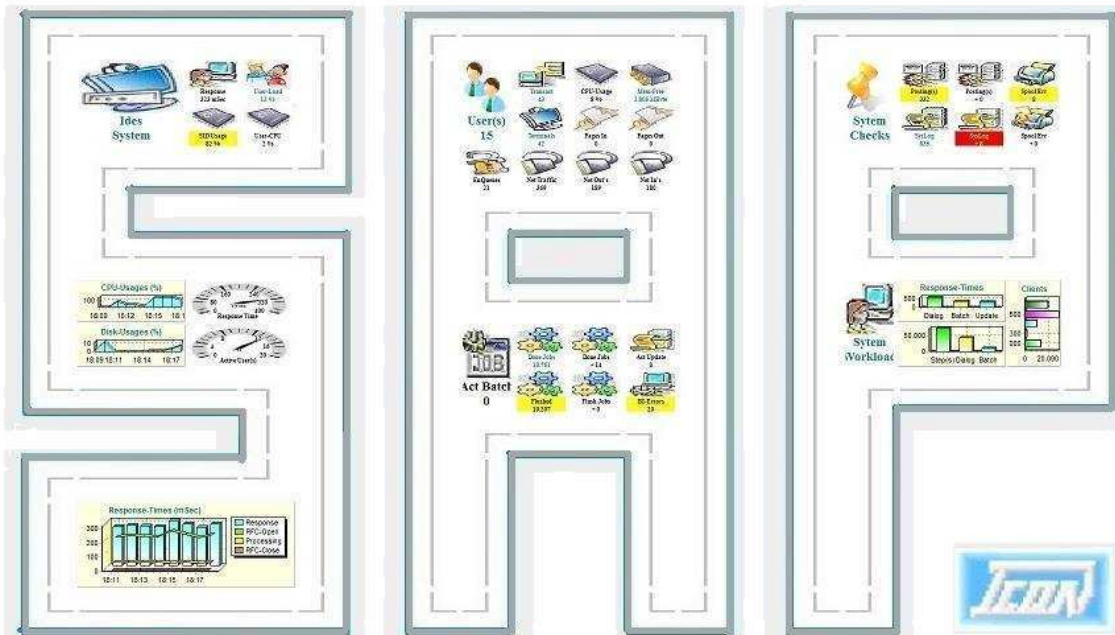


SapEyes

Active Dashboard for SAP-Systems



White Paper

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1. Overview

With the help of SapEyes you are able to present a lot of information's from the SAP-Server on an Active Dashboard. Therefore no intervention to the SAP-Server is required. Local as remote SAP-Server could be embedded. The access is done via RFC (Remote Function Call). You only need the rights to request the information from the server.

Prerequisites

For the usage of SAP-Eyes you need:

- The used modules are to put into a separate directory like "C:\SapEyes"
- The DLL „**LibRfc32.Dll**“ from a SAP-Installation or GUI is needed. This Dll perhaps you have to store within the installation-directory
- On the SAP-System the „**SapOsCol**“ has to be running to get information's about the operating-system like filesystem or CPU-usages
- For working the sensors you have to create a profile for accessing SAP. You can create it with the tool “SapEyes.Exe” which is part of the installation. You need a valid login for SAP and the rights to read basic information's

Active Dashboard

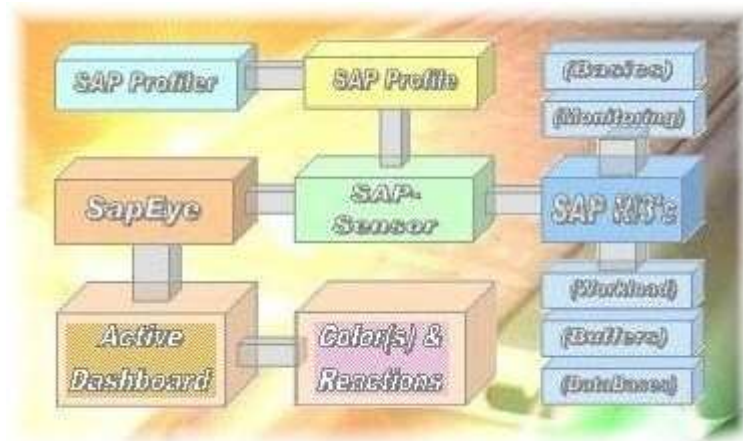
For the usage of the Active Dashboard you have to divide the screen into Columns and rows. Into every segment you are able to place an object or sensor. Therefore you have to create the sensor with the tool "SapEyes.Exe" and place it within the Dashboard. Then depending on the quality of the data colours 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" (SapEyes.Exe) is needed. Via the Profiler the sensors could be started and stopped too.

The Working

For accessing to a SAP-Server you need a profile with the accessing-information's like username and password. The profile will be generated via the tool „SapEyes.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 SAP-Server. 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 SAP-Server via the RFC-Method. With the usage of the username and password the identification will be done. After the successfully login the Profiler is able to read out the data. You have access to the Basics, Monitoring, Workload and DataBases. 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“ (SapEyes.Exe) you are able to define profiles which will be stored into the installation-directory. The Active Dashboard refers to them.

Definition SAP-Access

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



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

- „**Ping**“: Ping the Host (Function of the operating system is used)
- „**Info**“: Reading the general information's about the SAP System
- „**Check**“: Verify the Login (Username, Password and Client)

For using the „*Ping*“ und „*Info*“ there is no valid userid and password required. The "Info" delivers information's about SAP, the operating system and the uses database. This data will be available by viewing the overview the profiles. The password will be saved encrypted.

Interactive Testing

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

-	Basics	Functions from Basics
-	Monitr	Functions for Monitoring
-	WrkLd	Functions from Workload
-	Bfr/Db	Buffers und Databases

Within the range of SAP-Basis general information's about the basics is offered. For example, this are information's about CPU-Usage, the Disk-Activities or the Paging.

The range „Monitoring“ is to watch the activities of SAP R/3. For example you see the CCMS-Jobs, the Logging, the Snaps-Dumps or the Enqueues used by databases.

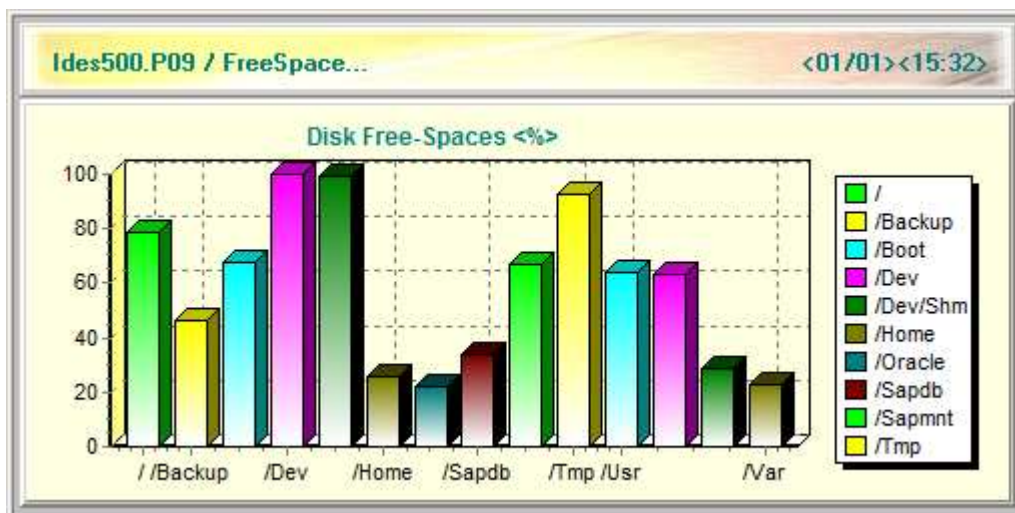
By the "Workload" you are able to analyse the Statistic-Data which are collected by SAP. The SAP collects the data about the used transaction which includes the CPU-Usages as the Response-Times too.

The used Buffers- and Storage-Values are visible at the range of "Bfr/Db". Also the DataBase-Activities and there layouts could be shown.

Example for the usage of the Sensor „SAP FreeSpace“:



The resulting is divided in an information-line and a list of channels. In this mode you see the actual values from SAP. In the Dashboard you can attach an action in conjunction with the value, for example changing the colour to yellow (Warnings) or red (Alerts).

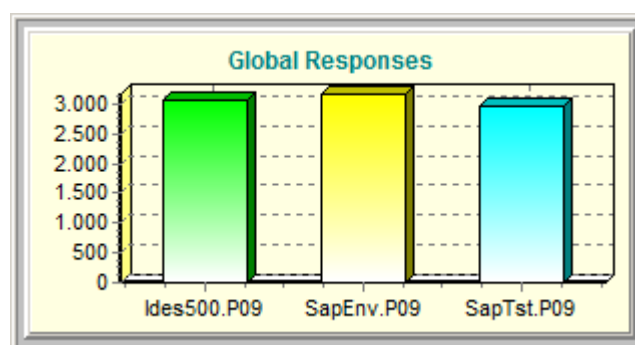


3. Local / Global Sensors

The sensor could be used to access a single or a group of SAP-Systems. At the single usage only on SAP is consulted. By using the global feature a group of SAP's will be sequentially consulted. The resulting is transferred to the Dashboard. For example, you could request the Response-Times of all SAP-Systems. Within the Dashboard you will see an overview of all collected responses at a glance.

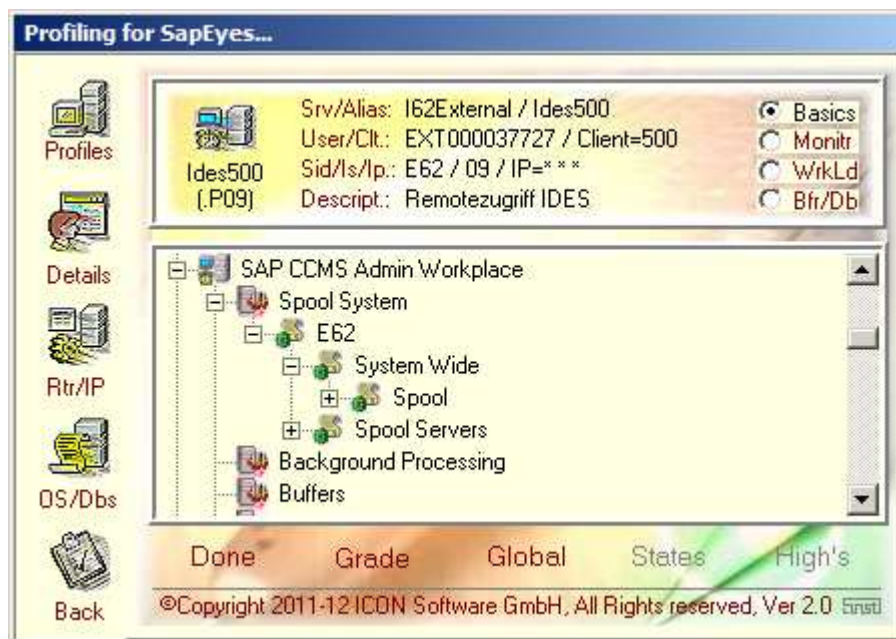


Within the Dashboard you are able via rules to change the layout by colours.

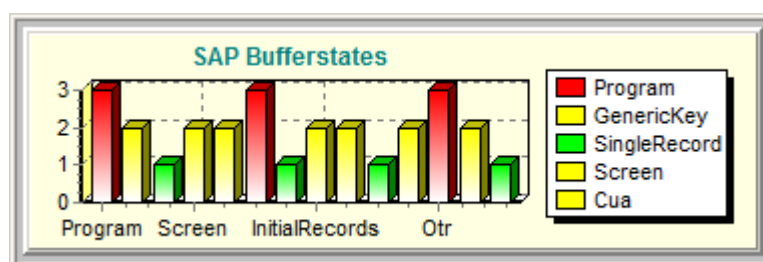


4. SAP CCMS Monitoring

Within the range of „SapMon“ you can request information's from SAP CCMS Monitoring, the transaction „RZ20“. There are data named by “Monitoring Sets”. This data are structured and contains a lot of information's. This information's you can call via the Profiler and transfer them to the Dashboard.



The sensor "SAP Monitoring" reads the data directly from SAP and you are able to assign an Alias-Name. All offered values could be requested and transferred to the Dashboard.



5. SAP User-Interface

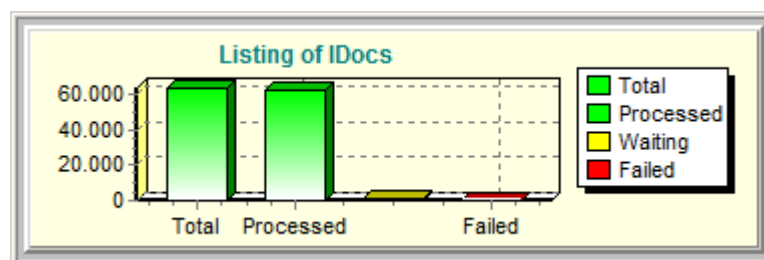
As an extension to the sensors you are able to add user-data from SAP. Therefore you can create a usertable within SAP and fit it with your own data. The values of that table could be read and transferred to the Dashboard. Therefore you need only a small table named "ZEYES" within the SAP-System.

SENSOR	CHANNEL	DESCR	STATE	VALUE	UNIT
FACTURA	**	FACTURA PROCESSING		29.08.12	CCMS
FACTURA	00	NO OF ACCOUNTS		120	#
FACTURA	01	AMOUNT TOTAL		344.20	EUR
FACTURA	02	JOB RUNTIME		36	MIN
IDOC	**	IDOC PROCESSING STATE	3	28.08.12	DOC'S
IDOC	00	IDOC'S TOTAL	1	63144	DOCS
IDOC	01	IDOC'S PROCESSED	1	62321	DOCS
IDOC	02	IDOC'S WAITING	2	812	DOCS
IDOC	03	IDOC'S FAILED	3	11	DOCS
SUPPLIER	**	SUPPLIER PROCESSING CHAIN	1	01.09.12	CHAIN
SUPPLIER	00	STEP 01 - DONE OK	1		
SUPPLIER	01	STEP 02 - DONE OK	1		
SUPPLIER	02	STEP 03 - WARNING	2		
SUPPLIER	03	STEP 04 - DONE OK	1		
SUPPLIER	04	STEP 05 - ABORTED	3		
SUPPLIER	05	STEP 06 - PLANNED	0		
SUPPLIER	06	STEP 07 - PLANNED	0		

The contents of the User-Table could be organised as shown (Samples):

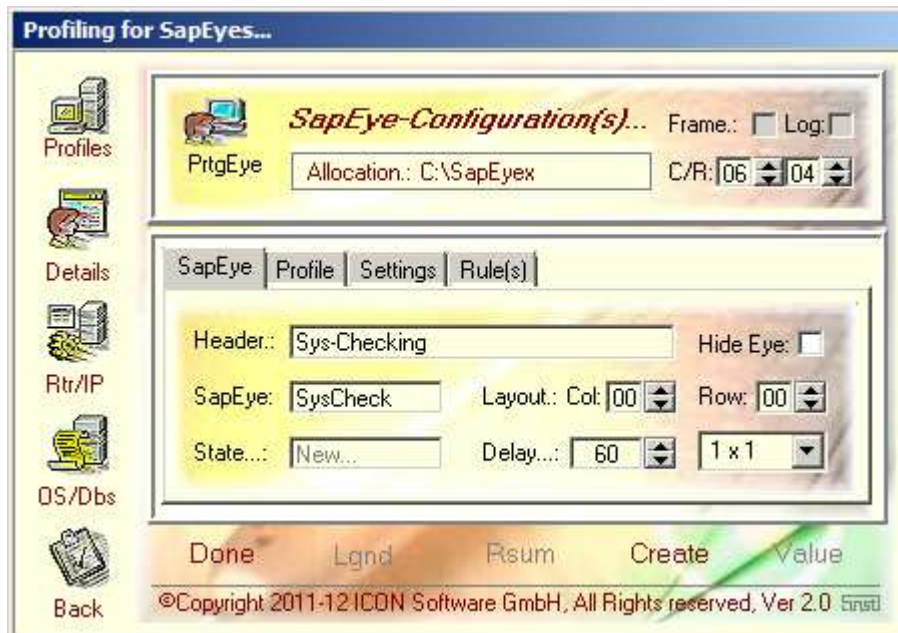
- Sensor „**Factura**“: A simple report for a done CCMS-Job. You could show the running dates and statistics. Only the data will be presented
- Sensor „**IDOC**“: A state fort he IDOC's, the shown information's could be received via a small ABAP itself. You see the number of Idocs and there states
- Sensor „**Supplier**“: Presenting a processing chain. With a small ABAP you are able to store the state of each process. Only the state is shown

You can define an unlimited number of User-Sensors. The administration of them would be done by a small ABAP or a function. The selected table-entries are directly read and transfered to the Dashboard.



6. Configure Dashboard

By creating a new sensor for usage within the dashboard the general settings will be done by the Profiler itself. Also the next free position within the dashboard will be suggested. After you defined the new sensor it could be started directly on the dashboard.



After starting the sensor on the dashboard it could be modified and adapted by size, layout and position. Additionally now new rules could be assigned to the running sensor.



7. Graphical Viewings

Show Graphics

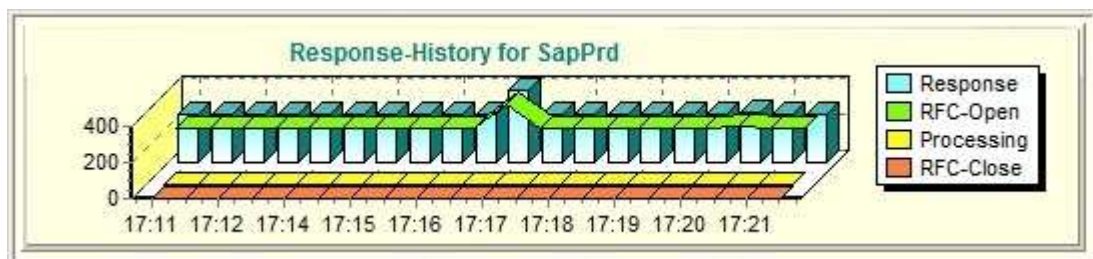
The sensors within the dashboard could be modified. The change could be done directly within the dashboard. Following graphical layouts are supported:

- | | | |
|---|----------------|-------------------------------|
| - | 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

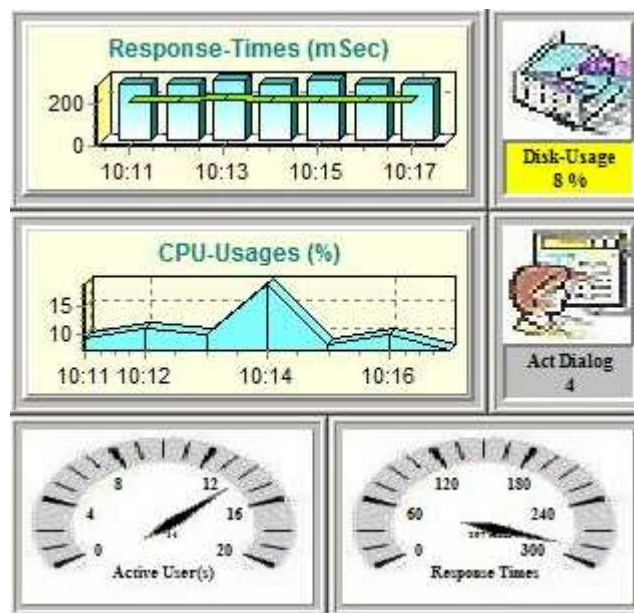
By the range "Images" existing Images would be prepared for the Dashboard. With the use of rules the objects are modified by colour:



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 diesem Beispiel wurde das Objekt für die Systemmeldungen mit der Option "Zoom" versehen. 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.

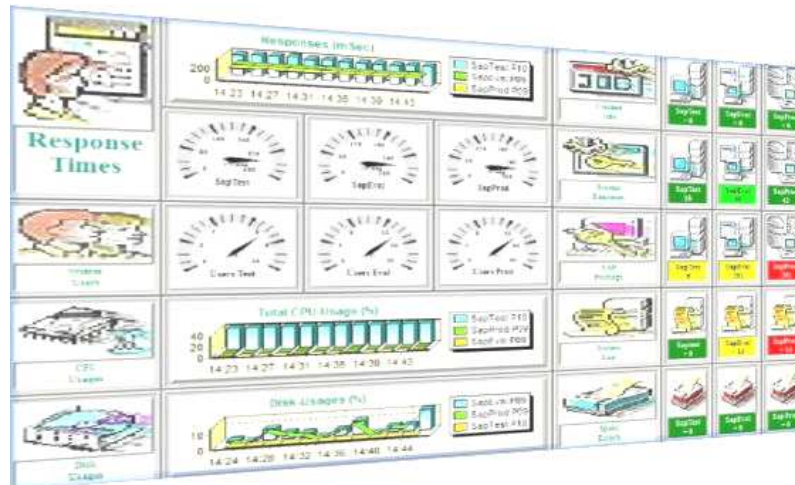
If the option "Hold" is applied the highest state like "Yellow" or "Red" will be saved. This is for information that there was a state not "Green" in the past. By using the right mouse button the state could be reset.

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.

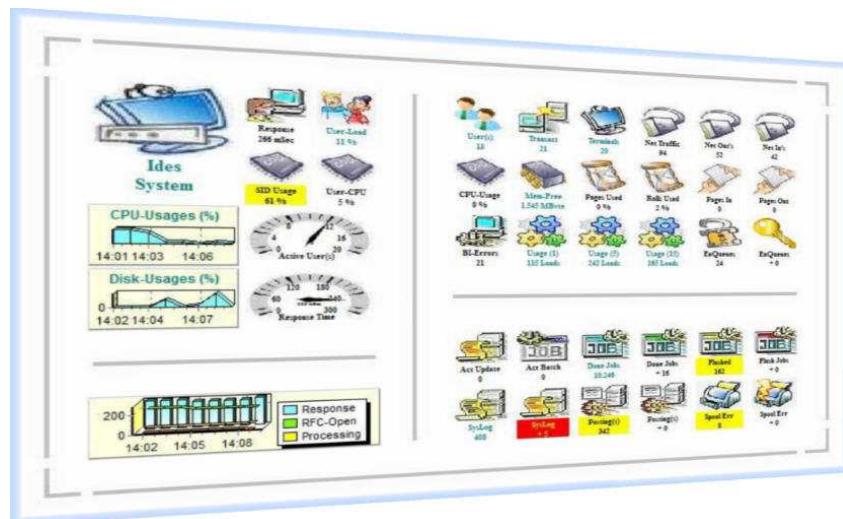
8. Dashboard Layouts

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 SAP-System with single frames:

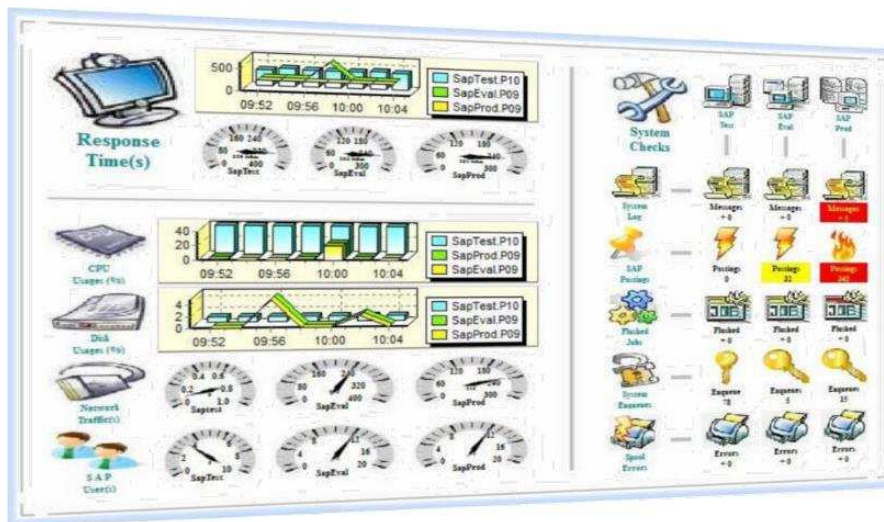


Example: Layout for monitoring a single SAP-System without frames:



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

Example: Layout for monitoring with more SAP-Systems:



On the left hand general information's like CPU-, Disk-Activities or the number of Users are presented via Graphics or Gauges.

On the right side a matrix organized by SAP-Systems and functions is shown. There are three SAP-Systems and functions like Jobs, Enqueues, Postings and so on.

Remarks:

- By Graphics, a single value is requested from each SAP-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.