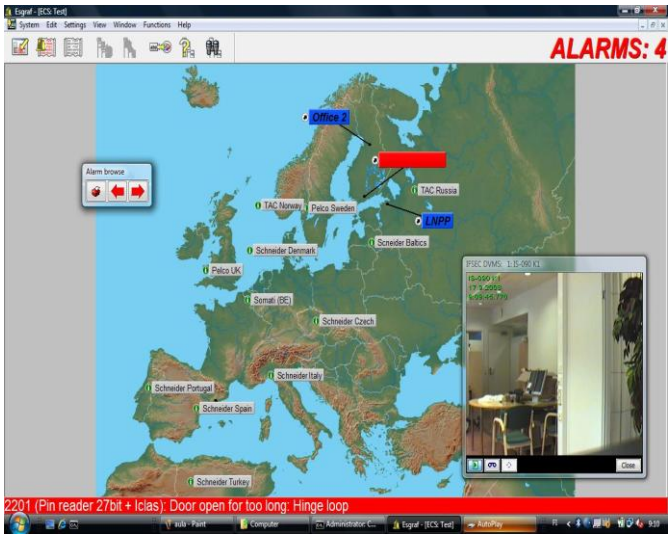
Esgraf 4.1 graphical user interface, configuration server and fire detectors contamination monitoring

Esgraf 4.1

ESGRAF is a common graphic user interface to the Esmi access control, intruder alarm, fire alarm systems and Pelco DVMS recorders to control their elements and groups. With the help of the graphics the place of the alarming element is perceived from the subsystem immediately into site plan and at the same time an alarm-specific instruction is obtained



Configuration server

Main idea for design Esgraf configuration server was make it easier to update and maintain big systems. Configuration server is independent program that runs as windows service and takes care of all Esgraf site plans and databases, all this information are delivered to Esgraf clients through TCP/IP network. Configuration server helps also system backup; backup can be done every time during system update.

Esgraf 4.1 can still work as stand alone version installed in normal workstation. Also old configurations can be uploaded to configuration server.

Operating environment

Esgraf is a 32-bit application utilizing Win32 API; it runs on Windows XP, Windows Vista and Windows 7 operating system or compatible. The application uses TCP/IP and other system services these operating systems provide.

Configuration server can be used in same kind of Windows operating systems as Esgraf itself and it can be installed where ever in the same local area network. Configuration server is Windows service that runs all the time.

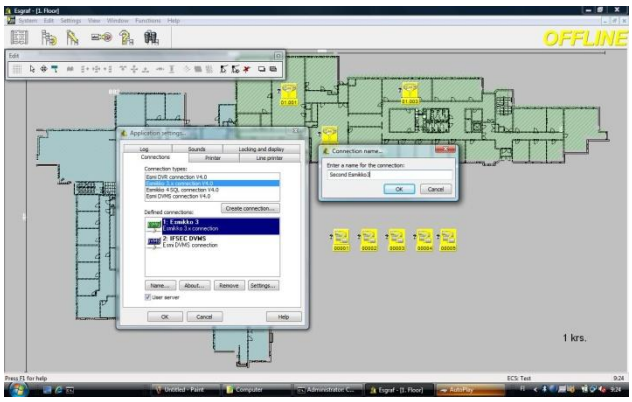
Computer for Esgraf installation should be, at least, modern power workstation.

Databases

Esgraf can still use local databases on the workstation in that case everything will be placed into workstation disk.
If Configuration server is used all databases and site plans are saved to the configuration server. Esgraf client workstations fetch all information needed from configuration server through TCP/IP network.

Connections

Esgraf can connect to as many as 64 separate Esmikko servers simultaneously. One Esmikko, as an integrated system, provides event and alarm information from Pelco's access control, burglar alarm and fire alarm systems. Pelco DVMS provides video alarms, video material handling and camera control



Esmikko – Pelco DVMS integration

With Esmikko – Pelco DVMS integration can Esmikko events start functions and operations inside Pelco DVMS.

Pelco – DVR Agent is a service connecting Esmikko servers and DVMS servers. Agent monitors events on servers and according to configured rules start activities in DVMS systems. Whit this rules access, intruder or fire event can start alarm recording, select monitor or pre position etc.

Esmi DVMS – Esgraf integration

Esgraf can connect maximum of 63 DVMS servers. Stored and live images can be seen on the Esgraf display coming from each camera. Camera controls and image adjustments are also possible via Esgraf as well as saving stored material into workstation hard disk or removable media.

User interface

The user interface is modern, fully graphical and window-based. Site plans and the elements on them

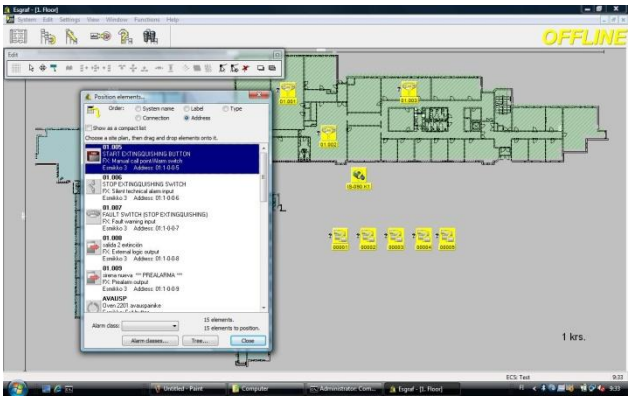
are designed in object-oriented fashion. The mouse can be used to access all of the features. Elements and the site plans can be navigated among easily in many ways, which allows using large site plan hierarchies.

The size of the window hierarchy is virtually unlimited, although available Windows resources set some kind of limit. The site plans are arranged into a tree-like hierarchy. From the main level of the system, ”the root picture”, one can move into the hierarchy by clicking the links (sort of hypertext links). Great depth and size of the site plan hierarchy makes it possible to use a hierarchy that suits everyone's needs. Elements and links are displayed on the site plans as text or graphical objects, whichever the user opts for.

Detectors and elements

Elements are objects on site plans. They show their state in real time. State changes are reflected in color or image changes. Monitoring state is also indicated (not monitored, monitored, bypassed or disabled). By clicking on an element a control window is shown. These windows provide more information and functions for the user. Control windows are also real time. By clicking the element with the right mouse button, a menu containing most frequently needed actions is shown.

The elements are downloaded from the systems that Esgraf is connected to. All elements not already placed onto site plans are places onto a list from which the user can drag and drop them into place. Camera elements and camera pre-positions are also fetched from DVMS via communication links. So they work as normal elements with drag and drop functionality.

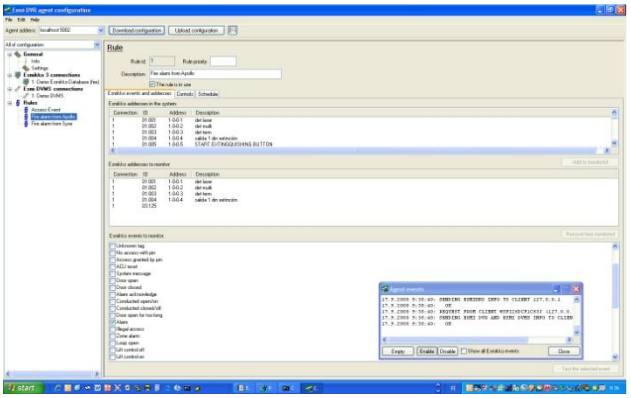


1000 instruction texts can be defined, each a maximum of 500 characters. An instruction text can be associated with every element. This text is shown to the user when an alarm occurs.

Agent (DVMS) control rules

There are condition part and action part in control rules.
Condition part specifies which events will trigger the action specified in action part. Conditions can be events using Esmikko addresses or names that are monitored.

Also a weekly calendar can be specified when these rules apply.



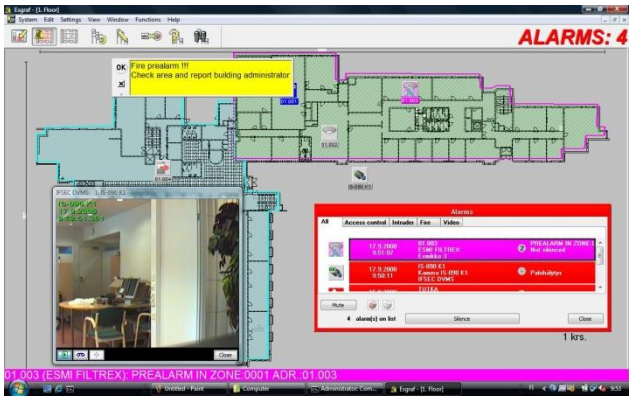
Action part in Agent defines the actions that are taken when conditions are met. Actions can be simultaneous controlling DVMS servers with parameters like:

- Start recording via camera x
- Pre-recording camera x
- Resolution in recording
- Picture rate
- Recording time
- Pre-position
- Output relay control

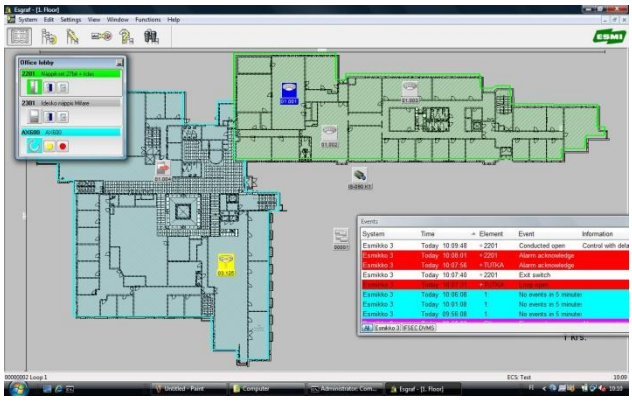
Alarms

Alarms are indicated by a sound and as red, blinking elements and links. An alarm is visible through the hierarchy; if an element is deep in the hierarchy; all links leading to the corresponding site plan are set to alarm state. The element is found by following these alarming links. All alarming elements appear on the alarm list window, from which they can be selected or fetched. The latest alarming element is accessible by a single click of a button on the toolbar

© 2011 Schneider Electric. All rights reserved.

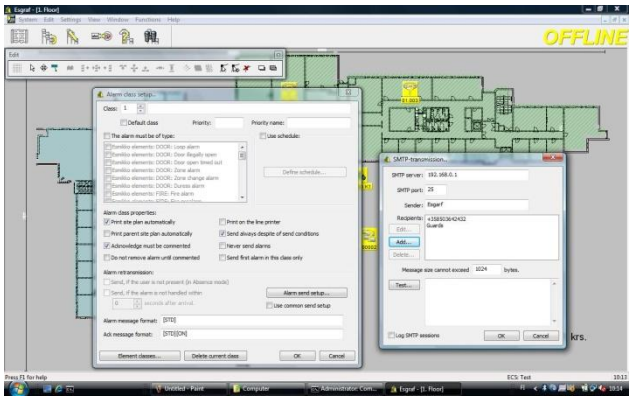


Every alarming element is placed onto an alarm list, the newest alarm at the top. The user selects an alarm by clicking on an item on the alarm list. This fetches the site plan of the alarming element and shows the instruction chosen for the element. The selected alarming element is indicated by a wave-like animation on the site plan. Alarms can be acknowledged in many ways.
Every alarm event is logged. Alarm is acknowledged by the user or by another user on a different workstation these actions are logged into an ODBC database and/or plain file log.
Important objects like main doors or lobby area detectors can be placed in control windows, control windows are always available, not depending selected site plan.



A line printer can be used to get a hard copy of the alarms and other events. The site plan on which the alarm occurred can be printed on a Windows compatible printer.

Alarm classes can be defined and associated with elements. These classes are collections of functions, which are executed automatically when the element goes into alarm state. Alarm class functions include automatic printing of site plans and printing on the line printer, sending SMTP email to a designated recipient like **Esgraf SMS Gateway.** Esgraf SMS Gateway is windows service. Esgraf SMS gateway receives mails from Esgraf converts these to text strings and forward them to normal GMS-modem. All alarm classes could have different mail and SMS alarm receivers.



Esmikko doors

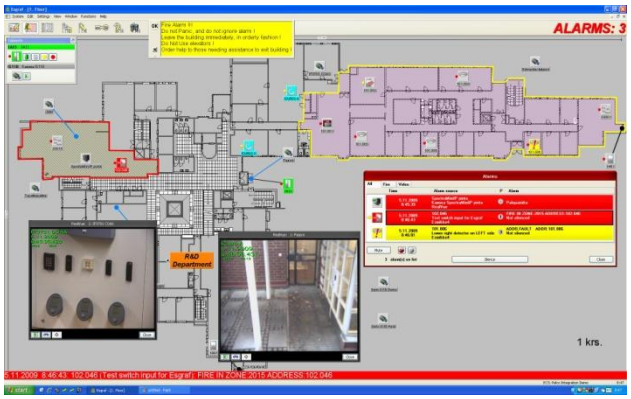
Doors can be opened or closed from the door elements.
Access events from them are inserted to an event list displaying who, when and where is in the premises. Groups can be opened, closed and bypassed or disabled.

Alarm loops

Loop states can be controlled (enabled or disabled) and alarms can be acknowledged.
Loop groups can be controlled from a group element using disarm and arm commands.

Fire detectors

Pelco's fire detection systems provide events and many different alarms like pre-alarm, fire alarm, service alarm and detector fault alarm, to Esmikko server, which routes them to Esgraf. Alarms can be silenced and acknowledged. Also system alarms not associated with an address are displayed.



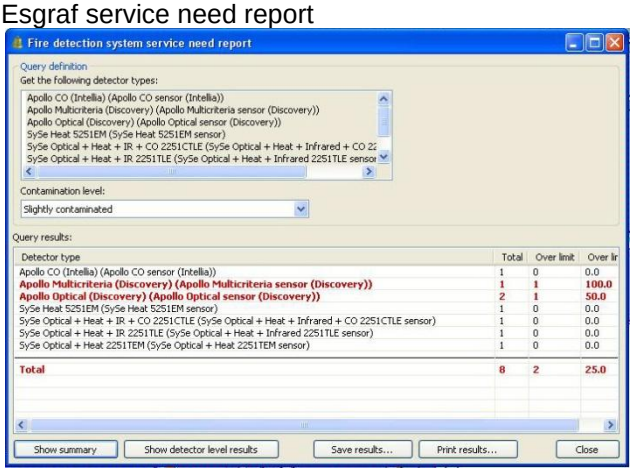
Esgraf 4.1 brings fire detectors contamination information in to our graphical user interface. Contamination information from fire detectors can be read and saved in to Esmikko4 database server e.g. once a day, from where Esgraf can read and show it graphically.

According contamination information Esgraf can print out service need report, where we can see all fire detectors that need maintenance. This report can be delivered via e-mail to service company.

© 2011 Schneider Electric. All rights reserved.

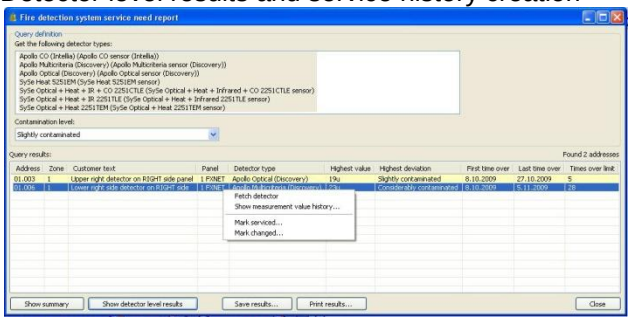
Service need report can be created by the type of detector or only when defined contamination limit is exceeded. In Esgraf we can divide detectors in four category based on the contamination level, these levels can be defined during system start up.

Esgraf service need report

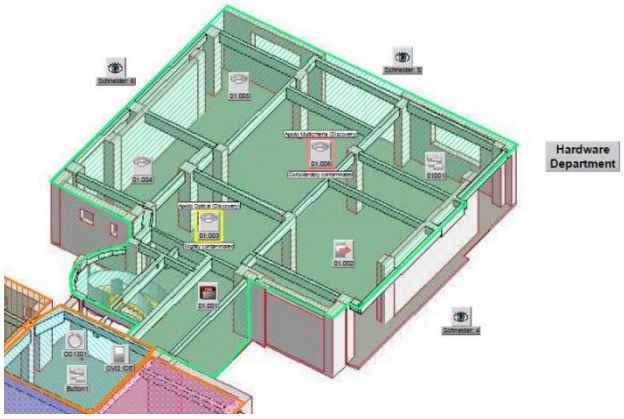


From service need report we can print out detector level results, where we can see each detector contamination level and contamination history. From this report, after service actions, each detector can be marked as serviced or changed. This information will be saved in to database and can be read later as detector service history

Detector level results and service history creation



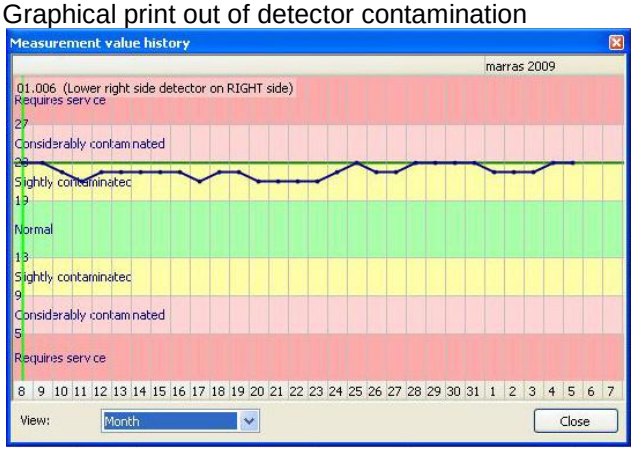
Service need map is created to help maintenance work itself. From service need map the service technician can find out the location of contaminated detectors, this saves time and by that way also clients money. In service need map we can see dirty detectors in site plans surrounded with boarder and the boarder color defines detectors contamination level.



Each detectors contamination history can printed out in graphical form, according this graph we can make e.g. forecast when detector needs service. This helps us we are doing service timetables.

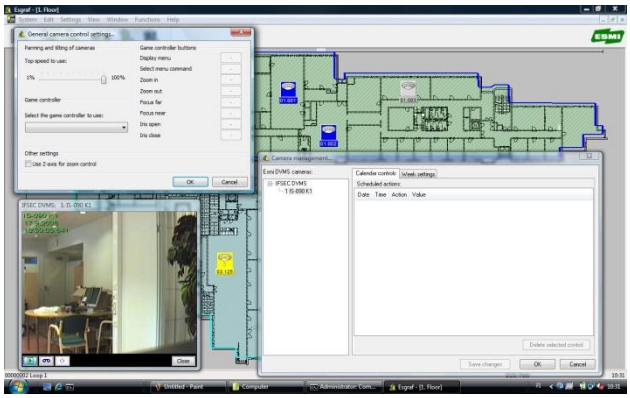
As a result we can say that Esgraf 4.1 contamination monitoring brings savings to the end customer and gives more scheduled maintenance calls to service company.

Graphical print out of detector contamination



Cameras

Cameras have control windows that look like a normal camera control panel. Pan, tilt and zoom can be controlled with mouse or Windows joystick directly from Esgraf. A fixed camera can have a software zoom feature. Pre-positions and route programs can be activated. Alarms coming from the systems are displayed on the event list.

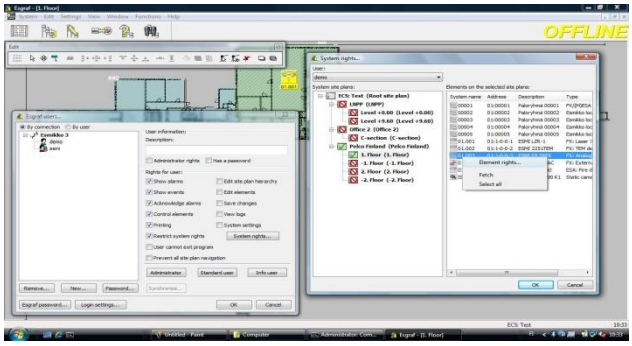


Users and user rights

© 2011 Schneider Electric. All rights reserved.

Many users can be defined, and each of them can be assigned suitable rights. Using the application requires correct user ID and a password. User information is stored into Esmikko server and can be managed from any Esgraf workstation. Functions available for the user can be restricted on user ID and workstation levels. Per-element rights can restrict user access even more, so the user only has rights for the necessary objects.

Esgraf 4 gives ability to create user groups and assign suitable rights for each user group.
Esgraf 4 has also **system rights**, 3 level access to site plans no access, view access and full access. Meaning that, in the same Esgraf, view could be different depending who is logged in to the program.



Licenses

Both Esmikko Agent and Esgraf v4.x need their own connection licenses. License is checked only when connections are opened and used so site plan hierarchy and planning can be done without licenses.

Logs

A monthly log is created for alarm events. Every log event contains information about the user and the actions taken. The logs come in two flavors, ODBC database (Access and SQL Server type logs) and plain file logs.

Esgraf configuration server

Esgraf 4 and newer versions are supporting configuration server. Configuration server is Windows service that could be installed where ever in the same local area network where Esgraf 4 is running. Configuration server can maintain several systems, all systems have own folder in configuration server. Configuration server can take care e.g. following:

- Licensing is in the configuration server and it is centralized (only one license includes):
  - Max Esmikko 3 connections
  - Max Esmikko 4 connections
  - Max DVMS recorders
  - Max DVR recorders
  - Max simultaneous client connections(Esgraf workstations)
- Server saves all databases, all site plans and deliver them through TCP/IP network to Esgraf workstations
- Workstation and user dependent data supported
- Image files are cached locally to reduce network traffic
- Gives new “Edit Mode” , only one user at the time can enter to edit mode
- Existing Esgraf systems can be uploaded to the configuration server

Product	Code	Description
ESGRAF PROGRAM	FFS08784310GB	Esgraf 4.1 stand alone software
ESGRAF PROGRAM WITH DVR INTEGRATION	FFS08784320GB	Esgraf 4.1 with one Esmikko and one DVR/DVMS connection
ESGRAF 4.1 + CONFIGURATION SERVER	FFS08784325GB	Esgraf 4.1 + server with two client connections
ESGRAF 4.1 FIRE SERVER	FFS08784300GB	Same as previous but includes CD media (Esgraf fire CD)
ESGRAF AND AGENT ADD ON CONNECTION	FFS08784331GB	Add on connection for Esmikko or Esmi DVMS
ESGRAF 4 ADD ON CLIENT CONNECTION	FFS08784335GB	Esgraf 4.1 client add on connection
ESGRAF 4.1 UPDATE	FFS08784313GB	Esgraf 4.1 update from Esgraf 4.0 or older
CONTAMINATION MONITORING	FFS08784312GB	Fire detectors contamination monitoring
PELCO INTEGRATION AGENT	FFS08784330GB	Pelco Integration Agent program with 1+1 Esmikko/DVMS connection
ESGRAF SMS GATEWAY	FFS08784311	Esgraf SMS service program

© 2011 Schneider Electric. All rights reserved.