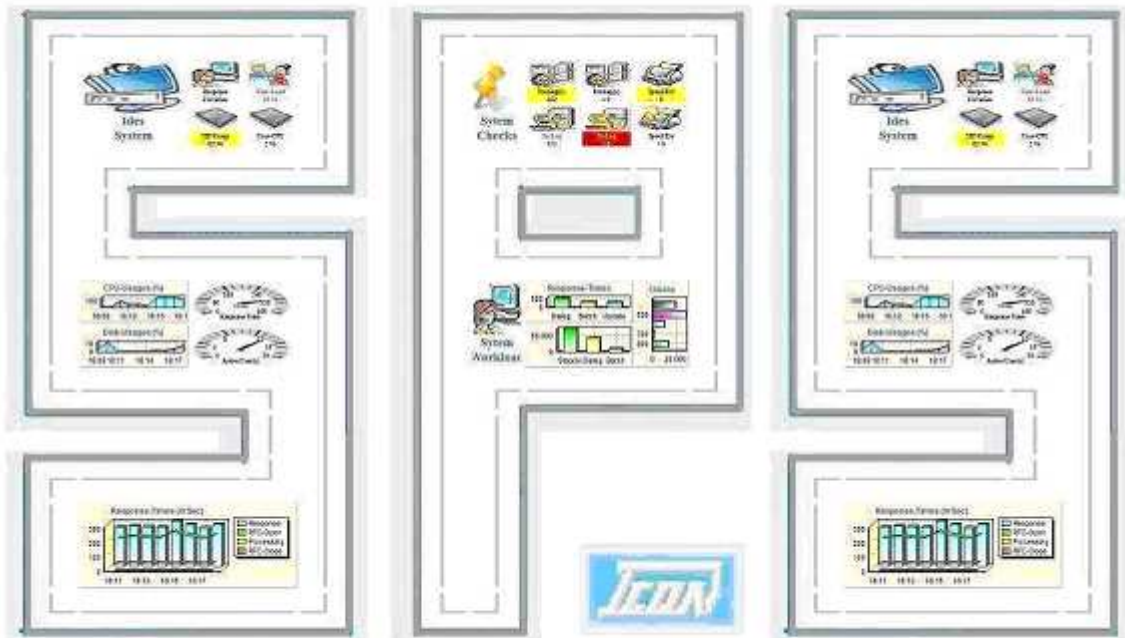


SpsEyes

Active Dashboard for SPS-Systems



White Paper

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1. Overview

With the help of SpsEyes you are able to present a lot of information's from the SPS-System on an Active Dashboard. Therefore no intervention to the SPS-System is required. The access is done via the S7-Protocoll with is based on RFC1006 .

Prerequisites

For the usage of SPS-Eyes you need:

- The used modules are to put into a separate directory like "C:\SpsEyes"
- For working the sensors you have to create a profile for accessing SPS. You can create it with the tool "SpsEyes.Exe" which is part of the installation. You need the IP-Address and the Rack- and Slot-Number of the SPS.

Active Dashboard

For the usage of the Active Dashboard you have to divide the screen into Columns and rows. Into every segment you are able to place an object or sensor. Therefore you have to create the sensor with the tool "SpsEyes.Exe" and place it within the Dashboard. Then depending on the quality of the data colours of the layout could be attached. By this way you are able to show warnings and alerts by colour.

On a screen, perhaps a Full HD (HDMI) Flatscreen, you are able to place a rich number of sensors on the screen. The number of sensors depends of the resolution by columns and rows.

Every sensor within the Dashboard works autonomous. Only for creating a new sensor the "Profiler" (SpsEyes.Exe) is needed. Via the Profiler the sensors could be started and stopped too.

The Working

For accessing to a SPS-System you need a profile with the accessing-information's like Rack- and Slot-Number. The profile will be generated via the tool „SpsEyes.Exe“ and stored within the installation-directory. With the usage of the Profiler you are able to read out the information's directly from the SPS-System. This could be done for verification and you see the resultings directly.



The sensors reads the accessing-information's from the profile and connects to the SPS-System via the S7-Method. With the usage of the Rack- and Slot-Number the identification will be done. You have access to the Basics, States, Values and System. The resulting is read, analysed and prepared for further usage by Dashboard.

Now the resulting could be shown by graphics and converted to a sensor for using within the Dashboard. After you defined the sensor it could be presented within the Dashboard. The generated sensor could be modified by layout, size and colours. By using rules the sensor could be preferred for presenting warnings and alerts, for example yellow for warnings and red for alerts.

2. The Profiler

With the „Profiler“ (SpsEyes.Exe) you are able to define profiles which will be stored into the installation-directory. The Active Dashboard refers to them.

Define the SPS-Access

For the usage of the sensors in conjunction with the SPS-System a profile is required. The profile is created with the module „**SpsEyes.Exe**“. The accessing-information's are stored within the used directory.



For the verification of the SPS-Access following methods are supported:

- „**Ping**“: Ping the SPS (Function of the operating system is used)
- „**Info**“: Reading the general information's about the SPS System
- „**Check**“: Verify the Login (Rack, Slot, Directory)

The "Info" delivers information's about SPS, the response and operating times. This data will be available by viewing the overview the profiles.

Interactive Testing

By using the „SPS Profiler“ you have the possibility to test the sensors interactively before implementing them to the Dashboard. There are following ranges:

- **Basics** Functions from the basics
- **States** Functions for states
- **Values** Viewing the values
- **System** System informations

Within the range of SPS-Basis general information's about the basics is offered. For example, this are information's about directory or maximal entries for blocks and states.

The other ranges delivers information about the actual states, containing values or the system.



This screen shows the entries of the SZL-Group "0".

3. Creating the Dashboard

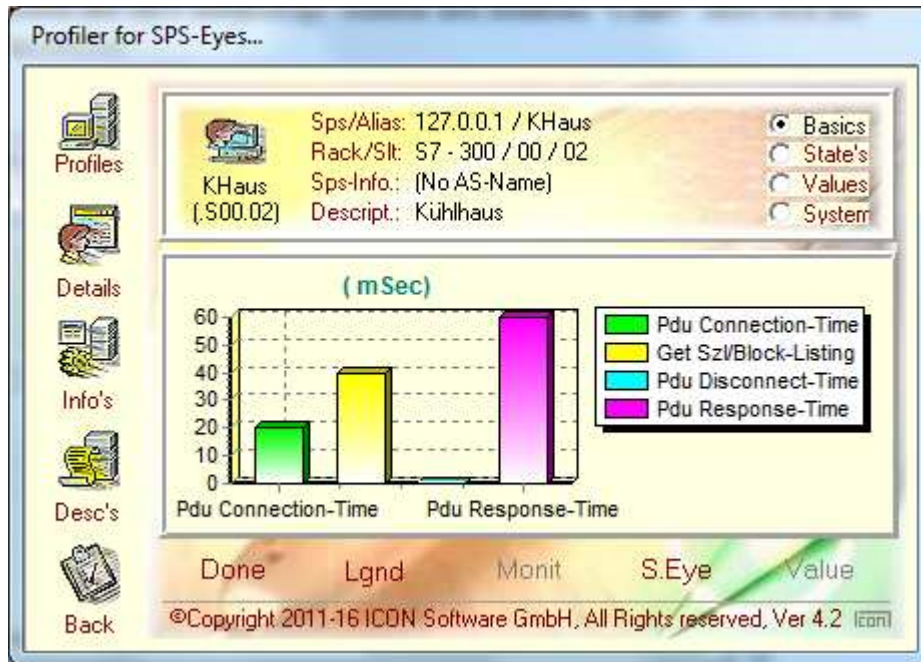
The following steps show how on Eye, for example the sensor "SPS SysInfo" is run and converted to an eye within the dashboard:



With the "Exec"-Button the sensor is released and the following screen is shown:



You see the response times of the SPS. By pressing the "Chart"-Button you see a graphic :



This is the base for creating a new Dashboard-Entry. With the Button "S.Eye" the entry is created:

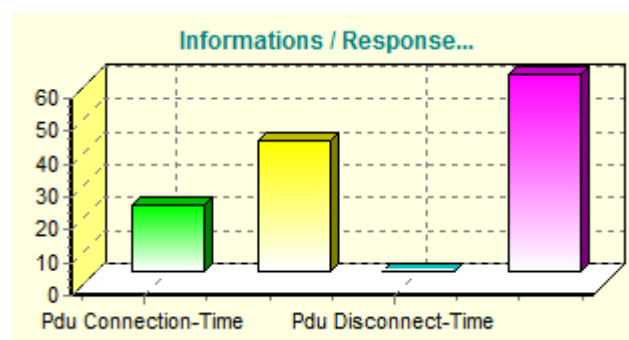


Beside the basic definitions there are a lot of other options available.

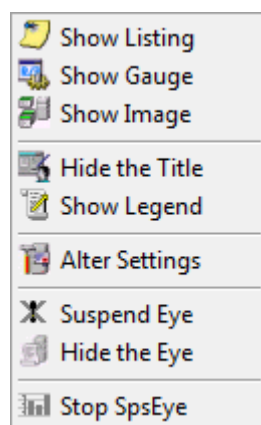
After pressing the Button "Create" a new entry is created, you see them in the overview:



With the Button "Start" the Eye is started.



By pressing the right mouse button other functions are available:



4. Graphical Viewings

Show Graphics

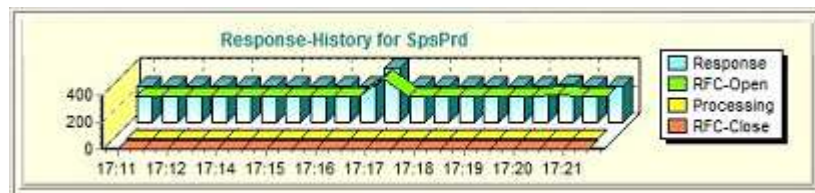
The sensors within the dashboard could be modified. The change could be done directly within the dashboard. Following graphical layouts are supported:

- | | | |
|---|----------------|-------------------------------|
| - | Chart | Views the Graphics |
| - | Flow | Shown as a flowing diagram |
| - | Listing | Listing of the resulting data |
| - | Gauge | Show the data via a Gauge |
| - | Image | Show the data via an Image |

By using the graphics the following layouts are possible:

- | | | |
|---|----------------|-------------------------------|
| - | Bar(s) | Bar-Diagram |
| - | S/Line | Combination of Bars and Lines |
| - | Vertics | Vertical Bars shown |
| - | Stacks | Bars to be stacked |
| - | Area | Shows the Area-Viewing |
| - | Lines | All data shown by Lines |
| - | Points | All data shown by Points |
| - | Pie(s) | Display data by Pie |

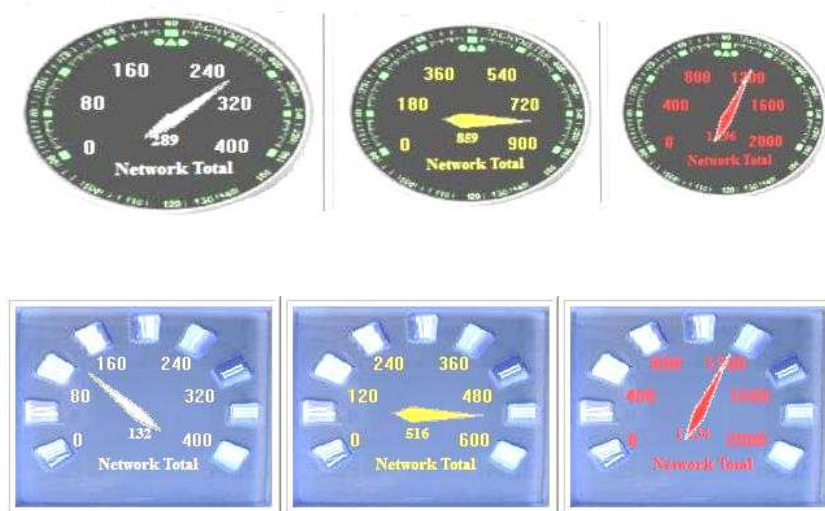
During runtime the graphics could be modified. Example for a history-viewing:



Additionally you are able to design and show your own images, for example gauges, within the Active Dashboard.

Show Gauges

By using the range "Gauges" the given images are prepared and during runtime feed with data and colours:



The displays could be modified by size and behaviour. You are able to imbed your own layouts of the gauges by JPG images. Your own image has to be prepared as follows:



During runtime the gauges are feed by values and colours. You can imbed your own images. Depending on the layout different colours are used for the captions.

You are able to place a lot of objects on the Dashboard. Every object is autonomous and is realized by a own process.

Show Images

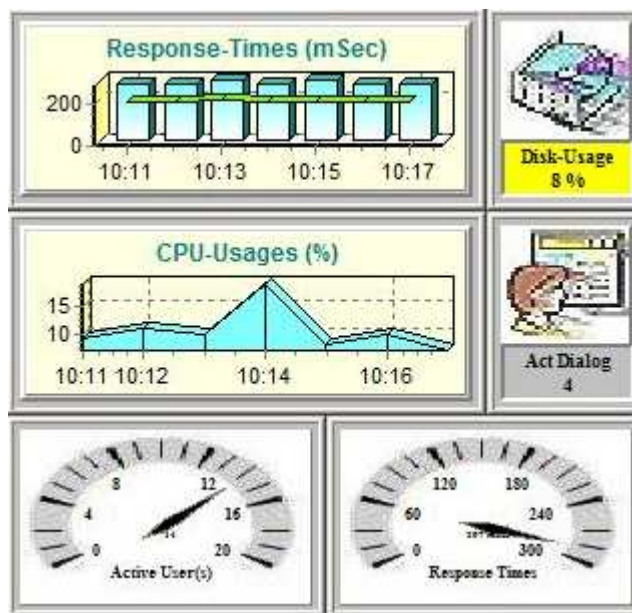
By the range "Images" existing Images would be prepared for the Dashboard. With the use of rules the objects are modified by colour:



The images could be chosen by free. You are able to imbed your own images as JPG. The images are therefore placed within the directory.

By applying rules the colour of the object is modified. Additionally the options for zooming or displaying only the modified data is supported.

The objects could be zoomed or moved at runtime. the mix of charts, gauges and images is supported too:

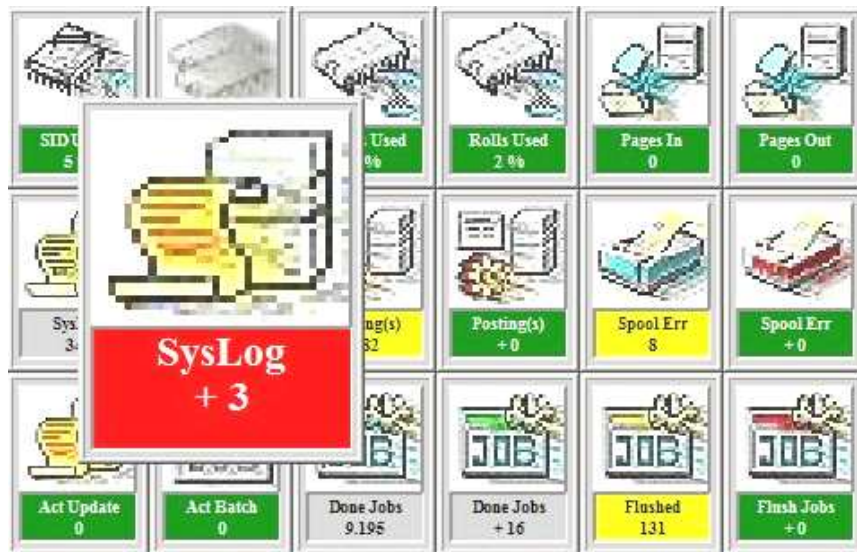


All the activities and allocations is done "online". Every object is independent and runs as single process. You are able to apply a lot of objects within your Dashboard.

Behaviour Objects

The behaviour of the objects is like this:

- Hold the State (the state of an Alert is freezing)
- Zoom on Alert (on state Alert the display id zoomed)
- Keeps the Data (only the data changes are shown)
- Hide Eye (the gauges are only show by Warning or Alert)



This example shows the behaviour of the object "SysLog". Used is the option "Zoom". By using the option "Keep" only the new messages are interpreted. In this sample a single object was selected by double click and is show as zoomed. The objects "Posting(s)", "Spool Err" and "Flush Jobs" no new values were present.

Hints: If the state changes to "Red" and the "Zoom" option is chosen the object zooms and is shown in the foreground. If the object changes back to "Yellow" or "Green" the object is shown normal.

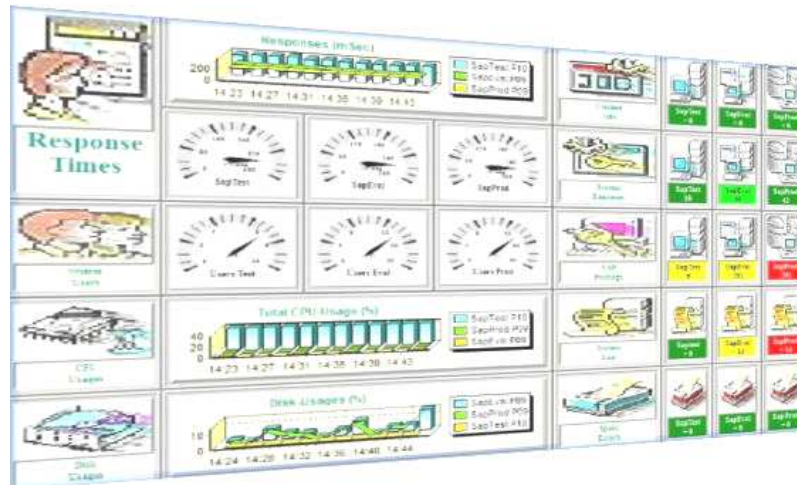
If the option "Hold" is applied the highest state like "Yellow" or "Red" will be saved. This is for information that there was a state not "Green" in the past. By using the right mouse button the state could be reset.

By using the option "Hide" the object is at state "Green" not visible. If the state changes to "Yellow" or "Red" the object will be restored on the last position.

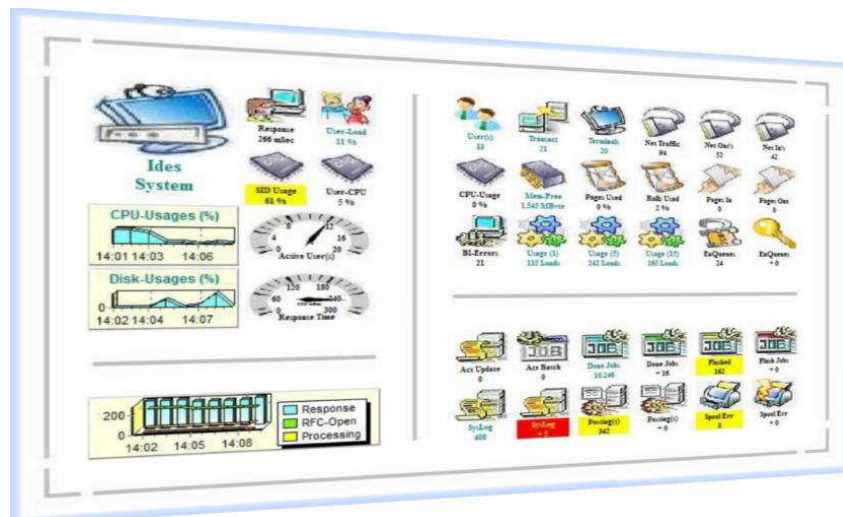
5. Dashboard Layouts

The Layout of the Dashboard could be designed free. All the objects could be placed on the Dashboard as you like. The images are shown by samples and could be modified by own images done by small JPG-Files.

Example: Layout for monitoring a single SPS-System with single frames:

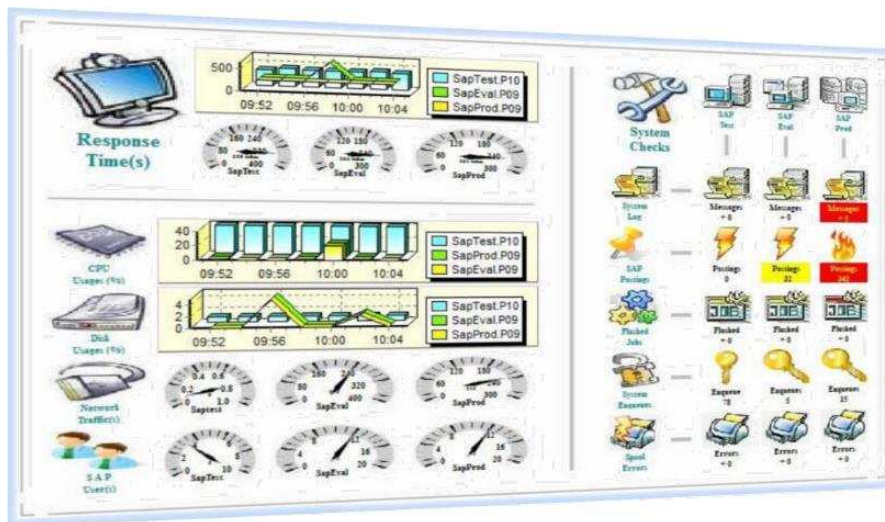


Example: Layout for monitoring a single SPS-System without frames:



Every of this objects works autonomous, every object is realized by an own process. Every process works independent from other processes and communicates via S7 with the attached SPS-System.

Example: Layout for monitoring with more SPS-Systems:



On the left hand general information's like Response-Times are presented via Graphics or Gauges.

On the right side a matrix organized by SPS-Systems and functions is shown. There are three SPS-Systems shown.

Remarks:

- By Graphics, a single value is requested from each SPS-System. The values will be prepared and analysed
- By Gauges, a single value is requested and shown
- By Images the values of the sensors are analysed and presented by colours

All the sensors could be modified by size, layout and position during runtime. New sensors could be added at any time. You are able to design your own Dashboard.