



version 3.6

# ALERT

## TO INFORM & ALERT

THE RIGHT PERSON, AT THE RIGHT TIME, IN THE RIGHT PLACE,  
WITH THE RIGHT INFORMATION



**ALARM SUPERVISION ... ADVANCED CALL MANAGEMENT ...  
INFORMATION TRANSMISSION ... INTERVENTION FOLLOW-UP ...**

# A COMPLETE OPENING ON YOUR APPLICATIONS



## OPC Interface (client or server)

The client OPC interface (Data Access V2 + Alarms & Events) integrated in **Alert**, allows automatic acquisition of data, events and alarms generated by all OPC server applications, running on the same station or a network station. This interface allows server variables to be visualized through the OPC browser and selectively imported. An OPC server interface, also included in **Alert**, is able to deliver the status of the different variables of the software in real time (alarms, system information).

**Alert** is able to treat alarms or intervention demand coming from different sources:

- Supervisor software (SCADA), via DDE, OPC or dedicated mediator module,
- PLC, through a communication server,
- Analog or Digital I/O,
- Serial or IP data transfer,
- Files,
- Data bases,
- Phone, mail, SMS, web intervention requests.

## DDE Interface (client or server)

The Client DDE interface integrated in Alert allows automatic acquisition of data available with any DDE server application. **Alert** software also proposes a DDE server interface which is able to process command line commands.

## Programming Interface (API)

Alarms can be dynamically created, activated, deactivated and acknowledged by an external application through **Alert** Application Programming Interface (API). This interface proposes many functions to control the behaviour of the software. New generic functions give access to nearly all the software configuration datas. The command strings are structured in accordance with the XML standard.

## Analog and Digital I/O

Dedicated drivers allow reception or treatment of information from proprietary systems:

- Numeric or analogic I/O cards (Advantech like cards),
- Proprietary systems,
- On-site paging system, nurse call system.

## Command line interface

This interface allows creation, activation, deactivation or acknowledgment of alarms by the means of a simple command line transmitted to the software (ex. ALERT SetAlarm Alarm 1).



## Dedicated interface (Mediator)

The surveillance of an application can be managed by a dedicated module (mediator module). This module allows optimal integration of the on-call management in the supervised application, avoiding double recording of the supervised data and associated parameters:

- Import of alarms defined in the application with all their attributes (identifier, messages, priority, group),
- Alarm detection,
- Handling of reciprocal acknowledgments,
- Masking/unmasking of alarms.

	Monitor Pro			Proficy - HMI/SCADA - CIMPLICITY
Proficy - HMI/SCADA - IFIX				

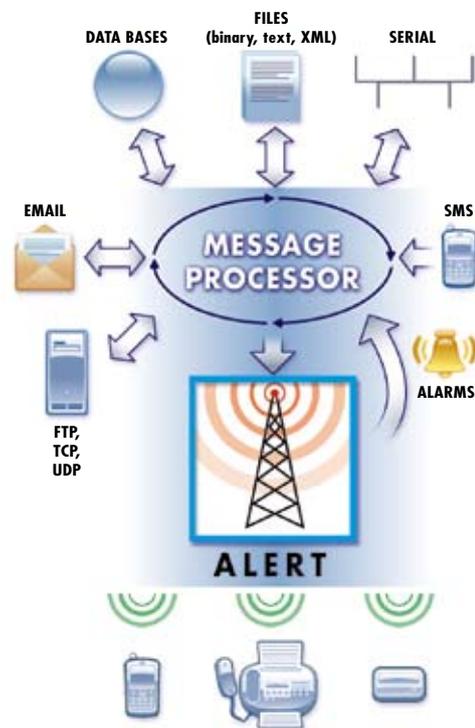
## Message Processor

The Message Processor is a generic mediator which can deal with information coming from almost any external system:

- Serial data (line printer output of an equipment for instance),
- TCP or UDP data over IP,
- Saving files,
- Archive databases,
- Message sent by SMS,
- Message sent by emails,
- Non exhaustive list.

The Message Processor analyses the received messages using a Basic-like script. It extracts the most significant information and triggers the associated alarms.

Messages received on a serial link or a TCP/IP socket can be polled (scrutinization) and acknowledged (by sending acknowledgement message).



## SNMP Interface (Net'Sentinel)

**Alert** is able to supervise directly your TCP/IP network equipments, using a SNMP acquisition and management interface called **Net'Sentinel**.

## Vocal interface (Jericho)

Through Jericho software and its build-in vocal server, it is possible to trigger alarms by telephone. Jericho receives calls from users, guides them to define the alarm to be signalled, can propose them to record a vocal message, and then transmits the alarm to **Alert**. Then, **Alert** takes in

charge the on-call operator calls and transmits the whole information (including the vocal message).

## WEB interface (AlertMessenger)

Calls of on-duty operators can be ordered and displayed from a WEB browser connected to the Internet or the Intranet of the company. These call demands are written in a database, and read by **Alert** through the AlertMessenger script of the Message Processor. The calls reports are saved in the database and can be displayed by the web server on the screen of the message emitter.

# AN INTUITIVE CONFIGURATION

## Supervised tags list

All the data supervised by **Alert** are defined in its polling list. An entry in this list can be:

- Manually created,
- Dynamically created from: an imported SCADA configuration using our mediator, a text file, a processor message script, an external application using **Alert** API.

An event condition can be associated with each tag of the polling list: equality, inequality, threshold firing, variation, etc... This condition can be validated or unvalidated according to a weekly timetable.

An event can be specified as an alarm with a specified priority level. The acknowledgment of an alarm requires the intervention of an operator. With each change of state of an event or alarm (activation, deactivation, acknowledgement), actions to carry out and additional information can be associated (alphanumeric, numeric and vocal message, text file). Alphanumeric message and text file can include contextual datas (current tag values).

## Data server

**Alert** can supervise alarms from several data servers (supervisors, OPC servers, ...). For each DDE or OPC data server, it is possible to define a list of redundant servers with automatic switch in case of linking problem.

## Functional groups

Data can be organized in a tree structure. Logical organization can then be defined. For example:

- Geographically: buildings, cities,...
  - Functionally: heating, electricity, Air conditioning.
- These groups can be used as filters for different purposes: consulting the alarm table, reading the alarms history, acknowledging an alarm. These groups can also be used for alarms synthesis (generate an alarm when one of these data is incorrect).

# AN ADAPTED REACTION TO ALARMS

*On event or alarm activation, **Alert** starts the execution of an associated action list. Actions can also be triggered on event rollback or alarm acknowledgement.*

## Call of an on-duty group

The *Call group* action triggers the call of the operators of the active team of the designated on-call group. In case of failure relief operators are called. The same alarm can trigger several group calls.

## Operator call

The *Operator call* action generates the direct call of the designated operator with the possibility to force the phone number that must be called but without relief possibility to another operator.

## Command execution

The *command execution* action triggers the execution of a writing sequence of external tags or outputs by OPC, DDE or through a communication driver.

## Script execution

The *script execution* action triggers the execution of a designated script of the processor message.

## Application execution

The *application execution* action triggers the execution of a designated command line.

## Vocal announcement

The *vocal announcement* action plays the vocal message associated with the alarm or explicitly designated on the local station.

# ADVANCED MULTIMEDIA COMMUNICATION SOLUTIONS



## Fax, email, tele-printer

To receive written reports on detected alarms and their context.

**Alert** transmits information using the latest modern technology media.

## Integrated vocal server

**Alert** integrates a vocal server to consult and acknowledge alarms by telephone. On connection, the vocal server welcomes the transmitter or receiver of the phone call with a prerecorded welcome message. The operator identifies himself typing its identifying code on the telephone keypad. This identification automatically acknowledges the call that has been addressed to him (current call or messages transmitted before by SMS or pager). The vocal server then proposes several functions: listening to the alarms and service messages, selective acknowledgment of the alarms (individually or by group), record of a vocal report, switching into data mode (terminal connection) or callback request (mandatory callback on option).

## Telephone (fixed or mobile)

The operators are called by telephone. They can listen to alarms and acknowledge them, through **Alert** integrated vocal server.

**Alert** handles all the technologies: analogic, numeric (ISDN), voice over IP, radio (walkie/talkie).

## Short messages (SMS)

DECT, public paging systems, To alert operators working off site on their mobile phone or pager.

## On-site paging system

To quickly alert maintenance operators working on site.

## Public address system

To broadcast specific messages to operators working on site.

## Remote telesurveillance center

Alarms transmissions to a remote telesurveillance center.

## SNMP Supervision

To notify alarms to the network supervisor.

**Voice synthesis.** Usefull when you need to create or modify a great amount of vocal messages frequently. Essential for dynamic messages.

## Voice synthesis option

With the voice synthesis option (Text To Speech), recording messages is not necessary. The welcome message and alarm messages can be automatically synthesized from alphanumeric messages. With this option, the functionalities of the vocal server can be extended: customized welcome, announcement of alarm number, vocal time stamping of alarms, integration of dynamic values in the vocal alarm messages. **Alert** is compatible with the Speech API interface of Windows and supports voice synthesis engine complying with SAPI5 protocol.

# AN ADVANCED ON-CALL MANAGEMENT

**Alert** integrates advanced on-call management features, enabling in a very easy and intuitive way identification of the persons to be prevented for each type of alarm (included the actions to undertake in case of failure).

## User profiles

A specific workspace can be defined for every category of operator, also known as User profiles. A user profile defines an environment (menu, toolbar, displayable screens) as well as a set of authorized commands (acknowledgment, configuration of on-call management, supervision and system parameters, etc.). By default, three basics profiles are defined (operation, control, system).

## Virtual operator

An operator can be defined as a virtual operator when the associated communication media is used by several operators (shared pager or cellular phone). When a virtual operator is called, any operator belonging to the same on-call group can acknowledge the call, allowing the operator who was really called to be identified.

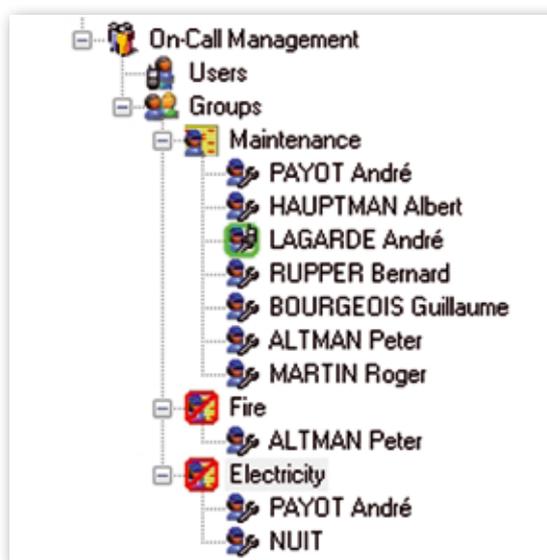
## User statuses

An on-duty operator may wish to filter the alarms depending on its different availability statuses. Several states can be defined (meeting, on-site maintenance, ...). For each state, the level of availability can be defined (only for priority alarms, call as relief user...). The availability state of the user can be modified from a remote client (PDA, Smartphone, ...).

## Operators

A list of media is attached to each operator defined in **Alert** (phone, cell-phone, email, fax, ...). The calls are dialled in the defined list order until a call is considered as acknowledged. Several media calls can be performed for the same operator (phone and SMS for example).

The elements and the order of the list can be dynamically modified from the operator dial number weekly planning. When an operator is temporarily off duty (sick, vacations, business trip, ...), this state can be managed from his duty schedule. It can be set off-duty, with or without substitute, either manually or automatically.



## Groups and teams

An on-call group designates all the operators who can intervene in order to deal with a specific category of alarms. Each group consists of teams. Each team designates an operator or a list of operators to be called simultaneously or by rotation (depending on option), with the possibility of relief operators in case of call failure. An on-call group can be designated as a relief for another group. This group will be called in place of the main group when there is nobody on call in the main group or in case of failure of the call cycle of the main group.



## Schedule

Each on-call group has an associated schedule which defines the team assignment for a group over a year, by time units of 1, 1/2 or 1/4 h. The schedule is graphically configurable. A weekly program can be defined (with holiday management) for automatic assignment of teams in the schedule.

At any time, it is possible to depart from the schedule of an on-call group, temporarily or not. When a group is in derogation state, calls that concern this group are suspended or can be redirected to a derogation team.

## Service messages

**Alert** can be used to transmit a service message to one or more operators. This message can be transmitted through the different media available for each recipient at the time of transmission. It can also be sent on a specified media (fax transmission to different operators for examples). Files can be attached to service messages (fax, email).

The screenshot shows the 'General Supervision' software interface. The main window is titled 'General Supervision' and contains a tree view on the left, a message list at the top right, and a large schedule grid in the center. The tree view shows a hierarchy of 'Central Station' and 'Supervision' with sub-items like 'Tags', 'Groups', 'Buildings', 'Functions', 'Power', 'Mechanical', 'Users', and 'On-Call Management'. The message list at the top right has the following data:

Message	Value	P	On-call Group	Call status	Comme
Start ventilation transfo 1	1	5	Maintenance	1 (Call in progress)	
Start Force condenser TGBT 1	0	3	Maintenance	0 (Call ended)	
Start ventilation transfo 2	0	0	Fee		
Start Force condenser TGBT 2	0	0	Fee		
Start Bat 510 backup	0	0	Fee		
Start Force condenser TGBT 3	0	0	Fee		
Ventilation transfo room 1 AB3EL128	0	0	Maintenance		
Server is down	1	1	Maintenance		
Fee retention	0	1	Fee		

The schedule grid shows a weekly cycle from Friday 15th to Thursday 04th. The grid is divided into 4-hour blocks (0h, 4h, 8h, 12h, 16h, 20h). The active team for each block is indicated by a colored bar: Maintenance (red), DAY (blue), and NIGHT (green). The right side of the interface has a 'Group' dropdown set to 'Maintenance', an 'Active team' dropdown set to 'DAY', and a 'Teams' list with 'Program' selected. At the bottom, there are buttons for 'Copy Program', 'Copy', 'Paste', and 'Viewer'. The status bar at the bottom shows 'ALERT (System)', 'Friday June 15, 2007 - 17:29', and 'CAP11: Call in progress. Vocal'.

## Team changeover

An operator can explicitly perform a team changeover at the beginning (clock in) and the end (clock out) of his on-call period.

An operating mode can make team changeover mandatory. If the team changeover is not done in a given period, an alarm can be triggered.

## Programmed calls

Calls can be programmed to automatically warn an operator at the beginning or end of his on-call period, or to send him a message cyclically (every n minute) or periodically (every day or a specific day of the week at a given time). These programmed calls may also be used to test the sound system.

# A COMPLETE TRACEABILITY OF YOUR ALARMS, CALLS AND INTERVENTIONS

## Alarm and intervention statistics

Statistics concerning alarms can be displayed for an alarm, an alarm group or the whole alarms for a one-day, one week or one month period: number of failures during the period, total duration and average duration of failure.

Statistics concerning interventions can be presented for each operator, for a given period of one day, one week or one month: number of interventions, average intervention duration, average reaction time.

## Automatic external database exportation

In order to extend the statistic capabilities of the alarm log, the alarm history can be automatically exported to an external database. The update of the configuration and history tables in the external database is made in real time at each modification or alarm event. This option offers extended functionalities: alarm reports and comments management, history and follow-up of the call cycles.

The screenshot displays the 'ALARM HISTORY' window in the Alert software. At the top, there are filters for 'On Call' (all), 'Station' (Central Station), 'User' (all), and 'Group' (all). A 'Period' selector is set to 'Day' for 'Fri 06/15/07'. Buttons for 'Print', 'Export...', 'Report', 'Create...', and 'Edit...' are visible. Below the filters is a table with the following data:

Date	Station	Alarm Group	Alarm	P	Acknowledged by	Fail duration	Reaction	Intervention
15/06 11:36:59	Central Stat		Main engine stopped	1		00:00:02	00:00:04	-
15/06 17:24:57	Central Stat	Buildings/Build	Start Force condenser TGBT 1	9	ALERT		00:02:56	
15/06 17:27:04	Central Stat	Buildings/Build	Start ventilation transfo 1	5	BOURGEOIS Williams	00:07:13	00:05:24	00:01:49
15/06 17:34:29	Central Stat	Buildings/Build	Start ventilation transfo 1	5	BOURGEOIS Williams	00:02:30	00:00:55	00:01:35
15/06 17:37:01	Central Stat	Buildings/Build	Start ventilation transfo 1	5	ALERT		00:00:33	

Below the table, there are summary statistics for 'Alarms' and 'Interventions':

- Alarms: Fail Number 5, Total failure time 00:09:45, Mean failure time 00:03:15
- Interventions: Intervention Number 3, Mean reaction time 00:02:07, Mean intervention time 00:01:42

The interface includes a navigation bar with 'Schedule', 'Alarms', 'History', 'Calls', 'Journal', 'Reports', and 'Viewer' tabs. The status bar at the bottom shows 'Friday June 15, 2007 - 17:41'.

**Alert** ensures a continuous control of your supervised applications. All the detected events as well as interventions triggered in reaction to these events are time stamped and recorded in **Alert**.

## Logbook

A logbook allows intervention reports from operators to be recorded. These reports can either be written (done locally or by email from a remote terminal) or transmitted orally (by telephone). They are automatically signed and time stamped. Files can be attached to these reports.

## Alarm history

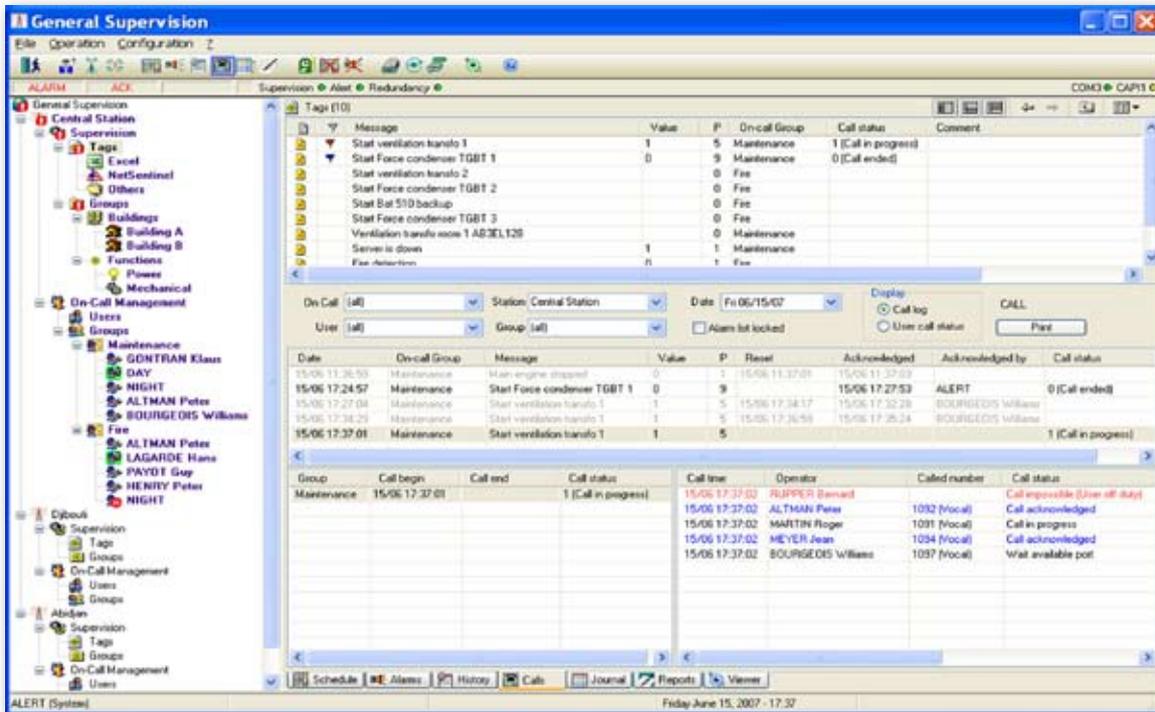
All alarms detected by **Alert** are recorded in an alarm history which indicates for each alarm, the alarm time, the name of the operator who has acknowledged it and the operator reaction and intervention time.

## Event log

Events concerning alert management are time stamped and recorded in an event log journal: operator login/logout, alarms, calls, failures, acknowledgments, derogation from the schedule, etc. ... This journal can be printed in real time on a line printer.

## Call overview

This feature allows the call cycles triggered by an alarm to be supervised in real time (in order to know who is warned) or later controlled (called groups, operators and numbers, call reports). The on call cycle reports can be printed.



## THE GUARANTEE TO BE ALWAYS NOTIFIED

**Alert** ensures call outcome and that the alarms have really been taken into account.

### Call acknowledgement

When an operator is alerted by the reception of a message, he must confirm that he has received the message. To do so, he can transmit a call acknowledgment within a given period, either by calling back and identifying himself, or by sending a SMS. At the end of the waited period, the call is considered as failed and is reiterated to the same operator or a relief operator according to the configuration.

### Call cycle follow-up

When **Alert** calls an operator to notify an alarm, the software ensures that the information is well transmitted. In case of failure (operator already online, no answer,...), the call is automatically reinitiated according to its parameterization. If the transmission of the right information to the right recipient is not guaranteed then a call acknowledgment is necessary. If this acknowledgment is not made in a given period, the call is reinitiated. In case of confirmed failure, the call is redirected either to the next calling number of the operator's calling list or to a relief operator.

### Alarm acknowledgement

The alarm acknowledgment means that the operator has really taken the alarm into account. This acknowledgment can be done either locally on the **Alert** station or remotely by telephone.



# A STRENGTHENED SECURITY

**Alert** controls the whole supervision disposal to ensure maximum availability and optimal functioning.

## Environment surveillance

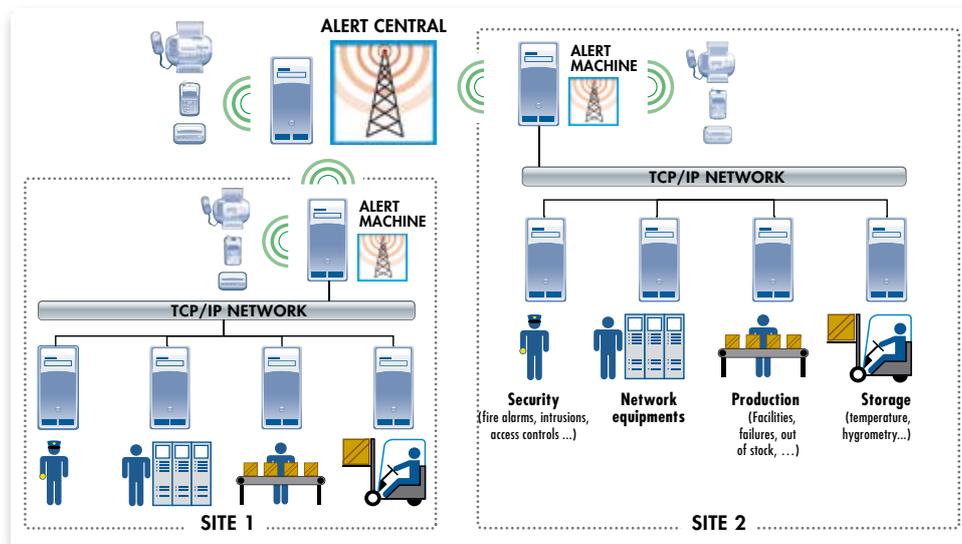
**Alert** can ensure the smooth running of the supervised application interface and trigger an alarm if the application crashes. Links can be automatically established when the supervised application is launched.

**Alert** also supervises the smooth running of call systems (modems or ISDN adapters) and can trigger an alarm when a failure appears with one of the systems.

## Redundancy

**Alert** can be installed on two stations on a network. If the redundant mode is validated, each alert manager supervises its own local application, but only one is active at a given time and triggers calls on detection of an alarm. The two stations mutually supervise each other. If the active station is no longer capable of fulfilling its functions (PC or call systems are out of order), the other station automatically and immediately takes over without any information loss. When a station is faulty, the other station automatically detects this state and activates an internal event of "redundancy failure". If this event is declared in **Alert** supervision list, a call cycle can be triggered to signal the failure of the other station.

# CENTRALIZING THE ALARM MANAGEMENT



**Alert** can be used to centralize all the alarms of a site, triggering the necessary calls and ensuring a better traceability. **Alert** can also be used as a central station to ensure alarms remote control and follow-up on different sites

## Multi-site management

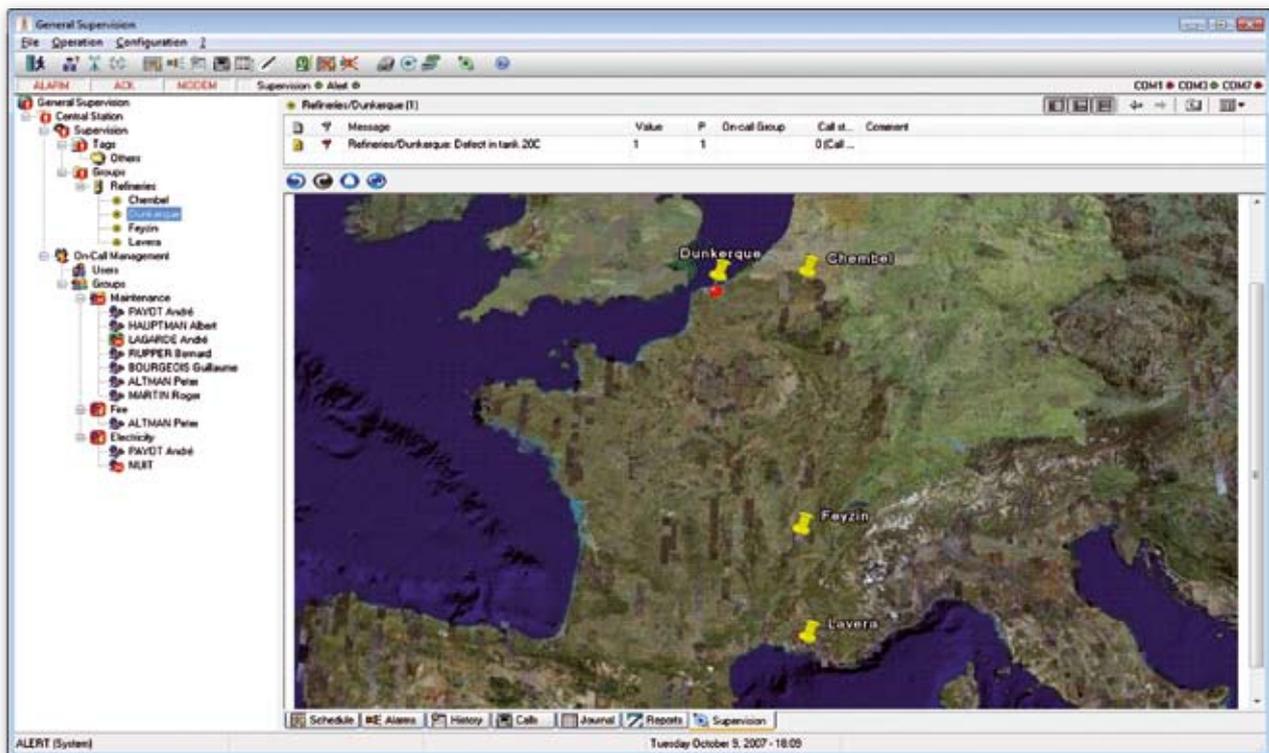
The supervised data can be spread over several sites or stations. The station structure enables a partitioned management of the data and operators attached to firms or sites. The stations can be either virtual or real. The virtual stations are based on a unique partitioned data base. The real stations are equipped with Alert software and are thus able to manage local on-call management in synchronization with the central station.

# THE VISUAL CONTROL OF YOUR ALARMS

The **Alert** vision interface enables operators to visualize and localize the alarms of the installation at first sight.

## Topographic description

The topographic description of supervised data organized as a tree structure of data servers and groups enables to localize and identify systems or functional subgroups in alarms.



## Alarm table

The current alarms are displayed in the alarm table, with all the information which concern them (alarm and reset time, acknowledgement, etc...).

For each alarm, one is able to display further information such as:

- Alarm description (parameter and current state),
- Instruction and contextual information recorded when the alarm appears,
- history of the operations performed by on-call operators (warned operators, call failures, acknowledgment, return to the normal state).

Comments on alarms can be added or read from the alarm table. Intervention report can also be added.

## Synoptic visualization of alarms

With the **Alert** Vision package, animated HTML synoptic views of a supervised installation are made possible. **Alert** provides consequently a better visual control and a graphical localization of the alarms detected on an installation. This feature includes the supervision server module for the animation of synoptic views (derived from Visual Access), the Web browser plug-in to display the synoptic views on the **Alert** screens (server and clients) and the VAEdit synoptic editor to edit the synoptic views. This feature is particularly interesting when the installation does not integrate a SCADA application. **Alert** operator interface allows first-sight visual and localization of the alarms appearing on the installation.

# GET THE INFORMATION, ALWAYS AND EVERYWHERE

*Alert client/server interface allows remote management through a TCP/IP network or an internet connection. **Alert** can be proposed in a server version for limited or unlimited number of clients. This version allows **Alert** to be used from remote terminals (a remote station equipped with the AlertClient module, a web browser, a PDA, a smartphone, ...).*

## AlertWEB module

With the AlertWEB module installed on the server station (technology ASP .NET), **Alert** can be used via Intranet or Internet from a simple WEB browser. This module gives access to the main operating functions of the software: consultation and acknowledgement of alarms, consultation and modification of on-call schedules, modification of call numbers, event log, report edition... The AlertWEB module also handles screens to be displayed on PDA or smartphone with internet access (Wireless or Internet 3G).

## AlertClient module

The AlertClient software can be installed on one or more stations of the network. It gives access to most of the functionalities of **Alert** server station, for operations (on-call schedule, alarm table, histories and statistics, event log, logbook) and configurations (operators, on-call groups and teams, polling list). The client station can be connected on each of the redundant station.

## Remote control access

**Alert** is able to manage a remote control application (pcAnyWhere or Carbon Copy), by automatically launching this application on calling operator request, after having released the used communication port (share of the modem between **Alert** and the remote control application) and by closing this application at the end of the session. During all the session, in case of alarm, Alert can override the remote control application to trigger calls.



# WITH YOU ALL AROUND THE WORLD

The Alert software operator visual and vocal interface is available in 7 languages:



*English, French, German, Spanish, Italian, Dutch, Chinese (Mandarin).*

## Multilanguage management

**Alert** integrates a real multilanguage management in its visual as well as vocal interface. Each operator operating on a server station or an **Alert** client station can work on an interface entirely written in its language. Labels and alarms can also be translated. This is also true even if other operators with a different chosen language are connected. The called or calling operator get their alarm messages in their selected language.

Alert operates under Windows 2000, XP, 2003 Server and Vista.

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