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## Events



December 2-5, 2008  
LYON Eurexpo - FRANCE  
AREAL booth: BR 151 / HALL 8



December 2-5, 2008  
PARIS Nord - FRANCE  
AREAL booth: 6F111



January 28-29, 2009  
RENNES - FRANCE  
AREAL booth #84

## NEW

### TOPKAPI Vision 5

This new version will finally be available early 2009, as we wished to propose many innovations in a finalized and operational version, which somewhat delayed our schedule. Our developers have worked hard to produce a result which will hopefully meet or exceed your expectations. The interface with DBMS in ADO.net is a turning point in technologies used in supervision; extensive work was performed to replace the former ODBC technology and extend the functional coverage dramatically.

The other main evolutions concern:

- Extensions of the graph module (bargraphs, calculation, and summary functions).
- Active-Directory/LDAP interface for managing operators and access control
- Connectivity with geographical information systems
- Web server optimization



### DBMS

The ADO.net based SQL interface allows connecting TOPKAPI with all major DBMS products in the market: ORACLE, SQL Server, MySQL, Postgre SQL, etc.

Data logged in TOPKAPI can then be used directly by other production tools of the company MES, ERP, etc. (and tools such as CAMM, for which exchanges with TOPKAPI are facilitated).

Similarly, TOPKAPI can display views and graphs data issued from third party applications in its history: events or alarms, measurements reprocessed by a data validation application, etc.

### Graphs

Multiple variable calculation functions have been included: this allows direct display of 'calculated' graphs based on basic variables recorded, e.g. a sum of flow rates, maximum and average of different magnitudes recorded independently.

Summary functions have been integrated, allowing to display a summary calculation directly in the form of graphs, without creating a specific report.

Representation modes have been extended, i.e. by managing bargraphs and possible management of future objective graphs.

Finally, using scripts allows customizing interface control.

These evolutions have particularly allowed to simplify and reduce costs of energy control applications (see EMC Pack below).

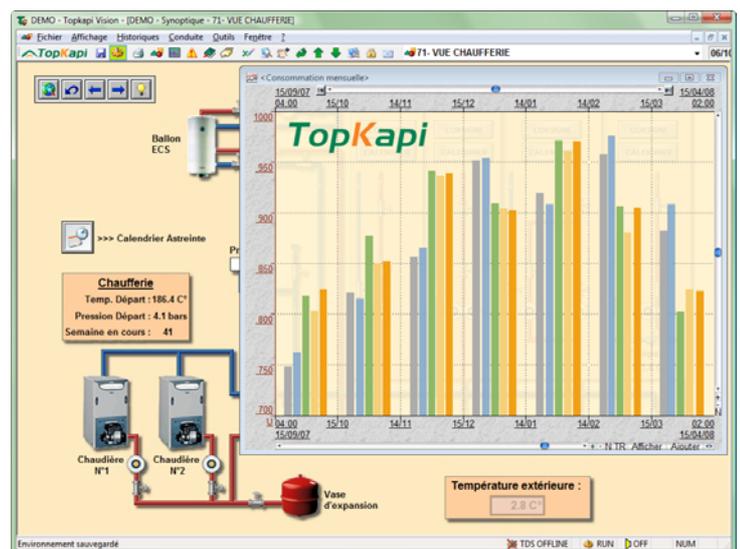
### GIS interface

For all applications including geographical or town maps (geolocalization, distribution networks...), dynamic display of the map and information supplied by a geographical information system (GIS) or a service such as Google Maps is interesting. To achieve this result, TOPKAPI now integrates access to standard WMS (Web Map Services); hence correct information is available without requiring regular updates of static imagery in supervision. We have also particularly improved browsing in maps, zoom functions, and selection of elements to be displayed or not according to circumstances.

A detailed sheet summarizing all evolutions in version 5 will be available soon on our web site.

### EMC Pack: Energy control

Although the price of oil is the key factor in energy control trends, one thing remains sure: our planet will be able to breathe tomorrow only if we limit our energy consumption and emissions of greenhouse gas.



To work in a concrete way in this direction, AREAL has decided to develop and provide you with a set of components preprogrammed for TOPKAPI, named EMC PACK (Energy Monitoring & Control), designed to support control over your energy consumption.



These components include:

- Database objects for processing and recording information, such as calculation of the UDD<sup>(1)</sup> for building heating.
- Graphic objects showing consumption budgets.

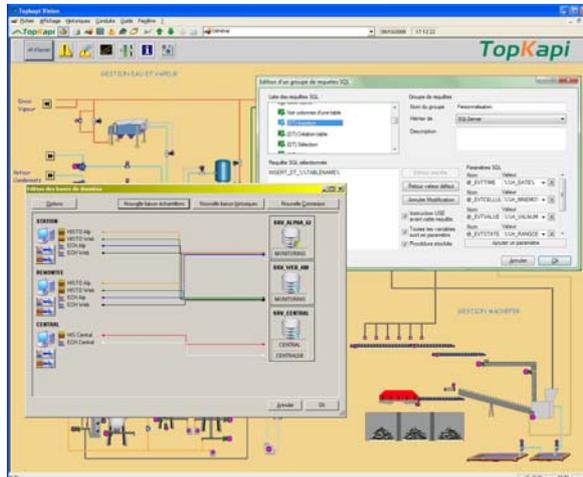
This process is interesting because, based only on the records from consumption meters and for example, temperature, we obtain directly the energy budgets without any programming.

As the number of basic variables is very limited, cheap and lighter versions of TOPKAPI can be used.

The solutions remain customizable to meet particular cases or needs to refine the analyses.

For more information, go to our web site: [www.areal.fr/PackEMC-E.htm](http://www.areal.fr/PackEMC-E.htm).

(1) Unified Degree per Day: in building heating and A/C, this unit allows to 'measure' climatic conditions and correct consumption observed accordingly to have results which are comparable in different places.



TOPKAPI V5 allows simultaneous connection to multiple databases and customizing SQL requests.

## SNMP

An SNMP protocol pilot has recently become available for TOPKAPI, implementing the SNMP manager function, allowing it to monitor computer equipment and any SNMP agent connected to the network: hubs, routers, switches, PC/Servers, UPS, printers, etc.

This monitoring concerns alarms, such as the failure of a network switch, server temperature, low ink for a printer, UPS failure, etc. It also allows to display and analyze information on network traffic, which may be particularly useful for diagnostic in case of communication problems.

The SOFTLINK wizard considerably facilitates configuration, by allowing to browse the list of variables available in the MIB<sup>(2)</sup> of equipment, or browsing the list of elements of the SNMP agents connected. TOPKAPI supports versions V1, V2C and V3 of SNMP, the latter being necessary to guarantee a proper level of safety.

(2) Management Information Base. It can be generic (the most common standard MIBs are supplied with TOPKAPI) or customized, linked with specific equipment.

## Protocols

### Sharing modems - Mutualizing phone lines

Although rarely mentioned, TOPKAPI version 4 currently allows to share a modem and phone line between several protocols, hence use it to communicate with remote management stations from different makes and protocols.

When a modem is used for several incoming call protocols, the caller ID presentation function must be available.

With the single modem option, a station must be linked with a particular modem, although this modem can support different protocols.

With the multimodem option, a station can connect to several modems (using trunk lines or several call numbers), hence reducing the number of phone lines while improving availability.

The provisions are not applicable in the following cases:

- For remote management stations not supporting the standard 8-bit no-parity format (more particularly older WIT equipment in TRSII protocol).
- For data transmissions by SMS: currently (evolutions are planned) a GSM modem dedicated to SMS management is required (no data communication). However, we remind that this modem can be used for all equipment supported by TOPKAPI in SMS, regardless of their make and for SMS stand-by service.

For very large applications, it is also possible to have one or several **computers dedicated to communication**, acting as **front-ends**, and distributing data to several TOPKAPI servers with stand-alone or redundant applications.

For more information, please call us.

## User Space

### System integrators

Publicize the quality of your achievements through the TOPKAPI demo CD: the quality and wealth of TOPKAPI applications find their best expression through examples; a few new views produced by different integrator partners were hence included.

Send us abstracts of views of applications you have produced and within the space available, we will integrate them to the TOPKAPI demonstration CD with your details<sup>(3)</sup>.

### Multi-screen use

Using two screens is strongly recommended for configuration, indeed this improves comfort and effectiveness. This is also true for operating users; the hardware overcost (multi-screen card and additional monitors) is low in regard of the benefits in terms of ergonomics.



(3) A 'pass for press' will be submitted to you before publication. AREAL reserves the right to select the views according to their visual quality, for the common benefit of the author and the TOPKAPI product.



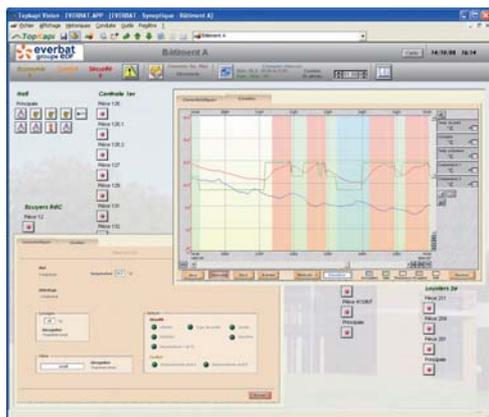
## Achievements

We thank all TOPKAPI users who trust us, among whom all those having contributed to writing these articles within EVERBAT, SEAAL, SUEZ Environnement, 2GI TECHNOLOGIE-EASYCOM, the Principality of Monaco, more particularly Frédéric DEJEAN, Bruno CHOUX, Daniel LIODENOT, Pascal LACOSTE, Guillaume GIMENEZ.

### Energy efficiency for service buildings

**Summary: For its energy efficiency department, Everbat, EDF Group, implemented a computer platform using TOPKAPI as its backbone ; it offers its clients remote service solutions allowing to monitor technical facilities: collection of energy data, notification of technical alarms, equipment programming, energy budgets, ...**

A 100% EDF subsidiary, EVERBAT is a company providing local authorities, property developers and real estate facility managers with



facilities using renewable energies and remote monitoring services of technical facilities.

For its remote service solutions, EVERBAT relies on its energy efficiency department which acquired in 2007 a facility monitoring tool – A/C, heating, renewable energies – based on the TOPKAPI supervision

software. The latter then met the many criteria defined by EVERBAT and the EDF specialists, including:

- Software platform independent from manufacturers of building automation products
- Full catalogue of remote management protocols
- Experience and know-how in developing new protocols
- Native management of data time-stamped at the source and communication by RTC/GSM/GPRS modem
- Structuration of applications for self-configuration and development of customized reusable objects

The purpose of the platform is communication with the main building facilities management systems and communicating regulators in order to:

- Control energy demand
- Ensure user comfort
- Control/monitor the operation of equipment

To achieve this, the platform ensures:

- Acquisition and archiving of daily energy data available on building technical management
- Continuous scheduling (periodical and on demand), including for setting instructions and occupation calendars

- Acquisition of technical alarms related to equipment or operating failures
- Energy reports

The platform is administered by heat engineers, a profession which is not the automation but analysis and monitoring of technical and energy data. Supervision hence required proposing tools allowing to integrate a new building technical management in a simple, fast and effective way.

The implementation of a profession layer, in the form of structured database objects and associated graphic representation, as well as the possibilities of self-configuration linked with the Softlink configuration wizard, allow to interpret configuration files of the building technical management, and generate the synoptic diagram screens and data processing automatically.

Today, for the building technical management facilities allowing it, a few minutes are enough to integrate remote transmission of a new building, and implement data collection and the synoptic diagram screens offering remote monitoring of the facility.

Find the whole sheet of this application on our website at: [www.areal.fr/Supervision/everbat-e.htm](http://www.areal.fr/Supervision/everbat-e.htm)



### Managing water for the greater Algiers

Société des Eaux et de L'Assainissement d'ALger

**Summary: The Algerian government has called upon the expertise of Suez Environnement to lead an ambitious program of modernization of water and sewerage services of the greater Algiers. The objective: improve significantly the quality of water distributed and the sewerage network to ultimately ensure 24h/day service continuity.**

The contract signed later 2005 for a 5-year period relies on an action plan, including notably the transfer of skills from the teams of Suez

Environnement to the teams of ADE (Algérienne Des Eaux) and ONA (Office National de l'Assainissement), and the implementation of modern technical management tools. It is the Topkapi supervision platform which is used to meet the needs of remote control.



The activity covers two fields:

- drinking water, with more than 300 sites, including production and transfer plants, pumping stations, storage sites and distribution points,
- sewerage with 100 sites in the collection network (black spots and booster stations) and treatment stations

The remote control center of Kouba, inaugurated in 2008 by President Bouteflika, is linked with one third of the sites. It is fitted with an image wall, made of eight 67-inch cubes in retro projection technology, to monitor all facilities and the status of the transfers.



Ultimately, facility operating functions will be implemented from TOPKAPI supervision stations distributed in sector remote control centers.

Two TOPKAPI server stations – one dedicated to drinking water, the other to sewerage – are fitted in the remote control center and communicate with field devices, most of which are remote management controllers by Sofrel and Tbox, Radcom-Hydreka remote transmitters and industrial programmable controllers (SIEMENS, SCHNEIDER, and ABB), and allowing to:

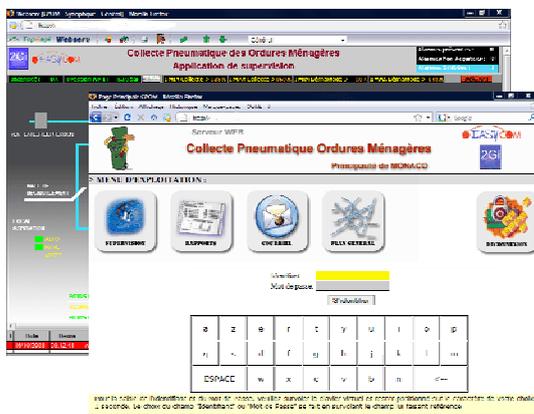
- measure flow rates (flows or volumes), levels in reservoirs and status of drinking water primary pumping stations
- monitor booster stations and black spots for sewerage
- supply technical management databases for both activities

The many protocols proposed in native in TOPKAPI have considerably simplified the deployment of the architecture, by reusing directly, without gateway or third party server, the data from all existing devices installed when reconstructing the network after the May 2003 earthquake.

Communication relies on radio and GSM links, and permanent links of the VPN type in GPRS technology with GSM backup are being gradually deployed to ensure real-time communication with major sites.

Drinking water production plants each have a local TOPKAPI server station for operating; they provide supervision for sector remote controls. They communicate with the Remote control center via SEAAAL's corporate network, based on the Wimax technologies and leased links; in the future, these links should have a GPRS backup to increase network availability. At the Kouba center, the TOPKAPI server station dedicated to drinking water can hence open, as a client, the application of the production plants. A summary application based on permanent information from sector servers has also been developed.

The structure of the client/server architecture in distributed applications is particularly well adapted to communication between remote stations, and provides major flexibility in deployment. Thanks to this flexibility and many communication protocols, TOPKAPI is the solution adapted to this changing project, and offers the guarantees required for its success.



Find the whole sheet of this application on our website at: [www.areal.fr/Supervision/SEAAAL-E.htm](http://www.areal.fr/Supervision/SEAAAL-E.htm)



## SDAU - Pneumatic collection of household waste

**Summary:** With its open and modifiable ASP code, the Web site generated by TOPKAPI can be customized and integrated to a global Web portal. To secure viewing, it supports an encrypted data transfer process. These openings have been fully used by 2GI Technologie-EASYCOM to develop the Web portal for operating the household waste pneumatic collection system of Monaco.

Since 1996, **SDAU (Service De l'Aménagement Urbain)** has been operating the pneumatic household waste collection facility of Monaco.

A 6-km long underground tubular network over 22 hectares transports waste by suction, from the drop pipes in buildings, at a speed of 70 km/h, and dumps them directly in a holding tank of the incineration plant.

Supervision of the process was renovated in 2007, with the following objectives:

- improve the operation of the facility
- start up new sections
- deploy a facility operating tool in an intranet network using a web portal

The SDAU entrusted this project with 2GI Technologie-EASYCOM for their expertise in industrial computing, and TOPKAPI was chosen to supervise the system: the standby service integrated and the potential for customizing TOPKAPI's Web server were major criteria in the choice.

The SDAU performs 3 to 4 collections per day, with an average time of one hour each. The organization of the collections – sequence between sections- and setting of the different associated parameters – suction speed, ... - are prepared from supervision, then transferred to the coordinator controller. During collection, TOPKAPI ensures information traceability, by logging each event and notifies the operator in case of alarm through its built-in standby service module. After collection, waste is weighed and the weighing information logged in a MySQL relational database interfaced with TOPKAPI.

A php Web portal allows to view and use the facility in the nomad mode. This portal meets several needs:

- reporting tool on weighing data allowing to produce customized reports on the fly (to use data stored in the MySQL base)
- viewing and using remote supervision
- communication between the operator and 2GI Technologies through email

Securing data exchanged for viewing the Web portal was a vital point: this was guaranteed by implementing a secured authentication procedure similar to that used in banking encryption. It allows to:

- authenticate the internet server transmitting the data
- ensure confidentiality and integrity of information transmitted and exchanged
- authenticate the client

To have a single web portal and uniform security management, TOPKAPI's web site was integrated to the portal. This is possible thanks to the ASP code of TOPKAPI's web, which is open and modifiable. The developer also has access to all basic functions which were used to produce it. Customization has allowed to:

- transpose browsing ergonomics (hyperlinks, ...) of the Web portal to TOPKAPI's web
- extend security management of data exchanges to TOPKAPI's web

Find the whole sheet of this application on our website at: [www.areal.fr/Supervision/SDAU-E.htm](http://www.areal.fr/Supervision/SDAU-E.htm)