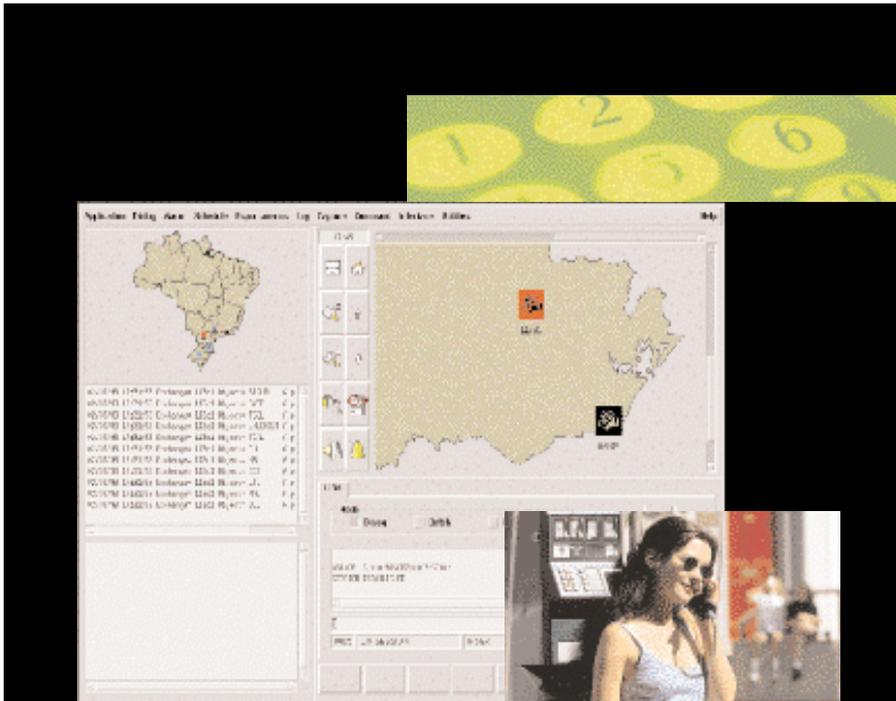




SIEMENS



## Siemens Brazil

### ADDING REAL-TIME MANAGEMENT TO A SWITCHING SYSTEM

SIEMENS EWSD is the most widely used switching system in the world, annually accounting for more than 25% of the shipments of switching systems. Over 300 network operators in 100 countries currently use EWSD, and every two seconds a new EWSD port is placed in operation. This unprecedented success is the result of giving unmatched flexibility, reliability and economy to network operators.

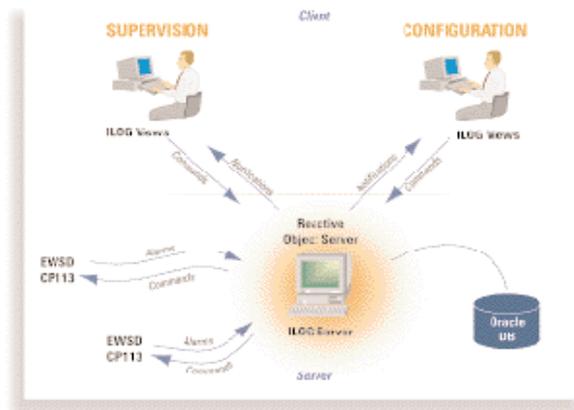
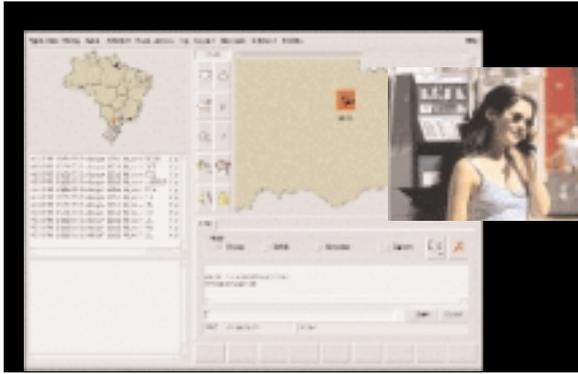
ComUX, the central monitoring system for managing EWSD, allows operators and administrators to respond immediately to events such as alarms and congested lines. When Siemens Brazil recently updated ComUX, it decided to add a real-time intuitive graphical multiuser interface. This new feature has greatly improved the operator's ability to interact with the switching system.

To develop the new features, Siemens selected the best software components on the market for integration and visualization: ILOG Server and ILOG Views. Currently being used by more than 25 telecommunications companies, the new ILOG-equipped ComUX greatly improves the speed and accuracy with which operators manage EWSD.

*"The ILOG components let us upgrade ComUX into an unmatched management system. Boosted with ILOG Server and ILOG Views, it gives our customers a real WYSIWYG solution that delivers 100% control of the entire switching system."*

• **Yang Michael Ruu Long**  
Research & development Public  
Switching Manager  
Siemens Brazil





## ComUX architecture

### SIEMENS

Siemens has more than 400,000 employees around the world, working to develop and manufacture products, design and install complex systems, and provide a range of services as varied as their customers' requirements. It has been operating in Brazil since it installed the country's first telegraph line in 1867. It has a 25% market share of the country's information and communications segment, making it one of Brazil's largest providers. In 1998, Siemens experienced net worldwide sales estimated at US\$68.4 billion.

### ABOUT ILOG

ILOG is a leading provider of advanced C++ and Java® software components for graphics and resource optimization. ILOG products deliver high-performance data visualization for 2D and 3D user interfaces; integer, linear and constraint solvers for resource optimization, scheduling, logistics and planning applications; dynamic rule systems for intelligent agents and real-time data flow control, and components for integrating modules with real-time and relational data sources. Founded in 1987, ILOG now employs more than 470 people in seven countries. Visit [www.ilog.com](http://www.ilog.com) for additional information.

## EXTENDING THE ABILITIES OF COMUX

ComUX4, the new generation of Siemens' ComUX management system, gives EWSD users real-time reactivity with ILOG Server and a more intuitive GUI with ILOG Views. It handles the tremendous volume of information both sent and received by the switching system, and lets users access the latest information and display it in formats most appropriate to specific needs.

The ComUX4 object-oriented GUI lets the system administrator access, delete or change information on users, equipment or even the servers connected to the equipment. ILOG Views allows operators to monitor and troubleshoot equipment through graphic and textual visualization of alarms, which are shown in real time with information concerning their location and probable cause. ILOG Server enables ComUX4 to consistently handle distributed graphic components in real time. Event automation updates all graphic and textual representations of equipment with new data when an event occurs anywhere in the management system. It ensures that every user of the system works with the most current information.

## PROJECTS

Siemens Brazil developed ComUX4 in six months with a team of six people. The system runs on UNIX workstations, and provides monitoring and control through an X25 communication network. Also, ILOG Views' ability to support most languages allowed Siemens to provide an interface that can be switched between Portuguese and English.

## BENEFITS

The new version of ComUX has greatly improved operator responsiveness at every company currently using it. The system allows them to be both proactive and reactive. They are able to configure the switching system to deliver services on time and avoid congestion on the lines. When an event such as an alarm occurs, the system enables the operators to pinpoint the cause of the alarm and bypass the fault until it can be corrected. Already telecom services are reporting substantial savings in cost and labor, and greatly improved customer satisfaction.

France ILOG S.A. - 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](mailto:info@ilog.fr) • Germany ILOG Deutschland GmbH - Ober-Eschbacher-Strasse 109 - 61352 Bad Homburg v.d.H. - Tel.: +49 6172 40 60 - 0 - Fax: +49 6172 40 60 - 10 - E-mail: [info@ilog.de](mailto:info@ilog.de) • Japan ILOG CO., LTD - 3F YS Sanbancho Building, 24-14 Sanbancho, Chiyoda-ku, Tokyo 102-0075 - Tel: +81 3 5211 5770 - Fax: +81 3 5211 5771 - E-mail: [info@ilog.co.jp](mailto:info@ilog.co.jp) • Singapore ILOG (S) Pte Ltd - 73 Science Park Drive, #B1-15 Cintelch 1, Singapore 118254 - Tel: +65 773 06 26 - Fax: +65 773 04 39 - E-mail: [info@ilog.com.sg](mailto:info@ilog.com.sg) • Spain ILOG SA - Gobelas 21, 28023 Madrid - Tel: +34 91 710 2480 - Fax: +34 91 372 9976 - E-mail: [info@ilog.es](mailto:info@ilog.es) • UK ILOG Ltd - Gentilly House, Bracknell Beeches, Bracknell, Berkshire, RG12 7BW - Tel: +44 (0) 1344 66 16 00 - Fax: +44 (0) 1344 66 16 01 - E-mail: [info@ilog.co.uk](mailto:info@ilog.co.uk) • USA ILOG, Inc. - 1080 Linda Vista Avenue, Mountain View, CA 94043 - Tel: +1 650 567-8000 - Fax: +1 650 567-8001 - E-mail: [info@ilog.com](mailto:info@ilog.com) • ILOG Direct - 889 Alder Avenue Suite 200, Incline Village, NV 89451 - Tel: +1 775 322 7600 & +1 800 FOR ILOG - Fax: +1 775 322 3030 • URL: <http://www.ilog.com> • Representatives and distributors in other countries

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