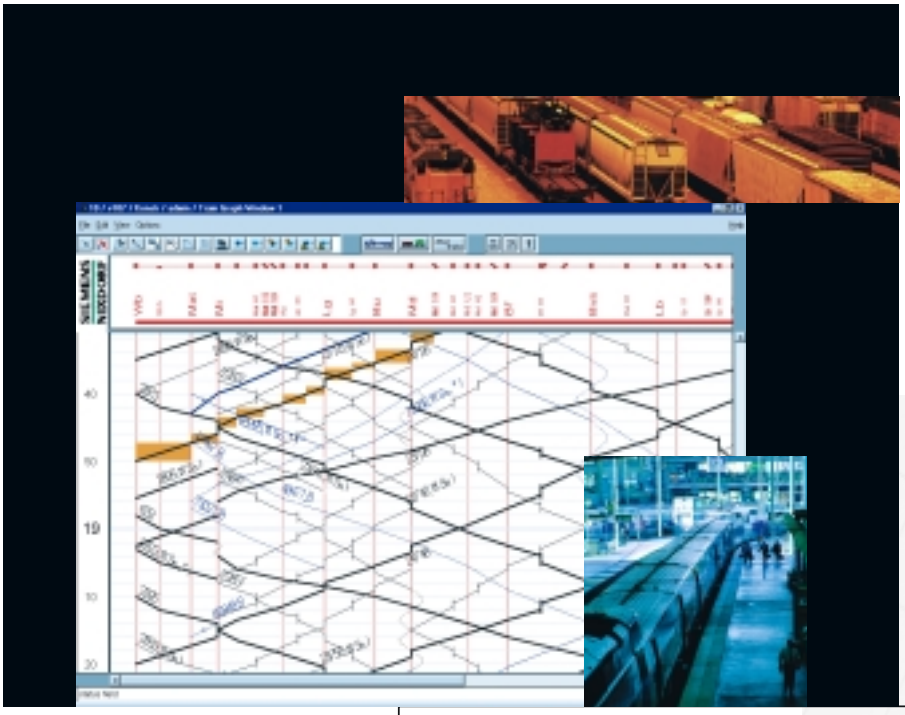


SIEMENS

Siemens

Railway timetabling

To keep trains on time, reduce congestion on the lines and satisfy the growing number of shippers, commuters and long-distance travelers dependent on rail transport, railways have come to depend on applications that enable them to optimize the train schedules. These applications allow railroad operators to coordinate the movements of trains, ensuring complete coverage of their lines and minimizing the number of trains in operation.

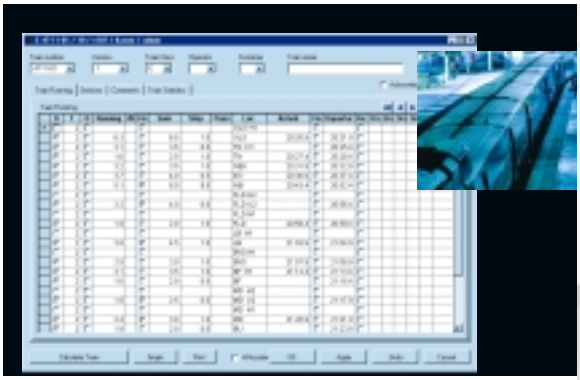
Siemens AG Wien, a leader in information technology, has created such a system. Named ROMAN, for "ROute MANagement," the system takes the arrival and departure times of trains and generates on-screen graphs that show the interplay among the vehicles. ROMAN lets the operator quickly spot conflicts in schedules and resolve them to improve the flow of traffic.

To develop ROMAN, Siemens needed C++ components that could be quickly and easily updated to accommodate changes in a railroad system. ILOG InForm and ILOG Views proved to be exactly what the IT supplier needed.

"The direct link of ILOG InForm immensely improves the performance time of ROMAN. It establishes a one-to-one connection between the data source and the application. Graphs and timetables can be rapidly created, and ILOG Views gives the user total control over scheduling."

Thomas Schwarzl
Project Manager
Siemens AG Wien

ILOG™



Siemens

Siemens celebrated its 150th anniversary in 1997. It is the largest European supplier of information technology, with 386,000 employees worldwide, 500 factories in 50 countries and sales offices in 190. In its 1996-97 fiscal year, Siemens achieved sales of approximately $53.5 billion.

About ILOG

ILOG is the leading supplier of C++ and Java™ software components. Its rule, optimization and visualization products greatly shorten time to market for applications in supply-chain management, telecommunications, transportation, utilities, defense and financial services. ILOG is playing a defining role in e-commerce by providing unmatched high-performance rule and configuration engines for online services. ILOG software has also become the de facto standard for optimization systems and network management user interfaces. Founded in 1987, the company now employs more than 470 people in seven countries. Visit www.ilog.com for additional information.

KEEPING TRAINS IN MOTION

By hand, days are needed to create a train schedule covering weeks, and once such a schedule is in place, it cannot easily accommodate changes in rail traffic resulting from unscheduled events.
ROMAN eliminates this inflexibility. With ILOG InForm and ILOG Views pulling the load, the Siemens application lets train schedulers generate timetables that can be immediately changed when the unexpected occurs. With ILOG InForm, the application taps information kept in a database, and with an ILOG Views-based graphical user interface (GUI), it lets the user turn the data into charts, timetables and spreadsheets that can be easily refined by the operator.
The main GUI component is an interactive chart that displays train lines by time and station. The chart provides a linear representation for each train and allows the user to view as many as 1,000 trains at a time. Changes made to the chart are automatically reflected in the timetables and spreadsheets, saving the user from having to change them individually.

PROJECT

The system uses an Oracle® database and can run with Windows NT or UNIX. Written in C++, it can easily be modified to run with a variety of data sources.

BENEFITS

Siemens evaluated two other software options before choosing ILOG Views for its ability to produce advanced graphics that the others could not provide. The application is connected to the Oracle database by ILOG InForm, giving the application's graphics a direct link to the scheduling information. As C++ libraries, the two components lend ROMAN consistency that enables rapid modification of the system through a common API. The components also make the application fully portable across the UNIX and Windows NT platforms.

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