SUCCESS STORY

Panorama takes the Tube in London

The Wembley Park station managed by Tube Lines

AIMS

Single software solution for all stations.

Turnkey solution.

BENEFITS

The system's flexible and open design allows it to adapt the operator's requirements.

Reduction of the development costs.

User-friendly.

Tube Lines, responsible for the maintenance and upgrade of part of the London Underground System, has selected Panorama E² SCADA to manage its processes. Telent, a Warwick-based integrator, proposed this solution for its open and flexible design. Since 2000, over 74 underground stations have deployed thanks to Panorama E², a french software edited by Codra.

Telent Ltd supplies a broad range of communications support services to telecommunications operators, as well as to large enterprises and public sector agencies.

Within Telent, the Panorama E² Supervisory Control and Data Acquisition (SCADA) system, developed and marketed by French-based Codra, has been renamed MICA - Management Integration and Control of Assets. The company chose Panorama E² for its open design and flexibility. Several applications can be grouped on a single service platform controlled through a single user interface.

Telent's niche positioning requires expensive quality development and by choosing a single software solution for all its projects, they ef-ficiently pool training and competencies. Due to the systematic use of Panorama E² and the program's user-friendly configuration interface, the development cycle has been reduced significantly by features such as : any change made to an object model is replicated automatically across all instantiated objects.

CODRA

Panorama E² used at Tube Lines control center

TELENT

Telent Ltd, created in 2006, supplies a broad range of communications support services to telecommunications operators.

- Works for large enterprises and public sector agencies,
- sell telecommunications equipment and international services business to Ericsson,
- 20 years' experience in this field,
- leading certified CISCO partner in England,
- "TL 9000 Quality Management System" guaranteeing quality to companies providing telecommunications products and services.

Tubelines application

Passenger transportation requires secure, reliable service. Passengers need clear, regularly updated information throughout their trip, and the transportation company needs a secure system able to manage any unexpected event. MICA was therefore selected as the SCADA system for all stations managed by Tube Lines, the Public Private Partnership (PPP) which manages the contract with the London Underground for maintaining and upgrading the entire infrastructure of the Jubilee, Northern and Piccadilly lines. The contract commits Telent to a sixyear program covering 74 stations and a 13-year maintenance contract representing £150 million. Tube Lines wanted a turnkey application both developed and maintained by a single integrator. The solution proposed by Telent was not the least expensive but it complied with each and every point in the call for tenders, and it ensured high quality services. The open system architecture simplified the development process, and the system's flexible design allows it to adapt the operator's requirements. Panorama E² is based on universal, non-proprietary components such as OPC drivers. "The contract was designed to encourage both quality services and an open system. Customers are not stuck with a single supplier: if they are not satisfied, they can find another. This helps make the system future proof," said Dilip Sudiwala, Senior Consultant at Telent. Prior to MICA, a system called "SIMS" was used to supervise the infrastructure. SIMS was very complex and costly, and had recurrent maintenance problems. In 2000, when extending the underground in eastern London, the client was dissatisfied with the existing system and decided to launch a call for tenders. Panorama E² was chosen for its open design and flexibility.

The capabilities of Panorama E² aka Mica

Data processing Panorama E² integrates, manages, and supervises the operational systems in each underground station. A single interface enables users to manage alarms, events, and data acquisition. All operator actions and data changes are saved in an historical database.

Graphical User Interface All the mimics of the various applications have been analyzed and organized according to a standard, making it easier for users to understand and use the system. The menu strip at the top of the screen controls overall navigation: graphical images appear on the left, text information on the right, and alarms at the bottom. Touchscreens providing 3-D views are installed in each station's control room. Users can zoom in on each station and every section of that station. No more than three clicks are needed

for any operation. Video management
Over 9,000 autonomous video surveillance cameras are installed in the underground stations, recording one frame per second, 24 hours a day. If necessary, operators can trigger real-time recording at 20 frames/second. Operators can also search the database over the past 14 days.

Voice announcements
The Panorama E^2 interface manages automatic messages to make voice announcements via the Public Address system in any station. Standard phrase sequences have been pre-programmed, and operators can easily assemble customized voice messages. They select the start, middle, and end of the message, then click a button to play the message over the PA system. Hence, passengers obtain reliable information in real time to ensure their safety.

Security
In order to secure certain areas such as the control room of a station, Panorama E^2 manages all access control. A biometric interface was developed to enable face or fingerprint recognition of system us-

ers. To improve security, real-time video recording is triggered whenever a door opens. Telent offers 365/24/7 maintenance. To ensure the safety of on-call personnel, an operator working alone must press a button every hour to indicate his presence. If this is not possible, an alarm is triggered to alert the operator : if he does not clear the alarm in a set time, a team provides immediate assistance.

Mobility
Operators in London Underground are now fully mobile. They can access the SCADA system from Tablet PCs or PDAs and thus control and manage the application from anywhere within a station. The mobile interface can also send alarms to them via email or SMS messages.

Why Choose Panorama E^2 ?

High quality services. Open system.

Customer feedback
Panorama E^2 functions provide numerous benefits to Tube Lines, offering users a simple and intelligent system. "Operators no longer need to search for information, Panorama informs them directly," said Leigh Seaman, Business Development Manager for Telent. London Underground has clearly benefited from the numerous advantages of Panorama E^2.
- Technological benefits : Panorama E^2 is future proof - it continuously uses new, non-proprietary technologies.
- Economic benefits : Object modeling reduces development costs by the integrator, who can pass along the savings to the customer.
- Ergonomic benefits : The application uses customized graphics tailored to the operator's needs and is accessible anywhere

KEY FIGURES

- 3 lines managed: Jubilee Line, Northern Line & Piccadilly Line
- 74 underground stations
- 200 miles of track
- 255 trains
- 2500 bridges, elevators and escalators on all 3 lines
- 9000 video surveillance cameras
- 370 passenger information points
- 32,000 loudspeakers
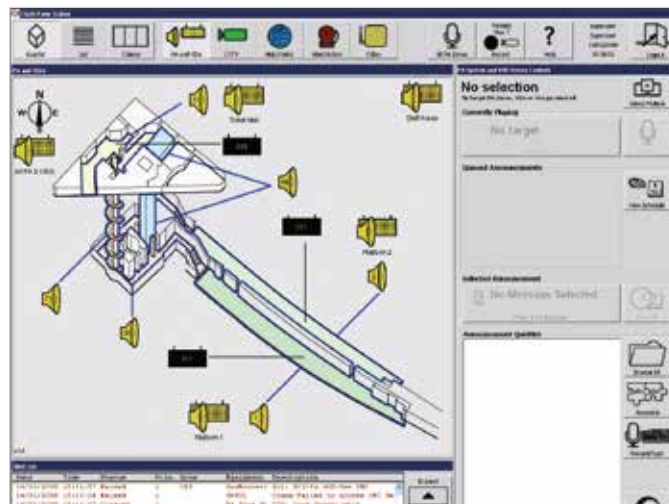
Panorama E^2 Graphical mimic adapted to user requirements

CÖDRA
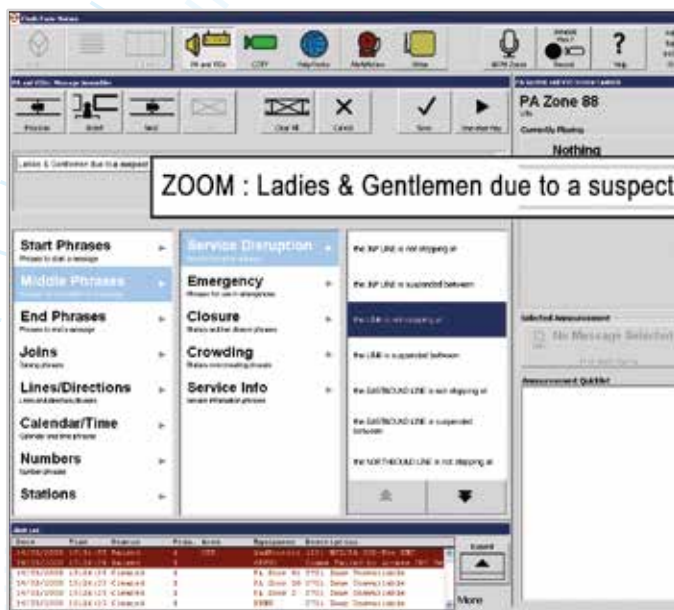
Panorama E² Interface for automatic message creation

in the station
• Functional benefits : Process management allows operators to control all station equipment such as lighting, escalators, emergency exits, voice announcements, etc.

Telent will soon provide several enhancements to the London Underground application. The company plans to include Business Service Management to manage all the equipment from various vendors, as well as service level agreements between customers and vendors, changes to configurations, andincidents concerning people as well as equipment problems. Subsequently GPS/RFID technologies will be used to monitor equipment and locate personnel. Finally, VOIP will enable voice communications over networks using the TCP/IP protocol. "MICA has become a reference in the underground and railway sectors in the United Kingdom. Telent plans to use Panorama E² under its real name on an OEM basis in order to be more competitive and to penetrate new markets," said Business Development Manager Leigh Seaman. Panorama E² certainly has a bright future in Her Majesty's. kingdom.

STATION BUILDER
Telent developed a tool called "Station Builder"

• It automatically generates a complete MICA application based on a database definition of a station's equipment (cameras, escalators, etc.) and user configuration files (station maps, display groups, etc.). Station Builder controls the Panorama "Persist" interface to create and configure the application objects automatically.

• The process even generates a disk image including the operating system, the Panorama runtime, and the communication drivers.

• It takes just a few clicks to create a ready-to-run MICA based station on a removable hard disk.

From industrial SCADA to a global information system

Panorama E2

CODRA

Codra Software Limited
Adamson House, Towers Business Park,
Wilmslow Road, Didsbury - Manchester M20 2YY - UK
Tel : +44 (0)161 9554200
E-Mail : sales-panorama@codra.fr - codra.net