OpenView Operations
Smart Plug-in for mySAP.com

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HP OpenView for Windows Smart Plug-in for mySAP.com On-line Help

The *HP OpenView for Windows Smart Plug-in for mySAP.com On-line Help* provides information designed to help HP OpenView Operations for Windows (OVO) and SAP R/3 administrators to configure the SPI for mySAP.com to suit the needs and requirements of the SAP R/3 landscape which they plan to manage with OVO. This Help system also provides information about how to install and configure the various sub-agents that come with the SPI for mySAP.com. Finally, the *HP OpenView for Windows Smart Plug-in for mySAP.com On-line Help* describes how to integrate the SPI for mySAP.com with performance-related products that are available as part of HP OpenView.

The *HP OpenView Smart Plug-in for mySAP.com On-line Help* comprises the following sections:

- Customizing the SPI for mySAP.com Monitors

  Reference information to help you set up and modify the SPI for mySAP.com alert-monitor configuration files includes information about default configurations as well as a list of changes you must make to the configuration file.
- Customizing Message Flow

  This section describes how to use both OVO functionality and CCMS to control the flow of messages from SAP R/3 to the OVO Message Browser.
- The SPI for mySAP.com Performance Monitors

  This section describes how to install, configure, and use the SPI for mySAP.com performance monitors.
- The ITS Monitor

  This section describes how to install and configure the ITS Performance Monitor. The **Internet Transaction Server** (ITS) provides the SAP R/3 user with an SAP R/3 transaction interface in a web browser.
- Service Views

  This section introduces the concept of service views and explains how to use service views to improve the management of your SAP R/3 landscape.
- Service Reports

  This section describes how to install the SPI for mySAP.com service reports, configure the OpenView Reporter to generate the reports, and use the reports to monitor and manage your SAP R/3 landscape.

Customizing the SPI for mySAP.com Monitors

This section introduces you to the SPI for mySAP.com alert monitors, explains what they can do, and describes how you can use them to manage your SAP R/3 landscape. You can also find in this section all the reference information you need to configure each of the monitors to meet the demands of your environment.

- Introduction to the SPI for mySAP.com Monitors
- SPI for mySAP.com Alert Monitoring Capabilities
- Before Using the SPI for mySAP.com Monitors
- Important Monitor Configuration Concepts

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Introduction to the SPI for mySAP.com Monitors

The SPI for mySAP.com includes a set of monitors, which you configure to be run at regular intervals to collect information regarding various aspects of your SAP environment health.

Monitors must be deployed on the managed nodes to be monitored. To deploy a monitor, the OVO administrator, working from the OVO comsole, deploys the corresponding SPI for mySAP.com message source polcies. Monitor deployment is usually completed as part of the SPI for mySAP.com installation and configuration process.

If you are new to configuring the monitors, you will want to read the detailed description of each Alert Monitor and Alert Collector Monitor Configuration File. The alert-monitor configuration file includes information about default configurations as well as a list of changes you must make to the configuration file in order to adapt the monitor to the needs of your environment.

SPI for mySAP.com Alert Monitoring Capabilities

Related Topics: Table: The CCMS Alert Monitors and Table: The r3moncol Alert Collector Monitors.

The CCMS Alert Monitors

CCMS Alert Monitor	Monitors...
r3monal **r3monsap**	SAP R/3 system log events and alerts from the internal SAP R/3 CCMS monitor
r3mondev	errors in SAP R/3 trace and log files
r3monpro	SAP R/3 work processes and database processes
r3monxmi	SAP R/3 system log events

The r3moncol Alert Collector Monitors

Alert Collector Monitor	Monitors...
r3monale	the status of iDOC in the SAP R/3 System
r3monchg	the SAP R/3 system change options
r3moncts	the correction and transport system
r3mondmp	ABAP/4 Dumps
r3monjob	SAP R/3 batch jobs
r3monlck	the Enqueue process which manages logical locks for SAP R/3 transactions and reports on obsolete locks
r3monoms	the operation mode switch to determine whether a scheduled operation mode has been activated after the specified time
r3monspl	spooler entries, spooler errors and print errors

r3montra	the transport system
r3monupd	Monitors the update process for active status and errors
r3monusr	the number of logged in users
r3monwpa	the status of the work processes, reports any processes that are running in debug, private or no restart modes, compares the number of configured work processes with the actual number running, and checks the number of expected work processes waiting and the number running

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Before Using the SPI for mySAP.com Monitors

Before using any of these monitors, be sure to:

- set up the required users and associated logons as described in "Setting Up an SAP User for VPO" in the *HP OpenView for Windows SPI for mySAP.com Configuration Guide*
- use the **r3itosap.cfg** file to specify details of all SAP R/3 Systems to be monitored. You can define entries in **r3itosap.cfg**:
    1. as part of the installation procedure (see "Specifying SAP Clients to Monitor" in the *HP OpenView for Windows SPI for mySAP.com Configuration Guide*

       or,
    2. at any time, using the Configuration-file Policy Editor. The *HP OpenView for Windows SPI for mySAP.com Configuration Guide* describes in detail how to install and use the Configuration-file Policy Editor.

Related Topics: r3itosap: Monitoring SAP R/3

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r3itosap: Monitoring SAP R/3

This section describes how to use the configuration-file policy editor to define which SAP R/3 Systems the SPI for mySAP.com should monitor. You use the **r3itosap.cfg** configuration file to define the SAP R/3 Systems to be monitored by the SPI for mySAP.com. To complete this task, the ConfigFile editor for Administrator console package must have been installed as well as the appropriate SPI for mySAP.com policies.

See the *HP OpenView for Windows Smart Plug-in for mySAP.com Configuration Guide* for more information about:

- installing the **ConfigFile Policy Editor** for the administrator console
- deploying SPI for mySAP.com Policies to SAP R/3 servers

Determining which SAP R/3 clients the SPI for mySAP.com should monitor:

1. In the OVO console tree, browse to the following directory:

   Policy Management → Policy Groups → SPI for mySAP.com

   NOTE:
   You have to set up SAP R/3 users for each SAP R/3 client. The list of SAP R/3 clients you made in “Before You Begin” in the *HP OpenView for Windows Smart Plug-in for mySAP.com Configuration Guide* includes the information you need for each configuration line.

   For more information about how to set up SAP R/3 users for OVO, see “Setting Up an SAP User for OVO” in the *HP OpenView for Windows Smart Plug-in for mySAP.com Configuration Guide*.
2. In the OVO console tree, select and right-click the **SPI for mySAP.com** policy group. Then add a new configuration file by using the following menu sequence:

   New → ConfigFile
3. Click the **General** tab and use the pull-down menus provided to enter the following values in the appropriate fields:

   Application:
   SAP SPI
   Sub Group:
   Global
   File Name:
   r3itosap.cfg
4. Select the **Data** tab and click the **[Load Template]** button. The **r3itosap.cfg** file is displayed.
5. Using the format of the examples in the **r3itosap.cfg** configuration file, add an entry for each SAP R/3 instance, which will be monitored.

   NOTE:
   When configuring a managed node equipped with two network cards, specify both hostnames in the **r3itosap.cfg** configuration file.

6. Save changes and exit the text editor. When saving the template, it is recommended to use the configuration-file policy-type naming conventions, for example: **global_r3itosap**.

Important Monitor Configuration Concepts

This section describes the concepts supporting the CCMS alert-monitors and, in addition, explains how to configure the monitors. The section covers the following areas:

- Monitor Configuration Files
- Monitor Configuration File: Global vs. Local Distribution
- Monitor Configuration Modes
- Alert Monitor Order of Precedence

Monitor Configuration Files

Each alert monitor (or alert type in the case of the Alert Collector monitors) has an associated configuration file, which you can edit to define your own rules for how you want that alert to be monitored. The following alert monitors have a usable default configuration that applies to all managed nodes:

r3monsap	SAP R/3 CCMS 3.x Alerts - r3monsap
r3monal	SAP R/3 CCMS 4.x Alerts - r3monal
r3monxmi	System Log (via XMI) - r3monxmi

r3mondev Trace Files - r3mondev

Monitor Configuration File: Global vs. Local Distribution

Configuration files can be distributed to the OVO managed nodes either:

Globally using the **global_<*monitor_name*>** configuration file and the standard OVO policy deployment procedure. Related Topics: Applying a Global Configuration.

Locally using the **local_<*monitor_name*>** configuration file and the standard OVO policy deployment procedure.
Related Topics: Applying a Local Configuration.

For more information about when to use each of these distribution methods and for instructions on editing the configuration files. Related Topics: Configuring and Applying the Monitors.

Monitor Configuration Modes

The SPI for mySAP.com supports the following configuration modes:

Global To define in a single configuration file the monitoring conditions for all managed nodes. If the *global* configuration is used, the monitoring conditions you define must cover the monitoring needs of all managed nodes.
Related Topics: Applying a Global Configuration

Local to define the monitoring conditions for a particular node in a configuration file associated only with that single managed node. If the *local* configuration is used, each node can have its own configuration file, which defines only the monitoring conditions for that particular node.
Related Topics: Applying a Local Configuration

You can also deploy a mixture of global and local configurations. Related Topics: Distribution of Monitor Configuration Files.

Alert Monitor Order of Precedence

Each time a alert monitor runs, that alert monitor determines how it will behave from information given in that alert monitor's configuration file. A alert monitor chooses which configuration file to use according to what is called "order of precedence." Related Topics: Order of Precedence.

Configuring and Applying the Monitors

Each SPI for mySAP.com alert monitor is specified in a OVO message policy and in several files, including an executable file and a configuration file, which specifies which monitors are used with which policies. This section provides information about the following topics:

- Message Source Template
- Executable File
- Configuration File
- Monitoring Conditions
- Alert Monitor Classes

- Severity Values
- Optional and Required Changes
- Configuration Files
- Order of Precedence

Message Source Template

The message-source template defines the rules for generating the messages which appear in the OVO message browser. It also controls the frequency with which the associated executable file runs. If you want to customize a message source template, see the instructions given in the online help for OVO Administrators.

Executable File

The executable file runs at the interval defined in the message source template. The executable checks for and reports conditions according to monitoring conditions defined in the associated configuration file. You can define these monitoring conditions to suit your needs.

Configuration File

Each configuration file provided with the SPI for mySAP.com defines particular default settings and is divided into the following sections:

- TraceLevel
- TraceFile
- HistoryPath
- AgentHostname
- Monitoring conditions

Monitoring Conditions

The monitoring conditions you specify determine which alert collection functions are called when the monitor executes, as well as any limiting parameters for these functions. The conditions also define rules for any messages that may be generated when the alert collectors run. You can define default conditions that apply to all SAP R/3 systems and instances and exceptions that apply only to specific systems and instances.

Alert Monitor Classes

All monitoring condition configurations contain an Alert Classes section which comprises the following fields:

- SAP R/3 Hostname, SAP R/3 system, SAP R/3 number and SAP R/3 client.
- Alert Monitor Name. These are listed in The CCMS Alert Monitors table.
- OVO Object. The OVO objects specified are displayed in the message browser.
- OVO Message Group. This specifies the message group in which the alerts will be reported. The default values should **not** be edited.

Severity Values

All alert monitors the following three default values for the severity conditions

- Normal
- Warning
- Critical

NOTE:
The Alert Collector monitors *only* have two additional severity levels Minor and Major. The hierarchy is; Normal, Warning, Minor, Major, Critical.

You can customize these severity levels to suit the severity conditions you wish to define. For example for the Alert Type OLD_LOCKS for r3monlck: The LOCK_CHECK Monitor, you could specify that if the lock is older than 12 hours you receive a WARNING message and if it is older than 24 hours you receive a critical message.

Optional and Required Changes

In the monitoring conditions section, the CCMS, syslog, and file monitors also include usable defaults. These default monitoring conditions specify global monitoring rules that can be applied to *all* SAP R/3 instances. All other monitors cannot be used without changes being made to the defined monitoring conditions.

Configuration Files

During SPI for mySAP.com installation and configuration, the SAP R/3 adminsitator can choose either to use the default confiduration settings or set up initial configuration values for the SPI for mySAP.com monitors by alert type. The configuration-file policies must then be deployed to the managed nodes.

Order of Precedence

Monitoring conditions are controlled by order of precedence. This means that any specific definition will override a more general definition. The order of precedence is as follows:

1. The monitor checks the $PATH variable on the SAP R/3 server and uses the configuration file it specifies.

   NOTE:
   Neither the SPI for mySAP.com nor OVO is able to distribute configuration files to the $PATH variable. The $PATH variable can only be modified manually and should be modified for test purposes only. If you *do* copy configuration files into the user path, you will no longer be able to manage the configuration files from the OVO console. In addition, manual modification on the managed systems will be required to correct this situation.

   If the $PATH variable is set, alert monitors assume that all alert-monitor configuration files (for all alert types) are stored in the directory defined in $PATH. If any of the alert monitor types is missing a configuration file, the monitor will not run. Consequently, if you are using the $PATH variable, you must ensure that configuration files for *all* alert monitors are copied to the directory specified in $PATH.
2. If no $PATH variable is found, the monitor checks the path for the OVO local configuration file. If found, the monitor uses the OVO local configuration file.

3. If the monitor does not find a OVO local configuration file and there is no configuration file specified in the system path variable, the monitor checks for the OVO global configuration file. If found, the monitor uses the OVO global configuration file.
4. If the monitor does not find a OVO local or global configuration file and there is no configuration file specified in the system path variable, the monitor checks the path for the OVO local configuration file. If found, the monitor uses the OVO local configuration file.
5. Lastly, the monitor checks the path for the OVO global configuration file. If found, the monitor uses the OVO global configuration file. If not found, an error message is displayed.

In Example: Order of Precedence for Configuration Files, the first line relates only to instance 01 on SAP R/3 system LPO. Therefore, if instance 01 is being monitored, the monitor applies the rules as defined on this line *only*. The second line of the example refers to all other instances on LPO. The final line refers to all instances on all systems except for LPO

Example: Order of Precedence for Configuration Files

```
Order of        SAP R/3     SAP R/3
Precedence      System      Number
1               =LPO        =01     =<monitor-spec conf>
2               =LPO        =ALL    =<monitor-spec conf>
3               =ALL        =ALL    =<monitor-spec conf>
```

Ambiguous Definitions

Ambiguous definitions should be avoided. For example, In the configuration below, the final two lines cause a logical clash because both msg4 and msg5 are defined as OVO objects for roll paging messages from the same SAP R/3 number of the same SAP R/3 system.

```
AlertClassRollpag       =ALL    =ALL    =1      =RollPag        =R3_Roll-Paging
AlertClassRollpag        =ALL    =01     =1      =msg2           =R3_Roll-Paging
AlertClassRollpag        =LPO    =ALL    =1      =cwmsg3 =R3_Roll-Paging
AlertClassRollpag        =LPO    =01     =1      =msg4           =R3_Roll-Paging
AlertClassRollpag        =LPO    =01     =1      =msg5           =R3_Roll-Paging
```

Configuring the SPI for mySAP.com Alert Monitors

1. In the OVO console tree, expand the following directory:

   SAP R/3 Admin for global configurations

SAP R/3 Admin Local for local configurations

2. In the application group window, double click relevant application group icon that corresponds to the alert monitor to be changed. The selected alert monitor's configuration file opens.
3. Edit or enter lines to define *trace levels*, where trace level:

   0 = disabled
   1 = error messages only
   2 = error and information messages
   3 = error, information, and debug messages

   NOTE:

   Trace levels 2 and 3 are *only* available for **r3moncol**.

   You can set a default for ALL hosts (hostname = ALL), then add lines for any hostname exceptions. For example:

```
TraceLevel  =ALL      =0
TraceLevel  =hpbbx10  =1
```

   In this example, tracing is turned off for all hosts except for host **hpbbx10**.
4. Specify the name of the *trace file* in which trace information is to be recorded. For example:

```
TraceFile    =ALL          =r3monpro.log
```

   Trace files are located in the following directories:

   UNIX **/var/opt/OV/bin/OpC/vpwin/monitor**

   AIX **/var/lpp/OV/OpC/vpwin/monitor**

   NT **%OVAGENTDIR%\bin\OpC\vpwin\monitor**

   Default trace file names for each monitor are given in Table: Default Trace File Names

Default Trace File Names

Tracefile Name	Monitor Alert Type
r3monsap.log	Alerts
r3monal.log	Alerts (SAP R/3 4.x)
r3monxmi.log	Syslog
r3monpro.log	Work and Database Processes
r3mondev.log	Trace and Log Files

r3monjob.log	Job
r3mondmp.log	ABAP/4 Dumps
r3monlck.log	Lock_Check
r3monoms.log	OM Switch
r3monspl.log	Spooling
r3montra.log	Transport
r3monupd.log	Update
r3monusr.log	User
r3monchg.log	System Change
r3monwpa.log	WorkProcess Availability
r3monaco.log	Alert Calls
r3moncts.log	Correction and Transport System

5. Specify the *history path*, which is the directory path by which you can locate an alert monitor's history file. Alert monitors include the following default paths for UNIX ,AIX and NT servers:

```
HistoryPathUnix    =ALL      =/var/opt/OV/tmp

HistoryPathAIX     =ALL      =/var/lpp/OV/tmp

HistoryPathWinNT  =ALL       =default
```

NOTE:
You can tell the alert monitors to use a specific, default history path on NT managed nodes rather than the hard-coded, **C:\TEMP**, for example:

%OVAGENTDIR%\temp

Each alert monitor writes its own history file. Each time an alert monitor completes a run, it adds a new section to its history file, which enables the alert monitor to check for changes since the previous run.

NOTE:
Do *not* edit any of the monitor history (***.his**) files because this can compromise the accuracy of your records.

6. Define the monitoring conditions. Monitoring conditions are rules that control the checks which the alert monitor makes each time it runs. The monitoring conditions you enter are different for each alert monitor.

NOTE:

For specific information on the Monitoring Conditions for each alert monitor, see the appropriate section on the particular alert monitor.

Distributing Monitor Configuration Files

Deploy the new policy group to the SAP R/3 nodes by completing the instructions below depending on which SAP R/3 version is installed on the managed nodes and whether the nodes are central instances or application servers. For example: *SAP R/3 4.B Central Instance SAPWolf2*.

1. In the console tree, select and right click the new policy group or groups you have created (containing the monitors you need) and use the following menu option:

   All Tasks → Deploy on...

   NOTE:
   Remember to use this opportunity to deploy any individual policies not present in the SAP R/3-specific policy groups.

2. Use the **Deploy Policies on...** window to select the managed nodes to which you want to deploy the new policy group.
3. Click **OK** to finish deploying policies.
4. You can check the successful deployment of policies by right clicking a managed node and selecting the following menu option from the drop-down menu that is displayed:

   Policy Inventory > Deployment jobs

File Locations

Global configuration files are installed in the following directories on the OVO managed node:

UNIX	**/var/opt/OV/conf/SAP_SPI/global**
AIX	**/var/lpp/OV/conf/SAP_SPI/global**
NT	**%OVAGENTDIR%\conf\SAP_SPI\global**

Local configuration files are installed in the following directories:

UNIX	**/var/opt/OV/conf/SAP_SPI/local**
AIX	**/var/lpp/OV/conf/SAP_SPI/local**
NT	**%OVAGENTDIR%\conf\SAP_SPI\local**

It is possible to have the configuration files in both the global and local directories. When a monitor executable runs, it uses an order of precedence to determine which configuration file should be used.

Related Topics:

- Applying a Global Configuration
- Applying a Local Configuration

Applying a Global Configuration

1. In the Application Group **SAP R/3 Admin**, double-click the icon associated with the alert monitor to be configured.

2. Edit the configuration file of the alert monitor as required. Related Topics: Configuring the SPI for mySAP.com Alert Monitors.
3. Double-click the icon **Install Config** to include the monitor configurations in the SPI for SAP R/3 database.
4. Repeat steps 1 through 3 for each alert type you wish to monitor, making sure to make all required changes in each corresponding alert monitor configuration file.
5. In the **Node Bank** window, select the managed nodes to which you want to distribute updated configurations.
6. Double-click the icon **Distribute R/3 Config**.

   The *global* configuration files are copied to one of the following directories on each of the selected managed nodes:

UNIX	**/var/opt/OV/conf/SAP_SPI/global**
AIX	**/var/lpp/OV/conf/SAP_SPI/global**

NT **%OVAGENTDIR%\conf\SAP_SPI\global**

7. Verify that the distribution completed successfully. Local configuration files are installed in the following directories:

   UNIX **/var/opt/OV/conf/SAP_SPI/local**

   AIX **/var/lpp/OV/conf/SAP_SPI/local**

   NT **%OVAGENTDIR%\conf\SAP_SPI\local**

Applying a Local Configuration

1. In the **Node Bank** window, select the managed node(s) on which you want to create or update a local configuration.
2. On the management server in the application group **SAP R/3 Admin Local**, double-click the icon associated with the alert monitor you want to configure.
3. Edit the configuration file of the alert monitor as required.

   NOTE:

   If this is the first local configuration for the selected alert monitor and node, opening the configuration file automatically places a copy of the dedicated global configuration file in the local configuration directory on the managed node.
   If you do not want to have a local configuration for this alert monitor, you must delete this file from the directory before the next distribution of local configuration files.
4. Repeat steps 1 through 3 for each alert type you wish to monitor locally, making sure to make all required changes in each corresponding alert monitor configuration file.
5. In the **Node Bank** window, select the managed nodes to which you want to distribute updated local configurations.
6. In the application group **SAP R/3 Admin Local**, double-click the **Distribute Local Config** icon.
7. The configuration files are copied to one of the following directories on each of the selected managed nodes:

   UNIX **/var/opt/OV/conf/SAP_SPI/local**

   AIX **/var/lpp/OV/conf/SAP_SPI/local**

NT	**%OVAGENTDIR%\conf\SAP_SPI\local**

Related Topics:

- Deleting all Local Configurations on a Node
- Deleting Selected Local Configurations on a Node

Deleting All Local Configurations on a Node

1. In the **Node Bank** window, select the managed node(s) for which you want to delete local configuration.
2. On the management server in the application group **SAP R/3 Admin Local**, double-click the icon **Delete Local Config**.

   On the management server, the local-configuration directories for the selected managed nodes are deleted and the updated configurations are distributed to the managed nodes.

Related Topics:

- Applying a Local Configuration
- Deleting Selected Local Configurations on a Node

Deleting Selected Local Configurations on a Node

1. On the management server, change to the local configuration directory for the node:

   cd /opt/hpitosap/local_config//configfile.
2. Remove the configuration file that is no longer required:

   rm .cfg .
3. In the **Node Bank** window, select the managed node for which you want to delete a local configuration.
4. In the application group SAP R/3 **Admin Local** , double-click the icon **Distribute Local Config**.

NOTE:
Even if it is empty, do not manually remove the directory */opt/hpitosap/local_config//configfile* on the management server. If you accidentally remove this directory, or this directory is otherwise not present, the *Distribute Local Config* function is not able to redistribute the configuration, which means that the local configuration on the managed node cannot be updated.

Related Topics:

- Applying a Local Configuration
- Deleting All Local Configurations on a Node

The SPI for mySAP.com Alert Monitors

This section describes the CCMS alert monitors (**r3monsap**, **r3monal**, **r3monxmi**) and the monitors **r3monpro** and **r3mondev** and explains how to use them. The section covers the following areas:

- Using the CCMS Alert Monitors
- r3monsap: SAP R/3 CCMS 3.x Alerts
- r3monal: SAP R/3 CCMS 4.x Alerts
- r3monxmi: System Log (via XMI)
- r3monpro: Operating System Processes
- r3mondev: Trace Files

Using the CCMS Alert Monitors

The alert monitors you use for your CCMS monitoring requirements can vary according to the SAP R/3 version of your system as displayed below in the CCMS Alert Monitors with Different Versions of SAP R/3 table below.

CCMS Alert Monitors with Different Versions of SAP R/3

CCMS Alert Monitor	SAP R/3 3.1X	SAP R/3 4.0X	SAP R/3 4.05	SAP R/3 4.6X
r3monsap	3	3	(3) 1	
r3monal		(3) 1	3	3
r3monxmi	3	3	3	3

1 not recommended

SAP R/3 CCMS 3.x Alerts - r3monsap

The **r3monsap** alert monitor enables you to monitor the output of SAP's own internal monitor, the CCMS alert monitor. It maps CCMS alerts to OVO messages, which you can view using the VPO message browser.

- File Locations
- Environment Variables
- Monitoring Conditions
- Alert Classes

NOTE:
If you are using SAP R/3 version 4.x, use the **r3monal** CCMS alert monitor for the majority of your CCMS monitoring requirements. At SAP R/3 version 4.0B you must use **r3monsap** for database alerts.

File Locations

Table: r3monsap Files lists the files used to monitor **r3monsap** alerts.

r3monsap Files

File	Description
r3monsap(.exe)	Executable for the SAP R/3 CCMS alert monitor
r3monsap.cfg	Configuration file for the monitoring of R/3 CCMS alerts
r3monsap.his	History file for storing data after each monitor run
r3monsap.msg	SAP R/3 syslog message mapping table
r3monsap.log	Trace file for storing trace data.

Environment Variables

Table: r3monsap Environment Variables lists the environment variables used in monitoring **r3monsap** alerts.

r3monsap Environment Variables

Environment Variable	Description
SAPOPC_DRIVE	*Windows NT only*. Drive where the OVO agent is installed.
SAPOPC_HISTORYPATH	History path
SAPOPC_R3MONSAP_CONFIGFILE	Name of the configuration file
SAPOPC_R3MONSAP_SAPMSGFILE	SAP R/3 syslog message ID to message text mapping table
SAPOPC_SAPDIR	*Windows NT only*. Drive where SAP R/3 is installed, for example; **e:\usr\sap**
SAPOPC_TRACEPATH	Trace path
SAPOPC_TRACEMODE	Trace mode: a = append, w = create (default)

Monitoring Conditions

The monitoring conditions of **r3monsap** are defined in three sections:

- Switch local CCMS syslog auto-acknowledge on or off
- Severity values
- Alert classes

In order to ensure that all CCMS alert messages are viewable in the VPO message browser, it is important that you enable the auto-acknowledge function by setting this value to 1 in the **r3monsap.cfg** file.

NOTE:
Make sure to set the enable flag as follows: **LocalAutoAck =1**

The "Severity Levels" section of the **r3monsap.cfg** file maps CCMS severity levels to VPO severity levels by SAP system ID and SAP number. as shown in Table: Mapping CCMS Severity Levels to VPO

Mapping CCMS Severity Levels to VPO

CCMS	VPO
SeverityCritical	CRITICAL
SeverityWarning	WARNING
SeverityNull	UNKNOWN
SeverityNormal	NORMAL

The defaults set in the **r3monsap.cfg** file are:

```
Severity Values SAP     SAP     Enabled=1       OpCSeverity
     System          Number  Disabled=0
SeverityNull          =ALL            =ALL    =1              =UNKNOWN
SeverityNormal  =ALL            =ALL    =1              =NORMAL
SeverityWarning  =ALL            =ALL    =1              =WARNING
SeverityCritical        =ALL            =ALL    =1              =CRITICAL
```

You can edit the severity levels in r3monsap in the following ways:

- Enable or disable severity levels

  For example, if you want to disable messages for normal conditions, change the SeverityNormal line as follows:

  ```
  SeverityNormal  =ALL            =ALL    =0      =NORMAL
  ```

- Change how CCMS severity levels map to VPO severity levels

  For example, if you want all SeverityNull events to be reported as warnings, change the SeverityNull definition, as follows:

  ```
  SeverityNull    =ALL            =ALL    =1              =WARNING
  ```
- Define mapping exceptions, where specified SAP system/instances are mapped in a way that is an exception to the general rule.

  For example, if you want SeverityWarning events that occur on SAP system LP2 to be reported as critical, leave the default settings for ALL systems, and add the following line:

  ```
  SeverityWarning         =LP2    =ALL    =1              =CRITICAL
  ```

Alert Classes

The alert classes section of the **r3monsap.cfg** file controls the handling of CCMS Collector alert classes by the following values:

- SAP system
- SAP number
- VPO object
- VPO message group

When defining custom settings for alert classes, be aware of the fact that VPO objects can be added arbitrarily. VPO objects specified in this file are displayed in the associated message browser column. However, be sure to specify only defined VPO message groups in this file.

The **r3monsap.cfg** file includes the following defaults in the Alert Classes section.

```
#Alert            SAP    SAP   Enabled=1        VPOObject       VPOMsgGroup
#Classes             Sys   Num        Disabled=0

AlertClassNull    =ALL   =ALL       =1        =Null     =R3_General
AlertClassStateChange=ALL     =ALL     =1         =StateChange =R3_State
AlertClassSAPsysUp     =ALL   =ALL       =1          =SAPsysUp       =R3_State
AlertClassSAPsysDown =ALL       =ALL       =1    =SAPsysDown  =R3_State
AlertClassSlogId          =ALL   =ALL       =1    =SyslogId  =R3_Syslog
AlertClassSlogFreq         =ALL =ALL         =1    =SyslogFreq =R3_Syslog
AlertClassBuf     =ALL   =ALL       =1         =Buffers =R3_Buffers
AlertClassEnqueue    =ALL =ALL           =1         =Enqueue         =R3_Enqueue
AlertClassRollpag      =ALL =ALL         =1         =RollPage =R3_Roll-Paging
AlertClassTrace           =ALL =ALL         =1         =Trace   =R3_Trace
AlertClassDpQueue        =ALL =ALL         =1         =DpQueue =R3_General
AlertClassPerfDia      =ALL   =ALL       =1         =Dialog    =R3_
AlertClassPerfUpd   =ALL   =ALL       =1         =Update    =R3_
AlertClassPerfBtc          =ALL   =ALL       =1         =Batch     =R3_
AlertClassPerfSpo   =ALL   =ALL       =1         =Spool     =R3_
AlertClassAbapUpd          =ALL   =ALL       =1         =Update  =R3_ABAP-4
AlertClassAbapErr       =ALL   =ALL       =1         =Error   =R3_ABAP-4
```

```
AlertClassAbapSql       =ALL   =ALL       =1         =SQL       =R3_ABAP-4
AlertClassDbIndcs     =ALL   =ALL       =1         =Indices =R3_DB
AlertClassDbFreSp   =ALL   =ALL       =1         =FreeSpace       =R3_DB
AlertClassDbArcSt   =ALL   =ALL       =1         =Archive         =R3_DB
AlertClassDbBckup           =ALL   =ALL       =1         =Backup  =R3_DB
AlertClassSpo       =ALL   =ALL       =1         =Spooler =R3_General
AlertClassArch         =ALL   =ALL       =1         =Archive =R3_General
AlertClassOsLoad       =ALL   =ALL       =1         =Load    =OS
AlertClassOsPage       =ALL   =ALL       =1         =Paging  =OS
AlertClassOsSwap       =ALL   =ALL       =1         =Swap    =OS
AlertClassOsFile       =ALL   =ALL       =1         =Filesys =OS
AlertClassGenP3        =ALL   =ALL       =1         =GenP3   =R3_General
AlertClassGenP4        =ALL   =ALL       =1         =GenP4   =R3_General
AlertClassGenP5        =ALL   =ALL       =1         =GenP5   =R3_General
AlertClassGenP6        =ALL   =ALL       =1         =GenP6   =R3_General
AlertClassGenP7        =ALL =ALL       =1         =GenP7       =R3_General
AlertClassGenP8        =ALL =ALL         =1         =GenP8   =R3_General

#-------------------------------------------------------------
```

The alert classes defined by default in the **r3monsap.cfg** file provide standard monitoring for all SAP systems and instances. You can use this default alert classes configuration for situations where only **r3monsap** is being used to monitor the CCMS alerts monitor.

NOTE:
If you are also using r3monal, you *must* edit the alert classes so as to disable all alerts except for those related to databases, thereby avoiding duplicate alerts.

You can edit the alert classes in **r3monsap** and define exceptions for a particular SAP system/instance by adding a line to the **r3monsap.cfg** file which specifies the system ID and instance number. For example, you can disable all AlertClassRollpag messages from SAP instance number 01 of SAP system LPO by adding the following line to the Alert Classes section:

```
AlertClassRollpag       =LPO    =01     =0      =RollPage       =R3_Roll-Paging
```

SAP R/3 CCMS 4.x Alerts - r3monal

The **r3monal** monitor uses the SAP R/3 CCMS monitoring architecture introduced at SAP version 4.0 and enables you to monitor the output of SAP's own internal monitor, the CCMS alert monitor. **r3monal** maps the alerts identified by the CCMS monitor to OVO messages, which you can view using the OVO message browser.

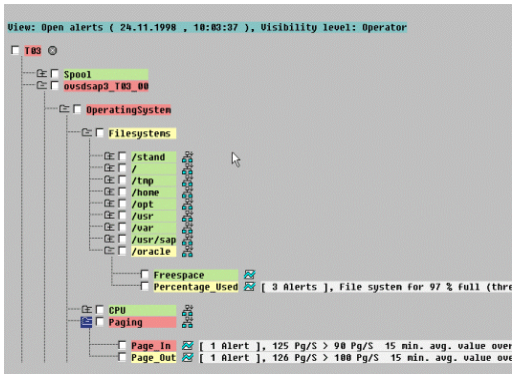
This section also provides information about:

- SAP R/3 CCMS Monitoring Architecture
- File Locations
- Environment Variables
- Monitoring Conditions
- Severity Levels
- Alert Classes

SAP R/3 CCMS monitoring architecture

The SAP R/3 CCMS monitoring architecture is a hierarchical tree structure (Figure: CCMS Monitoring Architecture). A monitoring tree is defined within each SAP system/SAP server combination, in the example, the fixed elements are *Operating System* and *File systems*.

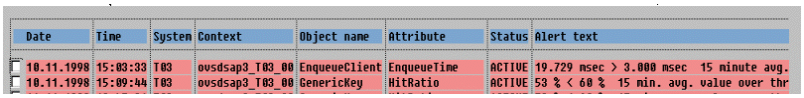
CCMS Monitoring Architecture



The individual file systems are monitoring objects and are added dynamically to the tree as new file systems come into use. A monitoring object can have attributes wherein the file system */oracle* is expanded to show the attributes *Freespace* and *Percentage_Used.*

When a condition is reported in the SAP R/3 CCMS monitor, the monitoring object and its attribute are included in the resulting alert as shown in Figure: CCMS Alert.

CCMS Alert



Components of CCMS alerts map to OVO messages as shown in Table: Mapping CCMS Alert Components to OVO Messages.

Mapping CCMS Alert Components to OVO Messages

CCMS Alert	OVO Message
Monitoring Object	OVO Message Object
Attribute	OVO Message Prefix
Alert Text	Message Text

File Locations

The **r3monal** monitor uses a number of files, which are listed in Table: r3monal Files.

r3monal Files

File	Description
r3monal (.exe)	Executable for the SAP R/3 CCMS alert monitor
r3monal.cfg	Configuration file for the monitoring of R/3 CCMS alerts
r3monal.his	History file for storing data after each monitor run
r3monal.msg	SAP R/3 syslog message mapping table

Environment Variables

Table: r3monal Environment Variables lists the environment variables used by the **r3monal** monitor.

r3monal Environment Variables

Environment Variable	Description
SAPOPC_DRIVE	*Windows NT only.* Drive where the OVO agent is installed.
SAPOPC_HISTORYPATH	History path
SAPOPC_R3MONAL_CONFIGFILE	Name of the configuration file
SAPOPC_SAPDIR	*Windows NT only.* Drive where SAP R/3 is installed, for example; **e:\usr\sap**

SAPOPC_TRACEPATH	Trace path
SAPOPC_TRACEMODE	Trace mode: a = append w = create (default)

Monitoring Conditions

The monitoring conditions of **r3monal** are defined in two sections:

- Severity values
- Alert classes

Severity Levels

The "Severity Levels" section of the **r3monal.cfg** file maps CCMS severity levels to OVO severity levels by SAP system ID and SAP number, as shown in Table: Mapping CCMS Severity Levels to OVO.

Mapping CCMS Severity Levels to OVO

CCMS	OVO
SeverityCritical	CRITICAL
SeverityWarning	WARNING
Severity Null	UNKNOWN
Severity Normal	NORMAL

The defaults set in the **r3monal.cfg** file are:

```
Severity          SAP     SAP      Enabled=1  OpCSeverity
Values            System  Number   Disabled=0

SeverityWarning   =ALL    =ALL     =1          =WARNING
SeverityCritical  =ALL    =ALL     =1          =CRITICAL
```

You can edit the severity levels in **r3monal** in the following ways:

1. Enable or disable severity levels.

   For example, if you want to disable messages for normal conditions, change the SeverityNormal line as follows:

```
SeverityNormal    =ALL    =ALL    =0    =NORMAL
```

2. Change how CCMS severity levels map to OVO severity levels.

   For example, if you want all SeverityNull events to be reported as warnings, change the SeverityNull definition, as follows:

   ```
   SeverityNull    =ALL    =ALL    =1    =WARNING
   ```

3. Define mapping exceptions, where specified SAP system/instances are mapped in a way that is an exception to the general rule.

   For example, if you want SeverityWarning events that occur on SAP system LP2 to be reported as critical, leave the default settings for ALL systems, and add the following line:

   ```
   SeverityWarning    =LP2    =ALL    =1    =CRITICAL
   ```

Alert Classes

In the alert classes section of the **r3monal.cfg** file, you can define mapping of OVO alert classes to a specified part of the monitoring tree. A definition can be made that applies to all SAP systems and numbers, or you can define mappings for individual SAP systems and numbers. Each definition associates the mapped alerts with a OVO message group.

NOTE:
If you are running the **r3monsap** and **r3monal** monitors at the same time, remember to use the **r3monsap.cfg** file to disable all alert classes (except for the database alerts) which both monitors report. This helps to prevent the duplication of messages. If you are using both monitors for SAP R/3 4.0X or greater, where database alerts are already defined in **r3monal.cfg**, we recommend that you disable the database alerts, too.

The **r3monal.cfg** file includes the following defaults in the Alert Classes section.

```
Alert        SAP         SAP           Monitoring            Enabled=1  OVOMsgGroup
Classes      System Number    Tree              Disabled=0


AlertMonObj     =ALL    =ALL    =\*\OperatingSystem\CPU         =1      =R3_
AlertMonObj     =ALL    =ALL    =\*\OperatingSystem\Paging      =1      =R3_Roll-Pagi
AlertMonObj      =ALL    =ALL    =\*\OperatingSystem             =1      =OS
AlertMonObj  =ALL    =ALL    =\*\DatabaseClient                      =1      =R3_DB
AlertMonObj       =ALL    =ALL    =\*\R3Services                  =1        =R3_
AlertMonObj         =ALL    =ALL    =\*\R3BasisSystem\TraceSwitches  =1     =R3_Trace
AlertMonObj    =ALL    =ALL    =\*\R3BasisSystem                    =1       =R3_
AlertMonObj         =ALL    =ALL    =\*\R3Syslog                   =1       =R3_Syslo
AlertMonObj   =ALL    =ALL    =\*                                  =1   =R3_General

#-------------------------------------------------------------

# Alert Classes  SAP    SAP      SyslogId       Enabled=1       OVOMsgGroup
#              System   Number  From/To      Disabled=0
AlerMonSyslog   =ALL  =ALL     =A00   =ZZZ    =1              =R3_
```

When you customize the **r3monal.cfg** file's alert classes section, keep in mind the following file information:

- OVO Message Group

  Each object to be monitored by **r3monal** is identified in the alert classes section by a reference to its location in the CCMS monitoring tree. For example, in the first line of the default **r3monal.cfg** file, which is **\OperatingSystem\CPU, you can see that for all SAP systems and instances, CPU events for all operating systems are reported in the message group.
- Order of definitions

  The order of the definitions in the configuration file is significant. Conditions are considered from top to bottom of the list, therefore more specific definitions must precede general ones. For example, if the order of the first three default lines were changed to:

```
AlertMonObj     =ALL    =ALL    =\*\OperatingSystem             =1
AlertMonObj  =ALL    =ALL    =\*\OperatingSystem\CPU         =1                  =R
AlertMonObj         =ALL    =ALL    =\*\OperatingSystem\Paging      =1
```

  All operating system alerts would be assigned to the **OS** message group: the conditions that assign CPU and Paging alerts to the **CPU** and **R3_Roll-Paging** groups would never be considered.
- Syslog alert formats

  The settings for syslog alerts can have different formats. The default setting:

```
AlerMonSyslog =ALL =ALL =A00 =ZZZ        1
```

  enables global reporting of all syslog alerts. You can change this by enabling and disabling ranges of syslog IDs either globally or for specified SAP systems and instances. For example:

```
AlerMonSyslog   =ALL    =ALL    =A00    =MZZ            =1
AlerMonSyslog         =ALL    =ALL    =N00    =ZZZ            =0
AlerMonSyslog         =LPO    =01     =A00    =ZZZ            =1
```

  You can also monitor syslog messages using the **r3monxmi** monitor, which monitors the SAP R/3 system log rather than syslog alerts in the CCMS alerts monitor.

  NOTE:
  If you are using the **r3monxmi** monitor, make sure that you disable syslog alerts in the **r3monal** monitor.

r3monxmi: System Log (via XMI)

The **r3monxmi** monitor reads the SAP R/3 system log (via the SAP transaction `SM21`) and passes the messages to the OVO message browser. Unlike the CCMS Alerts monitors (**r3monsap** and **r3monal**), **r3monxmi** does not require the generation of a syslog alert in the internal SAP R/3 CCMS monitor. Messages generated by **r3monxmi** include an operator-initiated action which opens the SAP System Log (transaction `SM21`).

To avoid duplication of messages in the OVO message browser, make sure you disable all syslog alerts to the internal SAP R/3 CCMS monitor, not just those in **r3monsap** and **r3monal**. This is particularly important for NT platforms where syslog alerts are also passed to the NT application log, which is monitored by OVO.

NOTE:
If you use the **r3monxmi** monitor, make sure that any SAP user you set up for the SPI for mySAP.com includes the authorization profile **SAP_XMI_ALL** (SAP 3.x) or **S_XMI_ALL** (SAP 4.x). Without the correct authorization profile, the monitor is not able to access the SAP syslog directly.

Related Topics: *HP OpenView Smart Plug-in for mySAP.com Configuration Guide*

This section also provides information about the following topics:

- Syslog Message Components
- File Locations
- Environment Variables
- Monitoring Conditions
- Severity Levels
- Alert Classes

Syslog Message Components

The following components of a syslog message are used by the **r3monxmi** monitor:

MNo A three character ID that indicates the purpose of the syslog entry. In the **r3monxmi.cfg** file, you can specify the ranges of IDs to be monitored.

C A single character code, which indicates the type and severity of the logged event. These identify syslog severity values that are used in the **r3monxmi.cfg** file to map to OpC severities. Possible values are:

K SeverityCritical caused by an SAP basis problem.

S SeverityNormal caused by an operation trace.

T SeverityCritical caused by a transaction problem.

W SeverityWarning

X SeverityNull

Text The text of the syslog entry, which is passed to the OVO message browser by the **r3monxmi** monitor.

For SAP versions earlier than 4.5a, a patch is required to enable display of the full message text. To apply this patch, in the function module add the following line:

with tr_term eq `*'

to the function SXMI_XMB_SYSLOG_READ, so that it reads as follows:

```
submit rslg0000 line-size 255
with tr_term eq `*'
with tr_date eq from_date
with tr_time eq from_time
with tr_edate eq to_date
with tr_etime eq to_time
with tr_cpu eq server_name
with tr_pages eq `003'
with nocodevc eq `X'
with nocotask eq `X'
with nocomand eq `X'
with nocotran eq `X'
with nocoterm eq `X'
exporting list to memory
and return
```

NOTE:
In order to make the required modifications to the SXMI_XMB_SYSLOG_READ module, you must have an SAP developer license. See your SAP representative for details

File Locations

Table: r3monxmi Files lists the files used by the **r3monxmi** monitor.

r3monxmi Files

File	Description
r3monxmi(.exe)	Executable for the syslog monitor
r3monxmi.cfg	Configuration file for the monitoring of syslog alerts
r3monxmi. his	History file for storing data after each monitor run

r3monxmi. msg	Categories for syslog messages.

Environment Variables

Table: r3monxmi Environment Variables lists the environment variables used by the **r3monxmi** monitor.

r3monxmi Environment Variables

Environment Variable	Description
SAPOPC_DRIVE	*Windows NT only*. Drive where the OVO agent is installed.
SAPOPC_HISTORYPATH	History path
SAPOPC_R3MONXMI_CONFIGFILE	Name of the configuration file
SAPOPC_SAPDIR	*Windows NT only*. Drive where SAP R/3 is installed, for example; **e:\usr\sap**
SAPOPC_TRACEPATH	Trace path
SAPOPC_TRACEMODE	Trace mode: a = append w = create (default)

Monitoring Conditions

In the **r3monxmi** monitor, the monitoring conditions are defined in two sections:

- Severity values
- Alert classes

Severity Levels

The "Severity Values" section of the **r3monxmi.cfg** file maps syslog severity levels to OVO severity levels by SAP system ID and SAP number, as shown in Table: Mapping syslog Severity Levels to OVO.

Mapping syslog Severity Levels to OVO

Syslog	OVO
SeverityCritical	CRITICAL

SeverityWarning	WARNING
SeverityNull	UNKNOWN
SeverityNormal	NORMAL

The "Severity Values" section of the **r3monxmi.cfg** file contains the following default values:

```
Severity Values      SAP     SAP    En/Disabled   OpCSeverity                    Sys

SeverityNull         =ALL    =ALL      =1         =UNKNOWN

SeverityNormal       =ALL    =ALL      =0*        =NORMAL

SeverityWarning      =ALL    =ALL      =1         =WARNING

SeverityCritical     =ALL    =ALL      =1         =CRITICAL
```

NOTE:
The default for Severity Normal marked with a* above is changed to 0 as shown after installation.

You can edit the severity levels in **r3monxmi** in the following ways:

- Enable or disable severity levels.

  For example, if you want to disable messages for normal conditions, change the SeverityNormal line as follows:

  ```
  SeverityNormal  =ALL    =ALL    =0      =NORMAL
  ```
- Change how CCMS severity levels map to OVO severity levels.

  For example, if you want all SeverityNull events to be reported as warnings, change the SeverityNull definition, as follows:

  ```
  SeverityNull    =ALL    =ALL    =1      =WARNING
  ```
- Define mapping exceptions, where specified SAP system/instances are mapped in a way that is an exception to the general rule.

  For example, if you want SeverityWarning events that occur on SAP system LP2 to be reported as critical, leave the default settings for ALL systems, and add the following line:

  ```
  SeverityWarning         =LP2    =ALL    =1      =CRITICAL
  ```

Alert Classes

In the alert classes section of the **r3monxmi.cfg** file, you can define the syslog events that you want to monitor by specifying ranges of message numbers (syslog IDs).

Each line of the **r3monxmi.cfg** file is set up in a particular way. For instance, in the example line given in Table: r3monxmi.cfg File Line Setup-Alert Classes the syslog events (IDs A00 through ZZZ) are to be monitored on all SAP systems and numbers.

r3monxmi.cfg File - Configuring Alert Classes

# Alert Classes	SAP Sys	SAP Number	Syslog ID From	Syslog ID To	Enabled=1 Disabled=0
AlerMonSyslog	=ALL	=ALL	=A00	=ZZZ	=1

Each entry defines monitoring for a specified range of syslog events. You can specify which syslog events to monitor by enabling and/or disabling ranges of syslog IDs either globally or for specified SAP systems and instances. For example:

```
AlerMonSyslog    =ALL     =ALL     =A00     =MZZ              =1
AlerMonSyslog          =ALL     =ALL     =N00     =ZZZ              =0
AlerMonSyslog          =LPO     =01      =A00     =ZZZ              =1
```

NOTE:
You must delete all *critical* CCMS messages in R/3 before you can use this Alert Monitor with SAP R/3 versions later than version 3.0. You can use transaction **/nrz08** to display the CCMS alert monitor.

r3monpro: Operating System Processes

The **r3monpro** monitor scans all processes associated with a given instance, such as dialog, enqueue, update, batch, dispatch, message, gateway, and spool work processes. It is also used to monitor database processes.

This section also provides about the following areas:

- Monitoring Modes
- File Locations
- Environment Variables
- Monitoring Conditions
- Example Configuration

Monitoring Modes

You can set monitoring conditions for a specific process to any of the following modes:

Exact The number of process running on a managed node must be equal to the specified number.

Min The number of processes running on a managed node must not be less than the specified number.

Max The number of processes running on a managed node must not be more than the specified number.

Delta Any change in the number of processes running on a managed node triggers an alert.The specific amount of allowed change in any number of instances of the process running. This mode enables you to recognize changes without having to define an absolute number of processes for a managed node.

Messages generated when one of these conditions is identified include an operated-initiated action. This action calls an SPI for mySAP.com module which lists all the current processes for the affected SAP instance.

File Locations

The **r3monpro** monitor contains the files listed in Table: r3monpro Files.

r3monpro Files

File	Description
r3monpro(.exe)	Executable for the process monitor
r3monpro.cfg	Configuration file for the process monitor
r3monpro.his	History file for storing data after each monitor run

Environment Variables

The **r3monpro** monitor uses the environment variables listed in Table: r3monpro Environment Variables.

r3monpro Environment Variables

Environment Variable	Description
SAPOPC_DRIVE	*Windows NT only*. Drive where the OVO agent is installed.
SAPOPC_HISTORYPATH	History path

SAPOPC_R3MONPRO_CONFIGFILE	Name of the configuration file
SAPOPC_SAPDIR	*Windows NT only*. Drive where SAP R/3 is installed, for example; **e:\usr\sap**
SAPOPC_TRACEPATH	Trace path
SAPOPC_TRACEMODE	Trace mode: a = append w = create (default)

Monitoring Conditions

Monitoring conditions for **r3monpro** for the SAP R/3 SPI are specified in the **r3monpro.cfg** file. You can use the *r3monpro.cfg* file to set the rules as to how number of processes running should be measured and what severity level should be assigned to the alert that is generated if the number of processes exceeds the limits you define.
Table: Parameters in the r3instmonpro.cfg Files lists those for the r3instmonpro.cfg file

Parameters in the r3monpro.cfg Files

Parameter	Description
AlertMonPro	alert class
SAP system	SAP system ID (SID)
SAP number	SAP instance number
Enable	Enable =1, Disable =0
Mode	• Exact mode • Min mode • Max mode • Delta mode Related Topics: Monitoring modes.
Filemask	Which files to monitor.
Process number	Number of processes for that node. Note that in Delta mode this number is ignored.
Severity	NORMAL, WARNING, or CRITICAL
OVO object	Associated OVO object

OVO MsgGroup	Associated OVO message group

Table: Parameters in the r3instmonpro.cfg Files shows the column headings listed in the **r3moninstpro.cfg** file along with a description of each editable parameter for alert classes AlertInstMonPro

Parameters in the r3instmonpro.cfg Files

Parameter	Description
AlertInstMonPro	alert class
SAP system	SAP system ID (SID)
Enable	Enable =1, Disable =0
Mode	• Exact mode • Min mode • Max mode • Delta mode Related Topics: Monitoring modes.
Filemask	Which files to monitor.
Process number	Number of processes for that node. Note that in Delta mode this number is ignored.
Severity	NORMAL, WARNING, or CRITICAL
OVO object	Associated OVO object
OVO MsgGroup	Associated OVO message group

Example

In the first row of the following example, the **saposcol** process is monitored on all hosts. Exactly one such process should run at any given time. Any violation of this number is critical. It affects the OVO object **saposcol**. The associated OVO message group is **State**.

The second row of the same example specifies that eight or fewer instances of the **dw.sapSID** process should run on all hosts. If the number is larger than eight, a warning message associated with OVO object **dw.sap** and OVO message group **State** is issued.

The string **SID** has special meaning in this context. **SID** will be replaced by the actual SAP system name on the managed node. This enables global definitions for different SAP systems.

```
AlertInstMonPro         =ALL    =T11    =saposcol       =1      =Exact  =1      =CRIT
AlertInstMonPro         =C01    =00     =explorer       =1      =Max    =1      =CRIT
AlertInstMonPro =T11    =00     =dw.sapSID      =1      =Min    =8      =WARNING
```

It is also possible to ensure that a process is not running. To do so, use the mode Exact and enter 0 as the number.

NOTE:
On HP-UX servers, **r3monpro** can identify processes at the instance level.

On NT servers, you need to define on a single line the total number of work processes on the node. For example, if there are two instances, each with 4 work processes, the total number of processes is 8.

---

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r3mondev: Trace Files

The **r3mondev** monitor scans the trace files and log files of the SAP system for the string "**ERROR**". Because it monitors only what has occurred since its previous run, any error within a trace file generates only a single alert. The file monitor scans the following directories:

UNIX */usr/sap/<SID>/<InstanceNumber>/work/*

AIX */usr/sap/<SID>/<InstanceNumber>/work/*

NT *<drive>:\usr\sap\<SID>\<InstanceNumber>\work*

where *<SID>* stands for the SAP system ID and *<InstanceNumber>* stands for the SAP instance number.

Messages generated by this monitor include an operated-initiated action, which calls the **vi** editor. **vi** then lists all trace files and log files and enables you to select a file and display its contents. For more information, see **vi** commands R/3 Process Logs

This section also provides information about:

- File Locations
- Environment Variables

- Monitoring Conditions
- Default Values
- Editing r3mondev.cfg

File Locations

The **r3mondev** monitor includes the files listed in Table: r3mondev Files.

r3mondev Files

File	Description
r3mondev(.exe)	Executable for the file monitor
r3mondev.cfg	Configuration file for monitored files
r3mondev.his	History file for storing data after each monitor run

Environment Variables

The **r3mondev** monitor uses the environment variables listed in Table: r3mondev Environment Variables.

r3mondev Environment Variables

Environment Variable	Description
SAPOPC_DRIVE	*Windows NT only.* Drive where the OVO agent is installed.
SAPOPC_HISTORYPATH	History path
SAPOPC_R3MONDEV_CONFIGFILE	Name of the configuration file
SAPOPC_SAPDIR	*Windows NT only.* Drive where SAP R/3 is installed, for example; **e:\usr\sap**
SAPOPC_TRACEPATH	Trace path
SAPOPC_TRACEMODE	Trace mode: a = append w = create (default)

Monitoring Conditions

This section of the **r3mondev.cfg** file enables you to specify the device monitoring details for the SPI for SAP R/3.

Table: Parameters in the r3mondev.cfg File shows the column headings listed in the **r3mondev.cfg** file along with a description of each editable parameter.

Parameters in the r3mondev.cfg File

Parameter	Description
AlertDevMon	alert class
SAP system	SAP system ID (SID)
SAP number	SAP instance number
Enable	Enable =1, Disable =0
Filemask	Which files to monitor.
Process number	Number of processes for that node. Note that in Delta mode this number is ignored.
Severity	NORMAL, WARNING, or CRITICAL
OVO object	Associated OVO object
OVO MsgGroup	Associated OVO message group

Default Values

The monitoring conditions section of the **r3mondev.cfg** file includes the following default settings:

```
# AlertDevMon   SAP    SAP      Enable =1  Filemask  Severity   OVOObject   OVOMsgGrc
                System Number    Disable=0

AlertDevMon     =ALL    =ALL     =1         =dev_*   =WARNING   =r3mondev       =R3_T
AlertDevMon     =ALL    =ALL     =1         =std*    =CRITICAL  =r3mondev    =R3_Trac
```

Editing r3mondev.cfg

You can edit **r3mondev.cfg** in the following ways:

- Disable messages. For example, if you don't want to receive any messages relating to **dev_*** files for any SAP system, change the first line as follows:

  ```
  AlertDevMon   =ALL   =ALL   =0  =dev_*  =WARNING =r3mondev =R3_Trace
  ```

- Change the severity level of the message. For example, if you want to demote messages relating to **std*** files from critical to warning, change the second line as follows:

```
AlertDevMon   =ALL   =ALL   =1   =std*  =WARNING  =r3mondev =R3_Trace
```

- Define an exception to the general rule. For example, if you want to promote messages relating to **dev_*** files on SAP system LP2 from warning to critical, leave the default settings as they are and add the following line.

```
AlertDevMon   =LP2 =ALL  =1   =dev_*  =CRITICAL  =r3mondev =R3_Trace
```

NOTE:
Wildcards are only allowed at the end of the string. Only SAP trace files (located in the work directory) are relevant and these files must begin with **dev** or **std**.

r3moncol: The Alert Collector

The SPI for mySAP.com collects, with the single alert collector **r3moncol**, additional types of SAP R/3 alert monitors.

You can use these alert monitors to define a series of monitoring tasks, for example, checks on SAP processing modes, SAP dumps, or the availability of work processes. The alert monitors ensure that each defined alert collector configuration is executed on a regular basis and reports any messages that come back from the called function.

The eleven alert monitors are named according to the nature of alerts they monitor. For each monitor its monitoring tasks are grouped into a number of alert types. It is at the Alert Type level, rather than at the Alert Monitor level, that the monitoring conditions are specified.

- The Alert Collector Monitors
- Report Types for the Alert Monitors
- Polling Rates and Run Locations for the Alert Monitors
- The Alert Collector Monitor Configuration Files
- Alert Monitor Query Conditions
- Alert Monitor Environment Variables
- Alert Monitor Command Line Parameters

The Alert Collector Monitors

Table: The Alert Collector Monitors gives a short description of each of the Alert Monitors. For more detailed information about the parameters and configuration for each alert type listed in the table, click the appropriate link.

Alert Collector Monitors

Alert Monitor Name	Description
r3monaco	This is not strictly speaking an alert monitor, you must also assign the monitor r3monaco to the managed nodes.
r3monale	This monitor checks the status of the iDOCs present in the various SAP R/3 Systems configured in your SAP Landscape. r3monale generates an alert when a defined threshold for the number of iDOCs with a given status is exceeded.
r3monchg	This monitors and double checks the SAP System Change options. It is SAP version dependent and has three different configurations for • SAP R/3X • SAP R/3 4.0X, 4.5X • SAP R/3 4.6X
r3moncts	This checks the correction and transport system for important transport requests, tasks and objects. It generates an alert to meet the specifications you define.
r3mondmp	The Dump Monitor is used to detect ABAP dumps which occur in the system. The cause of the dump can be identified from the details which the message gives and corrective action taken.
r3monjob	This checks for jobs that • exceed a specified run time • do not run as long for as they are expected to run • do not start within a specified time frame • are aborted

r3monlck	This monitor references the SAP R/3 Enqueue process which manages logical locks for SAP R/3 transactions and reports on obsolete locks. These are defined as locks older than the time period you specify.
r3monoms	For operation modes this detects when • a scheduled operation mode switch has occurred later than the time specified • a scheduled operation mode switch has not occurred at all
r3monspl	This monitors is used to check • the number of spool entries • the number of erroneous spool requests in a specified range • spool entries with state error for specified printers.
r3montra	This monitor is used to check the following parts of the transport system: • the status of exports and imports • confirmed and unconfirmed repairs • to checck the TP interface • to perform a ping of the specified system.
r3monupd	The update alert monitor detects • if the update was deactivated • if update errors have occurred.
r3monusr	This Monitor specifies the number of users which would trigger an alert, using SAP transaction SM04 as reference.
r3monwpa	This checks work processes as follows • monitors their status and reports any processes that are running in debug, private or no restart modes. • compares the number of configured work processes with the actual number running. • for each work process type checks the number of expected work processes waiting and the number of expected work processes running.

Report Types for the Alert Monitors

Each of the Alert Monitors uses one of two report types:

Time Frame	Time Frame monitors use a defined time range as their measurement base. Using **r3monjob** (the JOBREPORT Monitor) as an example, the **r3monjob** alert monitor uses a time frame which compares the time from the last monitor run with the configured start date and time of a batch job.
Snapshot	Snapshot monitors use one moment of time as their measurement base. For example, **r3monlck** (the LOCK_CHECK Monitor) uses the moment the monitor runs to generate an alert that a lock is "old", whenever a defined time span has been exceeded. The Snapshot type is dynamic and can be run continuously because the alerts can be generated without being confined to a specific time frame.

Polling Rates and Run Locations for the Alert Monitors

The alert monitors have different polling rates and run locations.

- Table: Polling Rates of Alert Monitors
- Table: Run Location(s) for Alert Monitors

Polling Rates of Alert Monitors

Alert Monitor Name	Polling Rate
r3monale	10 minutes
r3monchg	4 hours

r3moncts	1 day
r3mondmp	2 minutes
r3monjob	5 minutes
r3monlck	1 hour
r3monoms	10 minutes
r3monspl	30 minutes
r3montra	1 day
r3monupd	1 hour
r3monusr	5 minutes
r3monwpa	2 minutes

Table: Run Location(s) for Alert Monitors shows the run locations by SAP version and server type (central instance and/or application server)

Run Location(s) for Alert Monitors

Alert Collector Monitor Name	App Server 3.1I	Central Inst 3.1I	App Server 4.x	Central Inst 4.x
r3monaco		3		3
r3monale		3		3
r3monchg		3		3
r3moncts		3		3
r3mondmp		3		3
r3monjob		3		3
r3monlck		3		3
r3monoms		3		3
r3monspl		3		3

r3montra		3		3
r3monupd		3		3
r3monusr		3		3
r3monwpa		3		3

The Alert Collector Monitor Configuration Files

Each entry in the monitoring conditions section of each alert type's configuration file specifies the following editable fields:

- Configuration Keyword = AlertMonFun
- SAP Hostname
- SAP system
- SAP number
- SAP client
- Alert monitor Name
- Enable/Disable toggle setting
- OVO severity associated with the alarm condition
- Associated OVO object
- Associated OVO message group
- Alert Type
- Alert-type monitor parameters (Parameter Name, Sign, Opt, Low, High). These are the query conditions you specify and which the monitor uses to get alerts from the SAP R/3 system.

Example: Default Configuration for the CTS Monitor (r3moncts) - REQUEST_CREATED

```
AlertMonFun =ALL =ALL =ALL =ALL   =CTS  =1\
=WARNING   =Request  =R3_CTS\
=REQUEST_CREATED  =USERNAME   =I    =CP  =*   =
```

Related Topics: r3moncts: The CORRECTION & TRANSPORT SYSTEM Monitor

Alert Monitor Query Conditions

The Alert data for each monitor is differentiated into a number of Alert Types. For example, The JOBREPORT Monitor r3monjob has four alert types: JOB_MAX_RUN-TIME, JOB_MIN_RUN_TIME, START_PASSED and JOB_ABORTED. For each of Alert Monitor's defined Alert Types you need to:

- specify which systems should be checked
- enter selection criteria to define under what circumstances an alert will be raised. This is described in more detail below

This section also includes information about:

- Types of Parameter Data
- Specifying Query Conditions
- Parameter Values
- Query Conditions

Types of Parameter Data

The conditions which will cause an alert to be sent are defined by editing the parameters in the monitoring conditions section in the configuration files of the alert types.

There are two general types of parameter data:

- The parameter name. Each parameter has a name which describes the attribute of the system for which you define the monitoring conditions. Example: MAX_RUNTIME and JOBNAME parameters for the Alert Type JOB_MAX_RUN_TIME of the JOBREPORT Monitor.
- The parameter delimiters. These are used to specify the select options for each parameter. The parameter delimiters therefore define the circumstances under which an alert should be raised. An VPO message will be sent for each event that matches your specified conditions. For the excluded circumstances no message will be sent. There are four types of Parameter Delimiters: SIGN, OPT(ION), LOW and HIGH. (See Table: Description of Parameter Delimiters)

Specifying Query Conditions

The following points apply generally when using the Parameter Delimiters. to specify query conditions:

- All possible and reasonable conditions can be used to configure the query condition, within the limitations given below.
- Messages which are excluded by your defined conditions will not appear in the Message Browser.

- Examples of the use of these query conditions can be found by consulting the detailed descriptions of the alert type configurations for each monitor which follow this introductory section.

For each of their alert types the alert monitors have as a default an example configuration of the parameters. However, this example configuration should not be treated as a default ready to use. Therefore, as a general rule you must customize the alert type by editing its parameters. Information on when it is possible to use these unedited default values and when editing is mandatory can be found in the detailed descriptions of each alert monitors' alert types which follows this introduction.

Description of Parameter Delimiters

Parameter Delimiters	Description
SIGN	Operators 1: I = Inclusive E = Exclusive
OPT	Operators 1: EQ = equal to BT = between... and.. CP = contains pattern LE = less than or equal to GE = greater than or equal to GT = greater than LT = less than
LOW	Contains a comparison value and can also be used to specify the lower value of a range in conjunction with the operator BT.
HIGH	Contains a numeric comparison value to specify the higher value of a range. 2

1 The standard SAP operators NE (**N**ot **E**qual to), NB (**N**ot **B**etween... and...), and NP (does **N**ot contain **P**attern) are not used to configure these alert types. You should only use the operators listed.
2 This parameter delimiter should only be used when specifying a range in conjunction with the operator BT

Parameter Values

The *include* and *exclude* parameter values for an alert type entry are interpreted as follows:

Include sign parameters are compared using ` or ':

Exclude sign parameters are compared using 'and':

First the *include* values are evaluated; then the *exclude* values are evaluated, as shown in the Table: AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter.

AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter

Select Options Specified	Alert Type:JOB_MAX_RUN_TIME Example Configuration of Select Options	Comparison
1	=JOBNAME =I =CP =ZREP* = =MAX_RUNTIME =I =GT =10 =	OR
2	=JOBNAME =I =CP =SAP* = =MAX_RUNTIME =I =GT =20 =	OR
3	=JOBNAME =E =CP =SAP_ZREP* =	AND

Query Conditions

The following rules apply to the use of blocks and line breaks when configuring the alert types for the alert-collector monitors:

- Each parameter is configured as a separate block. For example for **JOB_MAX_RUN_TIME**
  1. =JOBNAME =I =CP =SAP* = is the block for the parameter **JOBNAME**
  2. =MAX_RUNTIME =I =GT =20 = is the block for the parameter **MAX_RUNTIME**.
- The symbol '\' is used to indicate a line continuation
- Line breaks should be made:
  1. Within each specified configuration between:
     a. the general alert class configuration (SAP hostname, system, number and client)
     b. the VPO configurations (severity level, object and message group)
     c. the monitoring query conditions (parameter name and the SIGN, OPT, LOW and HIGH parameter delimiters)
  2. Between each separate specified condition for AND comparisons.

Alert Monitor Environment Variables

This section describes the environment variables for all the alert monitors associated with the alert collector **r3moncol**. Although the configuration of the alert monitors is identical, the name of the alert-monitor configuration file is monitor specific e.g. **r3monjob**, **r3mondmp**, **r3monlck**, **r3monoms**.

Environment Variables for r3moncol.exe

Environment Variable	Description
SAPOPC_TRACEMODE	Trace mode: a = append w = create (default)
SAPOPC_ <*R3MONNAME*>_CONFIGFILE	Config. file name 1
SAPOPC_R3ITOSAP_CONFIGFILE	General SAP R/3 login configuration file
SAPOPC_TRACEPATH	Trace path config. file

1 Where <*R3MONNAME*> is the name of the monitor whose configuration file location you want to change. For example; SAPOPC_R3MONDMP_CONFIGFILE

Alert Monitor Command Line Parameters

This section describes the command line parameters for all eleven of the alert monitors associated with the Alert Collector **r3moncol**. In the same way as for the environment variables, the configuration of the alert monitors is identical but the names of the alert monitor configuration file in both the configuration file and the trace file are monitor specific e.g. **r3monjob**, **r3mondmp**, **r3monlck**, **r3monoms**.

r3moncol Command Line Parameters

Parameter	Description 1
-cfgfile	Name of the monitor's configuration file. For example, `-cfgfile <R3MONNAME>.cfg`

-trace	The monitor writes an initial trace file **writetrace.log**, which contains information about configuration file **r3itosap** and the monitor-specific config file **<*R3MONNAME*>.cfg**.

1 Where <*R3MONNAME*> is the name of the monitor whose configuration file location you want to change. For example; r3mondmp

In the following example, the monitor writes an initial trace file **writetrace.log**, which contains information about configuration file **r3itosap** and the monitor-specific configuration file, **r3monjob.cfg**.

Example: Using r3moncol's Command-Line Parameters

```
r3moncol -cfgfile r3monjob.cfg -trace
```

r3monale: The iDOC-Status Monitor

The iDOC-status alert monitor is *time-frame* based and checks the status of exisiting iDOCs for errors using the transaction **/WE02** as the data source. The monitor is application-server independent and available for global (SAP R/3 System-wide) use.

This section also provides information about iDOC alert monitor:

- Alert Types
- File Locations
- Environment Variables
- Command-Line Parameters

Alert Types

The iDOC-Status Monitor contains the following alert type:

IDOC_CURRENT_STATUS defines when an alert will be generated for the actual state of the iDOCs

File Locations

The **r3monale** alert monitor has the files listed in Table: r3monale Files.

r3monale Files

File	Description
r3moncol (.exe)	Collector executable for the iDOC-status monitor
r3monale.cfg	Configuration file for the iDOC-status monitor.
r3monale.log	Trace file for storing trace data.

Environment Variables

The **r3monale** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command-Line Parameters

The **r3monale** monitor uses the command line parameters described in Table: r3moncol Command-Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the -cfgfile and -trace parameters as indicated in Table: r3moncol Command-Line Parameters.

Related Topics:
Alert Monitor Query Conditions

iDOC_CURRENT_STATUS

This section lists the parameters that you can use with IDOC_CURRENT_STATUS. Bear in mind when configuring the IDOC_CURRENT_STATUS alert type, that at least one of the parameters listed in Table: Configuration Parameters *must* be defined. Note that `` in the **Default Value** column signifies an empty string.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
DOCNUM	IDOC number	= Sign: I, E	` `
		= Opt: GE, GT, LE, LT, BT	` `
		= Low	` `
		= High:	` `
DOCTYP	IDOC type	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
MESCOD	Logical message code	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
MESFCT	Logical message function	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
MESTYP [1]	Logical message type	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `

RCVPFC	Partner function of receiver	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
RCVPRN	Partner number of receiver	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
RCVPRT	Partner type of receiver	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
SNDPFC	Partner function of sender	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
SNDPRN	Partner number of sender	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `
SNDPRT	Partner *type* of sender	= Sign I	` `
		= Opt: CP, EQ	` `
		= Low	` `
		= High	` `

STATUS [2]	Status of IDOC	= Sign I, E	` `
		= Opt: GE, GT, LE, LT, BT	` `
		= Low	` `
		= High	` `

1 Possible values: ABSENT, MAX_ENTRIES, TIME_LIMIT

2 Possible values: CHECK_INBOUND, CHECK_OUTBOUND, MAX_ENTRIES

In Example: The Default IDOC_CURRENT_STATUS Configuration, the **r3monale** alert is configured to check the status of inbound iDOCs. An event generating an alert occurs if the number of in-bound iDOCS specified in IDOC_CURRENT_STATUS exceeds the value 4 (four) defined in MAX_ENTRIES.

Example: The Default IDOC_CURRENT_STATUS Configuration

```
AlertMonFun  =ALL  =ALL  =ALL  =ALL  =ALL   =1  \
  =WARNING   =ALE   =R3_IDOC_STATUS  \
  =IDOC_CURRENT_STATUS =STATUS =I =EQ =CHECK_INBOUND \
                       =MAX_ENTRIES =I =GT =4
```

Checking the iDOC Status

Using the IDOC_CURRENT_STATUS alert type in conjunction with the STATUS parameter allows you to check any one of the 74 different iDOC statuses that are registered in SAP R/3 or a range of statuses defined in a group. Table: Possible iDOC Status lists all the statuses that the SPI for SAP R/3 recognizes.

In addition, the SPI for SAP R/3 provides two pre-defined values, CHECK_INBOUND and CHECK_OUTBOUND, that you can use to check for a *range* of errors relating to incoming or outgoing iDOCs. For example;

The value...	**monitors iDOCs with status...**

CHECK_INBOUND	51, 56, 60, 61, 62, 63, 64, 65, 66, 69
CHECK_OUTBOUND	02, 04, 05, 25, 26, 29, 30, 32

If you want to use the **r3monale** alert monitor to check for a specific iDOC status, replace the value =CHECK_INBOUND shown in Example: IDOC_CURRENT_STATUS Configuration with the iDOC status number listed in Table: Possible iDOC Status that corresponds to the iDOC status you want to monitor. For example, to monitor the number of existing iDOCS, use **=01**.

NOTE:
It is not currently possible to define your own ranges similar to the pre-defined ranges CHECK_INDOUND and CHECK_OUTBOUND. Instead, you have to define a sperate AlertMonFun entry for *each* additional value, which you want to monitor.

Possible iDOC Status

iDOC Status	Description
00	Not used, only for R/2
01	IDoc created
02 [2]	Error passing data to port
03	Data passed to port OK
04 [2]	Error within control information of EDI subsystem
05 [2]	Error during translation
06	Translation OK
07	Error during syntax check
08	Syntax check OK
09	Error during interchange handling
10	Interchange handling OK
11	Error during dispatch
12	Dispatch OK
13	Retransmission OK
14	Interchange Acknowledgement positive

15	Interchange Acknowledgement negative
16	Functional Acknowledgement positive
17	Functional Acknowledgement negative
18	Triggering EDI subsystem OK
19	Data transfer for test OK
20	Error triggering EDI subsystem
21	Error passing data for test
22	Dispatch OK, acknowledgement still due
23	Error during retransmission
24	Control information of EDI subsystem OK
25 [2]	Processing despite syntax error (outbound)
26 [2]	Error during syntax check of IDoc (outbound)
27	Error in dispatch level (ALE service)
28	Not used
29 [2]	Error in ALE service
30 [2]	IDoc ready for dispatch (ALE service)
31	Error - no further processing
32 [2]	IDoc was edited
33	Original of an IDoc which was edited
34	Error in control record of IDoc
35	IDoc reloaded from archive
36	Electronic signature not performed (timeout)
37	IDoc added incorrectly
38	IDoc archived
39	IDoc is in the receiving system (ALE service)

40	Application document not created in receiving system
41	Application document created in receiving system
42	IDoc was created by test transaction
50	IDoc added
51 [1]	Error: Application document not posted
52	Application document not fully posted
53	Application document posted
54	Error during formal application check
55	Formal application check OK
56 [1]	IDoc with errors added
57	Test IDoc: Error during application check
58	IDoc-Copy from an R/2 connection
59	Not used
60 [1]	Error during syntax check of IDoc (Inbound)
61 [1]	Processing despite syntax error (Inbound)
62 [1]	IDoc passed to application
63 [1]	Error passing IDoc to application
64 [1]	IDoc ready to be transferred to application
65	Error in ALE service
66	IDoc is waiting for predecessor IDoc (serialization)
67	Not used
68	Error - no further processing
69 [1]	IDoc was edited
70	Original of an IDoc which was edited
71	IDoc reloaded from archive

72	Not used, only for R/2
73	IDoc archived
74	IDoc was created by test transaction

1. Included in the range: CHECK_INBOUND
2. Included in the range: CHECK_OUTBOUND

r3monchg: The SYSTEM CHANGE OPTION Monitor

The SYSTEM CHANGE OPTION alert monitor **r3monchg** is of type *snapshot* and monitors the change options in a defined SAP R/3 System. The alert monitor **r3monchg** references the SAP R/3 transactions SE06.

The **r3monchg** monitor is SAP version dependent and has three different configurations for

- SAP R/3 3.X
- SAP R/3 4.0X, 4.5X
- SAP R/3 4.6X

This sections provides additional information about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The SYSTEM CHANGE OPTION alert monitor has only one alert type:

CHANGE_OPT
: monitors and double-checks the SAP System change options and sends out an alert if the option matches the configuration:

- CHANGE_OPT (SAP R/3 3.X)
- CHANGE_OPT (SAP R/3 4.0X and 4.5X)
- CHANGE_OPT (SAP R/3 4.6X)

File Locations

The **r3monchg** alert monitor has the files listed in Table: r3monchg Files.

r3monchg Files

File	Description
r3moncol(.exe)	Collector executable for the system change option monitor
r3monchg.cfg	Configuration file for system change option monitor.
r3monchg.log	Trace file for storing trace data.

Environment Variables

The **r3monchg** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3monchg** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the -cfgfile and -trace parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
If you are unsure about the general configuration query rules which apply to all alert collector monitors, Related Topics: Alert Monitor Query Conditions.

Configuring SYSTEM CHANGE OPTION Monitor Alert Types

This monitor is SAP-version dependent. There are three possible configurations shown in separate tables. You only need to refer to the table that matches your SAP version:

- CHANGE_OPT (SAP R/3 3.X)
- CHANGE_OPT (SAP R/3 4.0X and 4.5X)
- CHANGE_OPT (SAP R/3 4.6X)

NOTE:
The general rules repeated below for using exclude and include parameter values are particularly important for these alert types.

Parameter Values

The *include* and *exclude* parameter values for an alert type entry are interpreted as follows:

Include sign parameters are compared using ` or '

Exclude sign parameters are compared using 'and'

Note that the *include* values are evaluated before the *exclude* values, as shown in Table: AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter.

AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter

Select Options	Alert Type :CHANGE_OPT (SAP R/3 4.5x) Example Configuration of Select Options	Comparison
1	=SYSTEM_CHANGE_OPTION =1 =WARNING =SystemChange =R3_Security = NSP_EDTFLAG =I = CP= /0* =	OR
2	=SYSTEM_CHANGE_OPTION =1 =WARNING =SystemChange = =R3_Security = NSP_EDTFLAG =I =EQ =/SAPQUERY/ =	OR
3	=SYSTEM_CHANGE_OPTION =1 =WARNING =SystemChange =R3_Security = NSP_EDTFLAG =E =EQ =/0LOCAL/ =	AND

CHANGE_OPT (SAP R/3 3.X)

An alert is generated when the EDTFLAG is set to allow the editing that you are trying to perform. Configuration of the parameter is optional.

Configuration Parameters (SAP R/3 3.X)

Parameter Name	Descriptions	Query Conditions	Default Value
EDTFLAG	Flag indicating if an object can be edited.	= Sign: I	I
		= Opt: EQ	EQ
		= Low: N, C, R, `` N = no change, C = all customer objects R = all objects `` = only original objects	``
		= High:	

Example: Example Default Configuration

```
AlertMonFun =ALL =ALL =ALL =ALL   =SYSTEM_CHANGE_OPTION  =1   \
  =WARNING   =SystemChange  =R3_Security  \
   =CHANGE_OPT  =EDTFLAG   =I    =EQ  =   =
```

An event generating an alert occurs if original objects are selected for editing.

Related Topics:

- CHANGE_OPT (SAP R/3 4.0X and 4.5X)
- CHANGE_OPT (SAP R/3 4.6X)

CHANGE_OPT (SAP R/3 4.0X and 4.5X)

An alert is generated when the flag parameters are set to allow the editing you are trying to perform. The configuration of the parameter EDTFLAG is optional. The configuration of the NSP_EDTLAG is mandatory.

Configuration Parameters (SAP R/3 4.0X, 4.5X)

Parameter Name	Descriptions	Query Conditions	Default Value
EDTFLAG	Flag indicating if an object can be edited for global system changes.	= Sign: I	I
		= Opt: EQ	EQ
		= Low: ON, OFF, PATCH 1	PATCH
		= High:	
NSP_EDTFLAG	Flag indicating which specified name space(s) are to be set to ON.	= Sign: I	I
		= Opt: EQ: CP	CP
		= Low 2	*
		= High:	

1 PATCH=set to patch system.
2 See the list of name space change options for SAP R/3 4.0X and SAP R/3 R 4.5X in Table: Name Space System Change Options: SAP R/3 4.0X and Table: Name-Space System Change Options: SAP R/3 4.5X.

Example: The Default CHANGE_OPT Configuration (SAP R/3 4.0X, 4.5X)

```
AlertMonFun =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION =1 \
=WARNING =SystemChange =R3_Security \
=CHANGE_OPT =NSP_EDTFLAG =I =EQ =/SAPQUERY/ =

AlertMonFun =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION =1 \
=WARNING =SystemChange =R3_Security \
=CHANGE_OPT =EDTFLAG =I =EQ =ON =
```

In Example: The Default CHANGE_OPT Configuration (SAP R/3 4.0X, 4.5X), an event generating an alert occurs when the global system changes is ON or the specified name space is ABAP/4 Query/SAP

Example: Customized CHANGE_OPT Configuration (SAP R/3 4.0X)

```
AlertMonFun =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION =1 \
=WARNING =SystemChange =R3_Security \
=CHANGE_OPT =NSP_EDTFLAG =I =EQ =/0CUST/ =

AlertMonFun =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION =1 \
=WARNING =SystemChange =R3_Security \
=CHANGE_OPT =NSP_EDTFLAG =I =EQ =/SAPQUERY/ =

AlertMonFun =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION =1 \
=WARNING =SystemChange =R3_Security \
=CHANGE_OPT =EDTFLAG =I =EQ =ON =
```

In Example: Customized CHANGE_OPT Configuration (SAP R/3 4.0X), an event generating an alert occurs when the global system change option is ON or the system space names are set to ON for Customer Name Range or ABAP/4 Query/SAP

Name Space System Change Options: SAP R/3 4.0X

ID	Description
/0CUST/	Customer name range
/0LOCAL/	Local objects
/0SAPAPPL/	SAP R/3 application components
/0SAPBAS/	SAP R/3 Basis System
/1BCABA/	ABAP+GUI tools
/1BCDWB/	Development Workbench
/1BCDWBEN/	Enqueue function groups
/SAPQUERY/	ABAP/4 Query/SAP

Name-Space System Change Options: SAP R/3 4.5X

ID	Description
/0CUST/	Customer name range
/0LOCAL/	Local objects

/0SAPAPPL/	SAP R/3 application components
/0SAPBAS/	SAP R/3 Basis System
/1BCABA/	ABAP+GUI tools
/1BCDWB/	Development Workbench
/1BCDWBEN/	Enqueue function groups
/1PAPA/	Personnel administration
/1PAPAXX/	Personnel administration, general
/1PSIS/	Project Information System - Logical database PSJ
/1SAP1/	General SAP generation namespace
/BI0/	Business Information Warehouse: SAP namespace
/BIC/	Business Information Warehouse: 1 - Customer namespace
/SAPQUERY	ABAP/4 Query/SAP
/SAPTRAIN/	SAP training

Related Topics:

- CHANGE_OPT (SAP R/3 3.X)
- CHANGE_OPT (SAP R/3 4.6X)

CHANGE_OPT (SAP R/3 4.6X)

An alert is generated when the flag parameters are set to allow the editing you are trying to perform. The configuration of all parameters is mandatory. Multiple parameter entries on a single line are *not* allowed. Rather, the different configurations should be separated on to different lines.

Configuration Parameters (SAP R/3 4.6X)

Parameter Name	Descriptions	Query Conditions	Default Value
EDTFLAG	Flag indicating if an object can be edited.	= Sign: I	I
		= Opt: EQ	EQ
		= Low: ON, OFF, PATCH 1	PATCH
		= High:	
NSP_EDTFLAG	Flag indicating which specified name space(s) are to be set to ON.	= Sign: I	I
		= Opt: EQ:CP	CP
		= Low 2	*
		= High:	
SWC_EDTFLAG	Flag indicating which specified software components are to be set to ON.	= Sign: I	I
		= Opt: EQ, CP	CP
		= Low: <specified software component> 2	*
		= High:	

1 PATCH=set to patch system
2 See list of name space change options for SAP R/3 4.6. X in Table: Configuring CHANGE_OPT (SAP R/3 4.6X)

In Example: The Default CHANGE_OPT (SAP R/3 4.6X) Configuration, an event generating an alert occurs when the global system change is OFF or the specified name space is Local Objects, or the specified software component is Local Developments (no automatic transport).

Example: The Default CHANGE_OPT (SAP R/3 4.6X) Configuration

```
AlertMonFun =ALL =ALL =ALL =ALL   =SYSTEM_CHANGE_OPTION  =1\
=WARNING    =SystemChange  =R3_Security \
=CHANGE_OPT   =NSP_EDTFLAG  =I =EQ  =/0LOCAL/  =

AlertMonFun  =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION  =1\
=WARNING    =SystemChange  =R3_Security \
=CHANGE_OPT         =SWC_EDTFLAG  =I    =EQ  = LOCAL    =

AlertMonFun =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION  =1\
=WARNING    =SystemChange  =R3_Security \
=CHANGE_OPT           =EDTFLAG      =I    =EQ  =OFF  =
```

Example: The Customized CHANGE_OPT (SAP R/3 4.6X) Configuration

```
AlertMonFun =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION  =1\
=WARNING    =SystemChange  =R3_Security \
=CHANGE_OPT  =NSP_EDTFLAG  =I    =EQ  =/1BCDWBEN/    =

AlertMonFun =ALL =ALL =ALL  =ALL =SYSTEM_CHANGE_OPTION  =1\
=WARNING    =SystemChange  =R3_Security \
=CHANGE_OPT         =SWC_EDTFLAG  =I    =EQ  = LOCAL    =

AlertMonFun =ALL =ALL =ALL =ALL =SYSTEM_CHANGE_OPTION  =1 \
=WARNING    =SystemChange  =R3_Security \
=CHANGE_OPT  =EDTFLAG  =I    =EQ  =OFF  =
```

In Example: The Customized CHANGE_OPT (SAP R/3 4.6X) Configuration, an event generating an alert occurs when the global change option is OFF or the system space change option ABAP query/SAP is ON, or the software component change option for Human Resources is ON. For more information about the change options for Name System and software components, Related Topics: Table: Software Components Change Options for SAP R/3 4.6X and Table: Name System Change Options for SAP R/3 4.6X.

Software Components Change Options for SAP R/3 4.6X

Technical ID	Description
HOME	Customer developments
LOCAL	Local developments (no automatic transport)
SAP_ABA	Cross-Application Component
SAP_APPL	Logistics and Accounting
SAP_BASIS	SAP Basis Component
SAP_HR	Human Resources

Name System Change Options for SAP R/3 4.6X

Technical ID	Description
/0CUST/	Customer name range
/0SAP/	General SAP name range
/1BCABA/	ABAP & GUI tools

/1BCDWB/	Development Workbench
/1BCDWBEN/	Enqueue function groups
/1COPA/	Generated objects in CO-PA
/1ISRWP/	IS-R merchandise and assortment controlling
/1ISU/	Generation namespace for CIC (Customer Interaction Center)
/1PAPA/	Personnel administration
/1PAPAXX/	Personnel administration - general
/1PSIS/	Project Information System - Logical database PSJ
/1PYXXFO/	PY-XX Form tool: Generated objects
/1SAP1/	General SAP generation namespace
/1SDBF12L/	Generation of pricing report
/BI0/	Business Information Warehouse: SAP namespace
/BIC/	Business Information Warehouse: Customer namespace
/SAPQUERY/	ABAP query/SAP
/SAPRRR/	Ready-to-Run R/3
/SAPSMOSS/	Interface: R/3 messages to the SAP Online Service Sy
/SAPTRAIN/	SAP training

r3moncts: The CORRECTION & TRANSPORT SYSTEM Monitor

The CTS alert monitor **r3moncts** is *time-frame* based. It identifies and reports on important transport requests, tasks and objects in the Correction and Transport System. Data collection is independent of the application-server.

The alert monitor **r3moncts** references:

- transport requests and object lists created using SAP R/3 transaction `/SE01`
- tasks created using SAP R/3 transaction `/SE09`

This section also provides information about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The CTS monitor has the following alert types.

REQUEST_CREATED	defines when an alert will be generated for a new request
REQUEST_RELEASED	defines when an alert will be generated for a new request which has been released
TASK_CREATED	defines the when an alert will be generated for a new task
TASK_RELEASED	defines when an alert will be generated for a new task which has been released
OBJECT_USED	defines which objects when used by a task or a request will generate an alert
OBJECT_RELEASED	defines when an alert will be generated when the request or task which holds this object is released

File Locations

The **r3moncts** monitor has the files listed in Table: r3moncts Files.

r3moncts Files

File	Description
r3moncol(.exe)	Collector executable for the CTS monitor

r3moncts.cfg	Configuration file for the CTS monitor.
r3moncts.log	Trace file for storing trace data.

Environment Variables

The **r3moncts** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3moncts** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the **-cfgfile** and **-trace** parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
If you are unsure about the general configuration query rules which apply to all alert collector monitors, Related Topics: Alert Monitor Query Conditions.

Configuring CTS Monitor Alert Types

You should bear in mind the following the general rules when configuring the parameters for CTS monitor alert types:

- By default for each parameter all data is selected.
- Data can be restricted by specifying some or all of the parameters for the alert type.
- If any parameter values are specified only the named parameters are taken into account i.e the default value of ALL for the unspecified parameters is overridden.

The parameter TRFUNCTION which is used for configuring the REQUEST_CREATED, REQUEST_RELEASED, TASK CREATED and TASK RELEASED Alert Types has request functions which can be specified using their letter code. Related Topics: Table: TRFUNCTION Request Functions.

TRFUNCTION Request Functions

Letter Code	Function Description
A	Request: Unclassified request becomes K, L or W with first object
C	Transport with change authorization
D	Patch
K	Request: Change request with destination consolidation layer
L	Request: Local request without transport
R	Task: Repair
S	Task: Development/correction
T	Request: Transport without originals
U	Dummy
W	Request: Customizing request with cons. layer destination
X	Task: Unclassified task becomes S or R with first object
Z	(task without request) SE09 memory usage

NOTE:
In the descriptions of the use of this parameter for each of the CTS Alert Types, only the letter code is shown. If you do not know what these letter codes represent please consult Table: TRFUNCTION Request Functions.

REQUEST_CREATED

An alert is generated if a new request was created within the last time frame. The configuration of any of these parameters is optional.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
TRFUNCTION	The request function.	= Sign: I, E	I
		= Opt: CP,EQ	CP
		= Low: A, K,L,W,C,T, U, D 1	*
		= High:	
TARGET	The target system for which this request was created. Note: this must be a SID	= Sign I, E	
		= Opt: EQ, CP	
		= Low: *<name of system>*	
		= High	
USERNAME	The login name of the SAP R/3 user who created the request.	= Sign I	
		= Opt: EQ, CP	
		= Low: *<username who created this request>*	
		= High	

1 only the listed functions can be specified (* means all).

In Example: The Default REQUEST_CREATED Configuration, an event generating an alert occurs if a new request was created within the last time frame

Example: The Default REQUEST_CREATED Configuration

```
AlertMonFun  =ALL  =ALL  =ALL  =ALL  =CTS  =1\
=WARNING    =Request     =R3_CTS\
=REQUEST_CREATED   =USERNAME   =I    =CP      =*    =
```


REQUEST_RELEASED

An alert is generated if a new request is released within in the last time frame. The configuration of the parameters below is optional.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
TRKORR	Request ID	= Sign: I, E	
		= Opt: EQ	
		= Low: <*Request ID*>	
		= High:	
TRFUNCTION	The request function.	= Sign: I, E	
		= Opt: EQ	
		= Low: K,L, W,C,T, U, D. 1	
		= High:	
TARGET	The target system for which this request was created. Note: this must be a SID	= Sign I, E	I
		= Opt: EQ, CP	CP
		= Low: <*name of system*>	*
		= High	
USERNAME	The login name of the SAP R/3 user who created the request.	= Sign I	
		= Opt: EQ,CP	
		= Low: <*username who created this request*>	
		= High	
CUSTOMIZING	Customizing Requests	= Sign I,E	
		= Opt: EQ	
		= Low 2	
		= High	

WORKBENCH	Workbench Requests	= Sign I, E	
		= Opt: EQ	
		= Low 2	
		= High	

1 Only the listed functions can be specified (* means all).
2 Any entry other than 'X' will be treated as space.

In Example: The Unedited Default REQUEST_RELEASED Configuration, an event generating an alert occurs if any customizing request was released in the last time frame.

Example: The Unedited Default REQUEST_RELEASED Configuration

```
AlertMonFun    =ALL   =ALL =ALL =ALL =CTS   =1\
  =WARNING    =Request     =R3_CTS\
  =REQUEST_RELEASED  =CUSTOMIZING  =I =EQ  =X
```

TASK_CREATED

An alert is generated if a new task was created within the last time frame.The configuration of any of these parameters is optional.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
TRFUNCTION	The request function.	= Sign: I, E	I
		= Opt: CP, EQ	CP
		= Low: X, S, R, Z 1	*
		= High:	

USERNAME	The login name of the SAP R/3 user who created the request.	= Sign: I	
		= Opt: EQ, CP	
		= Low:<*username who created this request*>	
		= High:	

1 Only the listed functions can be specified (* means all).

In Example: The Default TASK_CREATED Configuration, an event generating an alert occurs if a new task was created within the last time frame.

Example: The Default TASK_CREATED Configuration

```
AlertMonFun    =ALL   =ALL =ALL  =ALL  =CTS        =1     \
  =WARNING    =Task  =R3_CTS       \
  =TASK_CREATED        =TRFUNCTION    =I    =CP      =*         =
```

TASK_RELEASED

An alert is generated if a new task was released within the last time frame. The configuration of the parameters below is optional.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
TRKORR	Request ID	= Sign: I, E	
		= Opt: EQ	
		= Low: <*Request ID*>	
		= High:	

TRFUNCTION.	The request function.	= Sign: I, E	I
		= Opt: CP, EQ	CP
		= Low: R,S, Z 1	*
		= High:	
USERNAME	The login name of the SAP R/3 user who created the request.	= Sign: I	
		= Opt: EQ, CP	
		= Low: <*username who created this request*>	
		= High	

1 Only the listed functions can be specified (* means all).

In Example: The Default TASK_RELEASED Configuration, an event generating an alert occurs if any new task was released in the last time frame

Example: The Default TASK_RELEASED Configuration

```
AlertMonFun =ALL =ALL =ALL  =ALL  =CTS  =1\
  =WARNING  =Task =R3_CTS\
  =TASK_RELEASED =TRFUNCTION  =I =CP =* =
```

OBJECT_USED

An alert is generated if the object of this configuration is used by a task or by a request within the last time frame. The configuration of the parameters below is optional.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value

PGMID	Program ID	= Sign: I, E	
		= Opt: EQ, CP	
		= Low: <*Program ID*>	
		= High:	
OBJECT	Object type of element	= Sign I, E	
		= Opt: EQ, CP	
		= Low: <*Object type*>	
		= High	
OBJ_NAME	Object Name in object directory	= Sign I, E	I
		= Opt: EQ, CP	CP
		= Low: <*Object name*>	*
		= High	
OBJ_FUNC	Special function for an object entry, e.g. D = Delete or M = delete+recreate.	= Sign I, E	
		= Opt: EQ, CP	
		= Low	
		= High	
IN_REQUEST	Alert generated if object container is a request	= Sign I,E	
		= Opt: EQ	
		= Low	
		= High	
IN_TASK	Alert generated if object container is a task.	= Sign I, E	
		= Opt: EQ	
		= Low	
		= High	

In Example: The Default OBJECT_USED Configuration, an event generating an alert occurs if any object with Object Type "LIMU" is used by a task or a request.

Example: The Default OBJECT_USED Configuration

```
AlertMonFun  =ALL  =SD1 =ALL  =ALL   =CTS    =1\
  =WARNING   =Object =R3_CTS\
  =OBJECT_USED =PGMID  =I    =EQ  =LIMU  =
```

OBJECT_RELEASED

An alert is generated if a request or task is released which holds this object. The configuration of the parameters below is optional

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
TRKORR	Request ID	= Sign: I, E	
		= Opt: EQ, CP	
		= Low:<*Request ID*>	
		= High:	
PGMID	Program ID	= Sign: I, E	
		= Opt: EQ, CP	
		= Low: <*Program ID*>	
		= High:	

OBJECT	Object type of element	= Sign I, E	
		= Opt: EQ, CP	
		= Low: <*Object type*>	
		= High	
OBJECT_NAME	Object Name in object directory	= Sign I	I
		= Opt: EQ, CP	CP
		= Low: <*Object name*>	*
		= High	
IN_REQUEST	Alert generated if object container is a request	= Sign I,E	
		= Opt: EQ	
		= Low 1	
		= High	
IN_TASK	Alert generated if object container is a task.	= Sign I, E	
		= Opt: EQ	
		= Low 1	
		= High	

1 Any entry other than 'X' will be treated as space.

In Example: The Default OBJECT_RELEASED Configuration, an event generating an alert occurs if any object is released by a task.

Example: The Default OBJECT_RELEASED Configuration

```
AlertMonFun =ALL  =ALL     =AL =ALL  =CTS  =1\
  =WARNING  =Object =R3_CTS\
  =IN_TASK   =I =EQ      =X  =
```

r3mondmp: The ABAP Dump Monitor

The ABAP DUMP alert monitor **r3mondmp** is time-frame based. It reports on ABAP dumps in the SAP R/3 system which have occurred within the last, defined time frame. The check is performed once for all application servers. **r3mondmp** references the SAP R/3 transaction `ST22`.

Dumps are usually runtime errors and, as a consequence, they cannot always be detected by a static syntax check. Dumps can occur for many reasons and may indicate serious problems. However, no dumps should occur on a production system. Here are two examples of actions which usually cause dumps to occur:

- division by zero
- a called function model is not activated

Since an action by a user responsible for the SAP R/3 System is generally required after a dump has occurred, the messages generated by this alert monitor include an operator-initiated action that calls an ABAP program to display details of the dump.

The alert monitor **r3mondmp** references the SAP R/3 transaction */ST22*.

This section also provides information about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The ABAP DUMP monitor has the following alert types:

ABAP4_ERROR_EXIST One alert is generated for each ABAP dump

File Locations

The **r3mondmp** monitor has the files listed in Table: r3mondmp Files.

r3mondmp Files

File	Description
r3moncol(.exe)	Collector executable for ABAP DUMP monitor

r3mondmp.cfg	Configuration file for monitored application servers.
r3mondmp.log	Trace file for storing trace data.

Environment Variables

The **r3mondmp** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3mondmp** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the **-cfgfile** and **-trace** parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
If you are unsure about the general configuration query rules which apply to all alert collector monitors, Related Topics: Alert Monitor Query Conditions.

Configuring ABAP DUMP Monitor Alert Types

No parameters are used in the ABAP DUMP monitor configuration. Therefore no editing to customize them is required.

ABAP4_ERROR_EXIST

An alert is generated for each dump that occurred in the last time frame. The following example, The Default ABAP4_ERROR_EXIST Configuration displays how you can use =MAX_ENTRIES to count the number of dumps that have to occur before the SPI for mySAP.com generates a message and, in addition, specify a period of time in hours (=TIME_LIMIT) within which the defined number of dumps occurs.

In this example, the SPI for mySAP.com generates a message if ten dumps occur within twenty four hours.

Example: The Default ABAP4_ERROR_EXIST Configuration

```
AlertMonFun     =ALL  =ALL  =ALL   =ALL =ABAP4 =1\
=WARNING    =ABAP_Dump   =R3_ABAP-4\
=ABAP4_ERROR_EXIST

# New feature in SPI for mySAP.com verison 8.0
AlertMonFun     =ALL  =ALL  =ALL   =ALL =ABAP4 =1    \
=WARNING    =ABAP_Dump   =R3_ABAP-4\ =ABAP4_ERROR_EXIST\
   =MAX_ENTRIES   =I   =GT    =10    =   \
   =TIME_LIMIT    =I   =GT    =24    =
```

r3itsperfmon: The ITS Monitor

To configure the ITS Monitor follow the steps below:

- Configuration Tasks
- Default Configuration
- File Locations
- Key Words
- Command-line Interface

Configuration Tasks

The ITS Monitor uses information in the ITS *global.srvc* configuration file to provide a default configuration automatically. However, to set up the ITS Monitor to collect performance information, you need to perform the following configuration tasks:

1. Make sure that the ITS Monitor has access to (and the necessary permissions for) the directories containing the following log files: **\Program Files\SAP\ITS\2.0\<ITS_Instance_Name>\logs**
2. Activate performance monitoring by means of http requests by setting the following keys to the value one (1) in the Registry on the ITS managed node for each ITS instance:
3. Enable the command interface under:
   HKEY_LOCAL_MACHINE\Software\SAP\ITS\2.0\<ITS_Instance_Name>
   \Programs\AGate\AdminEnabled
4. Configure performance monitoring under:
   HKEY_LOCAL_MACHINE\Software\SAP\ITS\2.0\<ITS_Instance_Name>
   \CCMS\PerfMonitoring

   This allows you to set a trace level (by default off=0) and view performance-monitoring data in a Web browser.
5. Restart the AGate instance(s) to activate the changes made to the registry.

Default Configuration

The ITS Monitor stores configuration details in the file, **r3itsperfmon.cfg.** After installation, the ITS Monitor uses the default version of the configuration file shown below.
Related Topics: File Locations

The ITS Monitor Configuration File

```
#
# The r3itsperfmon.cfg file
#-------------------------------------------------------------
# TraceLevel hostname Disable=0, only error messages=1
# info messages=2, debug messages=3
#
TraceLevel =ALL =0
#-------------------------------------------------------------
# TraceFile hostname filename
#
TraceFile =ALL =r3itsperfmon.log
#-------------------------------------------------------------
# History hostname path
# Path
#
HistoryPathWinNT =ALL =c:\usr\OV\tmp
#-------------------------------------------------------------
# Datafiles location
DatafilesLocation =ALL =c:\rpmtools\data\datafiles
#-------------------------------------------------------------
# PerfMon ITS ITS Enable/ Webserver Portnumber
# hostname System ID Disable
```

```
#
ITSPerfMon =ALL =ALL =1 =default =default
#-------------------------------------------------------------
```

File Locations

The ITS Monitor installs the configuration files it reads and the trace and log files it writes in the following location on the OVO managed node (ITS serverr). The table below lists the files the *r3itsperfmon* performance monitor uses.

File	Description
r3itsperfmon.exe	Executable for the SAP R/3 ITS performance monitor **%OvAgentDir%\bin\OpC\vpwin\monitor**
r3itsperfmon.cfg	Configuration file for the SAP R/3 ITS performance monitor Global file- **%OvAgentDir%\conf\SAP_SPI\global** Local file- **%OvAgentDir%\conf\SAP_SPI\local**
r3itsperfmon.his	History file for storing data after each monitor run
r3itsperfmon.log	Log file used to store trace information when tracing is enabled **%OvAgentDir%\bin\OpC\vpwin\monitor**

Key Words

The table below lists the key words that can be used in the *r3itsperfmon.cfg* file to configure the *r3itsperfmon* performance monitor.

Variable	Description	Example
HistoryPath	Path t the file containing history data	*c:\usr\OV\tmp*
TraceFile	Name of the trace logfile	*r3itsperfmon.log*
r3itsperfmon.his	History file for storing data after each monitor run	*r3itsperfmon.cfg*
TraceLevel	Trace mode level:	0=disable 1=errors 2=information only 3=debug

DatafilesLocation[a]	Location of files containing the data used by PerfView and OpenView Reporter	*c:\rpmtools\data\datafiles*

a. Although the path you define with “DatafilesLocation” is only used by MeasureWare, it *must* be present in the *r3itsperfmon.cfg file*.

Command-line Interface

You can use the *r3itsperfmon* command to overwrite the automatic default configuration. The *r3itsperfmon* command recognizes the following command-line parameters:
r3itsperfmon -config

Related Topics: ITS Performance Metrics

Configuring the ITS Monitor

To carry out the tasks described in this section, you must have installed the ITS Monitor and, in addition, verified that the installation completed successfully as described in Verifying the ITS Monitor installation and Installing the ITS Monitor

The ITS Monitor collects performance, status, and availability information from ITS in the following ways:

- by parsing the ITS instance-specific log files
- by means of http requests for specific information from the ITS instances

Related Topics:

ITS Performance Metrics
r3itsperfmon: The ITS Monitor

ITS Performance Metrics

The table below lists the performance metrics which the SAP R/3 ITS Performance Monitor collects and uses to monitor ITS AGate instances, indicates which data source is used to collect the information required, and describes briefly what the metric information relates to.

Collected Performance Metrics

Metric Name	Data Source	Description
AVBLOCKLENGTH	agateperf	Average length of a block (in bytes)
AVBLOCKSPERTRANSAC	agateperf	Average number of blocks per transaction.
AVTAT	loadstat.log	Average turn-around time for this instance (not including WGate and WWW-Server)
AVAGATETIME	agateperf	Average time taken (in millisecs) within Agate
AVAGATETIMEPERCENT	agateperf	Average time taken within Agate in milliseconds as a percentage of total AGate time
AVWEIGHT	loadstat.log	Average Weight of the Instance.The weight is an aggregate measure (from 0 to 1) that

		specifies how suitable a certain AGate instance is to handle further requests
AVBROWSETIME	agateperf	Time taken to send results to Web browser via WGate and Web server / percentage of total time
AVBROWSETIMEPERCENT	agateperf	Time taken to send results to Web browser (via WGate and Web server) as a percentage of total browse time
AVDESTROYEDTHREADS	agateperf	Number of times a work thread has been dynamically created and destroyed during peak loads of the AGate
AVHITSPERSECOND	loadstat.log	Average number of hits per second
AVKERNELTIME	agateperf	Kernel CPU time usage in millisecs
AVR3TIME	agateperf	Time taken in milliseconds to send a request to R/3 and receive a response

AVR3TIMEPERCENT	agateperf	Time taken in milliseconds to send a request to R/3 and receive a response as a percentage of the total R/3 time
AVTOTALTIME	agateperf	Sum of: Agate time + Wait time + R3 time + Browse time
AVUSERTIME	agateperf	User CPU time usage in milliseconds
AVWAITTIME	agateperf	Average time taken by dispatcher to assign request to a work thread
AVWAITTIMEPERCENT	agateperf	Time taken by dispatcher to assign request to a work thread as a percentage of total wait time
BROWSE TIME	agateperf	Time taken ti send results to Web Browser via WGate and Web server
HOSTNAME_ITS	System Environment	Name of the ITS host
R3_APPSERVER	System environment	(global.srvc config. file) Name of the SAP R/3 application server(s) connected to the ITS host
ITS_INSTANCE_NAME	Registry	Name of the ITS instance

RUNAGATEPROCESSES	loadstat.log	Total number of running AGATE processes
TOTREADBLOCKS	agateperf	Total number of blocks sent from R/3 for all transactions
R3_SID	System environment (global.srvc config. file)	System ID of the SAP R/3 application server(s) connected to the ITS host
TOTSESSIONSAVAIL		Number of currently available sessions in the ITS instance
TOTSESSIONSMAX	loadstat.log	Maximum number of sessions an ITS instance can handle
TOTLOGGEDINUSERS	agateusers	Total number of active users who are logged in to SAP via ITS (user sessions)
TOTWORKTHREADSAVAIL	loadstat.log	Total number of available (idle) work threads in the instance
TOTWORKTHREADSMAX	loadstat.log	Total maximum number of work threads of this ITS instance

WEBSERVER_ITS	System environment (global.srvc config. file)	Name of the Web server that is used for the http requests: *<hostname>:<portnumber>*
WORKTHRINITIAL	agatestatus	Total number of work threads in status “initial”
WORKTHREADSNOTUSED	agatestatus	Total number of work threads in status “not used”

r3monjob: The JOBREPORT Monitor

The **r3monjob** alert monitor uses a *time frame* defined by the time from the last monitor run to the scheduled start date and time of a batch job. It identifies and reports on batch jobs for the following conditions:

- A batch job's run time has exceeded a specified limit.
- A batch job's run time is less than the specified minimum run time.
- A specified period of time has passed since a batch job's scheduled start time and date and the batch job has not started.
- A batch job has aborted.

The alert monitor **r3monjob** references:

Reports created using SAP R/3 transaction `SM36` or `SM38`

Job details including ID number using SAP R/3 transaction `SM37`

This section also provides information about:

- Alert Types
- First Time Monitoring
- Performance Aspects
- File Locations
- Environment Variables
- Command Line Parameters

Messages generated by this alert monitor include an operator-initiated action that displays the list of current SAP batch jobs.

Alert Types

The JOBREPORT monitor has the following alert types. Note that if you want to use the **r3monjob** monitor, you *must* configure the alert types listed below:

JOB_MAX_RUN_TIME defines the maximum allowed run time. Alerts are triggered for jobs which exceed the maximum time, specified in minutes

JOB_MIN_RUN_TIME defines the minimum allowed run time. Alerts are triggered for jobs which did not run for at least as long as the time, specified in minutes

START_PASSED is the maximum allowed start delay. Alerts are triggered for jobs which have not started within the time, specified in minutes

JOB_ABORTED is triggered whenever the jobs specified in its configuration fail to be successfully completed

First Time Monitoring

When monitoring batch job alerts for a particular alert type for the first time, the only jobs checked are jobs

- not yet scheduled to run
- ending within the previous two days
- still running

Performance Aspects

On a production system, the table **tbtco** is usually very big. In order to speed up the database selection you should specify the job names in as much detail as possible.

The runtime cost of a job selection grows in the order shown in theTable: Order of Runtime Cost of Job Selection Criteria.

Order of Runtime Cost of Job Selection Criteria

Specified Jobname	Sign	Opt	Selection
JOBNAME	I	EQ	Z5_CRITICAL_JOB_1 > select via index
JOBNAME	I	CP	Z5_CRITICAL_JOB* > select via index
JOBNAME	E	CP	Z5_CRITICAL_JOB* > sequential scan

File Locations

The **r3monjob** monitor has the files listed in Table: r3monjob Files

r3monjob Files

File	Description
r3moncol(.exe)	Collector executable for the batch job monitor
r3monjob.cfg	Configuration file for monitored jobs and job conditions.
r3monjob.log	Trace file for storing trace data.

Environment Variables

The **r3monjob** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command-Line Parameters

The **r3monjob** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the **-cfgfile** and **-trace** parameters as indicated in Table: r3moncol Command Line Parameters

NOTE:
If you are unsure about the general configuration query rules which apply to all alert collector monitors, Related Topics: Alert Monitor Query Conditions.

Configuring JOBREPORT Monitor Alert Types

Configuration Overview

You can configure the JOBREPORT monitor for each of the alert types above for any specific job, for a combination of jobs, or for *all* jobs. You can also define exceptions for jobs that need different monitoring conditions. Related Topics: Alert Types tables which give the parameters and configuration for each alert type. Please also note the general rules repeated below on using exclude and include parameter values which are of particular importance for these alert types.

SAP R/3 CCMS 3.x Alerts - r3monsap

NOTE:
Try to avoid using select option **CP** with with the JOBNAME parameter: **CP** can slow down the selection process. If you do use **CP**, try to limit its scope. For example, instead of specifying **CP ***, specify **CP SAP***. For more information, see Performance Aspects.

Parameter Values

The *include* and *exclude* parameter values for an alert type entry are interpreted as follows. In the same parameter, *include* sign parameters are compared using ` or ': *exclude* sign parameters are compared using ` and '. First the *include* values are evaluated; then the *exclude* values are evaluated, as shown in Table: AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter.

AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter

Select Options Specified	Alert Type:JOB_MAX_RUN_TIME Example Configuration of Select Options	Comparison
1	=JOBNAME =I =CP =ZREP* = =MAX_RUNTIME =I =GT =10 =	OR
2	=JOBNAME =I =CP =SAP* = =MAX_RUNTIME =I =GT =20 =	OR
3	=JOBNAME =E =CP =SAP_ZREP* =	AND

JOB_MAX_RUN_TIME

An alert is generated when the configured parameter MAX_RUNTIME is exceeded.

The configuration of any of the parameters below is optional. If both parameters are omitted all jobs running in the specified time frame are reported.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
JOBNAME	Name of the jobs to be monitored	= Sign: I, E	I
		= Opt: EQ, CP, BT	CP
		= Low <*Name of job*>	*
		= High 1	
MAX_RUNTIME	Job run time in minutes which, if exceeded, generates an alert.	= Sign I, E	I
		= Opt: EQ, GE, GT, BT	GT
		= Low 2	5
		= High 1	

1 Only for use with a range
2 This parameter must be specified as a number. Otherwise the monitor ends with a dump.

The following examples illustrates both the default and a customized configuration for the JOB_MAX_RUN_TIME alert type.

In Example: The Default JOB_MAX_RUN_TIME Configuration, an event generating an alert occurs if any report named <jobname>* has a runtime exceeding five minutes

Example: The Default JOB_MAX_RUN_TIME Configuration

```
AlertMonFun  =ALL =ALL =ALL =ALL =JOBREPORT =1  \
```

```
=WARNING    =MaxRunTime   =R3_Jobs\
=JOB_MAX_RUN_TIME =JOBNAME  =I  =CP  =<jobname>*  =\
=MAX_RUNTIME   =I  =GT  =5  =
```

In Example: An Customized JOB_MAX_RUN_TIME Configuration, an event generating an alert occurs if all reports named SAP*, except reports SAPZ*, have a runtime exceeding ten minutes

Example: A Customized JOB_MAX_RUN_TIME Configuration

```
AlertMonFun =ALL  =ALL =ALL =ALL =JOBREPORT =1\
=WARNING    =MaxRunTime   =R3_Jobs  \
=JOB_MAX_RUN_TIME =JOBNAME       =E     =CP     =SAPZ*  = \
=MAX_RUNTIME   =I  =GT  =10  =

AlertMonFun =ALL  =ALL =ALL =ALL =JOBREPORT =1\
=WARNING  =MaxRunTime   =R3_Jobs  \
=JOB_MAX_RUN_TIME =JOBNAME  =E =CP =SAPZ*  = \
=MAX_RUNTIME   =I  =GT  =10  =
```

JOB_MIN_RUN_TIME

An alert is generated when jobs are not running for as long as configured in the parameter MIN_RUNTIME. The configuration of any of the parameters below is optional. If both parameters are omitted all jobs running in the specified time frame are reported

Configuration Parameters

Parameter Name	Description	Query Conditions	Default Value
JOBNAME	Name of the jobs to be monitored	= Sign: I, E	I
		= Opt: EQ, CP, BT	CP
		= Low <*Name of job*>	*
		= High: 1	

MIN_RUNTIME.	This defines the minimum allowed run time Alerts are triggered for jobs which did not run for at least as long as the time specified (in minutes).	= Sign I, E	I
		= Opt: EQ,LE, LT, BT	LT
		=Low <*Min. value in minutes*> *2*	1
		= High	

1 Only for use with a range
2 This parameter must be specified as a number. Otherwise the monitor ends with a dump.

The following examples illustrates both the default and a customized configuration for the JOB_MIN_RUN_TIME alert type.In Example: The Default JOB_MIN_RUN_TIME Configuration, an event generating an alert occurs if any report named <*jobname*>* has a runtime of less than one minute.

Example: The Default JOB_MIN_RUN_TIME Configuration

```
AlertMonFun =ALL =ALL =ALL  =ALL =JOBREPORT  =1  \
=WARNING      =MinRunTime  =R3_Jobs\
=JOB_MIN_RUN_TIME =JOBNAME   =I  =CP  =<jobname>*  = \
=MIN_RUNTIME =I  =LT  =1   =
```

Example: Customized JOB_MIN_RUN_TIME Configuration

```
AlertMonFun  =ALL =ALL   =ALL  =ALL  =JOBREPORT =1  \
=WARNING    =MinRunTime   =R3_Jobs  \
=JOB_MIN_RUN_TIME =JOBNAME       =I    =CP     =SAP*  = \
=MIN_RUNTIME   =I  =LT  =2  =

AlertMonFun  =ALL =ALL =ALL  =ALL =JOBREPORT =1  \
=WARNING    =MinRunTime   =R3_Jobs  \
=JOB_MIN_RUN_TIME =JOBNAME       =E     =CP     =SAPZ*  = \
=MIN_RUNTIME   =I  =LT  =2  =
```

In Example: Customized JOB_MIN_RUN_TIME Configuration, an event generating an alert occurs if all reports named SAP*, except reports SAPZ*, have a runtime of less than two minutes

START_PASSED

An alert is generated if the specified jobs are not started within the configured TIME_SPAN after the scheduled start time. The configuration of any of the parameters below is optional. If both parameters are omitted all jobs running in the specified time frame are reported

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
JOBNAME	Name of the jobs to be monitored	= Sign: I, E	I
		= Opt: EQ, CP, BT	CP
		= Low <*Name of job*>	*
		= High:1	
TIME_SPAN.	The job run time in minutes that specifies when an alert should be raised. Note that it is not necessary to use a time range. You can specify a particular time instead.	= Sign I, E	I
		= Opt: EQ, LT, LE, BT	LT
		=Low <*low value of range in minutes past scheduled_start_time*>2	1
		=High <*high value of range in minutes past scheduled_start_time*>	

1 Only for use with a range
2 This parameter must be specified as a number. Otherwise the monitor ends with a dump

In Example: The Default START_PASSED Configuration, an event generating an alert occurs if any report named <*jobname*>* is not started more than one minute after the scheduled start time.

Example: The Default START_PASSED Configuration

```
AlertMonFun =ALL  =ALL =ALL   =ALL =JOBREPORT  =1\
=WARNING    =StartPassed  =R3_Jobs  \
=START_PASSED     =JOBNAME    =I  =CP   =<jobname>* =\
 =TIME_SPAN  =I  =GT   =1         =
```

JOB_ABORTED

An alert is generated when a job is aborted. The configuration of the parameter below is optional

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
JOBNAME	Name of the jobs to be monitored	= Sign: I, E	I
		= Opt: EQ, CP, BT	CP
		= Low <*Name of job*>	*
		= High 1	

1 Only for use when specifying a range

In Example: The Default JOB_ABORTED Configuration, an event generating an alert occurs if any report named <*jobname*>* is aborted

Example: The Default JOB_ABORTED Configuration

```
AlertMonFun   =ALL =ALL =ALL  =ALL  =JOBREPORT =1\
=WARNING   =Aborted      =R3_Jobs \
 =JOB_ABORTED      =JOBNAME      =I      =CP =  <jobname>*
```

In Example: A Customized JOB_ABORTED Configuration, an event generating an alert occurs if jobs named SAP_REORG_ABAPDUMPS or ITOTEST are aborted.

Example: A Customized JOB_ABORTED Configuration

```
AlertMonFun  =ALL  =ALL  =ALL  =ALL =JOBREPORT =1\
=WARNING   =Aborted =R3_Jobs \
=JOB_ABORTED  =JOBNAME  =I =EQ =SAP_REORG_ABAPDUMPS =

AlertMonFun  =ALL  =ALL =ALL  =ALL  =JOBREPORT        =1  \
=WARNING   =Aborted  =R3_Jobs\
=JOB_ABORTED =JOBNAME   =I   =EQ  =ITOTEST =
```

r3monlck: The LOCK_CHECK Monitor

The LOCK_CHECK alert monitor **r3monlck** is of type *snapshot*. This means that the measurement base is the moment the monitor runs. **r3monlck** references the **Enqueue** process which manages logical locks for SAP R/3 transactions and reports on obsolete locks. Obsolete locks are defined as locks which are older than the time period you specify. The check is performed once for *all* application servers.

This section also provides information about:

- Object Locks
- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Object Locks

An object which is locked cannot be changed by anyone else and can cause severe problems. The operator can check the locks set for a specific instance in `SM12`. Here are two examples of actions which cause locks to occur:

- Users switching off their computers without first logging off the R/3 system, (this is the most common cause).
- As a result of entire instances failing.

The alert monitor **r3monlck** references the SAP R/3 transaction `SM12`.

Messages generated by this alert monitor include an operator-initiated action that calls the SM12 Locks Overview module. The operator can then check the locks set for a specific instance in `SM12`.

Alert Types

The LOCK_CHECK monitor has only one alert type:

OLD_LOCKS	This specifies when the lock is to be defined as old, using the time period you specify in the parameter LOCK_TIME

File Locations

The **r3monlck** monitor has the files listed in Table: r3monlck Files.

r3monlck Files

File	Description
r3moncol(.exe)	Collector executable for the lock_check monitor
r3monlck.cfg	Configuration file for the lock_check monitor.
r3monlck.log	Trace file for storing trace data.

Environment Variables

The **r3monlck** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3monlck** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the -cfgfile and -trace parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
Related Topics: Alert Monitor Query Conditions.

OLD_LOCKS

An alert is generated if the time span for the parameter LOCK_TIME is exceeded, i.e the lock is defined to be old. The configuration of the parameter below is mandatory. Note that you can have more than one configuration in the **.cfg** file.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
LOCK_TIME	The time span (in hours) after which a lock is considered old	= Sign: I,E	I
		= Opt: EQ, GT, GE, LE, LT, BT	GT
		= Low <time in hours> 1	
		= High:2	

1 This parameter must be specified. Otherwise the monitor ends with a dump.
2 Only for use when specifying a range

In Example: The Default OLD_LOCKS Configuration, an event generating an alert occurs if any lock exceeds a time span of 24 hours.

Example: The Default OLD_LOCKS Configuration

```
AlertMonFun  =ALL =ALL =ALL   =ALL =LOCK_CHECK =1\
=WARNING    =Enqueue  =R3_Enqueue\
=OLD_LOCKS  =LOCK_TIME =I    =GT  =24   =
```

r3monoms: The OPERATION MODE Monitor

The OPERATION MODE alert monitor is of the snapshot type. The measurement base is the moment the monitor runs. The check is performed for each application server. The following conditions are identified and reported on:

- A scheduled operation mode has occurred later than the time specified.
- A scheduled operation mode switch has not occurred at all.

The alert monitor **r3monoms** references:

- scheduled operation modes in SAP R/3 transaction SM63
- configuration modes in SAP R/3 transaction RZ04.

This section also provides information about:

- Operation Mode Switches
- Files Locations
- Alert Types
- Environment Variables
- Command Line Parameters

Operation Mode Switches

Operation mode switch failures influence the performance of the SAP R/3 system and can cause problems. Operation mode switches might occur for a number of reasons, for example; work processes that must be switched are still occupied in a process while the operation mode switch is running. A user action by someone responsible for the system is generally required, such as forcing and testing the operation mode's state.

NOTE:
If an operations mode switch generated an alarm because it was not activated in time, but then successfully occurred later without any intervention, a message is sent stating that the switch, which was late, has now gone ahead as planned.

Alert Types

The alert monitor OPERATION MODE has only one alert type:

OM_SWITCH_OVERDUE This defines when an operation mode switch is overdue

Files Locations

The r3monoms monitor has the files listed in Table: r3monoms Files

r3monoms Files

File	Description
r3moncol(.exe)	Collector executable for the operation mode monitor
r3monoms.cfg	Configuration file for the operation mode monitor.
r3monoms.log	Trace file for storing trace data.

Environment Variables

The **r3monoms** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3monoms** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the **-cfgfile** and **-trace** parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
Related Topics: Alert Monitor Query Conditions.

OM_SWITCH_OVERDUE

An alert is generated when the operation mode switch is not triggered within the defined period of time. The configuration of the parameter below is optional. If the default values are accepted an alert is triggered if the Operation Mode switch is more than three minutes overdue.

The APSERVER parameter allows you to configure **r3monoms** to monitor a specific application server. You need to configure APSERVER in the following manner, where *<hostname>* is the name of the application server to be monitored as it appears in the list of application servers displayed in transaction **SM51**:

=APSERVER =I =CP =<*hostname*>_<*SID*>_<*Instance_Number*>

If you choose to use APSERVER to nominate an application server, we recommend that you explicitly define the host name of the SAP R/3 Central Instance whose application server(s) you want to specify with APSERVER, as illustrated in the example below, where **hpdev01** is the hostname of the application server:

Example: Specifiying an Application Server

```
AlertMonFun =<Central_Inst_Hostname> =ALL =ALL =ALL =OM =1 \
=WARNING   =OperationMode  =R3_WP   \
=OM_SWITCH_OVERDUE =OVERDUE_TIME   =I  =GT  =15   = \
                   =APSERVER  =I =CP =hpdev01_MP3_00
```

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
APSERVER	Specifies an application server to be monitored.	= Sign: I, E	
		= Opt: CP	
		= Low	
		= High	
OVERDUE_TIME.	The time in minutes, after which a scheduled mode switch is considered overdue.	= Sign: I, E	I
		= Opt: GT, GE, LE, LT, BT	GT
		= Low <time in minutes> 1	3
		= High 2	

1 This must be specified; otherwise no check will be performed.
2 Only for use when specifying a range.

In Example: The Default OM_SWITCH_OVERDUE Configuration, an event generating an alert occurs if a scheduled operation mode switch is more than three minutes late.

Example: The Default OM_SWITCH_OVERDUE Configuration

```
AlertMonFun  =ALL =ALL =ALL  =ALL=OM  =1\
=WARNING   =OperationMode  =R3_WP\
=OM_SWITCH_OVERDUE   =OVERDUE_TIME  =I   =GT  =3  =
```

r3monspl: The SPOOLER Monitor

The SPOOLER alert monitor **r3monspl** is of type *snapshot*, which means that the measurement base is the moment the monitor runs. The alert check is application server independent and is performed once. It monitors spooler entries for the following conditions:

- The number of spool requests which would generate an alert

- The number of error-generating spool requests that would generate an alert
- If a specified printer has had erroneous spool requests

The alert monitor **r3monspl** references output tasks in SAP R/3 transaction `SP01` and report sources in SAP R/3 transaction `SE38`

This section also provides information about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The SPOOLER alert monitor has the following alert types:

SPOOL_ENTRIES_RANGE	defines the number of spool requests which would cause an alert
SPOOL_ERROR_RANGE	defines the number of error-generating spool requests which would cause an alert
PRINT_ERROR_EXISTS	ispecifies the name(s) of printers for which an alert would be generated when a spool error exists

File Locations

The **r3monspl** monitor has the files listed in Table: r3monspl Files.

r3monspl Files

File	Description
r3moncol(.exe)	Collector executable for the spooler monitor
r3monspl.cfg	Configuration file for the spooler monitor.
r3monspl.log	Trace file for storing trace data.

Environment Variables

The **r3monspl** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3monspl** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the **-cfgfile** and **-trace** parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
Related Topics: Alert Monitor Query Conditions.

SPOOL_ENTRIES_RANGE

An alert is generated if the number of spool entries is outside of the range specified. The configuration of the parameter below is mandatory.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
RANGE	The number of spool entries outside of which an alert will be generated. Note that, despite its name, this parameter does not need to be specified as a select- option range.	= Sign: I, E	I
		= Opt: EQ, GT, GE, LE, LT, BT	GT
		= Low 1	50
		= High	

1 This parameter must be specified as a number. Otherwise the monitor ends with a dump.

In Example: The Default SPOOL_ENTRIES_RANGE Configuration, an event generating an alert occurs if there are more than 50 spooler entries.

Example: The Default SPOOL_ENTRIES_RANGE Configuration

```
AlertMonFun  =ALL   =ALL =ALL =ALL =SPOOLER  =1\
=CRITICAL     =Spool   =R3_Spooler \
=SPOOL_ENTRIES_RANGE    =RANGE  =I  =GT  =50   =
```

SPOOL_ERROR_RANGE

An alert is generated if the number of erroneous spool requests is outside of the range specified. The configuration of the parameter below is mandatory.

Configuration Parameters

Parameter Name	Description	Query Conditions	Default Value
RANGE	The number of erroneous spool requests outside of which an alert will be generated. Note that, despite its name, this parameter does not need to be specified as a select option range.	= Sign: I, E	I
		= Opt: EQ, GT, GE,LE, LT, BT	GT
		= Low 1	50
		= High	

1 This parameter must be specified as a number. Otherwise the monitor ends with a dump.

In Example: The Default SPOOL_ERROR_RANGE Configuration, an event generating an alert occurs if there are more than 50 erroneous spool requests.

Example: The Default SPOOL_ERROR_RANGE Configuration

```
AlertMonFun  =ALL =ALL =ALL =ALL  =SPOOLER  =1\
=CRITICAL =Spool  =R3_Spooler \
=SPOOL_ERROR_RANGE  =RANGE  =I  =GT  =50    =
```

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PRINT_ERROR_EXISTS

An alert is generated if a spool error exists for a specified printer. The configuration of the parameters below is mandatory.

Configuration Parameters

Parameter Name	Description	Query Conditions	Default Value
PRINTER	The printer(s) which should be checked for spool entries of state error.	= Sign: I, E	I
		= Opt:	CP
		= Low	*
		= High:	

In Example: The Default PRINT_ERROR_EXISTS Configuration, an alert is generated when any printer has a spool entry state error

Example: The Default PRINT_ERROR_EXISTS Configuration

```
AlertMonFun  =ALL  =ALL =ALL  =ALL  =SPOOLER  =1\
=WARNING  =Spool  =R3_Spooler \
=PRINT_ERROR_EXISTS =PRINTER   =I  =CP      =*   =
```

r3montra: The TRANSPORT Monitor

The TRANSPORT alert monitor **r3montra** uses a mixture of *snapshot* and *time-frame* based report types. **r3montra** is application-server independent. The TRANSPORT monitor is used to check the following parts of the transport system:

- successful and failed exports and imports for the monitored system
- confirmed and unconfirmed repairs in the monitored system.
- connections using a connection test (PING) to the configured systems

The alert monitor **r3montra** references:

- Transport routes in SAP R/3 transaction `/STMS`
- Transports created in SAP R/3 transaction `/SE01`

This section also provides information about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The TRANSPORT alert monitor has the following alert types:

TRANS	a *time-frame* based alert type which defines alert conditions for successful and failed transport exports and imports
REPAIR	a *time-frame* based alert type which defines alert conditions for confirmed and unconfirmed repairs
RFCONNECT	a *snapshot* based alert type which defines alert conditions for the RFC connections for the SAP R/3 System defined in the parameter CHECKSYSTEM
TPTEST	a *snapshot* based alert type which defines alert conditions concerning the TP interface with the database for the SAP R/3 System defined in the parameter CHECKSYSTEM. TPTEST includes a connection test (PING), a TP call to the connected database, and a check of the TP interface (version, transport directory, TPPARAM path, a file check and a TPLOG check).

File Locations

The **r3montra** monitor has the files listed in Table: r3montra Files.

r3montra Files

File	Description
r3moncol(.exe)	Collector executable for the transport monitor
r3montra.cfg	Configuration file for the transport monitor.
r3montra.log	Trace file for storing trace data.

Environment Variables

The **r3montra** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3montra** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the -cfgfile and -trace parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
Related Topics: Alert Monitor Query Conditions.

Configuring TRANSPORT Alert Types

For all `R3montra` alert types the parameter ALERT_THRESHOLD must be configured. All other parameters are optional. Also, please note the general rules below on exclude and include parameters for `R3montra`.

Parameter Values

The include and exclude parameter values for an alert type entry are interpreted as follows:

Include sign parameters are compared using ` or ':

Exclude sign parameters are compared using 'and'. First the include values are evaluated; then the exclude values are evaluated.

TRANS

An alert is generated if the specified threshold is exceeded for failed or successful transport imports and exports. The parameter ALERT_THRESHOLD *must* be configured.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
E_SUCCESS	Filtering option to include all *successful* exported transports	= Sign: I, E	I
		= Opt: EQ	EQ
		= Low 1	X
		= High:	
E_FAILURE	Filtering option to include all failed *exported* transports	= Sign: I, E	I
		= Opt: EQ	EQ
		= Low 1	X
		= High:	
I_SUCCESS	Filtering option to include all successful *imported* transports	= Sign: I, E	I
		= Opt: EQ	EQ
		= Low 1	X
		= High:	
I_FAILURE	Filtering option to include all *failed* imported transports	= Sign: I, E	I
		= Opt: EQ	EQ
		= Low 1	X
		= High:	

USERNAME	The login name of the SAP R/3 user 2	= Sign I, E	I
		= Opt: EQ,CP	EQ
		= Low: <*username*>	' '
		= High	
ALERT_THRESHOLD	Number of allowed transport states above which an alert is generated	= Sign I, E	I
		= Opt: GT, GE, LT, LE	GT
		= Low 3	4
		= High	

1 Any entry other than the default is treated as space.
2 Because requests/tasks are always user dependent, you to restrict the data.
3 The parameter must be specified as a number. Otherwise the monitor ends with a dump

Example: The Default TRANS Configuration

```
AlertMonFun =ALL =ALL =ALL =ALL =TRANSPORT =1\
=WARNING =Trans =R3_Transport\
=TRANS =I_FAILURE =I =EQ =X =\
=ALERT_THRESHOLD =I =GT =4 =

AlertMonFun =ALL =ALL =ALL =ALL =TRANSPORT =1\
=WARNING =Trans =R3_Transport\
=TRANS =I_SUCCESS =I =EQ =X =\
=ALERT_THRESHOLD =I =GT =4 =

AlertMonFun =ALL =ALL =ALL =ALL =TRANSPORT =1\
=WARNING =Trans =R3_Transport\
=TRANS =E_FAILURE =I =EQ =X =\
=ALERT_THRESHOLD =I =GT =4

AlertMonFun =ALL =ALL =ALL =ALL =TRANSPORT =1\
=WARNING =Trans =R3_Transport\
=TRANS =E_SUCCESS =I =EQ =X =\
= ALERT_THRESHOLD = I = GT = 4 =
```

In Example: The Default TRANS Configuration, an event generating an alert occurs if users exceed the alert threshold of four for state successful or state error imported and exported transports.

REPAIR

An alert is generated if the specified alert threshold is exceeded for confirmed and/or unconfirmed repairs. The parameter ALERT_THRESHOLD *must* be configured.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
R_CONFIRM	Filtering option to include all confirmed repairs.	= Sign: I, E	I
		= Opt: EQ	EQ
		= Low 1	X
		= High	
R_UNCONFIR	Filtering option to include all unconfirmed repairs.	= Sign: I, E	I
		= Opt:	EQ
		= Low 1	X
		= High	
USERNAME	The login name of the SAP R/3 user 2	= Sign I, E	I
		= Opt: EQ,CP	EQ
		= Low: <*username*>	' '
		= High	
ALERT_THRESHOLD	Number of allowed repair states above which an alert is generated	= Sign I, E	I
		= Opt: GT, GE, LT, LE	GT
		= Low 3	4
		= High	

1 Any entry other than the default is treated as space
2 Because requests/tasks are always user dependent, you can use to restrict the data.
3 The parameter must be specified as a number. Otherwise the monitor ends with a dump

RFCONNECT

An alert is generated if the specified Alert Threshold is exceeded for the number of reconnect errors to the target system. The parameter ALERT_THRESHOLD must be configured. All other parameters are optional.

Configuration Parameters

Parameter Name	Description	Query Conditions	Default Value
ALERT_THRESHOLD	Number of repair states above which an alert is generated	= Sign I, E	I
		= Opt: GT, GE, LT, LE	GT
		= Low 1	4
		= High	
CHECKSYSTEM	System ID of the SAP R/3 Systems which have to be tested and/or monitored.	= Sign: I, E	I
		= Opt: EQ, CP	EQ
		= Low: <*SID*>	' '
		= High:	

1 The parameter must be specified as a number. Otherwise the monitor ends with a dump.

Example: The Default RFCONNECT Configuration

```
AlertMonFun =ALL =ALL  =ALL =ALL =TRANSPORT =1\
=WARNING    =RfcConnect  =R3_Transport\
=RFCCONNECT  =CHECKSYSTEM =I =CP =* =\
=ALERT_THRESHOLD  =I =GT =4 =
```

In Example: The Default RFCONNECT Configuration, an event generating an alert occurs if the alert threshold of four reconnect errors is exceeded for the specified target system.

TPTEST

An alert is generated if the specified Alert Threshold is exceeded for the number of TPTEST errors to the target system. The parameter ALERT_THRESHOLD must be configured. All other parameters are optional

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
ALERT_THRESHOLD	Number of TPTEST errors above which an alert is generated	= Sign I, E	I
		= Opt: GT, GE, LT, LE	GT
		= Low 1	4
		= High	
CHECKSYSTEM	System ID of the SAP R/3 Systems which have to be tested and/or monitored.	= Sign: I, E	I
		= Opt: EQ, CP	EQ
		= Low: <*SID*>	' '
		= High:	

1 The parameter must be specified as a number. Otherwise the monitor ends with a dump.

Example: The Default TPTEST Configuration

```
AlertMonFun  =ALL  =ALL  =ALL =ALL =TRANSPORT =1\
=WARNING    =TpTest      =R3_Transport\
=TPTEST    =CHECKSYSTEM    =I  =EQ =<SID> =\
=ALERT_THRESHOLD  =I      =GT      =4          =
```

In Example: The Default TPTEST Configuration, an event generating an alert occurs if exceed the alert threshold of four TPTEST errors is exceeded for the specified target system.

r3monupd: The UPDATE Monitor

The UPDATE alert monitor **r3monupd** is of type *snapshot*. The measurement base is the moment the monitor runs. It identifies and reports on the following update conditions:

- checks if the update process is *in*active
- checks update processes for errors

Active updates can be deactivated by the user or by the system. This is a critical problem and the system log `SM13` must be checked for problems. Update errors discovered are returned as an annotation and a check must be made of the system log.

The alert monitor **r3monupd** references:

- update errors in SAP R/3 transaction `/SM13`
- update status in SAP R/3 transaction `/SM13`

This section also provides information about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The UPDATE monitor has the following alert types.

UPDATE_ACTIVE	is used to get information about the status of update processes and sends an alert if a process is not active
UPDATE_ERRORS_EXIST	is used to get information on update processes which have had errors

File Locations

The **r3monupd** monitor has the files listed in Table: r3monupd Files.

r3monupd Files

File	Description
r3moncol(.exe)	Collector executable for the update monitor

r3monupd.cfg	Configuration file for the update monitor.
r3monupd.log	Trace file for storing trace data.

Environment Variables

The **r3monupd** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3monupd** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the **-cfgfile** and **-trace** parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
Related Topics: Alert Monitor Query Conditions.

Configuring UPDATE Monitor Alert Types

No parameters are used in the UPDATE monitor configuration. Therefore no editing to customize them is required.

UPDATE_ACTIVE

If the UPDATE task is inactive an alert is generated. The following example illustrates the default configuration for the UPDATE_ACTIVE alert type.

Example: The Default UPDATE_ACTIVE Configuration

```
AlertMonFun    =ALL =ALL =ALL =ALL =UPDATE   =1\
=CRITICAL    =UpdActive      =R3_Update  =UPDATE_ACTIVE
```

In the example above; The Default UPDATE_ACTIVE Configuration, an event generating an alert occurs if any update is deactivated.

UPDATE_ERRORS_EXIST

An alert is generated if there any update errors exist. The following example illustrates the default configuration for the UPDATE_ERROS_EXIST alert type.

Example: The Default UPDATE_ERRORS_EXIST Configuration

```
AlertMonFun    =ALL =ALL =ALL  =ALL =UPDATE =1\
=CRITICAL  =UpdError  =R3_Update  =UPDATE_ERRORS_EXIST
```

In the example above; The Default UPDATE_ERRORS_EXIST Configuration, an event generating an alert occurs if any update error occurs.

r3monusr: The USER Monitor

The USER alert monitor **r3monusr** is of type *snapshot*, which means that the measurement base is the moment the monitor runs. The check is performed for each application server and identifies and reports on the number of logged-in users. **r3monusr** references the SAP R/3 transaction /SM04. A very high number of users could indicate that performance problems might occur. The alert can then be used to decide whether it is necessary to ask users to log out.

This section also provides information about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The USER monitor has only one alert type:

USER_LOGGEDIN_MAX This is used to define the maximum number of logged in users.

File Locations

The **r3monusr** monitor has the files listed in Table: r3monusr Files.

r3monusr Files

File	Description
r3moncol(.exe)	Collector executable for the user monitor
r3monusr.cfg	Configuration file for the user monitor.
r3monusr.log	Trace file for storing trace data.

Environment Variables

The **r3monusr** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3monusr** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the -cfgfile and -trace parameters as indicated in Table: r3moncol Command Line Parameters.

NOTE:
Related Topics: Alert Monitor Query Conditions.

USER_LOGGEDIN_MAX

An alert is generated if the maximum number of users specified is exceeded. The configuration of the parameter MAX is *mandatory*.

The APSERVER parameter allows you to configure **r3monusr** to monitor a specific application server. You need to configure APSERVER in the following manner, where *<hostname>* is the name of the application server to be monitored as it appears in the list of application servers displayed in transaction **SM51**:

=APSERVER =I =CP =<*hostname*>_<*SID*>_<*Instance_Number*>

If you choose to use APSERVER to nominate an application server, we recommend that you explicitly define the host name of the SAP R/3 Central Instance whose application server(s) you want to specify with APSERVER, as illustrated in the example below, where **hpdev01** is the hostname of the application server:

Example: Specifiying an Application Server

```
AlertMonFun =<Central_Inst_Hostname> =ALL =ALL =ALL =USER =1 \
=WARNING   =Login  =R3_WP   \
=USER_LOGGEDIN_MAX =MAX   =I  =GT  =15   = \
                   =APSERVER  =I =CP =hpdev01_MP3_00
```

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
APSERVER	Specifies an application server to be monitored.	= Sign: I, E	
		= Opt: CP	
		= Low	
		= High	
MAX	The number of logged in users before an alert is generated. 1	= Sign: I, E	I
		= Opt: GT, GE	GT
		= Low	5
		= High:	

1 The parameter value must be specified as a number. Otherwise the monitor ends with a dump.

Example: The Default USER_LOGGEDIN_MAX Configuration

```
AlertMonFun  =ALL =ALL =ALL =ALL =USER =1\
=WARNING    =Login   =R3_User\
=USER_LOGGEDIN_MAX =MAX =I   =GT  =30  =
```

In Example: The Default USER_LOGGEDIN_MAX Configuration, an event generating an alert occurs if the number of users logged in exceeds thirty.

r3monwpa: The WORKPROCESS Monitor

The WORKPROCESS alert monitor **r3monwpa** uses the *snapshot* report type. The measurement base is the moment the monitor runs. The check is performed once for each application server.
r3monwpa references the SAP R/3 transaction `/SM50` and checks and reports on the following:

- the number of work processes running for each work process type
- the number of expected work processes waiting for each work process type

- the number of active work processes compared with the number of configured work processes in the profile of the current operation mode. The comparison is only between work processes of the same work process type.
- the status of the work processes as follows:

D No processes run on live systems.

P Private: Processes run using maximum available system resources.

R No Restart: Failed processes do not restart, which means that dependent jobs also fail.

This section also provides infomation about:

- Alert Types
- File Locations
- Environment Variables
- Command Line Parameters

Alert Types

The WORKPROCESS alert monitor has the following alert types.

WP_AVAILABLE	defines alert conditions for the number of expected work processes running
WP_IDLE	defines alert conditions for the number of work processes waiting
WP_CHECK_CONFIGURED	defines alert conditions for comparing the actual number of running work processes with the number of configured work processes in the profile of the current operation mode. Comparison is only made between two WPs of the same WP type
WP_STATUS	defines alert conditions for WPs in a problematic status, such as DEBUG, PRIVATE or RESTARTNO

File Locations

The **r3monwpa** monitor has the files listed in Table: r3monwpa Files.

r3monwpa Files

File	Description

r3moncol(.exe)	Collector executable for the WorkProcess monitor
r3monwpa.cfg	Configuration file for the WorkProcess monitor.
r3monwpa.log	Trace file for storing trace data.

Environment Variables

The **r3monwpa** monitor uses the environment variables described in Table: Environment Variables for r3moncol.exe. The environment variables for all the alert collector monitors share the same format, the only difference being that the name of the configuration file must vary to match each specific monitor as indicated in Table: Environment Variables for r3moncol.exe.

Command Line Parameters

The **r3monwpa** monitor uses the command line parameters described in Table: r3moncol Command Line Parameters. The command line parameters for all the alert collector monitors share the same format, the only differences being that the name of the configuration file must vary to match each specific monitor for both the -cfgfile and -trace parameters as indicated in Table: r3moncol Command Line Parameters

NOTE:
Related Topics: Alert Monitor Query Conditions.

Configuring WORKPROCESS Alert Types

Please note the general rules for using *exclude* and *include* parameter values. Parameter vaulues are of particular importance for these alert types.

Parameter Values

The *include* and *exclude* parameter values for an alert type entry are interpreted as follows:

Parameter Values in Different parameters:

- are always compared using ` and '

Parameter Values in the Same Parameter:

- Include sign parameters are compared using ` or '
- Exclude sign parameters are compared using ` and '

First the include values are evaluated; then the exclude values are evaluated, as shown in the Table: AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter.

AND/OR Comparisons using Include and Exclude Conditions for the Same Parameter

Select Options Specified	Alert Type: WP_AVAILABLE Example Configuration of Select Options	Comparison
1	= DIA =I =BT =50 =100 =OPMODE =I =DAY	OR
2	= DIA =I =GT =5 =OPMODE =I =NIGHT	OR
3	= DIA = E =LT =60	AND

WP_AVAILABLE

An alert is generated when the number of running work processes for each work process type selected is outside of the specified max (or min) threshold.

The APSERVER parameter allows you to configure **r3monwpa** to monitor a specific application server. You need to configure APSERVER in the following manner, where *<hostname>* is the name of the application server to be monitored as it appears in the list of application servers displayed in transaction **SM51**:

=APSERVER =I =CP =<*hostname*>_<*SID*>_<*Instance_Number*>

If you choose to use APSERVER to nominate an application server, we recommend that you explicitly define the host name of the SAP R/3 Central Instance whose application server(s) you want to specify with APSERVER, as illustrated in the example below, where **hpdev01** is the hostname of the application server:

Example: Specifiying an Application Server

```
AlertMonFun =<Central_Inst_Hostname> =ALL =ALL =ALL =WP =1 \
=WARNING      =Availability  =R3_WP   \
=WP_AVAILABLE =DIA   =I  =GT  =30   = \
              =APSERVER  =I =CP =hpdev01_MP3_00
```

The configuration of the parameters below is manadatory. All threshold parameters must be specified as a number otherwise the monitor ends with a dump.

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
APSERVER	Specifies an application server to be monitored.	= Sign: I, E	
		= Opt: CP	
		= Low	
		= High	
BTC	Threshold for BTC WPs	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low: <*number*>.	
		= High:	
DIA	Threshold for DIALOG WPs	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low: <*number*>.	
		= High:	
ENQ	Threshold for ENQ WPs	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low: <*number*>.	
		= High:	

OPMODE	Defines the operation mode for this parameter 1	= Sign I, E	I
		= Opt: CP, EQ	EQ
		= Low: <*operation_ mode*>	*current*
		= High	
SPO	Threshold for SPO WPs	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low: <*number*>.	
		= High:	
UPD	Threshold for UPD WPs	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low <*number*>	
		= High	
UP2	Threshold for UP2 WPs	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low <*number*>	
		= High	

1 A critical alert is generated if a non-existent mode is specified.

In Example: The Default WP_AVAILABLE Configuration, an event generating an alert occurs if the number of available Dialog work processes is less than fifty.

Example: The Default WP_AVAILABLE Configuration

```
AlertMonFun   =ALL   =ALL  =ALL  =ALL =WP  =1\
=WARNING   =Availability  =R3_WP\
=WP_AVAILABLE    =DIA   =I    =LT  =50   =
```

WP_IDLE

An alert is generated when the number of waiting work processes for each work process type selected is outside of the specified max (or min) threshold.

The configuration of the parameters below is *mandatory*. All threshold parameters must be specified as a number otherwise the monitor ends with a dump.

The APSERVER parameter allows you to configure **r3monwpa** to monitor a specific application server. You need to configure APSERVER in the following manner, where <*hostname*> is the name of the application server to be monitored as it appears in the list of application servers displayed in transaction **SM51**:

=APSERVER =I =CP =<*hostname*>_<*SID*>_<*Instance_Number*>

If you choose to use APSERVER to nominate an application server, we recommend that you explicitly define the host name of the SAP R/3 Central Instance whose application server(s) you want to specify with APSERVER, as illustrated in the example below, where **hpdev01** is the hostname of the application server:

Example: Specifiying an Application Server

```
AlertMonFun =<Central_Inst_Hostname> =ALL =ALL =ALL =WP =1 \
=WARNING   =Idle  =R3_WP   \
=WP_IDLE   =BTC   =I  =GT  =20   = \
           =APSERVER  =I =CP =hpdev01_MP3_00
```

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
APSERVER	Specifies an application server to be monitored.	= Sign: I, E	
		= Opt: CP	
		= Low	
		= High	

BTC	Threshold for BTC work processes	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low <*number*>	
		= High	
DIA	Threshold for DIALOG work processes	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low <*number*>	
		= High:	
ENQ	Threshold for ENQ work processes	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low	
		= High	
OPMODE	Defines the operation mode for this parameter.1	= Sign I, E	I
		= Opt: CP, EQ	EQ
		= Low: <*operation mode*>	<current>
		= High	
SPO	Threshold for SPO work processes	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low <*number*>	
		= High	
UPD	Threshold for UPD work processes	= Sign: I, E	
		= Opt: GT, GE, LT, LE	
		= Low <*number*>	
		= High	

UP2	Threshold for UP2 work processes	= Sign: I, E
		= Opt: GT, GE, LT, LE
		= Low<*number*>
		= High

1 If a non-existent mode is specified, a critical alert is generated.

In Example: The Default WP_IDLE Configuration, an event generating an alert occurs if the number of idle Dialog work processes is less than ten.

Example: The Default WP_IDLE Configuration

```
AlertMonFun   =ALL =ALL =ALL  =ALL =WP =1\
=WARNING   =Idle  =R3_WP\
=WP_IDLE    =DIA   =I    =LT  =10   =
```

WP_CHECK_CONFIGURED

This alert type makes a comparison between the actual number of running workprocesses and the number of configured workprocesses in the profile of the current operation mode. Comparison is only made between two WPs of the same type (DIA, BTC etc.).

The APSERVER parameter allows you to configure **r3monwpa** to monitor a specific application server. You need to configure APSERVER in the following manner, where <*hostname*> is the name of the application server to be monitored as it appears in the list of application servers displayed in transaction **SM51**:

=APSERVER =I =CP =<*hostname*>_<*SID*>_<*Instance_Number*>

If you choose to use APSERVER to nominate an application server, we recommend that you explicitly define the host name of the SAP R/3 Central Instance whose application server(s) you want to specify with APSERVER, as illustrated in the example below, where **hpdev01** is the hostname of the application server:

Example: Specifiying an Application Server

```
AlertMonFun =<Central_Inst_Hostname> =ALL =ALL =ALL =WP =1 \
=WARNING   =Check  =R3_WP   \
=WP_CHECKCONFIGURED  \
           =APSERVER  =I =CP =hpdev01_MP3_00
```

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
APSERVER	Specifies an application server to be monitored	= Sign: I, E	
		= Opt: CP	
		= Low	
		= High	

In Example: Default WP_CHECK_CONFIGURED Configuration, an alert is generated when the number of running work processes and the number of configured work processes do not match for any workprocess type.

Example: Default WP_CHECK_CONFIGURED Configuration

```
AlertMonFun  =ALL       =ALL   =ALL  =ALL  =WP  =1\
=WARNING   =Check   =R3_WP\
=WP_CHECK_CONFIGURED \
           =APSERVER  =I =CP =ALL
```

WP_STATUS

An alert is generated when the comparison between the number of running work processes and the number of configured work processes does not match the conditions defined in the parameters below. The configuration of the parameter below is optional.

The APSERVER parameter allows you to configure **r3monwpa** to monitor a specific application server. You need to configure APSERVER in the following manner, where *<hostname>* is the name of the application server to be monitored as it appears in the list of application servers displayed in transaction **SM51**:

=APSERVER =I =CP =<*hostname*>_<*SID*>_<*Instance_Number*>

If you choose to use APSERVER to nominate an application server, we recommend that you explicitly define the host name of the SAP R/3 Central Instance whose application server(s) you want to specify with APSERVER, as illustrated in the example below, where **hpdev01** is the hostname of the application server:

Example: Specifiying an Application Server

```
AlertMonFun =<Central_Inst_Hostname> =ALL =ALL =ALL =WP =1 \
=WARNING      =WP_Status  =R3_WP   \
=WP_STATUS =STATUS   =I  =GT  =30   = \
              =APSERVER  =I =CP =hpdev01_MP3_00
```

Configuration Parameters

Parameter Name	Descriptions	Query Conditions	Default Value
APSERVER	Specifies an application server to be monitored.	= Sign: I, E	
		= Opt: CP	
		= Low	
		= High	
STATUS	The status which is monitored.	= Sign: I, E	
		= Opt:	
		= Low D =Debug, P = Private, R= Restart no alert.	
		= High	

In Example: The Default WP_STATUS Configuration, an event generating an alert occurs if the status of a running workprocess is *critical*. The example also displays also shows how you can use =MAX_ENTRIES to define the number of work processes with a defined status that have to exist before the SPI for mySAP.com generates a message.

Example: The Default WP_STATUS Configuration

```
AlertMonFun   =ALL =ALL =ALL  =ALL =WP   =1\
```

```
=CRITICAL   =WP_Status  =R3_WP\

=WP_STATUS  =STATUS =I  =CP  =*   =

# New fearture in SPI for mySAP.com Version 8.0
AlertMonFun   =ALL =ALL =ALL  =ALL =WP   =1\    \

              =WARNING   =WP_Status  =R3_WP \

              =WP_STATUS  =STATUS =I  =CP  =*   =  \

              =MAX_ENTRIES   =I   =GT   =3   =
```

Introduction

This chapter describes ways of controlling message flow from SAP R/3 to the OVO Message Browser, including:

- OVO Message Customization

  Customizing the SPI for SAP R/3 OVO message-policy conditions.
- Customizing CCMS Message Flow in OVO

  Changing the conditions for alert generation in the SAP R/3 CCMS alert monitor. Two methods of doing this are described:
- Changing the conditions for alert generation in the SAP R/3 CCMS alert monitor.
- Using SAP R/3 transactions to control whether or not CCMS alert monitors generate specific messages
- CCMS Message Flow in SAP R/3

  Using SAP R/3 features to control whether or not CCMS alert monitors generate specific messages.

NOTE:
The methods for setting thresholds in the CCMS monitor do not apply if you are using the new CCMS monitoring architecture, where thresholds can be set globally within SAP R/3.

For details on the procedures outlined in these sections, refer to your SAP R/3 documentation and to the documentation supplied with OVO.

OVO Message Customization

With the aid of standard OVO functionality, you can perform the following tasks:

- Setting Up the Message Filters

  This task involves setting up filters that display only messages which fit specified criteria, for example, only critical messages or messages owned by you.
- Changing a Message's Severity

  This task involves using the OVO GUI to change the severity level of messages.
- Customizing CCMS Message Flow in OVO

  This task involves setting up threshold values in CCMS. The threshold values are used by SAP R/3 to determine when and where alerts are generated and messages sent.

  NOTE:
  In addition to the standard **opcmsg** policy installed by OVO, the SPI for mySAP.com installs its own, SPI-for-SAP-R/3-specific **opcmsg** policy. In order to avoid message duplication, we recommend you suppress all messages from the SAP application in the standard **opcmsg** policy. For more information, see the *HP OpenView for Windows Smart Plug-in for mySAP.com: Configuration Guide*

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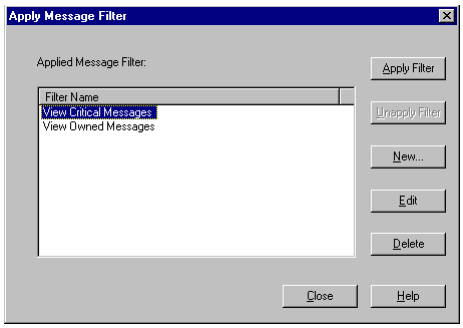
Setting Up the Message Filters

By default, the OVO Message Browser displays *active* messages generated on your managed nodes. However, you can modify the number and type of messages that are displayed so that only the most important messages appear. For example, messages can be filtered by any one or combination of the following criteria:

File	Description
Application	Filter messages according to the *application* message attribute
Message text	Filter messages containing specific text
Object	Filter messages according to the *object* message attribute
Ownership	Filter messages according to message *ownership*
Severity	Filter messages according to the selected *severity*
Time	Filter messages created at/before/since particular dates and times
Unmatched	Filter messages that either do or do not match any of the message conditions or suppressed conditions defined in the policies deployed on the managed nodes.

Using message filters, you can set up simple or complex views which select specific messages to be displayed. For example, if you want to display messages with a severity level of critical, you can define a filter that prevents messages of all other severity levels from being displayed.

Browser View Window



To define your customized message filter:

1. In the OVO console tree, locate and right click the managed node whose messages you want to filter, and select the following option from the menu that pops up:

   View → All Tasks → Message Filter
2. In the **Apply Message Filter** window which appears, click **[New...]**. The **Filter Properties** window appears.

3. Use the **Filter Properties** window shown in Figure: Browser View Window to define the filtering patterns to be used. For example, if you want to filter the messages to be displayed on the basis of message severity, use the **Severity** field in the **General** property sheet.

   Click **[OK]** to save your filtering pattern(s).
4. In the **Apply Message Filter** window, click **[Apply Filter]**, and then click **[Close]**.

---

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Changing a Message's Severity

To change the severity of specific SAP R/3-generated messages in the message browser:

1. Log on to OVO as user *opc_adm*.
2. In the details pane, select the following menu items from the OVO **Node Bank** Window:

   Actions → Configure Messages → Logfiles → console → Trap...
3. From the OVO message source template list select the line which contains the name **SAP R/3 opcmsg**.

4. Display the message conditions window to change the severity level of a specific message. See the OVO documentation for additional details.

5. Distribute the changed message configuration to the applicable SAP nodes. See the OVO documentation for additional details.

---

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Customizing CCMS Message Flow in OVO

OVO allows you to customize CCMS message flow centrally by modifying the contents of the threshold-configuration file, **r3itothr.cfg**. You use the config-file policy editor installed as part of the SPI for mySAP.com to open and edit the **r3itothr.cfg** file. In this way, you can set thresholds for the following alerts, each of which is described in detail in the sections that follow:

- Thresholds for Performance Alerts
- Thresholds for Syslog Alerts
- Thresholds for Buffer Alerts
- Thresholds for Other Alerts
- Thresholds for Oracle Databases
- Thresholds for Informix Databases

NOTE:
Do not use this method to set thresholds if you are using CCMS version 4.x and later.

In addition, neither network thresholds nor operating-system thresholds are supported by the SPI for SAP R/3.

To configure the SAP CCMS thresholds in the threshold-configuration file, **r3itothr.cfg**:

1. From the **ITO Application Bank** window, open the **SAP R/3 Admin**group.
2. **r3itothr.cfg** configuraiton file.
3. Modify the thresholds as required for your environment.
4. To apply the new thresholds on a specific SAP R/3 system, as follows:
    a. Select the node in the **Node Bank** window.
    b. Start the **Write SAP threshold** action.

Thresholds for Performance Alerts

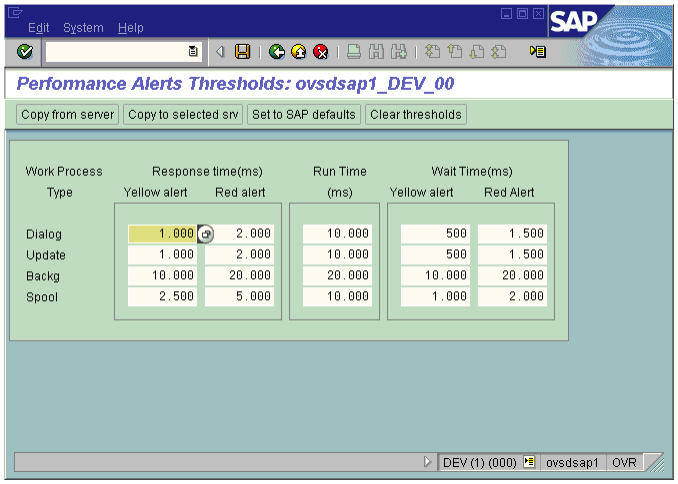
You can set thresholds for performance alerts in the following section of the **r3itothr.cfg** file:

```
#=============================================================================
# Performance Alert Thresholds
#=============================================================================
#                    SAP      Resp[ms]  Resp[ms]  RunTime   Wait[ms]   Wait[ms]
#                  Server     Yellow    Red       [ms]      Yellow     Red
AlertThrPerfDia    =ALL       =1000     =2000     =10000    =500       =1500
AlertThrPerfUpd    =ALL       =1000     =2000     =10000    =500       =1500
AlertThrPerfBtc    =ALL       =10000    =20000    =20000    =10000     =20000
AlertThrPerfSpo    =ALL       =2500     =5000     =10000    =1000      =2000
```

```
#===================================================================
```

In CCMS, the sample settings of the configuration file section shown above would result in the settings shown in Figure: Performance Alert Threshold for a Specific Server.

Performance Alert Threshold for a Specific Server



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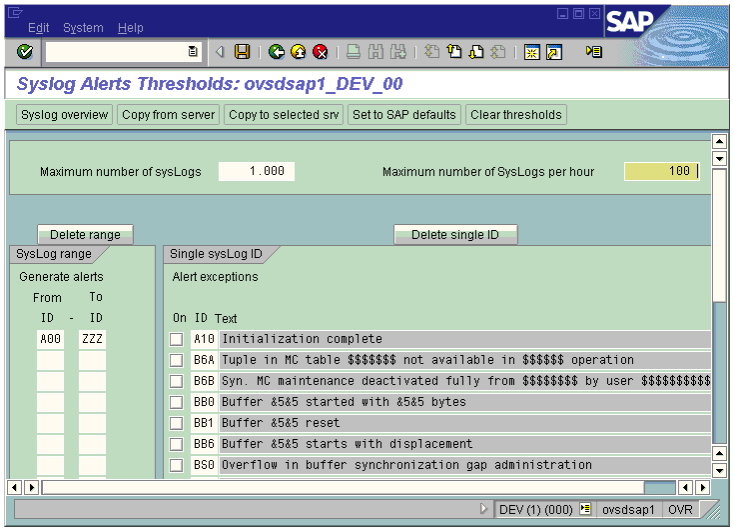
Thresholds for Syslog Alerts

You can set the *frequency* for syslog alerts in the following section of the **r3itothr.cfg** file:

```
#============================================================
# Syslog Alert Thresholds
#============================================================
#
# Frequency         SAP       Max number    Max number
#                   Server    of syslogs    of syslogs per hour
AlertThrSlogFreq     =ALL        =1000          =100
#============================================================
```

In CCMS, the sample settings of the configuration file section shown above would result in the SAP settings shown in Figure: Syslog Alert Frequency Threshold for a Specific Server.

Syslog Alert Frequency Threshold for a Specific Server

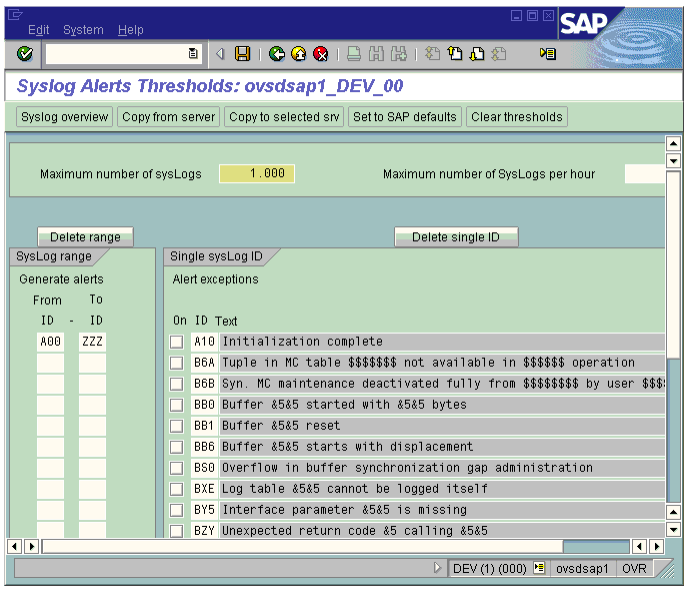


You can set *ranges* for syslog alerts in the following section of the **r3itothr.cfg** file:

```
#-------------------------------------------------------------------------
# Delete Ranges          SAP              From           To             Mode
#                       Server           Syslog ID      Syslog ID      Add/Del
AlertThrSlogRange       =ALL             =A00           =ZZZ           =ADD
#-------------------------------------------------------------------------
# Single ID             SAP             Syslog ID      Mode
#                       Server                         Add/Del
AlertThrSlogID          =ALL             =A00            =ADD
#=========================================================================
```

In CCMS, the sample settings of the configuration file section shown above would result in the SAP settings shown in Figure: Syslog Alert Threshold Ranges for a Specific Server.

Syslog Alert Threshold Ranges for a Specific Server



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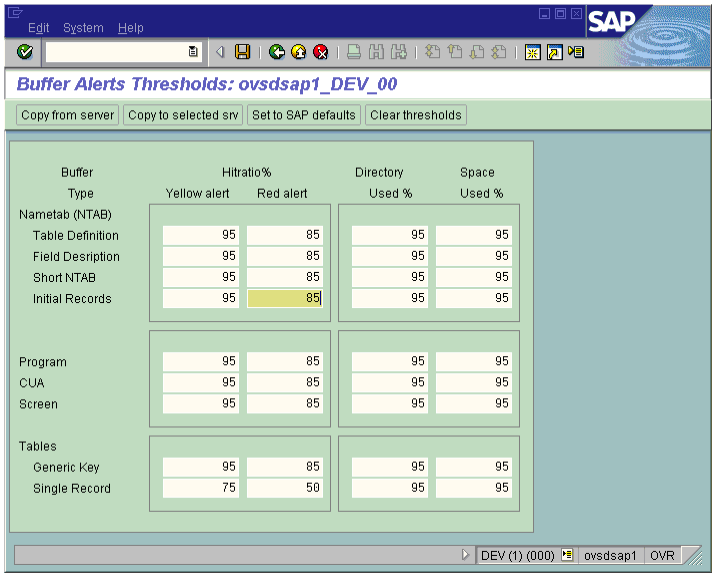
Thresholds for Buffer Alerts

You can set thresholds for buffer alerts in the following section of the **r3itothr.cfg** file:

```
#=============================================================================
# Buffers Alert Thresholds
#=============================================================================
#                       SAP          Hitratio% Hitratio% Directory Space
#                      Server        Yellow    Red       Used %    Used %
AlertThrBufNTABTable =ALL           =95       =85       =95       =95
AlertThrBufNTABField =ALL           =95       =85       =95       =95
AlertThrBufNTABShort =ALL           =95       =85       =95       =95
AlertThrBufNTABInit  =ALL           =95       =85       =95       =95
AlertThrBufProgram   =ALL           =95       =85       =95       =95
AlertThrBufCUA       =ALL           =95       =85       =95       =95
AlertThrBufScreen    =ALL           =95       =85       =95       =95
AlertThrBufTablesGen =ALL           =95       =85       =95       =95
#=============================================================================
```

In CCMS, the sample settings of the configuration file section shown above would result in the SAP settings shown in Figure: Buffer Alert Threshold for a Specific Server.

Buffer Alert Threshold for a Specific Server



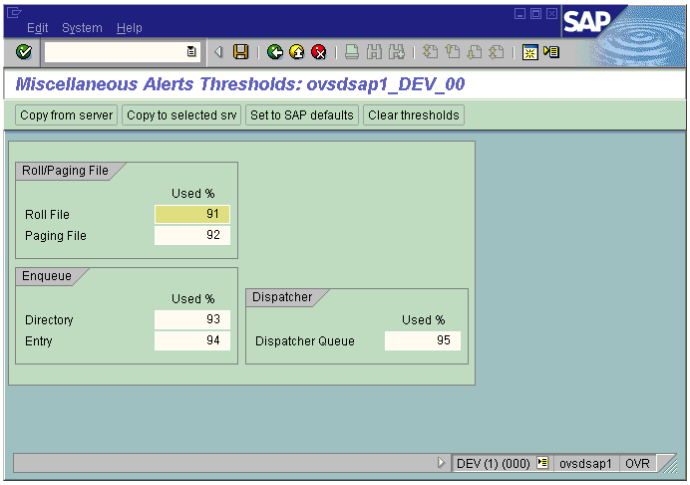
Thresholds for Other Alerts

You can set thresholds for other alerts in the following section of the **r3itothr.cfg** file:

```
#====================================================================
# Others Alert Thresholds
#====================================================================
#                  SAP      Rollfile  Pagefile  EnqDir  EnqEntry DispQueue
#                  Server   Used %    Used %    Used %  Used %   Used %
AlertThrOthers     =ALL       =91        =92        =93      =94      =95
#====================================================================
```

In CCMS, the sample settings of the configuration file section shown above would result in the SAP settings shown in Figure: Other Alert Threshold for a Specific Server.

Other Alert Threshold for a Specific Server



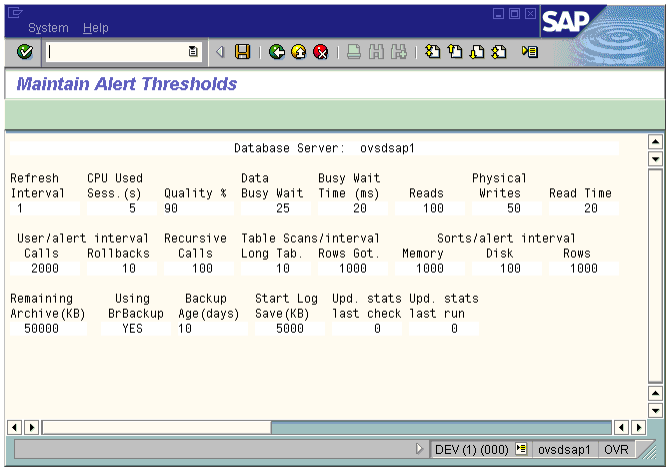
Thresholds for Oracle Databases

You can set thresholds for Oracle database alerts in the following section of the **r3itothr.cfg** file:

```
#=========================================================================
# ORACLE Database Alert Thresholds
#=========================================================================
# General          SAP              SAP Database
#                  Server           Server
AlertThrOraDB      =hpbbcpo5_LPO_00 =hpbbcpo5
#-
# General          SAP              Alert Monitor          CPU Usage
#                  Server           Interval [10secs]      by session
AlertThrOraGen     =hpbbcpo5_LPO_00 =1                     =5
#-
# Data             SAP              Qual.  Busy   Busy     Phys.  Phys.  Phys.Read
#                  Server            %     Wait   Wait[ms] Reads  Writes Time[ms]
AlertThrOraData    =hpbbcpo5_LPO_00 =80   =350   =350     =350   =350   =350
#-
# Calls            SAP              User     User       Recursive
#                  Server           Calls    Rollbacks  Calls
AlertThrOraCall    =hpbbcpo5_LPO_00 =350     =350       =350
#-
# Calls            SAP              Long     Rows
#                  Server           Tables   Gotten
AlertThrOraScan    =hpbbcpo5_LPO_00 =350     =350
#-
# Sorts            SAP              Sort     Sort    Sort
#                  Server           Memory   Disk    Rows
AlertThrOraSort    =hpbbcpo5_LPO_00 =1000    =100    =1000
#-
# Calls            SAP              Remaining  Using     Backup Age    Auto log
#                  Server           Space[kb]  BrBackup  allowd[days]  save [kb]
AlertThrOraArch    =hpbbcpo5_LPO_00 =350       =1        =10           =5000
#=========================================================================
```

In CCMS, the sample settings of the configuration file section shown above would result in the SAP settings shown in Figure: Alerts for an Oracle Database.

Alerts for an Oracle Database



Thresholds for Informix Databases

You can set thresholds for Informix database alerts in the following section of the **r3itothr.cfg** file:

```
=============================================================================
# INFORMIX Database Alert Thresholds
#============================================================================
# DB                SAP               SAP Database
#                  Server             Server
AlertThrInfDB     =hpbbcpo5_LPO_00   =hpbbcpo5
#-
# Data              SAP              AlertMon  Read       Reads   Write      Writes
#                  Server            Interval  Quality[%]         Quality[%]
AlertThrInfData   =hpbbcpo5_LPO_00 =0       =95        =1000   =85        =2000
#-
# Calls             SAP              Disk    Seq.   Roll-  Long      Locks[%]  Locks[%]
#                  Server            Reads   Scans  backs  Waits[ms] Yellow    Red
AlertThrInfActiv  =hpbbcpo5_LPO_00 =350    =350   =10    =1000     =50       =60
#-
# Calls             SAP              Locked[s]  Locked[s]  Lockwait[s]  Lockwait[s]
#============================================================================
```

CCMS Message Flow in SAP R/3

SAP R/3 CCMS provides a range of features which allow you to control message-generation by the CCMS alert monitors, including ways of:

- Disabling CCMS Alert-Monitor Messages
- Setting Thresholds for SAP R/3 CCMS Alert Monitor Messages
- Setting Up Messages for Inclusion in the SAP R/3 System Log File
- Obtaining a Message ID from the SAP R/3 Syslog File
- Configuring the System Log Filter for Alert Generation

NOTE:
The procedures described in this section are valid for SAP R/3 3.x and SAP R/3 4.0. If you are using a more recent version of SAP R/3, please consult the product-specific documentation.

Disabling CCMS Alert-Monitor Messages

Since disabling messages will result in an inconsistency with the settings previously defined in the SPI for mySAP.com configuration file, you must only perform this operation if you do *not* want to have a central configuration.

NOTE:
The procedures described in this section are valid for SAP R/3 3.x and SAP R/3 4.0. If you are using a more recent version of SAP R/3, please consult the product-specific documentation.

To disable messages on the SAP R/3 side:

1. Select the following items from the SAP R/3 menu bar:

   Tools → Administration

   Computing Center → Management System

   Control → Control Panel

   TIP:
   Alternatively, you can enter the following transaction code into the SAP R/3 command field: **/nrz03**
2. Click **[3]** or **[Continue]** to dismiss the window that appears indicating that:

   There is no operation mode scheduled for the present time.

   The **CCMS Control Station** window is displayed.
3. Select your SAP R/3 instance.
4. Click **[Choose]**.
5. Select the following menu item from the SAP R/3 menu bar:

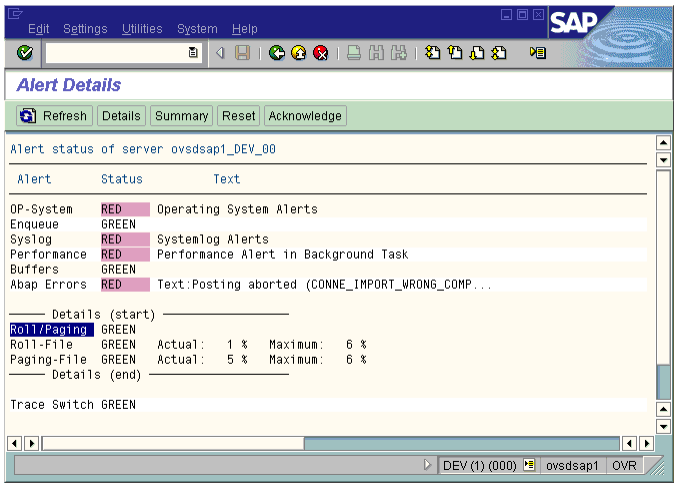
   Monitoring → Alerts per server → Alert Details
6. In the **Alert** column, click **Roll/Paging**.
7. Click **[Details]** to display the **Alert Details** window.

8. To disable a CCMS alert, for example; **Roll/Paging** alerts:
   a. In the **Details (start)** field, click **Roll/Paging** in the **Alert** column.
   b. From the R/3 menu bar, select the following menu items:

      Settings → Disable

      The selected item and the suppressed message type are now marked disabled in the active-messages browser.

Alert State window



9. Return to the **CCMS Control Station** window and save your settings.
10. Check the OVO active-messages browser. You should not receive any more **Roll/Paging** messages.

---

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Setting Thresholds for SAP R/3 CCMS Alert Monitor Messages

This example assumes that you want to set a specific performance limit value that will trigger a related dialog performance message. To initialize your SAP R/3 CCMS before you have empirical data for thresholds, it may be a good idea to apply the SAP defaults by clicking **[Set to SAP defaults]** in the **Performance Alert Thresholds** window.

NOTE:

The procedures described in this section are valid for SAP R/3 3.x and SAP R/3 4.0. If you are using a more recent version of SAP R/3, please consult the product-specific documentation.

To set thresholds for SAP R/3 CCMS-alert-monitor messages:

1. Select the following items from the SAP R/3 menu bar:

   Tools → Administration

   Computing Center → Management System

   Control → Control Panel
2. Click **[3]** or **[Continue]** to dismiss the window that appears indicating that:

   There is no operation mode scheduled for the present time.

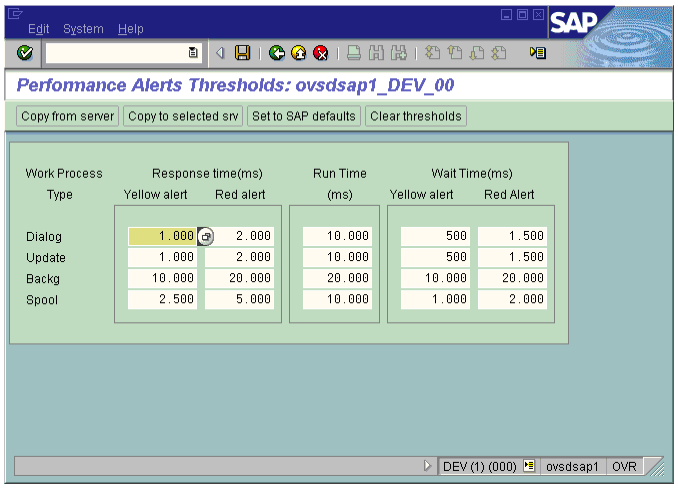
   The **CCMS Control Station** window is displayed.
3. Select the SAP R/3 instance (under **Server name**) for which you want to define a performance limit value and click **[Choose]**.
4. Click **[Alert details]**.
5. In the **Alert** column, click the **Performance** item.
6. Click **[Details]**.
7. In the **Details (start)** field, click the **Dialog Perf.** item.
8. From the SAP R/3 menu bar, select the following menu items: **Settings → Threshold values**

   The **Alert Thresholds** window appears.
9. Click **[Performance]** to display the **Performance Alerts Thresholds** window.
10. Edit the time threshold values as appropriate.
11. To save your new thresholds, select the following items from the SAP R/3 menu bar:

    Edit → Save

When the limit you define is reached, you receive a warning or a critical **Dialog performance** message (similar to Figure: Performance Alert Thresholds).

Performance Alert Thresholds



Setting Up Messages for Inclusion in the SAP R/3 System Log File

Any messages recorded in the SAP R/3 system log file can be defined to trigger an alert in CCMS. This alert can be picked up by the R/3 collector from the shared memory segment and used for displaying an associated message in the OVO message browser for appropriate action.

To set up messages for inclusion in the SAP R/3 system-log file, you need to perform the following two steps in the sequence indicated. The two steps are described in detail in the sections that follow:

- Obtaining a Message ID from the SAP R/3 Syslog File
- Configuring the System Log Filter for Alert Generation

NOTE:
The procedures described in this section are valid for SAP R/3 3.x and SAP R/3 4.0. If you are using a more recent version of SAP R/3, please consult the product-specific documentation.

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Obtaining a Message ID from the SAP R/3 Syslog File

NOTE:
The procedures described in this section are valid for SAP R/3 3.x and SAP R/3 4.0. If you are using a more recent version of SAP R/3, please consult the product-specific documentation.

To obtain the message ID of a critical message from the SAP R/3 syslog file:

1. Select the following menu items from the SAP R/3 menu bar to read the system log file:

   Tools → Administration

   Monitoring → System Log

   TIP:
   Alternatively, you can enter the following transaction code into the SAP R/3 command field: **/nsm21**

   SAP R/3 returns the local-analysis window. It is a good idea to select any appropriate time restrictions in order to limit the contents of the **syslog** file to the currently relevant entries.
2. Click **[Refresh SysLog]** to display the system log file of your SAP R/3 system.
3. Double-click the message that you want to use to trigger an alert. The system returns a **Message Details** window.
4. Look for and make note of the message ID.

   TIP:
   To display the ID numbers of all SAP R/3 syslog messages, enter the transaction code **/nse92** in the SAP R/3 command field and click **[List all numbers]**.

Configuring the System Log Filter for Alert Generation

NOTE:
The procedures described in this section are valid for SAP R/3 3.x and SAP R/3 4.0. If you are using a more recent version of SAP R/3, please consult the product-specific documentation.

To configure the system-log filter to generate alarms, carry out the instructions described in the following list:

1. Select the following menu items from the SAP R/3 menu bar:

   Tools → Administration

   Computing Center → Management System

   Control → Control Panel

The system displays the **CCMS Control Panel**.

2. Click **[3]** or **[Continue]** to dismiss the window that appears indicating that:

   There is no operation mode scheduled for the present time.

   The CCMS Control Station window is displayed.

3. Select your SAP R/3 instance.
4. Click: **[Choose]**
5. Click: **[Alert details]**
6. Select the following menu items from the SAP R/3 menu bar:

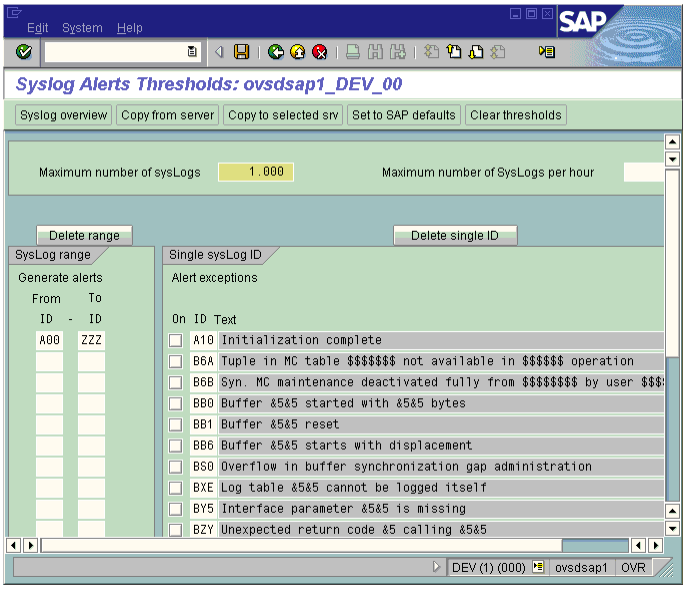
   Settings → Threshold values

7. Click **[Syslog]**. The SAP system returns the **Syslog Alerts Thresholds** window.

   In the Syslog Alerts window shown in Figure: Syslog Alert Thresholds, you can see that all messages-ranging from A00 through ZZZ-are *enabled*. This implies that these messages are able to generate an alert if they occur in the Syslog. All **Single Syslog ID** messages (shown on the right) are *disabled*. If you want to enable any of these currently disabled messages, click the **[OK]** to the left of the **Message ID** field (for instance, **BB1**).
8. To save your new settings, select the following items from the SAP R/3 menu bar:

   Edit → Save

Syslog Alert Thresholds



The SPI for mySAP.com Performance Monitors

This section describes how to install and configure the SPI for mySAP.com performance monitors. It also provides information about how to put the performance monitors to best use and supplement the information provided by the SPI for mySAP.com performance monitors with information supplied by the MeasureWare agent or the OV Embedded Performance Agent.

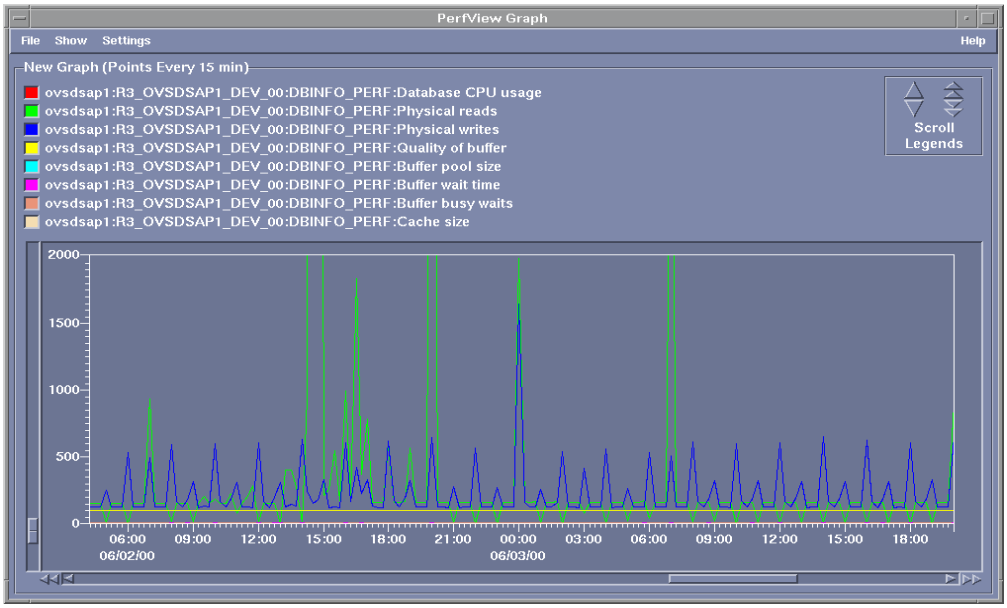
The section includes the following topics:

- Performance Monitors Overview
- Installing the Performance Monitor Subagent
- Deploying Performance Monitor Instrumentation
- Installing Performance Packages
- Locating the Performance Monitor Subagent Files
- Configuring the Performance Monitor Subagent
- Managing the Performance Agent

Performance Monitors Overview

The SPI for mySAP.com Performance Monitors collect SAP R/3 performance data. This data can then be used to compare trends between SAP R/3 business transactions and other system metrics. The Performance Monitors can then be used to monitor, manage, and correlate this data centrally along with any other application, database, system and network data.

Performance Data displayed through Perfview



Implemented ABAP-function modules inside SAP R/3 are accessed via an RFC-call. The Performance Monitors gather a snapshot of SAP runtime performance data.

In addition to the R/3 Performance Alert Monitor (**rz03**), which is part of the SAP R/3 CCMS subsystem, the SPI for mySAP.com Performance Agent is able to collect over 100 additional metrics.

The new SPI for mySAP.com performance agent can be configured to specify which performance monitors should be run on which SAP R/3 instances and how frequently. MeasureWare Agent or OVO Embedded Performance Agent (CODA) alerts the management station when defined thresholds are exceeded.

The MeasureWare Agent runs under NT as a service and under Unix as a daemon (background) process that runs independently of the OVO agent processes. In order to start/stop the SPI for mySAP.com performance-monitor subagent processes, use the appropriate OVO tools in the OVO Tools window.

---

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Performance Agent Selection

This section describes how to:

- Select the Performance Data Source
- Change Default Settings for the Data Source

Note that the instructions in this section assume that:

- Either the MeasureWare agent or the OVO Embedded Performance Agent is installed.
- SAP version 3.1I, 4.0B, 4.5B, 4.6D, or 4.6C are installed
- the OVO **Enterprise Message/Action Agent** is already installed and running on the SAP R/3 servers, which you want to manage with OVO.

Selecting the Performance Data Source

By default, OVO deploys the OVO Embedded Performance Agent (Coda) with all OVO A.07.00 agents. All OVO A.07.00 Smart Plug-ins use the OVO Embedded Performance Agent as the default source for the performance data required for graphing in OpenView PerfView and OpenView Reporter. However, previously installed OpenView products that use the MeasureWare Agent will continue to use MeasureWare as the data source.

However, if you prefer to use MeasureWare as the agent for newly installed OpenView products rather than the OVO Embedded Performance Agent (for example, to be able to use PerfView, which does not support the OVO Embedded Performance Agent), you can override the default use of the OVO Embedded Performance Agent by setting up a small text file, **nocoda.opt**, which changes the default data source from Coda to MeasureWare.

Once configured, the **nocoda.opt** file must be stored in a specific location on each managed node, whose performance-data source you want to change. The location of the **nocoda.opt** file on the managed node varies according to the operating system running on the OVO management server and managed node. Table displays the location of the **nocoda.opt** files on nodes managed by an OVO for Windows management server.

Managed Node Operating System	**Location of the *nocoda.opt* file**
AIX	/var/lpp/OV/conf/dsi2ddf/nocoda.opt
HP-UX/Solaris	/var/opt/OV/conf/dsi2ddf/nocoda.opt
Windows	\Program Files\HP OpenView\ {790C06B4-844E-11D2-972B-080009EF8C2A}\ conf\dsi2ddf\nocoda.opt

Changing Default Settings for the Performance Data Source

To change the default setting for the data source follow the instructions below: Open the **nocoda.opt** file in a text editor and manually enter the appropriate information using the format and syntax illustrated in Example: The nocoda.opt File.

1. To designate MeasureWare as the agent for all data sources, enter the key word **ALL** at the top of the file.

2. To designate MeasureWare as the agent for a data source tied to a specific SAP R/3 (or SAP R/3 ITS) instance, include a reference to each instance on a separate line of the **nocoda.opt file**, as illustrated in The nocoda.opt File using the following format:

For...	Use the following format...
SAP R/3:	**R3**_<*SAP_Hostname*>_<*SAPSID*>_<*SAP_Instance_ Number*>***_DATA***
SAP R/3 ITS:	**R3ITS_**<Virtual_SAPITS_Instance_Name> _<SAPITS_Hostname>**_DATA**

3. Save the changes to the **nocoda.opt** file
4. Restart the OVO agent on the managed node where the **nocoda.opt** file has been modified

Example: The nocoda.opt File

```
##############################################
# Add to (or modify) the contents of this file to change
the # data-source from the default Coda to MeasureWare
##############################################
# All hosts:
ALL
# SAP R/3 hosts/instances:
R3_ovsdsap_DEV_00_DATA
# SAP R/3 ITS hosts/instances:
R3ITS_SP6_00_ovspi_DATA
```

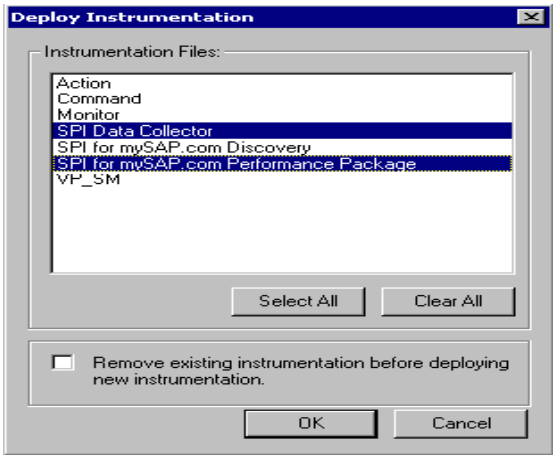
Deploying the Performance Monitor Instrumentation

Follow the instructions below to deploy the Performance Monitor instrumentation.

1. From the OVO console window, select and right-click the **mysap.com** node.
2. Browse to the following menu option:
   All tasks→ Deploy instrumentation

3. Select the following files as illustrated below:
   - SPI Data Collector
   - SPI for mySAP.com Performance Package

Changing a Message's Severity Level



4. Select **OK**.

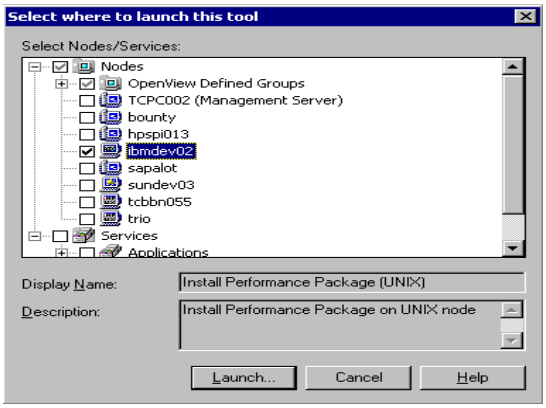
---

hp OpenView operations | smart plug-in for mySAP.com

Installing the Performance Packages

Follow the instructions below to install the Performance Packages.

1. From the OVO console window, select the following:
   Tools → SPI for mySAP.com → SAP R/3 Admin
2. Select the appropriate Performance packages for the system environment as illustrated below:
   - Install Performance Package (UN*X)
   - Install Performance Package (Windows)



3. Right click the following:

   All tasks → Launch Tool.

---

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Locating the Performance Monitor Files

This section lists the files installed as part of the SPI for mySAP.com performance package for the following platforms:

- AIX
- HP-UX/Solaris
- Windows NT

---

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AIX

This section lists the files installed as part of the SPI for mySAP.com performance sub-agent package for AIX:

- Binaries: **/var/lpp/OV/bin/R3PerfAgent/bin**
  r3perfconfig
  Performance Monitor configuration tool.

  r3peragent
  Performance Monitor Agent.

  compdsifile.sh
  Shell script used by the **r3perfconfig** tool to compile the dsilog files. Not to be executed independently.

- Configuration files: **/var/lpp/OV/conf/SAP_SPI/[*local* | *global*]**
  r3perfagent.cfg
  Global and local configuration file for the various performance monitors.

- Dsilogfiles: **/var/lpp/OV/bin/R3PerfAgent/data**
  R3_<*HOSTNAME*>_<*SID*>_...
  On installation, this directory is empty. It is used to store the dsilogfiles compiled by **r3perfconfig** and **compdsifile.sh** files.

- Templates: **/var/lpp/OV/bin/R3PerfAgent/template**
  R3statistics.<*PERF-MONITOR*>
  files used to compile the dsilogfiles.

  Parm.UX
  Parameter file template.

HP-UX/Solaris

This section lists the files installed as part of the SPI for mySAP.com performance sub-agent package for HP-UX and Solaris:

- Binaries: **/var/opt/OV/bin/R3PerfAgent/bin**

r3perfconfig
Performance Monitor configuration tool.

r3peragent
Performance Monitor Agent.

compdsifile.sh
Shell script used by the **r3perfconfig** tool to compile the dsilog files. Not to be executed independently.

- Configuration files: **/var/opt/OV/conf/SAP_SPI/[*local* | *global*]**
  r3perfagent.cfg
  Global and local configuration file for the various performance monitors.

- Dsilogfiles: **/var/opt/OV/bin/R3PerfAgent/data**
  R3_<*HOSTNAME*>_<*SID*>_...
  On installation, this directory is empty. It is used to store the dsilogfiles compiled by **r3perfconfig** and **compdsifile.sh**

- Templates: **/var/opt/OV/bin/R3PerfAgent/template**
  R3statistics.<*PERF-MONITOR*>
  files used to compile the dsilogfiles.

  Parm.UX
  Parameter file template.

Windows NT

This section lists the files installed as part of the SPI for mySAP.com performance sub-agent package for Windows NT:

- Binaries: **%OVAgentDir%\bin\SAP_SPI\R3PerfAgent\bin**
  r3perfconfig

Performance Monitor configuration tool.

r3peragent
Performance Monitor Agent.

r3perfagent_service
Starts the Performance Monitor Agent as an service under NT.

Compdsifile.bat
Batch program used by the r3perfconfig tool to compile the dsilog files. Not to be executed independently.

- Configuration files: **%OVAgentDir%\conf\SAP_SPI\global**
  r3perfagent.cfg
  Configuration file for the various performance monitors. Note that this directory is created after the first SPI for mySAP.com performance sub-agent policies have been deployed

- Dsilogfiles: **%OVAgentDir%\bin\SAP_SPI\R3PerfAgent\bin\data**
  R3_<*HOSTNAME*>_<*SID*>_...
  On installation, this directory is empty. It is used to store the dsilog files compiled by **r3perfconfig.bat** and **compdsifile.bat**

- Templates: **%OVAgentDir%\bin\SAP_SPI\R3PerfAgent\bin\template**
  R3statistics.<*PERF-MONITOR*>
  files to used to compile the dsilog files.

Parm.NT
Parameter file template.

Configuring the Performance Monitor Subagent

If MeasureWare Agent is used instead of OVO Embedded Performance Agent (Coda), then stop MeasureWare Agent on the manged node using the following commands appropriate to your system environment:

AIX	**/usr/lpp/perf/bin/mwa stop**
HP-UX/Solaris	**/opt/perf/bin/mwa stop**
Windows	**mwacmd stop**

Complete the following steps to configure the Performance Monitor:

1. On the node where the Performance Monitor Agent is installed, switch to the appropriate directory and enter the following command again to run configuration scripts:

   Windows NT: **r3perfconfig**

   UN*X: **./r3perfconfig**

   Follow the instructions which appear on screen. The script lists the SIDs it finds together with a number. and prompts you to select the SAP R/3 instance to be configured. For example:

```
Installed SAP Instances:

               SID   SapNr    HostName
       -------------------------------------

(0)    AST    0       sapper
(1)    DEV    1       ovsdsap1

Choose:
(x) to configure shown system
888 to manually configure a SAP system
999 to quit
```

   Enter the appropriate identification number, for example; **0** for AST. If you choose **888** to configure a SAP R/3 SID from scratch, you are required to answer a series of questions concerning the SAP SID you want to configure.

   When you are finished, the **dsilog** files are then compiled and the data source is added to the MeasureWare-agent configuration file:

   Windows NT: **perflbd.rc**

   UN*X: **perflbd.mwc**

   On completion, the **r3perfconfig** script prompts you to restart the MeasureWare agent. However, it makes sense to update the **parm.mwc** file as described in step 2 before you start the MeasureWare agent.

2. Configure the SPI for mySAP.com performance monitors in the **r3perfagent.cfg** file. If you do not complete this task, all monitors will run with the default settings as illustrated in Figure: The Default Global r3perfagent.cfg File. There are two possible configurations:

   Global **global_r3perfagent.cfg**

   global SPI for mySAP.com performance-monitor subagent settings for all SAP R/3 servers

   Local **local_r3perfagent.cfg**

   local SPI for mySAP.com performance-monitor subagent settings for individual SAP R/3 servers

NOTE:
The settings in the *global* configuration files are used for all nodes which do not have *local* configuration settings. Where both files are present, local settings override global ones.

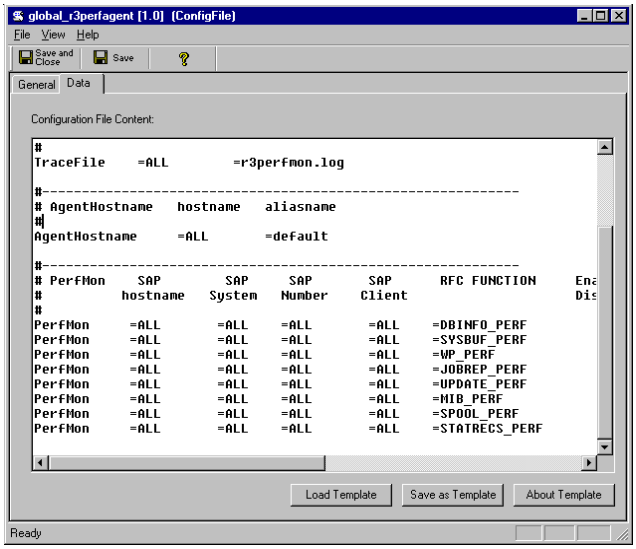
The Default Global r3perfagent.cfg File

You should use the configuration-file policy editor to create or modify the **r3perfagent.cfg** file:

3. **To modify an *existing* configuration file**:
   1. Select the policy view and, in the details pane, select and right-click the appropriate **r3perfagent.cfg** file, and click the following menu option:

      All Tasks → Edit...
   2. The **r3perfstat.cfg** file is displayed as illustrated in Figure: The Default Global r3perfagent.cfg File.

The Default Global r3perfagent.cfg File



4. **To create a *new* configuration-file:**

1. In the OVO console tree, expand the **Policy Management** policy group, select and right-click the **SPI for mySAP.com** policy group, and add a new configuration file by selecting the following option from the pop-up menu that appears:

   New → ConfigFile

2. Load the default **global_r3perfstat.cfg** file, change any values as required, and save the file. If you want to create a local configuration file, we recommend you include the name of the machine for which the local configuration is intended in the local-configuration file name, for example;

   <*machine_name*>_r3perfagent.cfg.

   You have to deploy the modified policy to the managed node (<*machine_name*>) and restart both the MeasureWare agent and the SPI for mySAP.com performance-monitor subagent in order to upload and apply the modified configuration.

NOTE:
By default:

- all SPI for mySAP.com performance monitors are enabled for *all* SAP hostnames, systems, numbers and clients.
- the polling intervals are set for each monitor in minutes.
- **Hold Connections** is disabled.

5. Deploy the modified policies.
6. Start (or stop and restart) the MeasureWare agent on the managed node by entering the following command in a shell or by using the menu options in the appropriate tool/application group.

   UN*X: **mwa [stop | start]**

   Windows NT: **mwacmd [stop | start]**

7. On the managed node, switch to the directory in which the r3perfagentcommand resides (**\WINNT\Hewlett-Packard\ OVEnterprise\AGENT\NGSB\<GUID>\R3PerfAgent\bin**) and start (or stop and restart) the performance subagent by entering the following command in a shell:

   Windows NT: **r3perfagent_service [-e | -s]**

   UN*X: **./r3perfagent [stop | start]**

Managing the Performance Agent

The SPI for mySAP.com performance-monitor can be controlled using command-line options which differ according to the platform and operating system. The MeasureWare agent can be managed either by using command-line options or the tools that are installed by the SPI for mySAP.com. Related Topics:

- Command-Line Options
- SPI for mySAP.com Tools

Command-Line Options

On UN*X, you can use the **r3perfagent** command to manage the SPI for mySAP.com performance subagent. The UN*X **r3perfagent** command accepts the following command-line options:

r3perfagent [start | status | stop]

- **r3perfagent start** - to start the SPI for mySAP.com performance sub-agent.
- **r3perfagent stop** - to determine the current status of the SPI for mySAP.com performance sub-agent.
- **r3perfagent status** - to stop the SPI for mySAP.com performance sub-agent.

On Windows NT, you can use the **r3perfagent_service** command to manage the SPI for mySAP.com performance-monitor subagent. The **r3perfagent_service** command accepts the following command-line options:

r3perfagent_service -e -i -s -u

-i *registers* the service

-u *de*-registers the service

-s *starts* the service

-e *stops* the service

NOTE:
Note that on Windows NT, the **r3perfagent** services can also be controlled from the **Services** window, which you can start from the Windows NT Control Panel.

SPI for mySAP.com Tools

Table: Performance Agent Tools displays for Windows, the tools that are available for the MeasureWare agent in the appropriate SPI for mySAP.com tool group-SAP R/3 NT or SAP R/3 UN*X.

Performance Agent Tools

Application Name	SAP R/3 NT	SAP R/3 UN*X
PerfAgt Start	3	3
PerfAgt Stop	3	3
PerfAgt Status		3

DBINFO_PERF Monitor

The DBINFO_PERF monitor returns a set of values as they are displayed in the SAP database-performance analysis page. This information can be used to detect Oracle database performance problems and assess whether database tuning could improve database performance. The DBINFO_PERF monitor only detects Oracle dabase performance.

Type

The DBINFO_PERF monitor is of type *snapshot* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended to run the monitor once every 15 minutes.

Datasource

The SAP R/3 transaction **ST04** (DB Performance Overview)

Metrics

Table: DBINFO_PERF Performance Monitor Metrics shows the values in the performance table returned by the monitor.

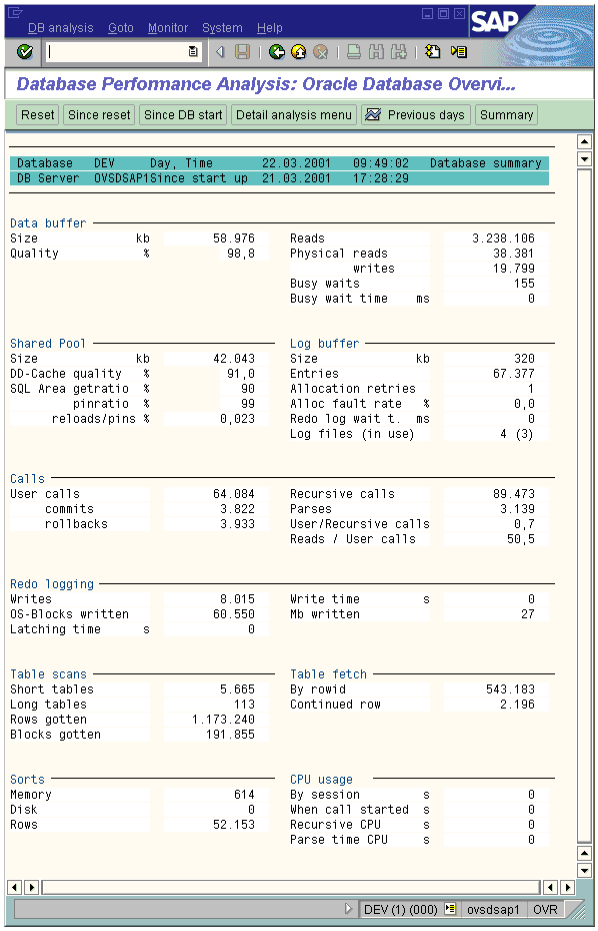
DBINFO_PERF Performance Monitor Metrics

Order	Metric Name	Description	% Value	Cum
1	CPUUSAGE	Database CPU usage		No
2	BUFPREADS	Physical reads		Yes
3	BUFPWRITES	Physical writes		Yes
4	BUFQUAL	Quality of data base buffer pool	%	No
5	BUFSIZE	Data base buffer pool size		Static
6	BUFWAITS	Buffer busy waits		Yes
7	BUFWTIME	Buffer busy wait time		Yes
8	DICTSIZE	Dictionary cache size		Static
9	DDQUAL	Quality of Data Dictionary cache	%	No
10	LOGBLOCKS	Redo log blocks written		Yes
11	LOGENTRIES	Redo log buffer entries		Yes
12	LOGSIZE	Redo log buffer size		Static

13	LOGFAULT	Allocation error rate of redo log buffer	%	No
14	LOGALLOC	Redo log buffer allocation retries		Yes
15	ROLLBACKS	Rollbacks		Yes
16	SCANLONG	Long table scans		Yes
17	SORTDISK	Sort disk		Yes
18	SORTMEM	Sort memory		Yes
19	SORTROWS	Sort rows		Yes

Figure: Performance Table Values shows the values in the performance table returned by the monitor pointing to a specified field in the transaction screen of ST04. The call-out numbers present in Figure: Performance Table Values correspond to the numbers in the Order column of Table: DBINFO_PERF Performance Monitor Metrics and indicate the sequence of the values in the performance string:

Performance Table Values



DOCSTAT_PERF Monitor

The document-statistics monitor, DOCSTAT_PERF, collects the quantity-structure statistics (the document volume) for the last full hour. This monitor must be configured only once for every SAP R/3 System that you want to monitor.

Type

The DOCSTAT_PERF monitor is of type *time-frame* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended to run the monitor hourly.

Datasource

The SAP R/3 transaction **ST07** (quantity structure) is used as the data source for this monitor.

Metrics

Table: DOCSTAT_PERF Performance Monitor Metrics shows the values in the performance table returned by the DOCSTAT_PERF monitor.

DOCSTAT_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	SID	The SAP System ID
2	DESCRIPTION	Application monitor: description of an object
3	CNTHEADER	Document headers
4	CNTITEM	Document items
5	CNTDIV	Document Division

6	CNTTOTAL	Total number of records
7	CNTLINE	Number of line items
8	CNTCHGDOC	The number of changed documents
9	CNTTEXT	Text

JOBREP_PERF Monitor

The JOBREF_PERF monitor counts the jobs per state in the time period between the end date and time of the last monitor run and the start date and time of the actual monitor run.

Type

The JOBREF_PERF monitor is of type *time-frame* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended to run the monitor between once an hour and once a day.

Datasource

The SAP R/3 transaction **SM37** (Background Job Overview) is used as the data source for this monitor.

Metrics

Table: JOBREF_PERF Performance Monitor Metrics shows the values in the performance table returned by the JOBREF_PERF monitor.

JOBREF_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	RUNNING	The number of jobs in status running since the last monitor run.
2	READY	The number of jobs in status ready since the last monitor run.
3	SCHEDULED	The number of jobs in status scheduled since the last monitor run.
4	RELEASED	The number of jobs in status released since the last monitor run.
5	ABORTED	The number of jobs in status aborted since the last monitor run.
6	FINISHED	The number of jobs in status finished since the last monitor run
7	PUT_ACTIVE	The number of jobs in status put_active since the last monitor run.
8	UNKNOWN_STATE	The number of jobs in status unknown_state since the last monitor run.

MIB_PERF Monitor

The MIB_PERF performance monitor returns the average business transaction values.

Type

The MIB_PERF monitor is of type *snapshot*: one monitor run gathers one value set.

Frequency

It is recommended to run the monitor once a minute.

Datasource

The MIB_PERF monitor reads the shared memory segment from SAP R/3 and from SAP R/3 transactions **RZ08** (CCMS Alert Monitor) and/or **RZ20** (CCMS Alert Tree).

Metrics

Table: MIB_PERF Performance Monitor Metrics shows the values in the performance table returned by the MIB_PERF monitor.

MIB_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	DIALOG_EVENT_RATE	Dialog steps
2	DIALOG_RESPONSE_TIME	Dialog response time
3	DIALOG_WAIT_TIME	Dialog wait time
4	UPDATE_EVENT_RATE	Update steps
5	UPDATE_RESPONSE_TIME	Update response time
6	UPDATE_WAIT_TIME	Update wait time
7	BATCH_EVENT_RATE	Batch steps
8	BATCH_RESPONSE_TIME	Batch response time
9	BATCH_WAIT_TIME	Batch wait time
10	SPOOL_EVENT_RATE	Spool steps
11	SPOOL_RESPONSE_TIME	Spool response time
12	SPOOL_WAIT_TIME	Spool wait time

SPOOL_PERF Monitor

The SPOOL_PERF monitor counts the number of spool requests present in its different states.

Type

The SPOOL_PERF monitor is of type *time frame* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended to run the monitor once every 10 to 30 minutes.

Data Source

The SPOOL_PERF monitor uses SAP R/3 transaction **SP01** (Output Controller) to get data.

Metrics

Table: SPOOL_PERF Performance Monitor Metrics shows the values in the performance table returned by the monitor.

SPOOL_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	ALL_SJ	Total number of spool jobs
2	SJ_ARCHIVE	Number of spool jobs in status archive
3	PRINT_REQ	Total number of print requests
4	OPEN_PR	Number of open print requests
5	SUCCESS_PR	Number of successfully processed print requests
6	ERROR_PR	Number of Print requests with errors
7	FAILED_PR	Number of failed print requests

STATRECS_PERF Monitor

The STATRECS_PERF monitor reads the statistical records and returns the average response time per transaction. To activate the STATRECS_PERF monitor, you have to configure the **r3perfstat.cfg** file and upload the modified file to SAP R/3. Related Topics: Configuring and Uploading STATRECS_PERF.

NOTE:
The implementation of the statistical records file in R/3 is not the same for the versions 3.1x, 4.0x and 4.6x: there is a dedicated STATRECS_PERF monitor for each SAP R/3 version.

The STATRECS_PERF performance monitors uses the alert types RESPONSE_TIME and the parameter TRANSACTION to restrict the data selected. The transactions monitored are specified in the parameter TRANSACTION. If this parameter is not specified, the average response time is reported for each transaction in the local statistics file for the specified time frame.

Type

The STATRECS_PERF monitor is *time-frame* based. Each run gathers only one value set. To get a set of values, the monitor must be scheduled on a regular basis. The interval must be specified for each monitor individually, as the various monitors have different requirements. This monitor is based on the time frame between the last start and the current start of this monitor. A transaction must have ended within the time-frame a monitor checks in order to be taken into account.

Frequency

It is recommended you set this monitor to run once a minute.

Data Source

SAP R/3 transaction **STAT** (Local transaction statistics).

Metrics

Table: STATRECS_PERF Performance Monitor Metrics shows the values in the performance table returned by the monitor.

STATRECS_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	TCODE	Transaction Code of the measured Transaction
2	RESPONSE_TIME	Response Time

3	NET_TIME	Net Time

Configuring and Uploading STATRECS_PERF

To activate the STATRECS_PERF monitor, you have to configure the r3perfstat.cfg file and upload the modified file to SAP R/3. There are two possible configurations:

Global:

global_r3perfstat.cfg

global settings for all SAP R/3 servers

Local:

local_r3perfstat.cfg

local settings for individual SAP R/3 servers

To set and upload global STATRECS_PERF configurations:

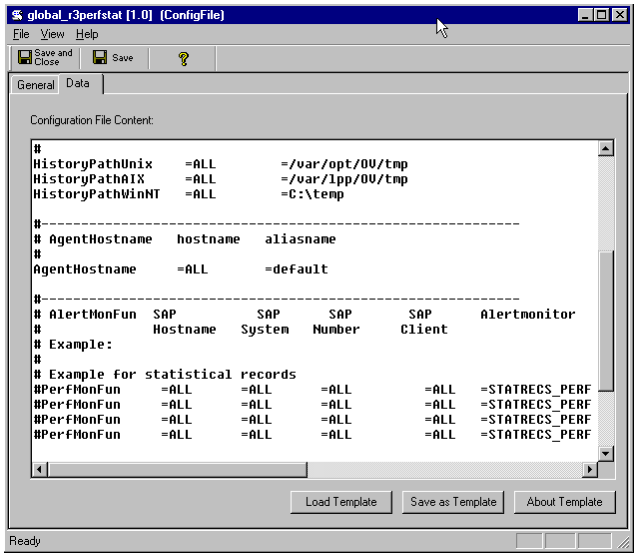
1. Use the configuration-file policy editor to modify the **global_r3perfstat.cfg** file. In the details pane, select and right-click the configuration **global_r3perfstat.cfg** file and click the following menu option:

   All Tasks → Edit...

   The **global_r3perfstat.cfg** file is displayed as illustrated in Figure: Editing the r3perfstat.cfg File.
2. Change any values as required and save the file. This file is stored on the OVO management server and must be uploaded to SAP R/3.

   NOTE:
   For local configuration files, we recommend you include the name of the machine for which the local configuration is intended in the local-configuration file name, for example; **<*machine_name*>_r3perfstat.cfg**. Note that local configuration settings override global ones.
3. Upload the **global_r3perfstat** configuration to SAP R/3, use the **Write STAT Rec Config** tool in the **SAP R/3 Admin** tools group.

Editing the r3perfstat.cfg File



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SYSBUF_PERF Monitor

This monitor can be used to control the performance of the SAP R/3 system and it's work processes.

Type

The SYSBUF_PERF monitor is of type *snapshot* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended you set this monitor to run once every 15 minutes.

Data Source

The transaction **ST02** (Setup/Tune Buffers) is used as the data source for this monitor.

Metrics

Table: SYSBUF_PERF Performance Monitor Metrics shows the values in the performance table returned by the monitor.

SYSBUF_PERF Performance Monitor Metrics

Order	Metric Name	Description	Cum.
1	CURR_USED	Currently used roll area	No
2	AREA_WP	Roll area per work process [kB]	No
3	MAX_USED	Max. utilization of roll area [kB] since system start	Yes
4	FILE_SIZE	Size of roll file [KB]	No
5	Percentage_ROLL%	From CURR_USED and MAX_USED	No
6	CURR_USED_PAGE	Currently used paging area	No
8	MAX_USED _PAGE	Max. utilization of paging area [kB] since system start	Yes
7	AREA_WP_PAGE	Paging area per work process [kB]	No
9	FILE_SIZE_PAGE	Size of paging file [kB]	No
10	Percentage_PAGE%	From CURR_USED and MAX_USED	No

SYSUP_PERF Monitor

The SYSUP_PERF monitor is used to ascertain whether the SAP R/3 system is available or not.

Type

The SYSBUF_PERF monitor is of type *snapshot* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended you set this monitor to run once a minute.

Data Source

Shared Memory Segment

Metrics

Table: SYSUP_PERF Performance Monitor Metrics shows the values in the performance table returned by the monitor.

SYSUP_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	SYSTEM_STATUS	Status of the System: UP / DOWN

UPDATE_PERF Monitor

The UPDATE_PERF monitor is used to determine whether update errors are occurring.

When the SAP R/3 system is behaving well, no update errors should occur. An update error can occur, for example, if an update is performed on a database table record that has previously been deleted. An update process in normal state should not be waiting in status INIT more than 5 minutes for an update task. If a larger amount of work processes is in status INIT the reason could be that a table space is full.

Type

The UPDATE_PERF monitor is of type *snapshot* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended you set this monitor to run once a minute.

Data Source

The SAP R/3 transaction **SM13** (Update Records) is the data source for this monitor.

Metrics

Table: UPDATE_PERF Performance Monitor Metrics shows the values in the performance table returned by the monitor.

UPDATE_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	ALL	Number of all VB-update tasks
2	INITIAL	Number of initial VB-update tasks
3	ERRONOUS	Number of erroneous VB-update tasks
4	VB1	Number of update tasks having V1 executed
5	VB2	Number of update tasks having V2 executed

WLSUM_PERF Monitor

The workload monitor, WLSUM_PERF, collects the performance workload statistics for the last full hour. You can display the workload statistics for all task types, for example; dialog, background, RFC, ALE, and update. The WLSUM_PERF monitor is *required* and must be configured for every application server that you want to monitor.

Type

The WLSUM_PERF monitor is of type *time-frame* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended to run the monitor hourly.

Datasource

The SAP R/3 transaction **ST03** (workload analysis) is used as the data source for this monitor.

Metrics

Table: WLSUM_PERF Performance Monitor Metrics shows the values in the performance table returned by the WLSUM_PERF monitor.

WLSUM_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	Hostname	SAP system hostname
2	SID	The SAP System ID
3	INSTANCE	the SAP instance number, if SAP version < 4.6x
4	TASKTYPE	Type of SAP R/3 task (RFC, Dialog, etc)
5	CNT	The number of Dialog steps
6	DBACTIVCNT	Counter for database-active dialog steps
7	RESPTI	Time that elapses between a dialog sending a request to the dispatcher and receiving a response
8	CPUTI	CPU time used in the work process
9	QUEUETI	The time an unprocessed dialog step waits in the dispatcher queue for a free work process.
10	LOADGENTI	Time taken loading and generating objects such as ABAP source code and screen information from the database
11	COMMITTI	Time required for commit to complete
12	DDICTI	Time required for Data Dictionary

13	QUETI	Time required for batch-input queue
14	CPICTI	Time required for RFC and CPI-C
15	ROLLINCNT	Number of roll-ins (rolled-in user contexts)
16	ROLLINTI	Processing time for roll-ins
17	ROLLOUTCNT	Number of roll-outs (rolled-out user contexts)
18	ROLLOUTTI	Processing time for roll-outs
19	READDIRCNT	Number of direct read accesses
20	READDIRTI	Time for direct read access
21	READSEQCNT	Number of sequential read attempts
22	READSEQTI	Workload: time for sequential read accesses
23	CHNGCNT	Number of modified database accesses
24	CHNGTI	Time for modified database accesses
25	BYTES	Number of bytes
26	GUITIME	Total time taken for a GUI request to be executed by the Dispatcher
27	GUICNT	Count of GUI steps
28	GUINETTIME	Time taken for the application server to respond to a request from the SAP GUI

WP_PERF Monitor

The WP_PERF monitor is used to detect performance problems when:

- Processes need to wait for semaphores.

- Process is in private mode.
- No dialog work processes return to idle.

Type

The WP_PERF monitor is of type *snapshot* and does not make use of alert types or parameters. One monitor run gathers only one value set.

Frequency

It is recommended you set this monitor to run once every 15 minutes.

Data Source

The SAP R/3 transaction **SM50** (Work Process Overview) is used as the data source for this monitor.

Metrics

Table: WP_PERF Performance Monitor Metrics shows the values in the performance table returned by the monitor.

WP_PERF Performance Monitor Metrics

Order	Metric Name	Description
1	ALL_WP	Number of all work processes
2	SEMAPHORE_WP	Number of work processes waiting on a semaphore
3	DEBUG_WP	Number of work processes in debug mode
4	LONG_RUNNING	Number of long running dialog wp
5	PRIVAT_WP	Number of dialog wp in private mode
6	NOSTART_WP	Number of dialog wp with no restart capability
7	DIA_IDLE	Number of idle dialog work processes
8	DIA_ALL	Number of dialog work processes
9	DIA_RUNNING	Number of running dialog wp
10	BTC_IDLE	Number of idle batch work processes
11	BT_ALL	Number of batch work processes

12	BTC_RUNNING	Number of running batch wp
13	SPO_IDLE	Number of idle spool work processes
14	SPO_ALL	Number of spool work processes
15	SPO_RUNNING	Number of running spool wp
16	ENQ_IDLE	Number of idle enqueue work processes
17	ENQ_ALL	Number of enqueue work processes
18	ENQ_RUNNING	Number of running enqueue wp
19	UPD_IDLE	Number of idle update work processes
20	UPD_ALL	Number of update work processes
21	UPD_RUNNING	Number of running update wp
22	UPD2_IDLE	Number of idle update 2 work processes
23	UPD2_ALL	Number of update 2 work processes
24	UPD2_RUNNING	Number of running update 2 wp

The ITS Performance Monitor

This section describes how to install and configure the ITS Performance Monitor. In this section you will find information about the following topics:

- What is ITS?
- The ITS Monitor
- Installing the ITS Monitor
- Verifying the ITS Monitor Installation
- Removing the ITS Monitor
- ITS Monitor Performance Metrics
- Configuration Tasks

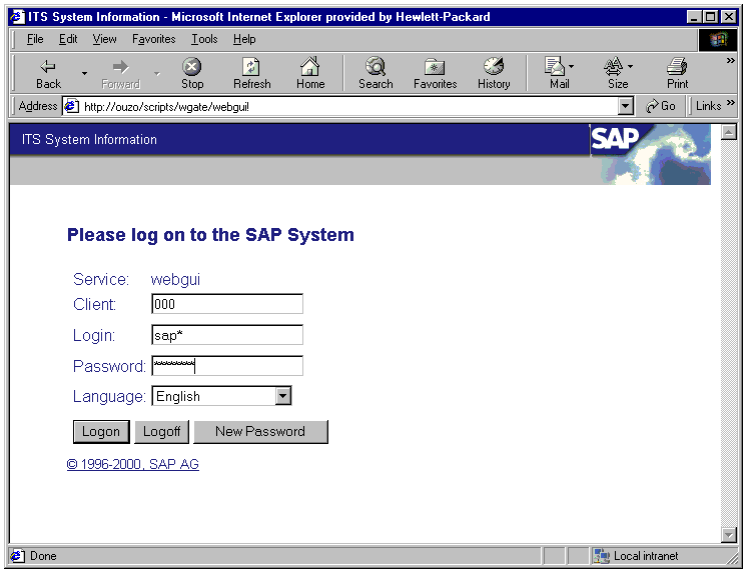
What is ITS?

The **Internet Transaction Server** (ITS) provides the SAP R/3 user with an SAP R/3 transaction interface in a web browser. With this transacction interface, the SAP R/3 user can:

- log on to the SAP R/3 System via the internet
- make requests for information by entering the transactions directly in the SAP R/3 system
- immediately see the results of the transaction request in a web browser via the transaction interface provided by ITS

NOTE:
The SAP R/3 ITS is only available for Windows NT platforms.

Logging on to SAP R/3 with ITS



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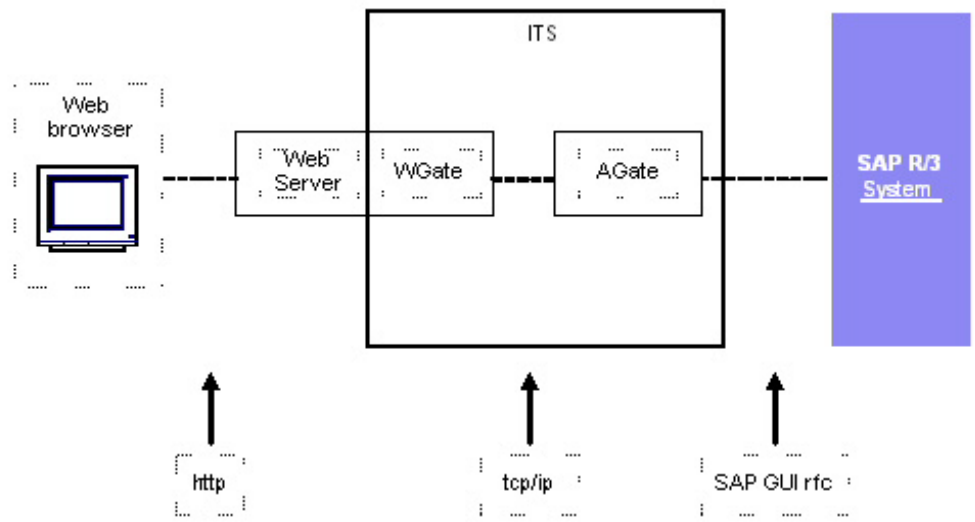
ITS Installations

The ITS server comprises two main components, the **Application Gateway** (Agate) and the **Web Gateway** (Wgate) as illustrated in the figure below. Both these components can be monitored by the ITS performance monitor, which is installed by the SPI for mySAP.com.

ITS Architecture

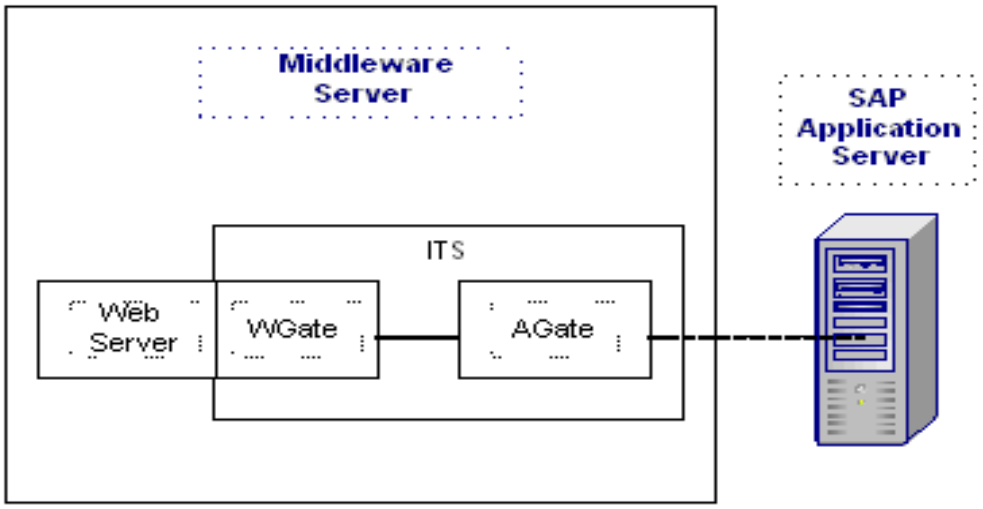


Application Gateway	The Application Gateway links the ITS server to the SAP R/3 application server. The AGate is the core processing component of the ITS: it receives Web browser requests from the WGate and communicates with the SAP R/3 application server via either the DIAG or the RFC protocol.
Web Gateway	The Web Gateway connects the ITS server to the Web server. The WGate component is always located on the same host as the Web server. The WGate receives requests from the Web server and then establishes a connection with and forwards the requests to the AGate.

ITS Single-Host Configuration

You can either install both components of the ITS, the AGate and the WGate, on a single-host or on two separate hosts (dual-host installation). The single-host installation illustrated in the figure below is appropriate for test or development purposes, where small loads are present: the dual-host configuration illustrated in the figure below tends to work better in a production environment, where higher loads are to be expected.

ITS Single-Host Configuration

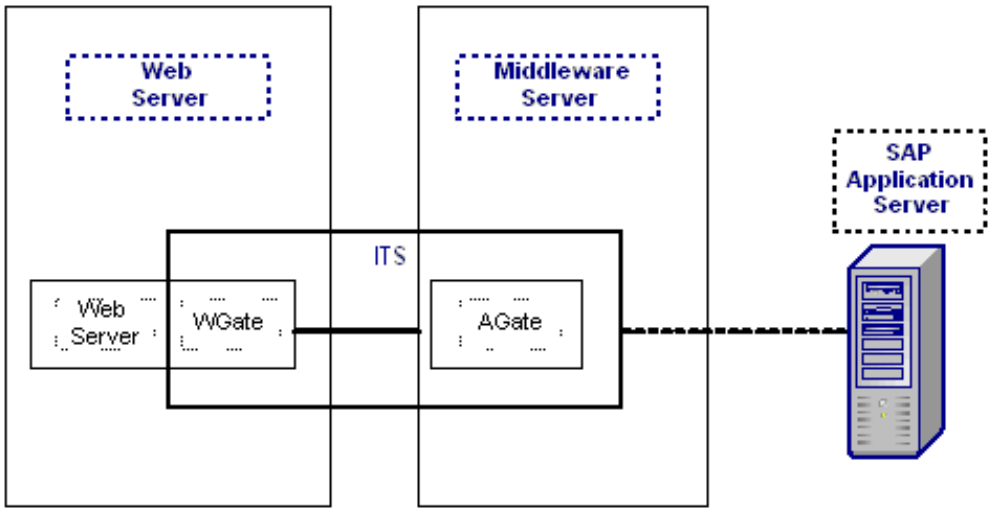


ITS Dual-Host Configuration

In a dual-host installation, the Web server and the WGate run on one host, which must be connected to the client-access network (Internet or intranet) and the AGate runs on the second host, which is connected to the WGate through the TCP/IP network and handles all communication with the SAP System by means of SAP remote function calls.

ITS also allows the configuration of multiple AGate and WGate instances, which can share the increased load generated by large numbers of remote users logging on. The scalability feature allows individual AGate instances to communicate with multiple WGate instances and multiple application servers, too. Similarly, to balance overall load, individual WGate instances can communicate with multiple AGate instances.

ITS Dual-Host Configuration



The ITS Monitor

The ITS Monitor now includes a dedicated SAP ITS **(Internet Transaction Server)** monitor which allows you to:

- check the availability of the various components of the ITS server, including; AGate, WGate, and Web Server
- pinpoint communication problems between the ITS components even in an environment with multiple ITS instances and complex load sharing
- collect important SAP R/3 performance metrics, which can be used in conjunction with other system or application performance data to identify bottlenecks and long term performance trends

The ITS Monitor collects data by parsing ITS log files and regularly sending http requests for specific information from the ITS server instances.

The ITS Monitor saves the data it collects along with the data collected by OpenView Performance or the OVO Embedded Performance Agent (Coda), or both. OpenView performance tools such as the OpenView Reporter or PerfView can then use the correlated data to generate reports and graphs, which can be used to investigate problems, performance issues, and general trends relating to ITS.

The ITS Monitor allows you to monitor the following aspects of the ITS Application Gateway:

- the status of both local and remote AGate instances in one AGate cluster
- the status of each AGate process and AGate-process work thread
- accumulated performance data since AGate startup
- the number of user sessions
- current work-thread activity
- performance monitor

Together with OpenView Internet Services (OVIS), the *r3itsperfmon* performance monitor allows you to monitor the ITS Web Gateway, too. However, since the ITS Web Gateway's main tasks involve passing requests to and from the internet, whose performance is outside your control, the information you glean from such monitoring is probably not very useful.

ITS Status and Availability

The ITS Monitor checks the availability of the various critical components of the ITS server, including; the Application Gateway, the Web Gateway, and the Web Server itself. The ITS Monitor also monitors the connections between the critical components in order to pinpoint potential and existing communication problems between them. This capability is particularly important in an environment which has multiple ITS instances and complex load sharing.

This section describes the messages which the ITS Monitor sends to the OVO message browser if it discovers a problem when checking the availability of SAP ITS on the managed nodes you have asked it to monitor:

- **The connection to the WGATE is down** The connection between the ITS Instance: <Instance Name> on host: <Hostname> and the Web server: <Webserver-Hostname>: <Portnumber> is down.
- **The connection to the SAP AppServer is down** The Internet Transaction Server: <instance_name> on host: <Hostname> could not connect to the SAP R/3 System <SAP_SID> on host <Hostname>
- **No ITS instance was found on the node** No ITS instance was found on the node.
- **The web server extension (WGate) cannot connect to the AGate process** The WGate: <Hostname:portnumber> cannot connect to the AGAte process: <process_number> from the instance: <Instance Name> on host: <Hostname>.
- **Create session failed**
  The ITS instance on host: is currently experiencing a very high load.

Installing the ITS Monitor

The instructions in this section assume that either OVO Embedded Performance Agent (Coda) or the HP OpenView MeasureWare agent is already installed on all OVO managed nodes, where the ITS Monitor is required. ITS Monitor *only* needs to run on hosts where ITS AGate is installed.

To install the ITS Monitor on an OVO managed node, you need to perform the steps indicated below, each of which is described in more detail in the appropriate subsections that follow:

- Pre-requisites

- Performance Agent Selection
- Setting up ITS Monitor for Performance Monitoring Tasks
- ITS Monitor Deployment Steps
- Verifying Deployment of the Config File Policy Types
- Removing the ITS Monitor

ITS Performance Monitor: Installation Pre-requisites

Before you start the installation of the ITS Monitor, make sure that the ITS AGate node on which you have chosen to install the ITS Monitor meets the following requirements:

- Operating system: Windows NT 4.0, Windows 2000
- OVO agent installed and running
- Config File Policy Package for Windows Node is deployed
- either the MeasureWare agent for Windows NT/Windows 2000 or the OVO Embedded Performance Agent
- SAP R/3 version: 4.x - 4.6D (Compilation 4)
- HP OpenView PerfView or HP OpenView Performance Manager (for viewing the collected metrics)
- HP OpenView Reporter (for viewing long-term analysis data)

  NOTE: The successful installation of the ITS Monitor depends on the presence of the **SPI data collector instrument** wrapper utilities on the OVO management server.

Related Topics:
HP OpenView for Windows Smart Plug-in for mySAP.com Configuration Guide, Version B.08.00

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Performance Agent Selection

This section describes how to:

- Select the Performance Data Source
- Change Default Settings for the Data Source

Selecting the Performance Data Source

By default, OVO deploys the OVO Embedded Performance Agent (Coda) with all OVO A.07.00 agents. All OVO A.07.00 Smart Plug-ins use the OVO Embedded Performance Agent as the default source for the performance data required for graphing in OpenView PerfView and OpenView Reporter. However, previously installed OpenView products that use the MeasureWare Agent will continue to use MeasureWare as the data source.

However, if you prefer to use MeasureWare as the agent for newly installed OpenView products rather than the OVO Embedded Performance Agent (for example, to be able to use PerfView, which does not support the OVO Embedded Performance Agent), you can override the default use of the OVO Embedded Performance Agent by setting up a small text file, **nocoda.opt**, which changes the default data source from Coda to MeasureWare.

Once configured, the **nocoda.opt** file must be stored in a specific location on each managed node, whose performance-data source you want to change. The location of the **nocoda.opt** file on the managed node varies according to the operating system running on the OVO management server and managed node. Table displays the location of the **nocoda.opt** files on nodes managed by an OVO for Windows management server.

Managed Node Operating System	Location of the *nocoda.opt* file
Windows	\Program Files\HP OpenView\ {790C06B4-844E-11D2-972B-080009EF8C2A}\ conf\dsi2ddf\nocoda.opt

Changing Default Settings for the Performance Data Source

To change the default setting for the data source follow the instructions below: Open the **nocoda.opt** file in a text editor and manually enter the appropriate information using the format and syntax illustrated in Example: The nocoda.opt File.

1. To designate MeasureWare as the agent for all data sources, enter the key word **ALL** at the top of the file.
2. To designate MeasureWare as the agent for a data source tied to a specific SAP R/3 (or SAP R/3 ITS) instance, include a reference to each instance on a separate line of the **nocoda.opt file**, as illustrated in The nocoda.opt File using the following format:

For...	Use the following format...
SAP R/3:	**R3**_<*SAP_Hostname*>_<*SAPSID*>_<*SAP_Instance_ Number*>_***DATA***
SAP R/3 ITS:	**R3ITS_**<Virtual_SAPITS_Instance_Name> _<SAPITS_Hostname>_**DATA**

3. Save the changes to the **nocoda.opt** file
4. Restart the OVO agent on the managed node where the **nocoda.opt** file has been modified

Example: The nocoda.opt File

```
##########################################
# Add to (or modify) the contents of this file to change
the # data-source from the default Coda to MeasureWare
##########################################
# All hosts:
ALL
# SAP R/3 ITS hosts/instances:
R3ITS_SP6_00_ovspi_DATA
```

Setting up ITS Monitor for Performance Monitoring Tasks

The ITS Monitor uses information in the ITS global.srvc configuration file to provide a default configuration automatically. However, to set up the ITS Monitor to collect performance information, you need to perform the following configuration tasks:

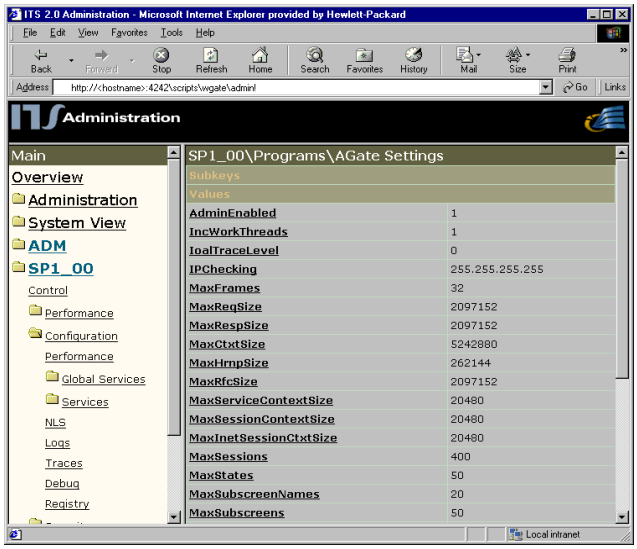
1. Make sure that the ITS Monitor has access to (and the necessary permissions for) the directories containing the following log files:
   <root>\Program Files\SAP\ITS\2.0\\logs
2. Activate performance monitoring by setting the following keys to the value one (1) in the Registry on the managed node for each ITS instance:
   1. Enable the command interface under:
      HKEY_LOCAL_MACHINE\Software\SAP\ITS\2.0
      \Programs\AGate\AdminEnabled

2. Configure performance monitoring under:
   HKEY_LOCAL_MACHINE\Software\SAP\ITS\2.0\ \CCMS\PerfMonitoring
3. Restart the AGate instance(s) to activate the changes made to the registry.

Figure:Setting Registry Keys with the ITS Administrator GUIdisplays set the appropriate SAP ITS registry keys using the ITS administrator GUI. Enter the following text:

http://<hostname>:<port number>\scripts\wgate\admin!

Setting Registry Keys with the ITS Administrator GUI



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ITS Monitor Deployment

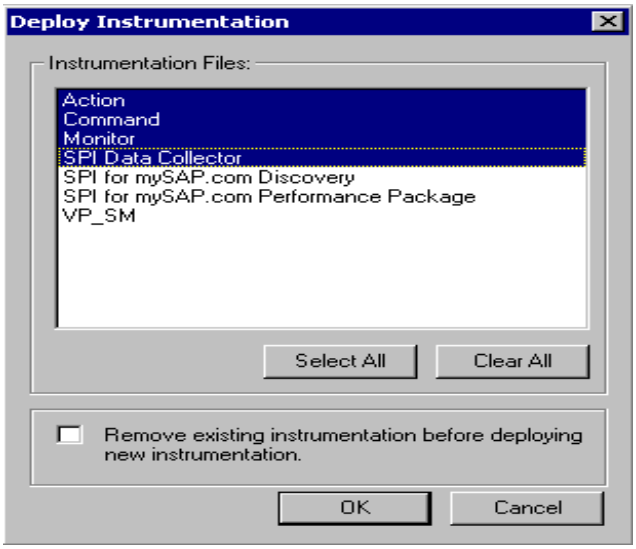
The ITS Monitor deployment consists of several tasks, follow the tasks below to complete all aspects of ITS Monitor deployment:

- Deploying the ITS Monitor Instrumentation
- Deploying the Config File Policy Types
- Deploying ITS Policies on the ITS Node

Deploying the ITS Monitor Instrumentation

1. In the **OVO** console window, select and right-click the mySAP.com (managed node) where the ITS components will be deployed.
2. Browse to the following menu option:
   All Tasks → Deploy instrumentation
3. From the **Deploy Instrumentation** window select the following as illustrated in Figure: Deployment Instrumentation Files:
   - Action
   - Command
   - Monitor
   - SPI Data Collectior
4. Select **OK** .
   You can monitor the deployment as it occurs in the Deployment Jobs window.
5. Click **OK**.

Deployment Instrumentation Files



Deploying the Config File Policy Types

1. From the OVO console, browse to the following:
   Policy management → Policy groups → SPI for my SAP.com
2. Select *all* policies beginning with **global_r3**

   NOTE:
   The r3itsperfmon.cfg configuration file policy must be select when deploying Configuration file policy types.

Deploying ITS Policies on the ITS Node

1. From the **OVO** console browse to the following:
   Policy management → Policy groups → SPI for mySAP.com > mySAP.com ITS
2. Select and right-click the following files:
   - **r3itsperfmon** (Scheduled Task)
   - **SAP R3 opc msg**** (Open Message Interface)
3. Browse to the following:

All Tasks → Deploy on

4. Select the ITS node where the policies will be deployed.
5. Click **OK**.

Related Topics:

Verifying Deployment of the Config File Policy Types

Removing the ITS Monitor

Verifying Deployment of the Config File Policy Types

1. Select and right-click the ITS node and browse to the following:
   View → Policy Inventory
2. In the right-hand pane of the OVO console, the following files should appear as displayed in the ITS Policy Inventory Verification Files table below:

ITS Policy Inventory Verification Files

Name	Type
r3itsperfmon	Scheduled Task
SAP R3 opc msg	Open Message Interface
global_r3itsperfconfig	Config File

---

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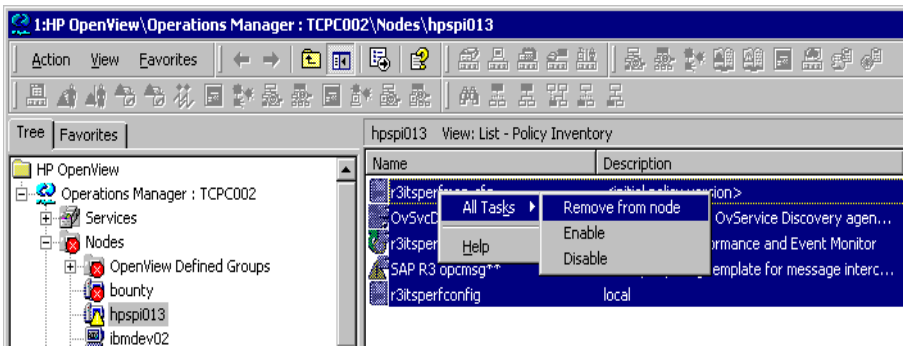
Removing the ITS Monitor

This section describes how to remove the ITS Monitor from the managed node quickly and easily. To remove the ITS Monitor software from the OVO managed node, you should carry out the following steps in the order specified.

1. Right click the ITS node and browse to the following:
   View → Policy inventory
2. From the drop down menu select the following as illustrated in the figure below:
   All tasks → Remove from node



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Service Reports in ITS

This section introduces the concept of Service Reports and explains how to use them in conjunction with the SPI for mySAP.com and OVO. The information in this section is designed specifically to help manage the SAP R/3 landscape in an efficient and convenient manner. Detailed information about specific tasks are listed below:

- What are Service Reports?
- Upgrading the SPI for mySAP.com Reports
- Installing the SPI for mySAP.com Reports
- Deinstalling the SPI for mySAP.com and SAP ITS Reports

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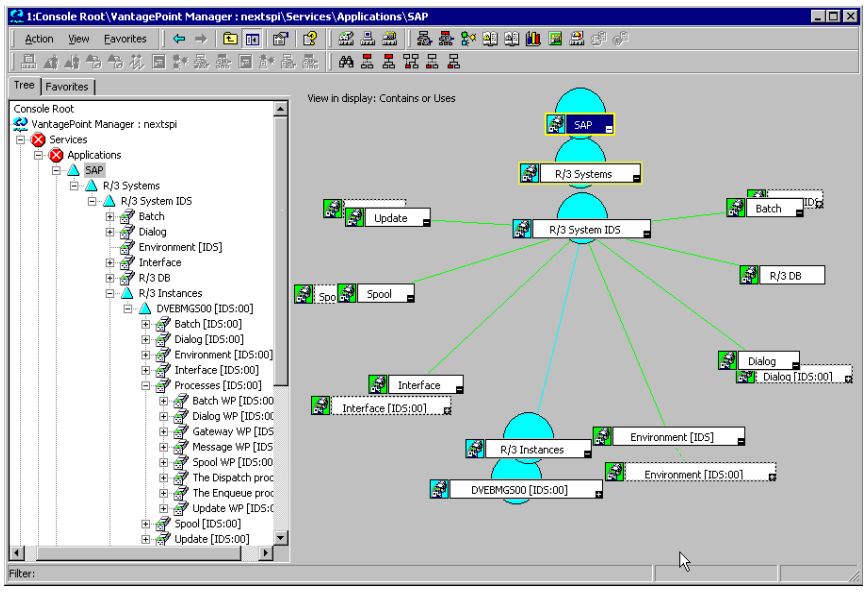
What are Service Views?

Service Views display the objects that make up your environment in such a way that you can better determine the impact of current problems or predict potential problems. You can view the generated Service Views using the standard OVO GUI, which may also be used to:

- map messages to the services that they directly affect.
- generate a model of your environment, which includes all relationships and dependencies between component objects.
- identify and select actions available for each object.
- define propagation rules, which can identify potential or present problems on objects and on related services.

Service Views in the OVO



You define how messages are mapped to service objects by specifying service IDs in the OVO message-source policies. The service-environment model, the calculation and propagation rules, and the available actions for each service object are defined in the service-configuration file. Related Topics: "Service Editor" topic in the OVO On-line Help.

Once the service-configuration file has been uploaded, the scoping pane of the main window shows managed services in addition to the usual OVO managed nodes, message groups, and tools. Clicking a service expands the service's navigation tree in the scoping pane. From the tree, you can select any service or sub-service and display a service graph.

In both the navigation tree and service graph, the component services are color-coded according to status. This color-coding of the components matches the color-coding of messages in your message browser, which is determined by message severity level as indicated in Changing a Message's Severity Level.

For example, a service displayed in red indicates that a condition exists that has a critical impact on that service or on a related service. The action **Get Root Cause** traces the origin of a condition that has affected the status of a selected service. For more information, open the OVO on-line help and look for topics about the "Service Editor".

Related Topics: Service Views in the SPI for mySAP.com

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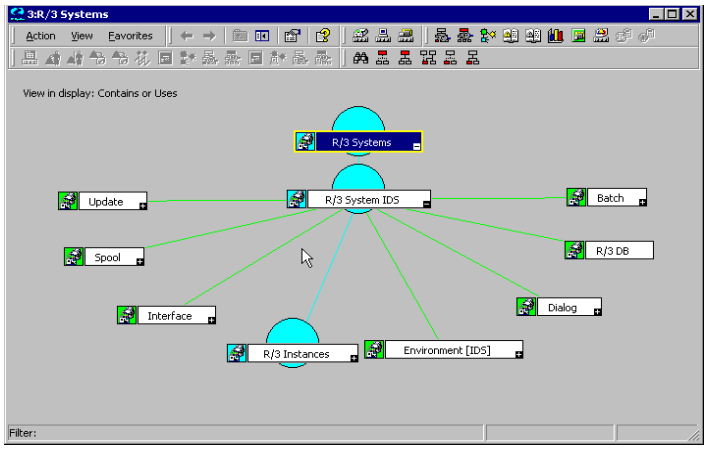
Service Views: SAP R/3 Systems

The first level of services is an accumulation service including all SAP R/3 Systems. Expanding a first level service reveals services for each of the SAP R/3 Systems in your landscape. The status of the individual SAP R/3 System services changes in response to a change of status in any of the sub-services that make up the instances that the SAP R/3 System contains. Expanding an SAP R/3 System service displays the following logical services:

- **R/3 Instances**
- **Database [<*SID*>]**
- **Environment [<*SID*>]**
- **Interface**
- **Batch**
- **Dialog**
- **Spool**
- **Update**

Figure: Service View of R/3 Systems shows an example SAP R/3 service view expanded to the logical object level.

Service View of R/3 Systems



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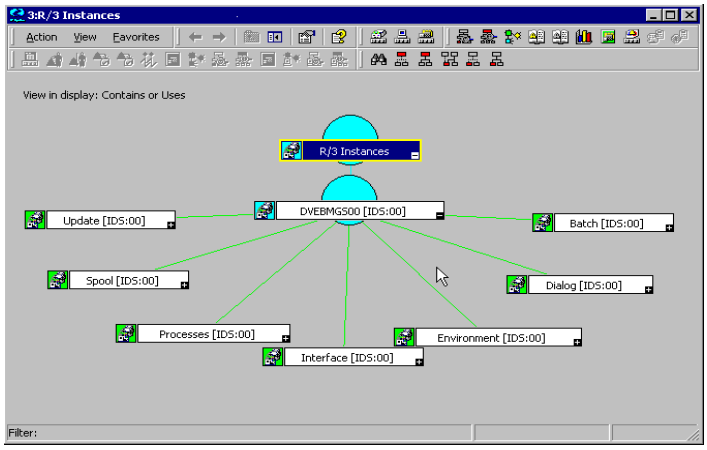
Service Views: SAP R/3 Instances

The second service level includes logical services within each SAP R/3 System. Note that the services shown at this level do *not* have any messages mapped directly to them: they are logical objects, used to give a general overview of the status of the services provided by the SAP R/3 System. When you expand the **R/3 Instances** object, each SAP R/3 instance is displayed as a service object in the service tree as shown in Figure: Service View of an R/3 Instance.

Service View of an R/3 Instance



Expanding the **Environment** service object, displays three further services:

Environment:

- Operating System
- Network
- Memory Management

These three services have messages mapped to them which are propagated to the **Environment** service. The other services do not have any messages mapped to them: they have **use** relationships with services contained in the **Processes** service. This means that an event that affects a related process would cause a change in status in *all* objects that have a use relationship with the **Processes** service. Expanding the **Processes** service object reveals the sub-services listed below:

Processes:

- **Gateway**
- **Message**
- **Dialog** (work process)
- **Batch** (work process)
- **Spool** (work process)
- **Update** (work process)

Upgrading SPI for mySAP.com Reports

Versions A.07.x and B.08.00 (SPI for mySAP.com Windows) of the SPI for mySAP.com have different versions of the SAP/Performance monitor which require different and incompatible versions of the OV Reporter. This means that old reports prepared with previous versions of the SPI for mySAP.com cannot be viewed with the current SPI for mySAP.com reporter integration. In addition, the old performance data gathered by the SAP/Performance subagent version A.07.x must be removed from the OV Reporter database before you install the reporter integration package supplied with the version B.08.00 of the SPI for mySAP.com.

NOTE:
Upgrading the SPI for mySAP.com reports in the manner described in this section removes from the OV Reporter system all old report data collected by the Smart Plug-in for mySAP.com. However, you can use database tools to preserve the tables containing information that you want to use after completing the upgrade process. For more information, see the documentation provided with the database product.

1. Remove from the OV Reporter database all data collected by the old SAP/Performance agent. You can use the following tool:

C:\<OV Reporter>\newconfig\repsapclean.exe

2. Verify that the SPI for mySAP.com report groups and metrics lists are no longer present in the OV Reporter GUI
3. Remove the old SPI for mySAP.com reporter-integration package using the standard Windows method:

   Start → Settings → Control Panel → Add/Remove Software
4. Install the new SPI for mySAP.com reporter integration.

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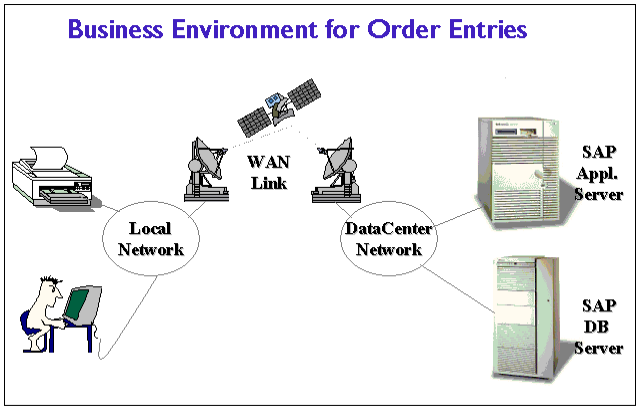
Line-of-Business Views

The SAP R/3 service view and the other service views available with OVO provide graphical representations of the individual areas being monitored, for example; SAP R/3, a WAN, a LAN, or printer services. Business processes are not typically confined to any one of these areas: each business process depends on the services of several areas and is specific to the customer's defined processes.

For example, for an operator to enter orders and print acknowledgments, the printer, the network, and SAP R/3 Dialog Spool Service must all be available. To monitor order entry and printing at a particular location, you could set up a view that includes the WAN, the LAN at that location, the printer being used for the order acknowledgments, and the SAP R/3 **Dispatch**, **Dialog**, and **Spool** processes for the specific SAP R/3 instance.

Service Areas Affecting Order Entry

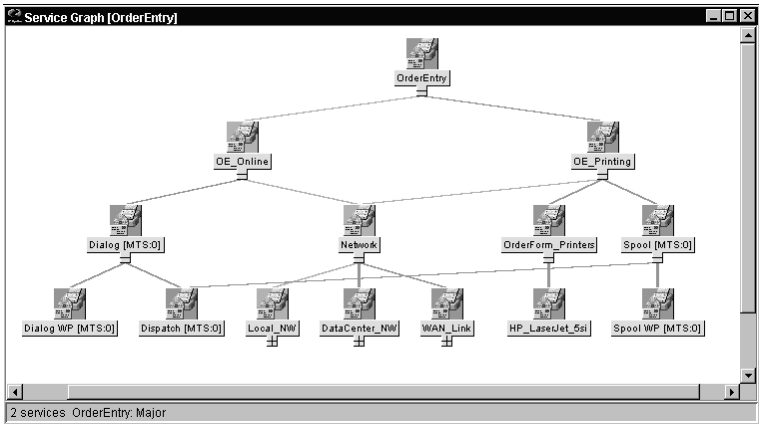


Related Topics: Creating Line-of-Business Views

Creating Line-of-Business Views

Be aware that the services should only build on top of the logical service objects provided by *IT Service Viewer*. For example, you can use the **SAP R/3 Spool** service object in a reference but not the underlying physical service objects such as **Spool Work Process**. This ensures that your customization and line-of-business service views remain working even if new releases of SAP or the SPI for mySAP.com change the dependencies between physical components, for example; caused by architectural changes such as "somersault" technology.

Line of Business View for Order Entry



To create a line-of-business service view:

1. First, define the structure you want to see by generating a service-configuration file.

   NOTE:
   See the "Service Editor" topic in the OVO on-line Help for information about creating service-configuration files.
2. In the service-configuration file, define one or more logical services (for example, **Order Entry**) to which messages will be propagated by the services you include in the line-of-business service view.
3. Using the service-configuration files for the service areas you are interested in (for example, the SAP R/3 file), obtain the service names of the objects you want to include in the line-of-business service view.
4. Add **use** references to the service names to your service-configuration file.

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Service Reports

This section introduces you to the concept of Service Reports and explains how you can use them in conjunction with both the SPI for mySAP.com and OVO to provide you with information that is specifically designed to help you manage your SAP R/3 landscape in a more efficient and more convenient way. You can find detailed information about the following topics:

- What are Service Reports?
- Upgrading the SPI for mySAP.com Reports
- Installing the SPI for mySAP.com Reports
- Service Reports in the SPI for mySAP.com
- SPI for mySAP.com Report Metrics
- Deinstalling SPI for mySAP.com and SAP ITS Service Reports

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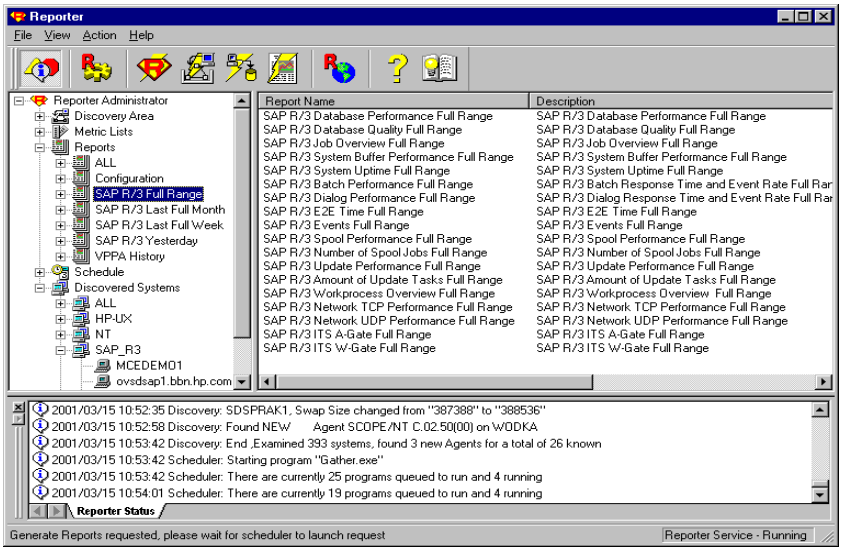
What are Service Reports?

Service reports are web-based reports that are produced by HP OpenView Reporter (OV Reporter) using Crystal Reports templates and viewed using a web browsers. OV Reporter allows you to request both scheduled and on-demand versions of reports.

Figure: Service Reports Viewed on Internet Explorer displays the OV Reporter GUI view.

Service Reports Viewed on Internet Explorer



SPI for mySAP.com service reports corollate the data extracted from either the OVO Embedded Performance Agent (Coda) or the OpenView Performance agent (formerly MeasureWare). You can use the correlated data to generate reports which display short-, medium-, or long-term views of your IT environment and supplement the detailed, real-time graphs available with PerfView. The combination of reports and graphs is a powerful tool for trend analysis. For example, you can:

- identify potential bottlenecks in your IT system, so that you can take action before problems become acute.
- use the information to help you to make accurate predictions for future upgrades.
- collect accurate information to be used in measuring service levels.

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hp OpenView operations | smart plug-in for mySAP.com

Service Reports in the SPI for mySAP.com

The Smart Plug-in for mySAP.com includes a package of service reports that use the data collected by the OVO Embedded Performance Agent (Coda) and OpenView Performance (formerly MeasureWare) to generate reports, which display vital information about the health and availability of the Systems in your SAP R/3 landscape. The reports provided in the Smart Plug-in for mySAP.com report package cover a wide variety of system- and business-critical areas.

The following tables list the report templates, their purpose, and the metrics that they use:

- SAP R/3 Performance Reports
- SAP Internet Transaction Server (ITS) Performance Reports
- Defining the Scope of SAP R/3 Service Reports

SAP R/3 Performance Reports

Report	Purpose	Metrics
Database Performance	shows the important database performance metrics correlated together	Physical reads/writes • Disk Physical IO • Long Table Scans • Sort Rows • Sort in Memory • Sort on Disk • Redo block Written • Redo Buffer Size
Database Quality Redo-Log faults Buffer Pool Size Dictionary Cache Size Redo log buffer size Buffer busy waits Buffer busy wait time	show the important metrics, to identify the quality of the database Quality of data base buffer pool	• Quality of Data Dictionary cache • Redo-Log faults • Buffer Pool Size • Dictionary Cache Size • Redo log buffer size • Buffer busy waits • Buffer busy wait time
Job Overview	shows the number of jobs for the SAP R/3 instances in the different states	Number of Jobs in the status: • Running • Ready • Scheduled • Released • Aborted • Finished
System Buffer Performance	shows the important System Buffer performance metrics correlated together	• Used Roll Area/Page Area • Max Roll/Paging Area since sys. Start • Size of Roll File/Paging File • Percentage used Roll Area/Page Area

System Uptimes	reports the Up and Down times during the report interval -- if the Monitor wasn‘t running on a node, the status is Unknown	• System UP • System DOWN • System Status Unknown
Batch Response Time and Event Rate	shows the impact of batch activity on critical instance and operating system metrics	• Batch Event Rate • Batch Response Time • Batch Wait Time • CPU Time • Phys. Disk IO
Dialog Response Time and Event RateDialog Event Rate	shows the impact of dialog activity on critical instance and operating system metrics	• Dialog Response Time • Dialog Wait Time • CPU Time • Phys. Disk IO
E2E Time	shows the E2E Transaction Time of the configured transactions, divided into Response Time and Network Time	• Response Time • Network Time
Events Dialog Event Rate	shows how many events of each type have occurred on each reported SAP R/3 system and shows the percentage distribution of events on the system	• Batch Event Rate • Spool Event Rate • Update Event rate
Spool PerformanceSpool Event Rate	shows the impact of spool activity on critical instance and operating system metrics	• Spool Response Time • Spool Wait Time • CPU Time • Phys. Disk IO

Number of Spool Jobs	shows the number of Spool Jobs and Print Requests in different status	• Total Number of Spool Jobs • Number of Spool Jobs in status Archive • Number of open print Requests • Number of print Requests with errors • Number of failed print requests
Update PerformanceUpdate Event Rate	shows the impact of update activity on critical instance and operating system metrics	• Update Response Time • Update Wait Time • CPU Time • Phys. Disk IO
Amount of Update Tasks Number of:	shows the Amount of Update Tasks	Number of: • total VB-update tasks • initial VB-update tasks • erroneous VB-update tasks • update tasks having V1 executed • update tasks having V2 executed
Work Process Overview	compares the total number of the different Work Processes with the number of in use processes	Number of: • DBatch processes/processes in Use ialog processes/processes in Use • Spool processes/processes in Use • Update processes/processes in Use • Update2 processes/processes in Use

Document Volume	shows the total document volumes per module (BW, FA, QA, etc.) correlated with business-transaction metrics	• GUI net time • Response time • CPU time • DB Request time
Document Volume Docs Lines	shows the number of documents and the line created per document, sorted by SAP R/3 application module	• Head • Detail
Document Volume by Module	shows the volume of documents per application module	• Number of documents
Workload Overview Count GUI net time	shows the number of steps for all Task Types in an SAP R/3 System (Batch, Dialog, Spool, Update)	• Response time • CPU time • DB Request time
Workload Overview Response Time	shows the average number of steps and response time (in seconds) for each SAP R/3 instance	• CPU Time • Load Time • Queue Time • DB Read Time • DB Update Time
Workload Overview Task Type	shows the average number of steps and response time (in seconds) for each task type (eg AUTOABA, BCKGRD)	• CPU Time • Load Time • Queue Time • DB Read Time • DB Update Time
Workload Overview DB Overview	shows the work-load metrics based on database activity for a defined SAP R/3 system	• Change Count • Change Time • DB Calls • DB Requests • DB Time per Req. • Read-Dir Count • Read-Dir Time • Read-Seq. Count • Read-Seq. Time • Requested Bytes

Workload Overview DB Task Type	shows the work-load metrics per task type and based on database activity for a defined SAP R/3 system	• Change Count • Change Time • DB Calls • DB Requests • DB Time per Req. • Read-Dir Count • Read-Dir Time • Read-Seq. Count • Read-Seq. Time • Requested Bytes

SAP Internet Transaction Server (ITS) Performance Reports

Report	Purpose	Metrics
Availability	shows the overall availability of the ITS systems	• Up • Down • Unknown
Session Overview	shows the overall number of sessions for all the ITS instances (present on machines in the SAP ITS reporter group)	• Max/Active/Available sessions • Hit Count • Max./Available Threads • Restarts • TAT
Sessions by Instance	shows the number of sessions for a selected ITS instance	• Max/Active/Available sessions • Hit Count • Max./Available Threads • Restarts • TAT
Active Users Overview	shows the overall number of users for all the ITS instances (present on machines in the SAP ITS reporter group)	• Total number of active 'logged in' users
Active Users - OS	shows the number of active users correlated with operating-system metrics	• Active (logged-in) users • CPU Load • Memory Page Rate

Active Users - ITS	shows the number of active users correlated with performance metrics for each ITS instance	• Active ITS users • Agate weight • Turn-around time (TAT)
Response Time OverviewAgate time	shows the ITS response times	• R3 time • Browse time • Wait time
Response Time by Instance	shows the response times for each selected ITS instance	• Agate time • R3 time • Browse time • Wait time • Kernel time • User time
Agate Processes Number of Agate processes	shows the total	• number of Agate processes running
Transaction Data	shows the transaction information for each ITS instance	• Max. available work threads • Available Work threads • Initial Work threads • Not used Work threads
Agate Weight	Average weight of the ITS Instance. The weight is an aggregate measure (from 0 to 1) that specifies how suitable an AGate instance is to handle further requests.	• Average AGate Weight
Work-thread Overview	shows the number of Work threads each ITS Instance	• Max. avail. Work threads • Available Work threads • Initial Work threads • Not used Work threads
Work-thread by instance	shows the number of Work threads each ITS instance can handle	• Max. avail. Work threads • Available Work threads • Initial Work threads • Not used Work threads

Defining the Scope of SAP R/3 Service Reports

You can limit the scope of any service report by:

Specifying which systems to include. Possible values are:

- a selected *group* of systems
- a selected *system*

Specifying the period for which report data is to be included. Possible values are:

- a full *range* (up to the last 180 days)
- last full *month*
- last full *week*
- *yesterday*

Related Topics:
ITS Performance Metrics
r3itsperfmon: The ITS Monitor

SPI for mySAP.com Report Metrics

This section lists the metrics used by the reports for SAP R/3 and SAP R/3 ITS, which are installed as part of the SPI for mySAP.com reporter package.

- SAP R/3 Report Metrics
- SAP ITS Report Metrics

SAP R/3 Report Metrics

The following list shows which performance metrics are used to gather the data that is used in the preparation of the performance-related reports for the SPI for mySAP.com.

Metric List Name...	Description...
DBINFO_PERF	monitors database-performance analysis values
DOCSTAT_PERF	collects the quantity-structure statistics (the document volume) for the last full hour

JOBREP_PERF	counts the number of jobs per state
MIB_PERF	counts the average business transaction values
SPOOL_PERF	counts the number of spool requests in its different states
STATRECS_PERF	returns the response/net times of defined transactions
SYSBUF_PERF	controls the performance of the SAP R/3 System and its work processes
SYSUP_PERF	returns the status of the SAP R/3 instances
UPDATE_PERF	monitors the number of update processes
WLSUM_PERF	collects hourly statistics about workload performance
WP_PERF	monitors the work processes

SAP ITS Report Metrics

The following list shows which performance metrics are used to gather the data that is used in the preparation of the performance-related reports for the SPI for mySAP.com ITS Performance Monitor:

Metric List Name...	**Description...**
SAP_ITS_INSTANCE	Uses the data source **R3ITS_**&ltSAPITS_Instance_Name>_&ltSAPITS_Hostname>_DATA to gather data relating to the named ITS instances. Related Topics: ITS Performance Metrics

Installing the SPI for mySAP.com Reports

This section explains how to install the SAP R/3 and the SAP ITS service reports which come with the SPI for mySAP.com and, in addition, provides information designed to help you prepare for the installation.

Before You Begin

Before you install and set-up for the SAP R/3 Service Reports, you must ensure that the following tasks have been completed:

1. Either the OVO Embedded Performance Agent or the OpenView Performance agent must be installed on all SAP R/3 managed nodes for which you want to produce service reports.
2. OV Reporter must be installed on a Windows NT/2000 host.
3. The OpenView Performance agent or the ITS Monitor must be configured.
4. To generate Service Reports for the SPI for mySAP.com, Seagate's Crystal Reports version 8 (or later) needs to be installed and running on the machine hosting the OV Reporter (OV Reporter version A.03.00).

Related Topics:

Installing SAP R/3 Service Reports

Upgrading the SPI for mySAP.com Reports

Versions A.07.x and A.08.00 of the SPI for mySAP.com have different versions of the SAP/Performance subagent, which require different and incompatible versions of the OV Reporter. This means that old reports prepared with previous versions of the SPI for mySAP.com cannot be viewed with the current SPI for mySAP.com reporter integration. In addition, the old performance data gathered by the SAP/Performance subagent version A.07.x must be removed from the OV Reporter database before you install the reporter integration package supplied with the version A.08.00 of the SPI for mySAP.com.

This section describes what you have to do if you upgrade the SPI for mySAP.com software and the SAP/Performance subagent and want to continue using the service-reporter functionality.

Related Topics: Upgrading the SAP/Performance Subagent

For more information about upgrading the SPI for mySAP.com itself, see *Upgrading the SPI for mySAP.com* in the *HP OpenView Smart Plug-in for mySAP.com Configuration Guide.*

NOTE:
Upgrading the SPI for mySAP.com reports in the manner described in this section removes from the OV Reporter system all old report data collected by the Smart Plug-in for mySAP.com.

However, you can use database tools to preserve the tables containing information that you want to use after completing the upgrade process. For more information, see the documentation provided with the database product.

1. Remove from the OV Reporter database all data collected by the old SAP/Performance agent. You can use the following tool:
   C:\< OV Reporter>\newconfig\repsapclean.exe
2. Verify that the SPI for mySAP.com report groups and metrics lists are no longer present in the OV Reporter GUI.
3. Remove the old SPI for mySAP.com reporter-integration package using the standard Windows method:
   Start: Settings → Control Panel → Add/Remove Software
4. Install the new SPI for mySAp.com reporter integration.

   Related Topics: Installing the SPI for mySAP.com Reports.

Installing SAP R/3 Service Reports

The SAP R/3 and SAP ITS service reports are installed into the OV Reporter product as a snap-in using InstallShield. During set-up you will be asked to select the common application path of OV Reporter. This is the folder where OV Reporter is installed. The set-up routine will attempt to discover this path automatically and in most circumstances you should avoid changing it.

The set-up copies components to the directories as summarized in Table: Locations of SAP Service Report Components. All directory paths are relative to the OV Reporter common application path.

Locations of SAP Service Report Components

Component	Directory
Configuration files	**\newconfig**

Installation script	**\newconfig**
Report template files	**\data\reports\Sap**
Executables	**\bin**

To install the SAP R/3 Service Reports:

There are two methods of installing OV Reporter:

- on the OVO Management Server
- on a separate OV Reporter node

Installing OVO Reporter on the OVO Management Server

NOTE:
This procedure only works if you have not previously installed OV Reporter (version A.03.00) and SPI for mySAP.com (version B.08.00).

1. From the Windows Start menu browse to the following:

   Settings → Control Panel → Add/Remove Programs
2. Select
3. Select **Change**
4. Select **Install products**
5. When the *InstallShield Wizard* dialog box displays, select the following:
   - **mySAP.com**
   - **hp OpenView Reporter**

   by placing a check mark in the box.

Installing OVO Reporter on a OV Reporter Node

1. Insert Disk 2 of the OVO Windows CD set into the CD-ROM drive.

2. Browse to the following folder:

   Disk2\SAP SPI Reporter Package
3. Select and execute the following file:

   sapspi_reporter.msi
4. Follow the on screen Install Wizard instructions to complete the installation.

Installing Report Packages

The Report Packages set-up automatically assigns the following files:

- two new report groups: *SAP_R3* and *SAP_ITS*
- new metric lists to the new *SAP_R3* and *SAP_ITS groups*
- new group reports to the *SAP_R3* and *SAP_ITS groups*

- new system reports to the *SAP_R3* and *SAP_ITS groups*

Configuring the Report Packages

1. Verify that the installation of the SPI for mySAP.com service reports completed successfully by confirming that setup created the report and metrics groups mentioned above.
2. From the OV Reporter console browse to the following:

   File → Configure → Report Packages
   - **SPI for ITS_mySAP.com**
   - **SPI for mySAP.com**

   The SPI for ITS mySAP.com should be in the list of Installed Packages
3. Add your **SAP R/3** and **SAP ITS** systems to the appropriate OV Reporter group. The following values in the Add System window can be used:

   System - **host.name.com**
   Network - **SAP**
   Domain - either **SAP** or **ITS** as appropriate
4. Click **OK** and the systems appear in the OV Reporter's Details Pane.
5. Use the OV Reporter GUI to schedule the generation of the SPI for mySAP.com reports or generate them now using the following option:
   Actions → Run → Generate Reports

De-installing SPI for mySAP.com and SAP ITS Reports

In order to completely remove the **SPI for mySAP.com** and **SAP ITS Reports** the following steps must be completed:

- Deinstalling the Report Snap-in Packages
- Removing Binaries from the OV Managed Node

Deinstalling the Report Snap-in Packages

1. From OV Reporter browse to:

   File → Configure → Reporter Packages

2. Select the following files from the Installed Packages window located in the right pane of the Configure Report Packages window:
    - **SPI for ITS_mySAP.com**
    - **SPI for mySAP.com**
3. Double-click the left arrow button to the Available Packages window located in the left pane of the Configure Report Packages window
4. Click**OK**when you have finished.

Removing Binaries from the OV managed node

1. From the Windows Start menu browse to the following:

   Settings → Control Panel → Add/Remove Programs
2. Select **HP OpenView Operations Performance for Windows**
3. Select **Remove**.
4. Follow the on screen instructions to complete the deinstallation process.
