



## SUCCESS STORY

### PROFILE

- Subject : SCADA  
Energy efficiency
- Process : Data Center
- Client : Orange
- Integrator : Geteo
- Date : 2012
- Installed facilities :
  - Panorama E<sup>2</sup>
  - Panorama IT
  - Panorama TLM
  - 100 000 variables
  - 1 SQL DB server
  - 1 Terminal Services server
  - 3 redundant acquisition servers
  - 6 thick clients
  - 4 thin clients
  - 30 SNMP switches
  - 350 devices
  - Modbus IP, Serial Modbus, LON, OPC
  - Fibre optic ring

### AIMS

Reduce energy consumption.

Reduce CO<sub>2</sub> emissions.

### BENEFITS

Single DCIM solution makes for total integration.

Intuitive, ergonomic SCADA interface streamlines operator intervention.

Functional and energy assessments.



Panorama   
E2

# New-generation Data center for Orange



Orange Data Center at Val de Reuil, first building – 17 000 m<sup>2</sup> (net floor area)

France's historical telecommunications operator has had an enormous data center constructed at Val-de-Reuil, in the Eure. The first 17 000-m<sup>2</sup> (net floor area) building houses both its own servers (Orange) and those of its clients. This latest-generation Data Center equipped with a DCIM technical management system is based on Codra's Panorama solutions. They are designed to deliver savings on a par with the energy consumption of 30 000 domestic consumers by reducing the energy consumption level by 30% of earlier-built Data Centers. These advanced solutions have made Orange one of the most successful enterprises worldwide in bringing down its CO<sub>2</sub> emissions.

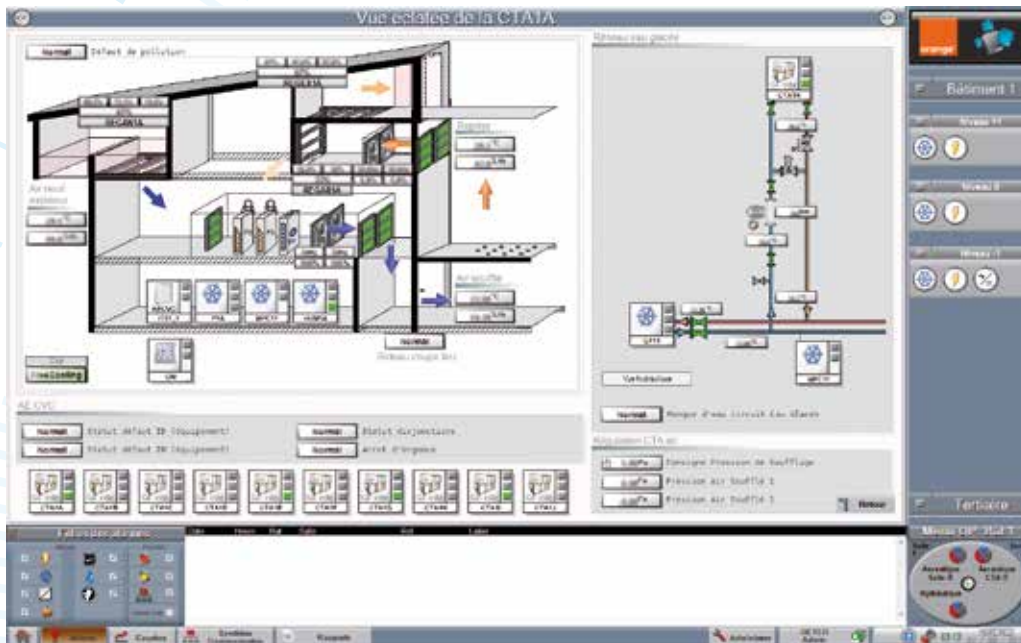
Orange engaged Geteo, a certified Panorama partner, to conduct the strategic technical management system (BMS/CTM) task for this new, innovative, environmentally-efficient and highly secure Data Center.

Geteo opted for solutions with the very latest func-

tional and environmental technologies that deploy powerful, yet low energy-consumption equipment to meet its client's requirements.



CODRA



Managing the central air-handling system

## Choosing the SCADA solution

The Val de Reuil Data center is the biggest Data Center in France of this capacity to run on "free cooling". Its operating process cools the computing equipment by directly harnessing the outside air when the weather conditions permit. "When the Data Center reaches nominal capacity, free cooling will generate savings equivalent to the annual domestic electricity consumption of a city of 30 000 residents... which makes it a highly strategic project for the Group" revealed the technical managers handling the Orange project.

For the purpose of this project whose scale and specific features are unique in France, Geteo chose Codra's Panorama

E<sup>2</sup> solution, not only for its technical management functions such as operational abnormality feedback or alarms, but also to serve as the cornerstone of the Data Center Infrastructure Management (DCIM\*).

As Panorama E<sup>2</sup> is fully object-oriented, Geteo created functional models that closely resemble the Data Center equipment. "We created components that can be accessed in the configuration workshop as standard Panorama E<sup>2</sup> objects. Once the components had been modelled, tested and approved, the SCADA application was built during the assembly phase. We used the time to build a myriad inter-object combination possibilities to create complex functions and

reduce the risk of errors" Lounès Malek, Geteo's CEO explains.

The company's pools of appropriate expertise covered all the project requirements without having to resort to outsourcing. "The selection of Geteo as our partner on this strategic project was clinched by its Data Center SCADA background, service quality and excellent teamwork track record on our 15 French DCs built since 2000" discloses Orange.

## Project implementation

The Panorama solution is fully integrated without the need for gateways or additional software. It thus ensures enhanced platform stability under Windows by streamlining maintenance and update operations.

A dedicated acquisition network, based on looped-back fibre using the TCP/IP protocol, was installed to secure Panorama GTB/GTM dependability and accommodate upscaling without disrupting operations. A parallel back-up interface was created to offset any network outage. Should main communication be lost, this interface steps in and

\* DCIM :  
Data Center Infrastructure  
Management



informs the operator of the facility's status using summaries.

Over and above the CTM standards, the more advanced functions of technical infrastructure status, capacities and performance level monitoring were integrated via the Panorama IT solution, Codra's reporting tool. The technical management system design includes energy performance monitoring indicators of the site and technical issues such as PUE\*, DCiE\* and even COP\*. "Orange has the state of its site's impact on the environment permanently at its fingertips" confirmed Lounès Malek, Geteo.

### Energy policy

Now that Green IT initiatives are emerging, one of the cornerstones of these 'green' technologies is facility energy efficiency management, which extends to their fluids management - a major component. Energy costs, environmental responsibility and the transformation of Cloud Computing are prompting increasing numbers of organization to revise their hosting infrastructures. More and more developers are providing advanced Data Center power monitoring and measurement solutions, such as intelligent PDUs (Power Distribution Unit).

Geteo has set up a more

cost effective, adaptable alternative to the above high-cost units that cause interruptions to data center facilities during runtime. This innovative solution, implemented on the Val-de-Reuil DC, based on split cores (intensity measuring devices), is eminently adaptable because it can be up-scaled, and furthermore when it starts up it does not disturb operations.

Apart from the initial cost saving, this solution has the advantage of being integrated into Panorama's DCIM and precludes having to duplicate the data acquisition tools. Data can also be made available to the end client through a ded-

### CLIENT PROFILE

Orange is one of the world's major telecommunications operators, which reported annual sales of 43.5 billion euros on 31 December 2012.

The Group operates in 32 countries and served almost 231 million customers, including 172 million cell-phone customers and 15 million ADSL and fibre optic customers around the globe on 31 December 2012.

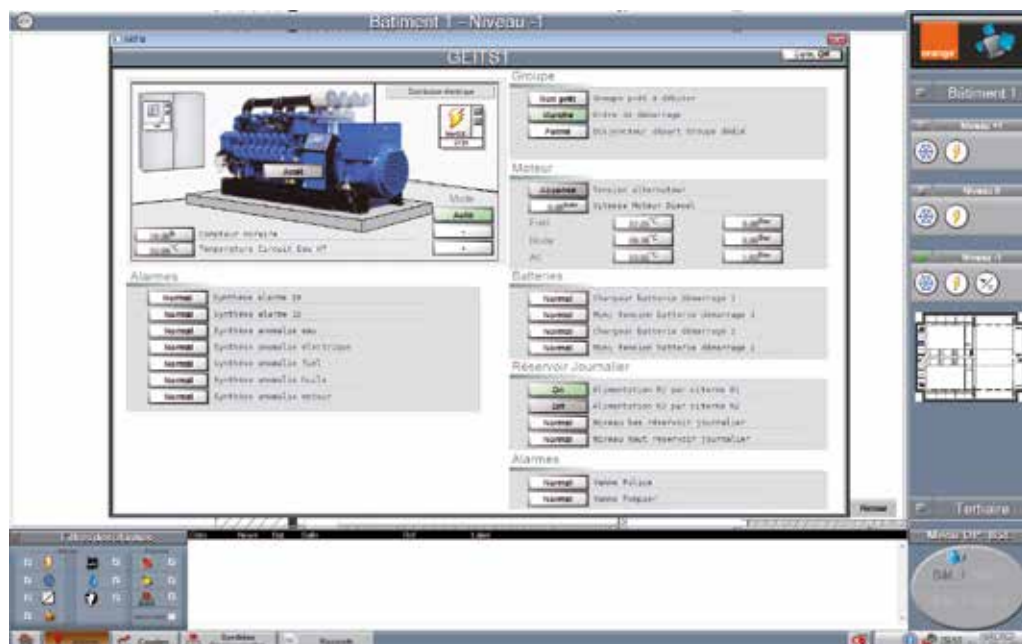
First DC to run in free cooling mode for this power level

\*PUE :  
Power Usage Effectiveness  
\*DCiE :  
Data Center infrastructure efficiency  
\*COP :  
Coefficient Of Performance





Managing the generating unit



**“ Panorama E2 is the cornerstone of the Data Center Infrastructure Management -DCIM “**

icated mimic diagram or delivered regularly as email reports.

## Feedback

Geteo has implemented a turnkey Panorama DCIM solution, whose functional and environmental technology credentials are desirable. Orange can count on functional and energy assessments that it can use for precise con-

trol, selective reporting on the installation status by hosted clients, an intuitive and ergonomic SCADA interface that streamlines operators' actions and maintenance tools for the technical services.

Tranche 2 of the Val de Reuil Data Center will be up and running in 2015.

From industrial SCADA to a global information system

**Panorama**   
E2

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