Users Manual

OP5 Monitor 2.6

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Introduction

OP5 Monitor is a highly flexible monitoring system for monitoring of IT infrastructure. This manual includes information on how to use and configure OP5 Monitor and its components.

Who is this manual for

This manual is targeted for a technical audience. The manual covers how to use and configure OP5 Monitor through its web interface. For configuration using direct console access or SSH, see the OP5 System manual.

Using OP5 Monitor

OP5 Monitor is used and configured in a web interface using any standard browser. The most common browsers Explorer and Mozilla have been tested.

The interface is protected by using both authentication, you need to specify a username and password to get access, and by SSL “Secure Socket Layer” which enables a secure manner for accessing the web interface using encryption.

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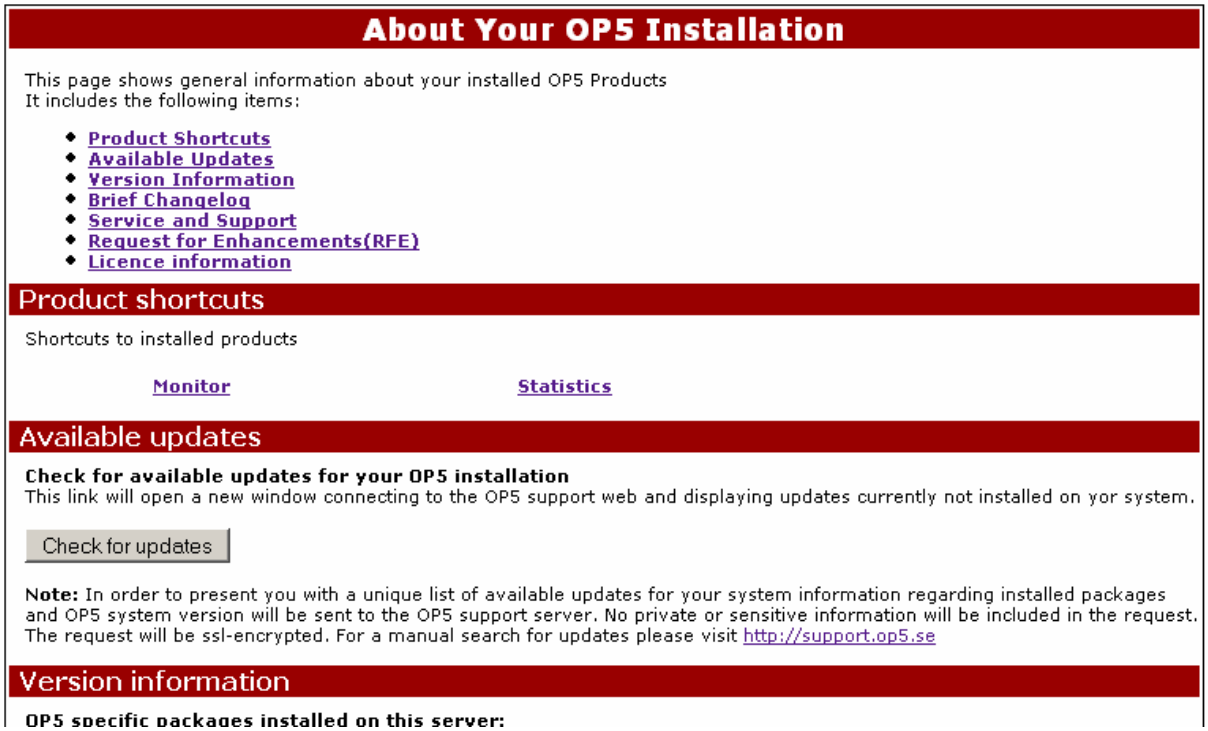
Start page

The start page is accessed by typing https://a.b.c.d/ in your browser. Change a.b.c.d to the IP address of your Monitor system.

This will show general information about the system, what version of monitor that is installed, shortcuts to monitor, support information and more. To access OP5 Monitor simply click on Monitor" below the headline Product Shortcuts. This will direct you to https://a.b.c.d/monitor/ which is the direct link to OP5 Monitor. You can bookmark this link to get directly to OP5 Monitor without having to go through the "Start Page".



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OP5 Monitor Web Interface

OP5 Monitors web interface is divided in two parts, the navigation menu to the right and the main window to the left. The navigation menu has four headlines, General, Monitoring, Reporting and Configuration.

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General

About

The about link gets you right back to the Start Page. The start page gives you information about the installed products, how to get support and most important of all an easy way to check for updates.

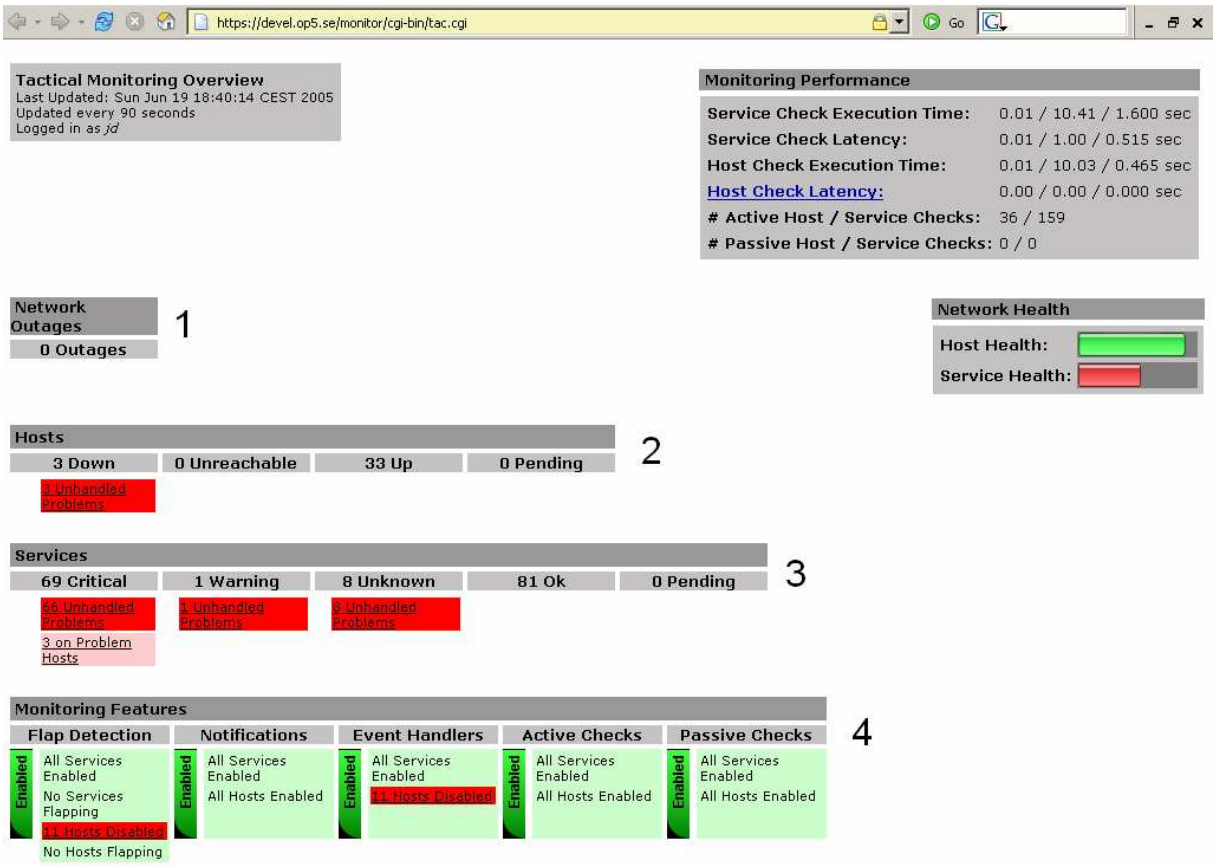
Simply click on the “Check for updates” button. This will send version information to OP5 Support web and generate a unique list of available updates for your system.

Monitoring

The Monitoring headline is related to Fault Management.

Tactical Overview

The Tactical Overview window enables the user to get a summarized picture of the overall network health. It also displays status of the system and gives you the possibility to enable and disable some functions on a system wide basis.



1. Network Outages, if a host, for example a switch, goes down it causes hosts located below to become unreachable from the OP5 Monitor system. This will then be listed as a Network Outage. You can se what host is causing the outage and also how many hosts that are affected if you follow the link.

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2. Hosts, Gives you a summarized view of the host and their status. There are four different states:
    - Down, the host is not responding.
    - Unreachable. The host is unreachable for the system due to a network outage (see network outage)
    - Up, the host is working fine.
    - Pending, the host has not yet been checked, the check of the host is in a queue about to be executed.

3. Services, gives you a summarized view of the service status. There are five different states:
    - Critical, the service check responds with a value that is within the configured critical level.
    - Warning, the service check responds with a value that is within the configured warning level.
    - Unknown, the service of a host does not respond correctly to a service check, or the service check is misconfigured.
    - Ok, the service is working fine.
    - Pending, the service has not been checked yet. The check is queued about to be executed.

4. Main configuration Commands. You have the possibility to enable and disable some functionality on global basis. Just by clicking on the enabled icon you can change the configuration.
    - Flap Detection. If a host or a service is changes state between an ok and a non-ok state with high frequency, the host or service is flapping and the alarms are suppressed. Monitor has the ability to detect flapping. Flap Detection can be enabled or disabled in this menu.
    - Notifications. All status changes, from an ok to a non ok and vice versa is a status change. All event changes can create notification to the configured contacts via email or sms. In this menu the notifications can enabled or disabled for the whole system.
    - Event Handlers. Event handler is a function that enables the execution of commands whenever a state change occurs, one possible use for this is to automatically restart a process that has died, this is normally not used in OP5 Monitor. These can be enabled or disabled in this menu.
    - Active Checks. When determining if a host or a service is ok Monitor performs an active check is. I.e. a plug in is executed for that host or service. This menu choice enables or disables that function.
    - Passive Check. Monitor has the ability to receive check results from the outside where the check initially was not performed by Monitor. An example is SNMP traps which are sent from a host. This menu choice enables to enable or disable the reception of these checks.

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Host Detail and Service Detail

Host and Service detail gives you a detailed status list of all hosts. The list is sorted based on the hostname column by default but you can change that by clicking on the arrow icons next to the header of each column. You can also apply filters on what you want to be displayed on the page.

Host detail

Current Network Status
Last Updated: Sun Jun 19 18:44:24 CEST 2005
Updated every 90 seconds
Logged in as *jd*

View Service Status Detail For All Host Groups
View Status Overview For All Host Groups
View Status Summary For All Host Groups
View Status Grid For All Host Groups

Host Status Totals

Up	Down	Unreachable	Pending
33	3	0	0

All Problems	All Types
3	36

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
81	1	8	69	0

All Problems	All Types
78	159

Host Status Details For All Host Groups

1 Host	2 Status	3 Last Check	4 Duration	5 Status Information
backup	UP	2005-06-17 13:36:29	2d 5h 7m 56s	OK - 193.201.96.131: rta 0.228ms, lost 0%
bill	UP	2005-06-17 18:12:53	2d 5h 4m 24s	OK - 213.88.148.5: rta 12.488ms, lost 0%
devel	UP	2005-06-19 18:42:11	2d 5h 7m 53s	OK - 193.201.96.130: rta 0.097ms, lost 0%
qbg-router-jd1	UP	2005-06-18 10:51:42	1d 7h 52m 42s	OK - jdhemma.op5.se: rta 28.854ms, lost 0%
qbg-router1	UP	2005-06-17 13:38:25	2d 5h 6m 0s	OK - 213.88.215.14: rta 2.342ms, lost 0%
qbg-switch1	UP	2005-06-19 18:40:17	2d 5h 7m 33s	OK - 193.201.96.137: rta 3.700ms, lost 0%
qbg-temp1	UP	2005-06-19 18:43:54	2d 5h 5m 54s	OK - 193.201.96.132: rta 33.095ms, lost 0%
google	UP	2005-06-17 15:22:53	2d 5h 7m 33s	OK - www.google.se: rta 246.260ms, lost 0%
isydev	UP	2005-06-17 13:38:35	2d 5h 5m 50s	OK - www.isydev.se: rta 22.322ms, lost 0%
linux-server1	UP	2005-06-19 18:44:03	2d 5h 7m 33s	OK - 193.201.96.2: rta 23.494ms, lost 0%
monitor	UP	2005-06-17 15:17:18	2d 5h 7m 27s	OK - 193.201.96.3: rta 241.533ms, lost 0%
ns.op5.se	UP	2005-06-19 18:44:17	2d 5h 7m 17s	OK - 193.201.96.2: rta 22.843ms, lost 0%
ns2.op5.se	UP	2005-06-19 18:44:19	1d 17h 40m 2s	OK - 195.47.205.30: rta 6.289ms, lost 0%

1. Host. Shows you the configured name of the host.
2. Status. Shows the current status of the host.
3. Last Check. Lists the date and time when the last check was executed. Note: Hosts is only checked when there is a problem with a service, therefore this value can be very old.
4. Duration. Shows you the amount of time the host has been in the current state.
5. Status Information. Shows you the output of the host check.

To get more detailed information about a specific host simply click on the hostname. This view shows you Host State Information and Host Commands textboxes.

Host State Information gives you more detailed information about the host.

Host Commands lets you issue commands for that specific host.

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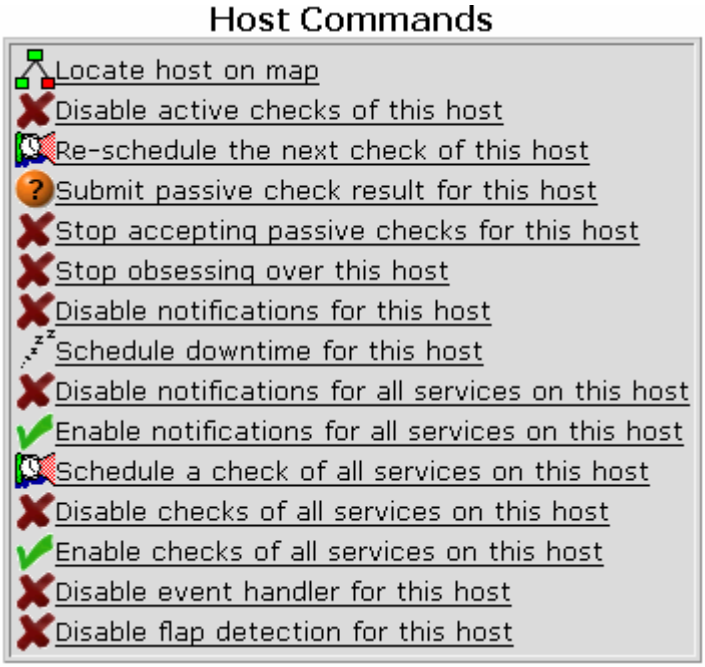

Locate Host On Map: Link to status map with focus on the host
Disable Active Checks Of This Host: This can be used to temporary disable the host checks for that host.
Re-schedule Next Host Check: This command is used to schedule the next check of the selected host. Monitor will re-schedule the host to be checked at the time you specify. If you select the force check option, Monitor will force a check of the host regardless of both what time the scheduled check occurs and whether or not checks are enabled for the host.
Submit Passive Check Result For This Host: This command is used to submit a passive check result for the selected host. It can for example be used to clear the state on a passive host.
Stop Accepting Passive Checks For This Host: This command is used to stop Monitor from accepting passive host check results that it finds in the external command file for a particular host. All passive check results that are found for this host will be ignored.
Stop Obsessing Over This Host: This is only used when configuring certain redundant solutions and should normally not be used.
Acknowledge this host problem: This alternative is only displayed if the host is in a non ok state. It lets you acknowledge the problem and type in a log message. This message is sent out as a notification and also displayed in the system for everybody to see. This functionality is highly recommended.
Disable Notifications For This Host: This command is used to prevent notifications from being sent out for the specified host. You will have to re-enable notifications for this host before any alerts can be sent out in the future. Note that this command does not disable notifications for services associated with this host.
Schedule Downtime For This Host: This command is used to schedule downtime on the selected host.
Disable Notifications For All Services On This Host: This command is used to prevent notifications from being sent out for all services on the selected host. You will have to re-enable notifications for all services associated with this host before any alerts can be sent out in the future. This does not prevent notifications from being sent out about the host unless you check the 'Disable for host too' option.

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Enable Notifications For All Services On This Host: This command is used to enable notifications for all services on the selected host. Notifications will only be sent out for the service state types you defined in your service definition. This does not enable notifications for the host unless you check the 'Enable for host too' option.
Schedule A Check Of All Services On This Host: This command is used to schedule the next check of all services on the selected host. If you select the force check option, Monitor will force a check of all services on the host regardless of both what time the scheduled checks occur and whether or not checks are enabled for those services.
Disable Checks Of All Services On This Host: This command is used to disable active checks of all services on the selected host. When a service is disabled OP5 Monitor will execute any service checks. In order to have Monitor check the service in the future you will have to re-enable the service. Note that disabling service checks may not necessarily prevent notifications from being sent out about the host which those services are associated with. This does not disable checks of the host unless you check the 'Disable for host too' option.
Enable Checks Of All Services On This Host: This command is used to enable active checks of all services on the selected host. This does not enable checks of the host unless you check the 'Enable for host too' option.
Disable Event Handler For This Host: This command is used to temporarily prevent OP5 Monitor from running the host event handler on the selected host.
Disable Flap Detection For This Host: This command is used to disable flap detection for the selected host.

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Service Detail

Current Network Status
Last Updated: Sun Jun 19 18:55:28 CEST 2005
Updated every 90 seconds
Logged in as *jd*

View History For all hosts
View Notifications For All Hosts
View Host Status Detail For All Hosts

Host Status Totals

Up	Down	Unreachable	Pending
33	3	0	0

All Problems	All Types
3	36

Service Status Totals

Ok	Warning	Unknown	Critical	Pending
83	2	8	66	0

All Problems	All Types
76	159

Service Status Details For All Hosts

1 Host	2 Service	3 Status	4 Last Check	5 Duration	6 Attempt	7 Status Information
backup	FTP	OK	2005-06-19 18:52:08	2d 5h 19m 0s	1/3	FTP OK - 0.006 second response time on port 21 [220 OP5 Owl mirror - http://www.op5.se]
	PING	OK	2005-06-19 18:53:54	2d 5h 17m 14s	1/3	OK - 193.201.96.131: rta 0.149ms, lost 0%
bill	HTTP Server	OK	2005-06-19 18:48:37	2d 5h 15m 28s	1/3	HTTP OK HTTP/1.1 200 OK - 7708 bytes in 0.067 seconds
	PING	OK	2005-06-19 18:51:48	2d 0h 41m 39s	1/3	OK - 213.88.148.5: rta 13.003ms, lost 0%
devel	Current users	WARNING	2005-06-19 18:55:17	0d 0h 1m 22s	3/3	USERS WARNING - 6 users currently logged in
	Disk usage /	OK	2005-06-19 18:55:18	0d 0h 1m 22s	1/3	DISK OK - free space: / 493 MB (21%):
	Kernel log process	OK	2005-06-19 18:55:18	0d 0h 0m 10s	1/3	PROCS OK: 1 process with command name 'klogd'
	PING	OK	2005-06-19 18:55:18	2d 5h 15m 25s	1/3	OK - 193.201.96.130: rta 0.092ms, lost 0%
	RAM Usage	CRITICAL	2005-06-19 18:55:18	0d 0h 3m 37s	3/3	NRPE: Command 'ram' not defined
	Swap Usage	OK	2005-06-19 18:55:18	2d 5h 18m 54s	1/3	SWAP OK: 100% free (483 MB out of 486 MB)
	Syslog process	OK	2005-06-19 18:55:18	0d 0h 0m 10s	1/3	PROCS OK: 1 process with command name 'syslogd'
	System Load	OK	2005-06-19 18:55:18	2d 5h 15m 21s	1/3	OK - load average: 0.05, 0.01, 0.00
	Total Memory	CRITICAL	2005-06-19 18:55:18	0d 0h 3m 2s	3/3	NRPE: Command 'mem' not

1. **Host:** Shows you the configured name of the host.
2. **Service:** Shows you the name of the service.
3. **Status:** Shows the current status of the service.
4. **Last Check:** Lists the date and time when the last check was executed.
5. **Duration:** Shows you the amount of time the service has been in the current state.
6. **Attempt:** Shows you how many attempts the system has made to decide the current state of the service.
7. **Status Information:** Shows you the output of the service check.

To get more detailed information about a specific service simply click on the service name. This view shows you Service State Information and Service Commands textboxes. The boxes are much like the ones for hosts.

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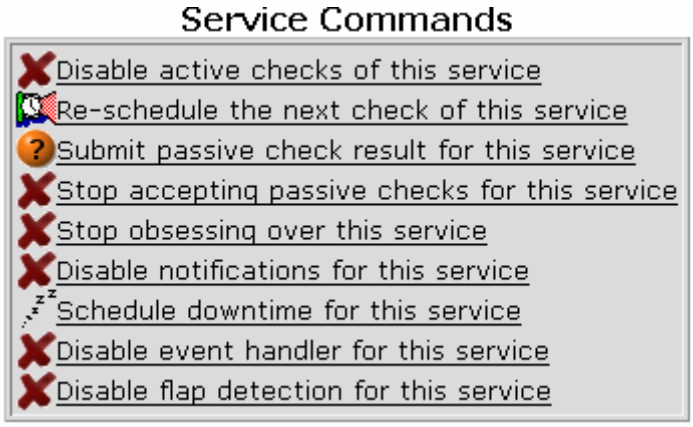
Host State Information gives you more detailed information about the service.

Service Commands lets you issue commands for that specific service.



Disable Active Checks Of This Service: This can be used to temporary disable the checks for that service.
Re-schedule Next Service Check: This command is used to reschedule the next check of the selected service. OP5 Monitor will re-schedule the service to be checked at the time you specify. If you select the force check option, OP5 Monitor will force a check of the service regardless of both what time the scheduled check occurs and whether or not checks are enabled.
Submit Passive Check Result For This Service: This command is used to submit a passive check result for the selected service. It can for example be used to clear the state on a passive service.
Stop Accepting Passive Checks For This Service: This command is used to stop OP5 Monitor from accepting passive check results for the selected service. All passive check results that are found for service will be ignored.
Stop Obsessing Over This Service: This is only used when configuring certain redundant solutions and should normally not be used.
Acknowledge This Service Problem: This alternative is only displayed if the host is in a non ok state. It lets you acknowledge the problem and type in a log message. This message is sent out as a notification and also displayed in the system for everybody to see. This functionality is highly recommended.
Disable Notifications For This Service: This command is used to prevent notifications from being sent out for the selected service. You will have to re-enable notifications for this service before any alerts can be sent out in the future. This does not prevent notifications from being sent out about the host unless you check the 'Disable for host too' option.
Delay Next Service Notification: This command lets you delay the time until next notification is sent out. Normally OP5 Monitor is configured to only send out one notification when a problem occurs but if you have configured reoccurring notifications you can use this command.
Schedule Downtime For This Service: This command is used to schedule downtime on the selected service.
Disable Event Handler For This Service: This command is used to temporarily prevent OP5 Monitor from running the host event handler on the selected service.
Disable Flap Detection For This Service: This command is used to disable flap detection for the selected host.

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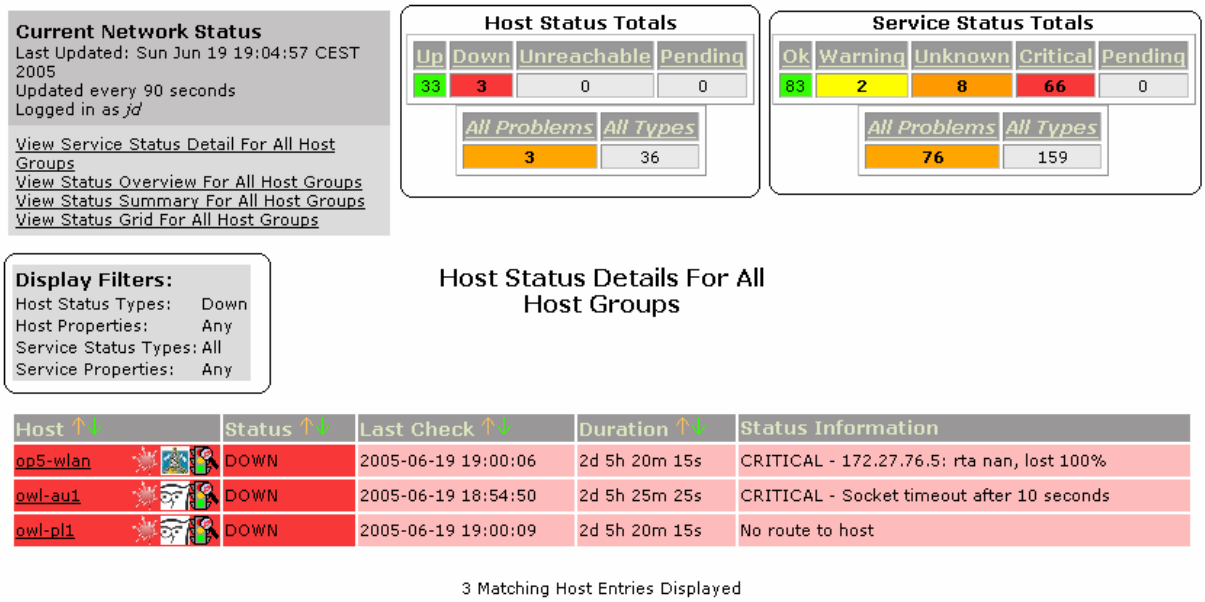
The meaning of icons in the list

	Management links, used to manage the host. SSH, Telnet, HTTP etc. Configured in the web configuration tool.
	Comment. The host or service has comments attached to it.
	Acknowledged. The host or service problem has been acknowledged. The host or service alarms will not be notified.
	If you click this icon you'll get to the notes/documentation for the selected host. This need to be configured in the web configuration tool for hosts.
	Status icon. When clicked you see the host and service status of the selected host.
	Status map icon. When clicked, it shows you the host on the status map.

Status Summary and filtering



You can create filters for what to display on the page. If you click on any of the links below “Host Status Totals” and “Service Status Totals” a textbox named “Display Filters” shows. This box tells you the filter that has been defined. By default no filter is applied from start.

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Host group Summary, Overview and Grid

A host group is used to group one or more hosts together for display purposes. You can for example create host groups to reflect the geographical locations of your hosts or type of host. A host can be a member of several host groups.

The available views for service groups are:

Host group Summary

Status Summary For All Host Groups

Host Group	Host Status Totals	Service Status Totals
External Web Servers (external-web)	3 UP	6 OK
Gothenburg Network Nodes (gothenburg-group)	7 UP	22 OK 2 WARNING 8 UNKNOWN 4 CRITICAL
Linux Servers (linux-servers)	10 UP	39 OK 1 WARNING 8 UNKNOWN 56 CRITICAL
Malmo Network Nodes (mlm-hostgroup)	8 UP 2 DOWN	8 OK 2 CRITICAL
Routers / Switches (network)	7 UP	24 OK 1 WARNING 1 CRITICAL
Owl FTP Mirrors (owl_mirrors)	9 UP 2 DOWN	9 OK 2 CRITICAL
Printers (printers)	1 UP	1 OK
Stockholm Network Nodes (sthlm-hostgroup)	14 UP 1 DOWN	45 OK 60 CRITICAL
Windows Servers (windows-servers)	1 UP	1 OK 5 CRITICAL

Shows you a table with a row for each host group and three columns, Host Group, Host Status Totals and Service Status totals. This is a god view if you quickly want to get a summary of all your host groups.

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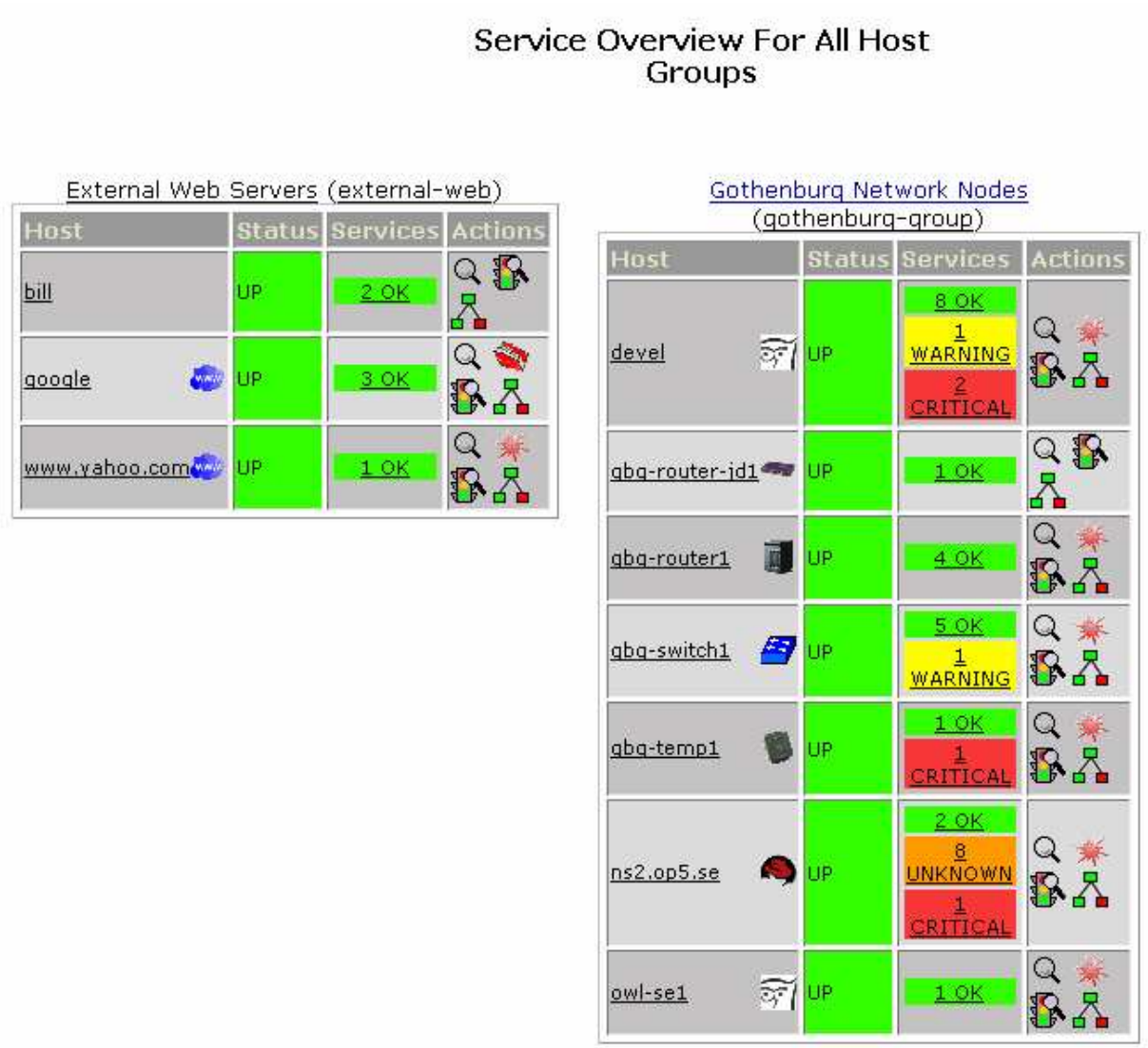
Host group Overview



Draws one table per host group listing each host and a summary of service status totals.

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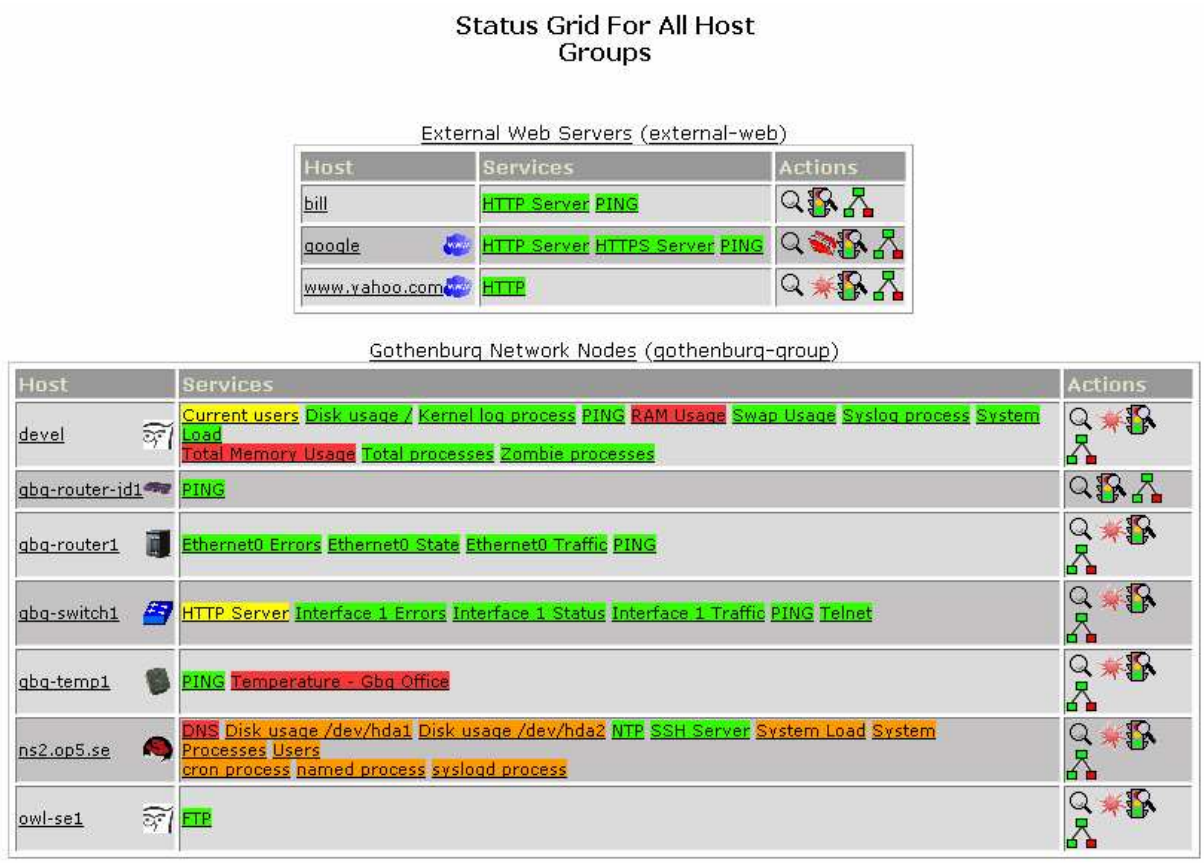
Host group Grid



This is the most detailed view it shows one table per host group listing each host and service with colours representing status.

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Service group Summary, Overview and Grid

A service group definition is used to group one or more services together for display purposes. You can for example create a group and include all services related to a specific service you provide, process, disk usage, cpu usage, internet connectivity and so on. You can also create groups based on service type. A service can be a member of more than one service group.

The available views for service groups are:

Service group Summary

Status Summary For All Service Groups

Host Group	Host Status Totals	Service Status Totals
Email service (email-services)	5 UP	10 OK 5 CRITICAL
Office Critical Services (office-services)	3 UP	3 OK 11 CRITICAL

Shows you a table with a row for each service group and three columns, Service Group, Host Status Totals and Service Status totals. This is a god view if you quickly want to get a summary of all your service groups.

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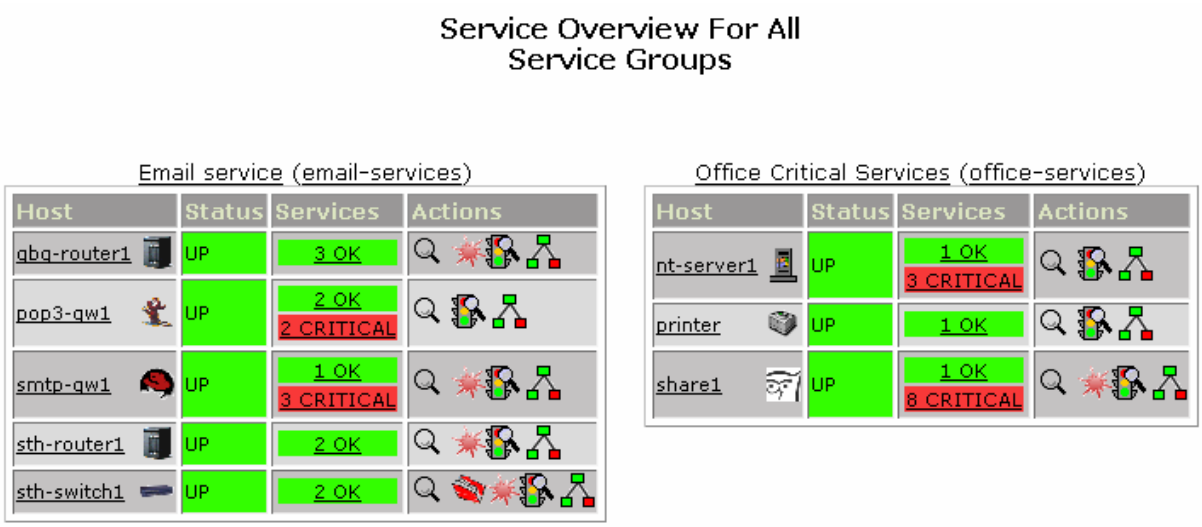
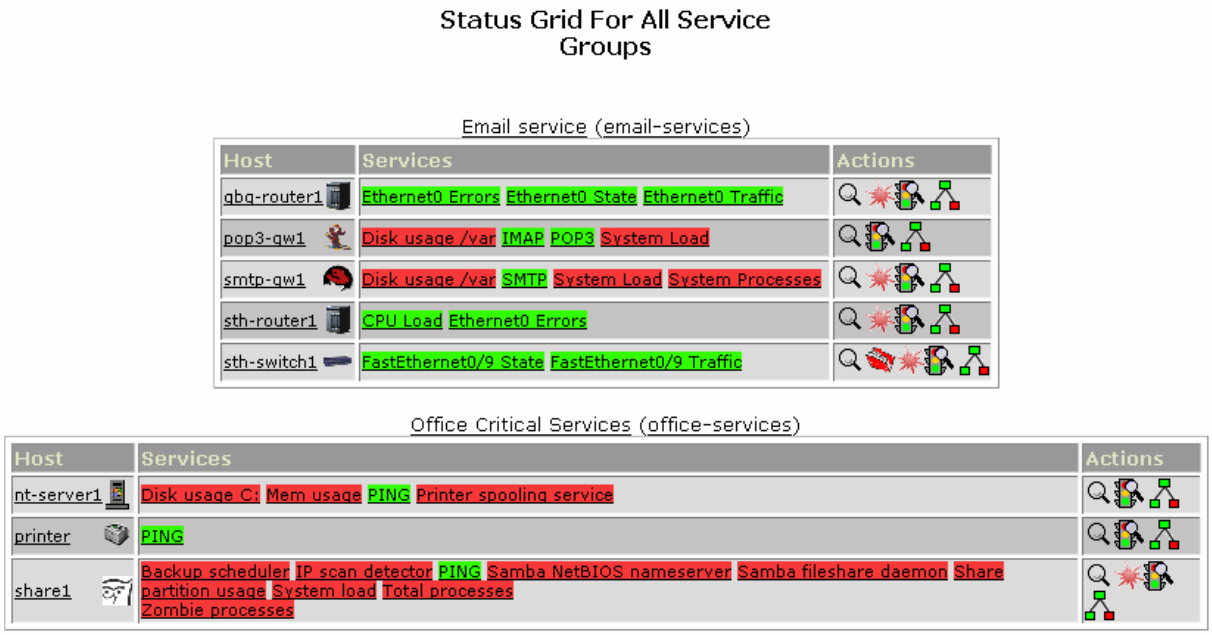
Service group Overview



Draws one table per service group listing each host and a summary of service status totals.

Service group Grid



This is the most detailed view it shows one table per service group listing each host and service with colours representing status.

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Status Map

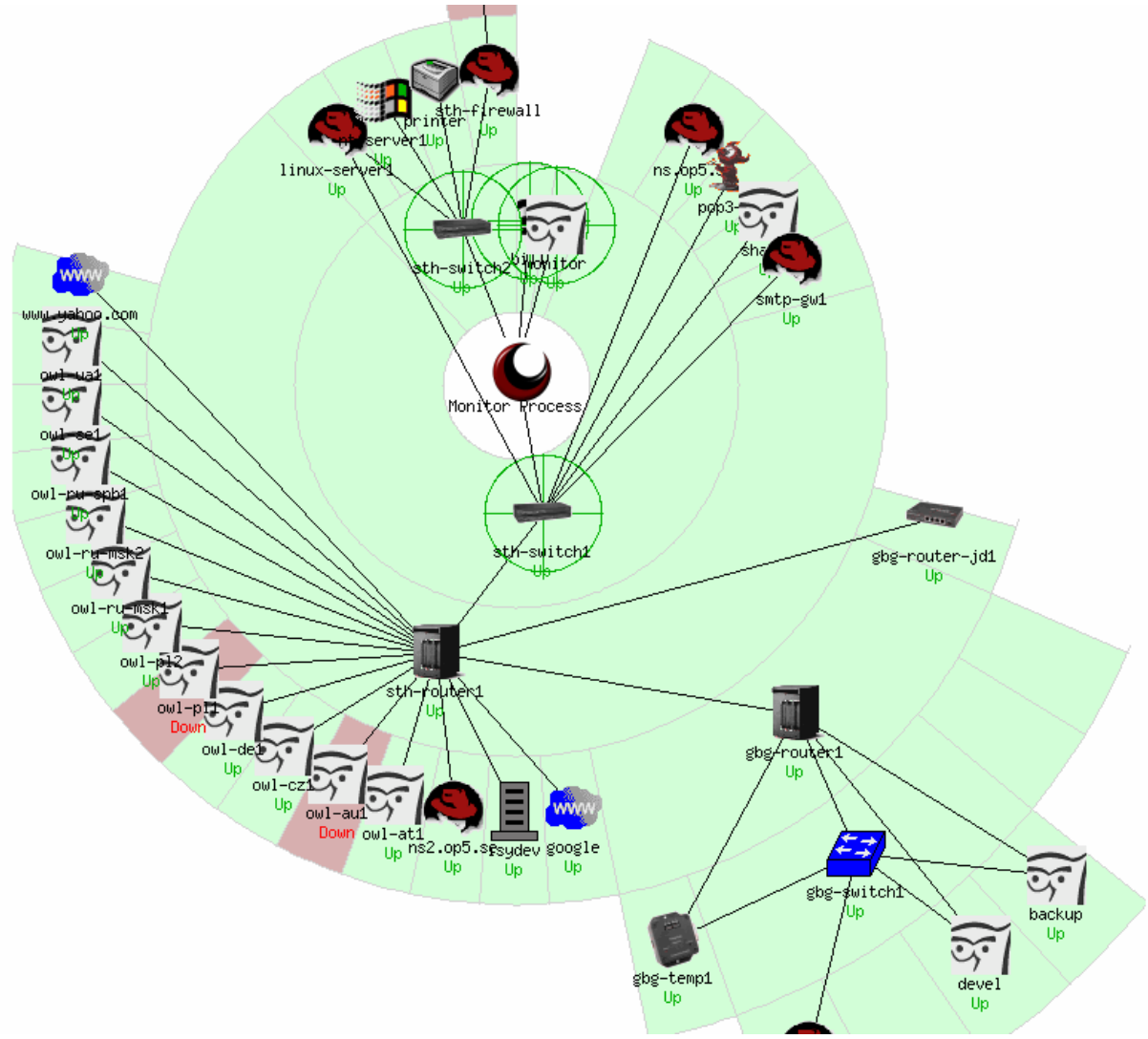
The Status Map gives you a graphical view of the network including the relations between the hosts. The Map also shows what parts of the network that is functional, non-functional and out aged.

Furthermore the Status Map can be configured with a background image. All the icons enables you to find your hosts quickly to further pinpoint the location of the problem. The icons can be replaced by your choice.

The Status Map can filter out all hosts that are related to a certain host group and show or exclude these. This is done choosing the drawing layers. The map can be scaled, zoomed in or out.

For more information about the status you can choose the related links that sends you to the status detail and overview window.

You can also select between different layout methods altering the way the map is drawn, “Circular (Marked Up)” being the default.



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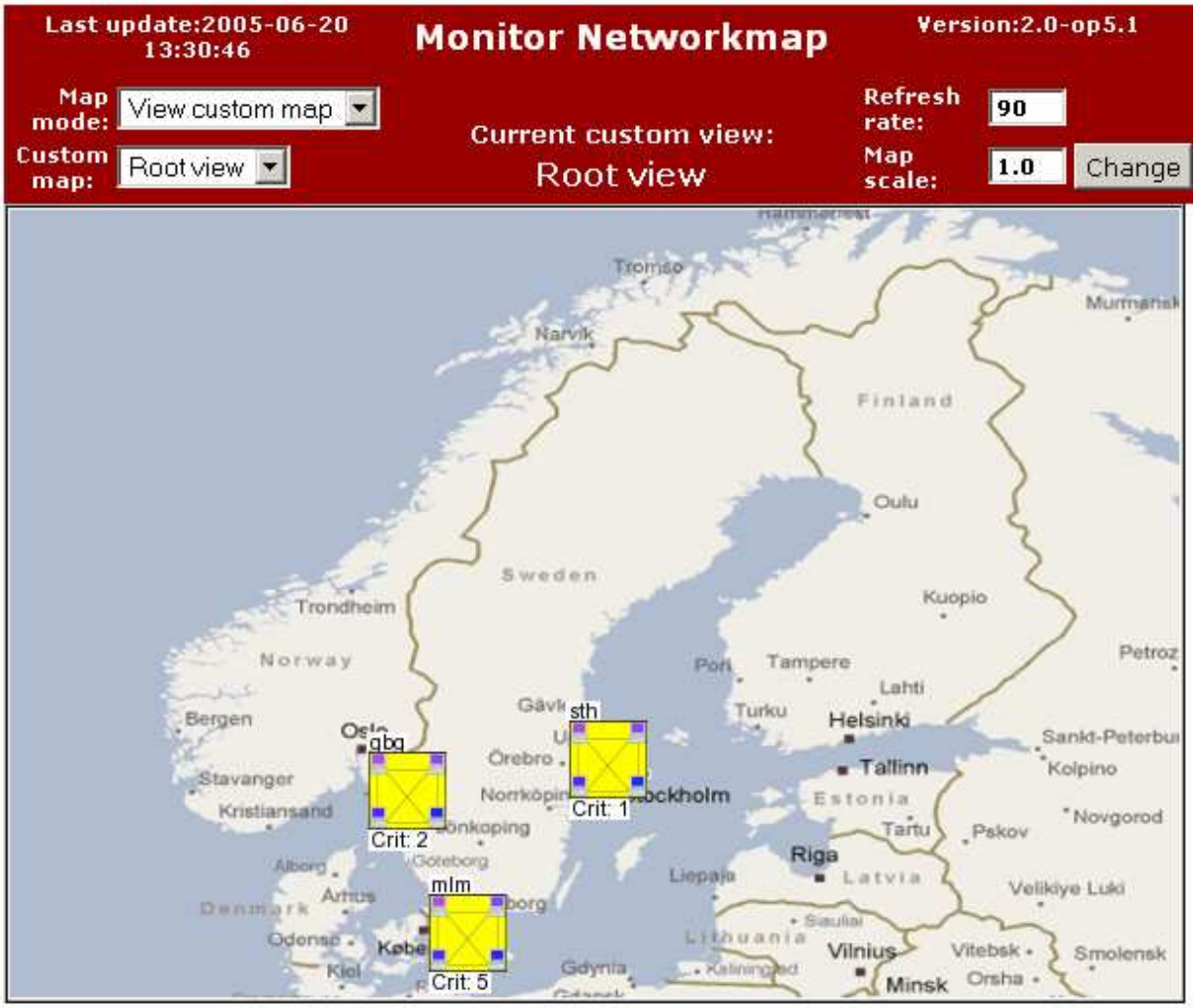
Network Map

The network map is an enhanced version of the status map with possibility to create highly customized views of a network by just click and place hosts, host groups and views on a map.



The picture above shows you the default layout of the network map. A background image of the Nordic countries including 3 custom maps.

The available options on the view are:

- Map mode
- Custom map
- Refresh rate
- Map scale

There are 4 available modes:

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View host group

This mode allows you to view each host group by selecting the host group in the Host group list.

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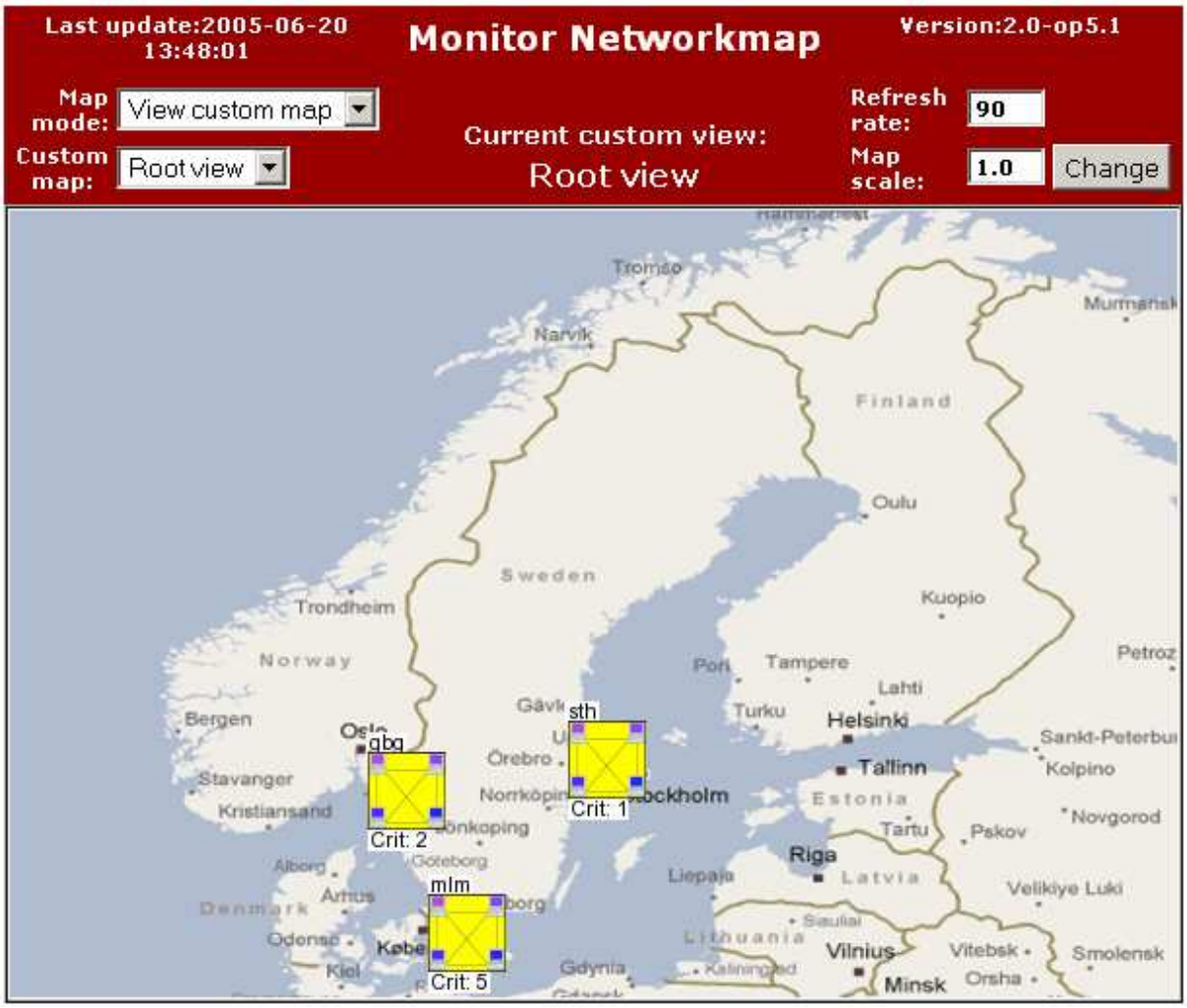
View custom map (default)



This mode allows you to view your customized maps. By selecting map in “Custom map” you can view different maps in your hierarchy.

If you click on any of the objects in the map you will be redirected to that view.

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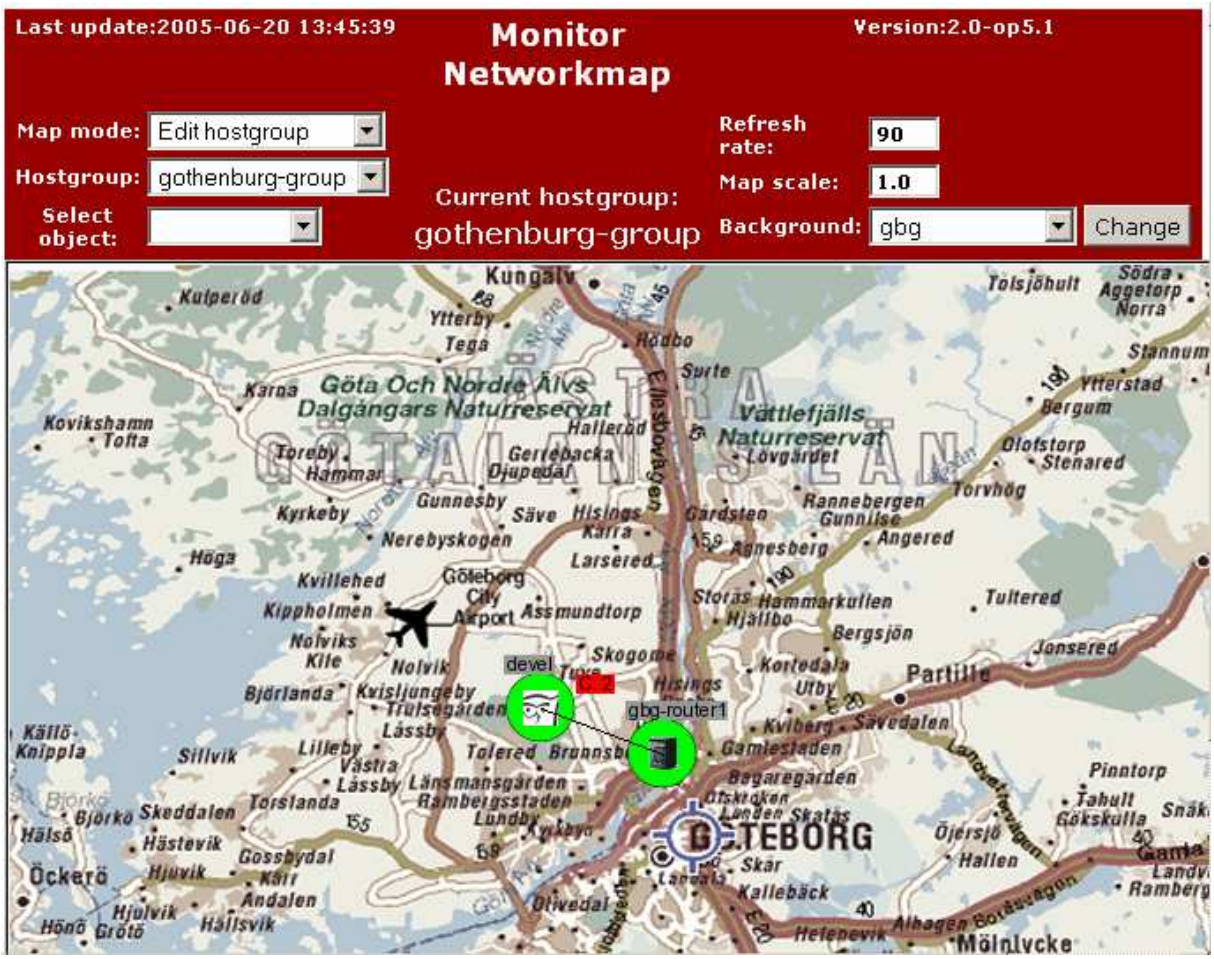
Edit host group



The edit host group mode allows you to change background images and move hosts around inside the host groups.

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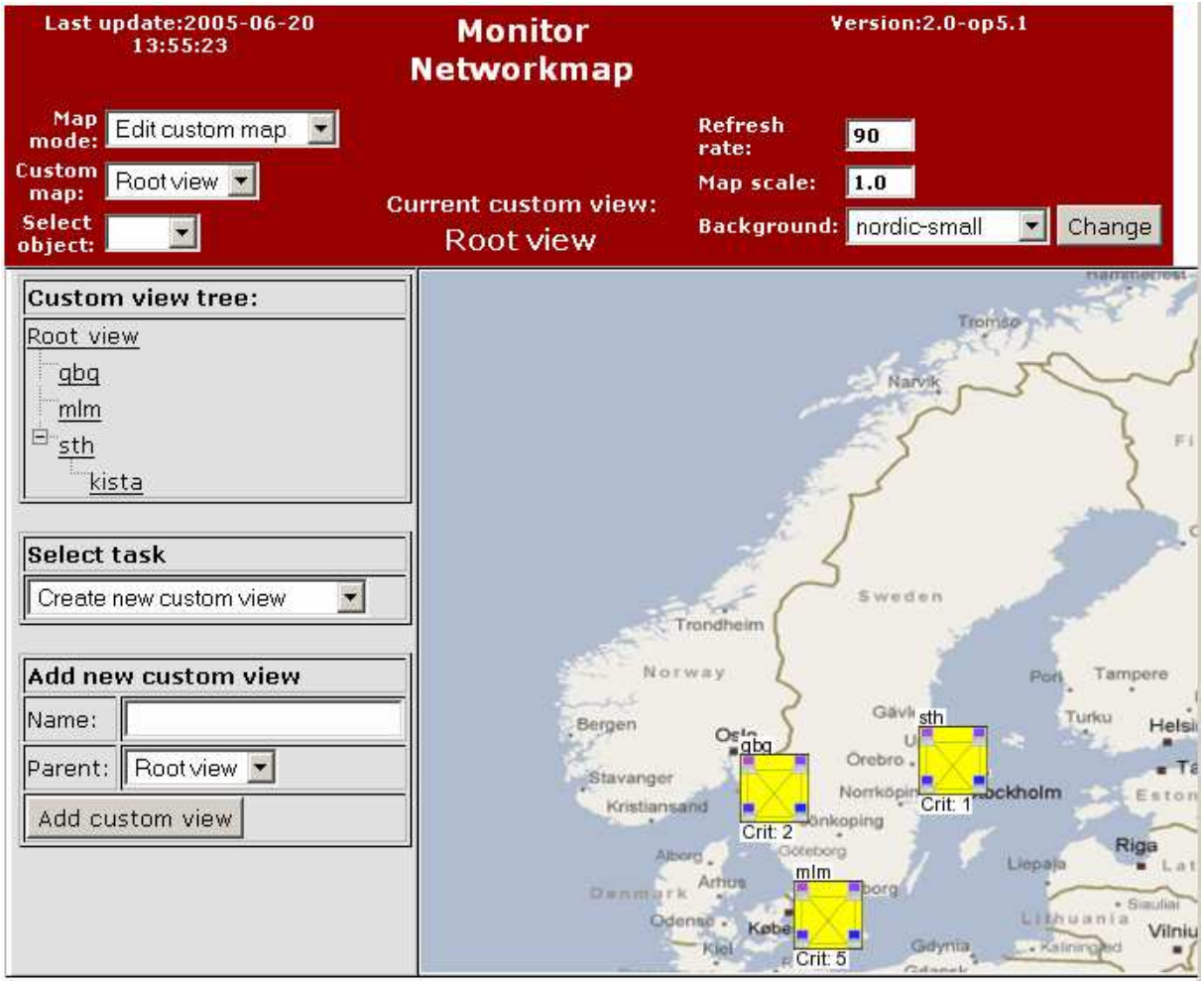
Edit custom map.



Custom maps are configured in a tree hierarchy. This makes it possible to have several network layers.

In the top you have “Custom view tree:” where you can navigate through the tree. Below you have “Select task”.

Available tasks are:

- **Create new custom view:** Allows you to create new views
- Rename this view: Allows you to rename the selected view
- Add items to this view: Allows you to add items (host groups and hosts) to the selected view
- Remove items from this view: Allows you to remove items (host groups and hosts) from the selected view
- Handle background images: Allows you to upload new background images (must be .png format), Set default background and delete existing background images.

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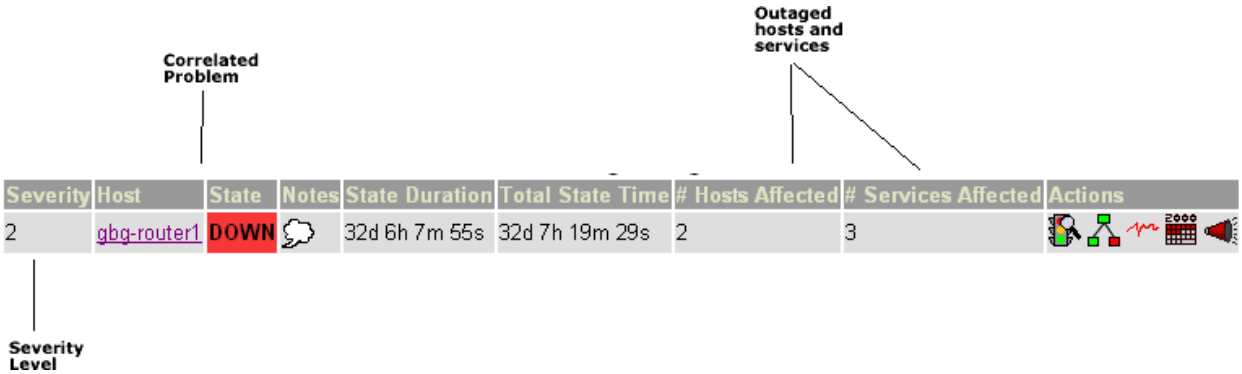
Network Outages

By using event correlation OP5 Monitor will suppress all host alarms that comes from hosts behind a faulty host. Monitor is preconfigured with knowledge of the physical structure of the network and creates a notification of which host that is causing the outage. Digging into the problem at a deeper level is left to the user, as there are any number of things which might actually be the cause of the problem.



In order to display the problem hosts in a somewhat useful manner, they are sorted by the severity of the effect they are having on the network. The severity level is determined by two things: The number of hosts which are affected by problem host and the number of services which are affected. Hosts hold a higher weight than services when it comes to calculating severity. The current code sets this weight ratio at 4:1 (i.e. hosts are 4 times more important than individual services).

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Host Problems

The Host Problem Windows are similar to the Host and Service Detail windows. The real difference is the display of status. The Host Problems window only shows hosts with problems.

Display Filters:
Host Status Types: All problems
Host Properties: Any
Service Status Types: All
Service Properties: Any

Host Status Details For All Host Groups

Host	Status	Last Check	Duration	Status Information
op5-wlan	DOWN	2005-06-19 19:10:06	2d 5h 34m 6s	CRITICAL - 172.27.76.5: rta nan, lost 100%
owl-au1	DOWN	2005-06-19 19:13:30	2d 5h 39m 16s	CRITICAL - Socket timeout after 10 seconds
owl-pl1	DOWN	2005-06-19 19:00:09	2d 5h 34m 6s	No route to host

3 Matching Host Entries Displayed

Service Problems

The Service Problem Windows are similar to the Host and Service Detail windows. The real difference is the display of status. The Host Problems window only shows hosts with problems.

Display Filters:
Host Status Types: All
Host Properties: Any
Service Status Types: All Problems
Service Properties: Any

Service Status Details For All Hosts

Host	Service	Status	Last Check	Duration	Attempt	Status Information
devel	Current users	WARNING	2005-06-19 19:10:17	0d 0h 26m 35s	3/3	USERS WARNING - 6 users currently logged in
	RAM Usage	CRITICAL	2005-06-19 19:16:10	0d 0h 28m 50s	3/3	NRPE: Command 'ram' not defined
	Total Memory Usage	CRITICAL	2005-06-19 19:20:23	0d 0h 28m 15s	3/3	NRPE: Command 'mem' not defined
gbg-switch1	HTTP Server	WARNING	2005-06-19 19:16:57	2d 5h 43m 50s	3/3	HTTP WARNING: HTTP/1.1 401 Unauthorized
gbg-temp1	Temperature - Gbg Office	CRITICAL	2005-06-19 19:20:33	2d 5h 40m 24s	3/3	(Return code of 127 is out of bounds - plugin may be missing)

Show Host

It is possible to search for a host by typing the initial letters of the host name in the field that says “show host” in the main menu. Press enter and the host and its services detail will be shown.

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Comments

All hosts and Services can have one or more comments related to it. A comment is a free text note of your choice.

[Host Comments | Service Comments]

Host Comments

Add a new host comment

Host Name	Entry Time	Author	Comment	Comment ID	Persistent	Type	Expires	Actions
nt-server1	2005-06-19 19:24:39	Johannes Dagemark	Lots of disk errors, time to change soon	3	Yes	User	N/A	

Service Comments

Add a new service comment

Host Name	Service	Entry Time	Author	Comment	Comment ID	Persistent	Type	Expires	Actions
gbg-temp1	Temperature - Gbg Office	2005-06-19 19:26:00	Johannes Dagemark	Temperature should be below 25	4	Yes	User	N/A	

Host name: The host the comment is related to.
Entry Time: Date and time when the comment was added.
Author: The name comment author.
Comment: The comment itself.
Comment ID: A Unique ID number for the comment, it can be used as a reference number.
Persistent: If the comment is persistent or not. Comments that are not persistent will be removed if the OP5 Monitor system is restarted.
Type: What kind of comment. User, System or acknowledgement
Expires: Only for comments added by the system.
Actions: Possibility to delete a comment.

Downtime

Using scheduled downtime enables you to plan for system work ahead. When a host or service is scheduled for downtime OP5 Monitor suppresses alarms for that host or service. Furthermore OP5 Monitor informs you about when a host or service is scheduled for downtime through the web interface. Information about the scheduled downtime is also stored in the logs so that planned system work does not affect availability reports.

It is possible to schedule downtime for hosts, services, entire host groups and service groups. You can also configure triggered downtime for hosts located below a host currently during scheduled downtime.

Basically the window consists of shortcuts to the currently configured scheduled downtime for hosts and services. There is also a links to schedule downtime. Those links can be reached from each host and service view as well.

The rest is a listing of all scheduled downtime.

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[Host Downtime | Service Downtime]

Scheduled Host Downtime

Schedule host downtime

Host Name	Entry Time	Author	Comment	Start Time	End Time	Type	Duration	Downtime ID	Trigger ID	Actions
qbq-router1	2005-06-19 19:27:41	jd	Upgrade of Internet Connection	2005-06-19 20:00:00	2005-06-19 21:00:00	Fixed	0d 1h 0m 0s	1	N/A	
backup	2005-06-19 19:27:41	jd	Upgrade of Internet Connection	2005-06-19 20:00:00	2005-06-19 21:00:00	Fixed	0d 1h 0m 0s	2	1	
devel	2005-06-19 19:27:41	jd	Upgrade of Internet Connection	2005-06-19 20:00:00	2005-06-19 21:00:00	Fixed	0d 1h 0m 0s	3	1	
backup	2005-06-19 19:27:41	jd	Upgrade of Internet Connection	2005-06-19 20:00:00	2005-06-19 21:00:00	Fixed	0d 1h 0m 0s	4	1	
qbq-temp1	2005-06-19 19:27:41	jd	Upgrade of Internet Connection	2005-06-19 20:00:00	2005-06-19 21:00:00	Fixed	0d 1h 0m 0s	6	1	
qbq-switch1	2005-06-19 19:27:41	jd	Upgrade of Internet Connection	2005-06-19 20:00:00	2005-06-19 21:00:00	Fixed	0d 1h 0m 0s	8	1	
qbq-temp1	2005-06-19 19:27:41	jd	Upgrade of Internet Connection	2005-06-19 20:00:00	2005-06-19 21:00:00	Fixed	0d 1h 0m 0s	9	1	

Scheduled Service Downtime

Schedule service downtime

Host Name	Service	Entry Time	Author	Comment	Start Time	End Time	Type	Duration	Downtime ID	Trigger ID	Actions
nt-server1	Printer spooling service	2005-06-19 19:29:02	jd	This service will be restarted due to upgrade	2005-06-19 21:00:00	2005-06-19 22:00:00	Fixed	0d 1h 0m 0s	10	N/A	

Host name: Host name which the downtime affects.
Service: Service which the downtime affects.
Entry Time: Time for creation of the scheduled downtime.
Author: The name of the author of the scheduled downtime.
Comment: Comments to the scheduled downtime.
Start time: Start time and date of the scheduled downtime.
End Time: End time and date for the scheduled downtime.
Type: If the downtime is a fixed entry, it starts at the “Start Time” and ends at the “End Time”. If the schedule isn't fixed then it starts when the host or service goes down in-between the Start and End time and lasts as long as the configured duration (very useful if you don’t really know when you will start your maintenance)
Duration: Is the duration of flexible scheduled downtime.
Downtime ID: Unique ID of the scheduled downtime.
Trigger ID: ID of the downtime that triggers start of this downtime.
Actions: Allows you to delete a configured scheduled downtime.

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Process Info

The process information window gives you information about the monitor system as well as giving you the possibility to run system wide commands.

Process Information

Program Start Time:	2004-10-29 16:14:17
Total Running Time:	3d 19h 42m 18s
Last External Command Check:	2004-11-02 10:56:31
Last Log File Rotation:	2004-11-01 00:00:00
Monitor PID	21870
Notifications Enabled?	YES
Service Checks Being Executed?	YES
Passive Service Checks Being Accepted?	YES
Host Checks Being Executed?	YES
Passive Host Checks Being Accepted?	YES
Event Handlers Enabled?	Yes
Obsessing Over Services?	No
Obsessing Over Hosts?	No
Flap Detection Enabled?	Yes
Performance Data Being Processed?	No

Process Commands

- Shutdown the Monitor process
- Restart the Monitor process
- Disable notifications
- Stop executing service checks
- Stop accepting passive service checks
- Stop executing host checks
- Stop accepting passive host checks
- Disable event handlers
- Start obsessing over services
- Start obsessing over hosts
- Disable flap detection
- Enable performance data

The process information:

Program start time: The date and time when the monitor process was started or reloaded.
Total running time: The amount of time Monitor has been up and running.
Last external command check: Date and time when the last check was executed.
Last log file rotation: Date and time when the log files where rotated.
Monitor PID: OP5 Monitor's Process ID.
Notifications enabled: (Yes or No)
Passive service checks being accepted: (Yes or No)
Host check being executed: (Yes or No)
Passive host checks being accepted: (Yes or No)
Event handler enabled: (Yes or No)
Obsessing over services: (Yes or No)
Obsessing over hosts: (Yes or No)
Flap Detection enabled: (Yes or No)
Performance data being processed: (Yes or No)

Process Commands

Shutdown the Monitor Process: Shutdown the Monitor program. Be aware that to start the process again you need to access the system by console or SSH, se the OP5 System manual for more information.
Restart the Monitor Process: The OP5 Monitor process stops and starts again.
Disable Notifications: All notifications are disabled.
Stop executing service checks: This will cause OP5 Monitor to stop all execution of all service checks.
Stop accepting passive service checks: This will cause OP5 Monitor to stop accepting all passive service checks.
Stop executing host checks: This will cause OP5 Monitor to stop all execution of host checks.

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Stop accepting passive host checks: This will cause OP5 Monitor to stop receiving external host checks.
Disable event handlers: This will cause OP5 Monitor to disable event handling (automatic reaction to events).
Start obsessing over services: Only used in certain redundant setups.
Start obsessing over hosts: Only used in certain redundant setups.
Disable flap detection: Disable the detection of hosts and services pending between different states.
Enable performance data: Storage of performance data for hosts and services.

Performance Info

OP5 Monitor gives you detailed information about its performance.

Program-Wide Performance Information

Active Service Checks:

Time Frame	Checks Completed
<= 1 minute:	32 (20.1%)
<= 5 minutes:	145 (91.2%)
<= 15 minutes:	159 (100.0%)
<= 1 hour:	159 (100.0%)
Since program start:	159 (100.0%)

Metric	Min.	Max.	Average
Check Execution Time:	0.02 sec	10.05 sec	1.598 sec
Check Latency:	0.00 sec	1.05 sec	0.506 sec
Percent State Change:	0.00%	9.74%	0.23%

Passive Service Checks:

Time Frame	Checks Completed
<= 1 minute:	0 (0.0%)
<= 5 minutes:	0 (0.0%)
<= 15 minutes:	0 (0.0%)
<= 1 hour:	0 (0.0%)
Since program start:	0 (0.0%)

Metric	Min.	Max.	Average
Percent State Change:	0.00%	0.00%	0.00%

Active Host Checks:

Time Frame	Checks Completed
<= 1 minute:	6 (16.7%)
<= 5 minutes:	13 (36.1%)
<= 15 minutes:	15 (41.7%)
<= 1 hour:	15 (41.7%)
Since program start:	15 (41.7%)

Metric	Min.	Max.	Average
Check Execution Time:	0.01 sec	10.03 sec	0.468 sec
Check Latency:	0.00 sec	0.00 sec	0.000 sec
Percent State Change:	0.00%	0.00%	0.00%

Passive Host Checks:

Time Frame	Checks Completed
<= 1 minute:	0 (0.0%)
<= 5 minutes:	0 (0.0%)
<= 15 minutes:	0 (0.0%)
<= 1 hour:	0 (0.0%)
Since program start:	0 (0.0%)

Metric	Min.	Max.	Average
Percent State Change:	0.00%	0.00%	0.00%

Performance data is shown for Active and Passive Service and Host checks.

This can be a way to see that the OP5 System is able to keep up with the work load. If Monitor uses a lot of time to execute checks or if the check latency is high you might need to upgrade to a larger system.

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Scheduling Queue

This is OP5 Monitors working schedule. The list includes all services that are scheduled and information about when last check was executed and when next check will be. The list can be sorted as with the host and service detail by clicking the arrows next to the name host, service, last check or next check. The list will be sorted in ascending or descending order.

Entries sorted by **next check time** (ascending)

Host	Service	Last Check	Next Check	Active Checks	Actions
web1	Disk usage /var	2005-06-19 19:28:39	2005-06-19 19:33:39	ENABLED	
qbq-router1	Ethernet0 Errors	2005-06-19 19:28:40	2005-06-19 19:33:40	ENABLED	
web1	System Processes	2005-06-19 19:28:42	2005-06-19 19:33:42	ENABLED	
qbq-switch1	Interface 1 Errors	2005-06-19 19:28:43	2005-06-19 19:33:43	ENABLED	
www.yahoo.com	HTTP	2005-06-19 19:28:45	2005-06-19 19:33:45	ENABLED	
qbq-temp1	PING	2005-06-19 19:28:46	2005-06-19 19:33:46	ENABLED	
devel	Current users	2005-06-19 19:28:49	2005-06-19 19:33:49	ENABLED	
isydev	PING	2005-06-19 19:28:50	2005-06-19 19:33:50	ENABLED	
devel	Swap Usage	2005-06-19 19:28:52	2005-06-19 19:33:52	ENABLED	
linux-server1	HTTP	2005-06-19 19:28:53	2005-06-19 19:33:53	ENABLED	
devel	Zombie processes	2005-06-19 19:28:55	2005-06-19 19:33:55	ENABLED	
linux-server1	System Processes	2005-06-19 19:28:56	2005-06-19 19:33:56	ENABLED	
qbq-router1	PING	2005-06-19 19:28:59	2005-06-19 19:33:59	ENABLED	
monitor	Current users	2005-06-19 19:29:00	2005-06-19 19:34:00	ENABLED	

Host: The host name for which the check is to be executed.
Service: The Service name for which the check is to be executed.
Last Check: When the check was last performed.
Next Check: When the next check will be performed.
Active Checks: If active checks is enabled or disabled.
Actions: The clock links you to specify a new time for check execution. The X disables an active check for that service and host.

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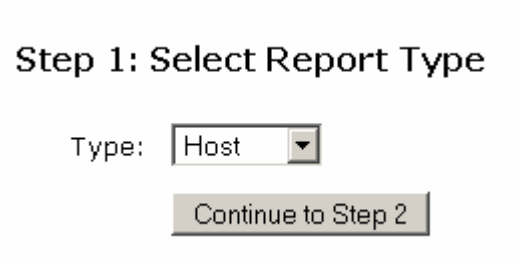
Reporting

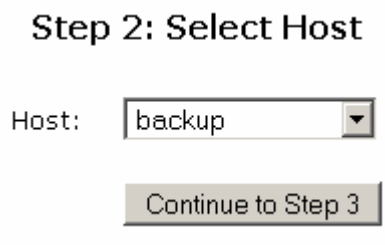
The Monitoring headline basically covers everything in OP5 Monitor that is happening in real time. It shows you the status on your hosts and services right now. With reporting OP5 Monitor takes all data that has been gathered and makes it available for the users to create reports from it.

Trends

Trends display a graphic view of status on a host or a service during a selected report period. This graphical view can also be reached from Availability reports.



Select the preferred report type. Host or Service



Select host or service you want the report based on

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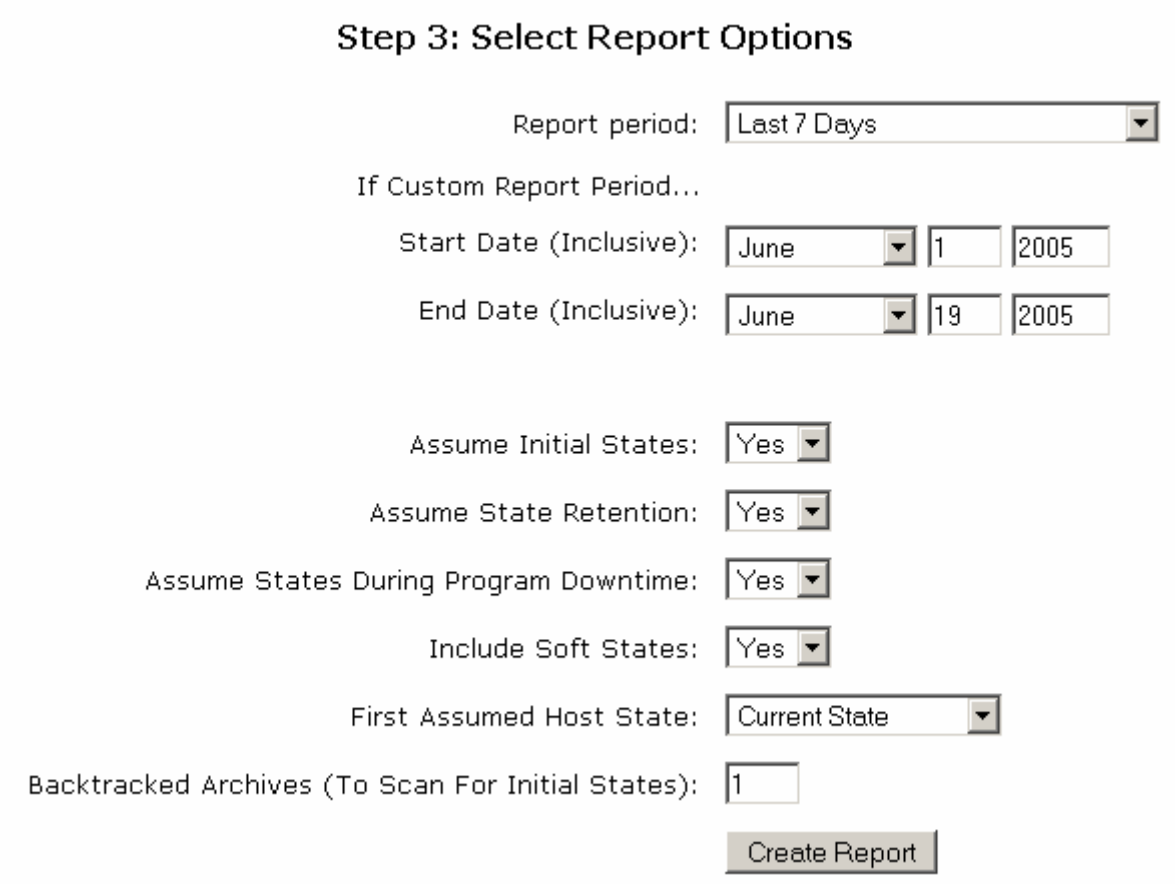

Now you have the ability to select report options

Report period: Choose by a set of predefined report periods or choose “CUSTOM REPORT PERIOD”.
Start Date (Inclusive): Specify Start Date if “CUSTOM REPORT PERIOD” was selected above
End Date (Inclusive): Specify End Date if “CUSTOM REPORT PERIOD” was selected above
Assume Initial States: For advanced users. Normally you don’t need to change this.
Assume State Retention: For advanced users. Normally you don’t need to change this.
Assume States During Program Downtime: Whether OP5 Monitor shall assume status of hosts and service during its own downtime.
Include Soft States: For advanced users. Normally you don’t need to change this.
First Assumed Service State: If there is no information about the host or service in the current log file, OP5 Monitor can assume status of the host/service.
Backtracked Archives (To Scan For Initial States): How many log archives to look through when searching for initial states. OP5 Monitor is configured to rotate the log monthly.

Click on “Create Report” and you are done.

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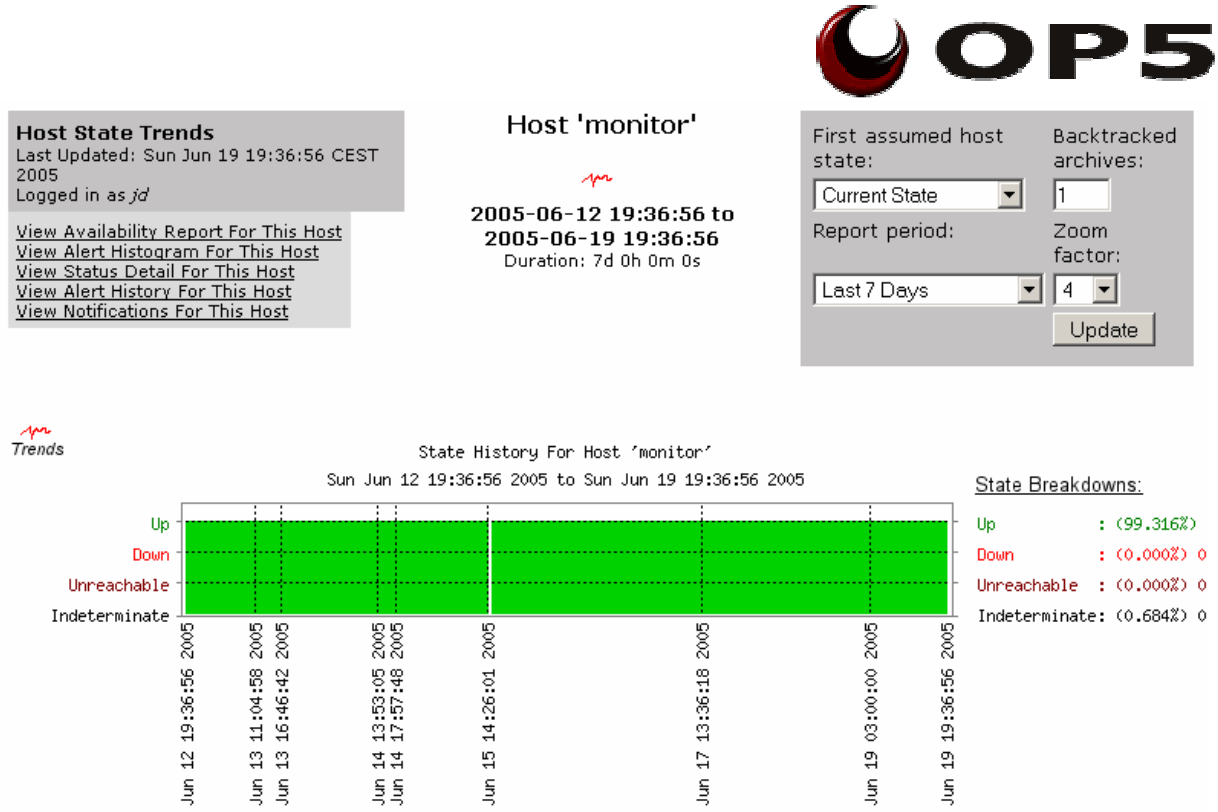
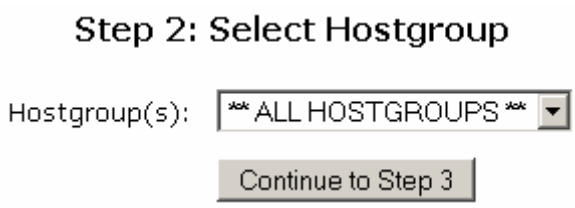


The report shows status on a graph with state on the Y-axis and time on the X-axis. You can zoom into the graph by clicking on it. You can also reconfigure the graph by using the options in the textbox in the upper left corner.

Availability

Lets you create detailed availability reports based on host groups, hosts, service groups and services.

Select the preferred report type. Host group, Host, Service group or Service.



Select the Host group, Host, Service group or Service you want the report based on. You can also choose to create a report for all items of the selected type.

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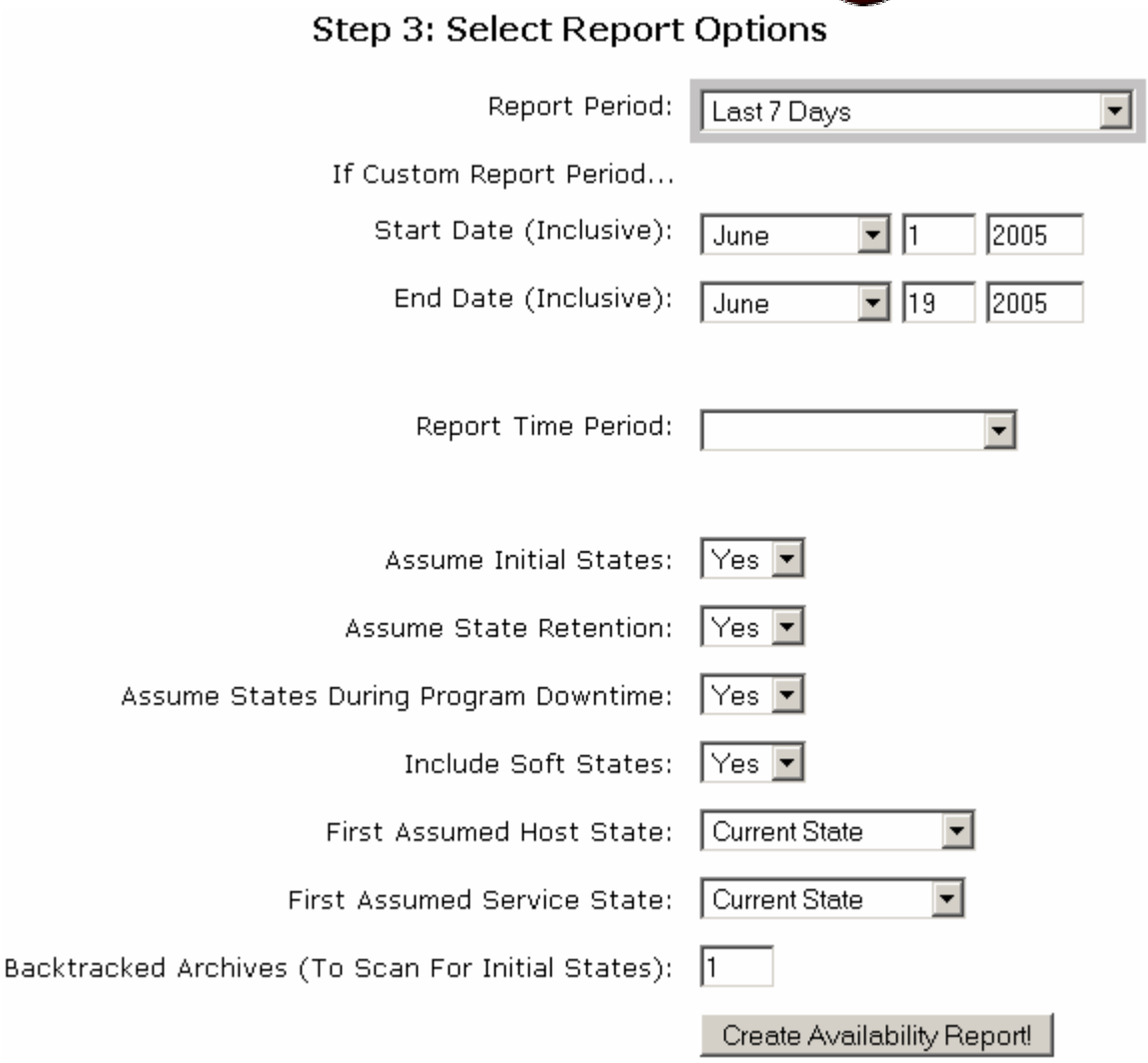

Now you have the ability to select report options
Report period: Choose by a set of predefined report periods or choose “CUSTOM REPORT PERIOD”.
Start Date (Inclusive): Specify Start Date if “CUSTOM REPORT PERIOD” was selected above
End Date (Inclusive): Specify End Date if “CUSTOM REPORT PERIOD” was selected above
Report Time Period: Which time period to include in the report.
Assume Initial States: For advanced users. Normally you don’t need to change this.
Assume State Retention: For advanced users. Normally you don’t need to change this.
Assume States During Program Downtime: Whether OP5 Monitor shall assume status of hosts and service during its own downtime.
Include Soft States: For advanced users. Normally you don’t need to change this.
First Assumed Host/Service State: If there is no information about the host or service in the current log file, OP5 Monitor can assume status of the host/service.
Backtracked Archives (To Scan For Initial States): How many log archives to look through when searching for initial states. OP5 Monitor is configured to rotate the log monthly.

Note: If you have selected “ALL HOSTS” or “ALL SERVICES” you now have the option to export the report in CSV format.

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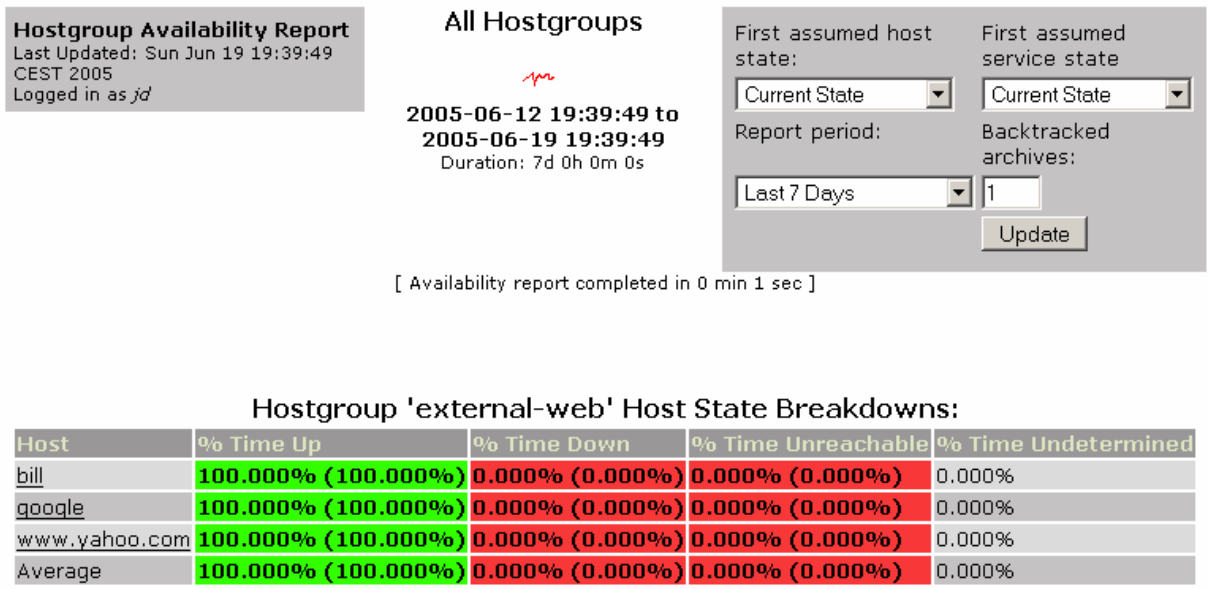
Click on “Create Report” and you are done.



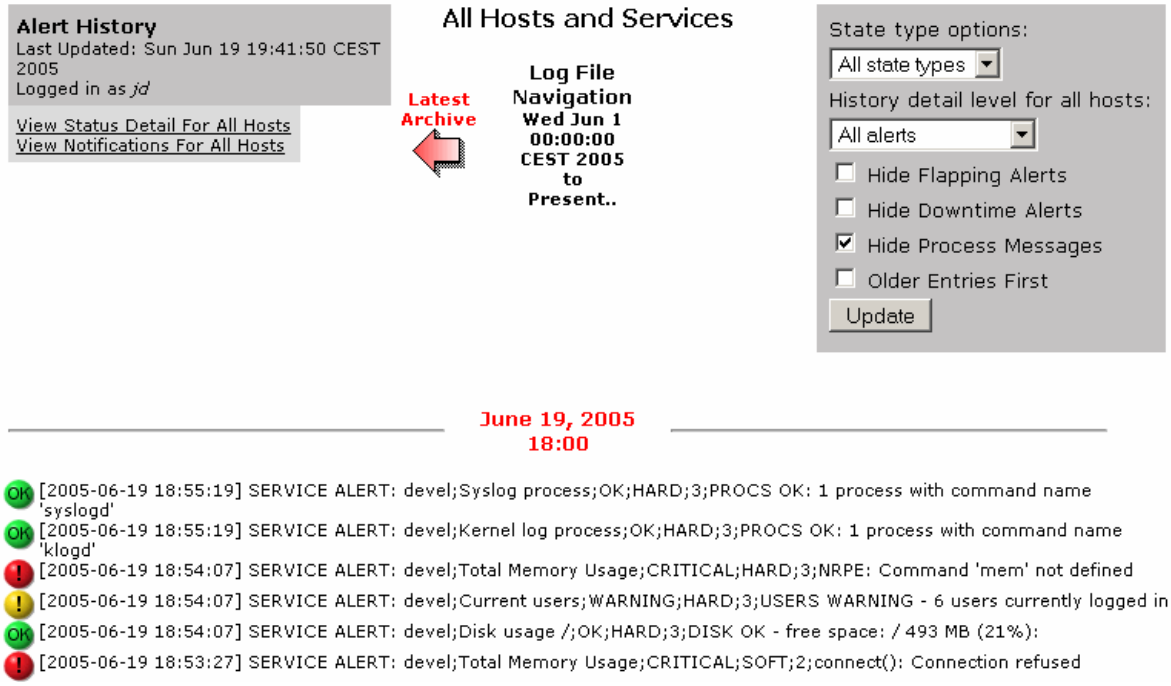
Host	% Time Up	% Time Down	% Time Unreachable	% Time Undetermined
bill	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
google	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
www.yahoo.com	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%
Average	100.000% (100.000%)	0.000% (0.000%)	0.000% (0.000%)	0.000%

The states are showed in totals and percentages, divided in scheduled and unscheduled, which means if the host has been scheduled for downtime or not. So If the figures for Up are unscheduled, this means that the host has NOT been scheduled for downtime. If there are figures for Scheduled, the host has been scheduled for downtime. The report also shows state breakdowns divided in time, state shown in percentages.

Alert History

Alert History shows you a raw log of host and service state changes. You can filter the log and specify what state changes that should be listed.

This is good for troubleshooting and also to detect small network problems.



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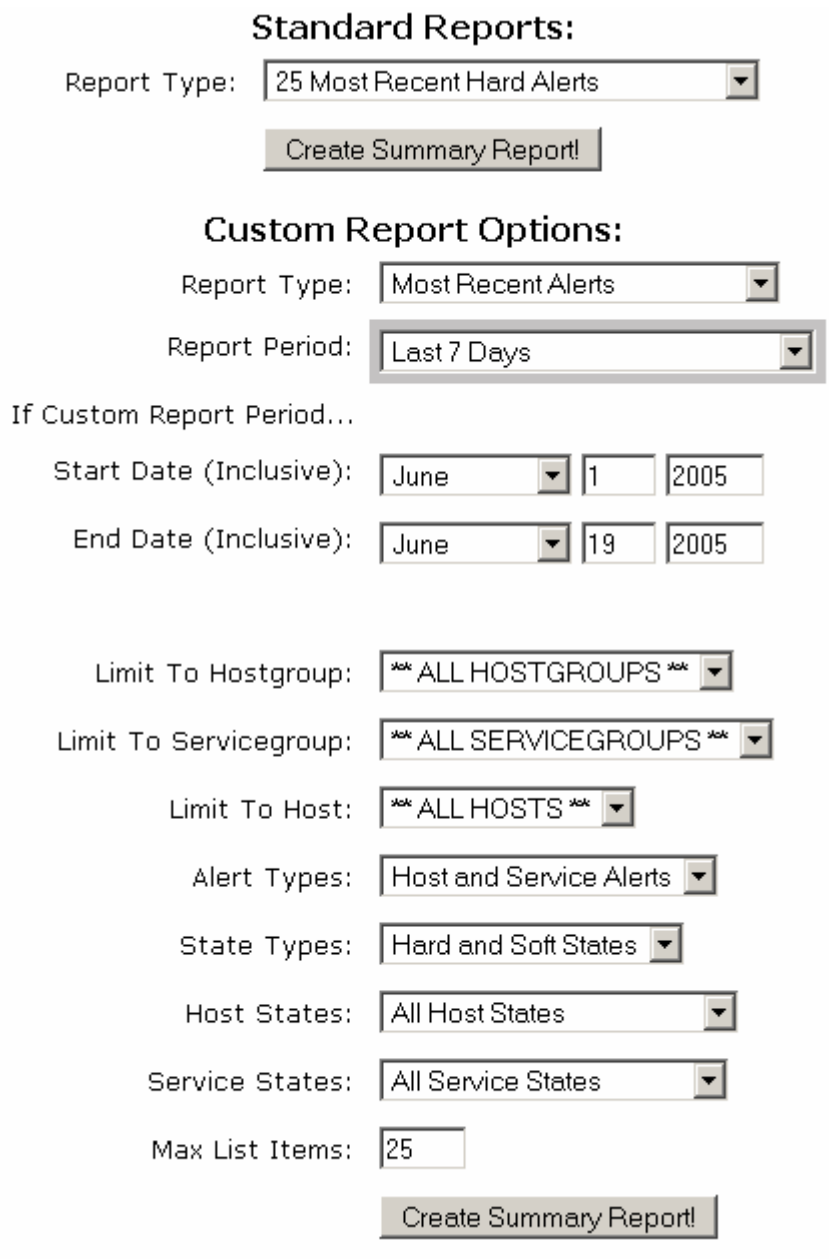
Alert Summary

Alert Summary shows you a summarized picture of all problems, like the top alert producers, or the most recent alert producers and so on. When selecting Alert Summary from the main menu a new window will appear, see next page. You'll have the possibility to choose a standard report or make a customized report.



The standard reports are:

25 Most Recent Hard Alerts
25 Most Recent Hard Host Alerts
25 Most Recent Hard Service Alerts
Top 25 Hard Host Producers
Top 25 Hard Service Producers

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The customized report requires you to set a number of criteria for the report;

Report type: Most Recent Alerts, Alert Totals, Alert totals by Host group, Alert totals by Hosts, Alert totals by Service.
Report Period: The interval of the report, choosing the past in days, weeks, months or years. The period can also be customized further (See custom Report period)
Custom Report Period: Choose the start and end date if you chosen custom report period above.

Filter by specifying: Limit to host group, limit to host, alert types, state types, host states, service states.
Choose the size of the report by enter the Max list item value.

Click the 'Create Summary Report'

Note: Remember either you choose the standard reports or you use the customized one**
And this is what the outcome is for a standard report 'Most Recent Alerts'.

Alert Summary Report
Last Updated: Sun Jun 19 19:44:15 CEST 2005
Logged in as *jd*

Most Recent Alerts

2005-06-12 19:44:15 to 2005-06-19 19:44:15
Duration: 7d 0h 0m 0s

Report Options Summary:

Alert Types:	Host & Service Alerts
State Types:	Soft & Hard States
Host States:	Up, Down, Unreachable
Service States:	Ok, Warning, Unknown,

Generate New Report

Displaying most recent 25 of 1898 total matching alerts

Time	Alert Type	Host	Service	State	State Type	Information
2005-06-19 18:55:19	Service Alert	devel	Syslog process	OK	HARD	PROCS OK: 1 process with command name 'syslogd'
2005-06-19 18:55:19	Service Alert	devel	Kernel log process	OK	HARD	PROCS OK: 1 process with command name 'klogd'
2005-06-19 18:54:07	Service Alert	devel	Total Memory Usage	CRITICAL	HARD	NRPE: Command 'mem' not defined
2005-06-19 18:54:07	Service Alert	devel	Current users	WARNING	HARD	USERS WARNING - 6 users currently logged in
2005-06-19 18:54:07	Service Alert	devel	Disk usage /	OK	HARD	DISK OK - free space: / 493 MB (21%):
2005-06-19 18:53:27	Service Alert	devel	Total Memory Usage	CRITICAL	SOFT	connect(): Connection refused
2005-06-19 18:53:26	Service Alert	devel	RAM Usage	CRITICAL	HARD	connect(): Connection refused
2005-06-19 18:53:26	Service Alert	devel	Current users	CRITICAL	SOFT	connect(): Connection refused
2005-06-19 18:53:26	Service Alert	devel	Disk usage /	CRITICAL	HARD	connect(): Connection refused
2005-06-19 18:52:27	Service Alert	devel	Total Memory Usage	CRITICAL	SOFT	NRPE: Command 'mem' not defined
2005-06-19 18:52:26	Service Alert	devel	RAM Usage	CRITICAL	SOFT	NRPE: Command 'ram' not defined
2005-06-19 18:52:26	Service Alert	devel	Current users	WARNING	SOFT	USERS WARNING - 6 users currently logged in
2005-06-19 18:52:26	Service Alert	devel	Disk usage /	CRITICAL	SOFT	NRPE: Command 'root_disk' not defined
2005-06-19 18:52:12	Service Alert	devel	Disk usage /	CRITICAL	SOFT	NRPE: Command 'root_disk' not defined
2005-06-19 18:51:52	Service Alert	devel	RAM Usage	CRITICAL	SOFT	NRPE: Command 'ram' not defined
2005-06-19 16:29:26	Service Alert	sth-switch2	PING	OK	SOFT	OK - 193.201.96.5: rta 27.213ms, lost 0%
2005-06-19 16:28:27	Service Alert	sth-switch2	PING	WARNING	SOFT	WARNING - 193.201.96.5: rta 237.052ms, lost 0%
2005-06-19 15:32:18	Service Alert	share1	PING	OK	SOFT	OK - 172.27.76.2: rta 28.668ms, lost 0%
2005-06-19 15:31:18	Service Alert	share1	PING	WARNING	SOFT	WARNING - 172.27.76.2: rta 134.130ms, lost 0%
2005-06-19 15:27:40	Service Alert	sth-switch1	PING	OK	SOFT	OK - 193.201.96.5: rta 25.285ms, lost 0%
2005-06-19 15:26:40	Service Alert	sth-switch1	PING	WARNING	SOFT	WARNING - 193.201.96.5: rta 210.153ms, lost 0%

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Notifications

Contact Notifications
Last Updated: Sun Jun 19 19:45:37 CEST 2005
Logged in as *jd*

All Contacts

Latest Archive

Log File Navigation
Wed Jun 1 00:00:00 CEST 2005 to Present..

Notification detail level for all contacts:
All notifications
Older Entries First:
Update

Host	Service	Type	Time	Contact	Notification Command	Information
backup	PING	OK	2005-06-17 12:15:37	ae	service-notify	OK - 193.201.96.131: rta 26.392ms, lost 0%
backup	PING	OK	2005-06-17 12:15:37	ae-sms	service-notify	OK - 193.201.96.131: rta 26.392ms, lost 0%
backup	PING	OK	2005-06-17 12:15:37	jd	service-notify	OK - 193.201.96.131: rta 26.392ms, lost 0%
backup	PING	OK	2005-06-17 12:15:37	peter	service-notify	OK - 193.201.96.131: rta 26.392ms, lost 0%
backup	PING	WARNING	2005-06-17 12:10:38	ae	service-notify	WARNING - 193.201.96.131: rta 122.969ms, lost 0%
backup	PING	WARNING	2005-06-17 12:10:38	ae-sms	service-notify	WARNING - 193.201.96.131: rta 122.969ms, lost 0%
backup	PING	WARNING	2005-06-17 12:10:37	jd	service-notify	WARNING - 193.201.96.131: rta 122.969ms, lost 0%
backup	PING	WARNING	2005-06-17 12:10:37	peter	service-notify	WARNING - 193.201.96.131: rta 122.969ms, lost 0%
backup	PING	FLAPPING STOP	2005-06-16 15:40:37	ae	service-notify	OK - 193.201.96.131: rta 25.252ms, lost 0%
backup	PING	FLAPPING STOP	2005-06-16 15:40:37	ae-sms	service-notify	OK - 193.201.96.131: rta 25.252ms, lost 0%
backup	PING	FLAPPING STOP	2005-06-16 15:40:37	jd	service-notify	OK - 193.201.96.131: rta 25.252ms, lost 0%
backup	PING	FLAPPING STOP	2005-06-16 15:40:36	peter	service-notify	OK - 193.201.96.131: rta 25.252ms, lost 0%
nt-server1	CPU Load	WARNING	2005-06-16 15:19:31	ae	service-notify	No data was received from host!

When choosing Notifications from the reporting section of the main menu, the windows shown in the picture above will appear. You'll get a log of all notifications sent out. The list includes: Host, Service, State, Time, Contact, Notification Command, Information sent out. Further more the list can be sorted according to state type using the menu in the top of the windows right hand side.

Event Log

The Event Log shows all past event in the server listed by date. This can be useful to look for problems in the network that normally doesn't generate notifications. The Event Log can be viewed choosing 'Event Log' from the main menu under the reporting section.

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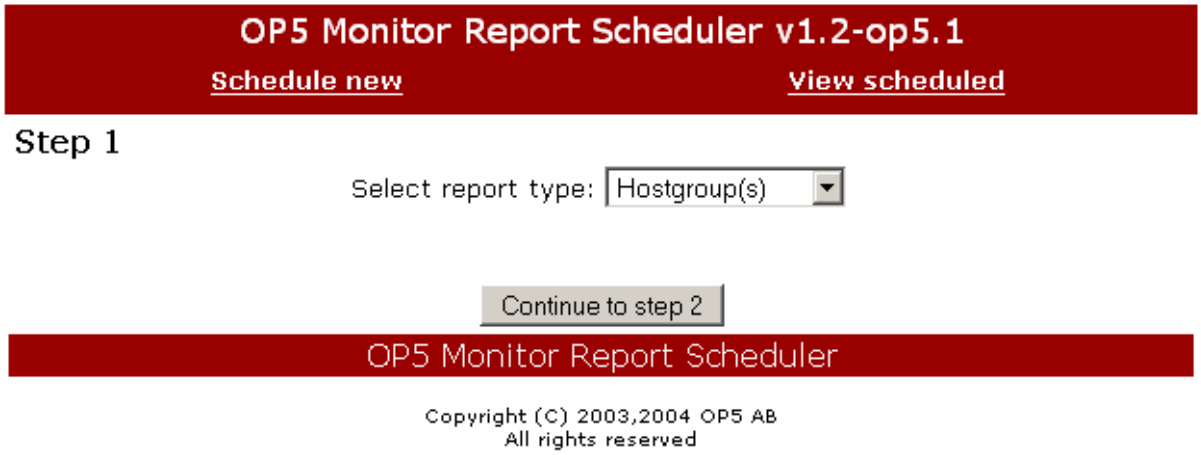
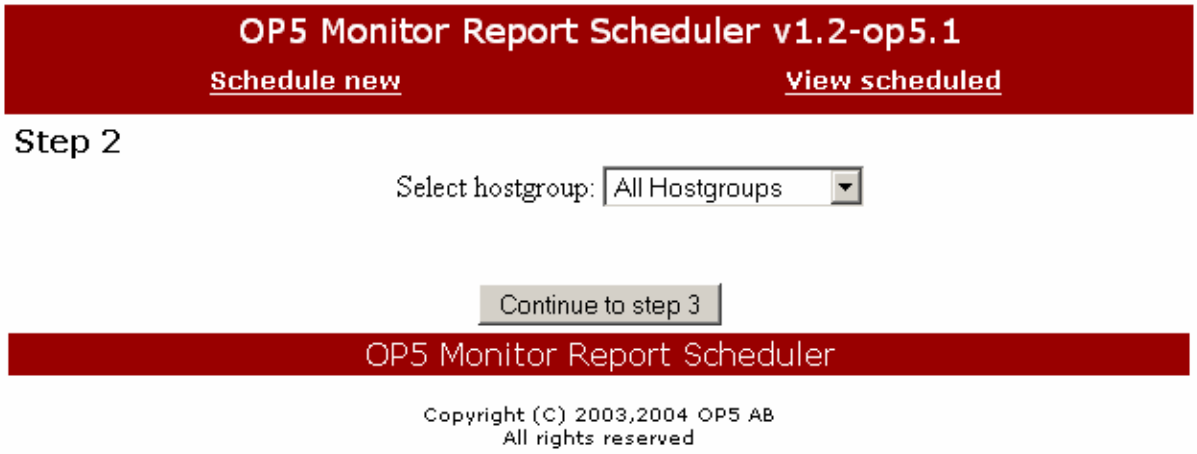
Schedule Reports

Schedule Reports creates availability reports and distributes them on a weekly or monthly basis by email. This function is useful to distribute availability data to persons that normally doesn't have access or work with OP5 Monitor.

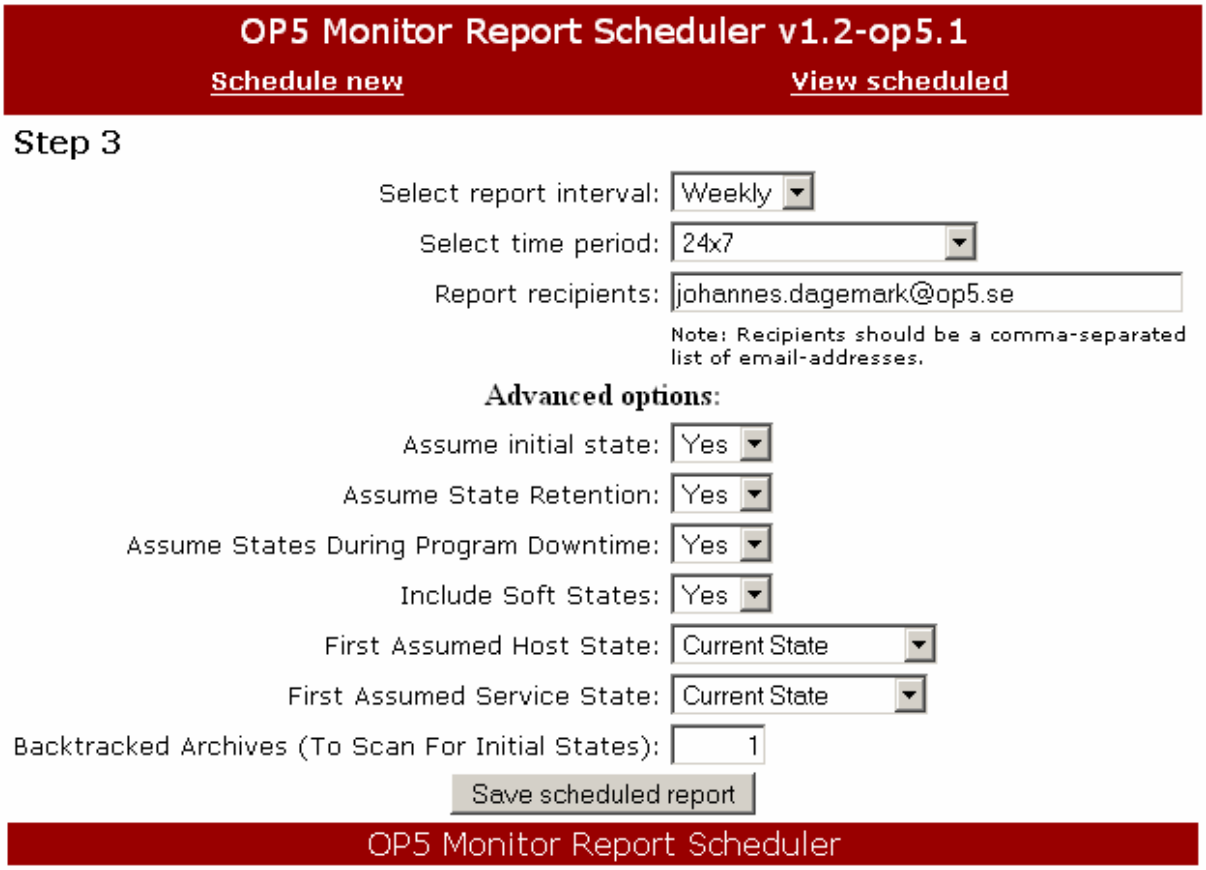


Select what kind of report you want to schedule and click on "Continue to step 2"

Available report types are
Host group(s)
Host(s)
Service Group(s)
Service(s)



Select the Object that you want the report on. You can either chose all objects in the list or one single object.



Select report interval: How often the reports will be sent out, weekly and monthly are the two alternatives
Select time period: Select which time period the report will include when calculating availability.
Report recipients: Recipients should be a comma-separated list of email-addresses.

Assume Initial States: For advanced users. Normally you don't need to change this.
Assume State Retention: For advanced users. Normally you don't need to change this.
Assume States During Program Downtime: Whether OP5 Monitor shall assume status of hosts and service during its own downtime.
Include Soft States: For advanced users. Normally you don't need to change this.
First Assumed Host State: If there is no information about the host or service in the current log file, OP5 Monitor can assume status of the host/service.
First Assumed Service State: If there is no information about the host or service in the current log file, OP5 Monitor can assume status of the host/service.
Backtracked Archives (To Scan For Initial States): How many log archives to look through when searching for initial states. OP5 Monitor is configured to rotate the log monthly.

Click on "Save scheduled report" and you are done.

To view, edit or delete a previously scheduled report click on "View scheduled" in the upper right corner of the view.

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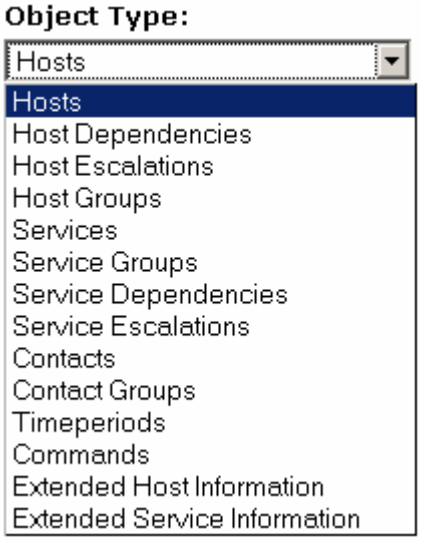
Configuration

View Config

The View Configuration menu option enables you to view your entire configuration. This can be useful if you for example quickly want a list of all hosts with alias and ip address.

These are the available object types.



Change password

Lets a user change his or hers password without help from an administrator.

Backup / Restore

Backup and Restore is an easy way to create a backup of OP5 Monitor's configuration and log files. With help of this function you can easily restore an old configuration if the current one is messed up.

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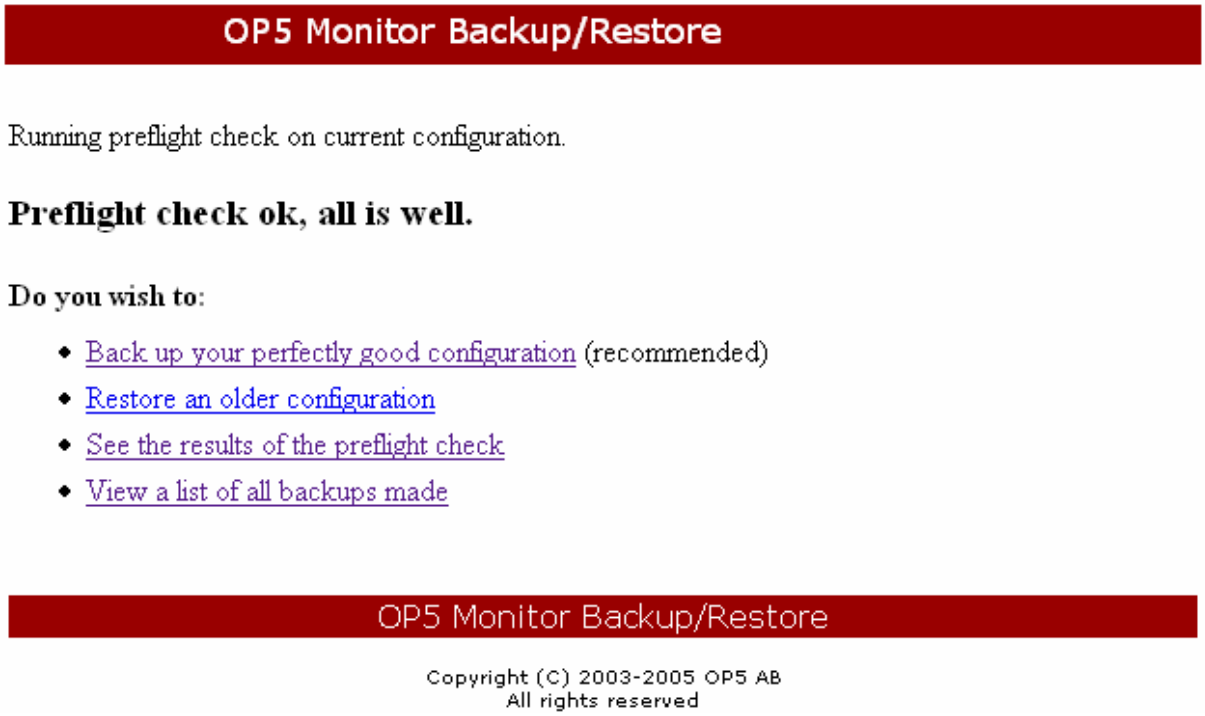

When you click on Backup / Restore a check of the system configuration is made, a so called pre-flight check. If the configuration is okay you are recommended to backup your configuration. If the configuration is faulty you are recommended to restore an old backup.

Note that this is in no way a replacement for full system backup, we recommend that you regularly create a backup of your OP5 System using your usual backup software or one of our backup scripts.

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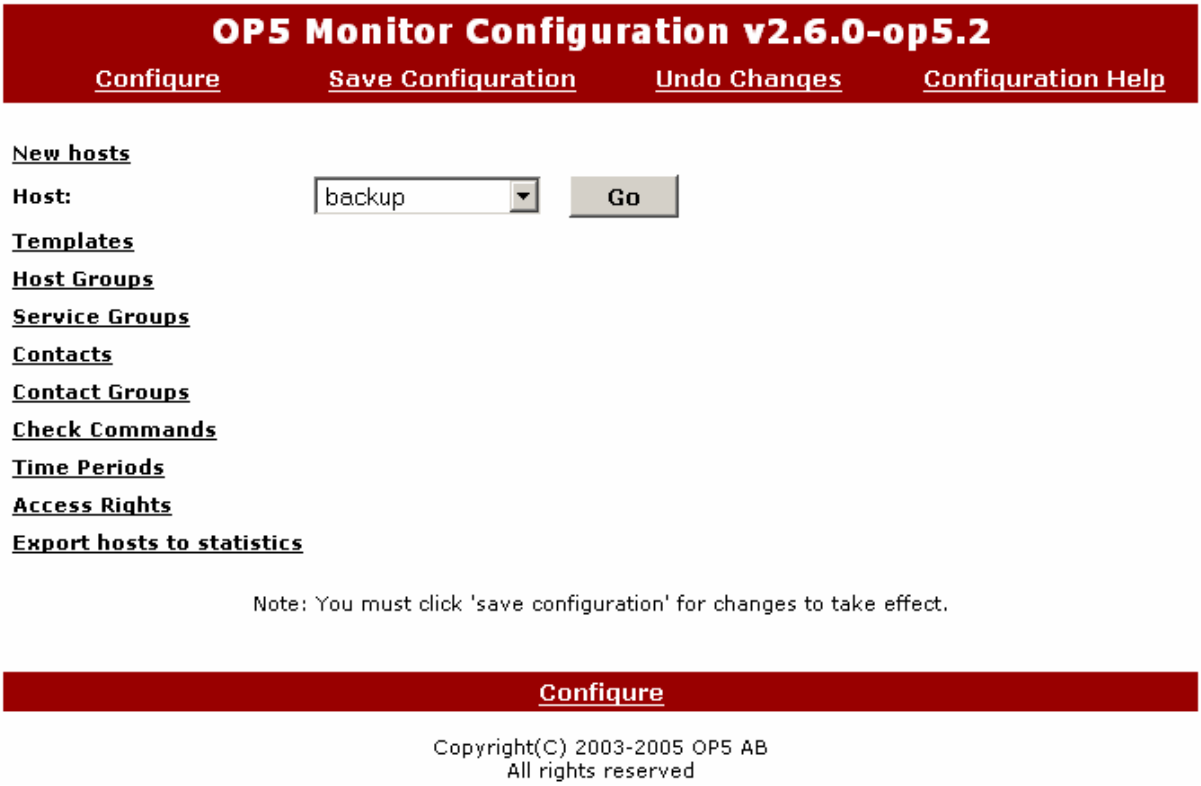
Configure

There is two ways to configure OP5 Monitor. One is to edit text files which are located on the OP5 Monitor server in the /opt/monitor/etc directory. The other is to use Configure which is a web based configuration GUI for OP5 Monitor.

Configure imports all data in the text based configuration files to a database, lets you edit the configuration and then exports the new data to new text files and makes sure that monitor reloads the configuration.

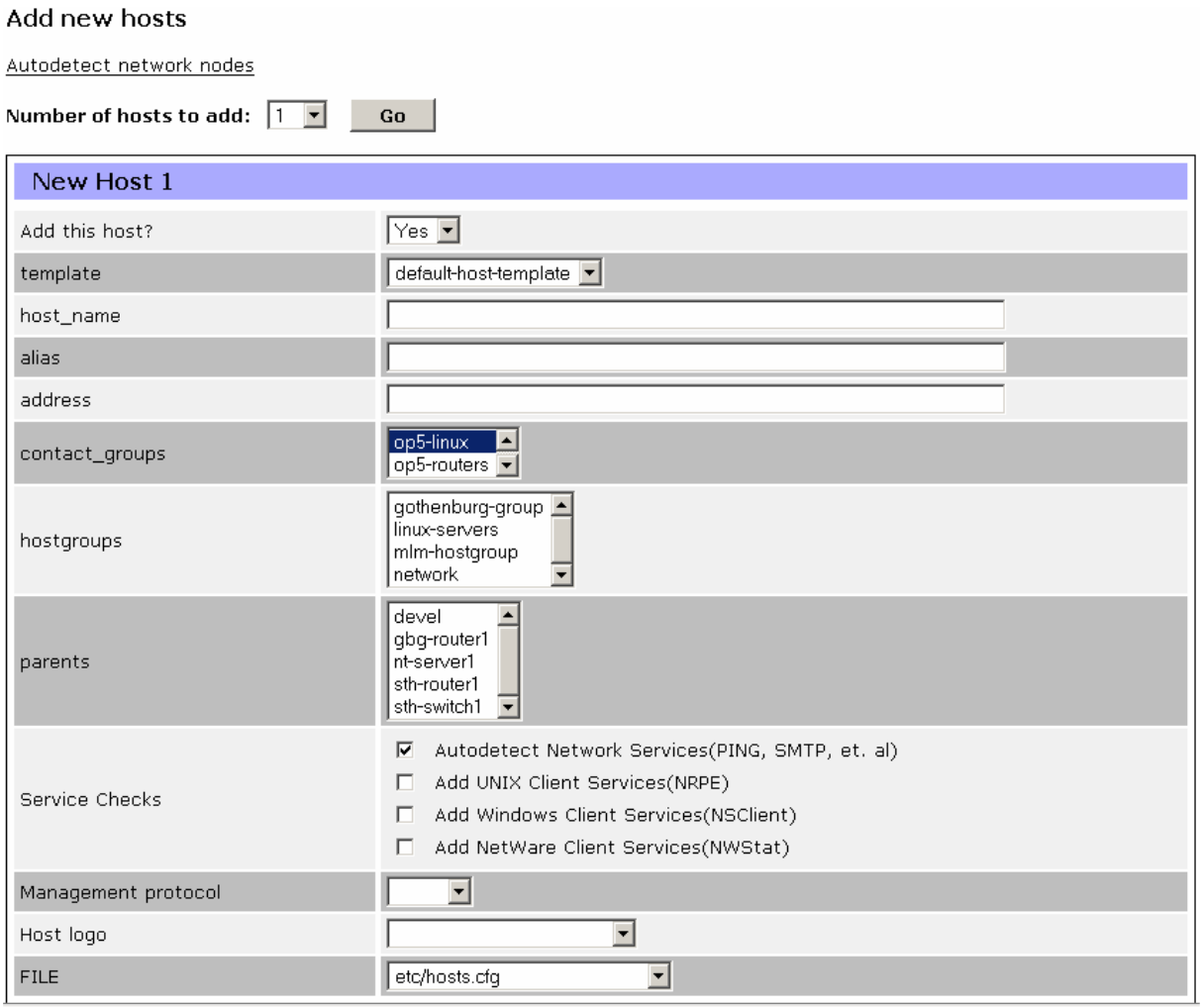


The main menu consists of four menu selections:

- **Configure:** returns to the configure start page listed above
- **Save Configuration:** Verifies the configuration made, saves the configuration and reloads the monitor process with the new configuration
- **Undo Changes:** If you haven't clicked 'Save Configuration' the 'Undo Changes' link takes you back to the configuration you had before doing changes
- **Configuration Help:** Help window

New Hosts

To add a host, click the 'New host' link. A new window appears that allows you to enter the data needed to add the host. By choosing 'Auto detect network nodes' you can scan the network for new nodes by choosing the IP interval to detect in. By choosing 'Number of host to add' you'll have the possibility to add more than one host at the same time.



The required fields to enter data in are: host name, alias, address, host groups and parents. If you fail to add information in these fields the configuration of the new host will fail. You can get a detailed description of all fields by clicking on “Configuration Help” in the upper right corner.

- **template:** Specifies the template to use for this host. Many values are similar for each host, therefore the use of templates. Templates can be configured from the start page
- **host_name:** The name of the host that you want to add
- **alias:** Full description of the host
- **address:** The IP address or host name of the host
- **contact_groups:** The contact group(s) this hosts notifications will be sent to
- **hostgroups:** The host group(s) that the host will be a member of
- **parents:** The parent(s) that this host will is physically connected to.

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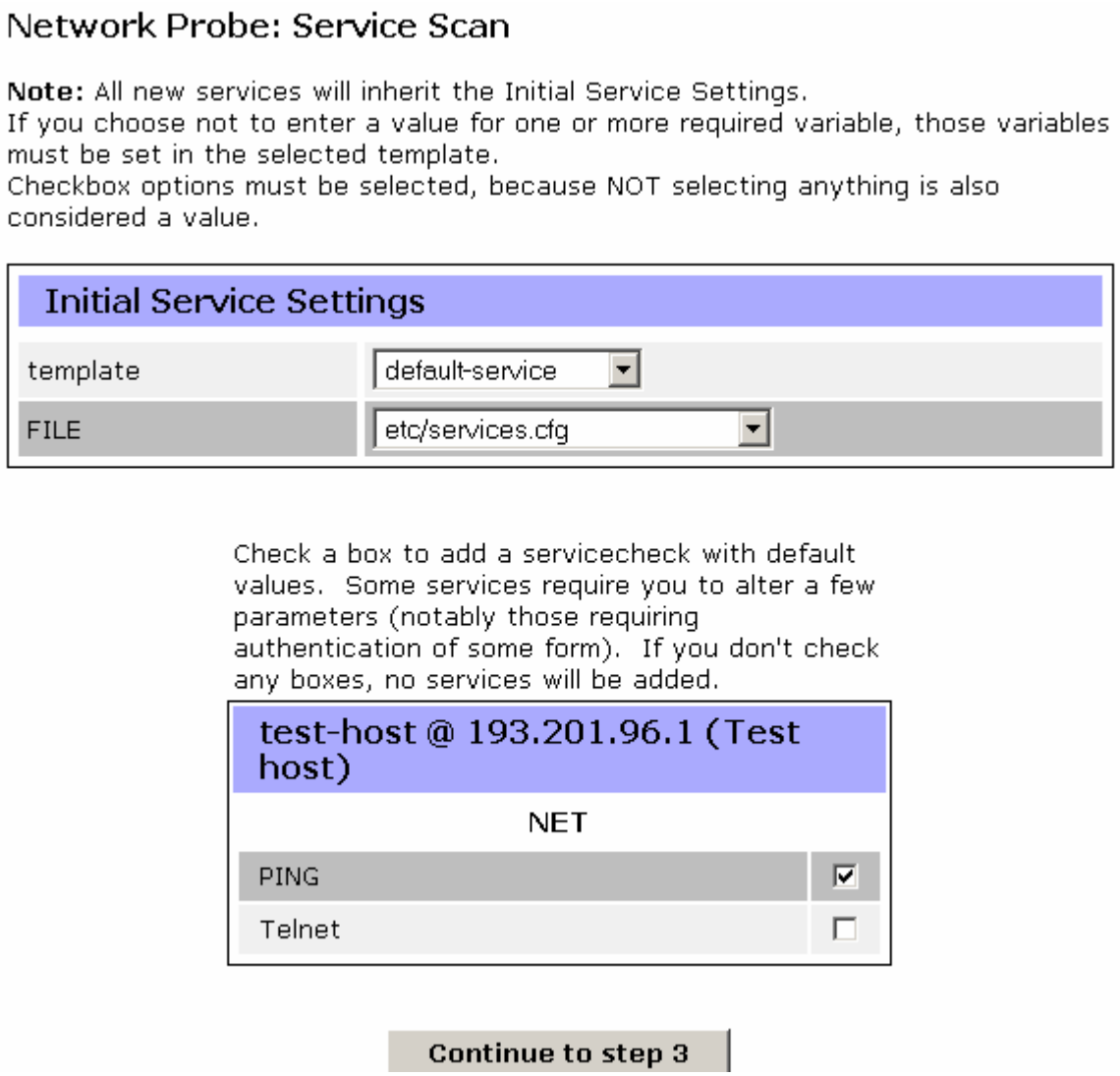
- **Service Checks:** Add items that Monitor will scan for in the host. By default auto detect network services are checked. This option scans the host for common used ports and also looks for the presence of a client. You can also force checks associated with a specific client to be included. This can be useful if you haven't installed the client yet for an example.
- **Management Protocol:** Choose the management protocol used to configure the host. E.g. telnet for routers and HTTP for switches.
- **Host Logo:** Associate a logo to the host. This logo will appear in the status map and network map
- **File:** the configuration file that this data will be stored in, default is hosts.cfg. Don't change this if you're not really sure what it does.

Click the 'Scan hosts for services' to continue to add a new host.



The second step window appears and presents some options. In the top of the window all "non standard" settings that you use in the system is shown. If you don't want to use any of those settings just leave them as they are. In the bottom of the window, all services that the scan discovered appear. Check the services you want to add and click 'Continue to step 3'.

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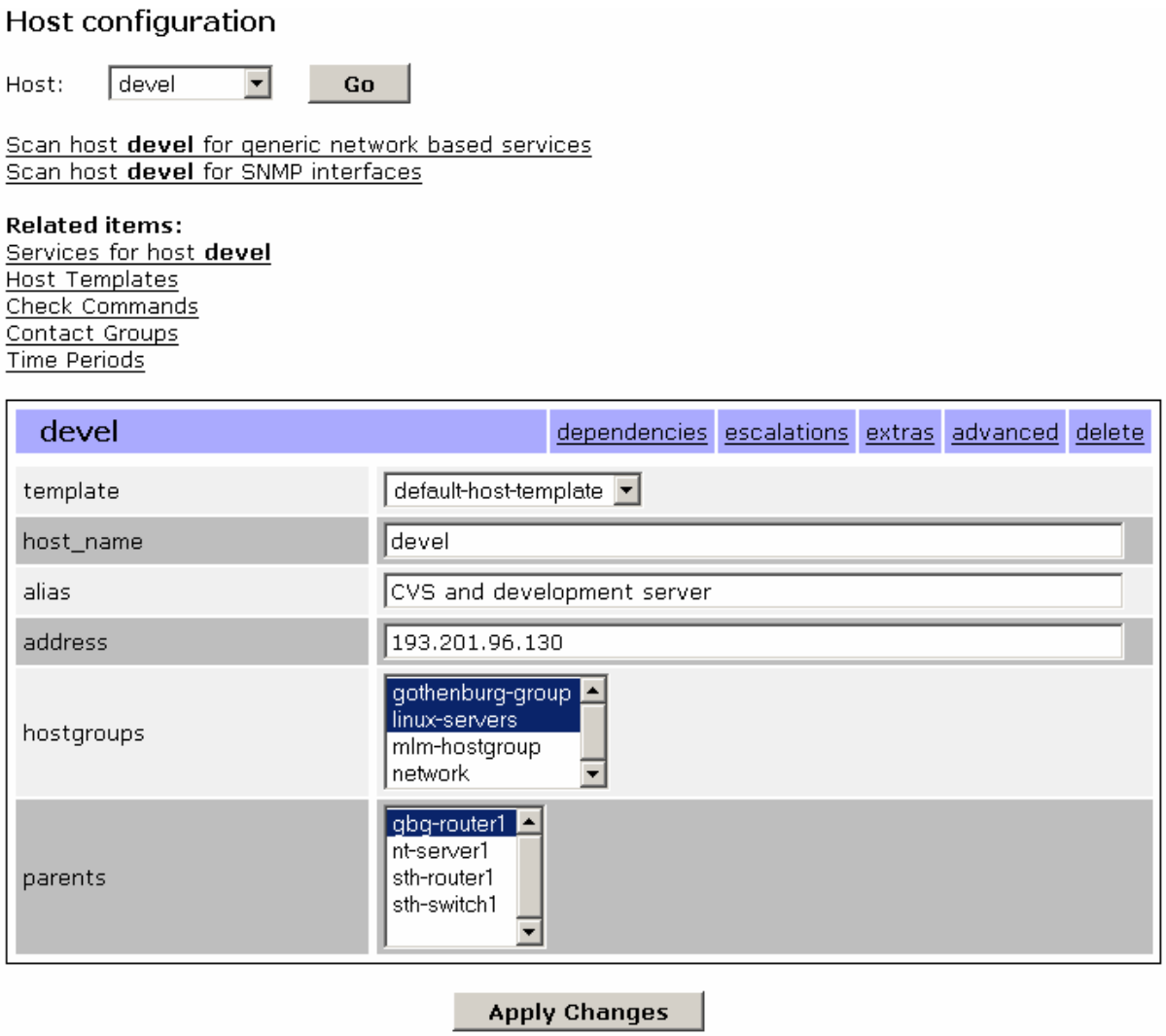
That's it. Now you added a new host to Monitor. You have the options to go back and do configurations on the new host or its services. If you feel you're done click save configuration. The “Pre-flight configuration check" is made, Monitor restarted and voila the new host is up and running. If you encounter problems with the 'Save Configuration' you probably didn't fill out the fields correctly or missed to enter data in the fields.

There is two ways to fix the configuration if the “Pre-flight configuration check” fails. The first is to try to fix any mistakes that you have done in the configuration gui. The second one is to simply restore an old backup using the Backup/Restore tool.

Hosts

To change a host choose the host in the dropdown menu in the main view of Configure and click go. A new window appear. In top of the window you can easily choose another host to configure. You also have the shortcuts to the hosts Services by clicking 'Service for host: <host name>', Host Templates, Check Commands, Contact Groups and Time Periods from this window.



On the right side of the host object window there are three links: dependencies, escalations, extras, advanced and delete.

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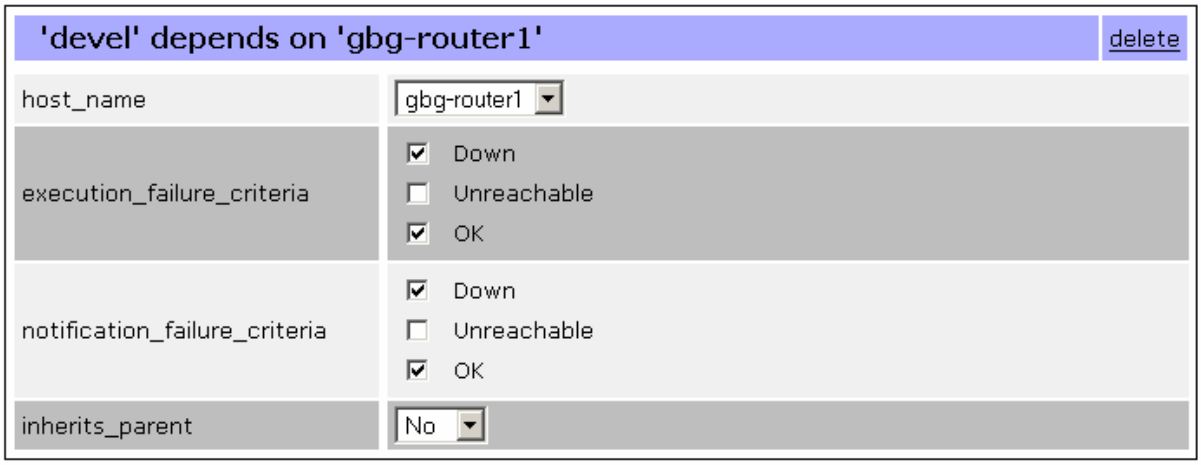
- Dependencies let you configure the relations this host has with other hosts in the network.
- Escalations let you configure contacts, contact groups and time periods.
- Extras let you configure cosmetic things as which logo you want to associate with the host.
- Advanced gives you a window with all the extra options that can be configured on the host.
- Delete, deletes the host.

Dependencies

Dependencies can be used to suppress alarms from hosts that are dependent on other hosts. An easier way to do this is simply by using the parent directive.



host_name: This defines the host that we are depending on, the parent host.
execution_failure_criteria: If the parent host defined in 'host_name' is in one of the selected states this host's status will not be checked.
notification_failure_criteria: If the parent host defined in 'host_name' is in one of the selected states notifications will not be sent out for this host.
inherits_parent: This indicates if this host shall inherit any existing dependencies on the parent host defined by 'host_name'.

Escalations

Host escalations can be used to escalate notifications for certain hosts. The idea is that if you have a really important host you can send the first notification to the normal contact group in order for them to solve the problem. If the problem is not solved in lets say 30 minutes you can send the notification to a broader range of contacts.

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Escalation for devel	delete
contact_groups	op5-linux op5-routers
first_notification	1
last_notification	1
notification_interval	10
escalation_period	24x7
escalation_options	☑ Down ☐ Unreachable ☐ OK

contact_groups: which contact group(s) should receive the notification.
first_notification: which notification, of the total amount notifications sent, is the first to be sent out to this contact group(s)
last_notification: which notification, of the total amount notifications sent, is the last to be sent out to this contact group(s). If you specify 0 only one notification is sent out.
notification_interval: If the interval between first_notification and last_notification is more than one notification this specifies the interval in minutes between notifications.
escalation_period: during which time period is this escalation valid.
escalation_options: which notifications that should be sent out.

Note: To make escalations work you need to set 'notification_interval' to something else than 0 in the configuration for the host.

Extras

HostExtInfo for devel	delete
icon_image	owl.png
icon_image_alt	Owl Server
statusmap_image	owl.png
notes	This is a Development server
action_url	ssh://$HOSTADDRESS$/
notes_url	http://www.op5.se/servers/devel.html
2d_coords	

icon_image: The graphic file used to represent the host in the status or network map.
icon_image_alt: The alias for the host, shown in the status map
statusmap_image: The image used as a background in the status map.
notes: notes for the server
action_url: The url used to manage the host. i.e. telnet, http, ssh
notes_url: The documentation URL for this host
2d_coords: The coordinates where the icon should be placed in the status map when using user supplied coords.

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Advanced

There are many variables to be configured on a host. Most of them is being set by using templates and therefore never needs to be changed. If you want to change one of those options you can click on Advanced.

devel	dependencies escalations extras simple delete
template	default-host-template
host_name	devel
alias	CVS and development server
address	193.201.96.130
hostgroups	gothenburg-group linux-servers mlm-hostgroup network
parents	gbg-router1 nt-server1 sth-router1 sth-switch1
children	gbg-router1 nt-server1 sth-router1 sth-switch1
check_command	check-host-alive
check_command_args	
contact_groups	op5-linux op5-routers
max_check_attempts	5
checks_enabled	Yes
event_handler	
event_handler_args	
event_handler_enabled	Yes
low_flap_threshold	
high_flap_threshold	
flap_detection_enabled	Yes
process_perf_data	No
retain_status_information	Yes
retain_nonstatus_information	Yes
notification_interval	0
notification_period	24x7
notification_options	☑ Down ☑ Unreachable ☑ Recovery ☐ Flapping start and stop
notifications_enabled	Yes
stalking_options	☐ Down ☐ Unreachable ☐ OK
FILE	etc/hosts.cfg

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template: Specifies the template to use for this host. Many values are similar for each host, therefore the use of templates. Templates can be configured from the start page
host_name: The name of the host
alias: Full description of the host
address: The IP address or host name of the host
hostgroups: The host group(s) that the host is a member of
parents: The parent(s) that this host is physically connected to.
children: The hosts that are connected to this host (using this host as a parent)
check_command: the check command that should be run to determine status of the host
check_command_args: any arguments required for the check command to work
contact_groups: The contact group(s) this hosts notifications is sent to.
max_check_attempts: The amount of checks required for the host to enter HARD state and send out notifications.
checks_enabled: if checks are enabled or not, normally yes.
event_handler: Event handler is a command that can be run every time a host changes it state.
event_handler_args: any arguments needed for the event handler command
event_handler_enabled: specifies if event handlers should be used or not.
low_flap_threshold: se below note about flap detection
high_flap_threshold: se below note about flap detection
flap_detection_enabled: if flap detection is enabled or not. Normally flap detection is enabled on global basis and not per host.
process_perf_data: Performance data is a way to save the output of all checks. This is not used in OP5 Monitor at the moment.
retain_status_information: Retain status information between restarts of OP5 Monitor
retain_nonstatus_information: Retain other information between restarts of OP5 Monitor
notification_interval: The interval in minutes when the host is Down or unreachable. If this is set to 0 (default) only one notification is sent out.
notification_period: During which period notifications for this host should be sent out.
notification_options: Which notifications that should be sent out for this host.
notifications_enabled: If notifications are enabled or not, default is Yes
stalking_options: Not used in OP5 Monitor.
FILE: Which file this host object should be saved in.

Note: Flap detection is a useful mechanism to detect reoccurring problems with a host or service. The logic works like this.

The result of the 21 last checks is saved in the memory. High_flap_threshold defines a value in percent of how much the host or service has changed its state. If the high_flap_threshold value is exceeded the host/service enters flapping state. To exit flapping state the percentage must go down to the low_flap_threshold value.

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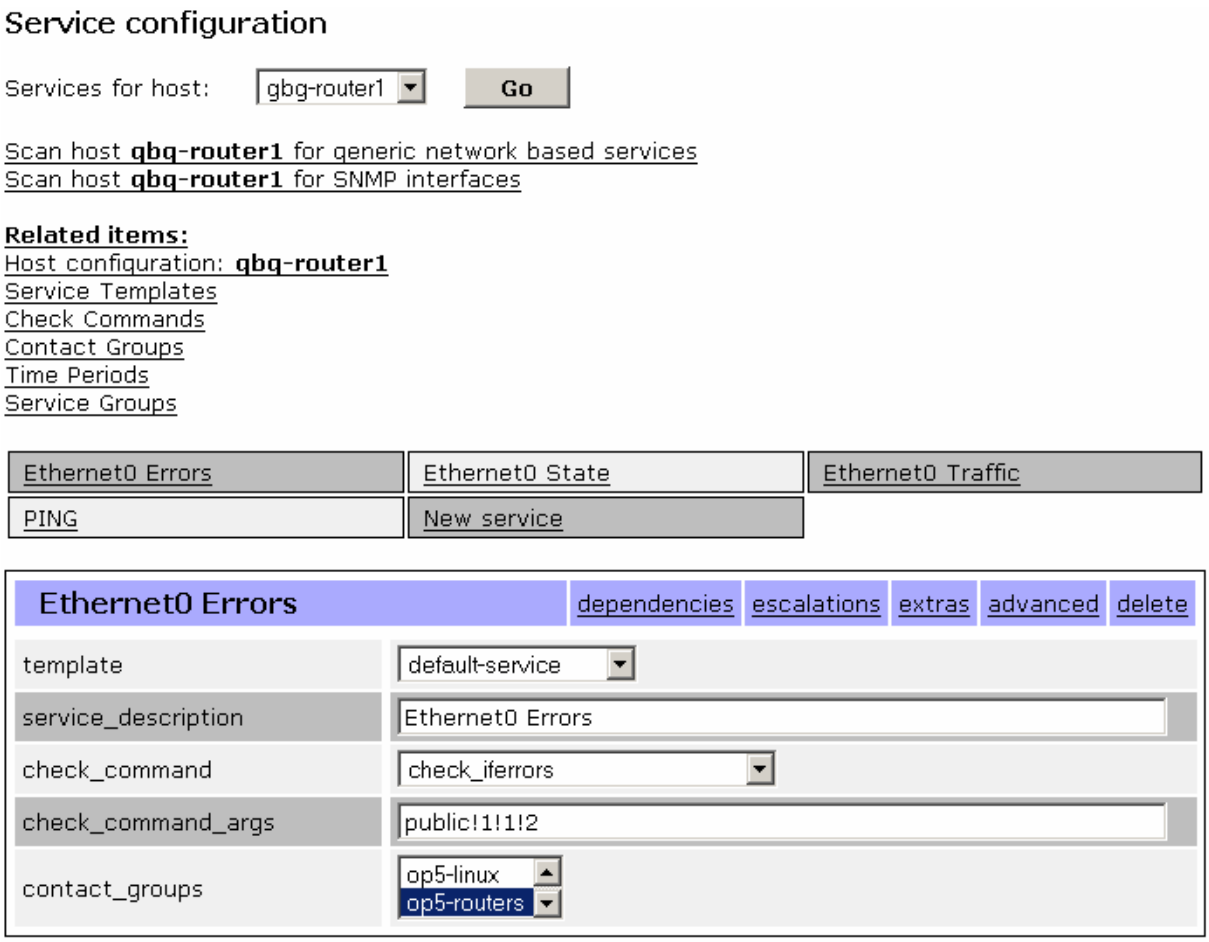
Services for host

If you click on the “Services for host” link in the Host configuration window you will be redirected to the Service configuration window where you can configure services.

The service objects defines checks for anything that you want to check on you host objects.



In this window you can select another host for which services you want to change, this makes it easier if you need to configure services on several hosts.

You have the option to scan the host for new services, and also to scan for available Interfaces using SNMP.

To edit a existing service simply edit the fields for that service and press the <Enter> key or scroll down to the bottom of the page and press Apply Changes.

At the bottom of the page there is always an empty service called “New service”, this is for adding new services.

In the header of each service objects you have the following options:

- Dependencies let you configure the relations this service has with other services in the network.

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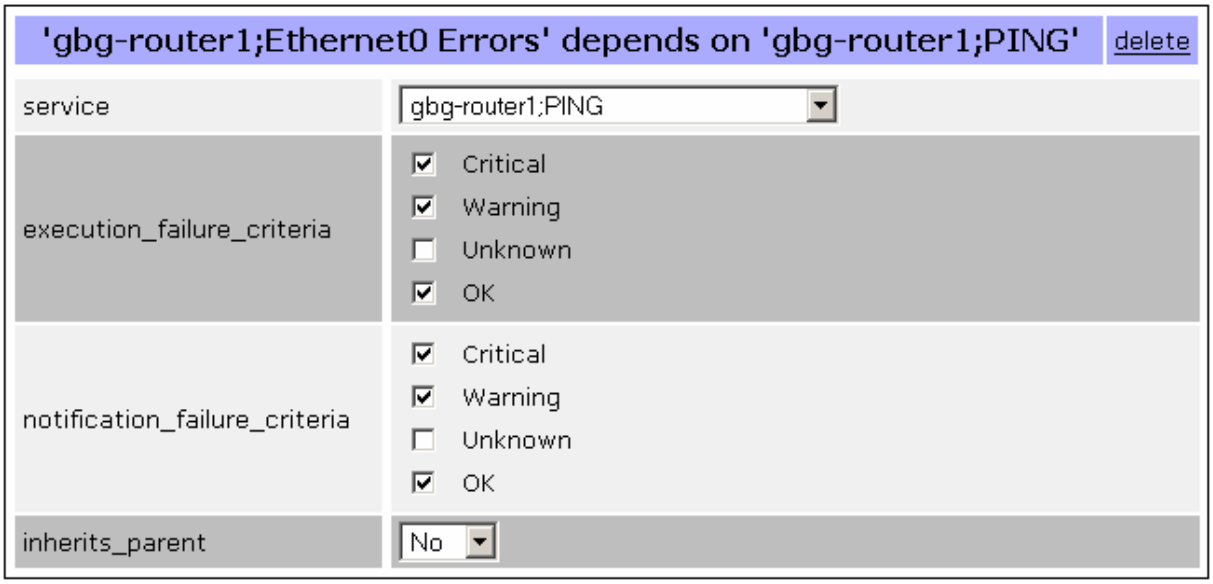
- Escalations let you configure contacts, contact groups and time periods.
- Extras let you configure cosmetic things as which logo you want to associate with the service.
- Advanced gives you a window with all the extra options which is normally configured using a template.
- Delete, deletes the host.

Dependencies

Dependencies can be used to suppress alarms from hosts that are dependent on other hosts. An easier way to do this is simply by using the parent directive.



service: This defines the host that we are depending on, the parent host.
execution_failure_criteria: If the dependent service defined in 'service' is in one of the selected states this services status will not be checked.
notification_failure_criteria: If the dependent service defined in 'service' is in one of the selected states notifications will not be sent out for this service.
inherits_parent: This indicates if this service shall inherit any existing dependencies on the dependent host defined by 'service'.

Escalations

Service escalations can be used to escalate notifications for certain services. The idea is that if you have a really important service you can send the first notification to the normal contact group in order for them to solve the problem. If the problem is not solved in lets say 30 minutes you can send the notification to a broader range of contacts.

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Escalation for gbg-router1;Ethernet0 Errors	delete
contact_groups	op5-linux op5-routers
first_notification	1
last_notification	1
notification_interval	60
escalation_period	24x7
escalation_options	☑ Critical ☑ Warning ☐ Unknown ☑ Recovery

contact_groups: which contact group(s) should receive the notification.
first_notification: which notification, of the total amount notifications sent, is the first to be sent out to this contact group(s)
last_notification: which notification, of the total amount notifications sent, is the last to be sent out to this contact group(s). If you specify 0 only one notification is sent out.
notification_interval: If the interval between first_notification and last_notification is more than one notification this specifies the interval in minutes between notifications.
escalation_period: during which time period is this escalation valid.
escalation_options: which notifications that should be sent out.

Note: To make escalations work you need to set 'notification_interval' to something else than 0 in the configuration for the service.

Extras

Service 'Ethernet0 Errors' on host 'gbg-router1'	delete
notes	Interface to Internet
notes_url	http://www.op5.se/docs/internetconnection-gbg.html
action_url	
icon_image	wan_cloud.png
icon_image_alt	Internet Connection

notes: notes for the service
notes_url: The documentation URL for this service
action_url: The url used to manage the service
icon_image: The graphic file used to represent the service in the Service Detail view.
icon_image_alt: The alias for the service.

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Advanced

There are many variables to be configured on a service. Most of them is being set by using templates and therefore never needs to be changed. If you want to change one of those options you can click on Advanced.

PING	dependencies escalations extras simple delete
template	default-service
service_description	PING
is_volatile	No
check_command	check_ping
check_command_args	100.0,20%!500.0,60%
servicegroups	email-services office-services
max_check_attempts	3
normal_check_interval	5
retry_check_interval	1
active_checks_enabled	Yes
passive_checks_enabled	Yes
check_period	24x7
parallelize_check	Yes
obsess_over_service	Yes
check_freshness	No
freshness_threshold	
event_handler	
event_handler_args	
event_handler_enabled	Yes
low_flap_threshold	
high_flap_threshold	
flap_detection_enabled	Yes
process_perf_data	No
retain_status_information	Yes
retain_nonstatus_information	Yes
notification_interval	0
notification_period	24x7
notification_options	☑ Critical ☑ Warning ☑ Unknown ☑ Recovery ☐ Flapping start and stop
notifications_enabled	Yes
contact_groups	op5-linux op5-routers
stalking_options	☐ Critical ☐ Warning ☐ Unknown ☐ OK
FILE	etc/services.cfg

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template: Which template to use for this service.
service_description: The description of the Service
is_volatile: Tells if this check is volatile or not. Default is No. This option can be used to handle passive checks.
check_command: Which check command that shall be run to determine status of the service.
check_command_args: any arguments required for the check command to work
servicegroups: defines membership in any service group.
max_check_attempts: The amount of checks required for the service to enter HARD state and send out notifications.
normal_check_interval: The interval, in minutes, between checks of the service.
retry_check_interval: The interval, in minutes, between checks if the previous check failed.
active_checks_enabled: Active checks enabled, default is Yes
passive_checks_enabled: Passive checks enabled, default is Yes
check_period: During which time period this service should be checked.
parallelize_check: Allow this check to be run in parallel with other checks. Default is Yes and changing this can drastically influence performance.
obsess_over_service: Not used by OP5 Monitor.
check_freshness: Check freshness of the received results of a passive service check
freshness_threshold: Threshold for the freshness check
event_handler: Command that should be run in case of a state change.
event_handler_args: Arguments needed for the event handler command.
event_handler_enabled: Enable or disable Event handlers, default is Yes
low_flap_threshold: se below note about flap detection
high_flap_threshold: se below note about flap detection
flap_detection_enabled: if flap detection is enabled or not. Normally flap detection is enabled on global basis and not per service.
process_perf_data: Performance data is a way to save the output of all checks. This is not used in OP5 Monitor at the moment.
retain_status_information: Retain status information between restarts of OP5 Monitor
retain_nonstatus_information: Retain other information between restarts of OP5 Monitor
notification_interval: The interval in minutes when the service is Critical, Warning, or Unknown. If this is set to 0 (default) only one notification is sent out.
notification_period: During which period notifications for this service should be sent out.
notification_options: Which notifications that should be sent out for this service.
notifications_enabled: If notifications are enabled or not, default is Yes
contact_groups: The contact group(s) this services notifications is sent to.
stalking_options: Not used in OP5 Monitor.
FILE: Which file this host object should be saved in.

Note: Flap detection is a useful mechanism to detect reoccurring problems with a host or service. The logic works like this.

The result of the 21 last checks is saved in the memory. High_flap_threshold defines a value in percent of how much the host or service has changed its state. If the high_flap_threshold value is exceeded the host/service enters flapping state. To exit flapping state the percentage must go down to the low_flap_threshold value.

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Templates

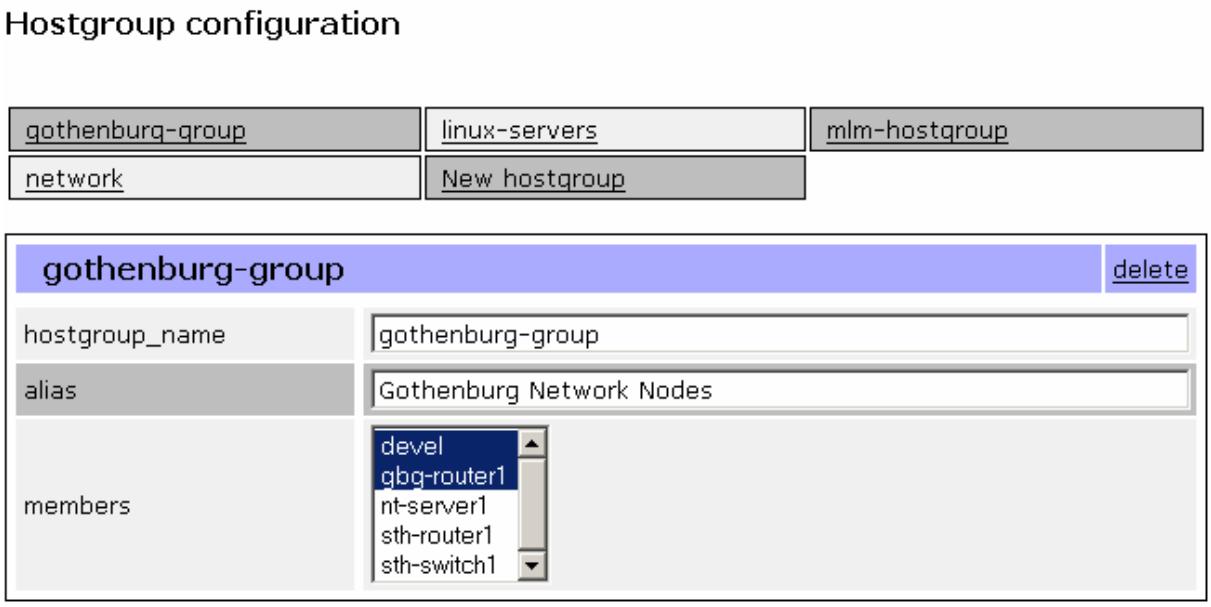
Templates are used to configure default values that are reused in many objects to avoid setting them every time you configure a new object.

Three kinds of templates are available

- Host Templates for hosts
- Service Templates for service
- Contact Templates for Contacts

Host Groups

To add, change or delete a host group choose the host group link from the start page. A new window will appear:



All host groups are listed after each other represented with a shortcut in top of the window. In bottom of the list you have the possibility to add a new host group. On the right hand side of the host group configuration window you can click delete to delete a single host group.

hostgroup_name: Name of Host group.
alias: Description of Host group.
members: Hosts that are members of this host group, to select several hosts press and hold the <Ctrl> key.

Click 'Apply changes' in the bottom of the window. Click 'Save Configuration' for the changes to take effect.

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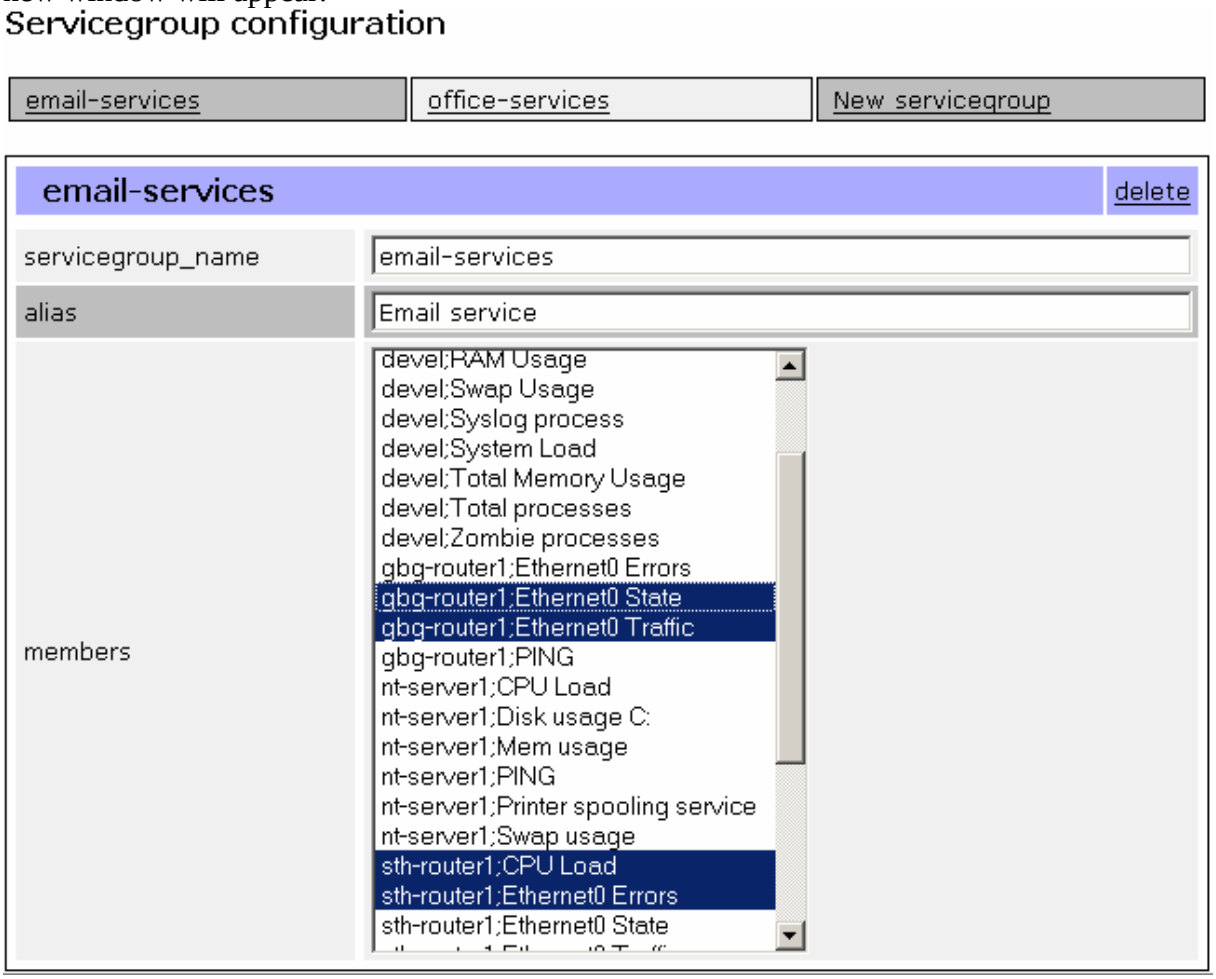
Service Groups

To add, change or delete a service group choose the service group link from the start page. A new window will appear:



All service groups are listed after each other represented with a shortcut in top of the window. In bottom of the list you have the possibility to add a new service group. On the right hand side of the service group configuration window you can click delete to delete chosen service group.

servicegroup_name: Name of the service group

alias: Description of service group

members: Services that are members of this service group

Click 'Apply changes' in the bottom of the window. Click 'Save Configuration' for the changes to take effect.

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Contacts

To add, change or delete a contact choose the contacts link from the start page. A new window will appear:

Contact configuration

Related items:
Access-rights
Contact Groups
Timeperiods
Contact Templates

jour	advanced	delete
contact_name	jour	
alias	Jour Contact	
host_notification_period	24x7	
service_notification_period	24x7	
host_notification_options	☑ Down ☐ Unreachable ☐ Recovery ☐ Flapping start and stop	
service_notification_options	☑ Critical ☑ Warning ☐ Unknown ☐ Recovery ☐ Flapping start and stop	
host_notification_commands	host-notify	
service_notification_commands	service-notify	
contactgroups	op5-linux op5-routers	
email	jour@op5.se	
pager	46733123456	

contact_name: short name of the contact, it is recommended to use the login name that you normally use.
alias: Full name of the contact
host_notification_period: Time period for which this contact shall receive host **notifications.**
service_notification_period: Time period for which this contact shall receive service **notifications.**
host_notification_options: which host notifications that this contact shall receive.
service_notification_options: which service notifications that this contact shall receive.
host_notification_commands: command that is executed to send out host notifications. **Default is host-notify.** Don't change this if you're not sure.
service_notification_commands: command that is executed to send out service **notifications.** Default is service-notify. Don't change this if you're not sure.
contactgroups: The contact group(s) this contact is a member of.
email: this contacts email address, for receiving email notifications
pager: this contacts cell phone number, for receiving SMS notifications

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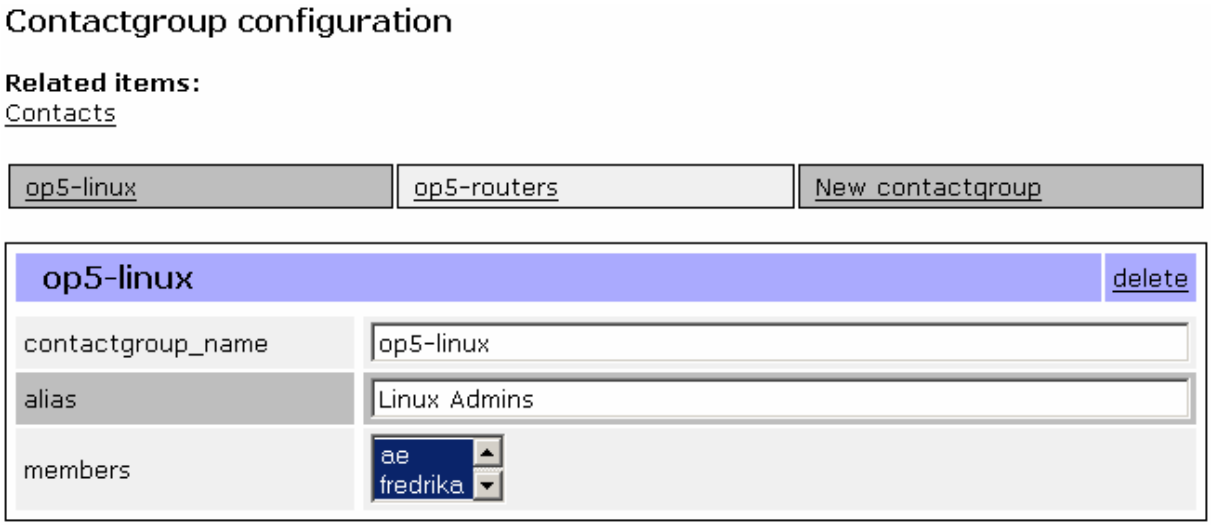
Contact Groups

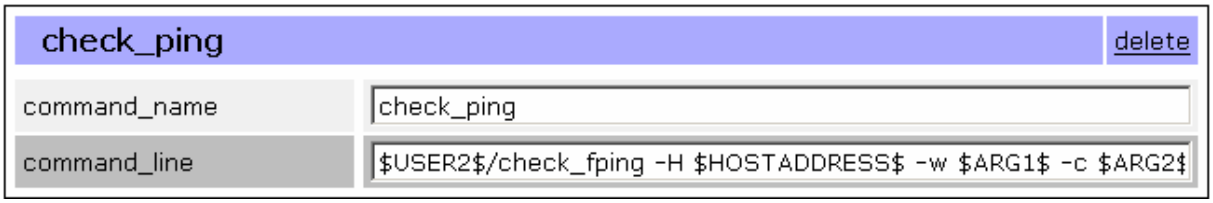


The contact group is basically a grouping of contacts to optimize the notification process. All contact groups are listed beneath each other. To jump to certain contact group use the shortcut in the top of the window. To add a new contact group choose the last quick link 'new contact group'. On the right hand side in each contact group section you have the possibility to delete chosen contact group. When done configuring click 'Apply changes'. For the changes to take effect choose the 'Save Configuration' from the star page.

Check Commands

Check commands are macros that specify how plugins shall be run. Plugins are the small programs and scripts that do all testing for OP5 Monitor. Each plugin is designed to test one or more things.

The command lines for running plugins can be quite complicated and to avoid having to specify these commands every time you configure a new service check commands exists. The idea is to define the complicated command once for each kind of test and then reuse the check command every time you need to check something.



command_name: The short name of the command. This name is referred to in the Host and Service configuration.
command_line: this line consists of search path to the plugin. All plugins are located in /opt/plugins and directories below. Instead of specifying that path a macro is used. $USER1$ is equivalent to /opt/plugins and $USER2$ is equivalent to /opt/plugins/suid. Next part of command_line consists of all settings required for the plugin to work.

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Time Periods

Time periods is used through OP5 Monitor to define a lot of things. When hosts/services shall be monitored, when notifications shall be sent out and so on.

Timeperiod configuration

24x7	friendly-nonworkhours	none
nonworkhours	workhours	New timeperiod

24x7	delete
timeperiod_name	24x7
alias	24 Hours A Day, 7 Days A Week
sunday	00:00-24:00
monday	00:00-24:00
tuesday	00:00-24:00
wednesday	00:00-24:00
thursday	00:00-24:00
friday	00:00-24:00
saturday	00:00-24:00

timeperiod_name: short name of the time period
alias: descriptive name of the time period
sunday: which time to include for Sunday
monday: which time to include for Monday
tuesday: which time to include for Tuesday
wednesday: which time to include for Wednesday
thursday: which time to include for Thursday
friday: which time to include for Friday
saturday: which time to include for Saturday

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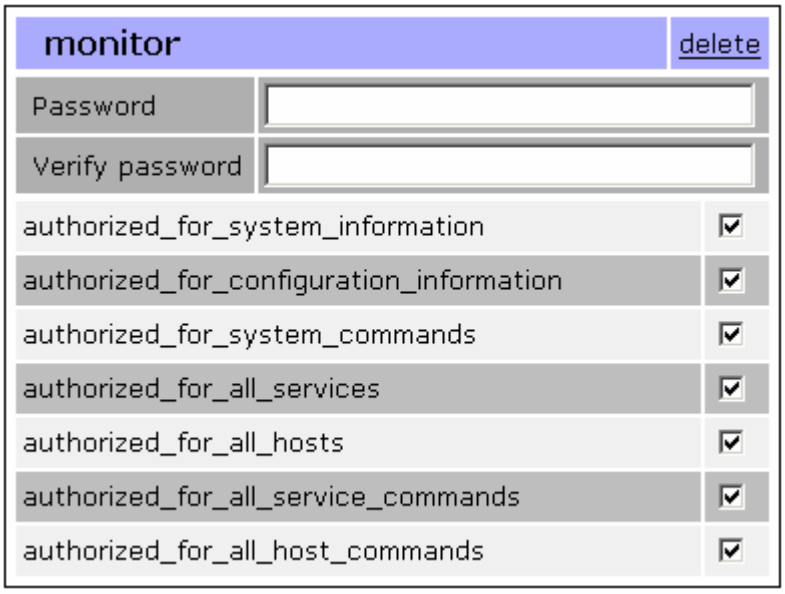
Access Rights

Access rights are used to add username's and passwords for individuals that shall have access to the system.



authorized_for_system_information: gives the user System/Process Information Access
authorized_for_configuration_information: gives the user access to view and change configuration
authorized_for_system_commands: gives the user System/Process Command Access
authorized_for_all_services: gives the user access to view all services
authorized_for_all_hosts: gives the user access to view all hosts
authorized_for_all_service_commands: gives the user access to issue commands for all services
authorized_for_all_host_commands: gives the user access to issue commands for all services

Customizing views

If you want to limit what hosts and services a specific user shall be able to view do this

1. add a contact for the specific user
2. create a contact group and make that user a member
3. make sure that this contact group receives notifications for each host and service that you want to be included in the users view. I.e. include the contact group in the contact_groups variable for the hosts and services
4. create a user in "Access Rights" with the exact name as the contact you specified in step 1.

You are done.

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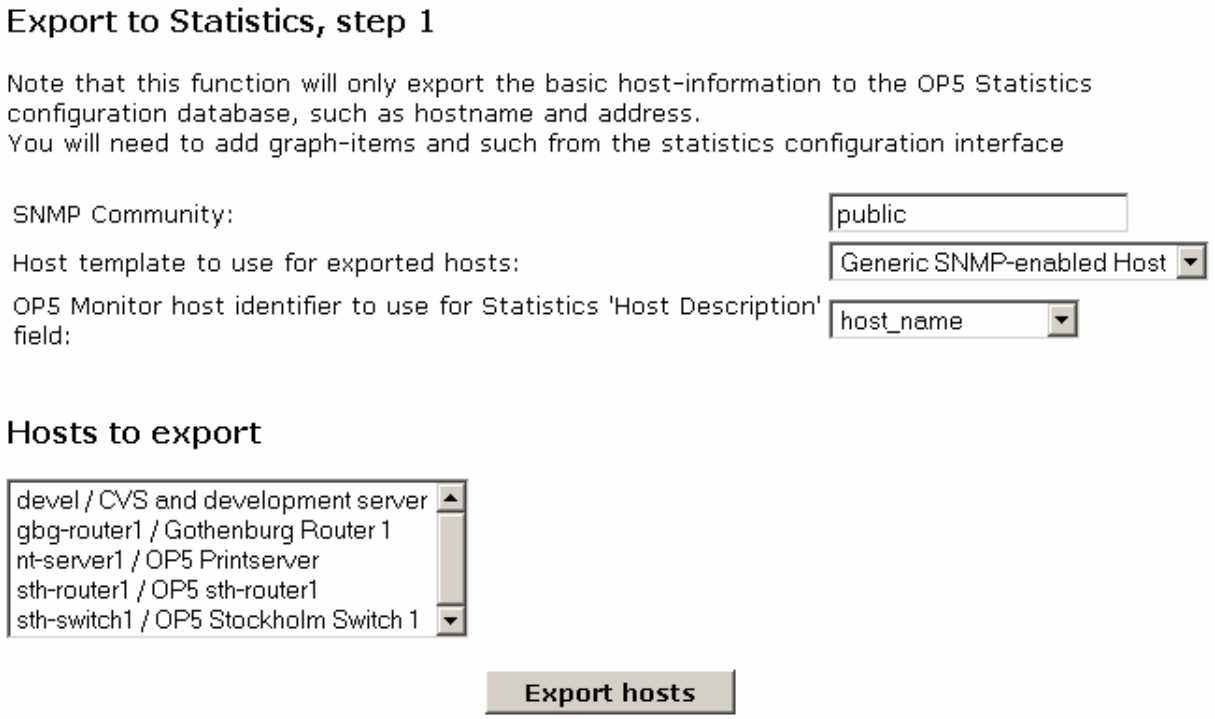
Export hosts to statistics

This function allows you to export specified hosts and information from Monitor to Statistics to save some time not having to do redundant configuration.

For now this is fairly simple export functionality and does not do any checks to detect if the host already has been exported so be careful.



Select which host(s) you want to export, specify SNMP Community if needed and select which Host template to use in statistics. You can also specify which variable in Monitor that shall be used as Host Description in statistics.

Click Export hosts and you are done.

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