

PARTNERS

ITC
New in
Australia



SHORT STORIES

SWISSCOM
Network
Planning



CUSTOMERS

**MATRA
MARCONI
SPACE**
Satellite
Scheduling



ILOG Connection

ILOG Quarterly, December 1998, No. 8

EDITORIAL

By Patrick Albert
ILOG Chief Technology Officer

Commitment to product development

ILOG Rules is unequalled for creating rule-based applications. Adopted this year by several major players, including Compaq, Qualcomm and LHS, it is becoming the standard in OSSs and alarm management.

Its success is due mostly to ILOG's commitment to product development. We listen to our customers, work with them in creating applications, and take care to learn from their success in applying our wares.

This has resulted in ILOG Rules 6.0. We have added new capabilities and spun off its Java facility, creating ILOG JRules 2.0, a component that gives the Java market the power of ILOG Rules, plus a unique API for building adapted management tools that facilitate the maintenance of rules by the end user.

Our rule components are truly on the cutting edge and will remain there with our unwavering commitment to product development.



FOCUS

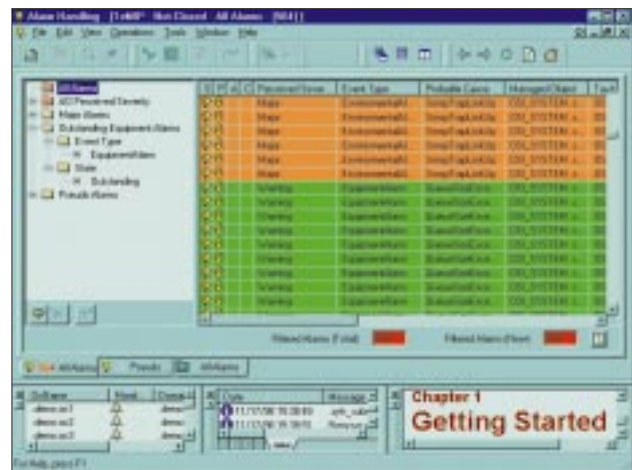
Telecom: ILOG Rules backs key operations

Bull's OpenMaster™ is telecom's most widely deployed network and secure enterprise software suite. Similarly, more than 40 of the world's largest telecom operators and service providers are using Compaq's TeMIP™-based systems in managing their networks and services. Both development systems owe much of their success to innovation.

By constantly striving to give their customers the best telecom management applications, Compaq and Bull have adopted the best software solutions, including ILOG components. Among them, ILOG Rules, the leading rule-based engine, is used to filter and correlate alarms. It reduces the workload on operators by helping them prevent problems or pinpoint and solve them when they occur.

Improve service

With ILOG Rules integrated into their award-winning management systems, Bull and Compaq further enable telecommunications suppliers, operators and equipment vendors to improve service and reduce management costs.



TeMIP interface

When an alarm goes off in a telecom network, it triggers others all the way down the line. It can be difficult to tell which alarm started the event storm, and with so many occurring at once, the operator could be occupied for hours trying to locate the cause.

In TeMIP Expert™, part of the Compaq TeMIP telecom management suite, and Bull's OpenMaster for Telecom™, ILOG Rules steps in by filtering and correlating the alarms. By applying rules defined by the operator, the rule-based engine rapidly goes through the alarms, hunting down the most significant. Once the cause of the event storm has been determined, ILOG Rules goes a step

further by recommending and prioritizing possible actions.

ILOG Rules also helps operators be proactive in fault management. Through real-time monitoring, the component looks for the anomalies that serve as precursors to breakdowns and notifies the operator when one is found. In this way, the operator can take steps to prevent a possible breakdown.

Smarter Customer Care and Billing Software with ILOG Rules

Furthermore, ILOG Rules has become crucial in operations support systems. Solution providers such as AMS and LHS use it to provide end users with

Continued on Page 3

COMPONENTS

ILOG JTGO

ILOG introduces a powerful Java visualization component for rapidly developing intuitive, graphic network management applications that can be accessed through a standard web browser. Called ILOG JTGO (Java Telecom Graphic Objects), it is the first product to provide advanced GUI features that improve network



efficiency and reduce the number of operator errors by making applications faster and easier to use. ILOG JTGO can impart an unprecedented level of robustness and responsiveness to any Java-based solution.

ILOG JViews 2.0

The new version of this 100% Pure Java graphics library has been enhanced with visualization features never before available in a single Java product. It has a new map manager for custom screen objects, an improved graph manager for tracking relationships between objects, and an extended set of prototypes, called Business Graphic Objects. ILOG JViews 2.0 gives developers the fastest, most comprehensive solution for making high-end, web-based GUIs for demanding applications that handle large amounts of data.

PARTNERS

Information Technology Consultants

a new partner in Australia

Bringing cutting-edge solutions and services to their customers to boost productivity and growth



ILOG has signed an agreement with Information Technology Consultants Pty Ltd. (ITC), to distribute ILOG products in Australia.

ITC's goal *"is to offer cutting-edge solutions and services to our customers while providing them with the opportunity to increase productivity and growth,"* said John Kean, ITC General Manager.

"In Australia's competitive marketplace, we believe ILOG products will provide highly reliable and efficient solutions that will benefit our customers and enhance their profitability and competitiveness."

Many Australian companies have discovered the benefits of using ILOG products. Mars Inc., for example, runs its Australian operations with a supply-chain management system based on the ILOG Optimization Suite.

ITC distributes and supports products from such highly respected vendors as Hewlett-Packard, Dataviews Corp. and Imperial Software Technology.

The company's customers depend on workflow enterprise applications and tools, visual-

ization technology and multi-platform enterprise-management systems.

This alliance extends ILOG's coverage of the Asia-Pacific region, an area in which the company has had a strong presence for many years.

In every industry throughout the region, ILOG components for visualization, optimization and supervision power applications whose performance, accuracy and reliability corporations have come to depend on in their everyday operations. ■

ILOG joins forces with Flexis



ILOG Germany and Flexis have agreed to work together on workflow optimization projects in the areas of transportation and metal, semiconductor and automobile production. Flexis already offers a wide range of products in these areas, from supply-chain management to decision support systems.

The software house, whose name stands for "Flexible Information Systems," plans to use the entire range of ILOG products for optimization and visualization.

"By means of components," said Phillipp Beisswenger, founder and manager of Flexis, "we are able to develop faster, and we can react flexibly to design changes from our clients, which occur more frequently." Beisswenger has been a fan of ILOG products since working with them at the famous Fraunhofer Institute.

"The results of optimization are amazing, and we want to place state-of-the-art technology at our clients' disposal. With ILOG, we are able to do so." Spun off from the Fraunhofer Institute in 1997, Flexis develops innovative applications for planning, optimization and control. ■

the best rates and highest quality of service. In billing, ILOG Rules' open and flexible rule-based engine enables the quick definition and implementation of complex pricing schemes that must be kept open to future changes. LHS, for example, has taken full advantage of this capability in its BSCS module for handling discounts and promotions.



ILOG Rules provides the best combination of flexibility and performance, making the component the perfect tool for handling the high volume of data flowing through various customer care and billing systems. More over, the component's high flexibility makes it possible to accommodate the broad range of business practices today, a much needed facility with operators and service providers increasingly demanding the means by which to customize and differentiate services.

In order management, ILOG Rules' performance is instrumental in the real-time processing of concurrent order requests. The component automatically derives all the tasks needed to provision a service, so the customer can immediately be told when to expect delivery. With ILOG products, service delivery becomes highly adaptable not only in terms of workflow, but also in terms of the never-ending evolution of services and technologies. ■

CUSTOMER SHORT STORIES

Swisscom

Since the opening of their market, former state-owned European telecommunications companies have had to join their rivals in adopting new applications for cutting costs. Many have turned to the numerous commercial software tools for planning, designing and managing networks.

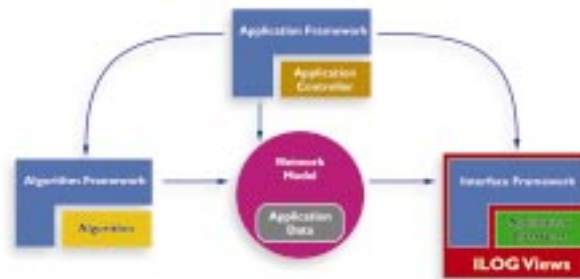
Though powerful, these tools pose a significant disadvantage in that they are provided as closed systems. While they offer a range of solutions to problems such as backbone design and clocking analysis, they cannot be refined with new optimization algorithms or special analysis methods.

At Switzerland's former state-owned telecommunication operator, Swisscom, the short-

comings of commercial network tools have been overcome with NETPLAN™, a flexible, object-oriented software framework for the development of integrated network planning and design tools.

NETPLAN implements reusable components for creating new applications and provides standard interactions for integrating applications easily. To make NETPLAN possible, Swisscom used ILOG Views.

The C++ component for 2D visualization heightens the power of the application by making it completely portable across computer platforms and able to provide sophisticated graphical user interfaces (GUIs). NETPLAN's success partly depends on ILOG Views. ■



NETPLAN framework structure

Product focus

ILOG Rules 6.0 and ILOG JRules 2.0

ILOG has extended the advantages of using its rule-based component with two new versions: ILOG Rules 6.0 and ILOG JRules 2.0. The components allow sophisticated business logic to be externalized from an application in the form of high-level, independent rules that can be easily adapted or extended to meet new business requirements. The components use a high-performance pattern-matching algorithm to monitor data and events, and apply rules when conditions warrant.

The components can be rapidly integrated into a custom development or an existing application. The flexibility, performance and advanced pro-

cessing capabilities provided by the components have long played an important role in meeting today's and tomorrow's network management and customer care and billing requirements.

In ILOG Rules 6.0, ILOG greatly enhanced the C++ component with language capabilities that include time and collection management facilities and a builder that lets the end user quickly and easily define new rules on the fly. ILOG Rules 6.0 perfectly matches the need for performance in demanding applications and has already been adopted by Bull, Compaq and LHS for integration into their platforms for telecom management and operations support systems.

LHS

At the forefront of providing customer care and billing solutions, LHS Group Inc. has integrated ILOG Rules into the latest release of the LHS Business Support and Control System™ (BSCS). Implemented in a module of BSCS 5.2 for the European and Asian markets, the powerful ILOG rule-based engine enables the quick definition and implementation of complex pricing schemes for discounts and promotions.

The LHS module offers telecom the flexibility needed to define and run targeted promotional campaigns. ILOG Rules monitors the high volume of data run through various services and cross-references the information with the prices in a wide variety of changing pricing schemes.

The pricing schemes and cross-referencing are implemented with configurable sets of user-defined rules. The system gives carriers and service providers the maximum amount of control for easily and frequently customizing offers and differentiating their services from other carriers in maintaining a competitive advantage. ■

DynaSys

DynaSys has integrated CPLEX into its next-generation planning tool for providing decision support in manufacturing. Systems and Knowledge for Effective Planning (SKEP) is a development system for creating supply-chain management systems.

SKEP consists of seven components for developing applications for master production scheduling; sales and operations planning; budget and sales forecasting; calculating the material requirements of components; and determining logistics between multiple production and distribution sites. Backed by DynaSys' 12 years of experience, SKEP offers powerful what-if functions, flexible modeling capabilities and a user-friendly interface.



SKEP concentrates on manufacturing planning at a tactical level and uses powerful reporting capabilities and multiple simulation contexts to streamline the decision-making process. It also offers all the necessary tools for multiple planning contexts and emphasizing the consequences of each action. SKEP takes into account requirement, manufacturing and distribution constraints, using CPLEX algorithms in modeling and optimizing complex supply-chain configurations. DynaSys counts among its customers Coca-Cola, Nestlé, Smithkline Beecham, Baxter Healthcare and Cadbury France. ■

ILOG JRules 2.0 makes the Java implementation of ILOG's rule-based technology a standalone product. It has been specifically designed with integration and flexibility in mind, and features a lightweight multithread-safe Java engine that provides full support for interpreted rules and application object-model discovery through Java introspection.

The component also provides a unique facility: the factory API. It enables rule-set introspection and rule creation or modification in an unprecedented way that lets customers build domain- or application-specific authoring and validation tools.

ILOG Rules turns the promise of rule processing in Java into a reality. ■

NEWS



■ **Mike Shelton**
Managing Director
of ILOG UK

Mike Shelton has been appointed Managing Director of ILOG UK.

Mike will be responsible for establishing ILOG as the leading supplier of software components in the United Kingdom.

Mike has a wealth of experience in IT management roles, especially in channel and partnership development. His appointment signals a new strategy in this area for ILOG UK.

Prior to joining ILOG, Mike was director of marketing and business development at Sybase Europe, where he managed European sales operations and marketing, channel and partner development. He came to Sybase from SCO, where he worked for seven years and served as worldwide vice president of enterprise solutions. ■

AMS

American Management Systems (AMS) has given unprecedented functionality and ease of use to Tapestry™, its customer care and billing solution, by integrating ILOG components. Tapestry combines object-oriented technology with a multitiered client-server architecture in delivering outstanding flexibility and scalability. It supports fixed and mobile voice, data, Internet, multimedia and entertainment services. The robust suite of Tapestry solutions helps telecommunications companies accommodate multiple locations, hierarchical and multinational billing, and multiple languages, currencies and formats. Tapestry enables service providers to rush new products and services to market, letting them deliver immediate, sophisticated access to billing information and offer both flexible and dynamic pricing.

Tapestry leverages intelligent object-oriented agents developed with ILOG Rules to derive tasks required to fulfill customer service requests. Tapestry also incorporates ILOG Solver and ILOG Scheduler to optimize allocation of human and material resources and provide highly reactive scheduling of installations and customer service activities. Additional rules monitor workflow execution states to minimize possible installation delays and ensure that customer visit dates are maintained. In cases where a delay is detected, a notification is sent to the operators and the software scheduling components. ■

RECENT QUOTES

IBM

"With ILOG JTGO, you get a standardized interface only for the better! Not only do you get predeveloped graphic objects, but can also include you own. ILOG managed to wed high performance with advanced functions such as automatic link layout. The result is informative and intuitive pictures of your network."

—Johan Pelgrim
IT Specialist
IBM Global Services

DynaSys

"After looking at several other concurrent solvers on the market, we decided ILOG CPLEX was the best product available. Developing a similar solver internally was out of the question. It would have taken way too long. Moreover, using the ILOG CPLEX product guarantees we'll always integrate the latest in linear programming. With ILOG CPLEX, we are now achieving much better customization and greater power and speed in calculation performance."

—Safia Kedad Sidhoum
Manager in Charge of
Development
DynaSys

LHS

"To perform future discounts and promotions that are inherently unpredictable, LHS has decided to use a dynamically configurable set of rules. ILOG Rules helped us build a flexible and scalable system whose underlying business logic can be changed quickly with minimal impact."

—Herwig Felzmann
LHS Senior Vice President
Technology Research and
Development
EMEA

NEWS FROM UNITED KINGDOM

Howmet

ILOG UK recently delivered an application to Howmet Exeter Alloys that computes optimal raw material choices for making special alloys. The alloys are used in a variety of high-tech machinery, including jet engines and industrial gas turbines. Howmet used to rely on a linear programming package, but it was only able to work on one alloy at a time and unable to accommodate additional business constraints. The new system, which uses ILOG Solver, ILOG Planner and ILOG Views and was written entirely by ILOG consultants, lets the customer address several alloys simultaneously and model more closely the company's true business requirements. The ILOG components were integrated into the company's new SAP R/3™ system for managing information on inventory, orders, purchases and other operations. Howmet has been using the system since August and expressed great satisfaction over its performance. ■

NEWS FROM GERMANY

ILOG GmbH at Systems '98

For the first time in ILOG history, the company has had a booth at the Systems trade show, the second-largest IT



exposition in Germany after CeBIT. Since the founding of ILOG GmbH in 1996, the company has only indirectly participated in the show through partners. The expo ran from Oct. 19-23, and ILOG made 260 new contacts in the German IT marketplace. ■

Singapore: ILOG in Operational Research

This year, ILOG has given three talks to Singapore's operational research community. In May, Dr. Alun Jones covered ILOG opti-



Vincent Gosselin of ILOG Singapore

mization in managing container ports in a seminar at the National University of Singapore. August saw Asia-Pacific Director of Consulting Vincent Gosselin present supply-chain optimization at the Operational Research Society of Singapore (ORSS). Finally, Dr. Irv Lustig of the ILOG CPLEX Division came in November to deliver a presentation on constraint and linear/integer programming at the ORSS. ■

NEWS FROM ASIA

Singapore: NCB LIUP

ILOG Singapore has joined forces with Singapore's National Computer Board (NCB) by launching a Local Industry Upgrading Program (LIUP). Working a l o n g s i d e other industry leaders, ILOG will help support new s o f t w a r e houses with training and marketing assistance. Started in 1986 by the Economic Development Board of Singapore, the first LIUPs gave multinational manufacturers a means by which to help their suppliers. By improving the suppliers' output, the multinationals expected to



Bounthara Ing of ILOG Singapore

improve their own products. Originally six multinationals—DuPont, Esso, Mobil, Shell, Singapore Petroleum and Singapore Refining Co.—participated. The resulting savings have amounted to an estimated \$2 million a year. This assistance was extended to IT companies in 1996 with the launch of the first NCB LIUPs. Five IT leaders—Abacus, AutoDesk, Electronic Arts, Macromedia and Oracle—have helped eight companies offer better products. As the leading supplier of advanced development systems for creating powerful applications for industry, ILOG is well positioned to run its LIUP to help fledgling developers succeed in the competitive IT market. ■

India: Army Trade Show

ILOG recently participated in the Exhibition cum Conference on IT in Army and Integrated Perspective for the Next Millennium, held in New Delhi, India. Jointly organized by the Indian Army and the Confederation of Indian Industry, it provided a



Indian Defense Minister George Fernandes (far right)

forum for IT companies to learn more about the army's information needs. Militaries throughout the world have long been aware of the importance of good modern communications, and the Indian Army, which is the fourth largest in the world, is in the process of upgrading its information technology. ILOG shared a booth with Tata Infotech, and Indian Defense Minister George Fernandes made a point of dropping by to learn more about ILOG and its products. ■

China: PTE expo Comm '98



The largest telecom and IT trade show in Asia, PTE expo Comm '98 drew to Beijing 650 exhibitors from 27 countries and 220,000 attendees from throughout China and the rest of Asia Oct. 27-

31. ILOG was one of the exhibitors, taking the opportunity to introduce the new ILOG JViews 2.0. The latest version of the 100% Pure Java component sweeping the industry, ILOG JViews 2.0 attracted considerable attention for its versatility and powerful display features. ILOG's participation and its products are expected to generate much interest in the region. ■

CALENDAR

NOVEMBER

- Software Automation
25-26
Utrecht, The Netherlands
- Hong Kong Software
Exhibition
25-28
Hong Kong

DECEMBER

- Interfreight
(Transport and Logistics)
1-3
*Rotterdam,
The Netherlands*
- TMN & Corba
9-11
*Geneva,
Switzerland*

JANUARY

- TMN: Automating
Network Integration
12-13
Phoenix, Arizona
- Telco Scandinavia
20-23
Göteborg, Sweden

FEBRUARY

- NET&COM
3-5
Tokyo, Japan
- Global TMN Summit '99
24-26
San Francisco, CA

MARCH

- JavaOne
16-19
San Francisco, CA

For information on our free seminars, check one of the web sites below or contact us at seminar@ilog.fr.

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CUSTOMERS

BRINGING OPTIMIZATION TO THE FINAL FRONTIER

INTELSAT AND MATRA MARCONI SPACE

Matra Marconi Space has selected ILOG software components to power INTELSAT's new satellite management system. The INTELSAT constellation of satellites constitutes a worldwide communications system by providing voice, data and video services to more than 200 countries and territories.

INTELSAT's Flight Dynamics and Commanding™ (FDC)



INTELSAT antenna base

system will generate, schedule and execute satellite commands, and include the functions needed to operate flexibly and reliably the satellite ground support network. Based on OPSWARE™, a Matra Marconi Space system for automating satellite operations, FDC will eventually be fully deployed throughout the INTELSAT ground network, from its satellite control center in Washington, D.C., to 40 antennas based in China, Italy, Germany, Australia and other countries around the world.

FDC is designed to operate a fleet of up to 30 satellites in geosynchronous orbit 36,000 kilometers above the earth. During the World Cup cham-

pionship, 11 INTELSAT satellites were used to beam television coverage of the soccer games to more than 3 billion people.

"ILOG software components provide the optimization algorithms essential to INTELSAT's satellite planning engine," explained François Copin, FDC Project Manager at Matra Marconi Space. "With ILOG, we've reduced our development time and risk, thus guaranteeing a quick return on investment."

ILOG optimization engines have been widely used in satellite mission planning and scheduling in the telecommunications and defense industries by such major companies as Lockheed Martin, TRW and Motorola. The INTELSAT FDC system uses both ILOG optimization and visualization components to achieve its outstanding functionality.

Decade of work

For more than a decade, Matra Marconi Space has been making satellite and telecommunications systems. By leveraging ILOG's world-class algorithms, FDC will enable INTELSAT to better allocate its resources.

"When deployed at the INTELSAT headquarters in Washington, D.C., the FDC system will

"ILOG has several advantages over other third-party vendors because of its very open API and pure C++ components, which simplify integration with existing applications. Moreover, the high-performance ILOG components perfectly fit our real-time environment."

—Joseph Kraus

INTELSAT Satellite Information Systems Dept. Manager

provide full satellite control, including multiuser operations, orbit determination, ground equipment management and alarm filtering," said Mauro Cordani, INTELSAT Manager of the FDC Program. "The initial deployment will occur this fall, followed by a subsequent release in the first quarter of 1999. ILOG software components are vital to FDC, an application that will be fundamental to the operation of our satellites."

"ILOG's integration into the FDC system as a COTS (com-



INTELSAT control center

mercial-off-the-shelf) product allowed INTELSAT to avoid costly custom software development," said Joseph Kraus, INTELSAT Satellite Information Systems Department Manager. "It will also let us take advantage of future ILOG upgrades." ■