SUCCESS STORY

PROFILE

- Subject : SCADA
- Process : Drinking water Household wastewater
- Client :
 Public bodies
- Integrator : Veolia Eau
- Date : 2007

 Installed base :
 Panorama E²
 SOFREL & IJINUS equipments
 Connection GSM/SMS/PSTN
 SCHNEIDER equipment

- Modbus TCP/IP
- communication
- Oracle database

AIMS

Interface a centralized SCADA system with remote control.

Integrate data from all equipments installed on sites.

BENEFITS

The centralized system pools the information and simplifies data access for the operations center.

Comfort for users and on-call personnel.

Centralized SCADA at Veolia Water center

Panorama

In 2007 the Veolia Water Seine et Marne Nord operations center purchased a Panorama SCADA solution from software vendor Codra.

The objective for the administrator and operators is to interface with a centralized SCADA system in order to integrate data from all the equipment installed in drinking water and purification sites, and to be able to control the sites both locally and remotely.

Veolia Water provides managed water and purification services for public bodies. The Veolia Water Seine et Marne Nord operations center manages drinking water, effluent, and flood prevention for four pooled offices (Marne Aval in Noisiel, PontaultCombault, Tremblay, and Meaux). This makes up 77 contracts (each one representing 20 municipalities on average). The Veolia Water maintenance team has a staff of 23 including electrical technicians, mechanics, and automation experts.







Panorama centralized SCADA architecture

Panorama SCADA choice

Veolia Water, as part of its managed services, has gradually taken over several existing sites, many of which include SOFREL PC 500 telemetry devices running Unix. Local management for each site was tedious (requiring the transmission of a fax or an email to access the data). Therefore Veolia Water decided to set up a centralized monitoring system in order to manage all the various sites. The operators also wanted to be able to remotely control the equipment at the sites.

Veolia Water chose the Panorama E² solution for its 100% object-oriented programming environment. "Panorama E² technology makes it possible to re-use components, thereby greatly simplifying maintenance and development," said Mr. William PERICAUD, Manager Automatic Control of at the Veolia Water Maintenance department. "Furthermore, the solution offers a built-in telemetry front-end, and Veolia Water wanted to obtain a single package. We chose the Codra solution due to the stability of the various versions and its open, multi-protocol design," he said.

A Codra expert was called in for input on the optimal methodology and to help train the staff on using the software. "I must say that having a local French support team nearby was a factor in our choice," said Mr. William PERICAUD.

Panorama is at the center of the telemetry system. It performs data acquisition via the Panorama TLM telemetry front-end, using the Sofrel and Ijinus protocols. Operators can remotely control processes using custom application views. Alarms data and are then exported in order to publish reports.

Panorama telemetry is an open system that can communicate with all the software on the market. The Alert on-call management software is connected for forwarding alarms to engineers in the field. Information is exported to an Oracle database in order to reports publish using Veolia Water's in-house Reportech tool.

The Panorama RDS server distributes the telemetry application directly to the on-call engineers' portable computers; it can manage up to seven simultaneous connections. Thirty-three engineers of various specialties work at the operations center.

The SCADA solution is used by:

- water and purification operators who use process data,
- mechanical technicians who view graphs,
- •electrical technicians who use alarms and logs,

• automation experts who use all the data, specifically to check for



malfunctions.

Panorama connects to the equipment via GSM/ SMS or via PSTN; Veolia Water plans to switch to GSM IP with redundancy.

An open and adaptive solution

Initially the Panorama telemetry solution was used by the Marne office only. Subsequently Veolia Water set up the "Seine et Marne Nord operations center" and ramped up the project. Data was collected from all the branch offices, and the scope of the centralized monitoring system was multiplied fivefold. The Panorama software now easily manages over 70,000 variables, and has yet to reach its limits.

The SCADA solution offers numerous benefits. First and foremost, the centralized system pools the information and simplifies data access for the operations center, as well as for people working at the various sites who might need to provide reports to local officials.

Secondly, remote access to the telemetry system offers key advantages for on-call personnel. They no longer need to go on-site each time to obtain information. "Our safety has improved, and the number of declared accidents has dropped significantly. From a financial standpoint, our technicians used to drive over 50,000 miles per year; now they travel only half as much for their on-call duties. We have easily recovered the cost of our software licenses," said Mr. William PERICAUD.

Finally, telemetry lets Veolia Water make better use of reports. For instance, thanks to remote management, the drinking water meters are now read daily in contrast to once a month previously. The company can fine-tune its analysis.

In the future, the operations center will continue enhancing its telemetry system through optimization. "For example, we could use GPS positioning via Google Maps to dispatch the engineer nearest the site, or rapidly find someone authorized to handle chlorine," said Mr. William PERICAUD.

The development of the operational center

The operations center will continue to expand by absorbing new branch offices like the one in Arnouville as well as new treatment plants such as the one in Claye-Souilly built as part of the High Environmental Quality program, or the Villeparisis plant which will soon maintain and operate the Disneyland Paris plant. The theme park will use "grey water" (household wastewater) for its ornamental gardens, attractions, as well as washing the car parks. This will save about 400,000 cubic meters (105 million US gallons) of drinking water each year. Project launch is scheduled for 2013.

Control room : Remote control of 450 telemetry equipments







Panorama application

SUCESS STORY

HEQ treatment plant at Claye-Souilly

The plant is designed to meet high environmental quality standards for both the production of water, and for its buildings and landscaping. Target 1:

environmentally-friendly solution: plant must fit seamlessly into the surroundings.

Target 2 :

Choose integrated processes and building materials: plant covered in larch wood. Target 3 :

Energy management: thermal solar sensors, ground heat sources.

Target 4:

Water management: sedum green roof, planted basin, green knots, etc.

Target 5:

Air pollution: improve the quality of the polluted air via a planted biofilter.

Treatment plant functions :

Storage and processing of excess water: The equalization reservoir stores the first rainwater, with particularly high pollution levels.

Biological water treatment: Micro-organisms (such as bacteria and algae) in the aeration basin treat the dissolved pollutants.

Water filtering: The ultrafiltration membrane enables very extensive clean-up of the wastewater and is friendlier to the natural environment.

Sludge management: Centrifuging and liming dehydrate the sludge and reduce the water content.

KEY FIGURES

Contrats :
77 DPS contracts,
20 municipalities on average

 Main treatment plants : Claye-Souilly 14 000 PE*
 Villeparisis
 8 000 PE

Saint Thibaud-les vignes 400 000 PE

 Main drinking water treatment plants : Anet-sur-Marne 130 000 m³

Bussy 3000 m³ Douves 500 m³

- Equipment : 450 main drinking water treatment plants
- Controllers :
 4 sites with Schneider
 TSX57 controllers
- Variables : 70 000 managed

* PE : Population-Equivalents

From industrial SCADA to a global information system

Panorama



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