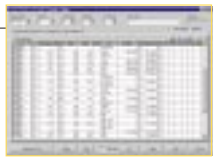
In this issue



ILOG Connection

ILOG quarterly, August, 1998 No.7

EDITORIAL

by Stanislas Berteloot
ILOG Communications Manager

Market Leader

Acknowledging a year of major advances in the field of optimization, AMR in May listed ILOG as the leading vendor of optimization components. The following month, IDC wrote: "ILOG...was the seventh largest player worldwide in 1996, but is the leading vendor [of software components] this year."

These observations were made in reaction to partnerships between ILOG and ERP and SCM software vendors. First came J.D. Edwards and Manugistics, which use ILOG optimization engines; then in April, enterprise systems provider SAP adopted the ILOG Optimization and ILOG Visualization suites for its APO software. SAP has since invested $10.5 million in ILOG to buy a 5% share of the company.

This issue of the ILOG Connection *shows how clients have earned substantial savings with ILOG optimization engines.*

To date, only a small fraction of optimization applications has even been imagined. ILOG and its partners will gladly help you design, implement and deliver applications that will greatly increase your enterprise's performance.

FOCUS

Optimization saves industry millions of dollars in stocking and distribution costs

In Europe, truck capacity is 50% underused, and factory inventories are typically 10% to 20% overstocked. ILOG, the leading provider of optimization software components, is positive industry can dramatically reduce inventories while increasing factory output.

Computer systems are used to cut costs by reorganizing production and distribution. A striking example of this is the savings resulting from the use of ILOG optimization at Chrysler auto plants. The carmaker has improved efficiency at 15 of its factories in North America, Mexico and Europe by optimally sequencing vehicles through the painting stages. So far, Chrysler has experienced an improvement of 10% to 20% in paint purging rates, saving $500,000 annually at a typical plant, or more than $7 million at all its factories; furthermore, the company expects to see inventories drop by as much as $20 million.

In Europe, the potential savings from such optimization are immense. The Efficient Consumer Response (ECR Europe) group, a trade and industry organization, estimates consumer prices could fall by 1.2%. Depending on the industry, supply chain

ILOG optimization at work

systems could produce stock reductions of 28% to 46%, which would generate a 0.5% consumer price drop.

"It's all part of the excitement for supply chain management," said Pierre Haren, CEO of ILOG. *"Simply put, supply chain management is the practice of delivering raw materials and finished goods only when they're needed on factory floors or retail shelves."*

"A well run supply chain," he added, *"cuts out expensive manufacturing and distribution processes as well as costly buffer inventories."*

According to Andersen Consulting, supply chain management (SCM) systems could reduce the $491 billion outlay of the European food industry by 5.5%. The systems could reduce inventories in the food industry by 42%, said Andersen.

In Norway, Toolpost-Globe, the leading trucking company, has seen the distances its drivers cover shortened by 25% since the introduction of a dispatching system based on ILOG optimization components. By saving each of its drivers 200 km per day with the system, Toolpost-Globe has contributed significantly to reduced air pollution and traffic congestion in the Oslo area.

The performance of SCM, enterprise resource planning (ERP) and advanced planning and scheduling (APS) systems is dependent on the quality and

Continued on Page 3 ►►►

COMPONENTS

ILOG Views 3.0

ILOG Views™, our best-seller, now has an extended graphics editor for handling business graphic objects (BGOs) and a JavaScript™ implementation to make customizing applications easier. ILOG Views 3.0

lets developers directly access application behavior through a portable implementation of JavaScript. The unique editor for BGOs means graphic representations of objects unique to industries can be built with rapid, intuitive point and click editing.

ILOG Scheduler 4.3

Fresh out of the labs, this version of ILOG Scheduler™ includes an advanced real time scheduling feature for ERP and APS applications, as well as enhanced speed and memory management gained from working with leading developers of supply chain and enterprise management applications. ILOG Scheduler synthesizes the lessons learned from working with major customers such as SAP and J.D. Edwards, and offers advanced features essential to available to promise and capable to promise applications.

ILOG Scheduler is the optimization engine of choice for building ERP and APS applications.

PARTNERS

SAP and ILOG:

a partnership for success

SAP puts its trust in the ILOG Optimization Suite and invests $10.5 million in ILOG

ILOG's partnership with SAP A.G., a market and technology leader in client/server enterprise application software, confirms the company's position as a leader in the field of advanced business optimization.

In May, 1998, when SAP announced that a number of ILOG optimization features would be included in its new product, Advanced Planner and Optimizer™ (APO,) the company made public an alliance begun a year earlier in which SAP and ILOG jointly provided advanced planning and scheduling solutions to end user customers. As a result of that teamwork, ILOG was granted the coveted status of SAP Development Partner.

U.S. $10.5 million investment

In a move that further illustrates SAP's confidence in ILOG, the German software giant has recently invested $10.5 million in our company. The investment gives SAP a stake of approximately 5% in ILOG. Under the terms of the agreement, SAP agreed not to make future purchases of ILOG stock.

The SCOPE strategy

The APO component, a key element of the SAP SCOPE strategy, provides a complete suite of supply chain planning functions. APO forecasting, planning and optimization activities can be executed in real time. The SAP Business Framework supports integration with both R/3™ and non-R/3 systems. ■

Offshore Shipping

Navion, KNUTSEN OAS

Navion, the Norwegian offshore shipping company partly owned by the oil company Statoil, has increased the utilization ratio of its offshore loading oil tankers in the North Sea by 5% with an optimization system powered by ILOG.

Developed for Navion by Cap Gemini, the system uses ILOG Solver to schedule the fleet and ensure the best possible vessel allocation and turn around time. The ILOG optimization engine computes constraints such as ship capacity, speed and equipment to determine the platforms and ports a ship can serve.

Navion's new planing screen

ILOG Solver's optimization algorithms calculate solutions that maximize ship usage. They accommodate unforeseen events such as rough seas, repair work and changes in port facilities; in addition, the system prioritizes orders to meet contractual obligations, minimize port duties and manage ship availability. ■

►►► Continued from Page 1

power of their optimization engines. Each system's engine searches out solutions for decisions that need to be made in a constrained or limited resource environment. Most optimization problems involve matching demand and supply when one or both are limited. Limitations may include storage space, working hours, vehicle availability, as well as constraints applied to limitations, such as production capacity, work regulations and customer preferences.

After deploying an ILOG powered optimization system, Whirlpool, the U.S. appliance maker, greatly reduced its time to market and cut customer response time from four weeks to five days.

In South Korea, an ILOG based application has successfully reduced the stock of POSCO, the world's second largest steel maker, by 10%. The steel producer expects the application to reduce inventories by 30% to 40% in due time. Today, POSCO estimates savings at more than $5 million at its Pohang plant.

POSCO

"Industry is tapping into the software revolution to improve its margins," said Haren. *"Our prewritten optimization engine will increasingly make the difference between winning and losing."*

As industry turns toward SCM applications, the use of software components such as ILOG's will rapidly accelerate development of efficient systems that deliver massive savings and contribute greatly to global competitiveness. ■

CUSTOMER SHORT STORIES

APS: Fygir SCM relies on ILOG

Fygir, an international advanced planning and scheduling (APS) vendor, has included ILOG optimization engines in the foundation of products it provides to leading companies worldwide. Fygir relies on the ILOG Solver™ and ILOG Planner™ optimization components in its GRIP* production scheduling system and FIT* supply chain planner.

The products are used at more than 80 sites worldwide. Fygir serves a large base of prestigious customers in Britain, the Netherland and the U.S., including Unilever, Cargill, Bristol-Myers Squibb, Mead Johnson, Safeway, Basic American Foods, Beiersdorf and Heineken.

Fygir's advanced optimization and problem modeling software combines its own APS expertise with the ILOG optimization engines, which provide the core optimization algorithms and technology. Fygir's advanced application environment lets users without APS expertise model and plan activities. ■

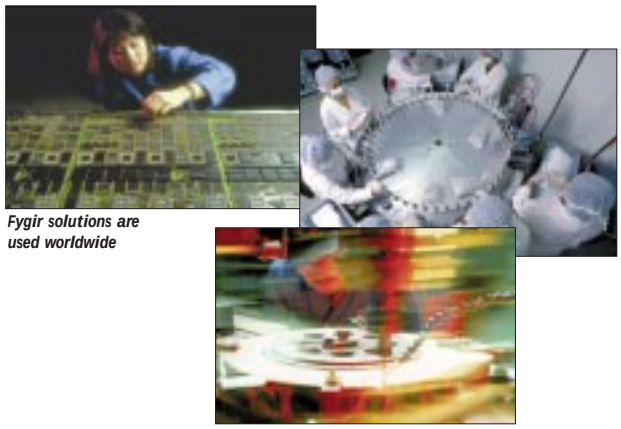
TCSI uses ILOG JViews for network application

TCSI Corp., a global provider of software to the telecommunications industry, is incorporating ILOG JViews™ into its SolutionCore™ development platform for telecom applications. Equipment manufacturers and system integrators use SolutionCore to create distributed scalable operations support systems (OSSs) for managing daily operations.

TCSI SolutionCore™

ILOG JViews will be incorporated into TCSI's Presentation Services Package (PSP) for SolutionCore. PSP provides a Java framework for rapidly developing distributed cross platform CORBA clients. ILOG's visualization expertise will enable PSP developers to create highly graphic, Java based user interfaces that incorporate advanced 2D geographical mapping and representations of customers' network topologies and architectures.

PSP provides a complete class library for Java based client development that takes advantage of the most recent advances in user interfaces, platform independence, advanced drag and drop development tools, and third party component initiatives. ■



Fygir solutions are used worldwide

Product focus

ILOG CPLEX 6.0: *Pushing back the limits*

Operations research and math programming professionals have a good reason to rejoice: the new CPLEX 6.0 linear and mixed integer programming solvers will boost the performance of their strategic business resource allocation applications. Breakthroughs in simplex and barrier algorithms have resulted in significant performance gains for large linear programming problems, which deliver better, faster implementations in a wide range of industries, including transportation, telecommunications, manufacturing, finance, defense and health services.

CPLEX 6.0 outperformed CPLEX 5.0 by an average of 4.5, 2.3 and 3.6 times for simplex, barrier and barrier crossover algorithms, respectively, on an in house test suite of large problems. Several extremely large problems were solved over 40 times faster with CPLEX 6.0.

NEWS

Jeff Williams
Senior Director of Industry and Product Marketing

Jeff Williams has arrived at ILOG after more than 20 years with Hewlett-Packard. He brings expertise that contributed significantly to the HP Worldwide Computer Organization's achievement of over $18 billion in annual sales.

In his final post with Hewlett-Packard, Mr. Williams was Director of Operations and Planning/Customer Focus Manager of Worldwide Computer Organization.
His education includes a bachelor's degree in statistics and computer mathematics, as well as a master's degree in management and marketing.
Mr. Williams will direct the activities of ILOG's product managers worldwide from company headquarters in France. ■

Award

ILOG JViews Receives World Class Award from *Java Developer's Journal*

"TCSI is delighted that ILOG has been recognized for their outstanding contribution to the telecom industry," said Michael White, Product Manager of User Interface Development Products at TCSI. *"This award further confirms our choice of ILOG JViews as best of breed technology for the 2D graphics and mapping portion of PSP, the 100% Java Presentation Services Package that is part of our SolutionCore* telecom applications development platform."*

ILOG JViews is a 100% Pure Java® class library for developing high performance, intuitive 2D graphic displays. It is used in conjunction with conventional graphical user interface components, including AWT, JFC and JavaBeans, to create advanced interfaces with network topologies, rich map displays and custom editors.

ILOG JViews has been selected in recent months by a growing number of network management vendors as a key component for implementing sophisticated web based client apps. Read the ILOG JViews product review on the *Java Developer's Journal* web site at:
http://www.sys-con.com/java/index2.html ■

LGIC

LG Information & Communications Ltd. is the leading company in the telecommunications industry of South Korea. LGIC has improved its managers' response time and the transmission coverage of its network with ILOG Views, which adds to the company's customer satisfaction and improves its position in a rapidly growing, highly competitive industry.

LGIC application relies on ILOG Views

The Integrated Network Management System allows network operators to determine the status of any given node at a glance and take steps to solve problems as they arise. ■

For even higher performance, CPLEX Parallel Solvers are now available for the new release on an expanded list of SMP parallel architectures for systems from DEC, Hewlett-Packard, Silicon Graphics, Sun Microsystems and Intel based computers. Linear and even super-linear speed increases are achievable with parallel implementations of CPLEX 6.0.
"It is now possible to address business optimization problems that were completely out of reach only a year ago," said Todd Lowe, Executive Vice President of the ILOG CPLEX Division. *"By expanding the list of supported parallel architectures, ILOG now delivers performance leadership in linear and mixed integer programming to a broader business audience."* ■

RECENT QUOTES

International Data Corp.
"ILOG, for instance, was the seventh largest player worldwide in 1996, but is the leading vendor this year."
—Stephen D. Hendrick, Steve Garone,1997 Market Performance, June '98

Giga Information Group
"With the addition of the complementary ILOG JViews library for Java and the industry specific ILOG TGO library for network management and telecommunications, ILOG's Visualization Suite has become one of the strongest visual class libraries on the market today."
—Philip Costa, Industry Analyst, June, 1998

Benchmarking Partners, Inc.
"This new release of ILOG Scheduler... reinforces ILOG's position as the leading provider of optimization components [and] enables ERP and decision support vendors to design powerful available to promise and capable to promise applications."
—Ann Grackin, June, 1998

AMR Research
"The leading optimization component vendor is ILOG. The company offers three optimization components, including market leading LP/MIP acquired from CPLEX."
—Larry Lapide June, 1998

Network News
"Interface coding is tremendously expensive, but with ILOG TGO we can save time and money... TGO is in our mind a step forward. I see it as a sign of maturity within the network industry."
Nortel's Miguel Planas, by David McCormack May, 1998

NEWS FROM GERMANY

ILOG GmbH Signs New Partners

ILOG GmbH is continuing its expansion in Germany. It has signed major partners to strengthen ILOG's leadership in that country as a provider of optimization and telecommunications software components:

Dr. Materna

Dr. Materna, a 500 employee telecommunications system integrator specializing in Java, has been integrating ILOG components into applications since May.

Softlab

Softlab, BMW's software house in Munich, is using the ILOG Optimization and ILOG Visualization suites in its customer applications. The majority of Softlab's customers are in telecommunications, manufacturing, finance and insurance.

Progrevo

After analyzing the results of a recent market study of personal planning, ILOG GmbH decided to work with Progrevo, a system integrator specializing in scheduling applications using current optimization solutions.

Progrevo, located in Karlsruhe, South Germany, will use the ILOG Visualization Suite in its new projects. Progrevo has already started working on a new system using ILOG components.

NEWS FROM ASIA

Motorola

ILOG, a key contributor to Motorola's core software development projects, was invited to participate in the Motorola Asia Pacific Software Engineering Symposium 98, held July 17 and 18, 1998 in Singapore.

More than 200 Motorola employees from around the world discovered ILOG's latest developments and met several ILOG experts. Participants discussed the ILOG optimization software used in Motorola's multibillion dollar IRIDIUM satellite communications system for network resource allocation and scheduling. ILOG has been invited to participate to the Intelligent Systems for MIS Managers training program.

The Japan-Singapore AI Center organized the program in Singapore under the Third Country Training Program of the Japan-Singapore Partnership Program. On July 20, 1998, MIS Managers from over 20 Asia-Pacific countries will have an opportunity to attend a talk on ILOG optimization given by Mr. Gonzagues Jacques, ILOG APAC Technical Director. ■

NEWS FROM JAPAN

Itochu Techno-Science Corporation to Distribute ILOG Products in Japan

Bounthara Ing, ILOG VP Asia/Pacific

ILOG's recent partnership agreement with CTC, the information technology division of Itochu Corporation, to distribute ILOG products in Japan makes CTC ILOG's fourth partner in Japan, along with ASTEC Inc., BULL K.K. and Nippon Steel Corporation EI Division.

CTC is Japan's foremost provider of total system solutions for client/server computing. It has secured its position in Japan's leading industries, including manufacturing, retail, finance, telecommunications, transportation, medicine, education and research, and government. CTC has a well earned reputation as one of the world's foremost systems integrators.

CTC's well established position in Japan provides an ideal opportunity for ILOG to advance its products in a broad range of rapidly expanding markets.

Thomson Consumer Electronics freight loading

Thomson Consumer Electronics is using Solution Dynamics' Virtual Loader™, a new load planning module whose optimization engines are based on the ILOG Optimization Suite. Already deployed at TCE's Indianapolis and Toronto warehouses, Virtual Loader will be installed in all the company's facilities in North America by the end of the year.

After full deployment, the application is expected to deliver overall savings of 3% to 10% in shipping costs. Virtual Loader reduces the number of trucks needed while taking into account such complex constraints as product prioritization, pallet requirements and product integrity. For example, the application makes sure 60" TVs aren't stacked on top of VCRs to avoid crushing the latter.

Thomson manufactures RCA brand home entertainment electronics and GE brand home communications equipment. TCE ships thousands of appliances daily, including televisions, VCRs, CD players and digital satellite systems, to major North Americas retailers such as Circuit City, The Good Guys, Sears and Target. ■

CALENDAR

AUGUST
- Software Development East, 19–21 *Washington, D.C.*

SEPTEMBER
- Comdex/Enterprise West / Object World, 8–12 *San Francisco, CA*

NOVEMBER
- Network Interop, 4–6 *Paris, France*
- Sapphire 98, 8–11 *Melbourne, Australia*
- Java in Telecommunications Conference, 16–17 *Singapore*
- Systems, 19–23 *Munich, Germany*
- Software Automation, 25–26 *Utrecht, Netherlands*
- Hong Kong Software Exhibition, 25–28 *Hong Kong*

ILOG
BP 85, 9 rue de Verdun
94253 Gentilly Cedex
Tel: +33 (0)1 49 08 35 00
Fax: +33 (0)1 49 08 35 10
E-mail: info@ilog.fr or info@ilog.com
www.ilog.fr or www.ilog.com
Subsidiaries:
Australia, Germany, Japan, Singapore, Spain, United Kingdom, USA
Distributors in other countries

ILOG Connection is published by ILOG.
Publication Director: Pierre Haren
Editor: Stanislas Berteloot
Copy Editor: Mark Wilkinson
Desktop Publishing Specialist: jean-luc r◆quef◆rt

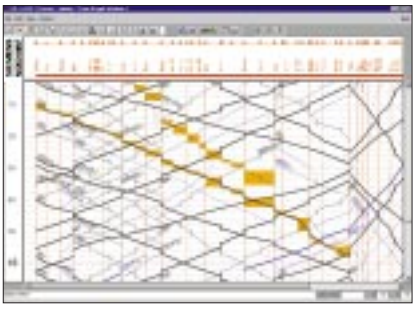
CUSTOMERS

RAILWAY SCHEDULING

SIEMENS

As railways become increasingly complex in meeting transportation needs, so do their scheduling requirements. Railways have come to depend on applications that optimize schedules to keep trains on time, reduce congestion on the lines and satisfy the growing numbers of commuters, travelers and shippers. These applications allow railroad operators to coordinate the movements of trains and ensure complete coverage of their lines while minimizing the number of trains in operation.

Siemens A.G. Wien, the largest European supplier of information technology, with 500 production plants in 50 countries and sales offices in 190 countries, has created such a system. Named ROMAN for "ROute MANagement," It considers the arrival and departure times of trains and generates screen graphs to show the interplay among vehicles. Operators can quickly spot schedule conflicts and adjust them as needed to improve traffic flow.



Flexible timetables make the difference

Siemens needed powerful, reliable 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.

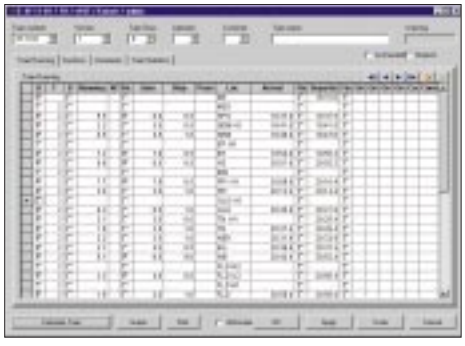
Keeping rolling stock in motion

Created by hand, entire days are needed to generate a train schedule covering a period of weeks, and once such a schedule is in place, it is almost completely inflexible. It cannot easily accommodate changes in rail traffic resulting from accidents, unscheduled events or maintenance work.

ROMAN breaches the inflexibility barrier. With ILOG InForm and ILOG Views pulling the load, the Siemens application lets train schedulers generate timetables that can be immediately changed when unforeseen events occur. ILOG InForm lets ROMAN access information kept in a database. The ILOG Views based graphical user interface (GUI) lets users turn the data into graphs, timetables and spreadsheets that can be easily refined.

The primary GUI component is an interactive chart that displays train lines with times and stations. The chart allows users to view as many as 1,000 train schedules at once. Changes made to the chart are automatically reflected in the timetables and *vice versa*, which saves users from having to change each timetable individually. Once the train charts have been built, they can be presented as standard spreadsheets.

Siemens evaluated two other software options before choosing ILOG Views for its ability to produce advanced graphics the others could not provide. The application is connected to an Oracle database with ILOG InForm, which provides a direct link to scheduling information. Since the components are C++ libraries, they lend ROMAN a consistency that supports rapid modification of the system through a common API. The use of components makes the application fully portable across the UNIX and Windows NT platforms. ■



Roman work screen

> *"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 in making schedules."*
>
> **—Thomas Schwarzl**
> Project Manager, Siemens A.G. Wien, Austria