How-to: Monitor OS processes with MAI

Using SAP Solution Manager 7.1 and SAPOscol

Introduction: All your applications have a process on OS level as a baseline. Making sure this process is running smoothly is a first step to monitor the availability of your application. With the OS Collector SAPOscol the monitoring of processes is possible since a long time. In the older days, these monitored processes were visible in CCMS. This guide describes how you can leverage the process monitoring capability of SAPOscol with SAP Solution Manager 7.1 Monitoring and Alerting Infrastructure and create custom metrics to monitor the processes of your SAP and non-SAP applications.

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PREREQUISTES

Install Diagnostics Agent and SAP Hostagent

SAPOscol is running in the context of the SAP Hostagent. The SAP Hostagent itself is not communicating directly with SAP Solution Manager, but rather provides the collected information to the Diagnostics Agent, which then send it to Solution Manager or via the Introscope Hostagent to Wily Introscope Enterprise Manager.

Therefore it is necessary to install a Diagnostics Agent on the 3rd party host. Please refer to SAP note 1448655 for the installation guide for the Diagnostics Agent. The SAP Hostagent is usually installed together with the Diagnostics Agent. If you want to install the SAP Hostagent separately please refer to SAP note 1031096.

To successfully use SAPOscol for OS process monitoring please refer to SAP note 1915401 and make sure you run at least SAP Hostagent patch 163.

Create a Technical System in LMDB

If your managed system is a non-SAP system and doesn't have SLD data suppliers that make sure it is created in LMDB automatically, you will have to create a technical system in LMDB manually. How to create a non-SAP system in LMDB is described in the guide "Creating Unspecific Cluster Systems for TechMon and BPMon in LMDB" under http://wiki.scn.sap.com/wiki/display/TechOps/System+Monitoring+-+How-to+Guides

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ENABLE OS PROCESS MONITORING IN SAPOSCOL

The first step is to enable the monitoring of the OS processes in SAPOscol.

Create Configuration File

What processes you want to monitor is defined in an *procmon.ini file. The file can start with any name, as long as it ends with procmon.ini.

The content of the file has the following pattern:

```
$PROC
*name pattern* [USER=<user>] [MTE_CLASS=<MTE class>] [MTE_NAME=<MTE-Name>]
[CUSTOMGROUP=<attribute group>]
$
```

The parameters have the following meaning:

Parameter	Meaning
Name pattern (mandatory)	Pattern of the name of the monitored process; you can use the wildcard character asterisk (*****); it is not possible to monitor all processes by entering only the wildcard character asterisk. (max. 40 characters)
User (Optional)	User under whose name the process is running; you can use the wildcard character asterisk (*****). (max. 20 characters)
MTE_Class (Optional)	MTE class to which the nodes are to belong; you can create your own monitors in which precisely the desired processes are displayed by assigning the process names to an MTE class. (max. 30 characters). Only relevant for CCMS metrics.
MTE_Name (Optional)	MTE name under which the monitoring object for the monitored process name is displayed in the alert monitor; if you do not set this parameter, **Name Pattern** is used as the MTE name. (max. 40 characters). Only relevant for CCMS metrics.
Custom Group (Optional)	Attribute group to which the attributes of a monitored process name are to belong; you can simplify the maintenance of the threshold values using an assignment to an attribute group. (max. 30 characters). Only relevant for CCMS metrics.

The parameters MTE_Class, MTE_Name and Custom Group don’t need to be set. They relate to CCMS and we will consume the collected data directly from the SAP Hostagent or via Wily Introscope.

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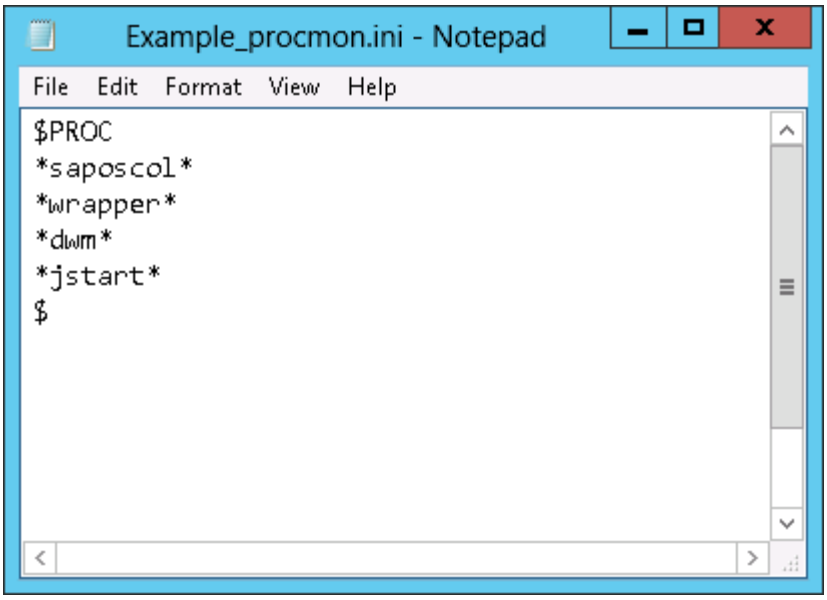
A valid pattern would be:



Place File in PROCMON Folder

After creating the file you have to place it in a specific folder for SAPOscol to pick it up.

For Unix you have to place it in the folder /usr/sap/tmp/procmon/.

For Windows you have to place the file in the folder <drive>:\usr\sap\PRFCLOG\procmon\.

After placing the files you should restart SAP Hostagent and then the Diagnostics Agent. SAPOscol also reads the contents of the configuration files every five minutes. After changing these files, you do not need to restart SAPOscol again.

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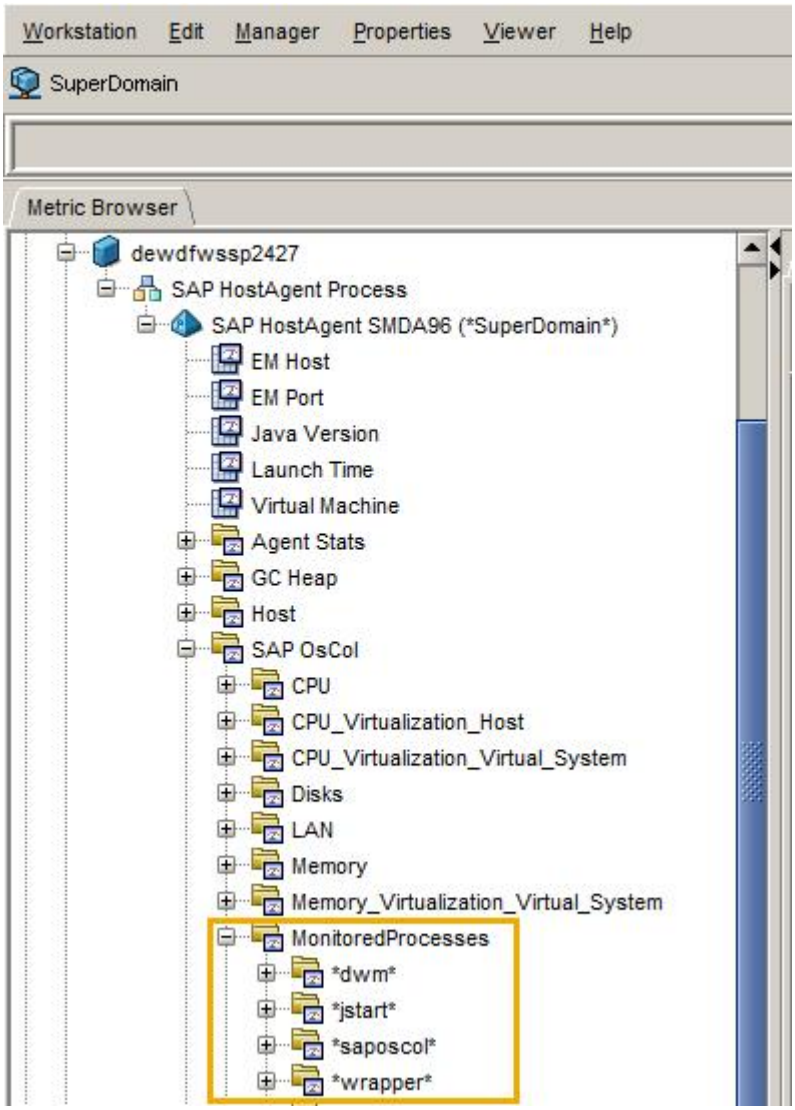
GATHER MONITORED PROCESSES IN WILY INTROSCOPE ENTERPRISE MANAGER

After SAPOscol has picked up the information in the file you can see the monitored processes in Wily Introscope Enterprise Manager.



For each monitored process the following metrics are collected:

Metric	Description
CPUUtilization (%)	Total of the CPU usage of the above processes, as a percentage.
NumberOfProcesses	Number of running processes that fulfill the conditions for process name and user (if restricted)
PrivPages (KB)	Total of the entire memory (physical and virtual) that is assigned to the above processes (only on Windows platforms)
ResidentSize (KB)	Total physical memory that is assigned to the above processes

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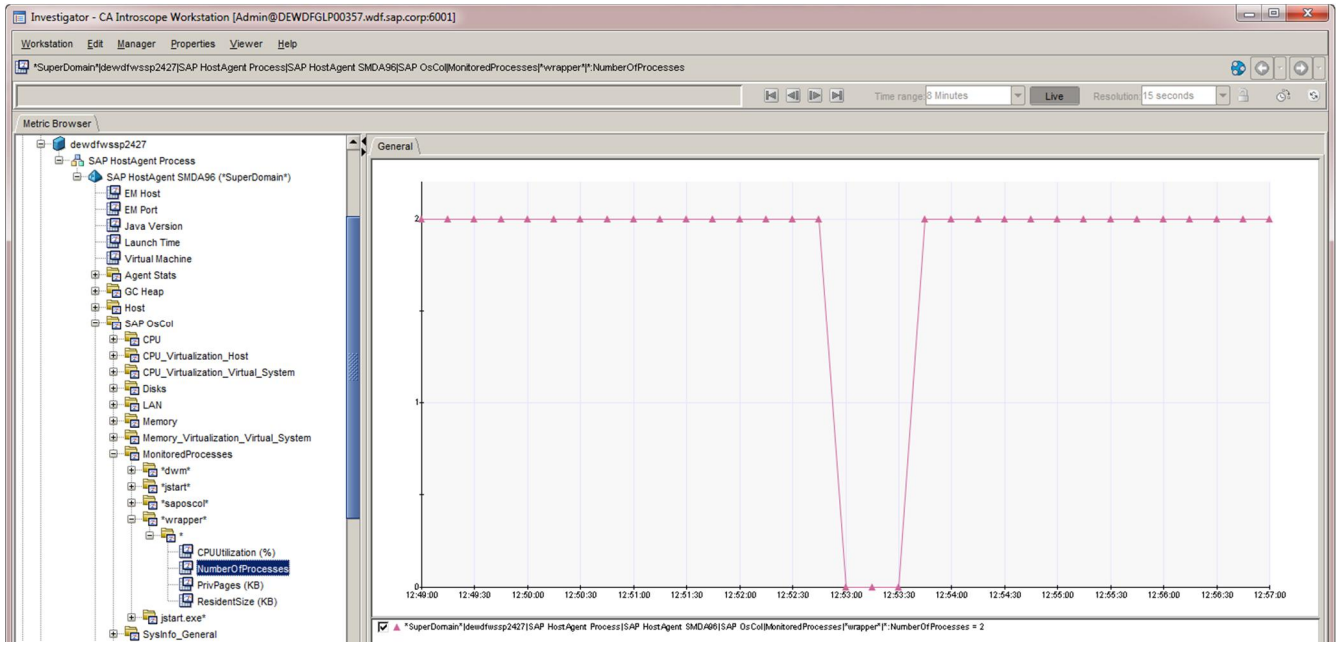

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CREATE CUSTOM METRICS FOR THE MONITORED PROCESSES

To add this information to the Monitoring and Alerting Infrastructure in SAP Solution Manager, you have to create a custom metric in your monitoring template.

You have two options to obtain the metrics for technical monitoring.

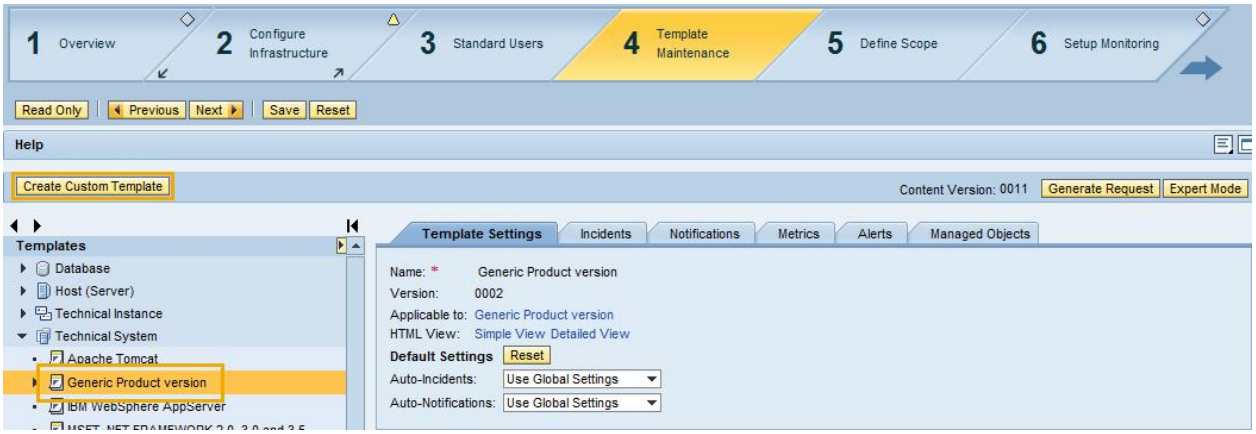
Obtain metric directly from SAPOscol

The easiest straight forward way is to obtain the metric for you monitored processes directly from SAPOscol via the Diagnostics Agent. The data collector you would use to do this is the “SapOsCol GetProcPattern (Push)” collector.

The data collector has the following configurable parameters:

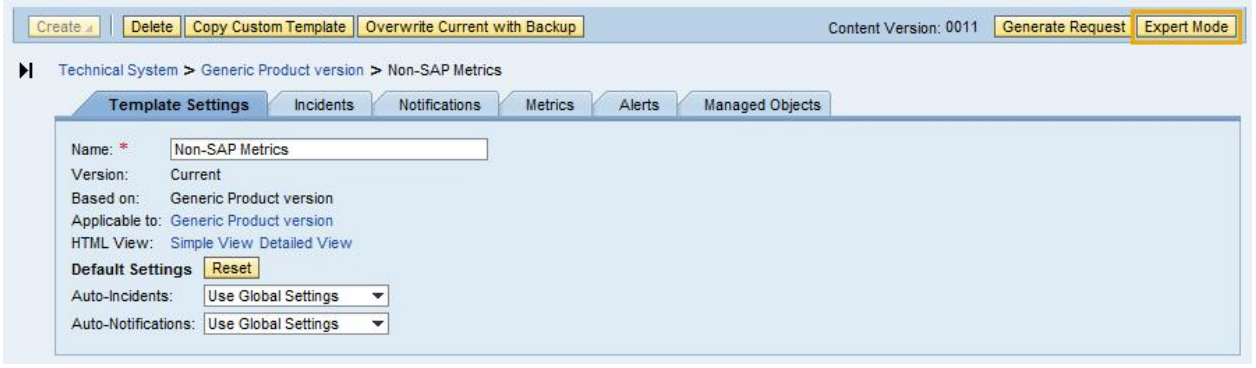
Parameter	Meaning
PROCESS_PATTERN (mandatory)	the name of the process(es) as regular expression
KEY_FIG (mandatory)	an individual property of the process information, the following properties are available: • CPUUtilization \(%\) • PrivPages \(KB\) • ResidentSize \(KB\) • NumberOfProcesses

You can add the custom metric to an existing custom template or create a new one. If your managed system is a non-SAP system, you have to create a custom template for “Generic Product version”.



After creating the new template you can now add metrics to it.

Switch to Expert Mode to be able to create custom metrics.



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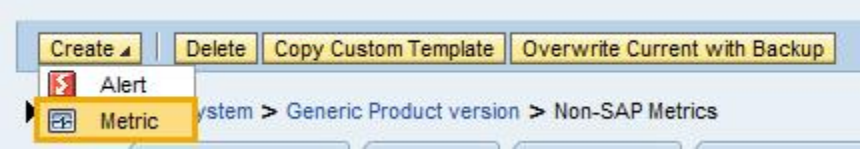
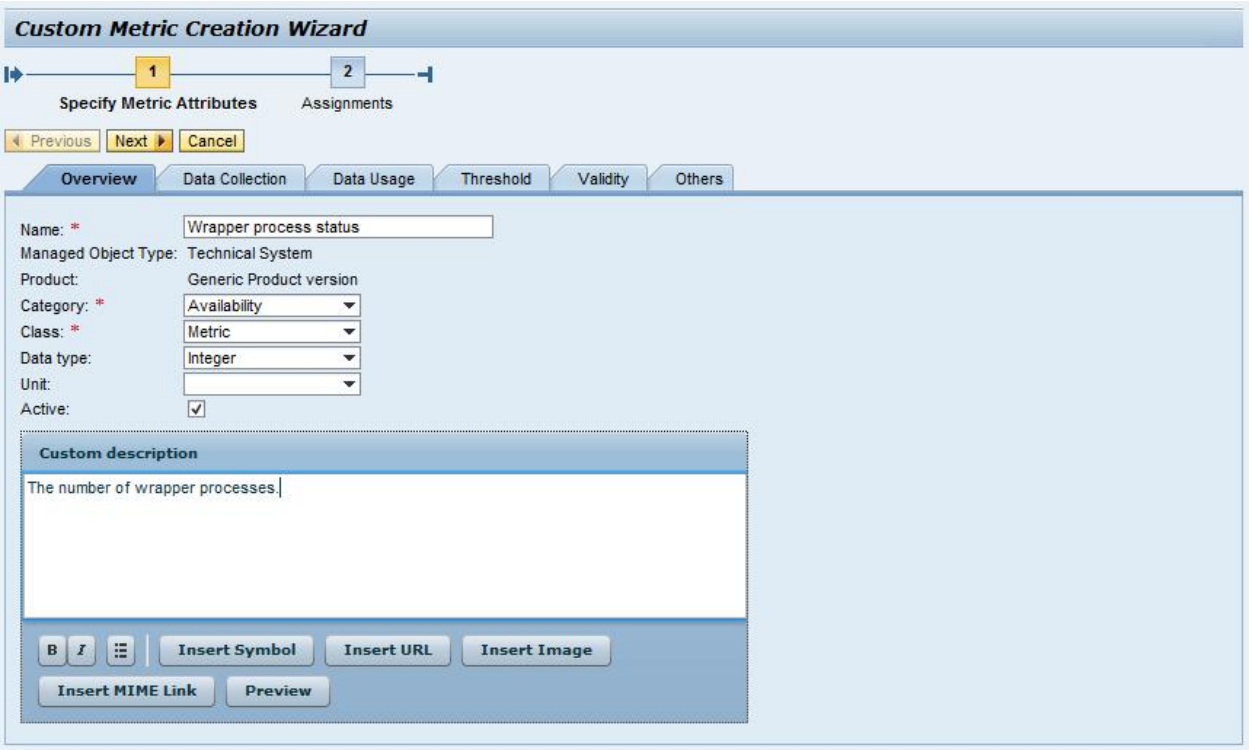
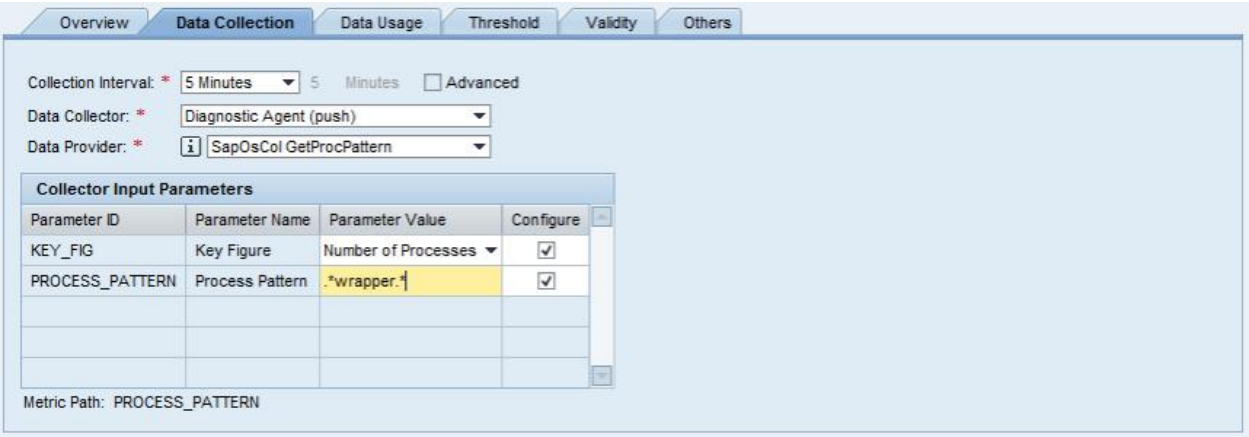
Now you can create a new metric.



Enter the required information:



On the Data Collection tab select the data collector and enter the name of the process you want to monitor. Please make sure that you enter the process name as regular expression. For wildcard this means, instead of using “*” you must use “.*”.



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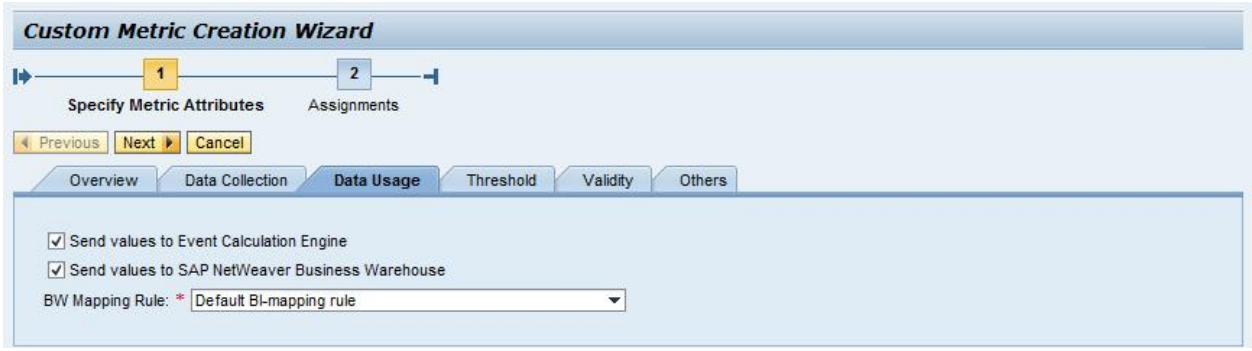
On the tab Data Usage you decide whether you want to use the data for alerting (Send values to Event Calculation Engine) or for reporting (Send values to SAP Netweaver Business Warehouse). You can also select both.

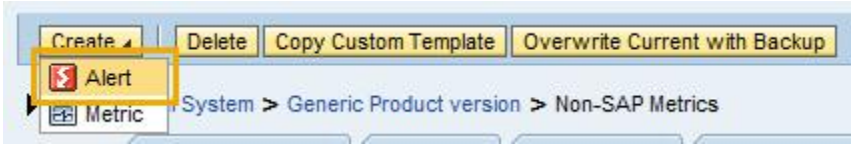


The value which is returned by the data collector is an integer value. So you have to choose the threshold accordingly. If you want to create an alert, if there are no processes anymore, select the threshold as shown below.

Enter a technical name on tab others. The technical name should start with Z.

Click the Next button. Currently we don't have a custom alert so just click Finish and save your template.

To actually make use of the metric we need to create a custom alert for the custom metric.



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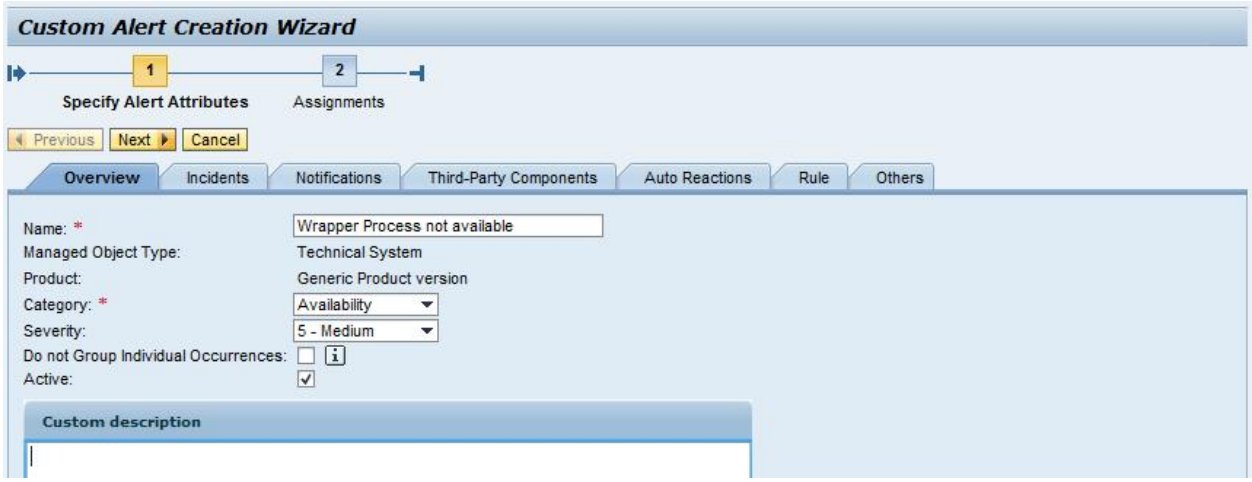
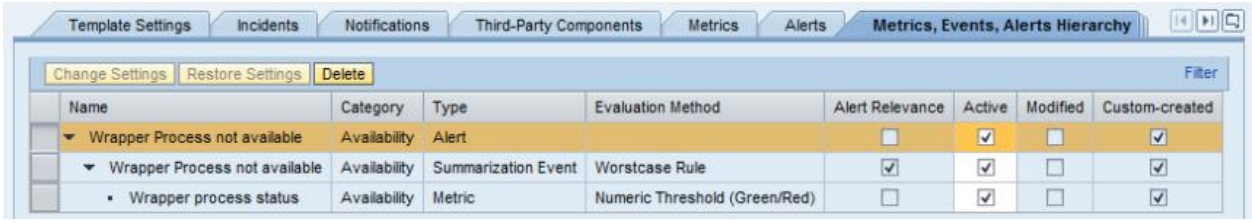
Make sure the category of your custom alert matches the category of you custom metric. Otherwise it cannot be assigned to it.



The only other thing to maintain here is the technical name on tab “Others”.

Click Next and select your custom metric from the list. Then click Finish.

Now the metric is assigned to the alert.



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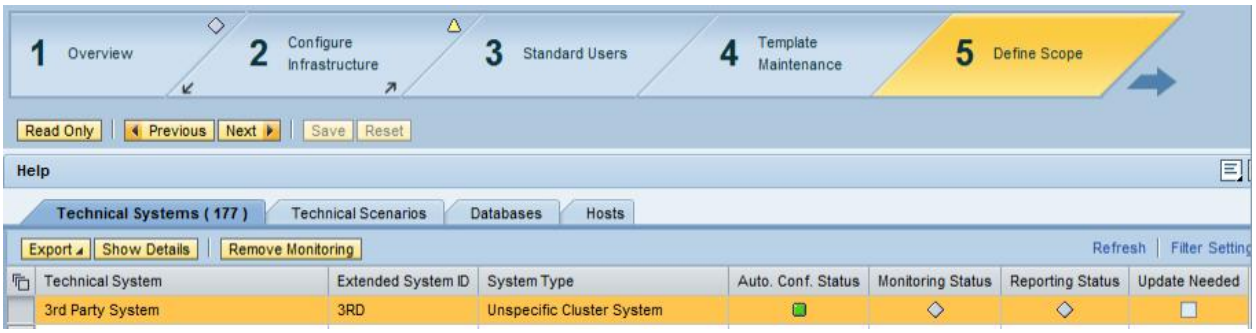
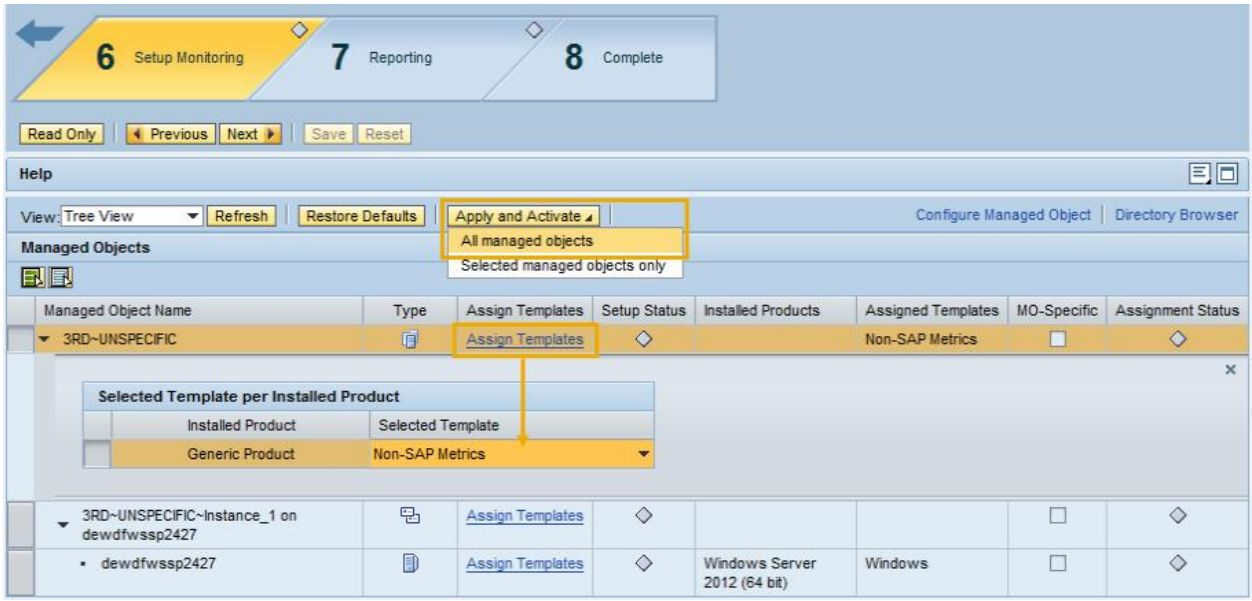
ASSIGN TEMPLATE TO TECHNICAL SYSTEM

The last step is to assign the metric to the technical system. Select you system(s) from the list in the step “Define Scope” and click Next.



Assign you template to the system and click generate and activate.



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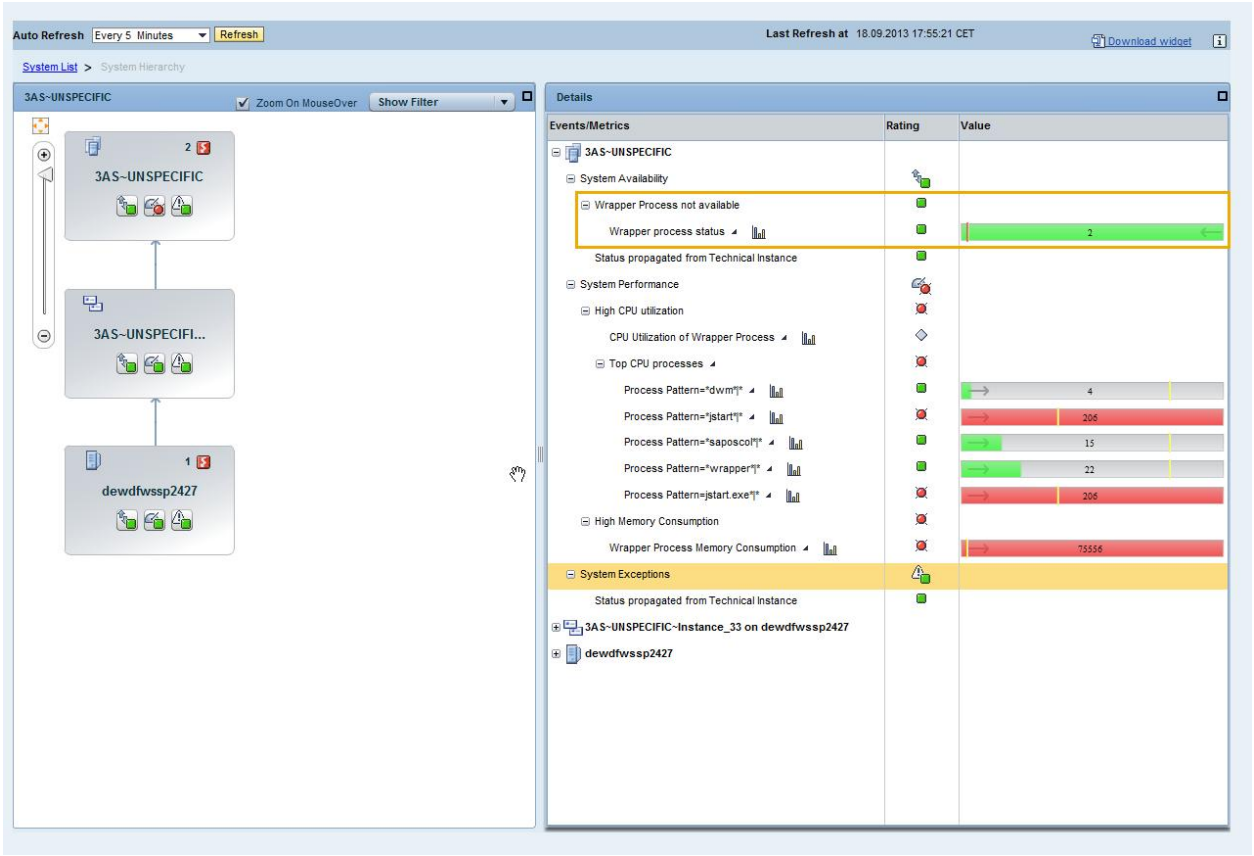
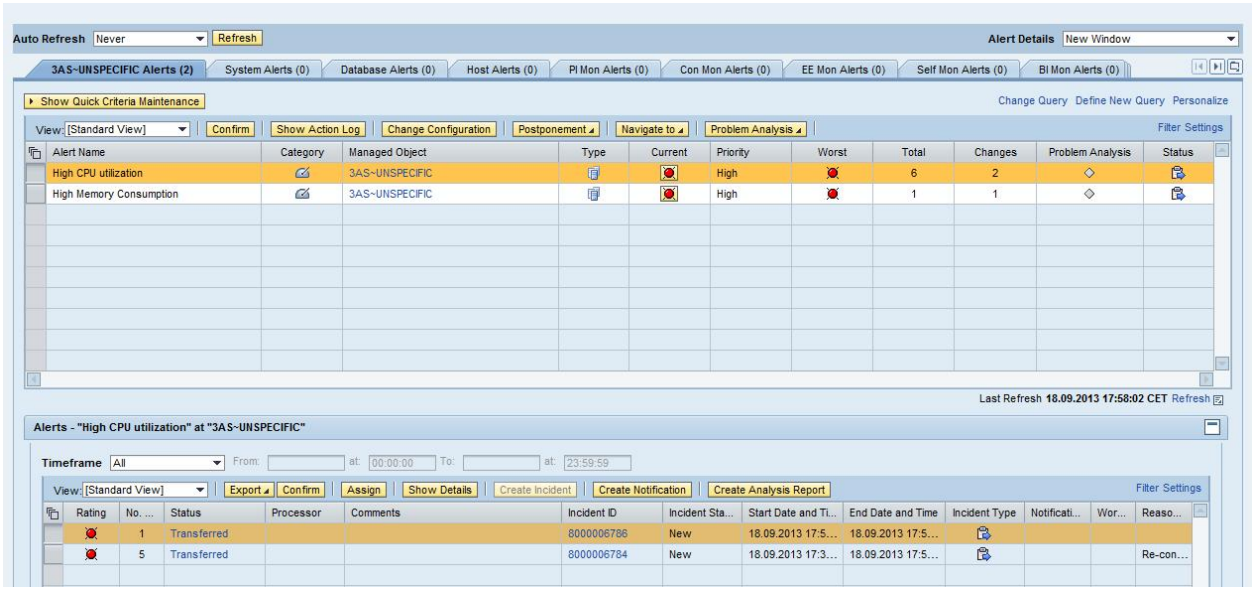
RESULT



The OS processes are monitored via the system monitoring application. In case of problems, alerts are generated.



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