

The ESFVISU system, version 1.2

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1 Overview



The **ESFVISU – visualization** is a package of several WINDOWS applications with similar user interface for the visualization, control and surveillance of technical processes, in particular in the area of building automation with the European Installation Bus (EIB).

The system offers process images to overview and control technical processes, data archives, an alarm management system, and it can also be used as an automatic controller.

As a controller, it automatically responds to events in the technical processes, or influences the technical processes based on a time schedule. The time schedule can be defined with a calendar application based on day programs, which are assigned to week days or special days, i.e. holidays, maintained and calculated by the calendar application. The automatic behavior can be configured by means of ‚virtual devices‘, which are defined with drag&drop. This is the easiest and preferred way to define automatic behavior, however the system also comprises an integrated development environment for basic scripts, similar to Microsoft’s Visual Basic for Applications (VBA).

Other functions relate for instance to the user administration, with rights assigned to user groups, and the secured logbook.

The ESFVISU system comprises a direct connection to the EIB with an EIB-editor, which also helps to put EIB into operation and to keep EIB communication under surveillance. As an option, there is also an OPC (Ole for Process Control) client application available, which allows to connect to various other technical processes

This whole set of functionality has been developed with easy of use and comfort as the primary concern.

2 Main aspects

2.1 Ease of use and comfort

The primary concern for the development of the ESFVISU system has been ease of use for all phases for the project: planning, initial operation, regular operation, maintenance.

Different function modules with each clear structure allow to focus on the respective task: configuration editors for process interfaces, editors for process logic, editor and player for process images, calendar program, system control.

All function modules share one unique philosophy for the user interface, according to modern WINDOWS standards. A user familiar with one function module will easily feel familiar with other function modules as well. This consequence in the user interface is an important tool to achieve simplicity.

Another tool to achieve ease of use is the application of context sensitive tools, which always assist the user with information and functions according to the current operation.

Modern office programs have a quite simple subject compared to technical process control, in consequence we should have even better user interfaces in order to achieve the same ease of use. This is the reason we give first priority to the user interface.

2.2 Flexibility for changing needs

The second important goal is to achieve flexibility in order to meet the very different practical needs in process control.

These needs not only derive from different properties of the technical system in terms of devices and different ways of communication, but also from different intentions and business models on how to use the technical system.

This is the reason that this system has been developed as an open system, which can easily integrate more function modules in the future, when desired. In particular, we do not expect the user to program the system with sort of programming language, though this possibility is provided, but common tasks should be just configured, with drag & drop whenever reasonable.

3 Technical requirements

3.1 Hardware

Processor	Pentium IV or equal, running at 1200 MHz.
Main memory	256 MB
Free disk space (additional disc space requirements depend on the configured archives)	40 GB
Screen resolution	1024 x 768 Pixel
Colors	Color depth min. 16 Bit per Pixel.
Interfaces	Serial or USB interface to connect EIB with EIBA FALCON driver

3.2 Software

WINDOWS 95	NO
WINDOWS 98, First Edition	NO
WINDOWS 98, Second Edition	YES
WINDOWS ME	YES
WINDOWS NT	NO
WINDOWS 2000, all versions	YES
WINDOWS XP, all versions	YES

3.3 Process interface

For the purpose of European Installation Bus (EIB), the FALCON driver of the EIBA (EIB Association) is used.

Optional the ESFVISU is equipped with an OPC (OLE for Process Control)- client, so that instead of EIB, or additional to EIB, OPC- servers, that are available for a multitude of automation systems, can be used for the processing connection.

Attention: Under Windows 2000 the FALCON driver has to be installed manually from the setup CD !

3.4 Import from ETS (EIBA Tool Software)

ETS 2 version 1.3	YES, use ETS "OPC - Export"
ETS 2 versions 1.1, 1.2 and 1.3	YES, use print report redirected to file.
Older ETS - versions	NO

3.5 Microsoft Internet Explorer, Version 6; DirectX, Version 9.0b

These applications are required; they can be installed or updated from the setup CD.

4 Logical system structure

The different applications of the ESFVISU package are organized in three levels:

■ Level of process interfaces:

The subject of this level is to configure and to observe the connection to technical processes in terms of devices and communication with devices. In order to setup the interface to a technical process, knowledge of these devices and their means of communication is required. The result is the ready configured process interface, which is maintained as a process interface project, i.e. a ESFVISU EIB project or a ESFVISU OPC project.

Each process interface project forms a layer between the actual technical system with it's devices at one hand and more application oriented function modules at the other hand, which move the focus from technical details of the actual devices toward logical relations and finally the presentation of certain aspects with process images.

■ Level of logical process models:

Whereas the process interfaces implement access to connected devices, the logical process model describes the desired functionality based on parameters given by these devices. At this level, additional parameters may be defined and automatic control functions may be set up to supplement the devices behavior.

For example the process interface may provide access to a room's temperature and heating control, the logical process model will define archives of the temperatures, measured over a time period, and relate the desired room's temperature to the occupancy state, perhaps planned in a calendar, by setting the control value for the heating device.

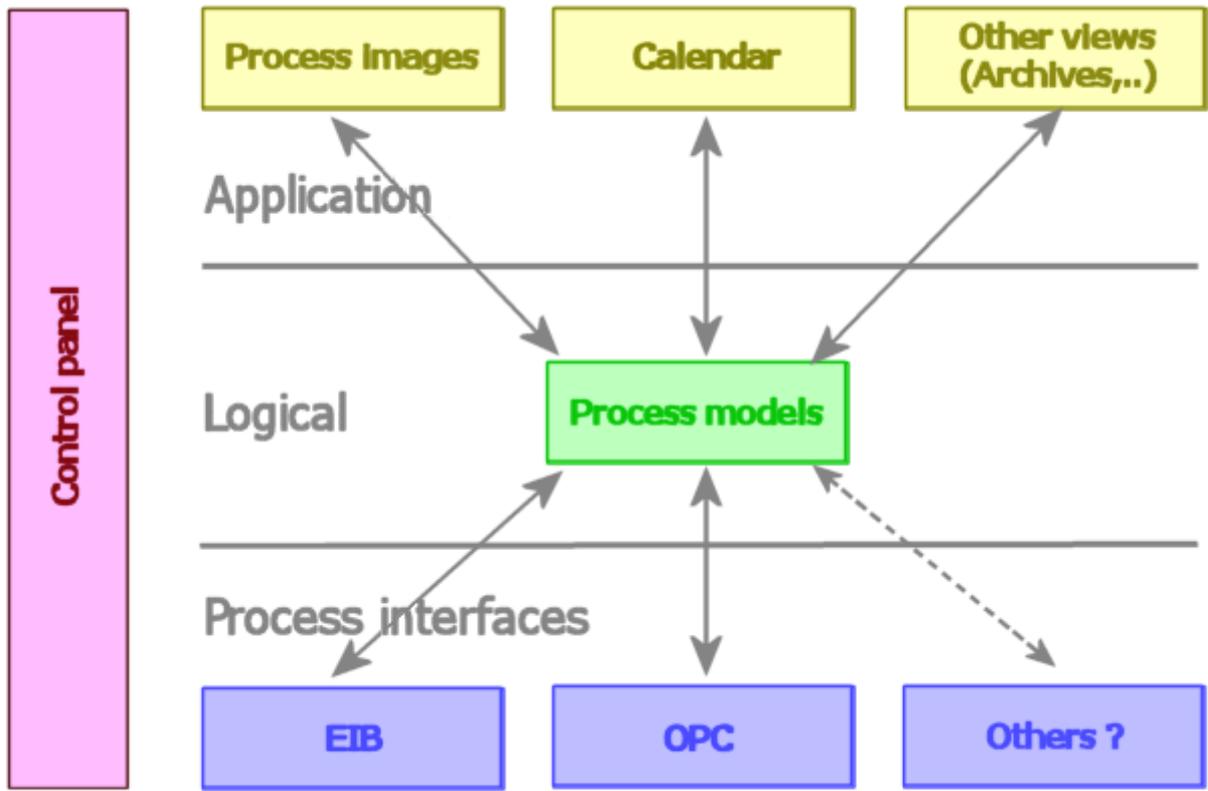
Several process interfaces may be combined in one logical process model.

This is also the level to define alarm and warning ranges for parameters and to set up the alarm behavior, which may comprise sending notifications with email.

■ Application level:

The application level comprises views to the logical process model. These are for example process images, which provide an a means to overview and control certain aspects of the system, as well as the calendar program.

Access to these different levels and to certain functions are controlled by user rights. The users, as well as other general settings for the ESFVISU system, are defined in the ESFVISU control panel. The control panel provides access to all function modules of the ESFVISU system.



5 Operation modes

The ESFVISU software may run in one of four operation modes with a certain maximum of data points. Data points are parameters accessible through the process interface and self defined parameters in the logical process model.

5.1 Demo version:

The demo version can be started for a number of days after the software has been installed, with a maximum of program starts.

Each time the system has been started, the process interfaces will be disconnected after a certain time period. This period is sufficient to test the software. Also, the demo version is limited to a quite small number of data points.

Nevertheless, the demo version provides the same functions as the product versions.

5.2 Not activated product version:

The number of data points is given by the product version. After the software has been installed, it needs to be activated with an activation code. Until then, it will run for a number of days with a maximum of program starts.

Hence the user may start using the software already before the software has been activated.

5.3 Activated product version:

The product has been activated with an activation code. It is only limited by the number of data points of the purchased product version.

6 Copy protection and activation

The ESFVISU system is copy protected. Copy protection is accomplished with either a dongle or an activation code.

In case of the activation code, the ESFVISU software calculates some characteristic data of the computer and shows up a system code. The software will be activated, if an activation code is entered, which matches the system code. Each system code and each activation code is unique and cannot be used more than once.

When characteristic data of the computer are changed, the system will ask for a new activation. However, main memory, network connection, graphics card or audio devices may be exchanged without impact on the activation state.

If the systems ask for a new activation, the user will have several days to re-activate the software and in the meanwhile may continue using the software.

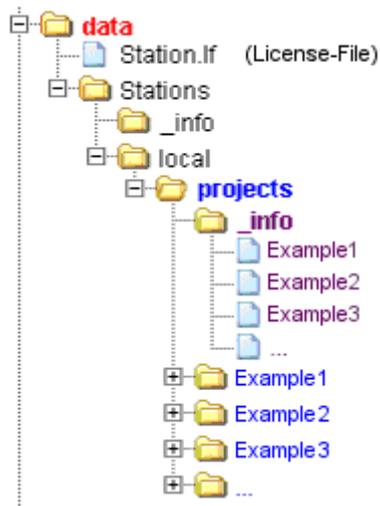
7 Disc storage organization

This description of disc storage organization is just provided as supplementary information. Usually, knowledge of the directories used by the ESFVISU system is not required to operate the ESFVISU system.

In particular to copy a project from one computer to another, the application of import/export functions of the ESFVISU control panel is recommended.

During installation, the ESFVISU setup creates a directory named **DATA**, as a subdirectory of the directory the user has chosen for the ESFVISU system. This DATA directory comprises all projects and other settings of the ESFVISU system.

The **DATA** directory has the following structure:



In subdirectory **PROJECTS** there is a subdirectory for each project (A) with the project's name.

In subdirectory **_INFO** of **PROJECTS** there is one file for each project with the project's name.

8 Backups and emergency operation

It is recommended to regularly backup the **DATA** directory.

In case the computer must be replaced, first the ESFVISU software can be installed on the new computer, and second the saved DATA directory can be copied to the new computer.

9 Address

ESF Software GmbH

Europaallee 14 + 16
D-67657 Kaiserslautern
Federal Republic of Germany

Telefon: +49 (0) 631 / 303200 - 0

Telefax: +49 (0) 631 / 303200 - 9



office@esf-software.com



www.esf-software.com

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