planning, which controls the storage, arrangement and distribution of the individual containers; and the COIN inventory management system. Based on the information provided by the operating system, the containers in the harbor are loaded and unloaded by means of the container bridges and transported by the carriers involving as few movements as possible. The loading and destination of containers is ultimately decided using this system. Using this software, even

Highlights

- > ROI in 6 months
- > Annual savings of several million euros
- > Higher performance levels
- > Improved system flexibility

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 Head of Branch Office Hamburg,
 Eurogate IT Services

large container ships with a holding capacity of more than 10,000 TEU can be loaded within 24 hours. The COIN system is responsible for managing the containers. As an inventory management system, it holds all the information about the containers currently in circulation. It knows, for example, to which shipping company a container belongs, when the delivery was made, what the target destination is, which customs notes must be observed or whether the containers are carrying dangerous goods.

Unsustainable mainframe operating costs

For many years, the operational and administrative applications were run together on one Unisys mainframe. However, this generated unsustainably high costs, especially when alternative systems could offer higher levels of performance. "The operating costs for the mainframe were running into seven digits," explains Patrick Jandt, Head of Branch Office Hamburg, Eurogate IT Services. "These costs had to be drastically reduced."

In a previous effort to modernize, Eurogate replaced the operating system with a specially designed piece of software running on a Sun Solaris system with an Oracle database. In contrast, the COIN administrative system initially had to remain on the mainframe since a suitable solution was not available on the market at the time. Proposals to create a completely new system for a more cost-efficient system environment were also rejected. Firstly, it would have been a lengthy project. Secondly, the overall costs would outweigh any key functional benefits.

Porting COBOL applications to a new landscape

Further analysis identified a pragmatic solution - the existing COBOL programs could be ported to a new system landscape by undergoing an automated conversion process. This landscape consists of virtual machines on HP servers and uses Linux as an operating system. Together with service provider Graeber Software Entwicklung (GSE) (Graeber Software Development) and the Micro Focus tools, it was possible to operate the converted COIN application with the runtime environment of Micro Focus Server for COBOL and an Oracle database without losing any functionality. This configuration rendered the expensive mainframe completely surplus to requirements.

Although the automation process was the focal point of the project, the migration of such an important and extensive application (COIN comprises approximately 180 COBOL dialog and 450 COBOL batch programs, 180 user interfaces and 280 batch procedures) is clearly not trivial. 99% of the process for converting the programs for

the COBOL Compiler of Micro Focus could be automated using the GSE tool set. For this purpose, the conversion software had to be configured initially in such a way that it could record the special features of the existing code correctly. "While converting all programs only takes one to two hours, the configuration with all its test runs and corrections occupied us for approximately six months - half the time scheduled for the project," explains Jandt. A key benefit of this procedure was that the business logic programmed in COBOL, in other words the control of the operational processes, did not have to be dealt with in the project. The one percent of necessary enhancements and modifications was also developed in COBOL for the new environment using Micro Focus Studio and Net Express.

Data management and application infrastructures modified

In parallel, the data management process needed to be modified. The data, which had previously been managed hierarchically in the mainframe system, was transferred to the Oracle database, a task involving 8.5 million data records. Such an extensive migration project not only involves migrating and adjusting the data management processes and the program code, some of which was over twenty years old, but also the entire infrastructure of the application. For example, job control - an application which works predominantly using batch runs - or the activation of interfaces for exchanging data with the shipping companies. These functions also had to be migrated to the new environment. Finally, as part of the system change-over, the operation of the application had to be adapted radically. For the Unisys mainframe, Eurogate had set up a 24/7 operating system in which one operator was always present. In the new system landscape, only one stand-by was necessary. This meant that IT costs could be reduced even further. All the tasks which were previously carried out by the operator are now automated. Interface processes and job control are carried out using PERL. "Overall, designing this new infrastructure was the most demanding part of the project," says Jandt.

Return on investment achieved within six months

At its container terminal in the Port of Hamburg, Eurogate has successfully migrated its software application for container administration from a mainframe to a Linux server system. The Micro Focus tools made it possible to automate the program conversion process so that 99% of the programs could be migrated unaltered. From start to finish, the migration project lasted approximately one year after which Eurogate permanently disconnected the mainframe. The expectation that IT costs could be

drastically reduced by eliminating the mainframe was fulfilled: "With this project, the return on investment was only six months," Jandt says. "We were able to reduce our operating costs by several million euros per year." In addition, the new system uses between five and seven percent less electricity, contributing towards 'green IT'.

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The savings achieved are not the only important consideration for Eurogate. The new system, based on standard technology, is now future-proof. It can be supported in the long term and therefore provides an ideal basis for future requirements such as integrating web applications or new terminal equipment like mobile telephones or tablet PCs. An enormous amount of time, money, effort and specialist know-how would have been required to make such enhancements with the old system.

Irrespective of the application area, the future development of the Hamburg container terminal also requires flexible IT solutions. Eurogate has now laid a solid foundation for this, with a cost-effective, modern platform.

About Micro Focus

Micro Focus, a member of the FTSE 250, provides innovative software that allows companies to dramatically improve the business value of their enterprise applications. Micro Focus Enterprise Application Modernization, Testing and Management software enables customers' business applications to respond rapidly to market changes and embrace modern architectures with reduced cost and risk.

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