MonitorWare Agent 5.2

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1 Introduction

1.1 About MonitorWare Agent

MonitorWare is a line of products for network monitoring, management and analysis by Adiscon. MonitorWare has been designed with a philosophy that small to mid sized enterprises have same critical network security needs and limited resources to purchase security solutions.

MonitorWare Agent is a solution for those who are interested in centralizing their monitoring needs. It provides all capabilities of WinSyslog and EventReporter plus many classic features of its own. It has been aided with a reliable event delivery SETP protocol and remotely device monitoring features. It has features to help network administrators/planners, desktop support professionals, system analysts, system administrators, internet managers and technical support personals to make their lives easy.

MonitorWare Agent runs on the systems to be monitored and provides the core functionality. It can gather the data from various sources, like the Windows event log, routers, switches, firewalls and many more. It supports very flexible and powerful local filtering and processing of these gathered events based on a powerful rule processor, events can be forwarded, acted on or discarded - all at the discretion of the system administrator. Even a stand-alone MonitorWare Agent can play a vital role in network management by performing a role like generating alert emails at the occurrences of specific events.

Larger environments consolidate MonitorWare Agent data in a central repository like the MonitorWare event database or combined log files. Database is the source of information for all reporting and analysis modules of the MonitorWare system. By default, database can be created with MySQL, Microsoft Access or Microsoft SQL Server (also available as cost-free MSDE). As standard SQL and ODBC are being used, it is easily adaptable to other database systems. For example, we know that many customers use it successfully with Oracle databases.

A number of different modules work on this consolidated database or the log files to carry out various activities. These modules include scheduled reporting facilities like MonitorWare Console for analysis, a web interface or MoniLog reporting.

Currently under development is an enterprise configuration manager, which facilitates configuration of MonitorWare system on an enterprise scope. With the MonitorWare Enterprise Manager, groups of configurations can be created (e.g. for Syslog servers, NT event log monitors, consolidation servers and the like). These function-focused groups can then be automatically applied to machine groups. By doing this, you can monitor a very large MonitorWare system with a single MonitorWare Enterprise Manager. If you are interested in the enterprise configuration system, please mail us at support@adiscon.com to become enrolled in our beta program.

MonitorWare Agent can also integrate with other network monitoring and management related Adiscon products like EventReporter and WinSyslog. In fact, it uses common terms and methods wherever possible, so upgrading from these solutions to the full MonitorWare system is easy.

For a complete overview over the MonitorWare line of products, please visit www.monitorware.com.

1.2 Features

Complete Windows Event Monitoring

MonitorWare Agent automatically monitors Windows Event Logs. All Event Logs including the Windows 2000 specific extensions are fully processed. Application log file monitoring provides support for virtually any application that logs to a text file like Web server log files, Oracle error logs files or Windows application log files (like the DHCP log files).

Active Network Probes

Ping and Port Probe services allow monitoring of both local and remote systems and services. These services are not restricted to Windows machines only – virtually any existing service can be used with these probes. Good examples are LINUX based web and mail servers or firewalls. But our probes don't restrict you to an OS – even if you have a server running on a mainframe, MonitorWare can check its operational state.

Failing systems and services are detected and alert be generated.

Monitor Windows' Services and Disk Space Monitor

The Windows service monitor and disk space monitor services check the local machine. Failing services and low disk space are quickly detected and can be used to trigger notifications or even corrective actions before problems arise.

External Events

Events are accepted via a standard Syslog server and hence all of the Syslog-enabled devices can be included in the MonitorWare system. This includes popular devices like routers and switches as well as printers and a large number of UNIX / Linux based systems and applications. Virtually all currently existing network devices support Syslog – so MonitorWare Agent can monitor all of them.

To reach an even broader device range, MonitorWare Agent not only supports standard compatible Syslog but also it supports popular extensions like Syslog over .

Scalability

The MonitorWare system is modular and highly scalable. If a single server is to be monitored, MonitorWare Agent can provide all monitoring and alerting needs. However, multiple MonitorWare Agents in a complex, hierarchical network can talk to each other and provide both local and central alerting and event archiving.

Event Archiving

All incoming events – no matter what source they came from – can be stored persistently. Options include archiving in databases as well as log files.

Alerting

All incoming events – no matter what source they came from – can be stored persistently. Options include archiving in databases as well as log files.

Powerful Event Processing

MonitorWare Agent is powerful and flexible rule engine processes all events based on a configured set of actions. An unlimited number of rules and actions allows tailoring to the specific needs.

Zero-Impact Monitoring

MonitorWare Agent has no noticeable impact on system resources. It is specifically written with minimal resource usage in mind. In typical scenarios, its footprint is barely traceable. This ensures it can also be installed on heavily loaded servers.

Robustness

MonitorWare Agent is written to perform robust even under unusual circumstances. The reliability of the product is proven since 1996.

Ease of Use

MonitorWare Agent is easy to install and configure. Comprehensive step-by-step guides and wizards help administrators with setting up even complex systems.

Firewall Support

Does your security policy enforce you to use non-standard ports? MonitorWare Agent can be configured to listen on any TCP/IP port for Syslog messages.

Syslog Support

NT Event Messages can be forwarded using standard Syslog protocol. NT severity classes are mapped to the corresponding Syslog classes. Codes are fully supported.

Send Syslog Test Message

The MonitorWare Agent client comes with "Send Syslog Test Message". This option enables you to check if Syslog Messages being sent properly to the destination or not.

SETP Support

NT Event Messages can be forwarded using Adiscon properitory SETP protocol. Windows Event Logs are monitored successfully as well.

SNMP Trap Receiver

A new feature added in Monitor Ware Agent. It allows to receive SNMP messages.

FTP Probe

It connects to the FTP server and on receiving the response sends the QUIT command to terminate the connection. It saves the connection status and response replies.

HTTP Probe

It connects to HTTP server, receives response and sends the QUIT command to terminate the connection. The connection status and response are saved. It also keeps some additional properties to configure like URL and QueryString, Request Type, Use Secure HTTPs Protocol, Refferer and User Agent.

IMAP Probe

It connects to an IMAP server, receives response and sends the QUIT command to terminate the connection. The connection status and response are saved.

NNTP Probe

It connects to NNTP (Usenet) server, receives the response and sends the QUIT command to terminate the connection. The connection status and response are saved.

POP3 Probe

It connects to POP3 (Usenet) server, receives and sends the QUIT command to terminate the connection. The connection status and response are saved.

SMTP Probe

It connects to SMTP (Usenet) server and sends the HELLO command that is automatically constructed by MonitorWare Agent on startup using the full qualified DNS name. The SMTP probe then receives the response and sends the QUIT command to terminate the connection. The connection status and response are saved.

Runs on large Variety of Windows Systems

Windows 4.0, 2000, XP, 2003, Vista; Workstation or Server – MonitorWare Agent runs on all of them.

Multi-Language Client

The MonitorWare Agent client comes with multiple languages ready to go. Out of the box, English, French and German are supported. Other languages will be added shortly. Languages can be switched instantly. Language settings are user-specific; so multiple users on the same machine can use different languages.

Friendly and Customizeable User Interface

New Skinning feature has been added to MonitorWare Agent Client. New Cloning feature added to MonitorWare Agent Client helps to clone a Ruleset, a Rule, an Action or a Service with one mouse click. Move up and Move down function has been added for Actions in the MonitorWare Agent Client. Wizards have been enhanced for creating Actions, Services and RuleSets. And other minute changes!

Handling for low-memory cases

MWAgent allocates some emergency memory on startup. If the system memory limit is reached, it releases the emergency memory and locks the queue. That means not more items can be queued, this prevents a crash of the Agent and the queue is still being processed. Many other positions in the code have been hardened against out of memory sceneries.

Multithreaded Queue Engine

The Action processing engine is multithread enabled, which means that the overall processing performance will increase in larger enviromnents and MWAgent will benefit from smp machines.

1.3 Components

1.3.1 Core Components

MonitorWare Agent Configuration Client

The MonitorWare Agent Configuration Client – called "the client" - is used to configure all components and features of the MonitorWare Agent. The client can also be used to create a configuration profile on a base system. That profile can later be distributed to a large number of target systems.

MonitorWare Agent Service

The MonitorWare Agent Service – called "the service" - runs as a Windows service and carries out the actual work.

The service is the only component that needs to be installed on a monitored system. The MonitorWare Agent service is called the product "engine". As such, we call systems with only the service installed "engine-only" installations.

The service runs in the background without any user intervention. It can be controlled via the control panel "services" applet or the "Computer Management" MMC under Windows 2000. The client can also be used to control service instances.

x64 Build

This is the first Version which introduces MonitorWare Agent on the x64 platform. Major compatibility changes for the x64 platform have been made in the Service core. For details see the changes listed below:

- ODBC Database Action, fully runs on x64 now. Please note that there are currently very few ODBC drivers for x64 available!
- Configuration Registry Access, a DWORD Value will now be saved as QWORD into the registry. However the Configuration Client and Win32 Service Build can handle these data type and convert these values automatically into DWORD if needed. The Configuration Client will remain a win32 application. Only the Service has been ported to the x64 platform.

A note on cross updates from Win32 to x64 Edition of MonitorWare Agent!

It is not possible to update directly from Win32 to x64 Edition using setup upgrade method. The problem is that a minor upgrade will NOT install all the needed x64 components. Only a full install will be able to do this. Therefore, in order to perform an cross update, follow these instructions:

1. Create a backup of your configuration, save it as registry or xml file (See the Configuration Client Computer Menu)
2. Uninstall MonitorWare Agent.
3. Install MonitorWare Agent by using the x64 Edition of the setup.
4. Import your old settings from the registry or xml file.

1.3.2 Add-On Components

There are a number of optional components available as free downloads.

All optional components work with the MonitorWare common database format.

Interactive Syslog Server

The interactive Syslog server is helpful for quick analysis and troubleshooting. It displays incoming events in the interactive session.

Though it is not a core component, it is included in the MonitorWare Agent install set.

PHPLogCon

PHPLogCon is a convenient facility to access MonitorWare gathered events over the web. All major browsers are supported.

PHPLogCon is an easy to use solution for browsing Syslog messages, Windows event log data and other network events over the web. PHPLogCon enables the system administrator to quickly and easily review his central log repository. It provides views typically used on log data. It integrates with web resources for easy analysis of data found in the logs.

Mainly it helps to have quick overview over current system activity and accessing the log data while not being able to access the administrator workstation (e.g. being on the road or roaming through the enterprise). While originally initiated to work in conjunction with Adiscon's MonitorWare product line, it can easily be modified to work with other solutions as well.

PHPLogCon is included in the MonitorWare Agent install set. It gets copied onto machine but not installed. For installation of PHPLogCon, refer to the installation instructions in the doc folder of PHPLogCon or see the online manual at http://www.phplogcon.com/module-Static_Docs-view-f-index.htm.phtml

MonitorWare Console

MonitorWare Console facilitates the network administrators to gather valuable information about their networks and offers them strong analytical abilities with which they can examine their network proficiently against countless problems including security breaches. Using the Views and Reporting Modules of the MonitorWare Console, you can find the problematic areas in your network very efficiently and promptly. As a network administrator, you would not only like to find the problems but also their solutions. MonitorWare Console's Knowledge Base Module is exactly meant for this purpose. In short, MonitorWare Console is a very powerful tool that facilitates the Network Administrators to scrutinize their networks from tip to toe and gives an in-depth perspective about what's going on in their system.

For further details, please visit the MonitorWare Console website at www.mwconsole.com

1.4 System Requirements

The MonitorWare Agent has minimal system requirements. The actual minimum requirements depend on the type of installation. If the client is installed, they are higher. The service has minimal requirements, enabling it to run on a large variety of machines – even highly utilized ones.

Client

- The client can be installed on Windows 2000 SP3 and above. This includes Windows XP, Windows 2003/2008 servers and Windows Vista. The operating system variant

(Workstation, Server …) is irrelevant.

- The client uses XML technology. Unfortunately, operating system XML support is only available if at least Internet Explorer 4.01 SP1 is installed.
- The client requires roughly 8 MB RAM in addition to the operating system minimum requirements. It also needs around 10 MB of disk space.
- The client is available for Intel based systems, only.

Service

- The service has fewer requirements. Most importantly, it does not need Internet Explorer to be installed on the system.
- It works under the same operating system versions.
- At runtime, the base service requires 5 MB of main memory and less than 2 MB of disk space. However, the actual resources used by the agent largely depend on the services configured.
- If the MonitorWare Agent shall just monitor the local systems event log, impact on the monitored system is barely noticeable, if at all visible.
- If the MonitorWare Agent acts as a central Syslog server receiving hundreds of messages per second, it needs many more resources. Even then, the actual load is depending on the actions carried out. Storing the messages to text files is much less performance intense than writing them to a database table – especially if the database engine is located on the same machine. As such, there is no single guideline for hardware sizing. It needs to be adapted to the expected workload. We have created an article on performance optimization for syslog server operations, which you may want to read.
- Please note, however, that the service is specifically optimized to handle high throughput including message bursts (for example received via syslog).
- If you expect high volume burst and carry out time consuming actions (for example database writes), we highly recommend adding additional memory to the machine. Even 64 MB additional memory works nicely. A typical Syslog message (including overhead) takes roughly 1.5 KB. With 64 MB, you can buffer up to 50,000 messages in 64 MB.
- Please note, MonitorWare Agent is capable of storing such bursts temporarily in memory even if the machine would otherwise be too slow to process the messages.

PHPLogCon

- PHPLogCon requires Microsoft Internet Information Server (IIS) version 4 or higher to be present on the machine where PHPLogCon is to be installed but it is not mandatory, we recommend to go on with Apache in conjuction with PHP.

2 Getting Started

MonitorWare Agent can be used for simple as well as complex scenarios.
This chapter provides a quick overview of the MonitorWare Agent and what can be done with it.
Most importantly, it contains a tutorial touching many of the basic tasks that can be done with MonitorWare Agent as well as pointer on how to setup and configure.

Be sure to at least briefly read this section and then decide where to go from here - it is definitely a worth time spent.

2.1 Setup

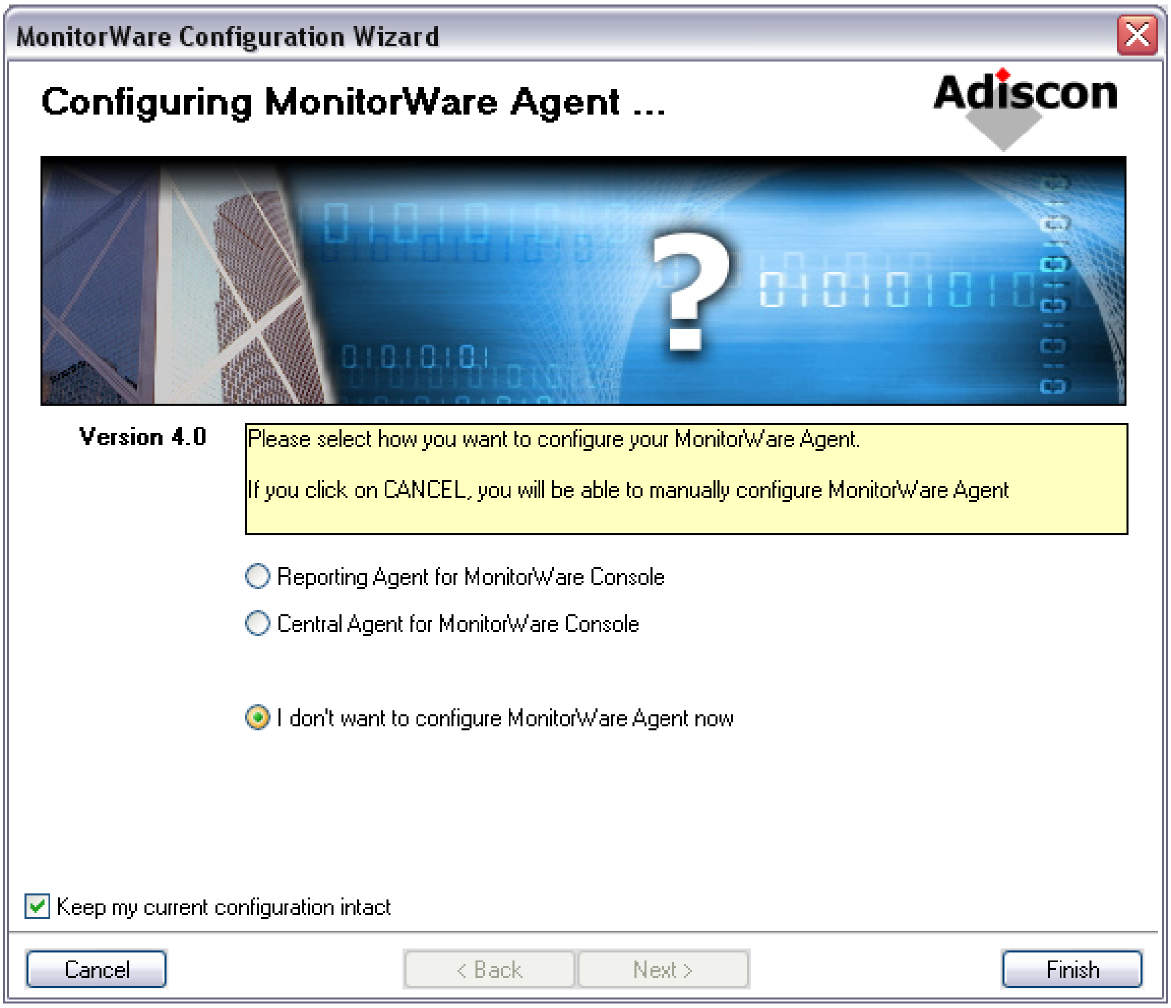
Installing MonitorWare Agent is simple and easy. A standard setup program installs the application.

A number of different Download Versions of the product is available. The main difference is whether or not a current version of the Microsoft Windows Installer program is included. If you use recent software (e.g. Windows XP or Windows 2003 Server), you can typically use the small install set. Install sets have different names. Those ending in "max" are typically the version for older operating systems without a current installer. If in doubt, use an install set whose name ends in "max". All files are direct install sets, so there is no need to unzip them or to find a setup.exe or such.

Depending on the download directory, the setup program may also be supplied in a ZIP file.

2.2 Running MWAgent the First Time

When you run MonitorWare Agent for the first time after installation, you are shown a MonitorWare Configuration Wizard that helps you in configuring MonitorWare Agent as a Reporting or Central Agent for MonitorWare Console.



MonitorWare Configuration Wizard
Configuring MonitorWare Agent ...
Adiscon
Version 4.0

Please select how you want to configure your MonitorWare Agent.

If you click on CANCEL, you will be able to manually configure MonitorWare Agent

○ Reporting Agent for MonitorWare Console

○ Central Agent for MonitorWare Console

● I don't want to configure MonitorWare Agent now

☑ Keep my current configuration intact

Cancel
< Back
Next >
Finish

Figure 1: MonitorWare Agent: Configuration Wizard

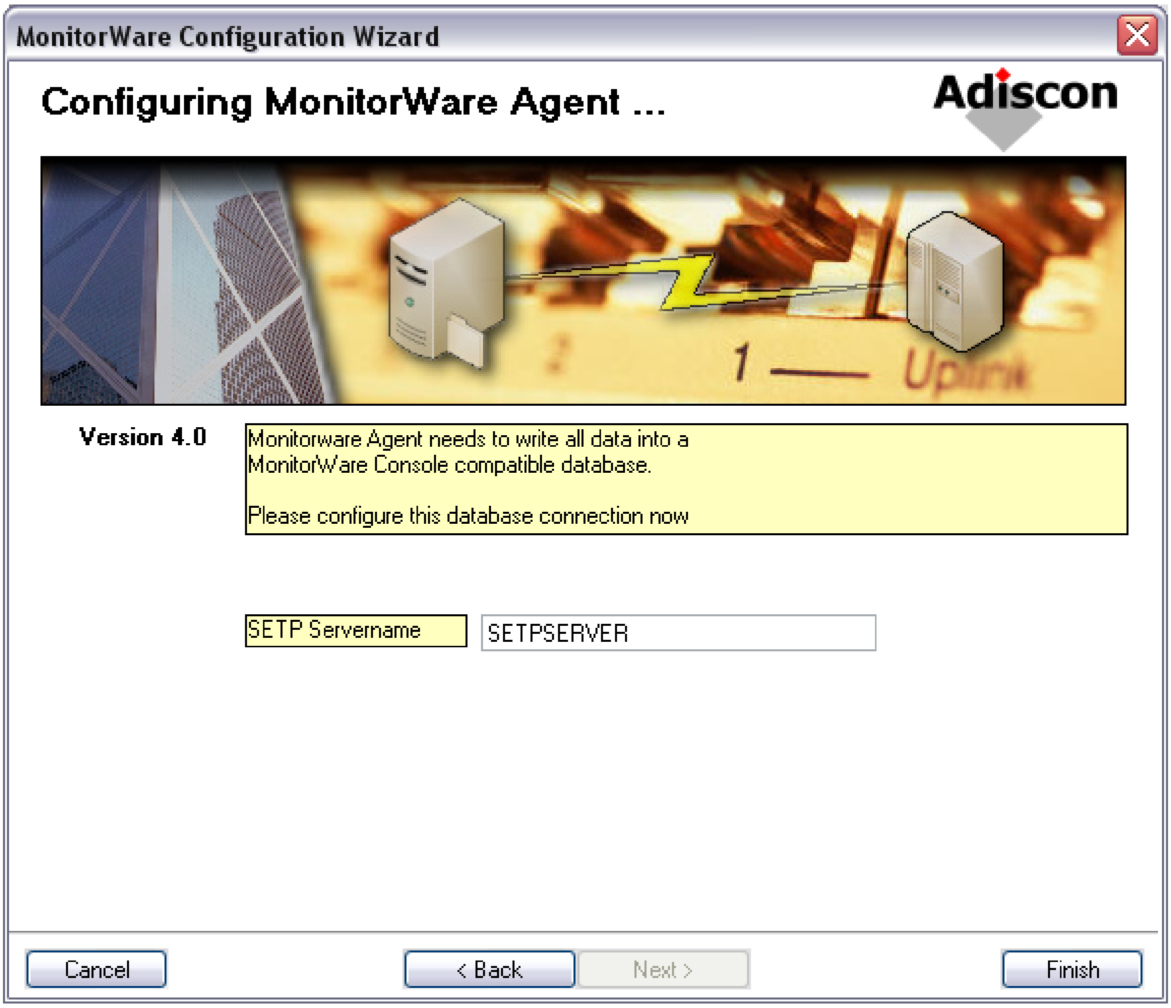
In Figure 1, you have three options available to configure MonitorWare Agent, these options are listed below:

1). Configure MonitorWare Agent as a Reporting Agent for MonitorWare Console
2). Configure MonitorWare Agent as a Central Agent for MonitorWare Console
3). I don't want to configure MonitorWare Agent now

Note: If you click on Cancel, you can configure the application manually later on. Keep my current configuration intact option; it helps you keep your current settings in case you are updating from an older version of MonitorWare Agent.

Option 1: Reporting Agent for MonitorWare Console

If you select this option the Next button at the middle bottom gets enabled. When you Click on Next, you have to give the SETP Server name in which MonitorWare Agent compatible database is resided.



MonitorWare Configuration Wizard
Configuring MonitorWare Agent ...
Adiscon
Version 4.0
Cancel
< Back
Next >
Finish

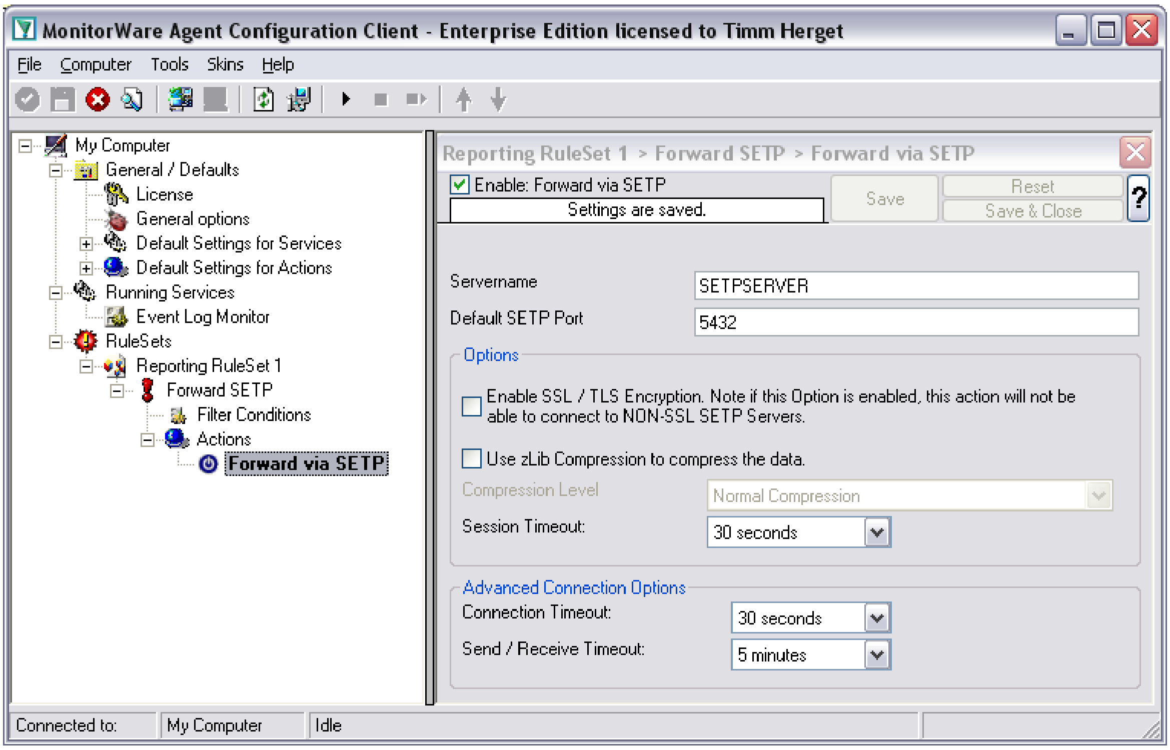
Monitorware Agent needs to write all data into a MonitorWare Console compatible database.

Please configure this database connection now

SETP Servername: SETPSERVER

Figure 2: MonitorWare Agent: Configuration Wizard [configure database connection]

Once you give the SETP Server name and click the Finish button at the right bottom, your application is configured as a reporting agent for MonitorWare Console and you enter into MonitorWare Agent successfully and you see an interface similar to the one shown below:


MonitorWare Agent Configuration Client - Enterprise Edition licensed to Timm Herget
File Computer Tools Skins Help
My Computer
General / Defaults
License
General options
Default Settings for Services
Default Settings for Actions
Running Services
Event Log Monitor
RuleSets
Reporting RuleSet 1
Forward SETP
Filter Conditions
Actions
Forward via SETP
Reporting RuleSet 1 > Forward SETP > Forward via SETP
Save
Reset
Save & Close
?
Options
Advanced Connection Options
Connected to: My Computer Idle

☑ Enable: Forward via SETP

Settings are saved.

Servername: SETPSERVER

Default SETP Port: 5432

□ Enable SSL / TLS Encryption. Note if this Option is enabled, this action will not be able to connect to NON-SSL SETP Servers.

□ Use zLib Compression to compress the data.

Compression Level: Normal Compression

Session Timeout: 30 seconds

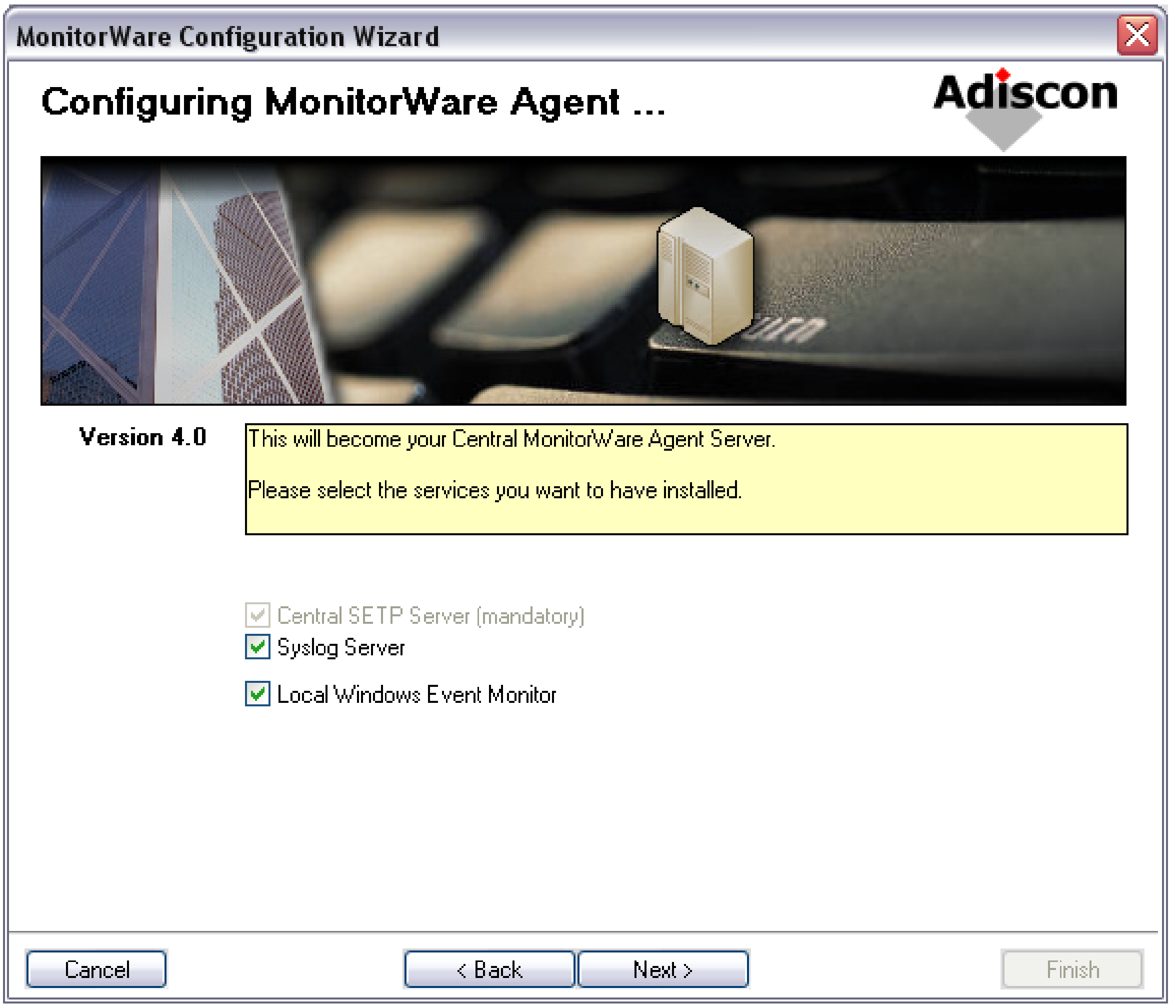
Connection Timeout: 30 seconds

Send / Receive Timeout: 5 minutes

Figure 3: MonitorWare Agent: Application Interface

Option 2: Central Agent for MonitorWare Console

If you select this option the Next button gets enabled. When you click on Next, you have to select the services you are intrested in.



MonitorWare Configuration Wizard
Configuring MonitorWare Agent ...
Adiscon
Version 4.0

This will become your Central MonitorWare Agent Server.

Please select the services you want to have installed.

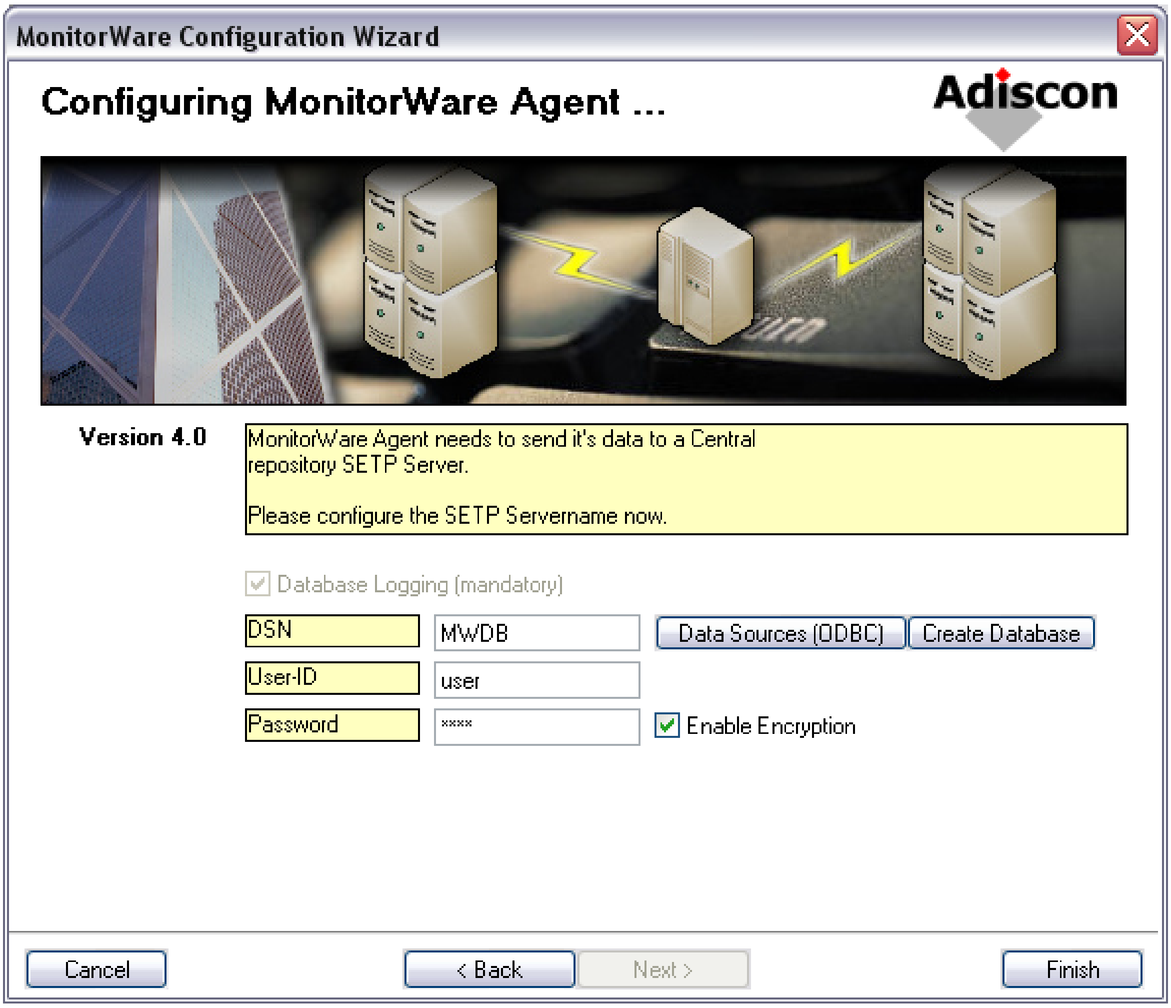
☑ Central SETP Server (mandatory)
☑ Syslog Server
☑ Local Windows Event Monitor

Cancel
< Back
Next >
Finish

Figure 4: Configuring as a central server [choosing services]

In this option, when you are setting up MonitorWare Agent in oder to use it with MonitorWare Console generating Windows reports, it is necessary to use the SETP option. This is due to the format of the stored data in the database required by MonitoWare Console, for this reason Central SETP Server option is greyed and already selected. The other two options that are Syslog Server and Local Windows Event Monitor are optional.

When you click on Next button, you are shown a form as shown blow:



MonitorWare Configuration Wizard

Configuring MonitorWare Agent ...

Version 4.0

MonitorWare Agent needs to send it's data to a Central repository SETP Server.

Please configure the SETP Servername now.

☑ Database Logging (mandatory)

DSN: MWDB

User-ID: user

Password: ****

☑ Enable Encryption

Figure 5: Configuring as a central server for MonitorWare Console [configuring SETP server name]

This form has certain text fields, buttons and a checkbox. Database Logging option is greyed and selected by default as it is mandatory to log in data to generate reports on it.

DSN
This field is mandatory. This points to the DSN of the database which stores all the data/settings related to the MontitorWare Console . And later on this works as the underlying database to which MonitorWare Console is connected.

User Name

The user name for the database. If you have generated the DSN using Windows Authentication, then you don't need to enter any thing in this field.

Password

The password for the database. If you have generated the DSN using Windows Authentication, then you don't need to enter any thing in this field.

Enable Encryption

If the "Enable Encryption" check box is checked, a weak symetrical encryption is applied on the password. Thus, we highly recommend to create a specific account with very limited permissions, if you store a password while writing to database. This account does only need to have "select" permissions.

Data Sources

This button is used to configure Data Source Name (DSN).

Create Database

This button is used to configure database and to create a table within the database.

Option 3: I don't want to configure MonitorWare Agent now

If you are not interested configuring the application now, you select this option and click Finish. You see a screen as shown in figure 3. To configure the application manually you have to go to Tools menu of Main Menu bar within the application and have to select MonitorWare Configuration Wizard menu item, this starts the configuration wizard again.

Note: if you once enter into application interface with any of these options selected, you do not get this screen on application startup. To reconfigure the application you have to go to Tools menu of Main Menu bar within the application and have to select MonitorWare Configuration Wizard menu item, screen shot displayed below:

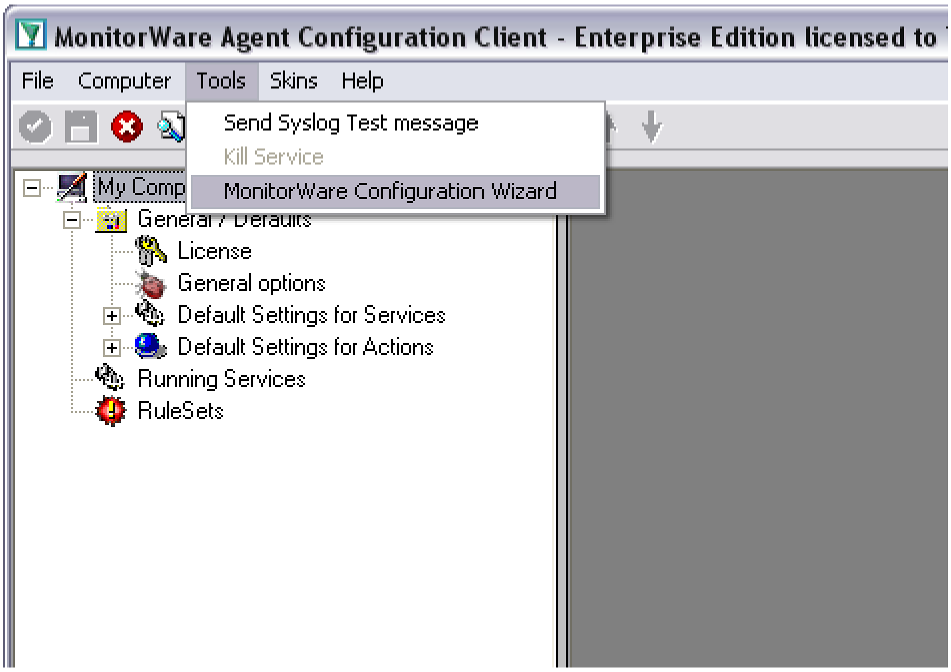

MonitorWare Agent Configuration Client - Enterprise Edition licensed to
File
Computer
Tools
Skins
Help
Send Syslog Test message
Kill Service
MonitorWare Configuration Wizard
My Comp
General / Defaults
License
General options
Default Settings for Services
Default Settings for Actions
Running Services
RuleSets

Figure 6: Launching MonitorWare Configuration Wizard

2.3 Creating an Inital Configuration

MonitorWare Agent actually contains the features of five products in it. In order to get MonitorWare Agent running be sure to go through the Tutorial section, once you have read this section. MonitorWare Agent can work as:

Data gatherer

Here, it gathers event data from important sources like Windows event logs, text files, ping and port probes and the like.

Real Time Alerter

Alert conditions can be detected in real time and alerts be issued. Alerts can be sent via email and various other means. Alerts based on data gathered by the data gatherers can be configured with respect to different parameters.

Automatic Admin Actions

Depending on certain events, administrative actions can be automatically initiated, for example the deletion of temporary files in a low-disk space condition.

Relay Server

MonitorWare Agent can be used to build, highly scalable, complex systems with relay servers between locations or networks. As a relay server, it forwards incoming events to another instance of MonitorWare Agent or a Syslog daemon.

Event Repository

All gathered event data can be stored in a repository. The repository is a database providing the base for all other MonitorWare products. Events can also be stored in text files. With a specific configuration, a secure log repository can be created for auditing purposes.

MonitorWare Agent can perform any mix of the five functions on a given machine. There are no limits inside the product. Right after installation, however, it is not configured for any of the above functions. So in order to have it do some useful work, it needs to be configured.

2.4 Installing phpLogCon

phpLogCon is a convenient facility to access MonitorWare gathered events over the web. All major browsers are supported. phpLogCon is included in the MonitorWare Agent install set. It gets copied onto machine but not installed.

For installation of phpLogCon, refer to the installation instructions in the doc folder of phpLogCon or see the online manual at http://www.phplogcon.com/module-Static_Docs-view-f-index.htm.phtml. Please email support@adiscon.com, if you want some more help in this regard.

2.5 Obtaining a Printable Manual

A printable version of the manual can be obtained at http://www.mwagent.com/en/Manual/

The manuals offered on this web page are in printable (in PDF format) or HTML Versions for easy browsing and printing. The manual is also included as a standard Windows help file with all installations. So if you have the product already installed, there is no need to download these documents.

The version on the web might also include some new additions, as we post manual changes frequently – including new samples and as soon as they become available. Past manual versions are also available for those customers in need of it.

2.6 Export Settings

When working on a support incident, it is often extremely helpful to re-create a customer environment in the Adiscon lab. To aid in this process, we have added functionality to export an exact snapshot of a configuration. This is done via standard Windows registry files. Please note that when we have received your file, we are also able to make adjustments (if needed) and provide those back to you. This is a very helpful support tool.

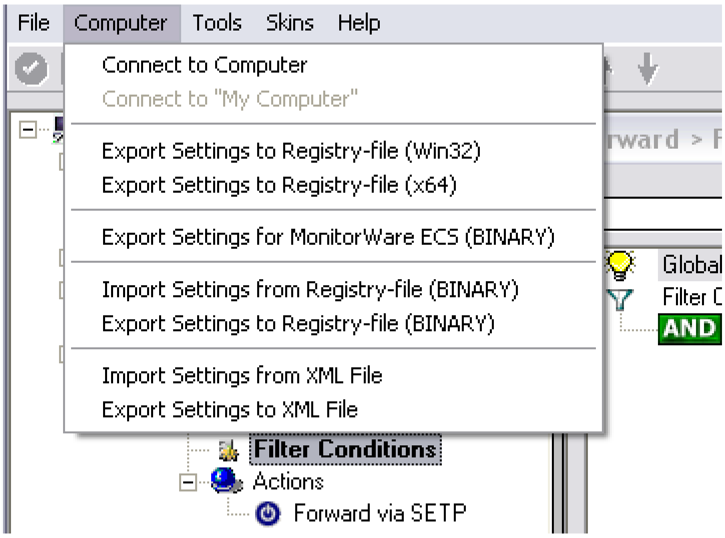

File
Computer
Tools
Skins
Help
Connect to Computer
Connect to "My Computer"
Export Settings to Registry-file (Win32)
Export Settings to Registry-file (x64)
Export Settings for MonitorWare ECS (BINARY)
Import Settings from Registry-file (BINARY)
Export Settings to Registry-file (BINARY)
Import Settings from XML File
Export Settings to XML File
rward > F
Global
Filter C
AND
Filter Conditions
Actions
Forward via SETP

Figure1: Export Settings to a file

To use it, please do the following:

1. Go to "Computer Menu"
2. Choose "Export Settings to Registry-File" (be sure **NOT** to select a binary format - they are only for special purposes. You can also **NOT** review binary files for

security-relevant data.) Please also note that you can export in Win32 or x64 format so please choose the right one for your system.

3. Save this registry file.

You may be reluctant to send the registry file because of security reasons. We recommend you to review the contents of the registry file for security purposes with a notepad or any other text editor.

Please Note: We have a 1 MB limit on our mail account. Please zip the registry file and then send it to us. If the file size doesn't reduce after compressing it you should contact Adiscon Support for further instructions.

Fully XML Import & Export of Settings

It is now possible to save the whole configuration as XML. You can edit this XML, duplicate Services, Rules or Actions and reimport the Settings. This is very useful to sort and order large configurations.

2.7 MonitorWare Agent Tutorial

This tutorial is to provide an overview of MonitorWare Agent and some of its typical uses.
It is not a complete product documentary but helps enough to understand and target the application according to your needs.
In the tutorial, we start by describing and focusing on the filter conditions, as these are often needed to understand the usage scenarios that follow below.

MonitorWare Agent gathers network events – or "information units" as we call them – with its services.
Each of the events is then forwarded to a rule base, where the event is serially checked against the different rule's filter conditions.
If such a condition evaluates to true ("matches"), actions associated with this rule are carried out (for example, storing the information unit to disk or emailing an administrative alert).

Debug Logging

When having Debug Logging enabled, the Username used for the Service will be printed below the Version Build number now. This is usefull for debugging purposes.

2.7.1 Filter Conditions

For every rule, filter conditions can be defined in order to guarantee that corresponding actions are executed only at certain events.

These filter conditions are defined via logical operators. Boolean operators like "AND" or "OR" can be used to create complex filter conditions.

If you are note so sure about the Boolean operators, you might find the following brush-up helpful:

AND – All operands must be true for the result to be true. Example: AND (A, B): Only if both A and B are true, the result of the AND operation is true. In all other cases, it is false.

OR – If at least one of the operands is true, the end result is also true. Example: OR (A, B): The end result is only false if A and B are false. Otherwise, it is true.

XOR – It yields true if exactly one (but not both) of two operands is true. Example: XOR (A, B): The end result is false if A and B both are True or False. Otherwise, it is true.

NOT – Negates a value. Example: NOT A: If A is true, the outcome is false and vice versa. There can only be a single operand for a NOT operation.

TRUE – Returns true.

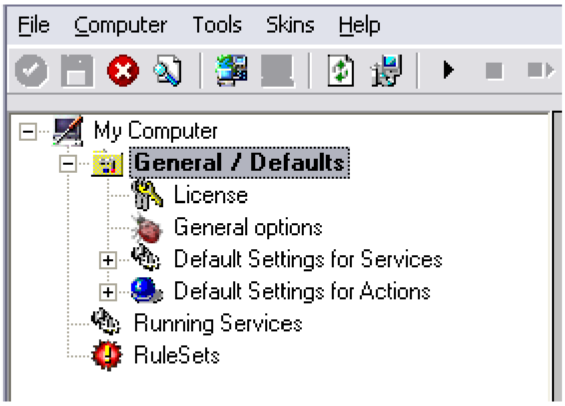
FALSE – Returns false.

2.7.2 Ignoring Events

There are some events which occur often and you do not want them to be stored in your log files or either take any action on those.

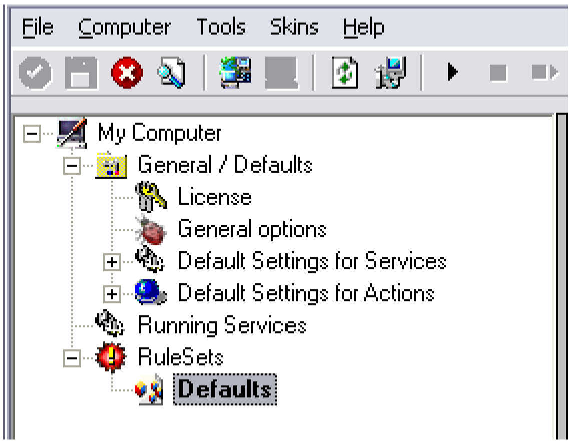
We handle these events on top of our rule set. This ensures that only minimal processing time is needed and they are discarded as soon as possible.

In this tutorial, we define a filter that discards such events. In our example, we assume that Events with the ID 105, 108 and 118 are not required. Please note that for simplicity reasons we only apply filter based on the event ID. In a production environment, you might want to add some additional properties to the filter set.
In this sample, no service or rule set is yet defined. It is just a "plain" system right after install, as can be seen in the following screen shot:



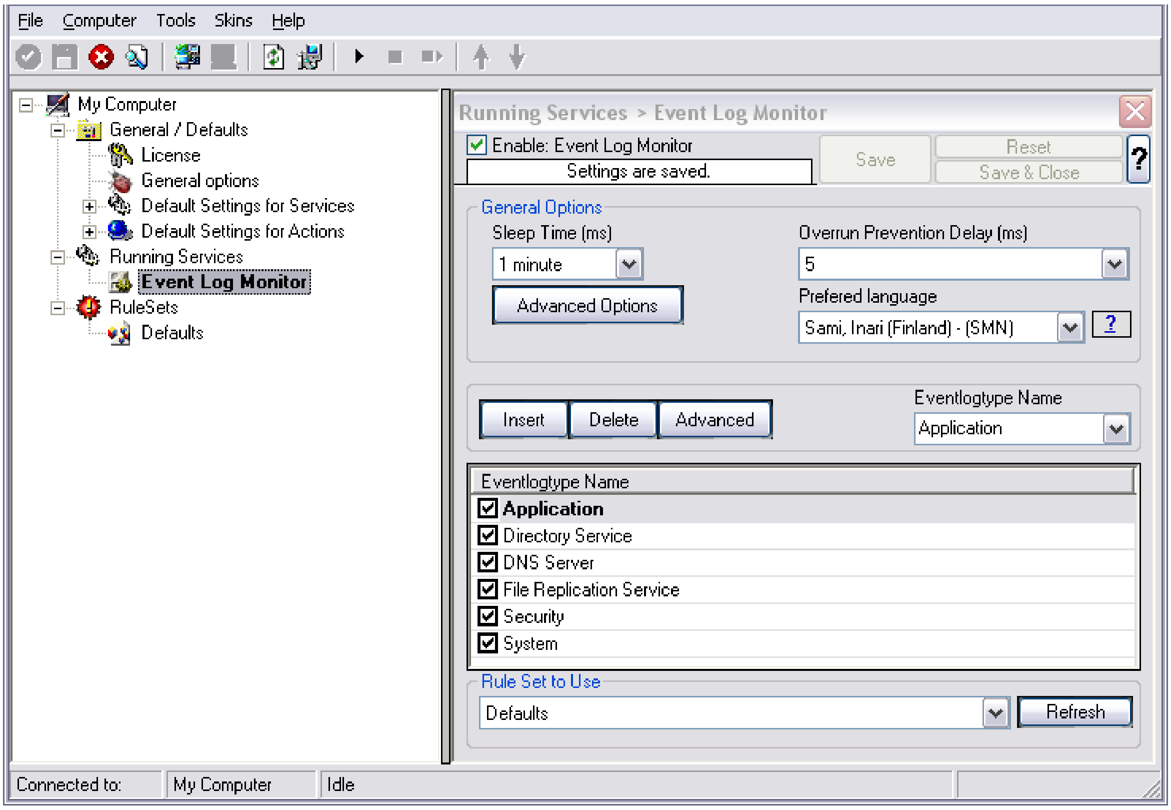
Ignoring Events - Figure 1

We begin by defining a rule set. Right-click on "RuleSets" and choose "Add RuleSet" from the context menu. Type in a name of your choice. In this tutorial, we use the name "Defaults". Click on "Next". Leave all as it is in the next dialog. Click "Next", then "Finish". As can be seen in following screen shot, the rule set "Defaults" has been created but is still empty.


File Computer Tools Skins Help
My Computer
General / Defaults
License
General options
Default Settings for Services
Default Settings for Actions
Running Services
RuleSets
Defaults

Ignoring Events - Figure 2

Of course we can only use a rule if we configure a corresponding service. To do so, right-click on "Running Services" and then select "Add Services". Choose the desired "Service" from the context menu i.e. "Event Log Monitor" in this sample. Provide a name of your choice. In our sample, we call the service "Event Log Monitor". Leave all defaults and click "Next", then "Finish". Now click on "Event Log Monitor" under "Running Services". Your screen should look as follows:



☑ Enable: Event Log Monitor

Settings are saved.

Sleep Time (ms): 1 minute

Overrun Prevention Delay (ms): 5

Prefered language: Sami, Inari (Finland) - (SMN)

Eventlogtype Name: Application

Eventlogtype Name
☑ **Application**
☑ Directory Service
☑ DNS Server
☑ File Replication Service
☑ Security
☑ System

Rule Set to Use: Defaults

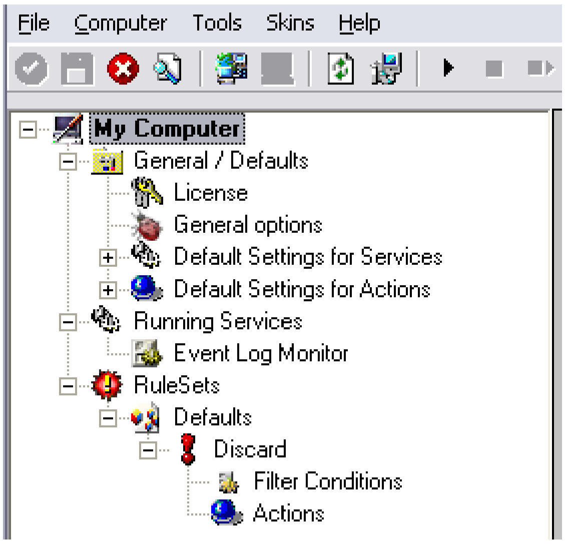
Connected to: My Computer Idle

Ignoring Events - Figure 3

As we had created the "Defaults" rule set initially, it is shown as the rule set to use for this service. For our purposes, that is correct. To learn more on the power of rule set assignments, see other sections of this manual.

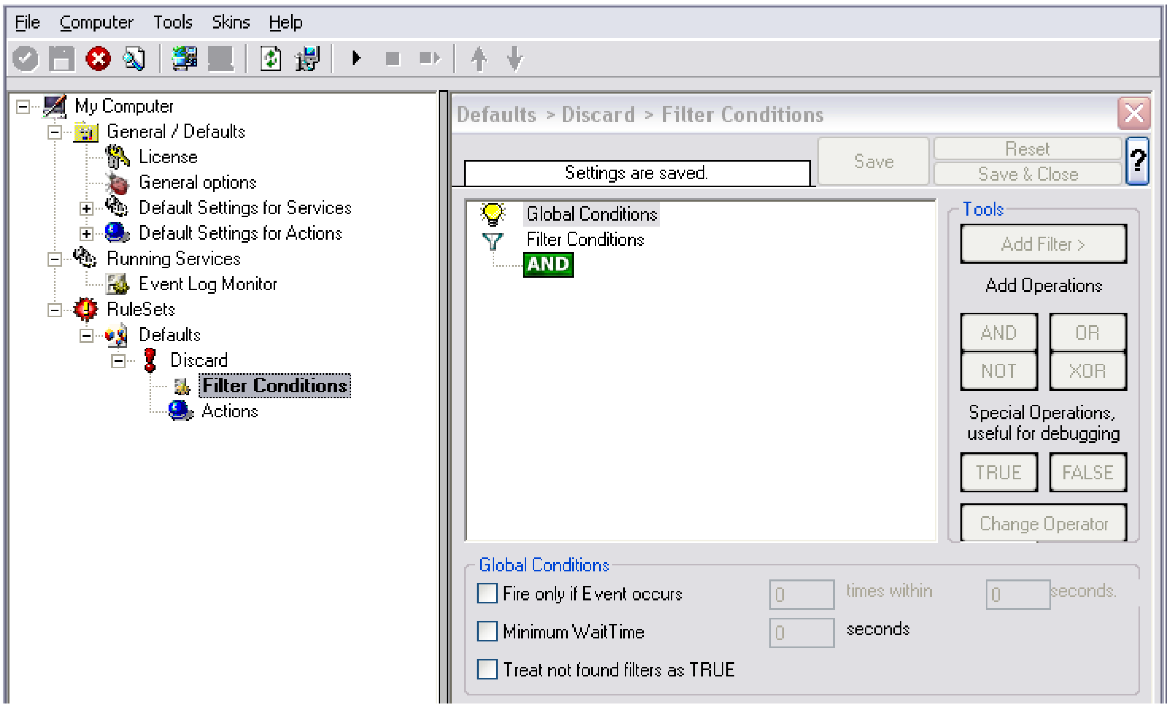
Now we do something with the data that is generated by the event log monitor. To do so, we must define rules inside the rule set.

In the tree view, right-click "Defaults" below "RuleSets". Then, click "Rules", select "Add Rule". Choose any name you like. In our example, we call this rule "Discard". Then, expand the tree view until it looks like the following screen shot:



Ignoring Events - Figure 4

Click on "Filter Conditions" to see this dialog:



Settings are saved.

Global Conditions

☐ Fire only if Event occurs 0 times within 0 seconds.

☐ Minimum WaitTime 0 seconds

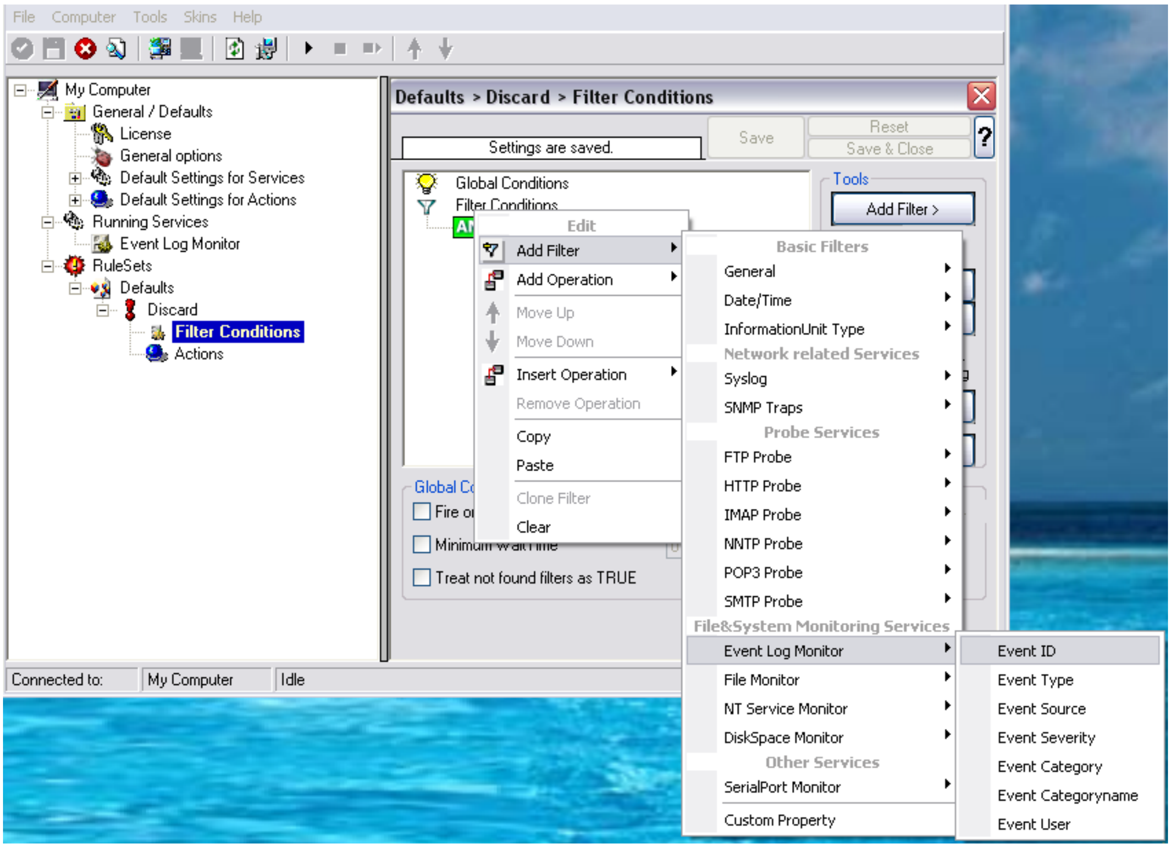
☐ Treat not found filters as TRUE

Ignoring Events - Figure 5

In that dialog, we define our filter. Remember: we are about to filter those events, which we are **not** interested in. As we would like to discard multiple events, we need the Boolean "OR" operator in the top-level node, not the default "AND". Thus, we need to change the Boolean operator.

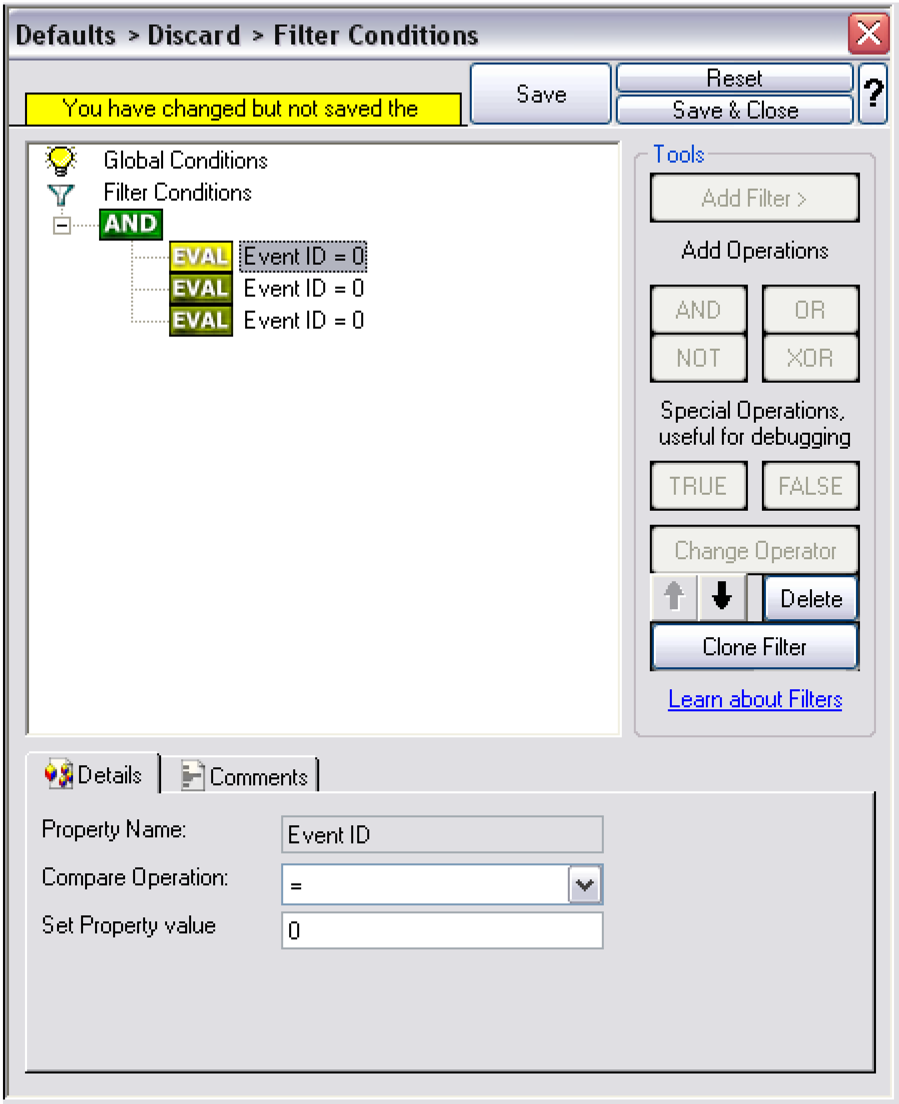
There are different ways to do this. Either double-click the "AND" to cycle through the supported operations or select it and click "Change Operator". In any way, the Boolean operation should be changed to "OR".

We filter out "uninteresting" events via their event id. Again, there are different ways to do this. In the sample, we do it via right clicking the "OR" node and selecting "Add Filter" from the pop up menu. Or you can use the Add Filter Button. This can be seen in the screen shot below:



Ignoring Events - Figure 6

I prefer to add all three Event ID property filters first and later on change the Event ID to the actual value I am looking for. When you have added them, it should look as follows:



Defaults > Discard > Filter Conditions

You have changed but not saved the

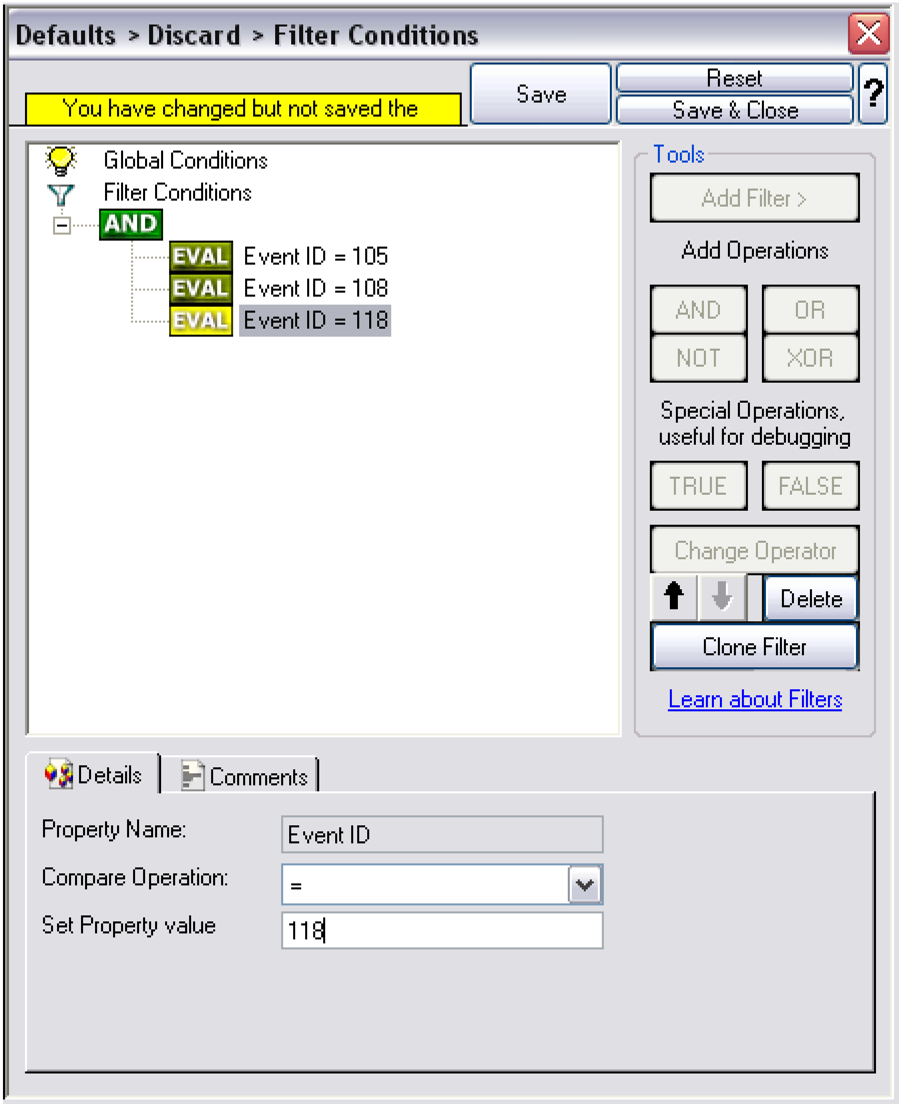
Property Name: Event ID

Compare Operation: =

Set Property value 0

Ignoring Events - Figure 7

In order to enter the actual values, select each of the three filters. A small dialog opens at the bottom of the screen. There you enter the values you are interested in. In our sample, these are IDs 105, 108 and 118. As we are only interested in exactly these values, we do a comparison for equality, not one of the other supported comparison modes. When you have made the updates, you screen should look as follows:



Defaults > Discard > Filter Conditions

You have changed but not saved the

Property Name: Event ID

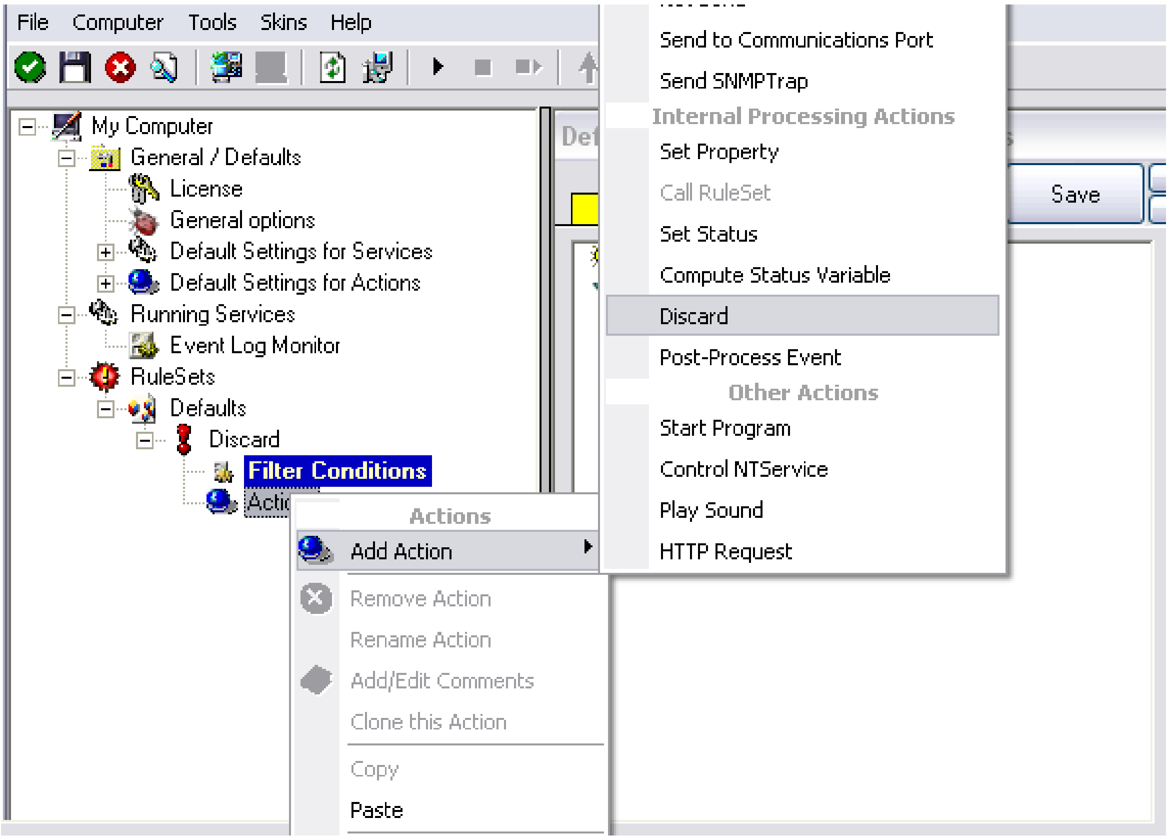
Compare Operation: =

Set Property value 118

Ignoring Events - Figure 8

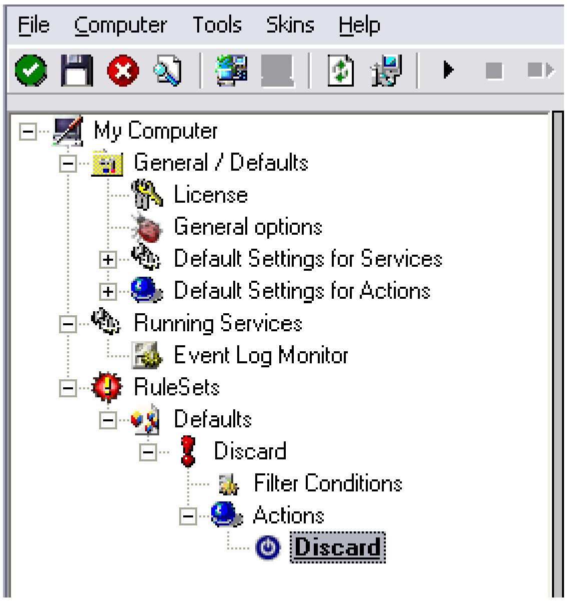
Save the settings by clicking the (diskette-like) "Save" button. We have now selected all events that we would like to be discarded. In reality, these are often far more or a more complicated filter is needed. We have kept it simple so that the basic concept is easy to understand – but it can be as complex as your needs are.

Now let us go ahead and actually discard these events. This is done via an action. To do so, right-click on "Actions" and select "Discard."



Ignoring Events - Figure 9

Again, name the action as you like in the following dialog. We use "Discard" as this is quite descriptive. Select "Next" and then "Finish" on the next page. Your screen should like follows:



Ignoring Events - Figure 10

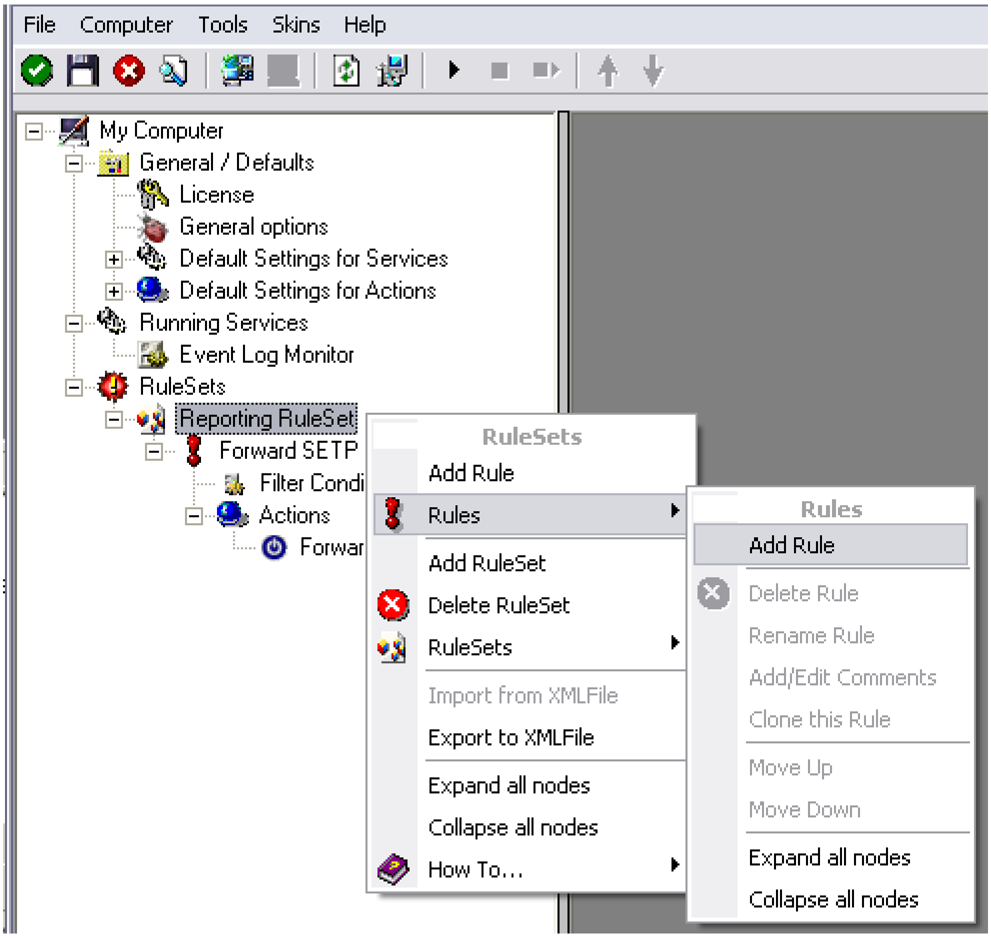
This concludes the definition of our first rule.

If we would start MonitorWare Agent service now, all events with IDs 105, 108 and 118 would be handled by this rule and thus be discarded. All other events do not cause the filter condition to evaluate to true and thus those would be left untouched. Consequently, only these other events flow down to rules defined behind the "Discard" rule. Obviously, our configuration effort is not yet completed. We just finished a first step, excluding those events that we are not interested in. And of course, in reality you need to decide which ones to discard in a real rule set.

2.7.3 Logging Events

Often, a broad range of events (or information units as we call them) needs to be stored persistently so that you can review and analyze them if the need arises. As such, we are in need of a rule that persists the events. In our sample, we choose to work with a text log file (not a database, which we also could use). We now create a rule to store all those events not discarded by the previous rule into a log file.

To do so, right click the "Defaults" rule set as shown below. Then, select "Rules" and "Add Rule":

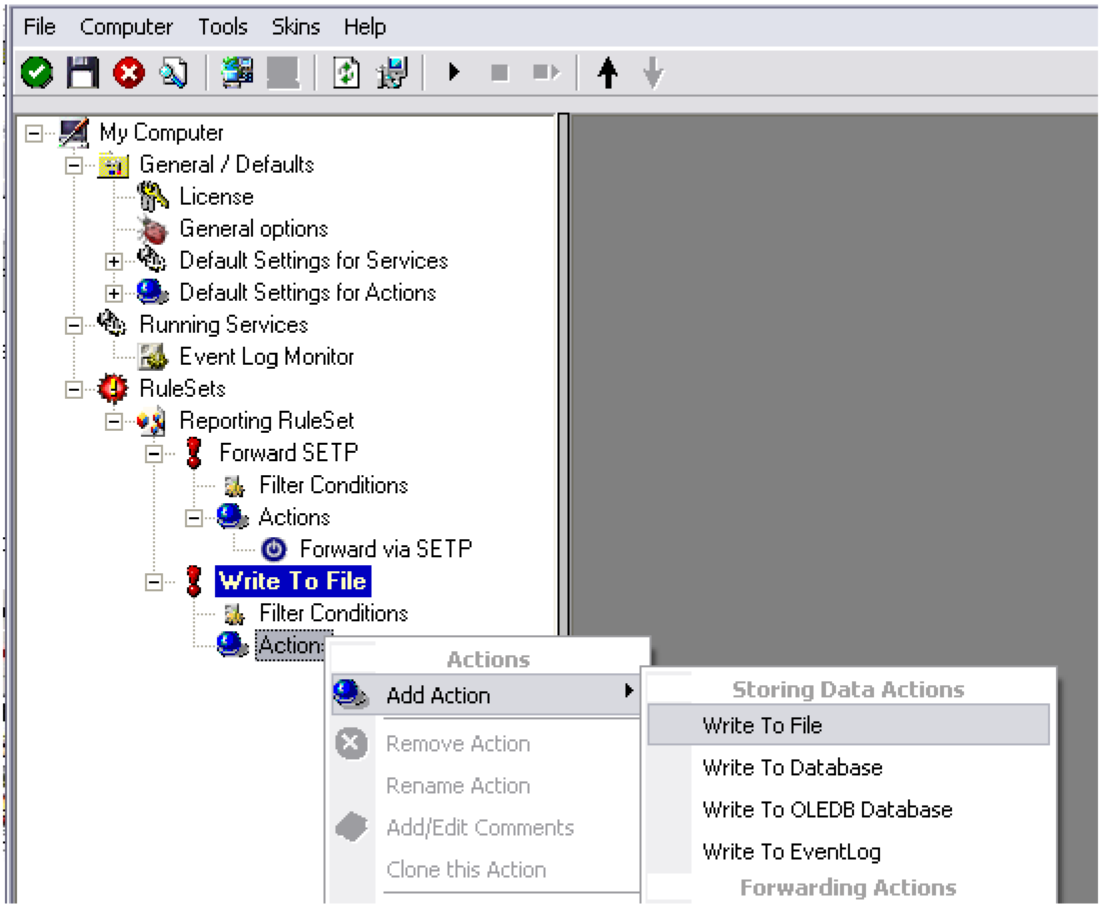


Logging Events - Figure 1

Use a name of you choosing. In our sample, we call this rule "Write To file".This rule should process **all** events that remained after the initial discard rule. As such, we do not need to provide any filter condition (by default, the filter condition matches always).

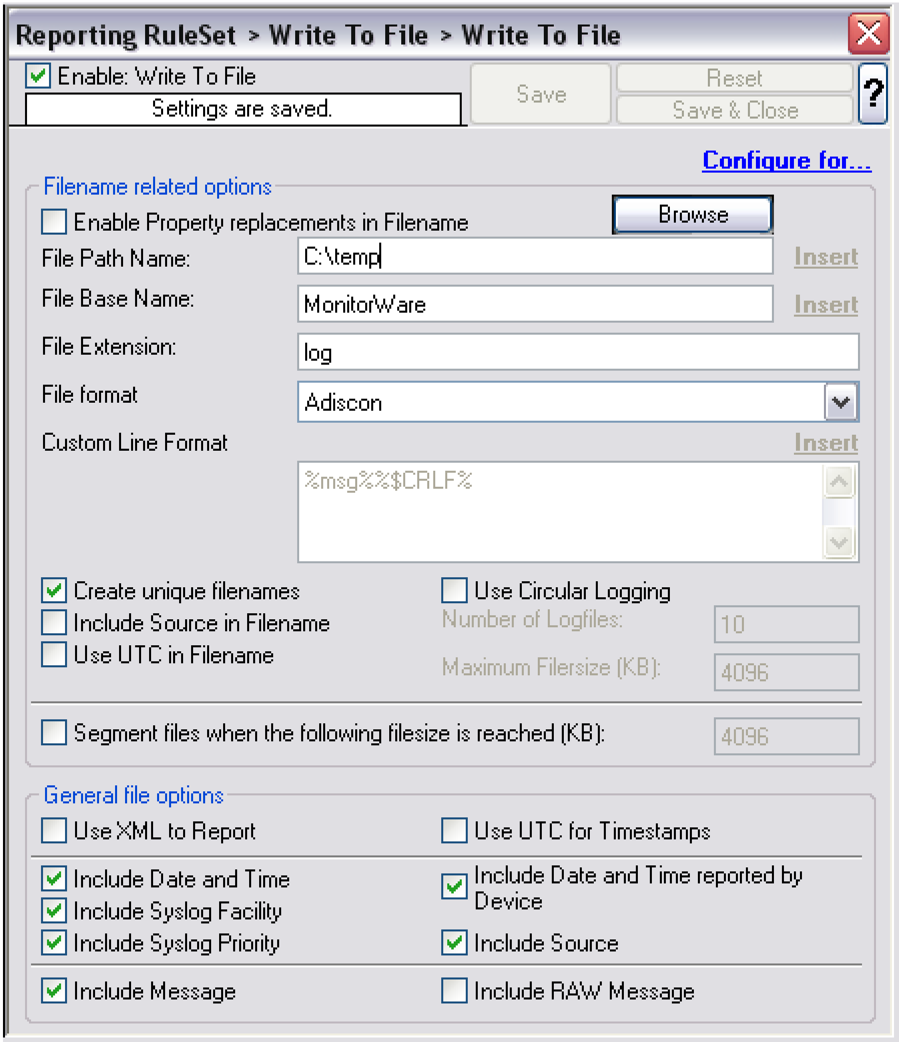
Since we want to store all still open Events with help of this rule, we do not require any filter rules here. However, a corresponding action must be defined. Therefore, we just need to define the action:

To do so, expand "Write To file" and right-click "Actions". Select "Add Action", then "Write to File" as can be seen below:



Logging Events - Figure 2

Again, choose a name. Do not modify the defaults. In our sample, we call this action "Records". Click "Next", then "Finish." Now the tree view contains a node "Records", which we select:



☑ Enable: Write To File

Settings are saved.

Filename related options

□ Enable Property replacements in Filename

File Path Name: C:\temp

File Base Name: MonitorWare

File Extension: log

File format: Adiscon

Custom Line Format: %msg%%$CRLF%

☑ Create unique filenames

□ Include Source in Filename

□ Use UTC in Filename

□ Use Circular Logging

Number of Logfiles: 10

Maximum Filersize (KB): 4096

□ Segment files when the following filesize is reached (KB): 4096

General file options

□ Use XML to Report

□ Use UTC for Timestamps

☑ Include Date and Time

☑ Include Syslog Facility

☑ Include Syslog Priority

☑ Include Date and Time reported by Device

☑ Include Source

☑ Include Message

□ Include RAW Message

Logging Events - Figure 3

Important

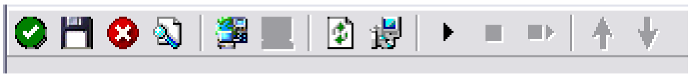
If the configured directories are missing, they are automatically created by MonitorWare Agent i.e. the folder specified in "File Path Name".

In our sample, we also change the file base name to "logdata". This was just done out of personal preference. There is no need to do so, but it may be convenient for a number of reasons.

Summary

What did we do so far? All events from the Windows event log are passed through our rule engine and rule filters. Certain events are discarded and the remaining events are stored to a text file on the local disk (for later review or post-processing).

We can now do a quick test: Start MonitorWare Agent by hitting the start button seen below:



Logging Events - Figure 4

The log file should be created in the path you have specified. Open it with notepad. You should see many events originating from the event log. When you re-open the log file, new events should appear (if there were any new events in the Windows event log). The file is not easily readable. Most probably, you have created it for archiving purposes or to run some external scripts against it. For review, we recommend using either the web interface or the MonitorWare Console.

Please note that the current date is appended to the log file. This facilitates file management in archiving. The format is "logdata-YYYY-MM-DD.log".

You have now learned to define rules and actions. The following chapters thus does not cover all details of this process. If in doubt, refer back to these chapters here.

2.7.4 Time-Based Filters

Time based filters are especially useful for notifications. For example, a user login is typically a normal operation during daytime, but if there are no night shifts, it might be worth generating an alert if a user logs in during night time. Another example would be a backup run that routinely finishes during the night. If we see backup events during the day, something might be wrong.

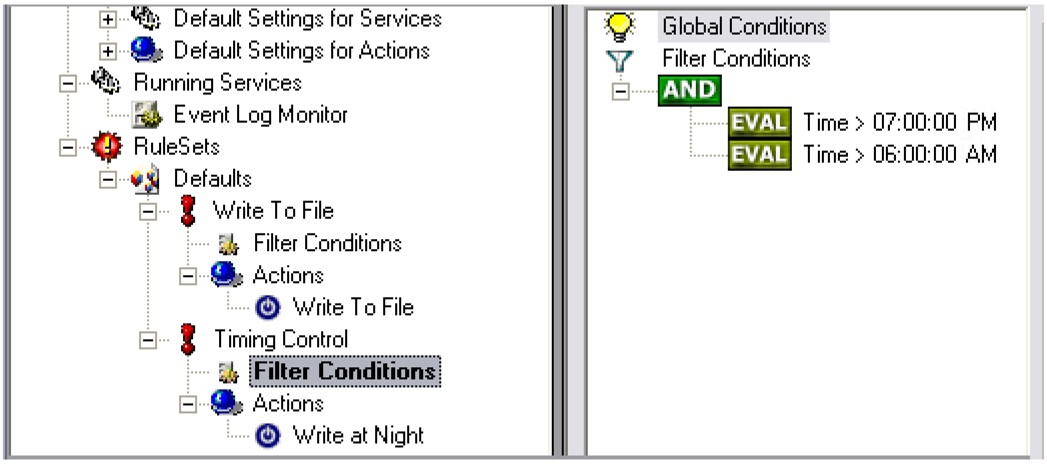
Similarly, there are a number of other good reasons why specific actions should only be applied during specific time frames. Fortunately, MonitorWare Agent allows defining complex time frames. In this tutorial, though, we focus on the simple ones.

Let us first define a sample time-based filter that applies a nightly time frame. In fact, there are many ways to do this. We have used the method below, because it is straightforward and requires the least configuration work.

To make matters easy, we use this filter condition just to write nightly event log data to a different log file. In reality, time based filters are often combined with other conditions to trigger time based alerts. However, this would complicate things too much to understand the basics.

In the sample below, an additional rule called "Timing Control" has been added. It includes a time-based filter condition. Only if that condition evaluates to "true", the corresponding action is executed. This action can be "Write to Database" or "Write to File". Here we had selected "Write to File" action and renamed it as "Write at Night".

Please note: we use the 12-hour clock system.



Default Settings for Services
Default Settings for Actions
Running Services
Event Log Monitor
RuleSets
Defaults
Write To File
Filter Conditions
Actions
Write To File
Timing Control
Filter Conditions
Actions
Write at Night

Global Conditions
Filter Conditions
AND
EVAL Time > 07:00:00 PM
EVAL Time > 06:00:00 AM

Time-Based Filters - Figure 1

All events generated by services binding to our rule set "Defaults" are now also be passed along the "Timing Control" rule set. If these events come in night times between 07:00:01 PM and 5:59:50 AM, the action "Write at Night" is executed.

Please note that the use of the "OR" operator is important because either one of the time frames specified does apply. This is due to the midnight break.

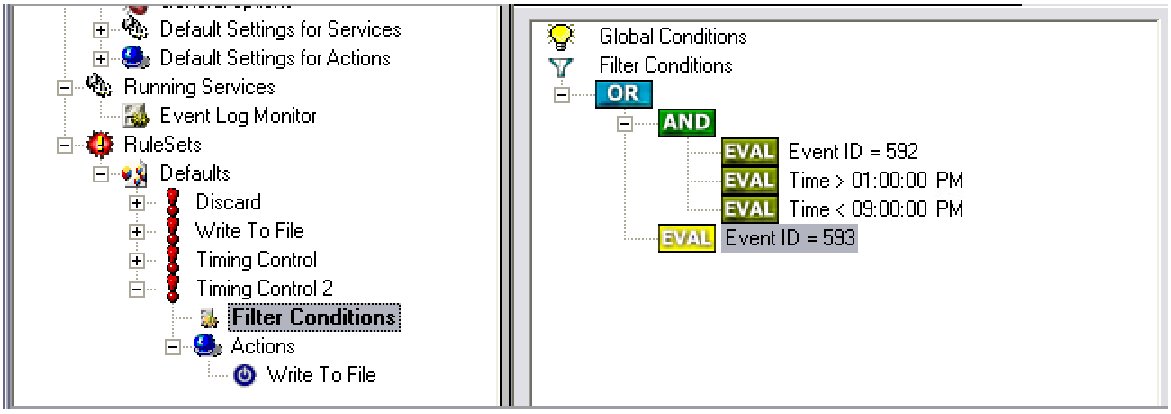
If an event comes in at 08:00:00 AM in the morning, the action is not called – it is outside of the specified time frame:

08:00:00 AM > 07:00:00 PM = *false*
08:00:00 AM < 06:00:00 AM = *false*

If the very same event comes in at 08:00:00 PM in the filter condition, It evaluates to true and the action is executed.

08:00:00 PM > 07:00:00 PM = *true*
08:00:00 PM < 06:00:00 AM = *false*

As stated earlier, time frames are most often used in combination with other filters. Here is a more complex example:



Default Settings for Services
Default Settings for Actions
Running Services
Event Log Monitor
RuleSets
Defaults
Discard
Write To File
Timing Control
Timing Control 2
Filter Conditions
Actions
Write To File

Global Conditions
Filter Conditions
OR
AND
EVAL Event ID = 592
EVAL Time > 01:00:00 PM
EVAL Time < 09:00:00 PM
EVAL Event ID = 593

Time-Based Filters - Figure 2

In this example, we call the configured actions if events with ID 592 occur between 01:00:01 PM and 08:59:59 (roughly 9 PM). We also execute the configured actions if event ID 593 occurs. Please note that in the case of 593 events, the time filter does not apply due to the used Boolean operations.

In this sample, you also notice that we use an "AND" condition to build the time frame. The reason is that there is no implicit midnight boundary for our time frame as was in the first sample. As such, we need to employ "AND" to make sure the events are WITHIN the specified range.

Now let us look at some sample data:

We receive a 592 event at 07:00:00 AM sharp:

Event ID = 592	= *true*
07:00:00 AM > 01:00:00 PM	= *false*
07:00:00 AM < 09:00:00 PM	= *false*
"AND" Branch	= *false*
Event ID = 593	= *false*

In all, the filter condition is false.

Now, the same event comes in at 02:00:00 PM:

Program start ID = 592	= *true*
Event ID = 592	= *true*
02:00:00 PM > 01:00:00 PM	= *true*
02:00:00 PM < 09:00:00 PM	= *true*
"AND" Branch	= *true*
Event ID = 593	= *false*

This time, the time frame is correct, yielding to an overall true condition from the "AND" branch. That in turn yields to the filter condition as whole to evaluate to true.

In this example still is another Event ID. All events with event ID 593 is grasped. This happens independently from the timing control when grasping the Events 592.

One last sample. At this time, event 593 comes in at 07:00:00 AM:

Program start ID = 593	= *true*
Event ID = 592	= *false*
07:00:00 AM > 01:00:00 PM	= *false*
07:00:00 AM < 09:00:00 PM	= *false*
"AND" Branch	= *false*
Event ID = 593	= *true*

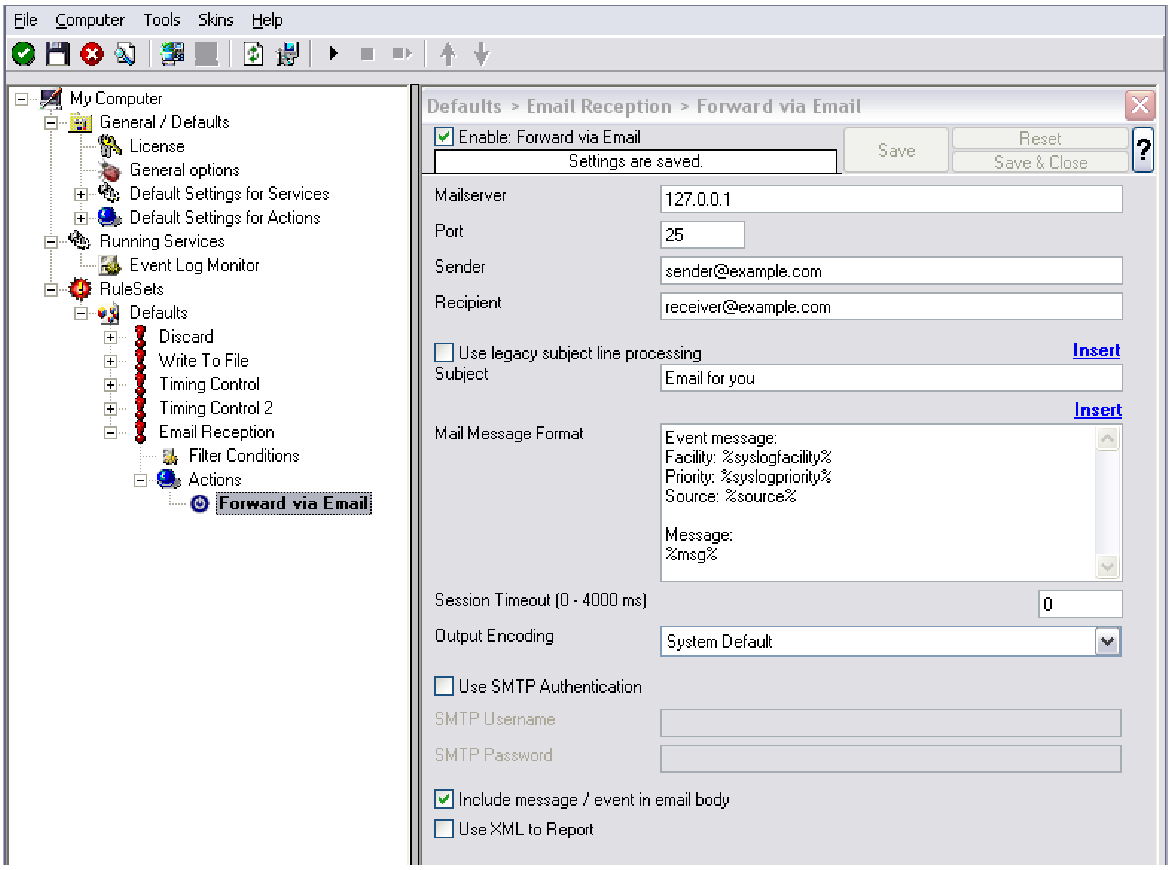
This time the filter condition evaluates to true, too. The reason is that the (not matched) time frame is irrelevant as the other condition of the top-level "OR" branch evaluates to true (Event ID = 593).

2.7.5 Email Notifications

In this example, we would like to receive email notifications when certain events happen.

So let us create an additional rule for that purpose: Right-click the "Defaults" rule set and select "Rule Sets", "Add Rule" from the pop up menu. Provide a name. We call it "Email Reception" in this example. Then, add a "Forward via Email" action. In the action details, be sure to configure at least the mail server, recipient and subject properties.

Please note that many mail servers also need a valid sender mail address or otherwise deny delivery of the message.



☑ Enable: Forward via Email

Settings are saved.

Mailserver: 127.0.0.1

Port: 25

Sender: sender@example.com

Recipient: receiver@example.com

☐ Use legacy subject line processing

Subject: Email for you

Mail Message Format:

```
Event message:
Facility: %syslogfacility%
Priority: %syslogpriority%
Source: %source%

Message:
%msg%
```

Session Timeout (0 - 4000 ms): 0

Output Encoding: System Default

☐ Use SMTP Authentication

SMTP Username:

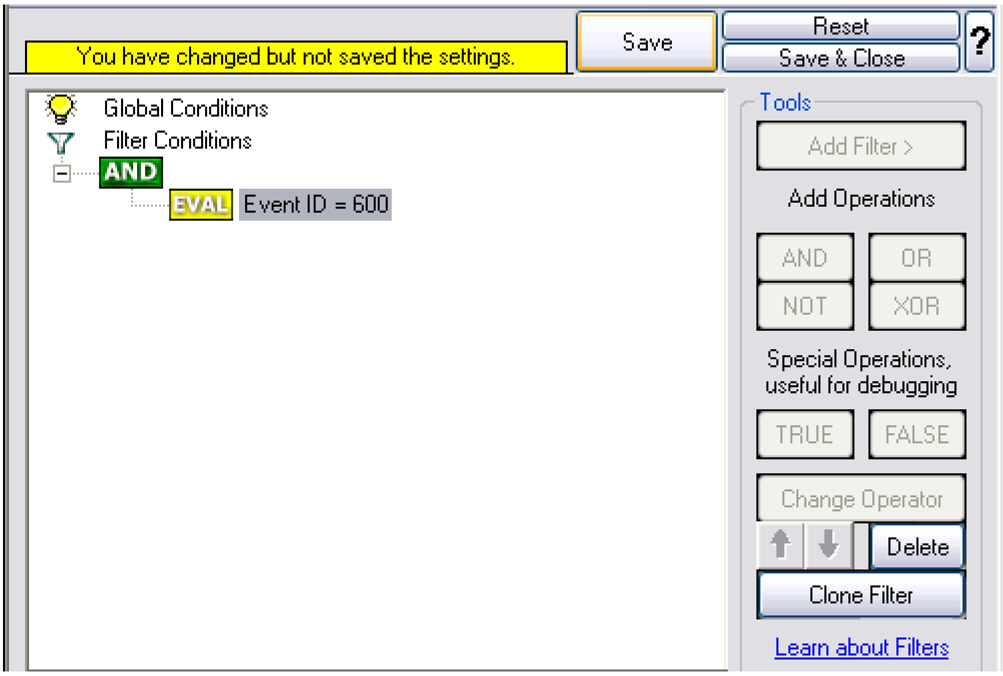
SMTP Password:

☑ Include message / event in email body

☐ Use XML to Report

Email Notifications - Figure 1

Then, select the filter conditions. Let us assume we are just interested in events of ID 600. Then the filter conditions should look as can be seen below:


You have changed but not saved the settings.

Global Conditions
Filter Conditions
AND
EVAL Event ID = 600

Email Notifications - Figure 2

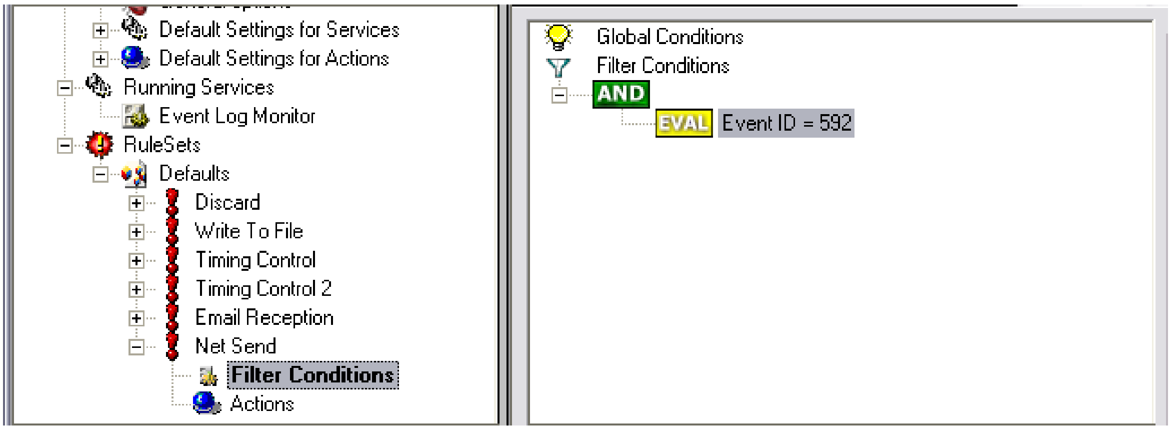
When you have finished these steps, be sure to save the configuration and re-start the MonitorWare Agent service. After the restart, the newly extended rule set is executed. In addition, the rules defined so far, the new one is carried out, emailing all events with ID 600 to the specified recipient.

2.7.6 Alarming via Net Send

Again, we add another rule to our rule set.
This time, we would like to receive notification via the Windows messenger service (aka "net send").

Please bear in mind that the Windows messenger service is not the instant messaging service that many people nowadays associate with it. The messenger service is meant for administrator notifications. If a windows workstation (or server) receives a message via that service, a message box pops up on that workstation and the user needs to press an "OK" button to continue. No interaction is possible.

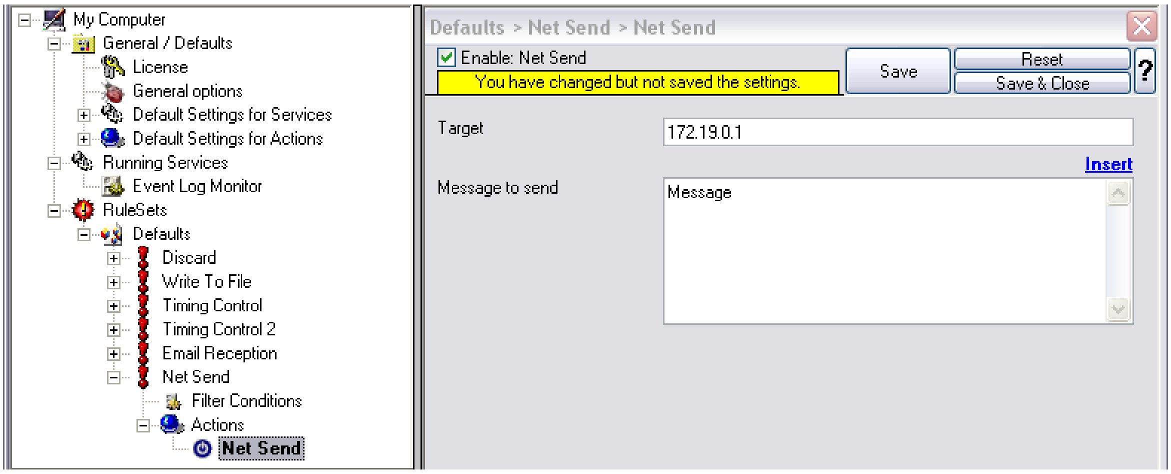
We create a new rule in our rule set "Defaults". In this case, we assume that we receive messenger notifications for all events with Event ID 592. In a real use case, you make sure that this is a real important event, or chances are good you become overwhelmed with messaging windows. A better example could be a filter that checks for a server running low on disk space (using the disk space monitor).



Event ID = 592

Alarming via Net Send - Figure 1

This time, we use the "Net Send" action as can be seen below.
The target field holds either the name or IP-Address of the workstation this message should be sending to.
The message text itself goes into "Message to send".



☑ Enable: Net Send

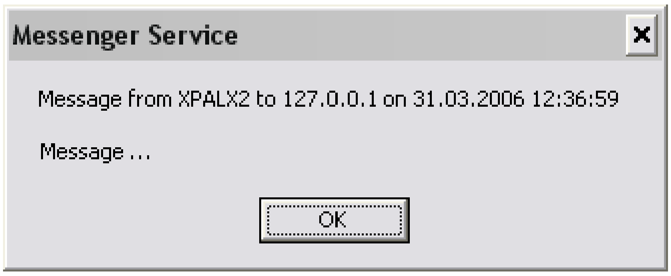
You have changed but not saved the settings.

Target: 172.19.0.1

Message to send: Message

Alarming via Net Send - Figure 2

After saving the configuration and restarting the MonitorWare Agent, we receive notifications if the filter condition evaluates to true.
A sample message might look like this (slightly obscured in this sample):



Message from XPALX2 to 127.0.0.1 on 31.03.2006 12:36:59

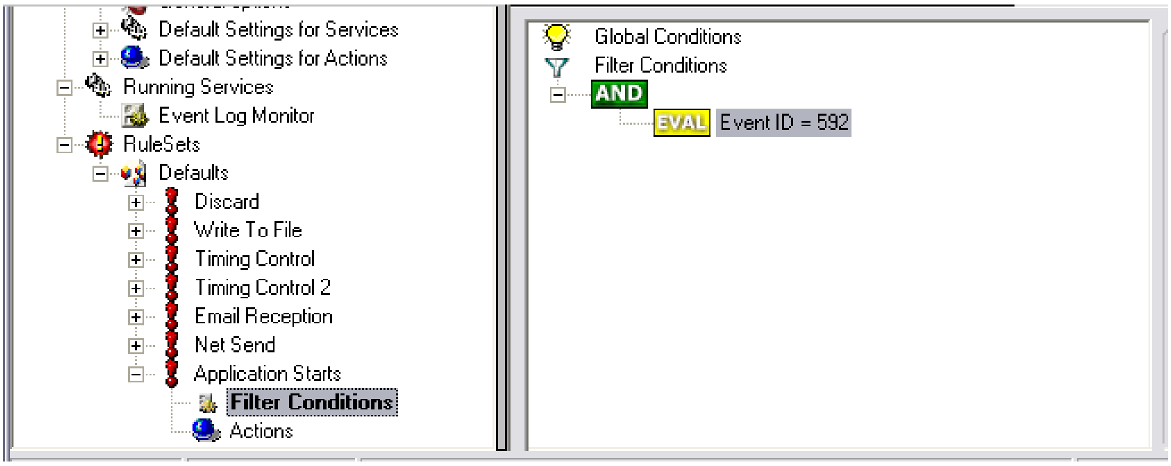
Message ...

Alarming via Net Send - Figure 3

2.7.7 Starting Scripts and Applications in Response to an Event

We now want to start an application or a script when certain events occur. Typically, this is done to start administrative scripts or corrective action. For example, if a disk runs low on space, you could start a script that deletes temporary files, or if a service fails, a script could restart it.

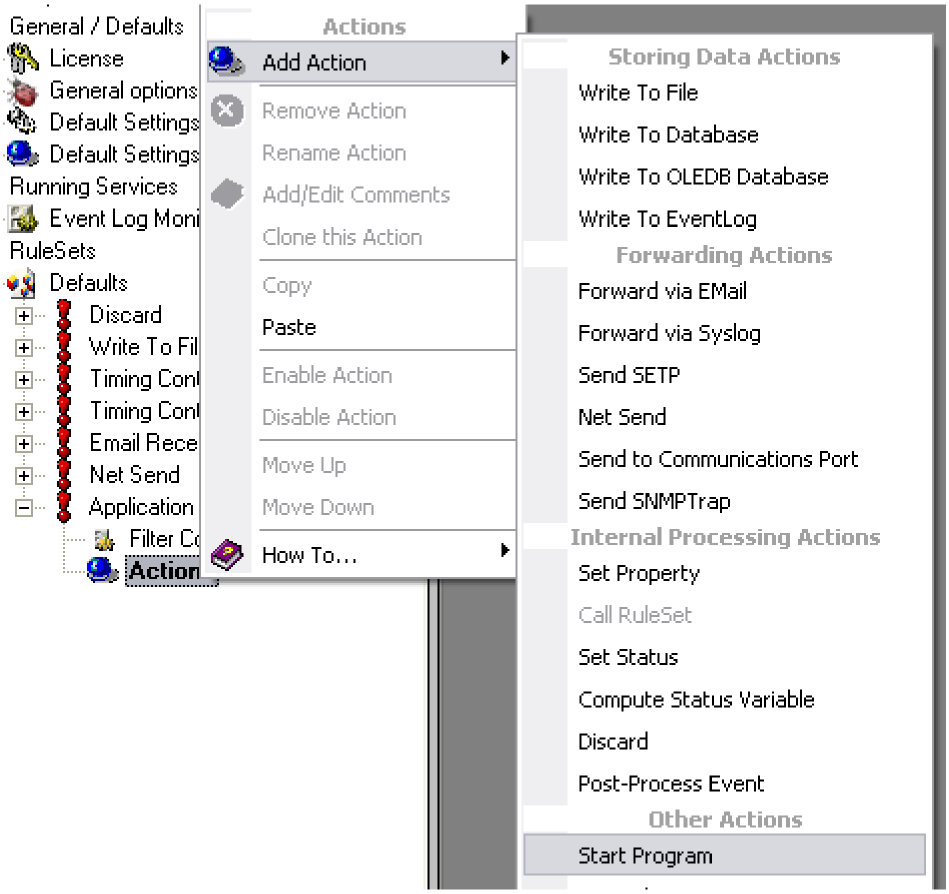
Our sample, on the other hand, is kept quite simple again. We just show how to generically start an exe file. To do so, we define a new rule, name "Application starts" below. Again, we use the imaginary event 592 as a filter condition. Therefore, the application starts whenever event 592 comes in.



Event ID = 592

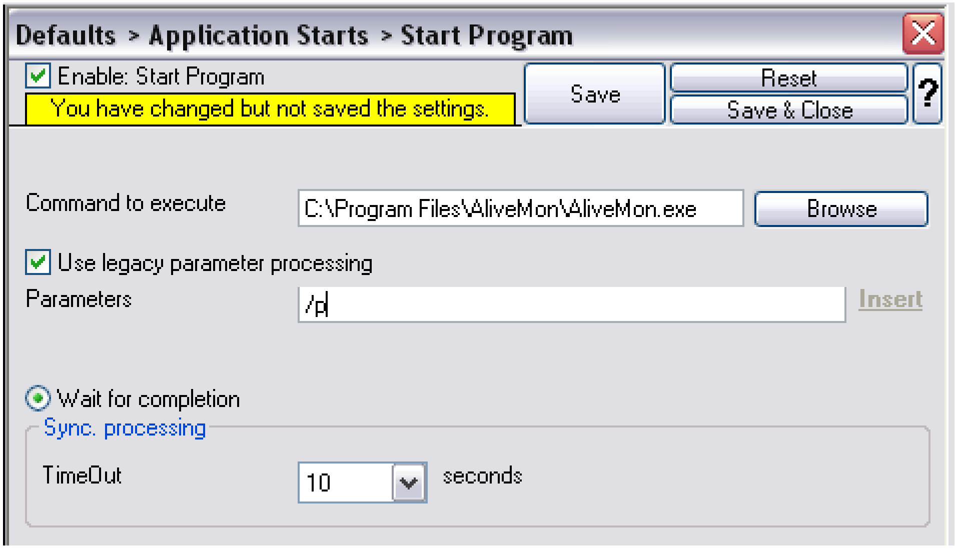
Starting Scripts and Applications in Response to an Event - Figure 1

The start program action is just a "normal" action:



Starting Scripts and Applications in Response to an Event - Figure 2

In the "Start Program" action's parameters, select the file to run as well as all parameters to be supplied to it (if any):



Defaults > Application Starts > Start Program

☑ Enable: Start Program

You have changed but not saved the settings.

Command to execute: C:\Program Files\AliveMon\AliveMon.exe

☑ Use legacy parameter processing

Parameters: /p

● Wait for completion

Sync. processing

TimeOut: 10 seconds

Starting Scripts and Applications in Response to an Event - Figure 3

Once this configuration is done, the program is executed as soon as an event matching the filter condition comes in.

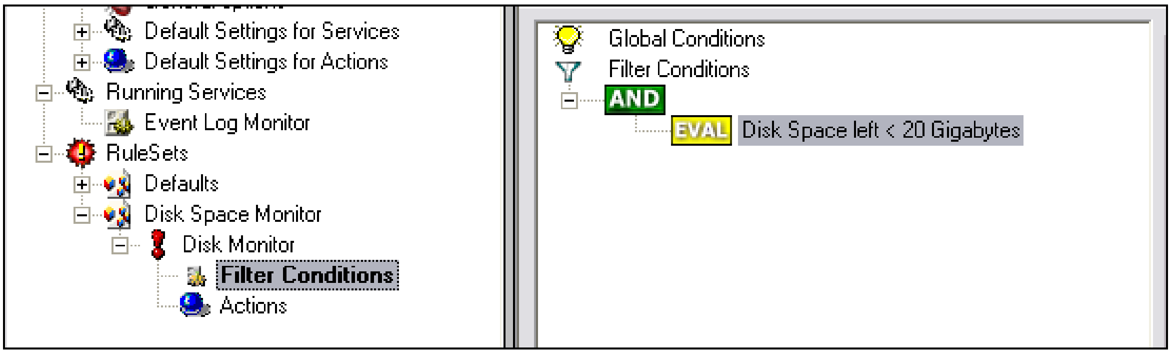
2.7.8 Monitoring Hard Disk Space

Monitoring hard disk space solves at least two purposes: it can be used to generate alerts or trigger corrective actions if a system runs out of free space. It can also be used as a statistical tool to monitor disk space utilization over time.

In our tutorial, we configure a simple disk space monitor and define a rule that stores the results into a text file that can be analysed later. Of course, we could have added trigger conditions for alerts and such. We have not done this, to keep things simple.

As always, we create the needed rule set first. In our sample, we call it "DiskSpace". **Please note that this time we actually create a "Rule Set", not just an additional rule in the "Defaults" rule set.** The reason is that for our purpose, it is much easier to define a specialised rule set and then bind this specialised rule set to the disk space monitor. If we would use the generic "Defaults" rule set, we had to make sure that our filter conditions would only match when an event of type disk space monitor would come in. In addition, it would require more processing time, as all rules and condition filters would be processed – a process that is not needed as we deal with a specific case. As such, it is more appropriate to define a specific rule set, which is then only used for the disk space monitor. What is appropriate in your environment depends on your needs. There is no general rule.

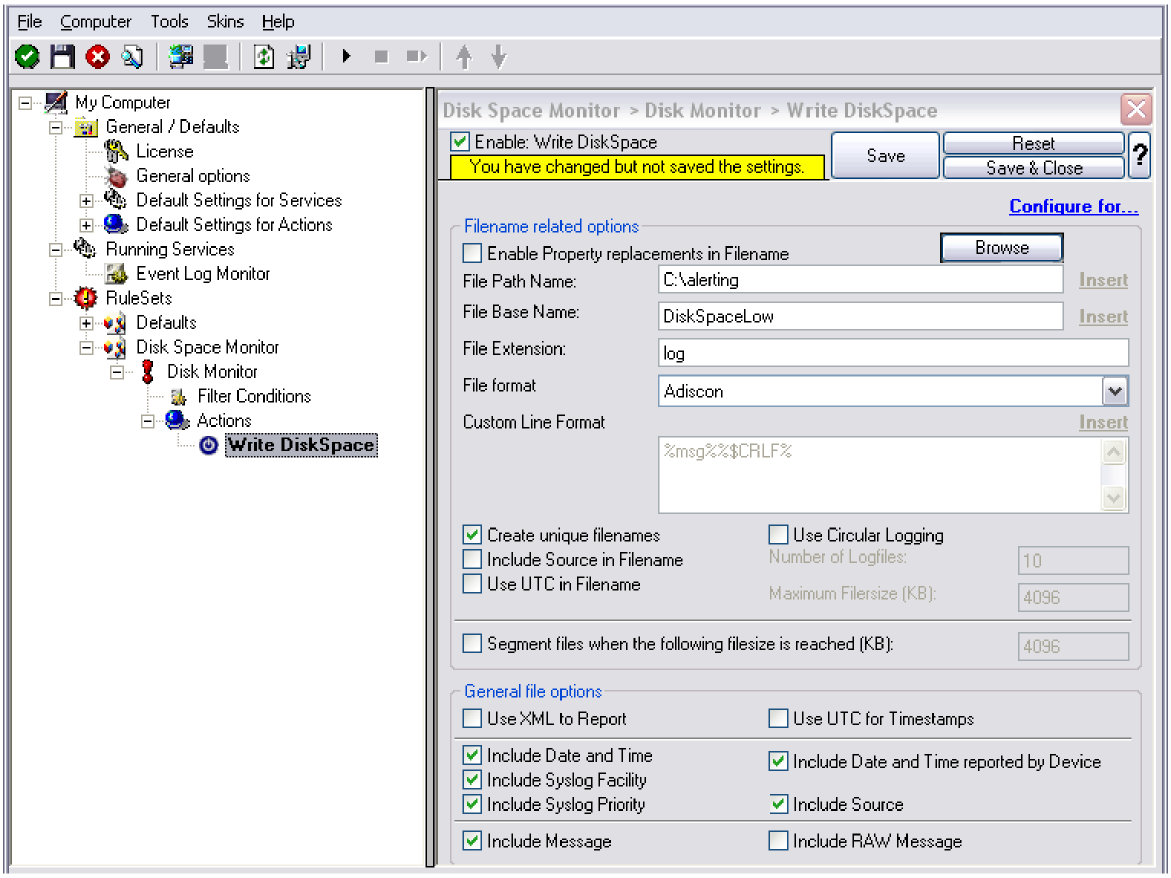
Inside the new rule, we create a filter condition that evaluates to true only if the reported diskspace has less than 20 gigabytes of free space. So we log date only when we potentially have constrained disk space. The filter looks as follows:



Monitoring Hard Disk Space - Figure 1

To create this filter, select "Disk Space Monitor", then "Disk Space Left" when pressing the "Add Filter" button.

As I said initially, we use the "Write to File" action in this sample. The action is called "Write DiskSpace" as can be seen below. We could also have used other actions, including emailing, to alert an administrator or start a script to delete temporary files.



☑ Enable: Write DiskSpace

You have changed but not saved the settings.

Filename related options

☐ Enable Property replacements in Filename

File Path Name: C:\alerting

File Base Name: DiskSpaceLow

File Extension: log

File format: Adiscon

Custom Line Format: %msg%%$CRLF%

☑ Create unique filenames

☐ Include Source in Filename

☐ Use UTC in Filename

☐ Use Circular Logging

Number of Logfiles: 10

Maximum Filersize (KB): 4096

☐ Segment files when the following filesize is reached (KB): 4096

General file options

☐ Use XML to Report

☐ Use UTC for Timestamps

☑ Include Date and Time

☑ Include Syslog Facility

☑ Include Syslog Priority

☑ Include Date and Time reported by Device

☑ Include Source

☑ Include Message

☐ Include RAW Message

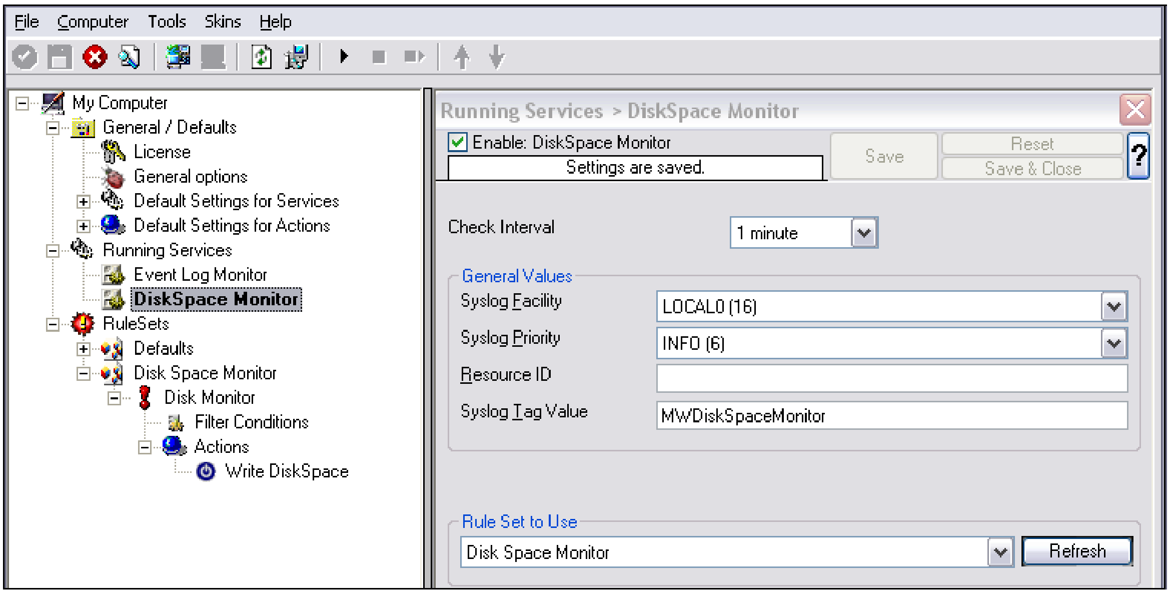
Monitoring Hard Disk Space - Figure 2

Please note: you should make sure that the base name is different from other "write to file" actions. Otherwise data might get mixed up in the files.

Having created the new rule set, we now need to create the disk space monitor service itself. It is the part of the software that actively goes out and monitors the disk space. To create it, right-click "Running Services" and select "Add Service", then "DiskSpace Monitor" as seen below:

Monitoring Hard Disk Space - Figure 3

When the wizard starts, you need to name the new service. We use "DiskSpace Monitor" in our sample. Leave the default settings and click "Next" and "Finish".



☑ Enable: DiskSpace Monitor

Settings are saved.

Check Interval: 1 minute

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

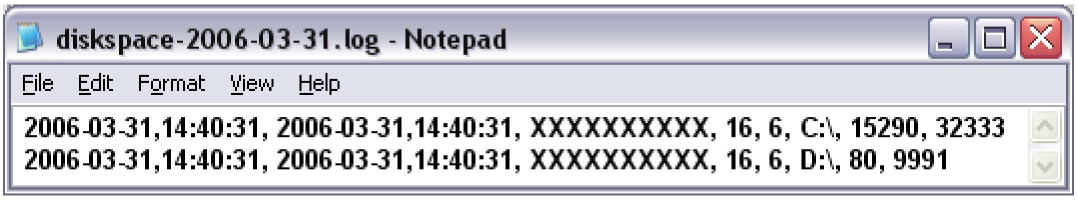
Syslog Tag Value: MWDiskSpaceMonitor

Rule Set to Use: Disk Space Monitor

Monitoring Hard Disk Space - Figure 4

Please note that when you select the new service, it is typically bound to the "Defaults" rule set (as seen above). We need to change this, as we have created the specific "Disk Space Monitor" rule set. Change the "Rule Set to Use" to update it to the new binding.

Save the configuration and restart the service. After a few moments, the disk space log file should fill up (**if there is less than 20 GB of free space on the monitored system**). In notepad, it looks like follows:



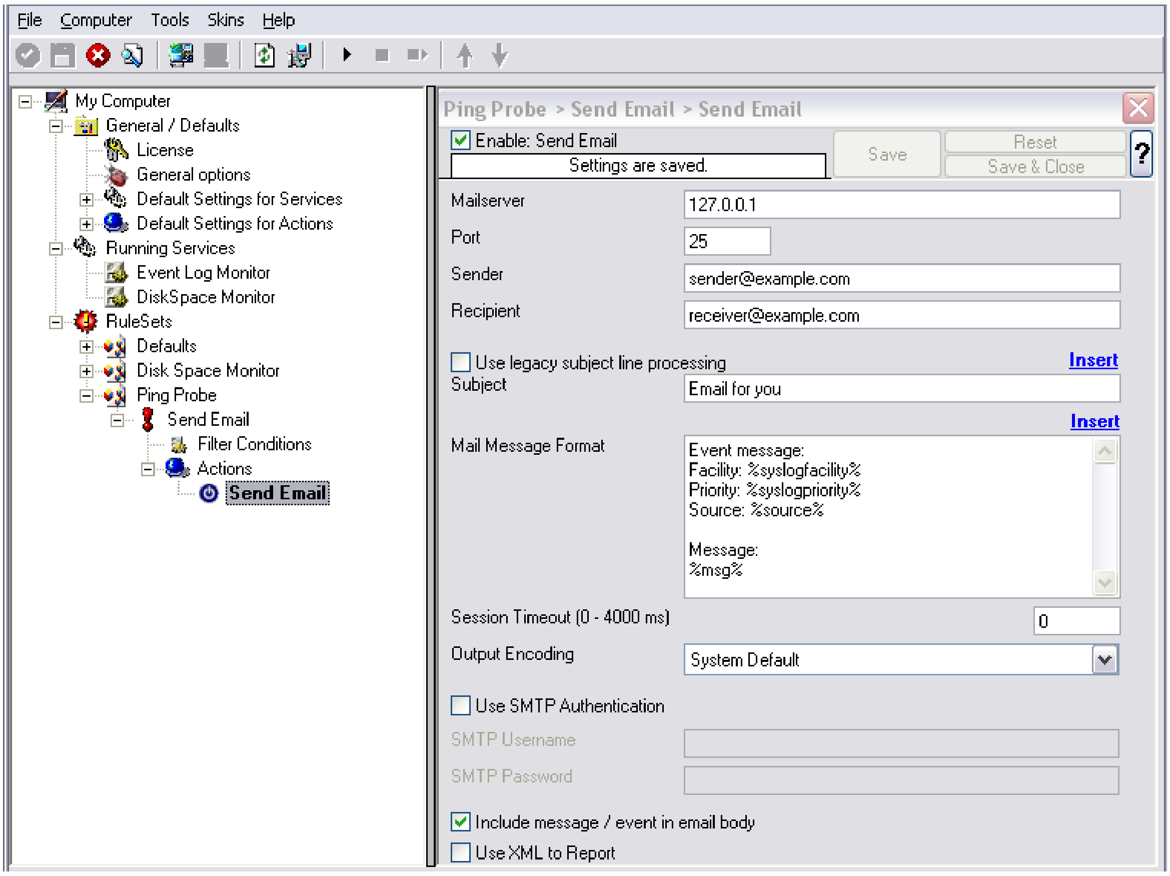
```
2006-03-31,14:40:31, 2006-03-31,14:40:31, XXXXXXXXXX, 16, 6, C:\, 15290, 32333
2006-03-31,14:40:31, 2006-03-31,14:40:31, XXXXXXXXXX, 16, 6, D:\, 80, 9991
```

Monitoring Hard Disk Space - Figure 5

2.7.9 Monitoring External Devices via PING

In this sample, we use the ping probe to monitor the availability of external devices. The ping probe issues a standard IP "PING". Each system that is "pinged" provides a reply to the system initiating the ping. When the reply comes back, the initiator knows that the pinged system is up and running. **Please note that this does not imply that all services on that machine are running.** To check this, a port probe must be used. At least the ping probe can detect failing systems. It can also used in any case, whereas the port probe can only be used with TCP based services.

As first step, we create a new rule set. Please see the previous example for the reasoning of doing so. We call the new rule set "Ping Probe". We would like to receive email notifications if the ping probe fails. So we add a "Send Email" action. After doing so, the screen looks as follows:



Ping Probe > Send Email > Send Email

☑ Enable: Send Email

Settings are saved.

Mailserver: 127.0.0.1

Port: 25

Sender: sender@example.com

Recipient: receiver@example.com

☐ Use legacy subject line processing

Subject: Email for you

Mail Message Format:

```
Event message:
Facility: %syslogfacility%
Priority: %syslogpriority%
Source: %source%

Message:
%msg%
```

Session Timeout (0 - 4000 ms): 0

Output Encoding: System Default

☐ Use SMTP Authentication

SMTP Username

SMTP Password

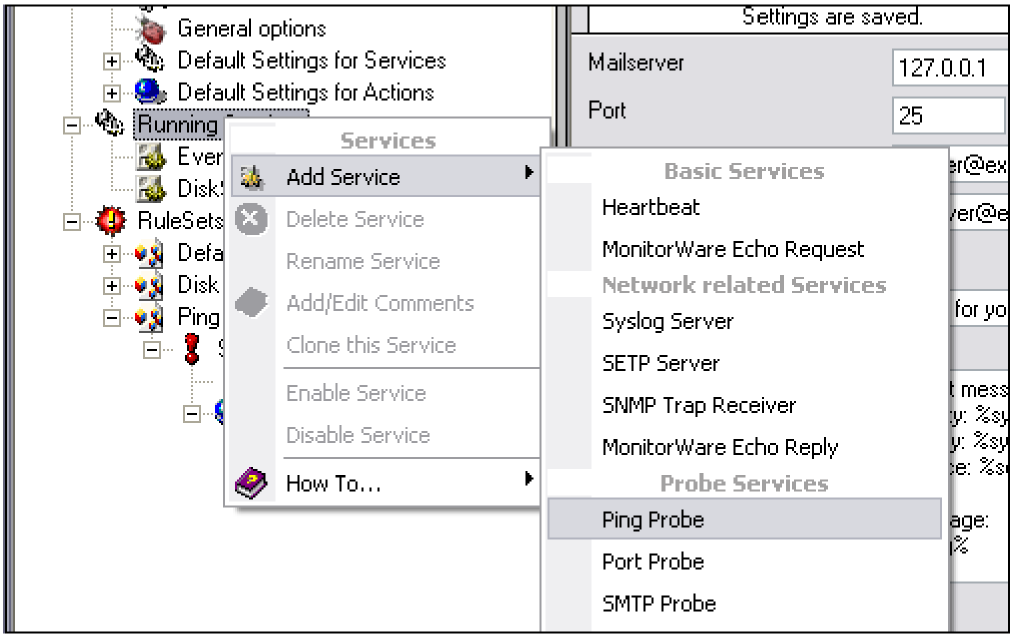
☑ Include message / event in email body

☐ Use XML to Report

Monitoring External Devices via PING - Figure 1

Please note we do not customize the Send Email action properties in this sample. In your environment, you need to use some meaningful settings.

Now that we have defined the rule set, we need to create the corresponding service. To do so, right-click "Running Services" and follow the screen shot below:

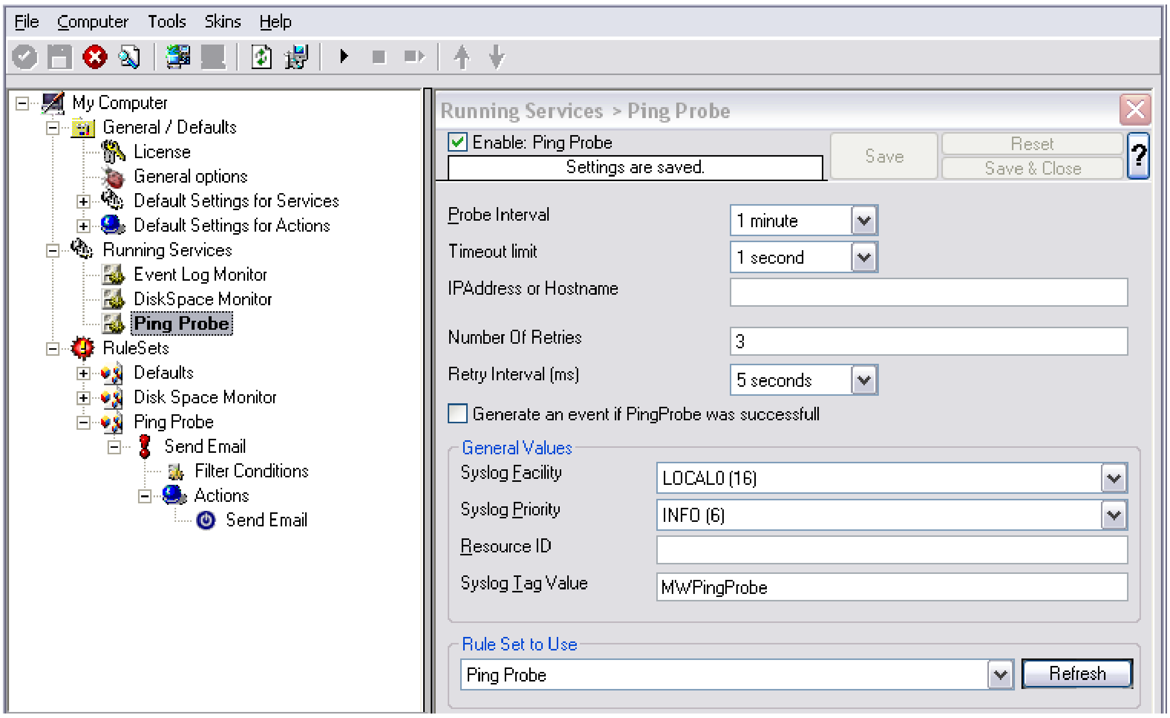


Monitoring External Devices via PING - Figure 2

Use a name of your choosing, leave the defaults as is and click "Next" and then "Finish". We have used the name "Ping Probe" in our sample.

Click the newly created service. We need to uncheck the "Generate an event if Ping Probe was successful" check box. If it is checked, an event is generated every time. If unchecked, it is generated only when the ping fails. As we are just interested in failed systems, we uncheck it. Therefore, we do not need to apply any other filters. If you forget to uncheck this option, you receive multiple emails – one each time the Ping Probe runs and probes the configured system.

You screen should now look as follows:



☑ Enable: Ping Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 1 second

IPAddress or Hostname:

Number Of Retries: 3

Retry Interval (ms): 5 seconds

☐ Generate an event if PingProbe was successfull

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWPingProbe

Rule Set to Use

Ping Probe

Monitoring External Devices via PING - Figure 3

Now save the settings and restart the service. Whenever the Ping Probe fails, you receive mail. This mail looks as follows:

Event message:
Facility: 16
Priority: 6
Source: 172.19.0.1

Message:
PingProbe Status="error" remoteip="172.19.0.1" PingStatus="11003" ErrorMessage="Destination Host Unreachable"

A ping probe service can monitor a single device in this version of MonitorWare Agent. Therefore, if you would like to monitor multiple devices, you need to create multiple ping probe services.

2.7.10 Monitoring FTP Server via a FTP Probe

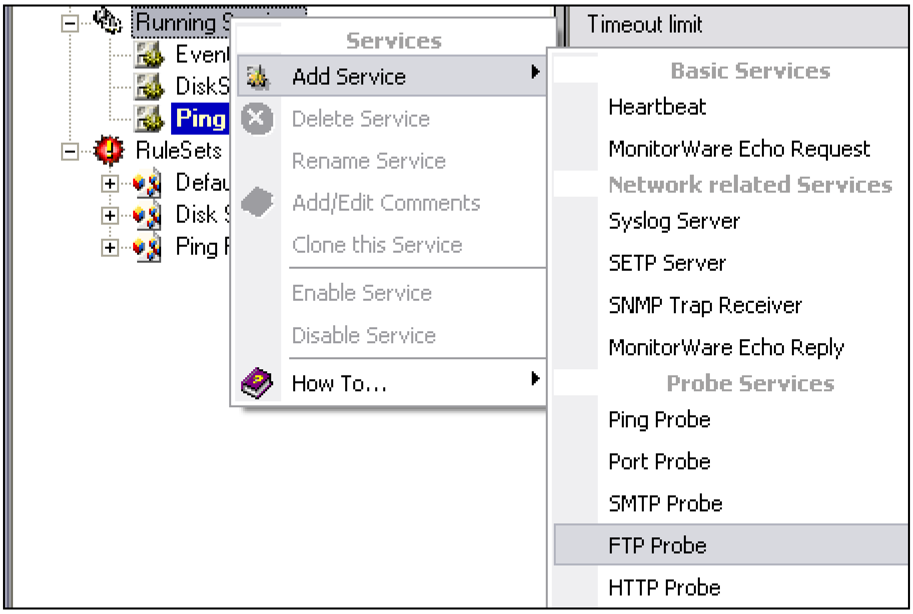
This sample is very similar to the ping probe and port probe samples directly above. Thus, we describe it briefly, only.

FTP probe is used to make a connection to the FTP server and then it receives the response from FTP server and sends the QUIT command to terminate the connection. The connection status is saved in the property **ftpstatus** and the response in the property **ftprespmsg.**

In our sample, we probe a FTP server, which typically listens to port 21 (the default port for FTP). We send an email alert if the FTP probe cannot connect successfully to the FTP server.

Because this sample is so close to the previous ones, we do not create a new rule set specifically for email alerting. Please view "Ping Probe" for it. This is a good sample of rule set re-use. It might be clever to rename the rule set in such a case. For simplicity reasons, we have not done this here.

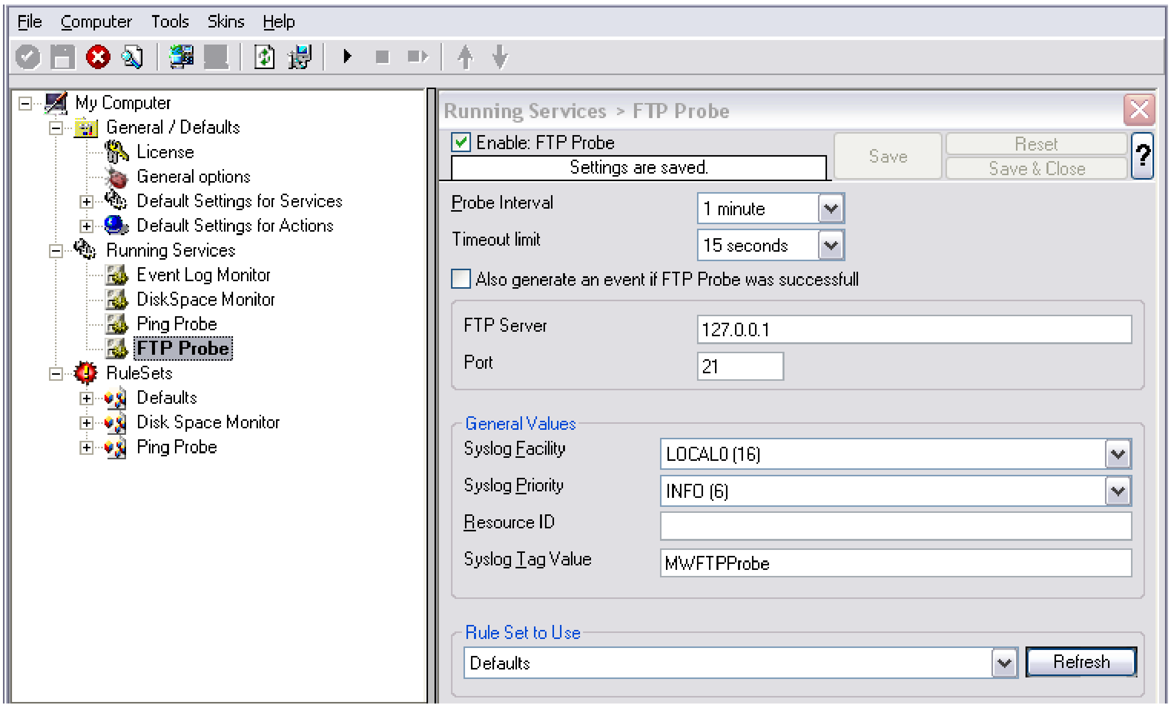
Therefore, we begin by creating the new service, done by right-clicking "Running Services":



Monitoring FTP server via a FTP Probe - Figure 1

Use a name of your choosing, leave the defaults as is and click "Next" and then "finish". We have used the name "FTP Probe" in our sample.

After doing so, select the newly created service in the tree view to look at its properties. Be sure to bind it to the "FTP Probe" rule set as seen below:



Running Services > FTP Probe

☑ Enable: FTP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

☐ Also generate an event if FTP Probe was successfull

FTP Server: 127.0.0.1

Port: 21

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWFTPProbe

Rule Set to Use

Defaults

Monitoring FTP server via a FTP Probe - Figure 2

Save the configuration and restart the service. From now on, the following mail alert is generated when the port cannot be connected to:

Event message:
Facility: 16
Priority: 6
Source: 192.168.1.1

Message:
FTPProbe status="fail" target="192.168.1.1" port="21" netstate="10061" message="Couldn't connect to host"

2.7.11 Monitoring SMTP Server via a SMTP Probe

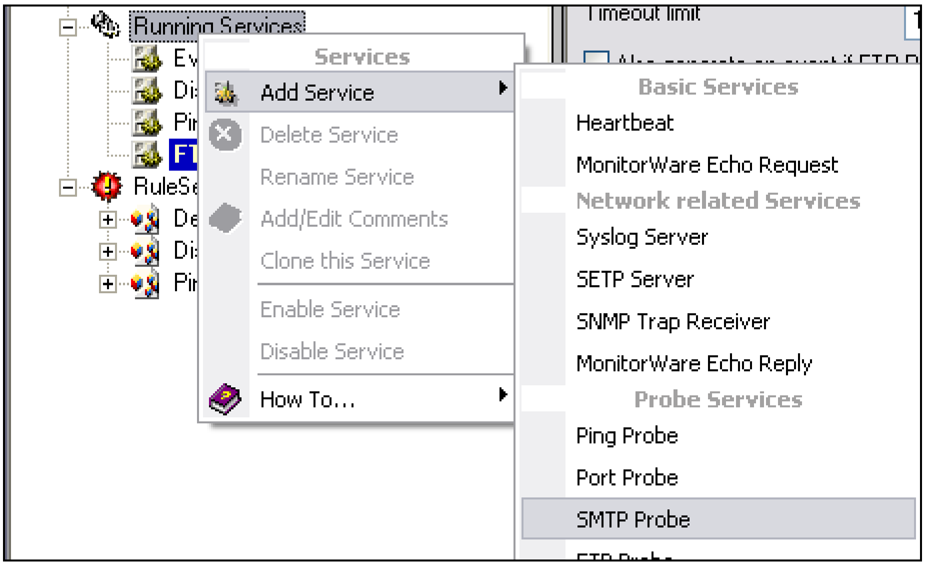
This sample is also very similar to the ones directly above. Thus, we describe it briefly, only.

SMTP probe is used to make a connection to the SMTP server and then it receives the response from SMTP server and sends the QUIT command to terminate the connection. The connection status is saved in the property **smtpstatus** and the response in the property **smtprespmsg.**

In our sample, we probe a SMTP server, which typically listens to port 25 (the default port for SMTP). We send an email alert if the SMTP probe cannot connect successfully to the SMTP server.

Because this sample is so close to the previous ones, we do not create a new rule set specifically for email alerting. Please view "Ping Probe" for it. It might be clever to rename the rule set in such a case. For simplicity reasons, we have not done this here.

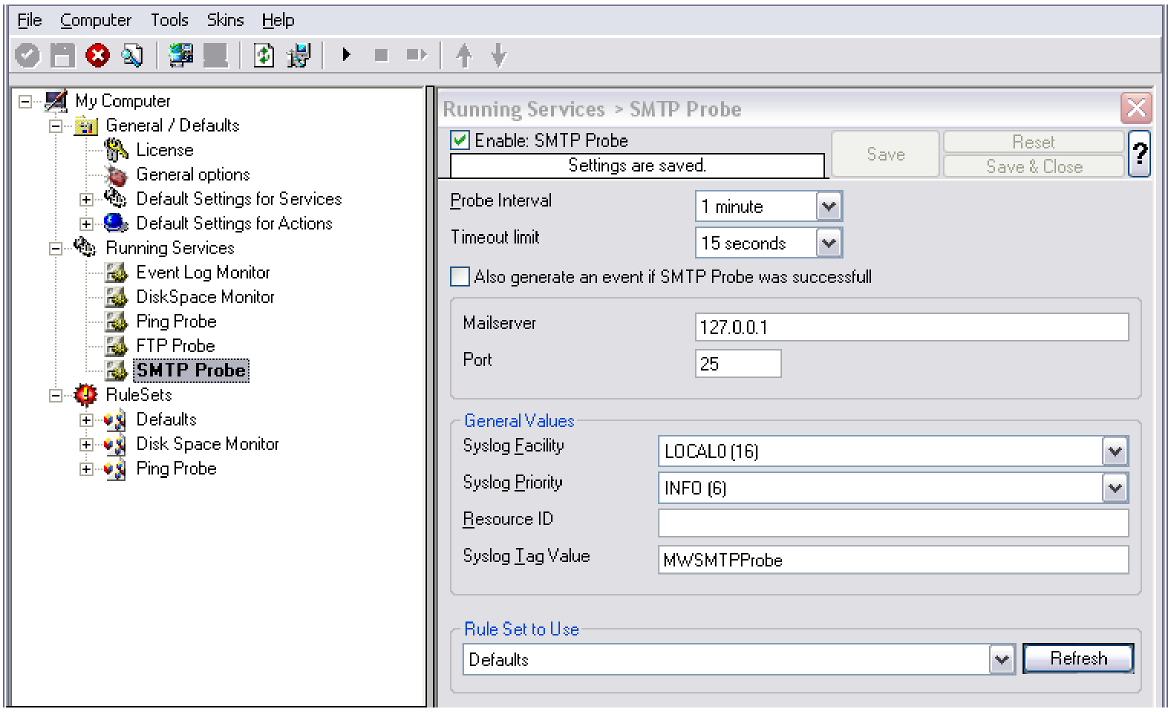
Therefore, we begin by creating the new service, done by right-clicking "Running Services":



Monitoring SMTP server via a SMTP Probe - Figure 1

Use a name of your choosing, leave the defaults as is and click "Next" and then "finish". We have used the name "SMTP Probe" in our sample.

After doing so, select the newly created service in the tree view to look at its properties. Be sure to bind it to the "SMTP Probe" rule set as seen below:



☑ Enable: SMTP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

☐ Also generate an event if SMTP Probe was successfull

Mailserver: 127.0.0.1

Port: 25

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWSMTPProbe

Rule Set to Use

Defaults

Monitoring SMTP server via a SMTP Probe - Figure 2

Save the configuration and restart the service. From now on, the following mail alert is generated when the port cannot be connected to:

Event message:
Facility: 16
Priority: 6
Source: 192.168.1.1

Message:
SMTPProbe status="fail" target="192.168.1.1" port="25" netstate="10054" message="Receive call failed"

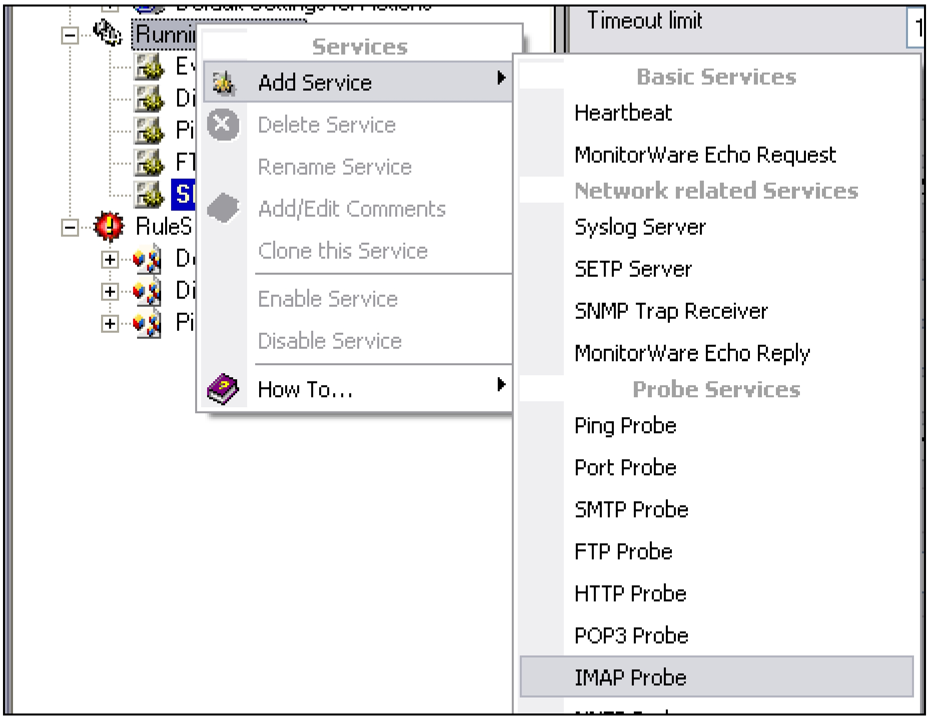
2.7.12 Monitoring IMAP Server via a IMAP Probe

IMAP probe is used to make a connection to the IMAP server and then it receives the response from IMAP server and sends the QUIT command to terminate the connection. The connection status is saved in the property **imapstatus** and the response in the property **imaprespmsg.**

In our sample, we probe a IMAP server, which typically listens to port 143 (the default port for IMAP). We send an email alert if the IMAP probe cannot connect successfully to the IMAP server.

Because this sample is so close to the previous ones, we do not create a new rule set specifically for email alerting. Please view "Ping Probe" for it. It might be clever to rename the rule set in such a case. For simplicity reasons, we have not done this here.

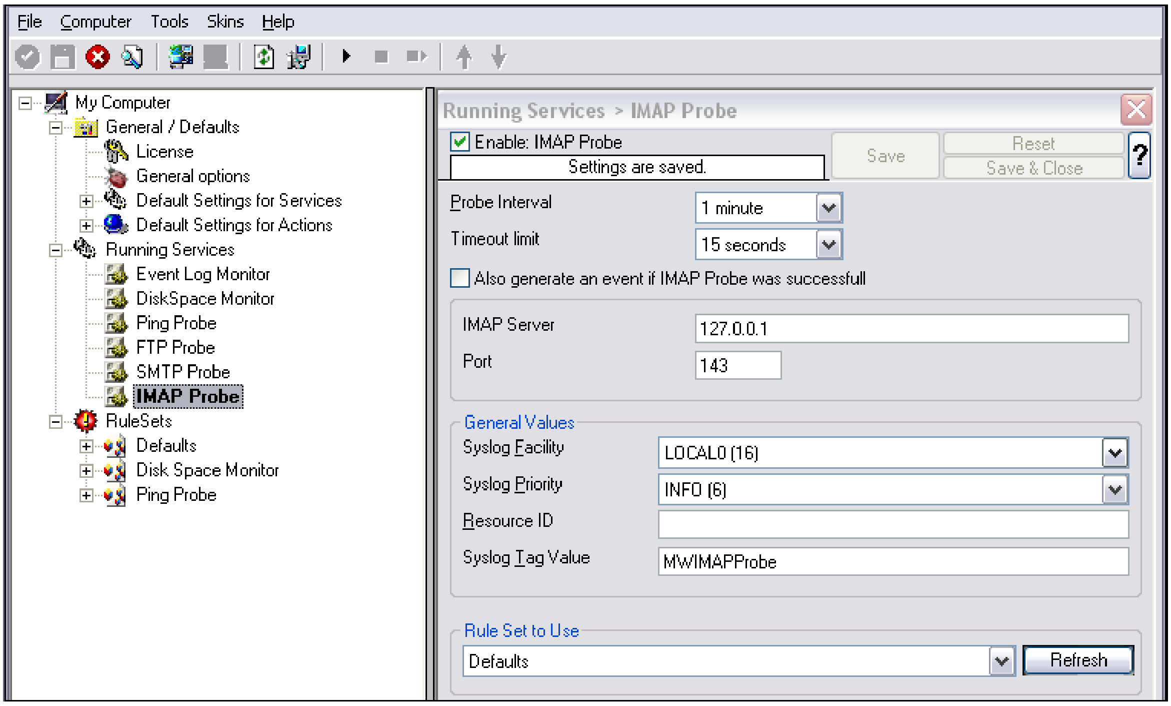
Therefore, we begin by creating the new service, done by right-clicking "Running Services":



Monitoring IMAP server via a IMAP Probe - Figure 1

Use a name of your choosing, leave the defaults as is and click "Next" and then "finish". We have used the name "IMAP Probe" in our sample.

After doing so, select the newly created service in the tree view to look at its properties. Be sure to bind it to the "IMAP Probe" rule set as seen below:



☑ Enable: IMAP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

☐ Also generate an event if IMAP Probe was successfull

IMAP Server: 127.0.0.1

Port: 143

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWIMAPProbe

Rule Set to Use: Defaults

Monitoring IMAP server via a IMAP Probe - Figure 2

Save the configuration and restart the service. From now on, the following mail alert is generated when the port cannot be connected to:

Event message:
Facility: 16
Priority: 6
Source: 192.168.1.1

Message:
IMAPProbe status="fail" target="192.168.1.1" port="143" netstate="10061" message="Couldn't connect to host"

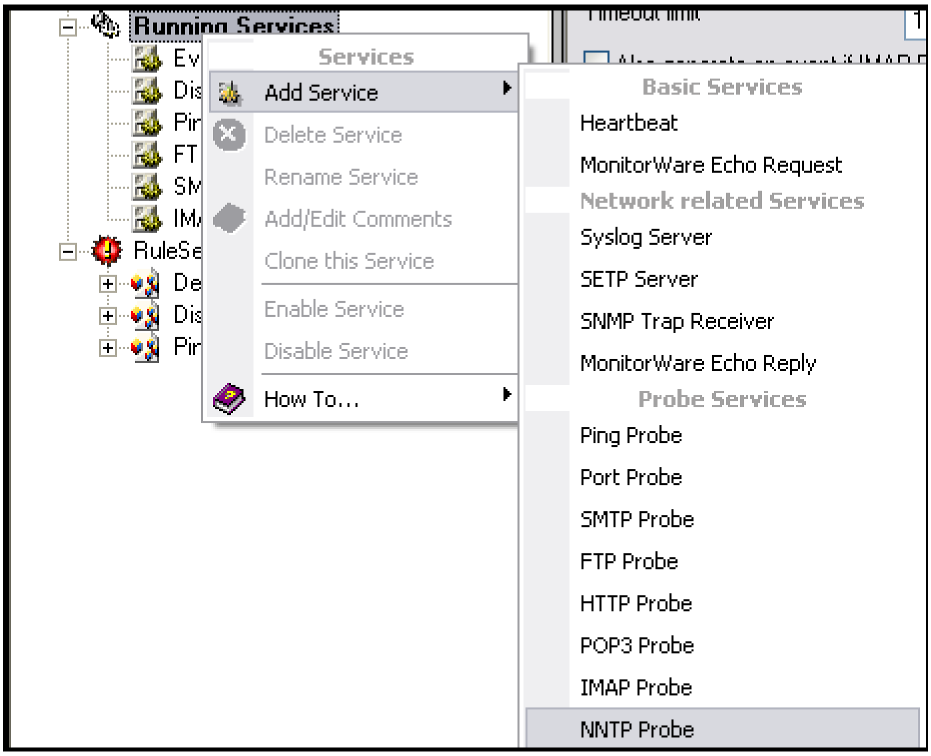
2.7.13 Monitoring NNTP Server via a NNTP Probe

NNTP probe is used to make a connection to the NNTP server and then it receives the response from NNTP server and sends the QUIT command to terminate the connection. The connection status is saved in the property **nntpstatus** and the response in the property **nntprespmsg.**

In our sample, we probe a NNTP server, which typically listens to port 119 (the default port for NNTP). We send an email alert if the NNTP probe cannot connect successfully to the NNTP server.

Because this sample is so close to the previous ones, we do not create a new rule set specifically for email alerting. Please view "Ping Probe" for it. It might be clever to rename the rule set in such a case. For simplicity reasons, we have not done this here.

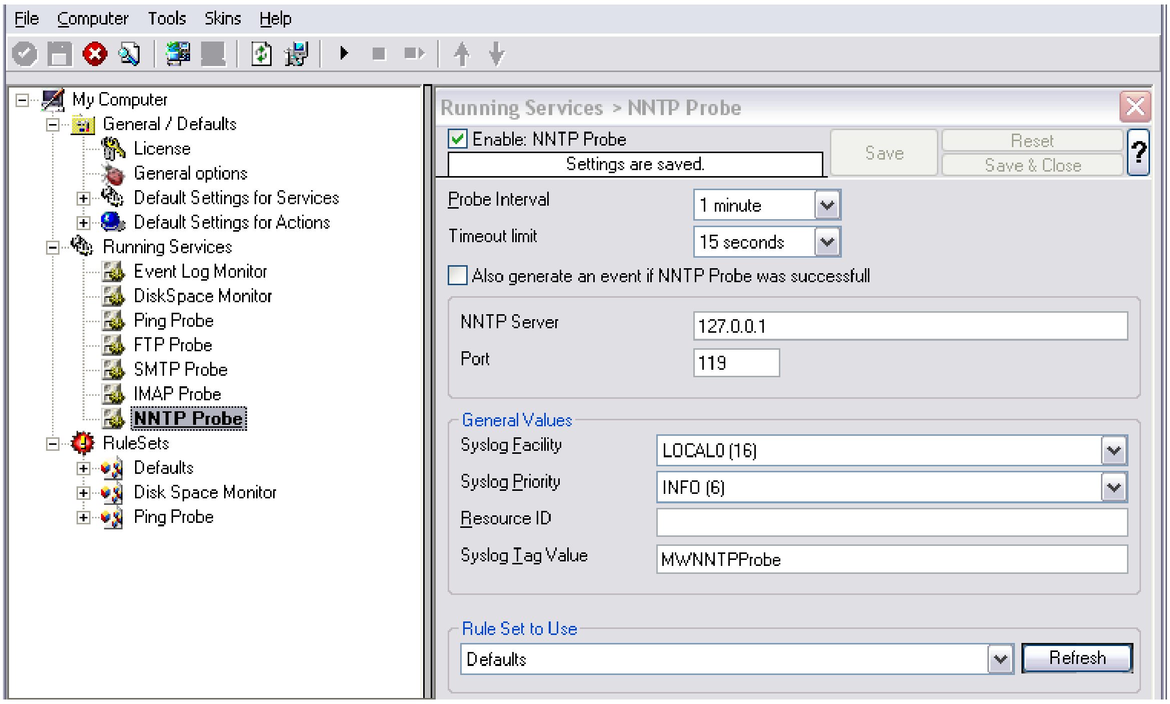
Therefore, we begin by creating the new service, done by right-clicking "Running Services":



Monitoring NNTP server via a NNTP Probe - Figure 1

Use a name of your choosing, leave the defaults as is and click "Next" and then "finish". We have used the name "NNTP Probe" in our sample.

After doing so, select the newly created service in the tree view to look at its properties. Be sure to bind it to the "NNTP Probe" rule set as seen below:



Running Services > NNTP Probe

☑ Enable: NNTP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

☐ Also generate an event if NNTP Probe was successfull

NNTP Server: 127.0.0.1

Port: 119

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWNNTPProbe

Rule Set to Use

Defaults

Monitoring NNTP server via a NNTP Probe - Figure 2

Save the configuration and restart the service. From now on, the following mail alert is generated when the port cannot be connected to:

Event message:
Facility: 16
Priority: 6
Source: 192.168.1.1

Message:
NNTPProbe status="fail" target="192.168.1.1" port="143" netstate="10061" message="Couldn't connect to host"

2.7.14 Monitoring External Devices via a Port Probe

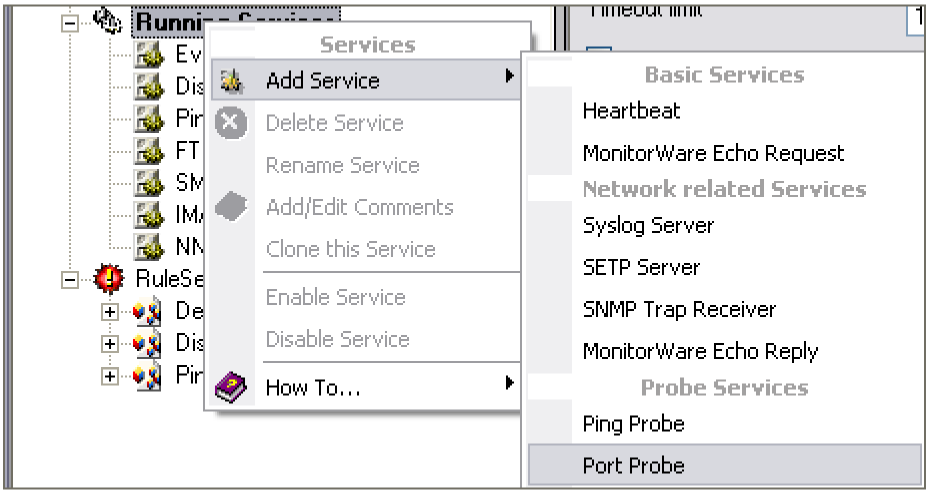
This sample is very similar to the ping probe sample directly above. Thus, we describe it briefly, only.

The main difference between the ping probe and the port probe is that the port probe tries to connect to a specific TCP port. As such, it can only be used with TCP based services like mail server, web servers or ftp servers. For the very same reason, the port probe does not only check the status of the machine it is connecting to but rather if a specific, **service** is available. Let us assume you are interested in monitoring a mail server. If you do a ping probe, the mail server itself might have died while the machine is still running. The ping probe cannot detect this. The port probe, on the other hand, directly connects to the mail server, e.g. on port 25 (the default SMTP port). If the mail server has died, it will probably not answer this connection request and thus the port probe is able to detect the failing state of the service.

In our sample, we probe a web server, which typically listens to port 80 (the default port for http). We will send an email alert if the port probe cannot connect successfully to the web server.

Because this sample is so close to the previous one, we do not create a new rule set specifically for email alerting. It is already covered in the "Ping Probe". This is a good sample of rule set re-use. It might be clever to rename the rule set in such a case. For simplicity reasons, we have not done this here.

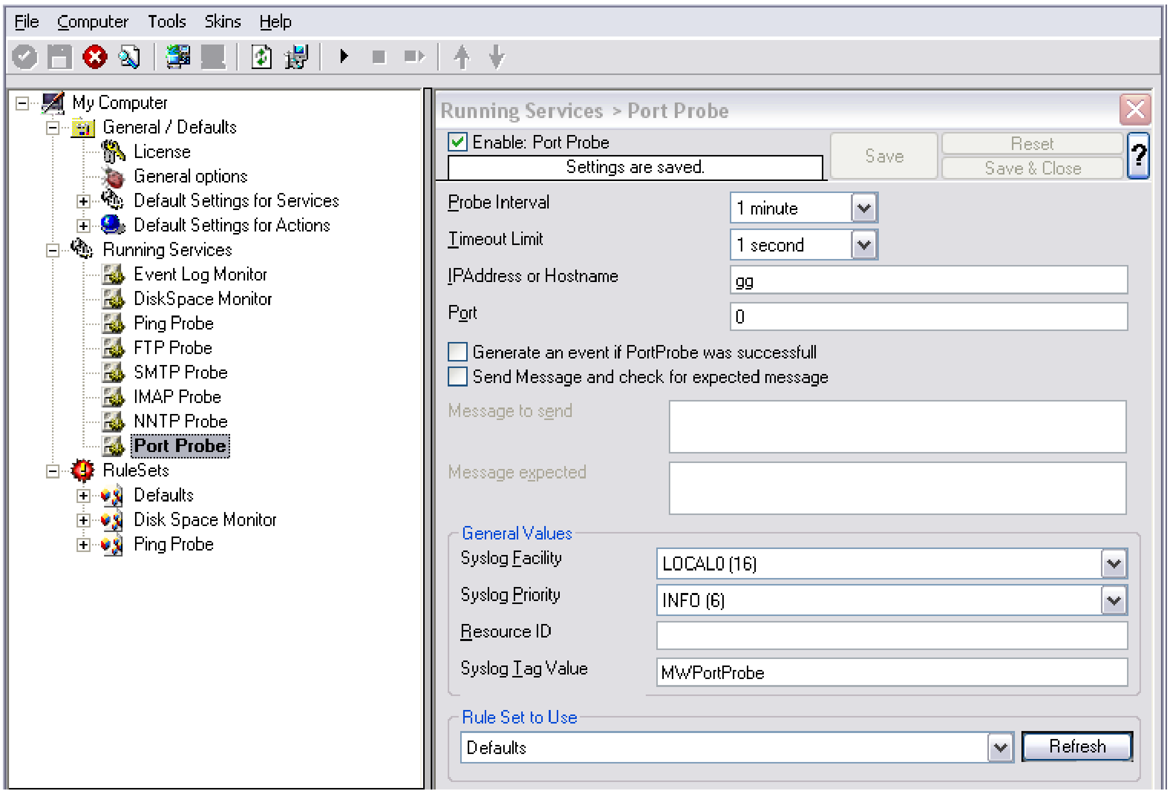
Therefore, we begin by creating the new service, done by right-clicking "Running Services":



Monitoring External Devices via a PortProbe - Figure 1

Use a name of your choosing, leave the defaults as is and click "Next" and then "finish". We have used the name "Port Probe" in our sample.

After doing so, select the newly created service in the tree view to look at its properties. Be sure to bind it to the "Ping Probe" rule set as seen below:



☑ Enable: Port Probe

Settings are saved.

Probe Interval: 1 minute

Timeout Limit: 1 second

IPAddress or Hostname: gg

Port: 0

☐ Generate an event if PortProbe was successfull

☐ Send Message and check for expected message

Message to send:

Message expected:

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWPortProbe

Rule Set to Use: Defaults

Monitoring External Devices via a PortProbe - Figure 2

Save the configuration and restart the service. From now on, the following mail alert will be generated when the port cannot be connected to:

```
Event message:
Facility: 16
Priority: 6
Source: 192.168.1.1

Message:
PortProbe status="fail" target="192.168.1.1" port="80" netstate="10065"
message="Couldn't connect to host"
```

3 Common Uses

MonitorWare Agent can be used in a multitude of ways to perform well in many different environments serving many different needs. We have set up some web pages to address these questions. This allows us to add timely comments, should need arise. Please follow the links below to access the web pages with detailled descriptions.

In general, there are four main use cases for MonitorWare Agent:

Analysis
Event Archival
Alerting
Solving Problems

Besides these main cases, there are also some other scenarios, like relaying event data.

While reading the scenarios, please keep in mind that MonitorWare Agent is extremely flexible. A single instance on a single machine can be configured to perform all actions and functions concurrently. They are grouped here for easier lookup, but this in no way implies that the Agent can do only one thing or the other.

4 Step-by-Step Guides

The step-by-step guides are meant to get you started quickly. They provide information on how to configure the product in common scenarios. Each section includes the information necessary to complete a specific task.

The information is presented in an easy to follow "step by step" way (hence the name). Each section begins with the intended result and then explains the steps to achieve it in the correct order. They are documented together with hardcopies, so they should be easy to follow. For best results, please be sure to follow the exact order of the steps.

The step-by-step guides do eventually not include all information that might be relevant to the situation. Please use your own judgment if the scenario described sufficiently matches your need.

In the step-by-step guides, we assume the product is already successfully installed but no configuration has been done. If it is not installed, please do so first.

All step-by-step guides assume that the client is running. This is kind of a step 0 for all the guides.

To keep download times reasonable, the step-by-step guides are not included in this manual. They are kept as separate web pages. This also allows us to modify and add step-by-step guides. Additions are made all the time, so it is probably a good idea to check the Step-by-step guide page for new guides.

As of this writing, the following step-by-step guides were available:

MonitorWare Agent 3.x Specific

Installations and Configurations

- Forwarding filtered IIS Logfiles
- How do I can do Database Logging with MSSQL in MonitorWare Agent 3.x
- How do I apply filters in MonitorWare Agent 3.x?
- How to apply filters to only get interactive logon/logoff events?
- How To setup php-syslog-ng with MonitorWare Products?

Services

- How do I create a simple Syslog server
- How To Configure a Syslog Server
- How To Configure a SETP Server

Actions

- How To setup an SETP Action
- How To Create a Rule Set for Database Logging

Centralized Monitoring / Reporting

- How To setup PIX centralized Monitoring (WinSyslog 6.x, MonitorWare Agent 3.x & MonitorWare Console 2.x)
- How To setup Windows centralized Monitoring (MonitorWare Agent 3.x & MonitorWare Console 2.x)
- Centralized Event Reports with MonitorWare Console
- How to setup PIX centralized Monitoring

MonitorWare Agent All Versions

Installations and Configurations

- Database Logging with MSSQL
- How do I apply filters in MonitorWare Agent, WinSyslog and EventReporter?
- How To Setup MonitorWare Agent/ WinSyslog/ EventReporter

- Configuring Windows for the Event Log Monitor
- Sample Syslog device configurations
- Intrusion detection via the Windows event log
- Firewall setup for MonitorWare Agent
- Creating a hardened log host

Services

- How To Configure a Syslog Server
- How To setup SETP Server Service
- How To setup EventLogMonitor Service
- Creating a simple Syslog server
- Forwarding NT event logs to a Syslog server
- Forwarding NT event logs to an SETP server

Actions

- How To setup an SETP Action
- Creating a rule set for database logging

Centralized Monitoring / Reporting

- How to setup PIX centralized Monitoring
- Centralized Event Reports with MonitorWare Console
- Centralized event reports with Monilog
- How To Report Log Truncation

You may also want to visit our syslog device configuration pages at http://www.monitorware.com/en/syslog-enabled-products/. They contain instructions on setting up several devices for syslog.

5 Using InterActive SyslogViewer

5.1 About InterActive SyslogViewer

InterActive SyslogViewer is a tool that let's you review your syslog data very easy. It is a separate syslog server, that simply displays all incoming data. By this you can see directly what is happening.

5.1.1 Features

Fast and Easy syslog Viewing

The SyslogViewer allows you to directly view and review syslog messages. Therefore you can react much better on occuring problems or check if everything is ok.

Export selected data

You can export selected data for further manual processing, like sending an email to your colleague for informing them about what is happening.

5.1.2 Requirements

Any Windows-NT based operating system like Windows 2000, XP or Vista.

You need .NET 2.0 framework installed in order to run Adiscon's Syslog Viewer.

Hardware requirements:
- 32MB RAM

5.2 Options & Configuration

InterActive SyslogViewer is an add-on to the MonitorWare Agent and WinSyslog. **Please note that it is a utility program, with a primary focus on real-time troubleshooting.**

InterActive SyslogViewer is **not** meant to continously monitor a system. This is what the service is designed for. While Interactive SyslogViewer allows to view current syslog traffic, the service should be used for all other purposes, like creating log files.

5.2.1 Launching InterActive SyslogViewer

To run the InterActive SyslogViewer, click the "SyslogViewer" icon present in the Programs Folder -> MonitorWare Agent/WinSyslog located in the Start menu.

It can also be launched from the command prompt:

- Open a Command Prompt window
- Change to the drive and directory where the MonitorWare Agent is installed.
- Type "InteractiveSyslogViewer.exe" and hit enter.

Available Command Line parameters are:

```
/?          = Show Options
/autolisten      = Start Syslog Server automatically
/port=10514  = Overwrites the configured port
/windowpos 0,0,512,800      = Sets default window positions
```

5.2.2 Using InterActive SyslogViewer

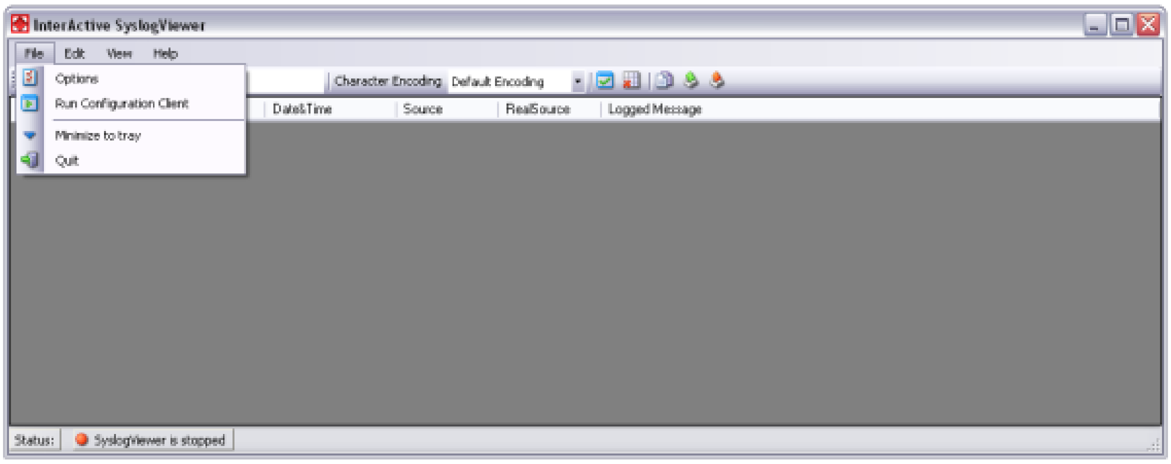
InterActive SyslogViewer is an add-on to the MonitorWare Agent and WinSyslog. **Please note that it is a utility program with a primary focus on real-time troubleshooting.**

Interactive Syslog Server is **not** meant to continously monitor a system. This is what the service is designed for. While Interactive Server allows to view current Syslog traffic, the service should be used for all other purposes, like creating log files.

5.2.3 Options & Menus

Please find more information about the different menus and options in the respective sub-category.

5.2.3.1 File Menu



File Menu

Options

This will open the Options dialog. Please see the sub-chapters for more details on this.

Run Configuration Client

This option will open the configuration client of MonitorWare Agent/WinSyslog. Here you can do detail configuration of the service.

Minimize to tray

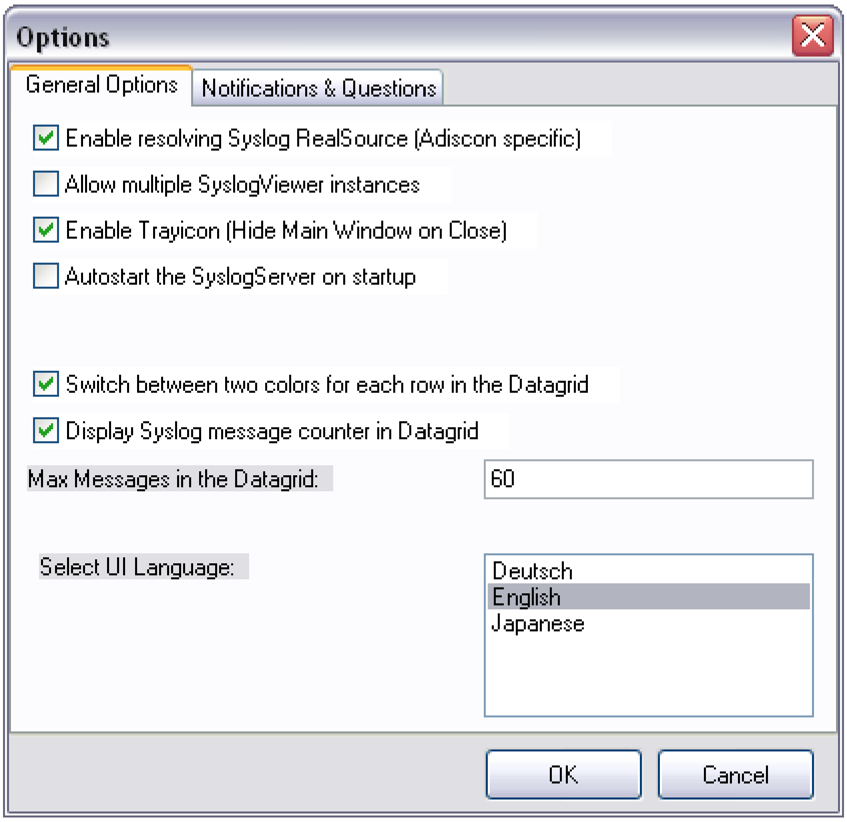
This will minimize the InterACtive SyslogViewer window and remove it from the taskbar. You can open it again by double-clicking on the icon in the system tray.

Quit

By clicking here, InterActive SyslogViewer stops receiving data and it will close the application.

5.2.3.1.1 Options

5.2.3.1.1.1 General Options



Options

General Options | Notifications & Questions

☑ Enable resolving Syslog RealSource (Adiscon specific)

□ Allow multiple SyslogViewer instances

☑ Enable Trayicon (Hide Main Window on Close)

□ Autostart the SyslogServer on startup

☑ Switch between two colors for each row in the Datagrid

☑ Display Syslog message counter in Datagrid

Max Messages in the Datagrid: 60

Select UI Language: Deutsch / English / Japanese

General Options Tab

Enable Resolving Syslog RealSource (Adiscon specific)

With this option enabled, you can see the real source in multiply forwarded messages. That means, you can see the system that forwarded the message and the system where the message originates from.

Allow multiple SyslogViewer instances

You can have multiple instances of the InterActive SyslogViewer by activating this option. This allows you to have multiple forwarding servers sending on different ports and receive their messages separately.

Enable Trayicon (Hide Main Windows on Close)

Enable this to have a tray icon. This enables a soft-close. InterActive SyslogViewer will stay active, but the window will be completely hidden except the tray icon. By double-clicking on the icon, the window will show again.

Autostart the SyslogServer on Startup

Enable this to start the syslog server directly when starting InterActive SyslogViewer.

Switch between two colors for each row in the Datagrid

To have a better overview over the syslog data, activate this option.

Display Syslog message counter in the Datagrid

You can enable a counter by checking the box here. It will count further, even if the maximum of messages is already exceeded.

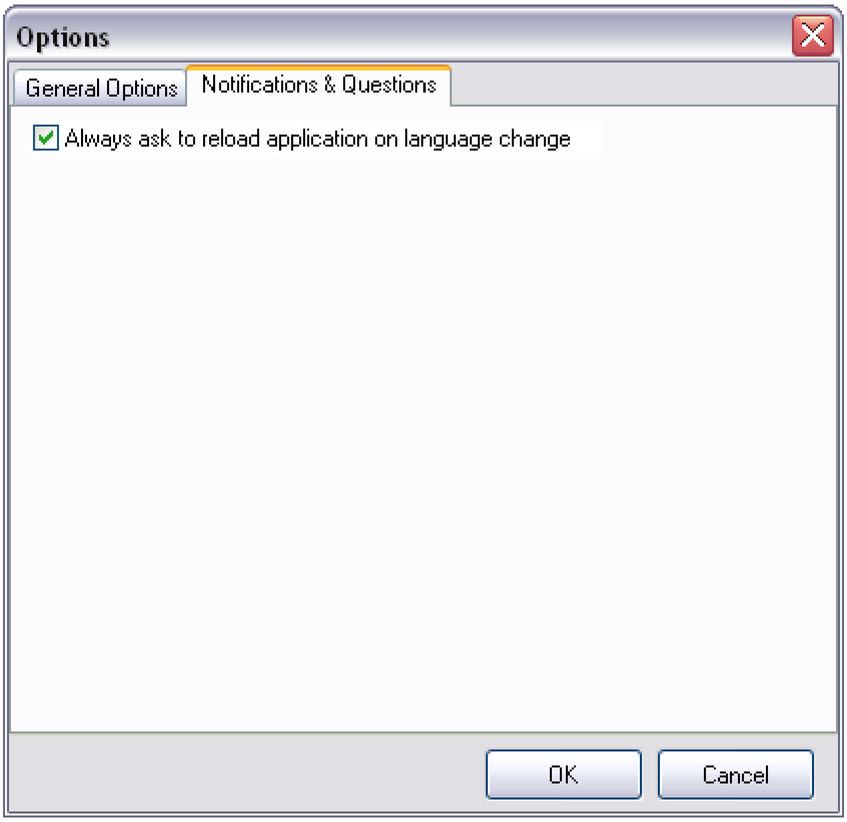
Max Messages in the Datagrid

Here you can adjust the maximum messages that will be available in the datagrid. By increasing this value, you can store more messages for direct review. **Please note, that increasing the maximum number of messages will have a severe impact on your memory.**

Select UI Language

Here you can choose your favorite language for the InterActive SyslogViewer. By default it is english. You can choose german or japanese as well.

5.2.3.1.1.2 Notifications & Questions



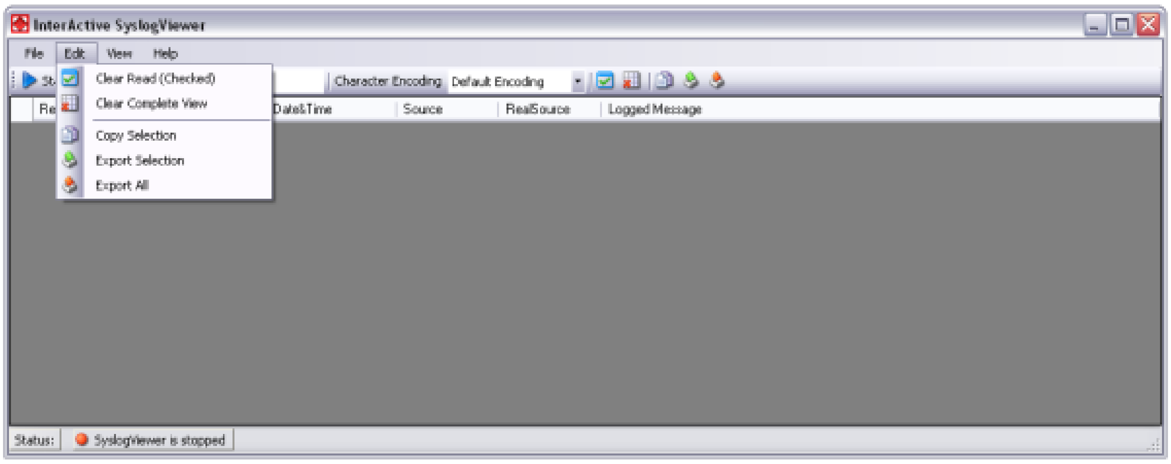
☑ Always ask to reload application on language change

Notifications & Questions Tab

Always ask to reload application on language change

While the box is checked, InterActive SyslogViewer will ask to reload the application on a language change. This is, because the language file can only be loaded while starting the application and not while it is running.

5.2.3.2 Edit Menu



Edit Menu

Clear Read (Checked)

By activating this, you can clear the checkboxes of the items your marked as read.

Clear Complete View

This option will clear the screen and remove all received data from the view.

Copy Selection

Having selected one or mutliple entries, you can copy them using this function.

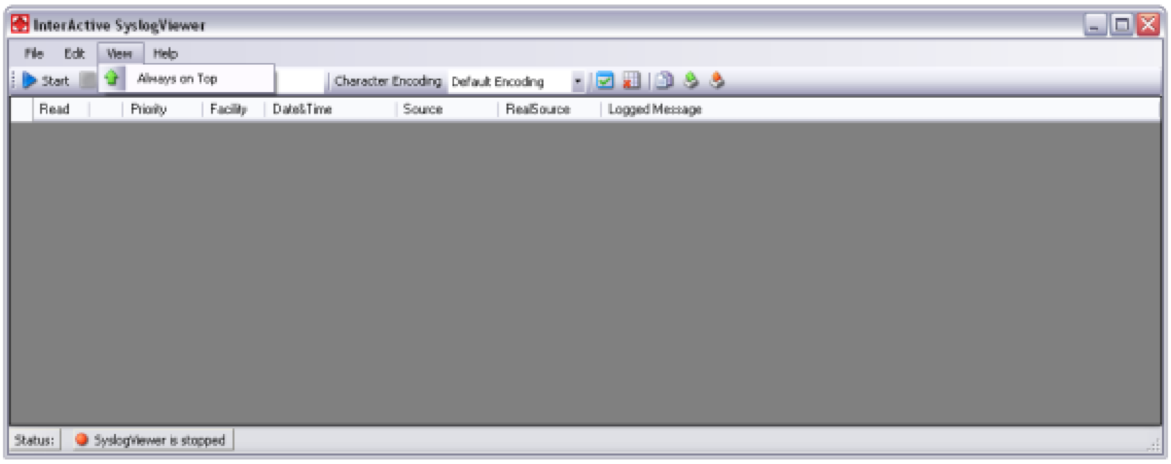
Export Selection

Instead of copying you can extract the selected data into a text file.

Export All

Or you directly export all the data that is currently in the list.

5.2.3.3 View Menu

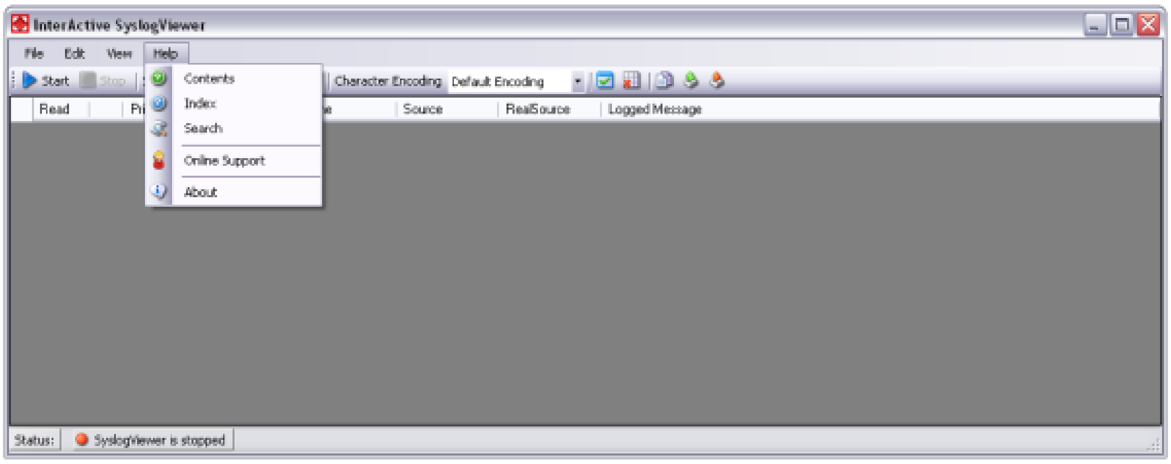


View Menu

Always on Top

This option is very self-explanatory. While activated, the InterActive SyslogViewer window will stay on top of all other applications, so you will have all incoming log data directly in your point of view.

5.2.3.4 Help Menu



Help Menu

Contents

Show the manual.

Index

Show the manual index.

Search

Search the manual.

Online Support

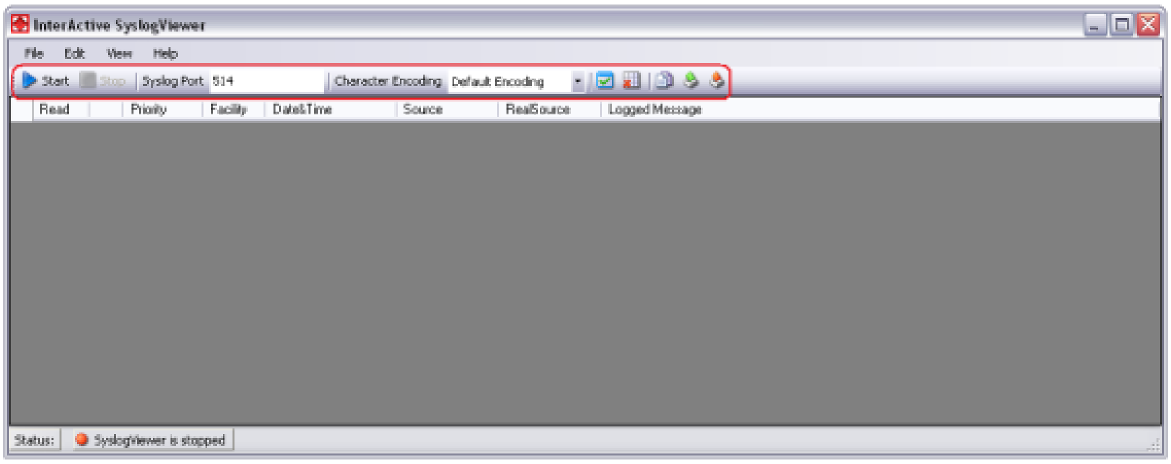
By clicking here, a browser window will open and you will be directed to our support website.

About

The About-window will give you additional information to the tool, like the program version.

5.2.4 Toolbar

In the toolbar, the most important options are represented by icons for direct use.



Syslog Port 514

Character Encoding Default Encoding

Status: SyslogViewer is stopped

The Toolbar

Start

With the start button, you start the receiving service. Now the InterActive SyslogViewer will receive and display all incoming messages. If messages were sent before starting the service, they will be dropped.

Stop

Here you can stop the receiving server.

Syslog Port

Here you can define the syslog port where the Viewer should be receiving the syskigness

Character Encoding

Here you can define how characters will be decoded. You can choose from Default Encoding (depending on OS), Ascii, Unicode, UTF8 or UTF32.

Clear checked

With this button, you can clear all the checkboxes in front of the messages.

Clear View

By clicking on this button, all data will be deleted from you datagrid.

Copy Selection

This helps you copying the selected messages.

Export Selection

You can export the selected data directly by using this button.

Export All

Export the complete data that is in the data grid.

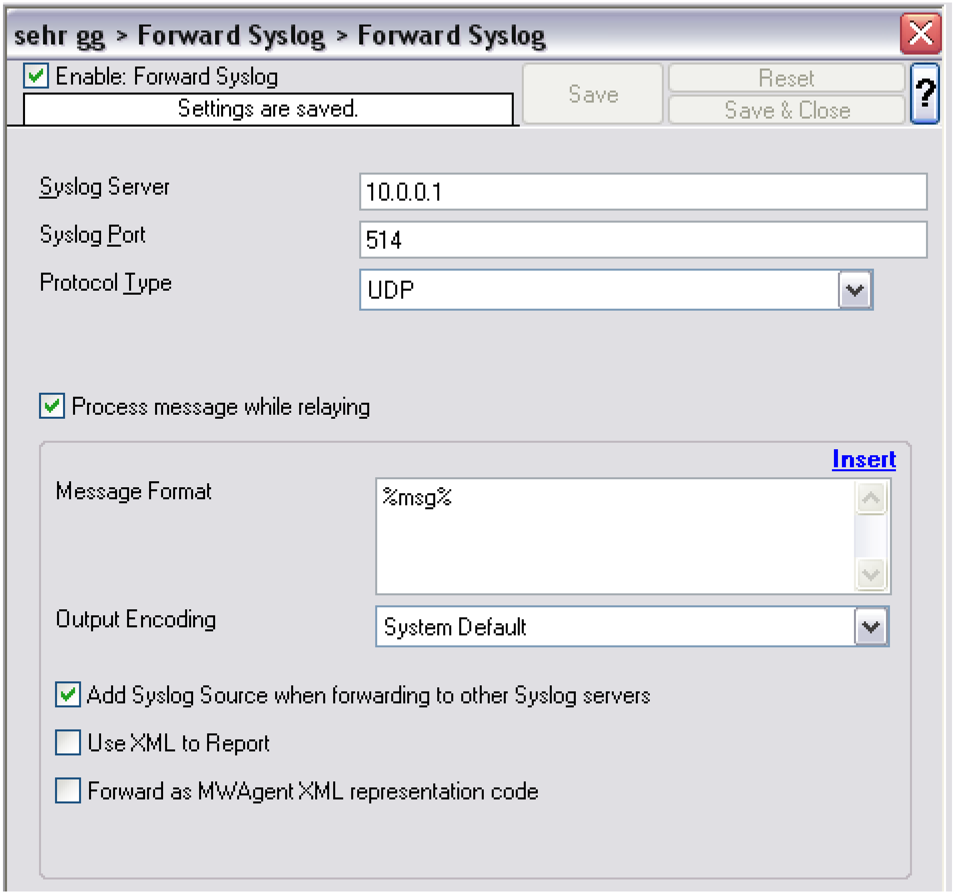
6 Configuring MonitorWare Agent

MonitorWare Agent is easy to use and is powerful.

In this chapter, you see how to configure the MonitorWare Agent Service.

The MonitorWare Agent service runs in the background once it is configured. There is no manual intervention needed to operate it. As such, this chapter focuses on the MonitorWare Agent configuration client application. It is used to configure the service settings.

To run the MonitorWare Agent Configuration client, simply click its icon present in the MonitorWare Agent program folder located in the Start menu. Once started, a Window similar to the following one appears:



sehr gg > Forward Syslog > Forward Syslog

☑ Enable: Forward Syslog

Settings are saved.

Syslog Server: 10.0.0.1

Syslog Port: 514

Protocol Type: UDP

☑ Process message while relaying

Message Format: %msg%

Output Encoding: System Default

☑ Add Syslog Source when forwarding to other Syslog servers

□ Use XML to Report

□ Forward as MWAgent XML representation code

MonitorWare Agent Configuration Client

The configuration client ("the client") has two elements. On the left hand side is a tree view that allows you to select the various elements of the MonitorWare Agent system. On the right hand side, there are the parameters specific to the element selected in the tree view. In the sample above, the right hand side displays the specific parameters for a rule action.

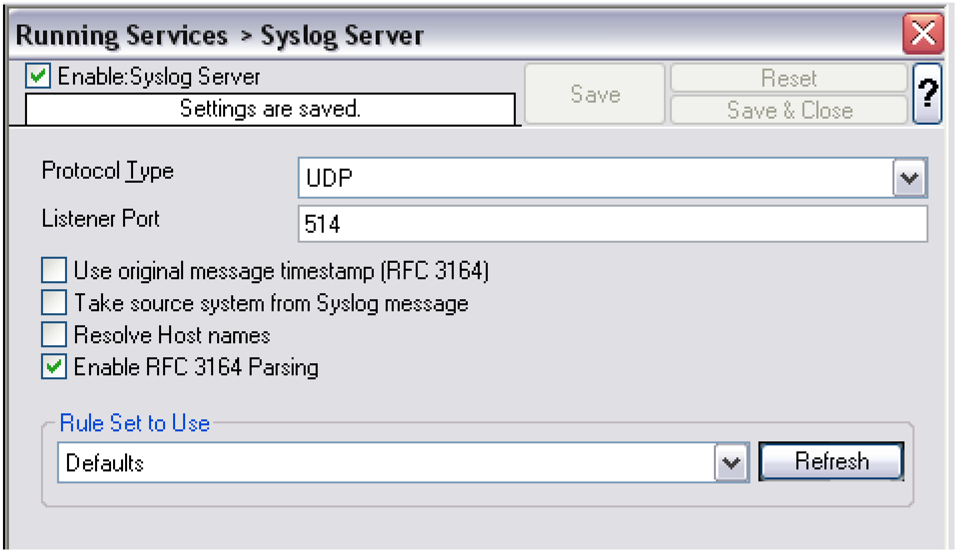
The tree view has three top-level elements: **General / Defaults**, **Running Services** and **RuleSets**.

Under **General / Defaults**, basic operational parameters as well as defaults for actions and services are defined. The default themselves do not activate anything. However, the parameters in here are used each time an actual service or action needs a configuration parameter and none is defined in that specific instance. We highly recommend putting the most common parameters into the defaults. That reduces the amount of data entry in the specific elements dramatically. Please note that each default can be overwritten in a specific service or action.

The tree view's **Running Services** area lists all configured services as well as their parameters. There is exactly one service entry for each service created. **Please note that there can be as many instances of a specific service type as your application requires.** Typically, there can be multiple instances of the same service running, as long as their configuration parameters do not conflict. For example the Syslog service: there can be multiple Syslog servers on a given system as long as they listen to different ports. Consequently, there can be multiple instances of the Syslog service be created. For example, there could be three of them: two listen to the default port of 514, but one with TCP and one with UDP and a third one listens to UDP, port 10514. All three coexist and run at the same time. If these three services are listening to the same port then an error message is logged into Windows Event log that more than one instance of Syslog Server is running. After which MonitorWare Agent wouldn't be able to perform the desired action.

Theoretically, you can run a few hundred services in a single service instance. However, both from a usage scenario point of view as well as concerning operating system resources, we recommend limiting the services to a maximum of 20 to 30. Of course, there are some applications where more than this limit is useful. MonitorWare Agent does not restrict this number. If there is a need for a large number of services and the hardware is capable of managing all these tasks, there is nothing in the MonitorWare Agent that limits from doing so.

The service definition looks like this:



Running Services > Syslog Server

☑ Enable:Syslog Server

Settings are saved.

Protocol Type: UDP

Listener Port: 514

□ Use original message timestamp (RFC 3164)

□ Take source system from Syslog message

□ Resolve Host names

☑ Enable RFC 3164 Parsing

Rule Set to Use: Defaults

MonitorWare Agent Configuration Client - Service Definition View

The actual parameters depend on the service type. Common to all services is the capability to enable or disable a service. A service is started only if it is enabled. Otherwise, it does not run, but the configuration data can still be present. That way, it is easy to temporarily disable a service without deleting it.

Also common to all service types is the association to a rule set seen at the bottom of the right hand configuration dialog. This specifies which of the rule sets have to apply to information units generated by this service.

To create a new service, right click on "**Running Services**". Then select "**Add Service**" and the respective service type from the pop up menu. Then follow the wizard. To delete an existing service, right click it and select "**Delete Service**". This removes the service and its configuration is irrecoverable. To temporarily "**Remove a service**", simply disable it in the property sheet.

The tree view's last main element is **RuleSets**. Here, all rule sets are configured.

Directly beneath "Rules" are the individual rule sets. Each set is completely independent from each other. They are just centrally stored so they can be associated with services (see above for an explanation).

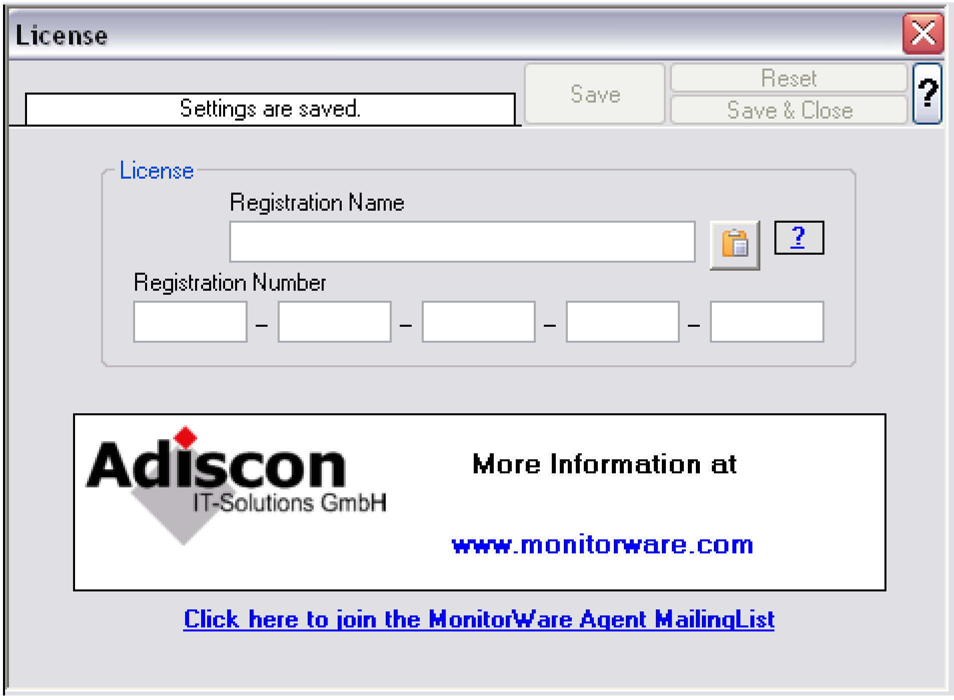
Beneath each rule set are the individual rules. As described in Rules , a rule's position in the list is vitally important. Rules at the top of the rule set are executed before those further down. To move a rule up or down, simply right click it and select "move up" or "move down" from the pop up menu.

In the tree view, filter conditions and actions are beneath the rule they are associated with. Finally, beneath actions are all actions to carry out.

The following sections describe each element's properties.

6.1 License Options

This tab can be used to enter the MonitorWare Agent license after purchase.



Settings are saved.

Registration Name

Registration Number

License Option Parameters

Registration Name

The user chooses the registration name. It should correspond to your organization name, e.g. a company called "AA Carpenters, Inc." should not choose "AA" as registration name. This can easily be mistaken and most probably be rejected by Adiscon for that reason. With the above scenario, we recommend using the full company name "AA Carpenters, Inc.".

Please note: The registration name is case sensitive. It must be entered exactly as given. Leading and trailing spaces are also part of the registration name, so be sure to enter none.

Registration Number

Adiscon provides this number. It is valid for a specific registration name. Be sure to enter the correct registration number. The client detects invalid registration numbers and report the corresponding error.

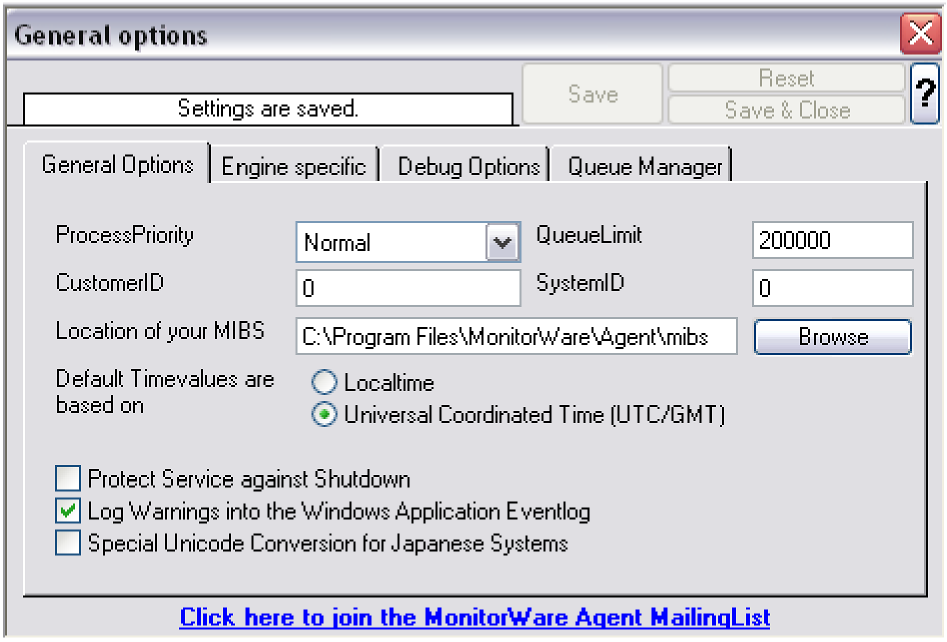
Join the MonitorWare Agent MailingList

Adiscon offers a free notification mailing list. The list provides information on important product enhancements and discovered bugs. Click the text to subscribe to this list. Please note that you can unsubscribe at any time and the list is not used for marketing mails.

6.2 General Options

General Options Tab

The General Options available on this form are explained below:



Settings are saved.

ProcessPriority: Normal
QueueLimit: 200000
CustomerID: 0
SystemID: 0
Location of your MIBS: C:\Program Files\MonitorWare\Agent\mibs

Default Timevalues are based on
○ Localtime
● Universal Coordinated Time (UTC/GMT)

□ Protect Service against Shutdown
☑ Log Warnings into the Windows Application Eventlog
□ Special Unicode Conversion for Japanese Systems

Figure1: General Options

Process Priority

Configurable Process Priority to fine-tune application behavior.

Queue Limit

The applications keeps an in-memory buffer where events received but not yet processed are stored. This allows the product to handle large message bursts. During such burst, the event is received and placed in the in-memory queue. The processing of the queue (via rule sets) itself is de-coupled from the process of receiving. During traffic bursts, the queue size increases, causing additional memory to be allocated. At the end of the burst, the queue size decreases and the memory is freed again.

Using the queue limit, you can limit that maximum number of events that can be in the queue at any given time. Once the limit is reached, no further enqueueing is possible. In this case, an old event must first be processed. In such situations, incoming events might be lost (depending on the rate they come in at). A high value for the queue size limit (e.g. 200,000) is recommended, because of the risk of message loss. It is also possible to place no limit on the queue. Use the value zero (0) for this case. In this case, the queue size is only limited by virtual memory available. However, we do not recommend this configuration as it might cause the product to use up all available system memory, which in turn could lead to a system failure.

CustomerID

CustomerID is of type integer provided for customer ease. For example if someone monitors his customer's server, he can put in different CustomerIDs into each of the clients. Let us say someone monitors servers A and B. A has 5 servers all of them with CustomerID = 1 and B has 2 servers all of them with CustomerID = 2. Both A and B happen to have a server named "SERVER". Together with the customerID, these machines are now uniquely identifiable. This is user configurable.

SystemID

SystemID is of type integer to be used by our customer. In addition, it is user configurable.

Location of your MIBS

Click the Browse button to search for your MIBS location or enter the path manually.

Default TimeValues based on UTC or Local Time

This option allows you to configure the timemode that is to be used e.g. in File Logging, Database Logging, Send Email actions and everywhere, where time is used. In addition to this it also set the time mode in all those places where time mode either UTC or Local Time is not defined.

Protect Service against Shutdown

The service keeps an in-memory queue of yet unprocessed events. When the service is stopped, this in-memory queue is drained. Not yet processed events are lost in such a case. If you click "Protect Service against Shutdown", it ensures that all events are processed before the service is stopped. Please note, however, that this may cause the service to look hanging. This is especially the case if there is a large in-memory queue.

Log Warnings into the Windows Application Eventlog

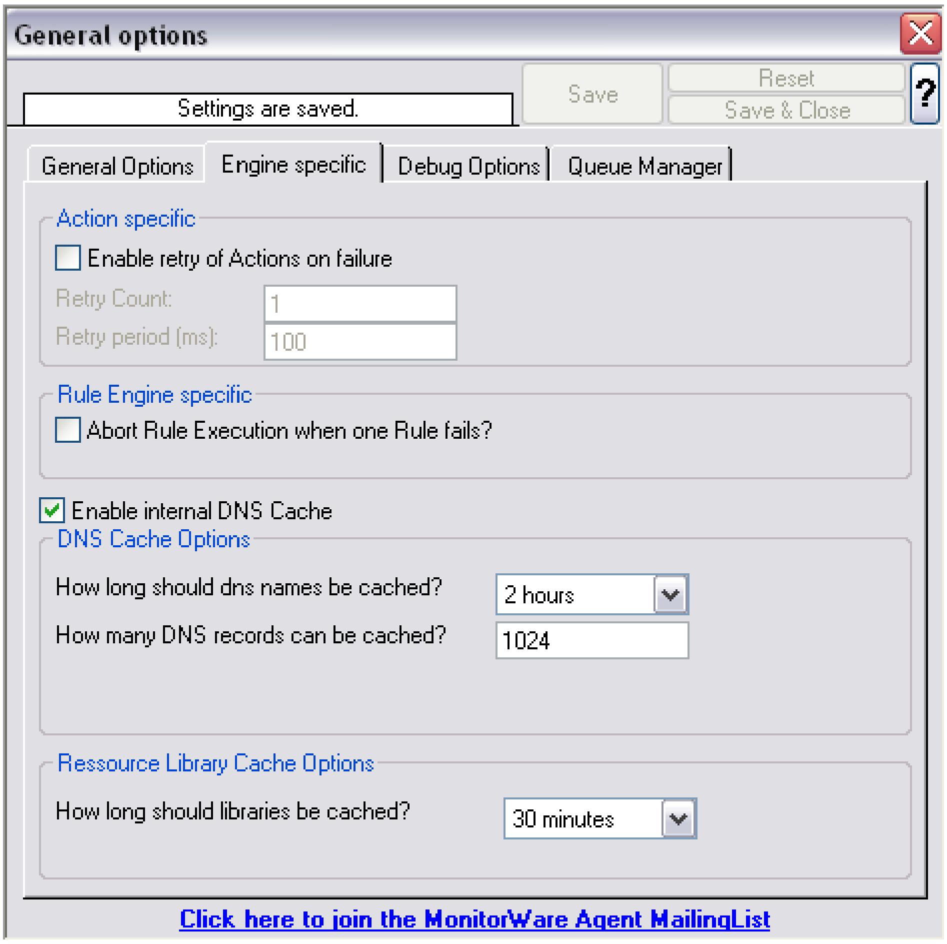
If this option is enabled it will, as the name already says, log Program Warnings into the Windows EventLog.

Special Unicode Conversion for Japanese Systems

On Japanese Systems, the character handling is different and if you experience problems with the encoding of received messages, kindly turn on this new Option.

Engine specific Options Tab

The Engine specific Options are explained below:



General options

Settings are saved.

Action specific

□ Enable retry of Actions on failure

Retry Count: 1

Retry period (ms): 100

Rule Engine specific

□ Abort Rule Execution when one Rule fails?

☑ Enable internal DNS Cache

DNS Cache Options

How long should dns names be cached? 2 hours

How many DNS records can be cached? 1024

Ressource Library Cache Options

How long should libraries be cached? 30 minutes

Click here to join the MonitorWare Agent MailingList

Figure2: Engine specific Options

Action specific

Enable retry of Actions on failure

If enabled, the Agent retries Actions on failure (until the retry counter is reached). Note that the Event error 114 will only be written if the last retry failed, previous error's will only be logged in the debug log (With the error facility). Note that you can customize the Retry Count and the Retry Period in *ms* as well.

Rule Engine specific

Abort Rule Execution when one Rule fails?

If checked, and an action fails, the execution will be aborted.
If unchecked, and an action fails, simply the next action in this rule will be executed.

DNS Cache Options

Enable internal DNS Cache

The DNS cache is used for reverse DNS lookups. A reverse lookup is used to translate an IP address into a computer name. This can be done via the resolve hostname action. For each lookup, DNS needs to be queried. This operation is somewhat costly (in terms of performance). Thus, lookup results are cached. Whenever a lookup needs to be performed, the system first checks if the result is already in the local cache. Only if not, the actual DNS query is performed and the result then stored to the cache. This greatly speeds up revers host name lookups.

However, computer names and IP addresses can change. If they do, the owner updates DNS to reflect the change. If we would cache entries forever, the new name would never be known (because the entry would be in the cache and thus no DNS lookup would be done). To reduce this problem, cache records expire. Once expired, the record is considered to be non-exisiting in the cache and thus a new lookup is done.

Also, cache records take up system memory. If you have a very large number of senders who you need to resolve, more memory than you would like could be allocated to the cache. To solve this issue, a limit on the maximum number of cache records can be set. If that limit is hit, no new cache record is allocated. Instead, the least recently used record is overwiritten with the newly requested one.

How long should DNS names be cached?

This specifies the expiration time for cache records. Do not set it too high, as that could cause problems with changing names. A too low-limit results in more frequent DNS lookups. As a rule of thumb, the more static your IP-to-hostname configuration is, the higher the expiration timeout can be. We suggest, though, not to use a timeout of more than 24 to 48 hours.

How many DNS records can be cached?

This is the maximum number of DNS records that can be cached. The system allocates only as many memory, as there are records required. So if you have a high limit but only few sending host names to resolve, the cache will remain small. However, if you have a very large number of host names to resolve, it might be useful to place an upper limit on the cache size. But this comes at the cost of more frequent DNS queries. You can calculate about 1 to 2 KBytes per cache record.

Ressource Library Cache Options

How long should libraries be cached?

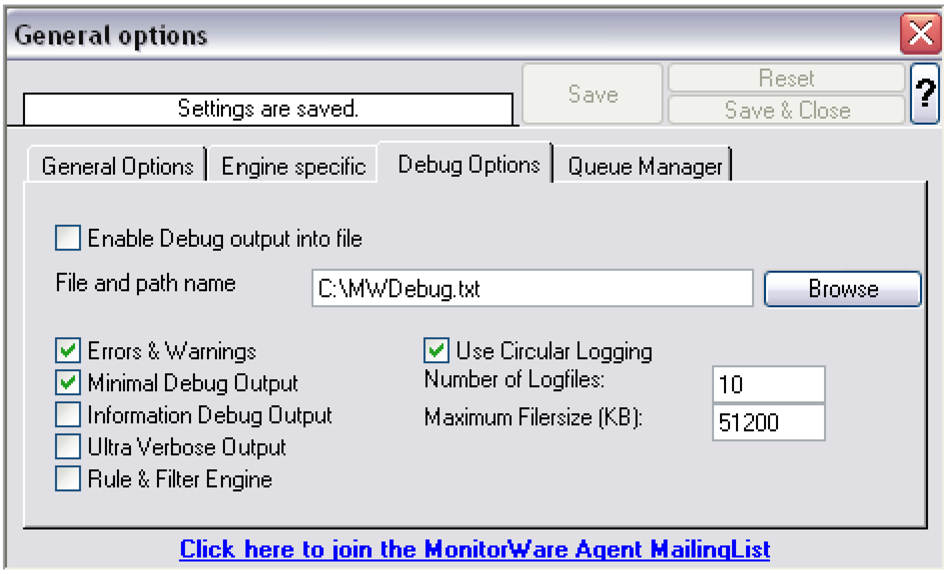
This feature will be mainly useful for EventLog Monitor. For events with the same reoccuring event sources, this will be a great performance enhancement. The cache will also work for remote system libraries (requires administrative default shares). All libraries will be cached for 30 minutes by default.

Debug Options Tab

This tab can be used to debug rule bases. Especially with complex bases, it might be necessary to learn what application is internally doing while it is processing them. With the debug log, the service tells you some of these internal workings.

Other than rule basis testing, the debug log is also helpful when contacting Adiscon support. An Adiscon support engineer might ask you to set the debug log to a specific level while doing troubleshooting.

Important: Debug logging requires considerable system resources. The higher the log level, the more resources are needed. However, even the lowest level considerable slows down the service. As such, **we highly recommend turning debug logging off for normal operations.**



Settings are saved.

□ Enable Debug output into file

File and path name: C:\MWDebug.txt

☑ Errors & Warnings
☑ Minimal Debug Output
□ Information Debug Output
□ Ultra Verbose Output
□ Rule & Filter Engine

☑ Use Circular Logging
Number of Logfiles: 10
Maximum Filersize (KB): 51200

Figure3: Debug Options

Enable Debug output into file

If checked, the debug log is enabled and written as the service operates. If unchecked, no debug log is written.
For performance reasons, it is highly recommended that this box is unchecked during normal operations.

File and path name

The full name of the log files to be written. Please be sure to specify a full path name **including** the driver letter.
If just the file and/or path name is specified, that information is local to the service default directory. As this depends on a number of parameters, it might be hard to find the actual log file. So for consistency purposes, be sure to specify a fully qualified file name including the drive.

Note: If the configured directories are missing, they are automatically created by application i.e. the folder specified in "File and Path Name".

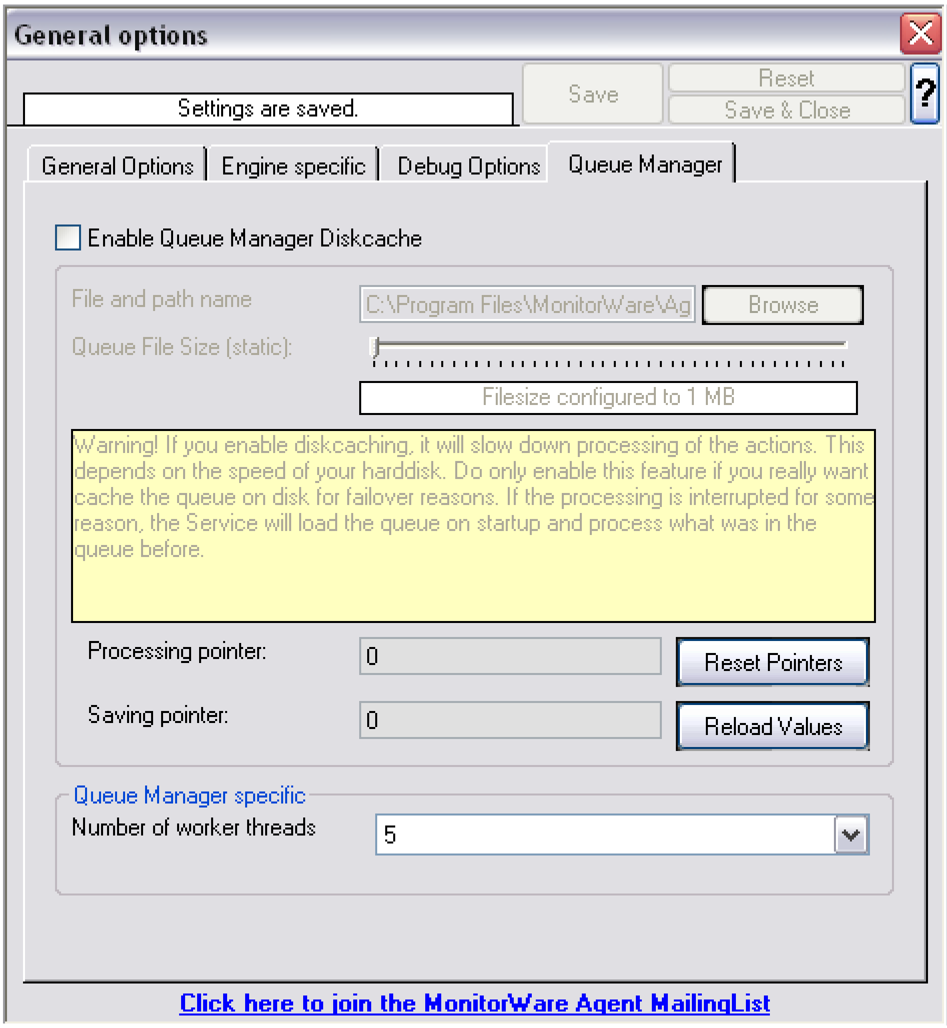
Debug Levels

These checkboxes control the amount of debug information being written. We highly recommend only selecting "Errors & Warnings" as well as "Minimum Debug Output" unless otherwise instructed by Adiscon support.

Circular Debug Logging

Support for circular Debuglogging has been added as the debuglog can increase and increase over time. This will avoid an accidential overload of the harddisk. Or course you can also customize or disable this feature.

Queue Manager Tab



Settings are saved.

□ Enable Queue Manager Diskcache

File and path name: C:\Program Files\MonitorWare\Ag

Queue File Size (static):

Filesize configured to 1 MB

Warning! If you enable diskcaching, it will slow down processing of the actions. This depends on the speed of your harddisk. Do only enable this feature if you really want cache the queue on disk for failover reasons. If the processing is interrupted for some reason, the Service will load the queue on startup and process what was in the queue before.

Processing pointer: 0

Saving pointer: 0

Number of worker threads: 5

Figure 4: Queue Manager Options

Queue Manager DiskCache

This feature enables the Agent to cache items in its internal queue on disk using a fixed data file. **First of all a Warning. Only use this feature if you really need to!** Depending on the speed of your hard disks, it will slow down processing of the actions, in worst case if the machine can't handle the IO load, the Queue will become full sooner or later. The DiskCache is an additional feature for customers, who for example want to secure received Syslog messages which have not been processed yet.

The diskcache will not cache infounits from services like EventLog Monitor, as this kind of Service only continues if the actions were successfully. All other information sources like the Syslog Server will cache it's messages in this file. If the Service or Server crashes for some reason, the queue will be loaded automatically during next startup of the Agent. So messages which were in the queue will not be lost. Only the messages which was currently processed during the crash will be lost.

File and Pathname

As everywhere else, you can define here, where the queue file should be stored.

Queue File Size

Be carefull with the queue size you configure. You should never configure a higher queue size then System memory is available. We recommend to have at least 512 MB less than the total system memory. In case a full queue file is loaded into memory during startup, it could come to unexpected problems caused by insufficient memory. The queue file size is currently limited to the maximum of 2048MB, however if you think you need more please contact Adiscon Support for further discussions.

If you change the size of the queue file, the queue file will be recreated during next startup. However the old contents will not be converted into the new file. So please make sure that the queue has been successfully processed before. This typically happens when you stop the Agent, unless the Agent process is killed after a default timeout of 60 seconds.

Depending on how big the queue file is, and how many unprocessed queue items have been stored in the file, it can take some time on startup of the Agent to finish initialization.

Queuelimit (General Options)

If the Queue Manager Diskcache is enabled, this limit will also be important. Regardless how large the queue file is, this is the maximum of items which will be stored in the queue. Also if the Agent restores the queue from disk.

Race conditions

When a server or computer crashes, it can always come to corruptions on the file system or within the queue file. If we detect such a corruption on startup of the Agent, we will initialize the cached queue as far as possible, and reset the queue file then. This is the best thing we can do in such cases.

Processing Pointer

The processing pointer defines, at which position in the diskqueue the the pointer is. The pointer is always at the last processed entry.

Saving Pointer

This pointer shows you, at which position the last saved entry is.

Queue Manager specific

Number of worker threads

Defines the number of worker background threads that MWAgent uses to process it's queue.

Join the MonitorWare Agent MailingList

Adiscon offers a free notification mailing list. The list provides information on important product enhancements and discovered bugs. Click the text to subscribe to this list. Please note that you can unsubscribe at any time and the list is not used for marketing mails.

6.3 Services

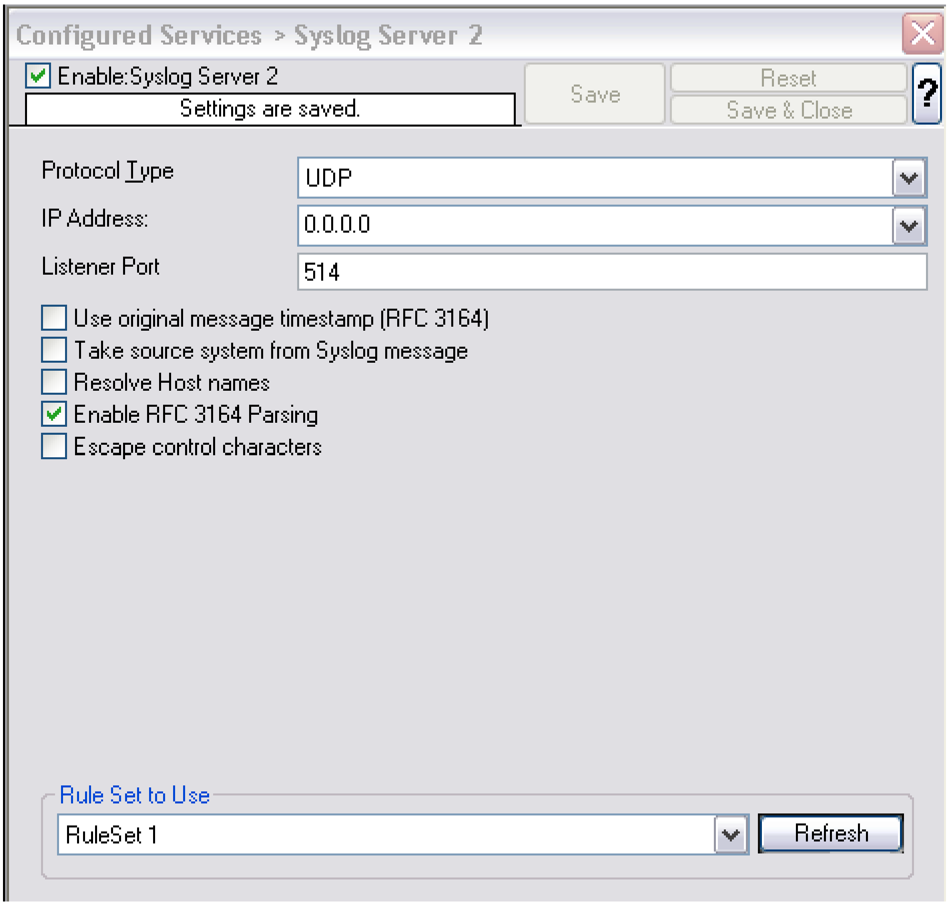
6.3.1 Understanding Services

Services gather events data. For example, the Syslog server service accepts incoming Syslog messages and the Event Log Monitor extracts Windows event log data. There can be unlimited multiple services. Depending on the service type, there can also be multiple instances running, each one with different settings.

You must define at least one service, otherwise the product does not gather event data and hence does not perform any useful work at all. Sometimes, services are mistaken with service defaults those are pre-existing in the tree view. Service defaults are just the templates that carry the default properties assigned to a service, when one of the respective type is to be created. Service defaults are NOT executed and thus can not gather any data.

6.3.2 Syslog Server

Configures a Syslog Server service. It can be set to listen to any valid port. UDP and TCP communication is supported.



☑ Enable:Syslog Server 2

Settings are saved.

Protocol Type: UDP

IP Address: 0.0.0.0

Listener Port: 514

□ Use original message timestamp (RFC 3164)
□ Take source system from Syslog message
□ Resolve Host names
☑ Enable RFC 3164 Parsing
□ Escape control characters

RuleSet 1

Syslog Server Properties

Protocol Type

Syslog messages can be received via UDP, TCP or RFC 3195 RAW. One listener can only listen to one of the protocols. Typically, Syslog messages are received via UDP protocol, which is the default. The syslog server also can receive Syslog messages via TCP and reliable Syslog messages via TCP using the new RFC 3195 RAW standard.

IP Address

The Syslog Server can now be bound to a specific IP Adress. This feature is useful for multihome environments where you want to run different Syslog Servers on different IP Addresses. Please note that the default IP Address 0.0.0.0 means ANY IP Address.

Listener Port

The port the Syslog server listens on. The typical (standard) value is 514. This should be changed only if there is a definite need for it. Such a need typically arises from security concerns. If the port is changed, all reporting devices (routers, printers …) must also be configured to use the non-standard port.

Use Original Message Timestamp

If this box is checked, the timestamp is retrieved from the Syslog message itself (according to RFC 3164). If left unchecked, the timestamp is generated based on the local system time. The Syslog message timestamp does not contain time zone information. Thus, we strongly recommend unchecking this box if messages from devices in multiple time zones are to be received.

Take source system from Syslog message

If this box is checked, the name or IP address of the source system is retrieved from the Syslog message itself (according to RFC 3164). If left unchecked, it is generated based on the address, the message was received from.

Please note that there are many devices, which do NOT generate RFC 3164 compliant messages. If you check this option here, you might see a very strange value as the event source!

Resolve Hostnames

If this box is checked, the name of the source system is retrieved via DNS reserve name resolution. If unchecked, the IP address itself is used as the name.

Please note that this setting does have any effect if the "Take source system from Syslog message" setting is checked. In this case, the message is always taken from the Syslog message itself.

Enable RFC 3164 Parsing

If this box is checked, RFC 3164 compliant message parsing is enabled. If unchecked, "traditional" Adiscon message parsing is selected. If you experience trouble with the sender host name or the timestamp, we suggest that you turn off RFC 3164 compliant message parsing. Many existing devices do not fully comply with RFC 3164 and this can cause those issues.

Escape Control Characters

Control characters are special characters. They are used e.g. for tabulation, generating beeps and other non-printable uses. Typically, syslog messages should not contain control characters. If they do, control characters could eventually affect your logging. However, it might also be that control characters are needed.

With this setting, you can specify how control characters received should be handled.

When checked, control characters are replaced by a 5-byte sequence with the ASCII character ID. For example, a beep is the ASCII BEL character. BEL is assigned the numerical code 7. So if a BEL is received, it would be converted to "<007>" inside your syslog message. When the box is left unchecked, no conversion takes place.

In any case, ASCII NULs are converted to "<000>" to prevent security issues in the log files.

Please note: if you used double-byte character sets, control character escaping can cause your message to become clobbered. So be sure to leave it unchecked in that case.

Default Ruleset Name

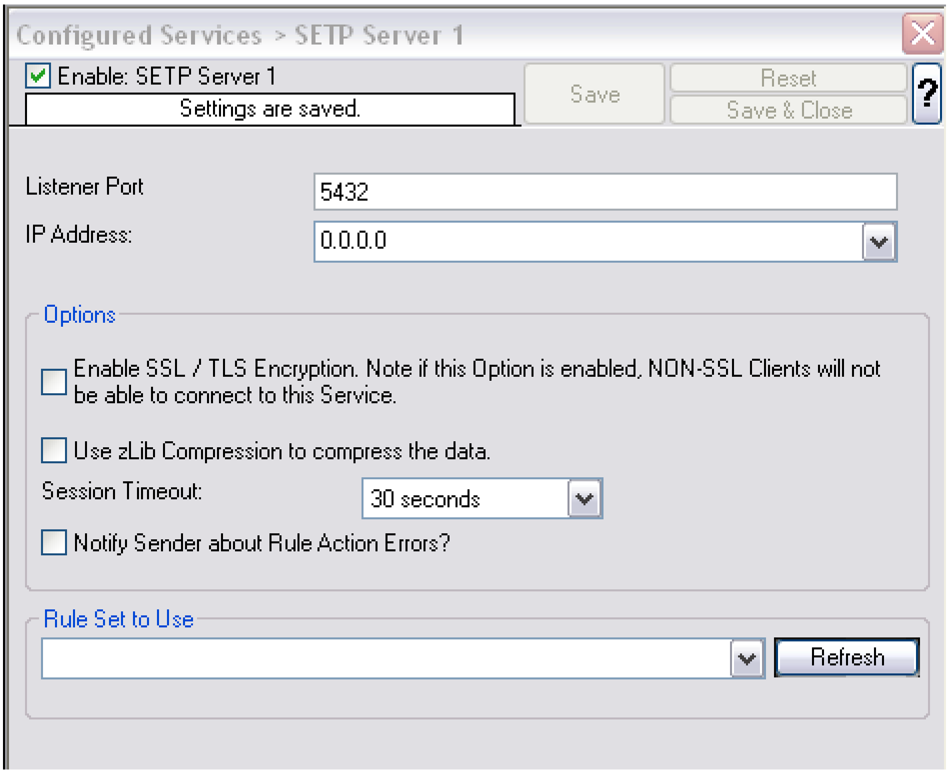
Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

Please Note

Updated the OpenSSL components and libraries with the latest Version openssl-0.9.8d.

6.3.3 SETP Server

Configures a SETP server service. A SETP server is used inside the MonitorWare line of products to ensure reliable receiving of events from other systems. There are only few configuration options, as SETP takes the original message from the sender and uses the exact settings that the sender was configured for. No alteration occurs at the SETP server side; as such, no values need to be configured for the message format.



☑ Enable: SETP Server 1

Settings are saved.

Listener Port: 5432

IP Address: 0.0.0.0

□ Enable SSL / TLS Encryption. Note if this Option is enabled, NON-SSL Clients will not be able to connect to this Service.

□ Use zLib Compression to compress the data.

Session Timeout: 30 seconds

□ Notify Sender about Rule Action Errors?

SETP Server Properties

Listener Port

The port the SETP server listens on. The default value is 5432. This should be changed only if there is a definite need for it. Such a need typically arises from security concerns. If the port is changed, all reporting devices must also be configured to use the non-standard port. SETP operates over TCP.

IP Adress

The SETP server service can be bound to a specific IP Address. This feature is useful for multihome environments where you want to run different Syslog Servers on different IP Addresses. Please note that the default IP Address 0.0.0.0 means ANY IP Address.

Enable SSL/TLS

If this option is enabled then this action connects to SSL / TLS SETP servers. Please make sure that you want this option to be enabled.

Please note: If this option is enabled, this action will not be able to connect to NON-SSL SETP Servers.

Options

Under this group box, you can see three more options as discussed below:

Use zLib Compression to compress the data

When enabled, MonitorWare Agent decompresses the zLib compressed data sent by the SETP senders. It is still be able to receive normal data. zLib compression is useful to reduce traffic in WAN environments.

Session Timeout

It controls how long a session is to be opened from the server side.

Notify Sender about Rule Action Errors?

Enable this option to communicate the outcome of an action back to the the sender of the SETP message.

This communicates back the status of actions carried out on the receiver to the sender of the event. In essence, the sender system will know if the action failed or succeeded on the remote machine. It can then act exactly like the action was carried out on the local machine. The exact handling of failure states is depending on the event source.

An example: you have a machine running an EventLog Monitor and sending these events via SETP, and on the other side have all incoming events written into a database. If the database would be offline and the events not being written into it, the SETP server would return as the last message that the action failed (as long as this option is enabled) and generate a error event with ID 1005 (and generate a Success Event with ID 1012 if successful again). The sender would then halt and retry sending the event. This is because SETP is built somehow like TCP which ensures data transfer, but additionally can return a status to the sender if the following action was successful.

This happens because the event log monitor (as well as the file monitor and others) is a restartable event source. It uses the outcome of actions to decide if the action is to be retried in another run of the same source. Other event sources have different behavior. The syslog server, for example, does not retry failed actions. This is due to the lossy nature of syslog, in which loosing syslog messages is explicitely permitted (and favourable over taking up too many system resources by trying to buffer them).

Please Note: If you enable this feature, older MonitorWare Agent Versions (4.2.x and below, as well as WinSyslog 7.2.x and EventReporter 8.2.x and below) may have trouble sending data over SETP once a Rule Exception occurs! If you intend to use this feature, make sure all MonitorWare Agent Installations are at least Version 4.3.x (This applies for WinSyslog 7.3.x and EventReporter 8.3.x as well).

Default Ruleset Name

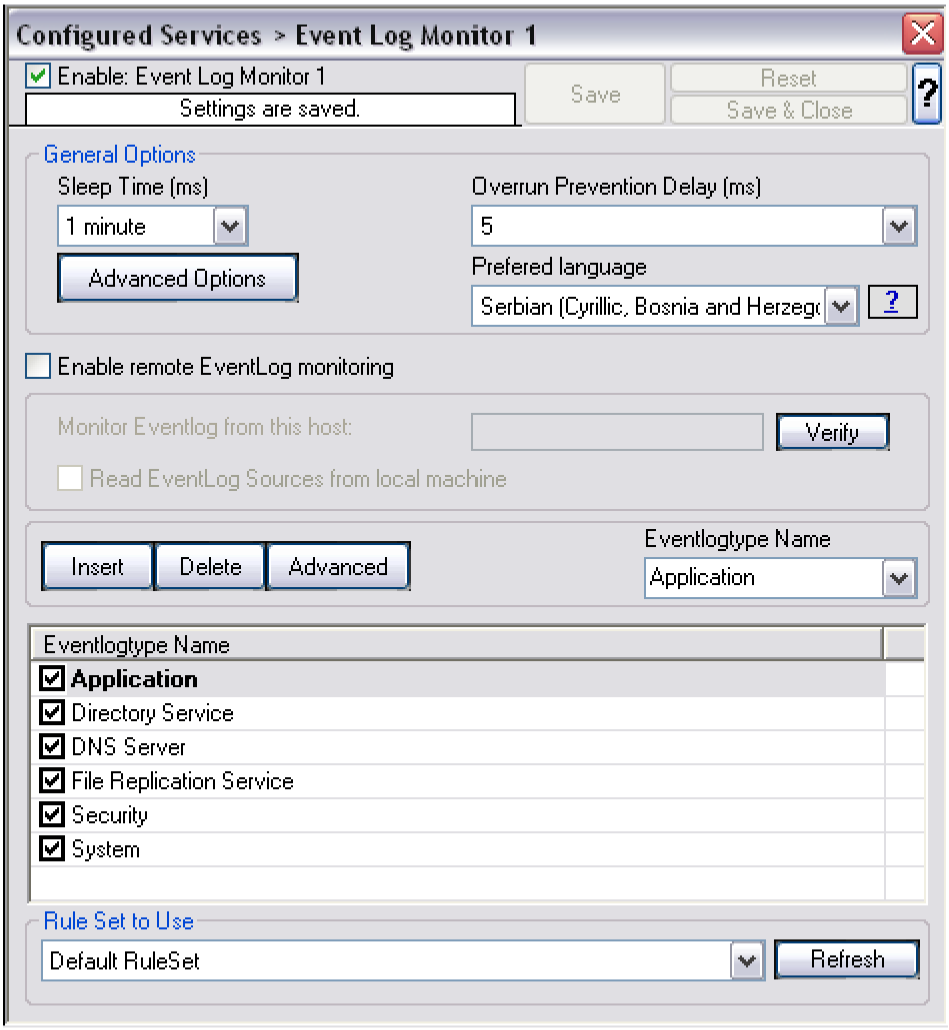
Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.4 Event Log Monitor

This dialog configures the Windows Event Log Monitor service.

This service was intially introduced by Adiscon's EventReporter product. To allow previous EventReporter customers seamless upgrades, there are a number of compatibility settings to support older message formats.

Windows Vista comes with a considerably changed event logging system. In theory, the Event Log Monitor works with Vista. However, we know of some incompatibilities. For best results, **we recommend using the Event Log Monitor V2 service, which was specifically written for Windows Vista.** The Event Log Monitor described here is applicable for Windows NT, 2000, 2003 and XP (where the new Vista-like event logging system is not available).



Configured Services > Event Log Monitor 1

☑ Enable: Event Log Monitor 1

Settings are saved.

General Options

Sleep Time (ms): 1 minute

Overrun Prevention Delay (ms): 5

Prefered language: Serbian (Cyrillic, Bosnia and Herzeg(

□ Enable remote EventLog monitoring

Monitor Eventlog from this host:

□ Read EventLog Sources from local machine

Eventlogtype Name: Application

Eventlogtype Name
☑ **Application**
☑ Directory Service
☑ DNS Server
☑ File Replication Service
☑ Security
☑ System

Rule Set to Use: Default RuleSet

Event Log Monitor Properties

The most important part of this dialog is the table in the middle. It specifies which event logs are to be monitored. In the screenshot above, the monitor is set to all Windows-native event log types that can possibly occur. However, there might also be custom event logs. Such custom logs can be created by any application. For example, an application "MySuperApp" might create an event log "MySuperAppLog". Then, it might log its messages into this log and not the Windows application event log.

In order to support such custom event logs, the log monitor allows an unlimited number of additional logs to be added to it. In order to do so, press the "Insert" button. A new log is added to the bottom of the list. Then, you can edit its name in the "Eventlogtype Name" combox (yes, you can overwrite the provided values!).

Logs checked in the table are actually processed. Those unchecked are kept in the configuration, but are not processed.

General Options

The General Options available on this form are explained below:

Sleep Time

The event log monitor periodically checks for new event log entries. The "Sleep Time" parameter specifies how often this happens. This value is in miliseconds.

We suggest a value of 60,000 milliseconds for the "Sleep Time". With that setting, the event log monitor checks for new events every 60 seconds. Larger periods can be specified for occasionally connected systems or if email delivery with few emails per day is intended.

Very security-aware environments might use a shorter interval. The event log monitor service is specifically designed to limit the burden on the monitored system. As such, resource usage is typically low, even with frequently run event log checks. However, we recommend not running the event log monitor more often than once a second.

Overrun Prevention Delay

This property allows configuring a delay after generating an event. The time is the delay in milliseconds.

If run at a value of zero, the event log monitor service generates events as fast as the machine permits. We have seen scenarios where routers and receivers are not able to keep up with this rate, resulting in packet loss. In addition, the CPU of the reporting machine is run at 100% - which is not a problem because the service runs at a low priority. However, with even a 1-millisecond delay, there is no noticeable CPU activity even when large bursts of events are forwarded. At one millisecond, the service can still generate 1000 events per second.

The default setting is an overrun protection of five millisecond, which allows roughly 200 events per second. This should be sufficient for even very busy servers.

Prefered Language

You can select a prefered language, and the Eventlog Monitor will send the message in this language. It will only work if these languages are installed and message libs are available with the prefered language. If this fails, it will automatically fall back to the system default language.

Enable Remote EventLog Monitoring

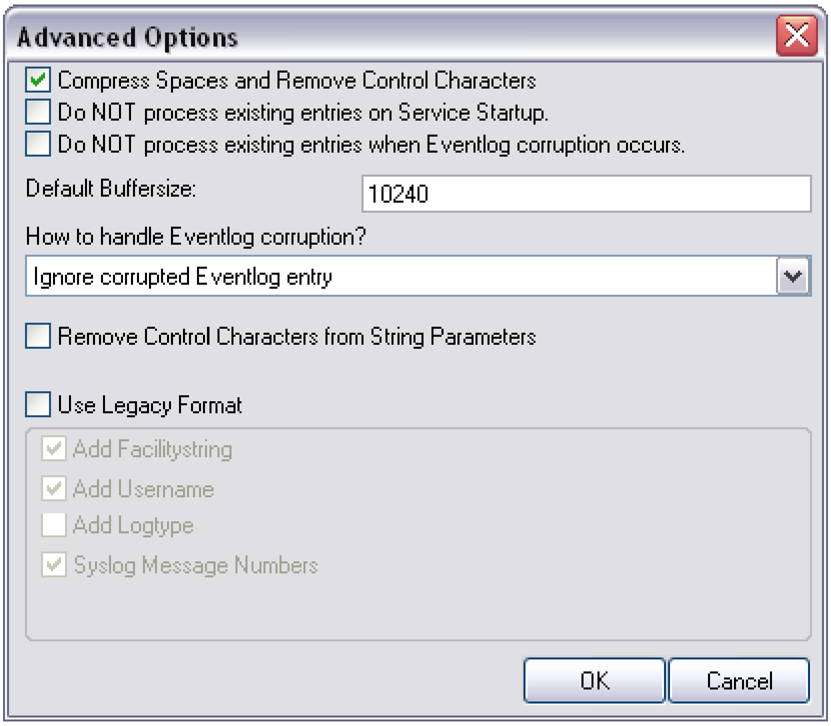
If enabled, the EventLog Monitor will read and process the EventLog from a remote machine. Use the verify button to make sure that the network connection is working correctly

Please make sure that the machine, which you are going to monitor,
does have File and Print Services enabled and is accessible by this machine.
This is important as the EventLog Service will read the message
libraries on the remote machine by using the default administrative shares.
For this reason, the Service must be configured to run with a user who has
administrative privileges/permissions on the local **and** remote machine.
If File and Print services remain disabled, the local message libraries will used automatically instead.
Note that you may experience a lot of missing message libraries in this case.

Additionally you have an option to read the EventLog Sources from the local machine. If enabled, the local message libraries will be used instead of the remote machines ones. Sometimes local Event Sources are more reliable or are required for thirdparty EventLog implementations.

Advanced Options

Once you click on the Advanced Options button a screen-shot similar to the one below is opened. The options available on this form are explained below:



☑ Compress Spaces and Remove Control Characters
☐ Do NOT process existing entries on Service Startup.
☐ Do NOT process existing entries when Eventlog corruption occurs.

Default Buffersize: 10240

How to handle Eventlog corruption? Ignore corrupted Eventlog entry

☐ Remove Control Characters from String Parameters

☐ Use Legacy Format

☑ Add Facilitystring
☑ Add Username
☐ Add Logtype
☑ Syslog Message Numbers

Event Log Monitor - Advanced Options

Compress Control Characters

This option allows you to control the control character removal and space compression. If checked, control characters (e.g. CR, LF, TAB - non printable characters in general) are removed. Also multiple spaces are compressed to a single one. By default this is checked. We recommend keeping it checked for most cases as it provides better display.

Please note that it should be unchecked if events should be forwarded via email. And it MUST be turned off if double-byte character sets are being processed (e.g. Japanese).

Do NOT process existing entries on Service Startup

When this option is chekced, it prevents from reprocessing of the whole Windows event log when the EventReporter / MonitorWare Agent service is restarted.

Do NOT process existing entries when Event log corruption occurs

When this option is chekced, it prevents from reprocessing of the whole Windows event log when it is corrupted or truncated. So EventReporter / MonitorWare Agent do not processes all entries again.

Default Buffersize

The default Buffersize is 10k. This value will be increased or decreased dynamically if necessary. If you want to use thirdparty applications like Netapp you must increase the Buffersize manually (minimum 65k), because dynamic adjusting is not possible with them.

Remove Control Characters from String Parameters

Enable this option to remove control characters like carriage return or line feeds from parameter strings and category names in Winows Events.

Use Legacy Format

This option enhances compatibility to scripts and products working with previous versions of EventReporter. The legacy format contains all Windows event log properties within the message itself.

The new format includes the plain text message only. The additional information fields (like event ID or event source) are part of the XML formatted event data. If the new format is used, we highly recommend sending or storing information in XML format. This is an option in each of the action properties (of those actions that support it – the write to database option for example always stores the fields separated, so there is no specific option to do so).

Legacy format is meant to support existing parser scripts. We encourage you to use the new, XML-bound format for new implemtations. Legacy format will be maintained in future releases to support backward compatibility, but it is no longer actively being developed. There are some shortcomings in legacy format, which can lead to issues when building or operating a log parser. These shortcomings are by design. We will not change this in legacy format - the solution is to use the new format. After all, the new format was created in order to address the issues with legacy format.

Add Facility String

If checked, facility identification is perpended to the message text generated. This parameter enhances compatibility with existing Syslog programs and greatly facilitates parsing the generated entries on the Syslog server. We strongly encourage users to use this enhancement.

This setting only applies if the "Use Legacy Format " option is checked. Otherwise, it does not have any meaning and consequently cannot be configured in that case.

Add Username

If checked, the NT user that generated the event log entry is transmitted. If unchecked, this information is not forwarded. This is a configurable option for customers who have written parsing scripts for a previous format which did not contain Usernames. This option must also be unchecked if MoniLog is being used.

This setting only applies if the "Use Legacy Format " option is checked. Otherwise, it does not have any meaning and consequently cannot be configured in that case.

Add Log Type

If checked, then log types e.g. system, security etc. etc. is perpended to the generated message.

This setting only applies if the "Use Legacy Format " option is checked. Otherwise, it does not have any meaning and consequently cannot be configured in that case.

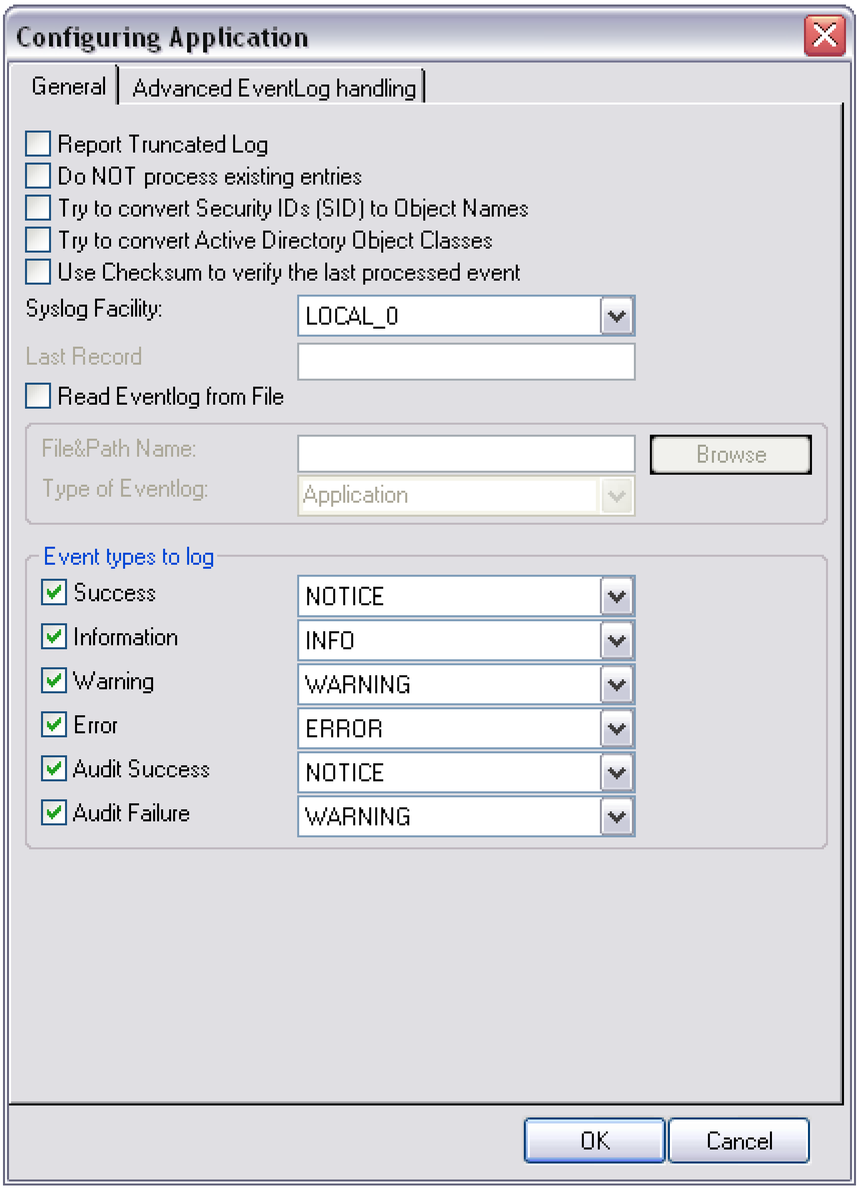
Syslog Message Numbers

If checked, a continuously advancing message number is perpended to the generated message. This is useful for Syslog delivery to make sure that all messages have been received at the remote server.

This setting only applies if the "Use Legacy Format " option is checked. Otherwise, it does not have any meaning and consequently cannot be configured in that case.

Event Log Types

The "Event Log Types" configure per-event-log settings. The corresponding log is only be processed if the respective "Enable" checkbox is checked. The parameters are common to all logs and are explained only once. You open the property page by double-clicking a row in the event log list. Each dialog looks as the following:



Configuring Application

General | Advanced EventLog handling

☐ Report Truncated Log
☐ Do NOT process existing entries
☐ Try to convert Security IDs (SID) to Object Names
☐ Try to convert Active Directory Object Classes
☐ Use Checksum to verify the last processed event

Syslog Facility: LOCAL_0

Last Record

☐ Read Eventlog from File

File&Path Name:

Type of Eventlog: Application

Event types to log

☑ Success: NOTICE
☑ Information: INFO
☑ Warning: WARNING
☑ Error: ERROR
☑ Audit Success: NOTICE
☑ Audit Failure: WARNING

Event Log Monitor - EventLog Types General Options

EventLog Monitor Priorities

The Priority Mapping is configurable for each EventLogType.

Report Truncated Log

Windows event logs can be truncated programmatically or via the Windows Event Viewer program. When a log is truncated, all information is erased from it. Any entries not already processed by the service are lost.

The service detects event log truncation. If "Report Truncated Log" is checked, it generates a separate message stating the truncation. This option is most useful in environments where truncation is not expected and as such might be an indication of system compromise.

If you regularly truncate the NT event logs as part of your day-to-day operation, we suggest you turn this option off. In this case, we also recommend using a short sleep period (for example 10,000 which is 10 seconds) to avoid losing log entries.

Do not Process Existing Entries

If you don't want to get a dump of an existing specific Windows event log then use this option. When MonitorWare Agent / EventReport are restarted it will start processing after that last entry and do not look for the prevoius entries.

Try to convert Security IDs (SID) to Object Names

With this option you can convert Security ID's (SIDs) to object names. You can enable this feature in the advanced configuration of each event log type in the Event Log Monitor service. Simple check the "Try to convert Security IDs (SID) to Object Names" option.

Note that only for the Security event log this feature is enabled by default. For all other event log types this feature is disabled by default.

Try to convert Active Directory Object Classes

With this option you can convert ActiveDirectory Schema GUID's from Security Events on Domain Controllers to object names. For Example Event 565, which usually has a lot of these Schema GUID's! The GUID's are internally cached to speed up EventLog processing operations.

Note that only for the Security event log this feature is enabled by default. For all other event log types this feature is disabled by default.

Use Checksum to verify the last processed Event

A checksum of the last processed Event will be stored along with the LastRecord of an eventlog. This checksum is checked during each iteration. If the checksum does not match , we consider the EventLog has been altered, cleared or something else happened. In this case the EventLog is being reprocessed from the beginning.

Please note: This option will prevent you from modifying the LastRecord value. If you do, the whole EventLog will be reprocessed! Please note that this behavior is by design and cannot be avoided. So we recommend to use this feature only if you intend to double check if the LastRecord value is valid.

Syslog Facility

The Syslog facility to map information units stemming from this log to. Most useful if the message is to forward to a Syslog daemon.

Last Record

Windows event log records are numbered serially, starting at one. The service records the last record processed. This textbox allows you to override this value. **Use it with caution!**

If you would like a complete dump of a specific Windows event log, reset the "Last Record" to zero. If you missed some events, simply reset it to some lower value than currently set. It is possible to set "Last Record" to a higher value. This suspends event reporting until that record has been created. We strongly discourage to use this feature unless definitely needed.

Read Eventlog From File

When enabled, the Eventlog is read from a file instead from the system.

File&Path Name

It defines that which file to be read, only available when "Read Eventlog From File" is enabled.

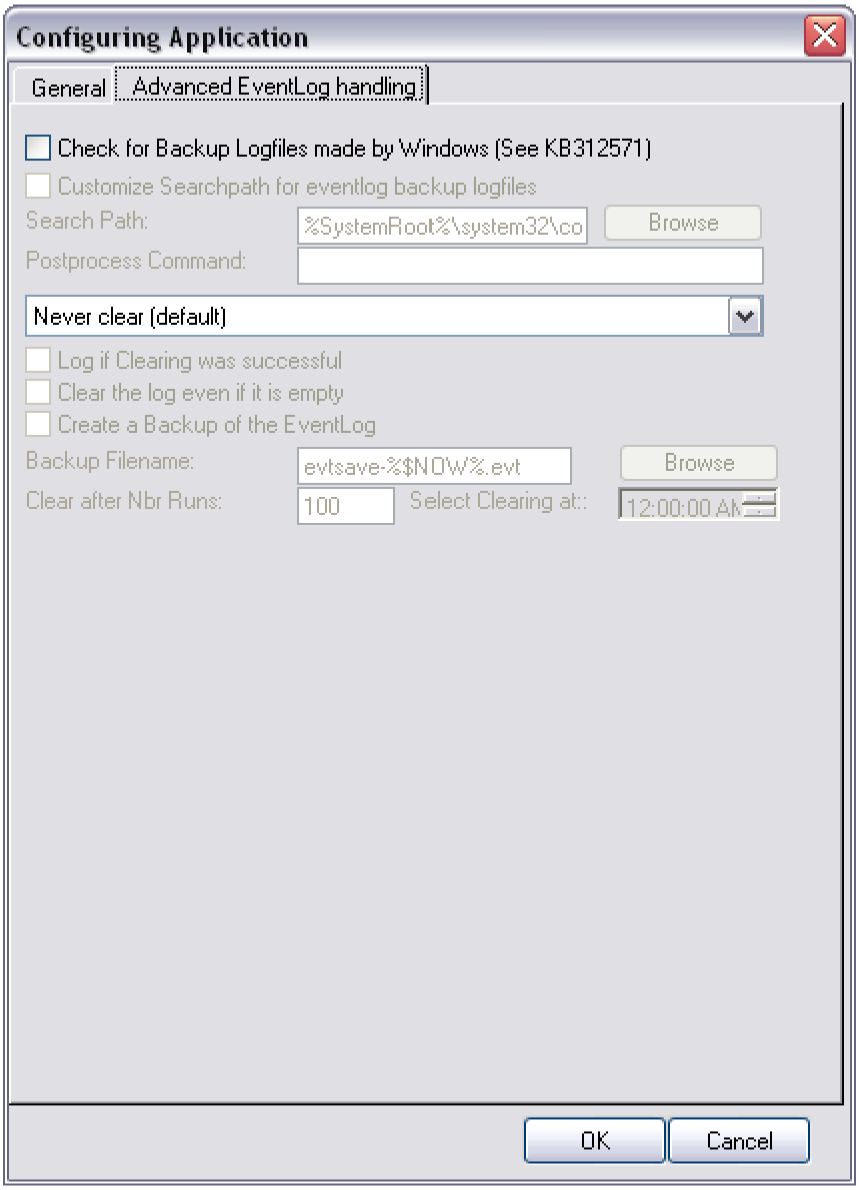
Type of Event Log

It defines as which type of Event log from file is handled. This is important to read the correct message libs from the system.

Event Types to Log

These checkboxes allow local filtering of the event log. Filtering is based on the Windows event type. There is a checkbox corresponding to each Windows event type. Only checked event types will be processed. Unchecked ones will be ignored.

Filtering out unnecessary log types at this level enhances system performance because no information units will be generated and passed to the rule engine. Thus, Adiscon strongly recommends dropping unnecessary log types.



□ Check for Backup Logfiles made by Windows (See KB312571)
□ Customize Searchpath for eventlog backup logfiles
Search Path: %SystemRoot%\system32\co
Postprocess Command:
Never clear (default)
□ Log if Clearing was successful
□ Clear the log even if it is empty
□ Create a Backup of the EventLog
Backup Filename: evtsave-%$NOW%.evt
Clear after Nbr Runs: 100
Select Clearing at:: 12:00:00 AM

Event Log Monitor - Advanced EventLog handling

Check for Backup Logfiles made by Windows (See KB312571)

If this option is checked, the EventLog Monitor will look for such EventLog backup logfiles during each run. If one is found, it will be opened and the record to which nLastRecord points to will be read from the backup logfile. If this EventLog entry matches the last processed one, the EventLog Monitor will continue processing from here. So there won't be any duplicated or missing events. If the Checksum does not match, the whole eventlog backup logfile will be processed again.

Customize Searchpath for eventlog backup logfiles

Once this option is checked, you can adjust the path where the service will search for eventlog backup logfiles. The following variables can be used for the Search Path:

%SystemRoot%
The %SystemRoot% variable is a special system-wide environment variable found on Microsoft Windows NT and its derivatives. Its value is the location of the system folder, including the drive and path.

%SystemDrive%
The %SystemDrive% variable is a special system-wide environment variable found on Microsoft Windows NT and its derivatives. Its value is the drive upon which the system folder was placed.

%ProgramFiles%
This variable points to Program Files directory, which stores all the installed program of Windows and others. The default is C:\Program Files.

The following variables can be used for Postprocess Commands:

%backupfile%
The variable %backupfile% contains the filename of the last processed backup logfile. You can not use commands like copy or move directly, as they are not executables, but you can use a batch file.

Clear the EventLog

This section is about automatic clearing of the EventLog. Choose if you want to *Never Clear (default)* it, *Clear after polling cycles (every time)* or *Clear once a day (starting at configured hour)*. You have several additional options available once clearing is activated. For both clearing options you can:
- Log if clearing was succesful
- Clear the log even if it is empty
- Create a Backup of the EventLog (if activated you can choose a folder and filename for the Backup)

If you choose to clear the EventLog after every polling cycle, you can select a number of runs which have to be completed first.
If you choose to clear the EventLog once a day, you can select a time when this should happen.

Default Ruleset Name

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

Please Note if you intend to make the Event ID part of the actual Syslog message while forwarding to a Syslog Server then you have to make some changes in the Event Log Monitor Settings. Click here to know the settings.

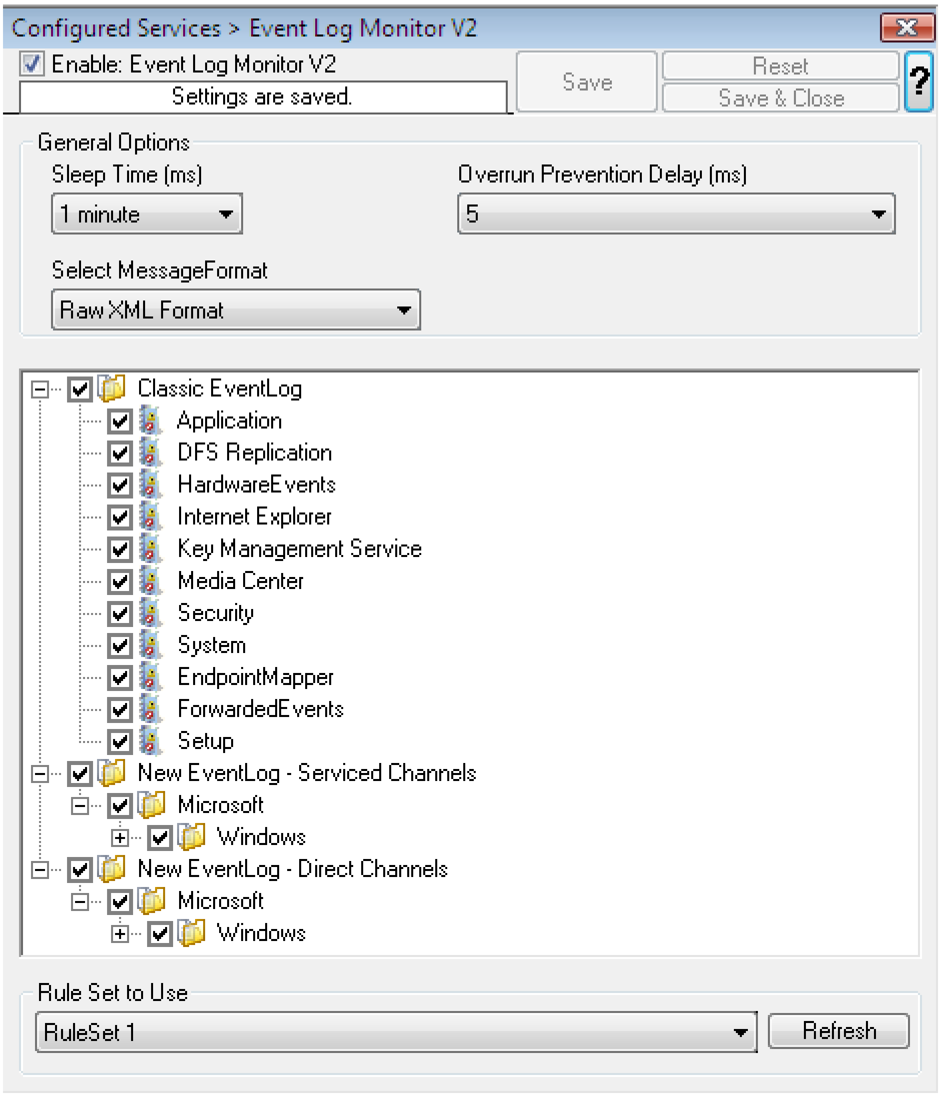
The event log monitor caches messages libraries. This greatly speeds up processing, but causes memory consumption for the cached libraries. By default, libraries are chached for 30 minutes. If memory consumption is too

high, you may consider to lower the cache period. The cache is global to all event log monitors. As such, its size must be changed in the general settings.

6.3.5 Event Log Monitor V2 (for Vista)

This dialog configures the Windows Event Log Monitor V2 service for Windows Vista. For Windows NT, 2000, 2003 and XP use the classical event log monitor.

Due to the vast changes to the Windows EventLog in Windows Vista, it was necessary to create a new edition of the EventLog Monitor. This one is specifically designed to process the Windows Vista event logs. The log entries have been split up and are now shown in so-called Channels. These Channels can be considered as categories. First we have the classic EventLog Channels. These consist of the Application-, Security- and System-EventLog etc., which were already known in Windows XP. Then there are the serviced and the direct Channels. The serviced Channels are processed by the EventLog framework for a reliable delivery of the messages, while direct channels are meant for debugging purposes. ConsLogging them may can cause a high performance impact. As direct channels are typically not used in practical logging scenarios, they are not yet implemented in the event log monitor. If you have a need to process them, please let us know at support@adiscon.com.



Configured Services > Event Log Monitor V2

☑ Enable: Event Log Monitor V2

Settings are saved.

General Options

Sleep Time (ms): 1 minute

Overrun Prevention Delay (ms): 5

Select MessageFormat: Raw XML Format

- ☑ Classic EventLog
  - ☑ Application
  - ☑ DFS Replication
  - ☑ HardwareEvents
  - ☑ Internet Explorer
  - ☑ Key Management Service
  - ☑ Media Center
  - ☑ Security
  - ☑ System
  - ☑ EndpointMapper
  - ☑ ForwardedEvents
  - ☑ Setup
- ☑ New EventLog - Serviced Channels
  - ☑ Microsoft
    - ☑ Windows
- ☑ New EventLog - Direct Channels
  - ☑ Microsoft
    - ☑ Windows

Rule Set to Use: RuleSet 1

Event Log Monitor Properties

The most important part of this dialog is the treeview of available Channels. It specifies which event logs are to be monitored. In the screenshot above, the monitor is set to all Channels that are currently available. There happen to be custom Channels, too, due to Applications creating them on their own. They will be added to the treeview automatically every time you re-open this configuration windows.

Channels checked in the table are actually processed. Those unchecked are kept in the configuration, but are not processed.

Sleep Time

This is a polling count and has very little application in event log monitor V2. New events are being processed as they are generated by Windows. The polling cycle is only important when the operator resets the last forwarded events (e.g to retransmit all existing event log entries). This request is only carried out during the next polling cycle. This may take "Sleep Time" milliseconds. The recommended setting is 60,000 milliseconds.

Overrun Prevention Delay

This property allows configuring a delay after generating an event. The time is the delay in milliseconds.

If run at a value of zero, the event log monitor service generates events as fast as the machine permits. We have seen scenarios where routers and receivers are not able to keep up with this rate, resulting in packet loss. In addition, the CPU of the reporting machine is run at 100% - which is not a problem because the service runs at a low priority. However, with even a 1-millisecond delay, there is no noticeable CPU activity even when large bursts of events are forwarded. At one millisecond, the service can still generate 1000 events per second.

The default setting is an overrun protection of five milliseconds, which allows roughly 200 events per second. This should be sufficient for even very busy servers.

Select Message Format

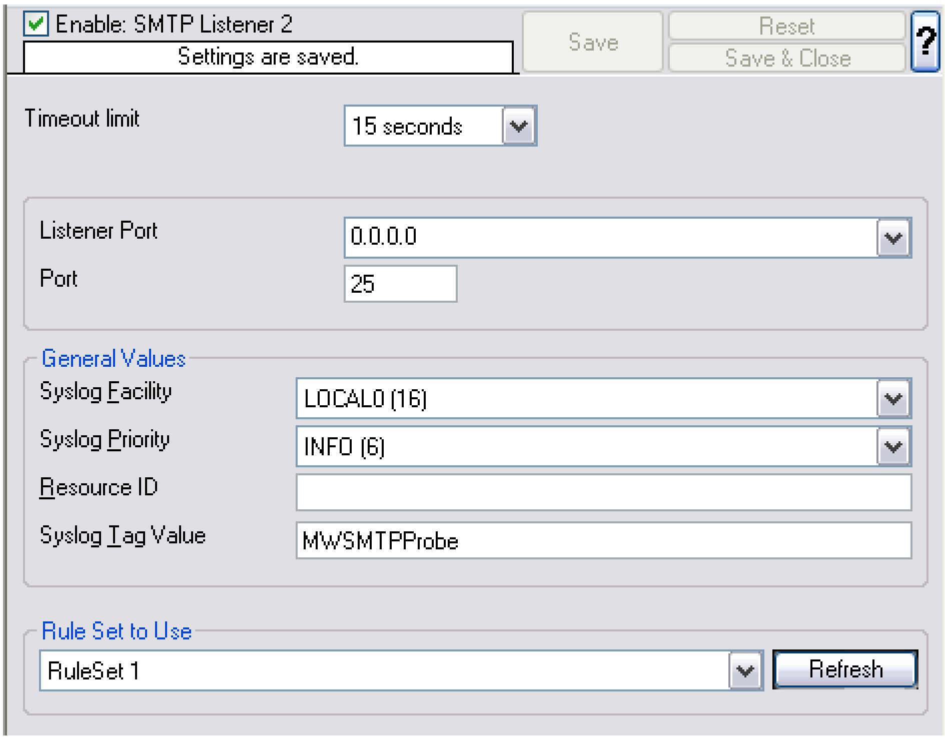
With this option you can choose whether the Events will be extracted in "Raw XML Format" or in the "Predefined Event Format".

The XML format is the exact representation of the XML Stream returned by the EventLog System.
Please note that it only contains EventLog data and not a formatted message.

The "Predefined Event Format" is what the Event in the event viewer looks like.

6.3.6 SMTP Listener

The SMTP Listener is a service, which allows you to convert emails to syslog messages.



☑ Enable: SMTP Listener 2

Settings are saved.

Timeout limit: 15 seconds

Listener Port: 0.0.0.0

Port: 25

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWSMTPProbe

Rule Set to Use

RuleSet 1

SMTP Listener Services

Timeout limit

The Timeout limit specifies the time the listener waits for the sender.

Listener IP

Either the IP address or resolvable host name of the SMTP server, the SMTP probe is to be run against. This system has been called "remote host" in the description above. Please note that specifying a host name can cause the SMTP probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

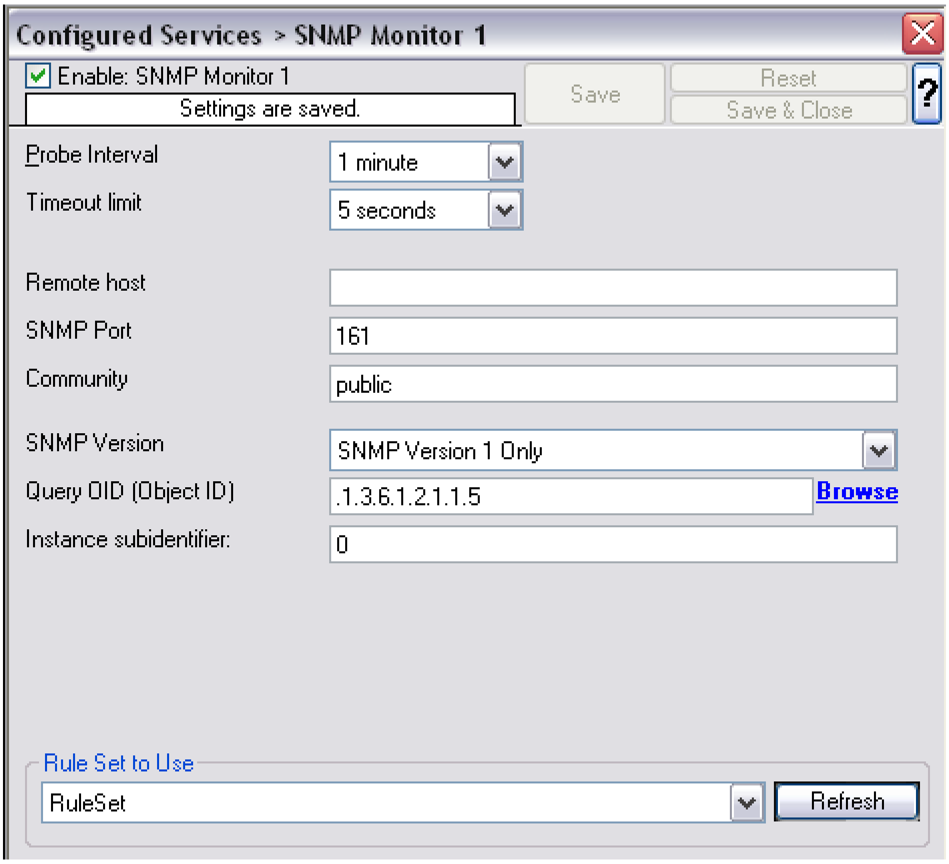
Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

6.3.7 SNMP Monitor

SNMP Monitor will help monitoring SNMP capable devices. There are many devices that support SNMP and can be queried for information by SNMP GET. This can be printers, router, managed switches, linux / windows servers and so on.

The SNMP Monitor Service runs continuously based on the configuration mentioned below:



Configured Services > SNMP Monitor 1

☑ Enable: SNMP Monitor 1

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 5 seconds

Remote host:

SNMP Port: 161

Community: public

SNMP Version: SNMP Version 1 Only

Query OID (Object ID): .1.3.6.1.2.1.1.5

Instance subidentifier: 0

Rule Set to Use: RuleSet

SNMP Trap Receiver Properties

Probe Interval

This is the interval of the queries. After each probe, the MonitorWare Agent SNMP Monitor process goes "to sleep". This period is specified in milliseconds.

Timeout limit

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the ping fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the ping probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

Remote host

Either the IP address or resolvable host name of the system you want to monitor. Please note that specifying a host name can cause the SNMP monitor to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

SNMP Port

The port the SNMP listener is listening to. If in doubt, leave it at the default of 161.

Community

Specify the SNMP community to which the messages belong too.

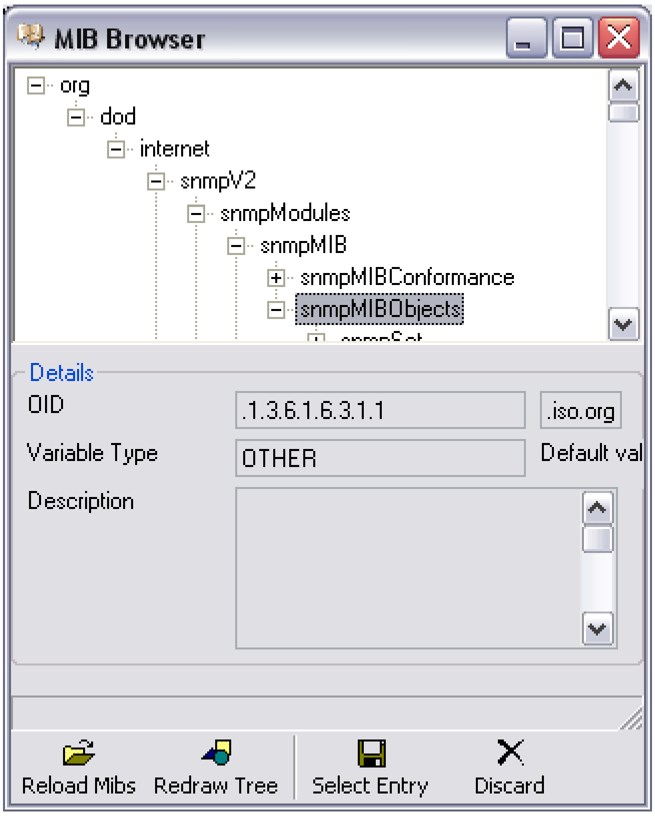
SNMP Version

Can be used to restrict the SNMP versions. The availabe values are:

1. SNMP Version 1 only
2. SNMP Version 2c only

Query OID (Object ID)

This is the Object ID you will query the device for. You can use Browse option to select your OID. If you click the Browse link, the screen similiar to shown below is appeared:



- org
  - dod
    - internet
      - snmpV2
        - snmpModules
          - snmpMIB
            - snmpMIBConformance
            - snmpMIBObjects

OID: .1.3.6.1.6.3.1.1 .iso.org

Variable Type: OTHER

Default val

Description

MIB Browser

You can select your OID here.

Instance Subidentifier

The Instance Subidentifier defines the message you query, if the selected OID has multiple data.

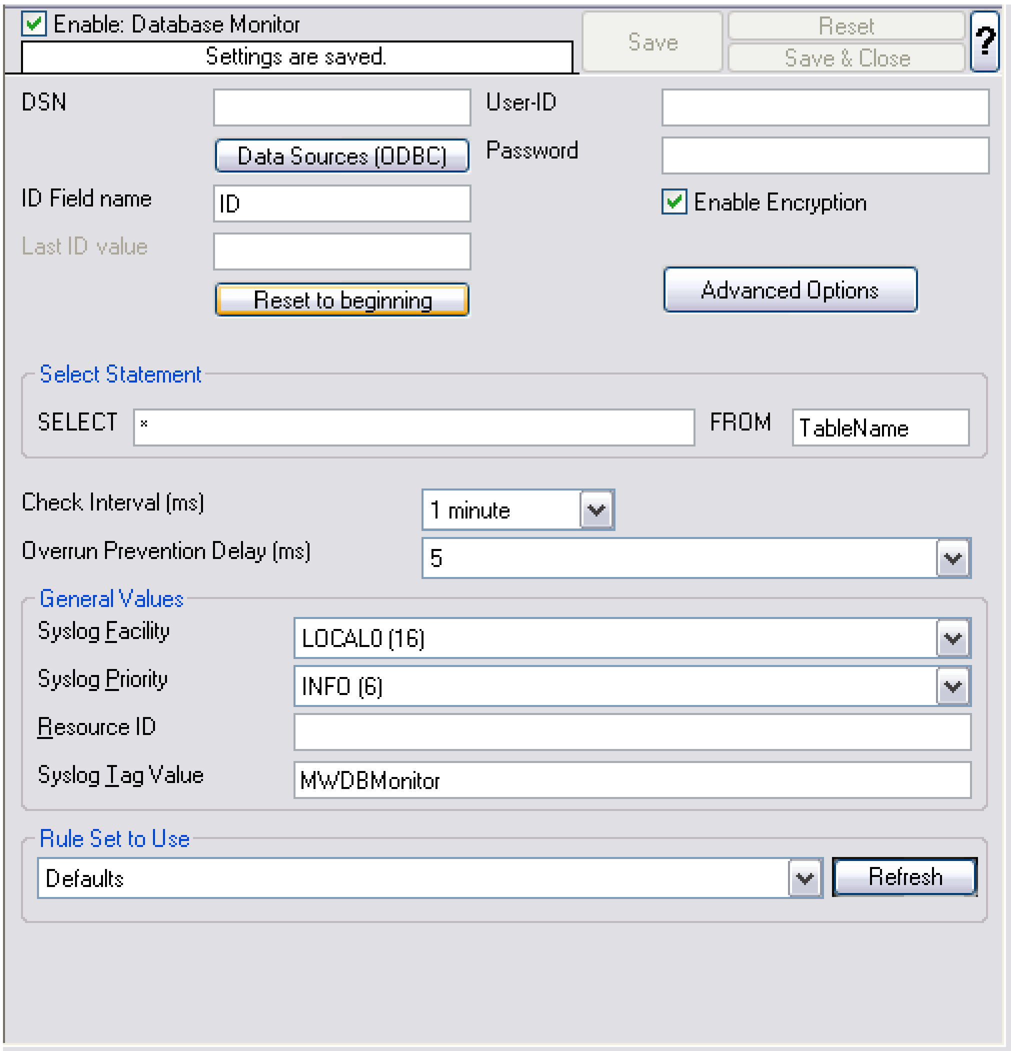
Rule Set to Use

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.8 Database Monitor

The database monitor is used to monitor database tables. It periodically checks a database table for new records and if it finds them, generates an event from each record. A table that is to be monitored by the database monitor **must** have an integer ID field that auto-increments.

Please note that the database monitor transmits all of the data obtained within its event properties. This means that you **must** use an output format suitable to show event properties if you intend to process the record with a third party application. We strongly recommend using XML based formatting for this. Alternatively, you can also select a format for the msg property itself (which is the default message). To do so, you need to configure the database monitor's advanced option's msg field settings.



☑ Enable: Database Monitor

Settings are saved.

DSN

User-ID

Password

ID Field name: ID

☑ Enable Encryption

Last ID value

Select Statement

SELECT * FROM TableName

Check Interval (ms): 1 minute

Overrun Prevention Delay (ms): 5

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID

Syslog Tag Value: MWDBMonitor

Rule Set to Use: Defaults

Database Monitor Properties

DSN

The data source name of the database to access. All databases that support standard SQL syntax and have an ODBC driver support.

User-ID

The User ID to log on to the database system. Please note that the database system may not require this setting or may ignore it (e.g. Microsoft SQL Server in "integrated" security mode) - please check with your database vendor or your administrator if in doubt.

Password

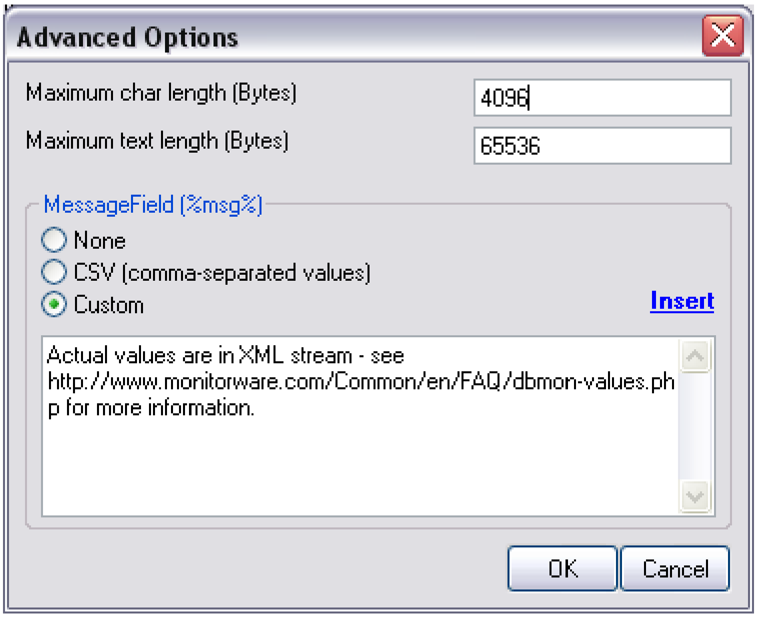
The password to access the database. If the "Enable Encryption" check box is checked, a **weak** symetrical encryption is applied on the password. Thus, we highly recommend to create a specific account with very limited permissions if you store a password. This account does only need to have "select" permissions.

ID Field Name

As said, the database monitor needs to have one integer field that is set to auto-incrementing. This is the name of that field.

Advanced Options

If you click on the "Advanced Options" button, you can configure the following additional properties:



Maximum char length (Bytes): 4096

Maximum text length (Bytes): 65536

MessageField (%msg%)

○ None
○ CSV (comma-separated values)
● Custom

Actual values are in XML stream - see http://www.monitorware.com/Common/en/FAQ/dbmon-values.php for more information.

Database Monitor Advance Options

Maximum Char Length

The maximum number of characters that are forwarded from a character field. This is just a limit for what is forwarded from the database monitor. Of course, the database entry can be of any size, but only the first configured number of charactes are forwarded. This setting applies to char, varchar and related data types.

Maximum Text Length

This is the same as "Maximum Char Length" but applies to large text fields (e.g. "text" in Microsoft SQL and "longtext" in MySQL).

Message Field

This field specifies the content of the "msg" property. By default, msg does NOT contain any useful information. This is because all data is provided via the event properties. If you actually need this as part of the msg, you can either select a custom format or CSV format.

If CSV is selected, msg contains all field values (not names) in comma-separated format. The field order is as it was in the select statement. We recommend **not** to use "select *" in this case (but specify the fields inside the select statement, so that they have a definite order).

We recommend **not** to reley on msg with the database monitor. Access via properties is much better. If you do not need msg, we recommend to set the msg content to "none" as this removes the unneccessary default message.

Select Statement

You can configure a Select Statement to be issued to the database. This way, you have full control over what is fetched from the database.

Please note that if you specify specific fields, the ID field must be present in the select clause - otherwise the service can not process the records.

Also be sure to enter the name of the table from which the records are to be taken.

Check Interval

The database monitor runs periodically. This specifies, how often it should run. Please note that the Database Monitor waits for the configured amount of time after the current run is finished. The time is the delay in milliseconds.

Overrun Prevention Delay

This property allows configuring a delay after generating an event. The time is the delay in milliseconds.

If run at a value of zero, the service generates events as fast as the machine permits. We have seen scenarios where routers and receivers are not able to keep up with this rate, resulting in packet loss. In addition, the CPU of the reporting machine is run at 100% - which is not a problem because the service runs at a low priority. However, with even a 1-millisecond delay, there is no noticeable CPU activity even when large bursts of events are forwarded. At one millisecond, the service can still generate 1000 events per second.

The default setting is an overrun protection of five millisecond, which allows roughly 200 events per second. This should be sufficient for even very busy servers.

Syslog Facility

The Syslog facility to be assigned to events created by the service. Most useful if the message shall be forwarded to a syslog daemon.

Syslog Priority

The Syslog priority to be assigned to events created by the service. Most useful if the message shall be forwarded to a syslog daemon.

Resource ID

The Resource ID to be assigned to events created by the service. Most useful if the message shall be forwarded to a Syslog daemon.

Syslog Tag Value

The Syslog tag value to be assigned to events created by the service. Most useful if the message shall be forwarded to a Syslog daemon.

Default Ruleset Name

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

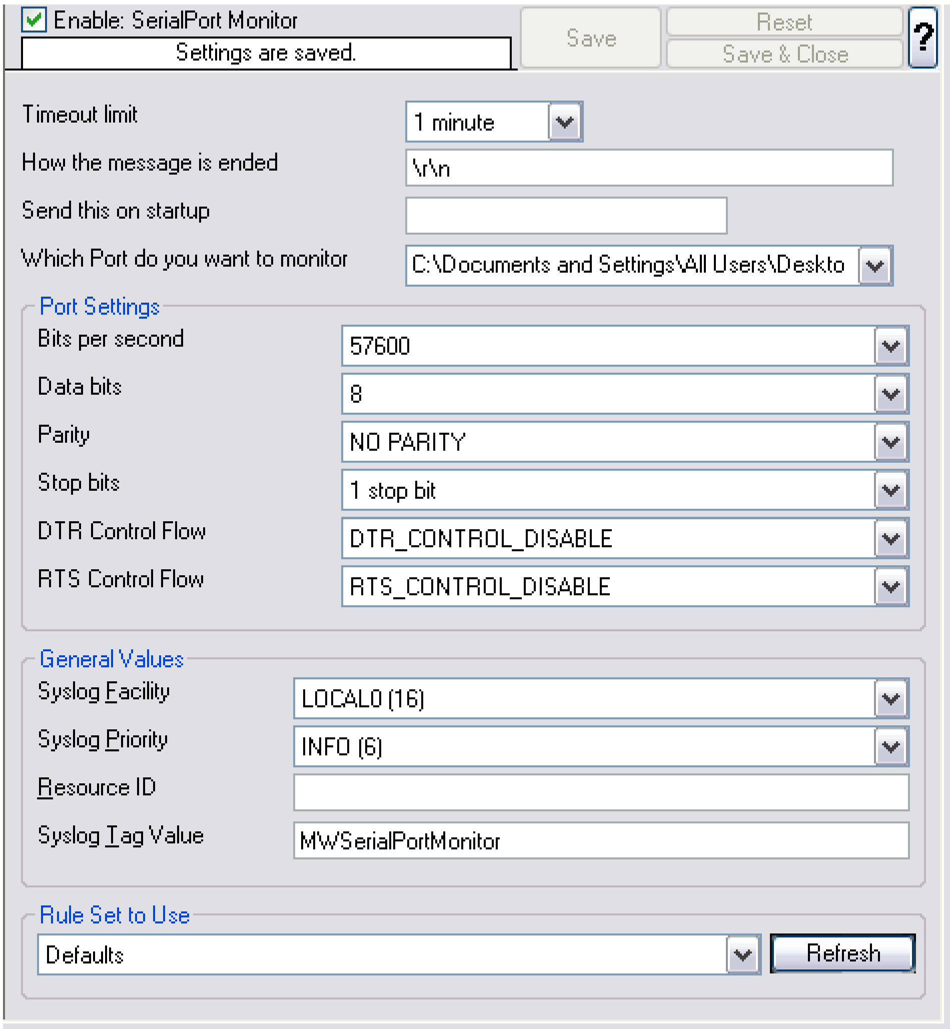
6.3.9 Serial Port Monitor

The serial port monitor allows you to monitor devices attached to local communication ports. Actually, this is not limited to serial (RS232) devices - devices connected via e.g. LPT ports can also be monitored as long as the device provides a proper interface to the port device.

For Example - uses for the serial port monitor may be interfacing to data loggers, "strange" log sources (e.g. PBX call logs) or out-of-band log retrieval (e.g. setting a router to log to the serial port instead to the network and then picking the data from that serial line). Out-of-band log retrieval can also be used to hide the fact that logging is actually taking place.

The serial port monitor works as follows: it listens to the configured port. With each received character, it checks if a configured "message end sequence" is received. If it isn't it continues listening until either another character is received or a timeout occurs.

If either the "message end sequence" is received or the timeout occured, the message is considered to be complete. In this case, an event is generated and that event is scheduled for processing.



☑ Enable: SerialPort Monitor

Settings are saved.

Timeout limit	1 minute
How the message is ended	\r\n
Send this on startup	
Which Port do you want to monitor	C:\Documents and Settings\All Users\Deskto
Bits per second	57600
Data bits	8
Parity	NO PARITY
Stop bits	1 stop bit
DTR Control Flow	DTR_CONTROL_DISABLE
RTS Control Flow	RTS_CONTROL_DISABLE
Syslog Facility	LOCAL0 (16)
Syslog Priority	INFO (6)
Resource ID	
Syslog Tag Value	MWSerialPortMonitor

Defaults

Filter Conditions - Serial Port Monitor

Timeout Limit

This is the maximum amount of time the service waits to receive the "message end characters" from the attached device.

How the message is ended

This is the sequence that, when received, denotes the end of the message. Most often, this is either "\r\n" or "\n" ("\r" represents a CR characters, "\n" represents a LF character).

Which Port do you want to monitor

This is the port that the device is attached to. Most often, this is either COM1: or COM2:. All locally-existing ports can be used. When working locally, the configuration program enumerates the locally available ports. This can be one of the following values:

1. MSFAX
2. COM1
3. COM2
4. COM3
5. COM4
6. FILE
7. LPT1
8. LPT2
9. LPT3
10. AVMISDN1
11. AVMISDN2
12. AVMISDN3
13. AVMISDN4
14. AVMISDN5
15. AVMISDN6
16. AVMISDN7
17. AVMISDN8
18. AVMISDN9

Port Settings

These settings must be set as expected by your device. If in doubt, consult your device manual.

Bits per Seconds

Bits per second can be 110 and go up to 256000, by default 57600 is selected.

Databits

Databits define the number of bits in the bytes transmitted and received.

Parity

With Parity you can configure the Parity scheme to be used. This can be one of the following values:

1. Even
2. Mark
3. No parity
4. Odd
5. Space

Stop bits

You can configure the Number of stop bits to be used. This member can be one of the following values:

1. 1 stop bit
2. 1.5 stop bits
3. 2 stop bits

DTR Control Flow

DTR (data-terminal-ready) flow control. This member can be one of the following values:

1. DTR_CONTROL_DISABLE - Disables the DTR line when the device is opened and leaves it disabled.
2. DTR_CONTROL_ENABLE - Enables the DTR line when the device is opened and leaves it on.
3. DTR_CONTROL_HANDSHAKE - Enables DTR handshaking.

RTS Control Flow

RTS (request-to-send) flow control. This member can be one of the following values:

1. RTS_CONTROL_DISABLE - Disables the RTS line when the device is opened and leaves it disabled.
2. RTS_CONTROL_ENABLE - Enables the RTS line when the device is opened and leaves it on.
3. RTS_CONTROL_HANDSHAKE - Enables RTS handshaking. The driver raises the RTS line when the "type-ahead" (input) buffer is less than one-half full and lowers the RTS line when the buffer is more than three-quarters full.
4. RTS_CONTROL_TOGGLE - Specifies that the RTS line will be high if bytes are available for transmission. After all buffered bytes have been sent, the RTS line will be low.

Syslog Facility

The Syslog facility to be assigned to events created by the service. Most useful if the message shall be forwarded to a syslog daemon.

Syslog Priority

The Syslog priority to be assigned to events created by the service. Most useful if the message shall be forwarded to a syslog daemon.

Resource ID

The Resource ID to be assigned to events created by the service. Most useful if the message shall be forwarded to a Syslog daemon.

Syslog Tag Value

The syslog tag value to be assigned to events created by the service. Most useful if the message shall be forwarded to a syslog daemon.

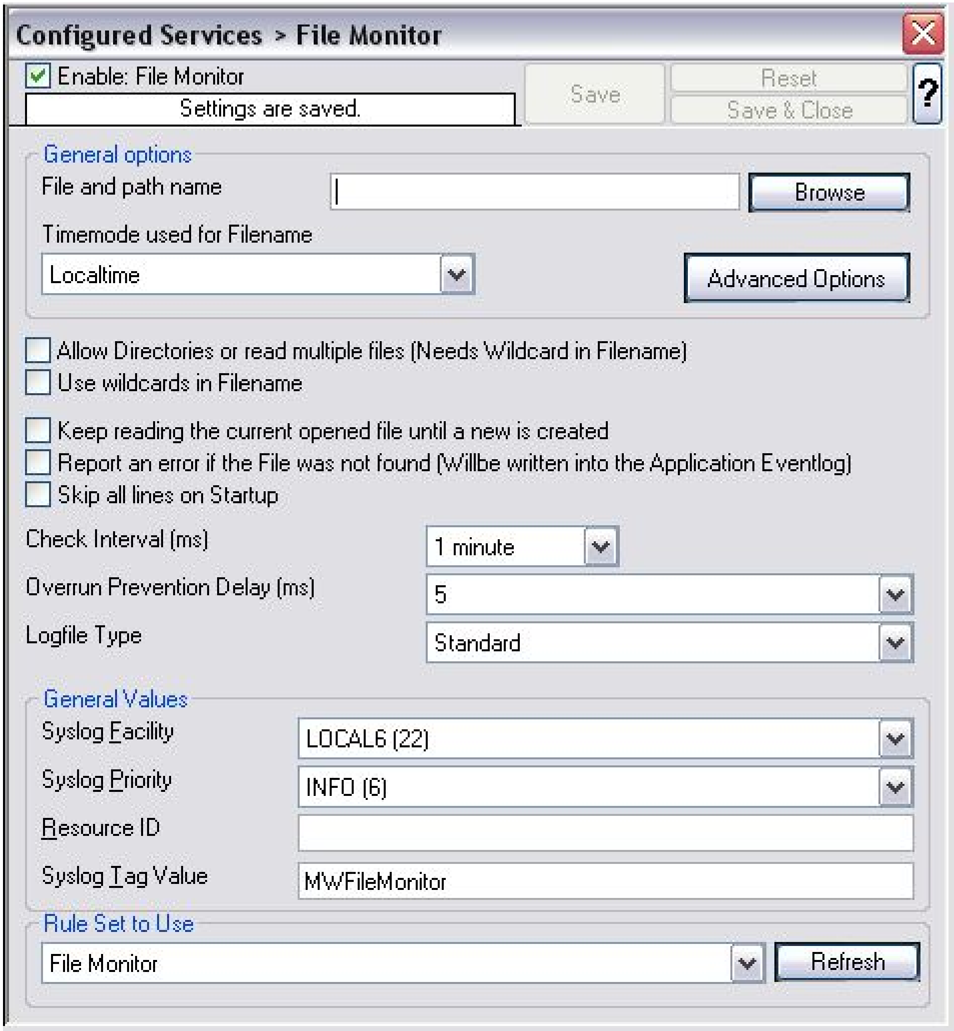
Default Ruleset Name

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.10 File Monitor

The file monitor monitors the content of a text file just as the event monitor monitors the NT event log. Its purpose is to gather vital information that is stored in system text files. Many applications do not write events to the event log but to a text file. This is also the case with many Microsoft applications (for example the WINS log).

The file monitor can also gather Internet Information Server (Windows' web server) log files. This is very useful for monitoring web activity and detecting attacks.



☑ Enable: File Monitor

Settings are saved.

General options

File and path name:

Timemode used for Filename: Localtime

□ Allow Directories or read multiple files (Needs Wildcard in Filename)

□ Use wildcards in Filename

□ Keep reading the current opened file until a new is created

□ Report an error if the File was not found (Willbe written into the Application Eventlog)

□ Skip all lines on Startup

Check Interval (ms): 1 minute

Overrun Prevention Delay (ms): 5

Logfile Type: Standard

General Values

Syslog Facility: LOCAL6 (22)

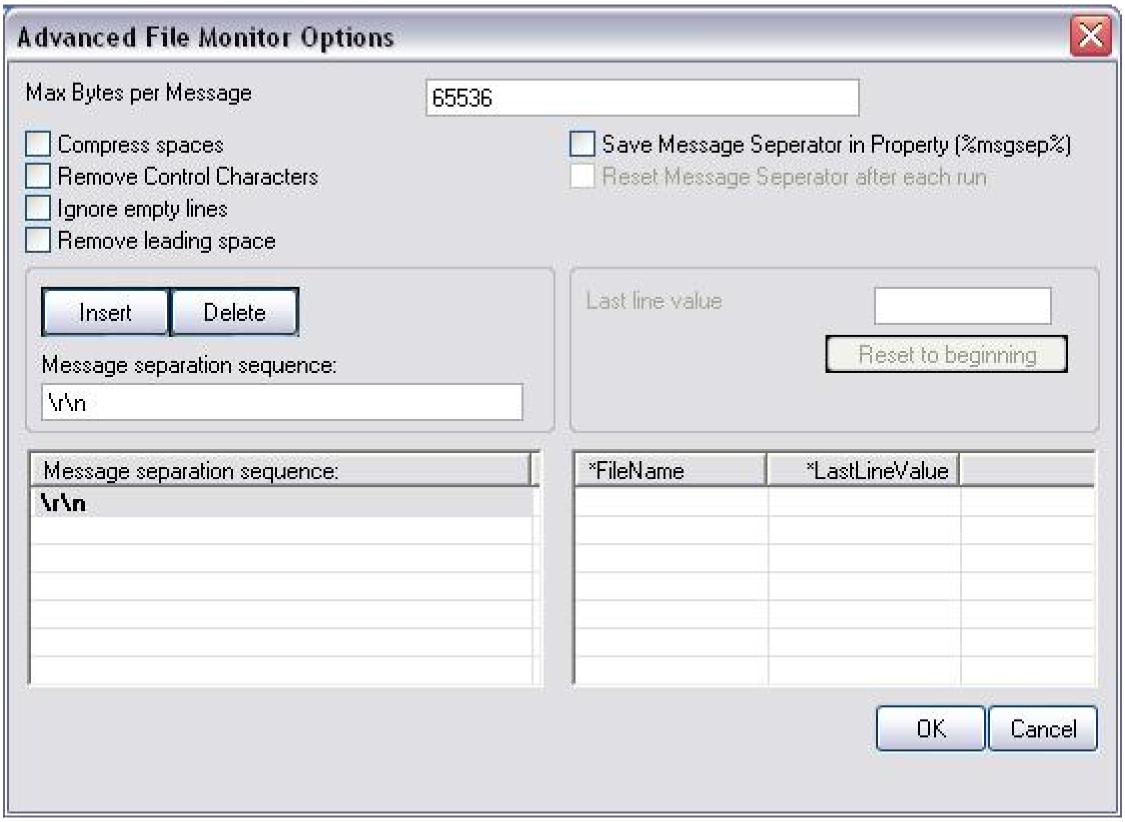
Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWFileMonitor

Rule Set to Use: File Monitor

Figure 1: File Monitor Properties



Max Bytes per Message: 65536

□ Compress spaces
□ Remove Control Characters
□ Ignore empty lines
□ Remove leading space

□ Save Message Seperator in Property (%msgsep%)
□ Reset Message Seperator after each run

Message separation sequence: \r\n

Last line value:

Message separation sequence:
\r\n

*FileName	*LastLineValue

Figure 2: File Monitor Advanced Options

File and path name

Here, you must type the name of the file to be monitored. To select a file from any specified location, press the browse button. Once a complete file name is specified, exactly that file is monitored.

The file name is never changed automatically. However, many systems generate changing log files. For example, Internet Information Server (IIS) can be configured to change the log file every day. Therefore, each day's log file has a different name.

To support changing log file names, there are replacement characters available within the file name. These are:

Character	Meaning
%y	Year with two digits (e.g. 2002 becomes "02")
%Y	Year with 4 digits
%m	Month with two digits (e.g. March becomes "03")
%M	Minute with two digits
%d	Day of month with two digits (e.g. March, 1st becomes "01")
%h	Hour as two digits
%S	Seconds as two digits. It is hardly believed that this ever be used in reality.
%w	Weekday as one digit. 0 means Sunday, 1 Monday and so on.
%W	Weekday as three-character string. Possible values are "Sun", "Mon", "Tue", "Wed", "Thu", "Fri", "Sat". This replacement character is most useful for DHCP log files.
%generatedfilename%	It contains the fully generated filename (Can be useful for filtering).
%msgsep%	Only available if enable in the advanced option of the File Monitor. This value contains the current used messageseperator. This is usefull if you want to reconstruct messages where the seperator is part of the message.
%msgseplast%	Only available if enable in the advanced option of the File Monitor. This value contains the last used messageseperator. This is usefull if you want to reconstruct messages where the seperator is part of the message.

Character Replacement Table

Please note: the replacement characters are case sensitive!

For example, daily Internet Information Server log files are named "exyymmdd.log", with yy being the 2 digit year, mm the month and dd the day of month. To generate the same name with file monitor, use the following name "ex%y%m%d.log".

Please note that there is no replacement character for the monthly week number (1st week, 2nd week). As such, the weekly log file setting of IIS is not supported.

TimeMode Used for Filename

Select the time mode used for the log file to be monitored with this drop-down list. Available options are:

1. Local Time: log file is monitored based on local time.
2. UTC: log file is monitored based on universal coordinated time. UTC was formerly referred to as "GMT" (Greenwich Mean Time) and is the basis of the international time zone system.

--------------------------->

Advanced Options

Max Bytes per Message

Maximum value of bytes that the file monitor reads per line. If a message is larger then this value, the message splits into multiple parts.

Compress spaces

This option compresses sequences of spaces found inside the message to a single one.

Remove Control Characters

Removes control characters like CR and LF(carriage return and line feed).

Ignore empty lines

As the name allready says, this option discards empty lines within the logfile.

Remove leading space

If there are any leading spaces in the file, this option removes them.

Save Message Seperator in Property

If this option is enabled, the current and last used message seperator will be saved into the properties %msgsep% and %msgseplast%.

Reset Message Seperator after each run

If enabled, the message seperator values will be resetted after the File Monitor has finished a run (reached the end of a file).

Message separation sequence

The customizeable separation sequence when this option is enabled. The file monitor splits messages by this value. If it is disabled crlf (carriage return line feed) is used. If using multiple separation sequences, the comparison operation will be held as an OR operation. That means, that either this value or another value has to be true, so a message can be split. This is especially important for logfiles with different log formats.

To date, the following characters are available:

Character	Meaning
\r	carriage return
\n	line feed

<----------------------------

Allow Directories or read multiple files

This is the new Multiple Files feature which means you can now read an array of files. This will require a wildcard in the filename.

Use Wildcard in Filename

This option allows you use * as random character sequence in the filename.
Please note: this character can only be used in Filename and not in the filepath.

Keep reading the current opened file until a new is created
This has been added to define if the Service shall continuously read an open logfile until a new file (depending on the configured filename) is available. This Options is helpful for such cases where you don't know when a new logfile is generated and the old one is closed.

Report an Error if the File was not found

As the name says, if this setting is enabled, an error is reported in the Windows Eventlog if the file was not found.

Skip all lines on Startup

If this option is enabled, the File Monitor will skip all new lines of a logfile during startup. Please note that this will only work in SingleFile Mode.

Check Interval

This interval is in miliseconds. After the specified interval the file monitor checks the file for new records.

We recommend a value of 60000 milliseconds for the "Check Interval". With that setting, the file monitor checks for new records every 60 seconds. Larger periods can be specified for occasionally connected systems or if email delivery with few emails per day is intended.

Very security-aware environments might use a shorter interval. The MonitorWare Agent 3.0 is specifically designed to limit the burden on the monitored system. As such, resource usage is typically low, even with frequently run file monitor checks.

However, we recommend not running the file monitor more often than once a second.

Overrun Prevention Delay

This property allows configuring a delay after generating an event. The time for the delay is in miliseconds.

If run at a value of zero, the MonitorWare Agent 3.0 generates events as fast as the machine permits. We have seen scenarios where routers and receivers are not able to keep up with this rate, resulting in packet loss. In addition, the CPU of the reporting machine is run at 100% - which is not a problem because MonitorWare Agent 3.0 runs at a low priority. However, with even a 1-millisecond delay, there is no noticeable CPU activity even when large bursts of events are forwarded. At one millisecond, MonitorWare Agent 3.0 can still generate 1000 events per second.

The default setting is an overrun protection of five millisecond, which allows roughly 200 events per second. This should be sufficient for even very busy servers.

Logfile Type

Select the type of the log file to be monitored with this drop-down list. Available options are:

1. Standard - a standard text log file
2. W3C Web Server logfile - log files in the W3C web server compliant format.

Last Line Value

This value contains the last read line of the FileMonitor Service. The file Monitor Service reads a configured file continuesly line by line and everytime there is a new line, this value is incremented.

Syslog Facility

The Syslog facility to be assigned to events created by the service. Most useful if the message shall be forwarded to a Syslog daemon.

Syslog Priority

The Syslog priority to be assigned to events created by the service. Most useful if the message shall be forwarded to a Syslog daemon.

Resource ID

The Resource ID to be assigned to events created by the service. Most useful if the message shall be forwarded to a Syslog daemon.

Syslog Tag Value

The Syslog tag value to be assigned to events created by the service. Most useful if the message shall be forwarded to a Syslog daemon.

Default Ruleset Name

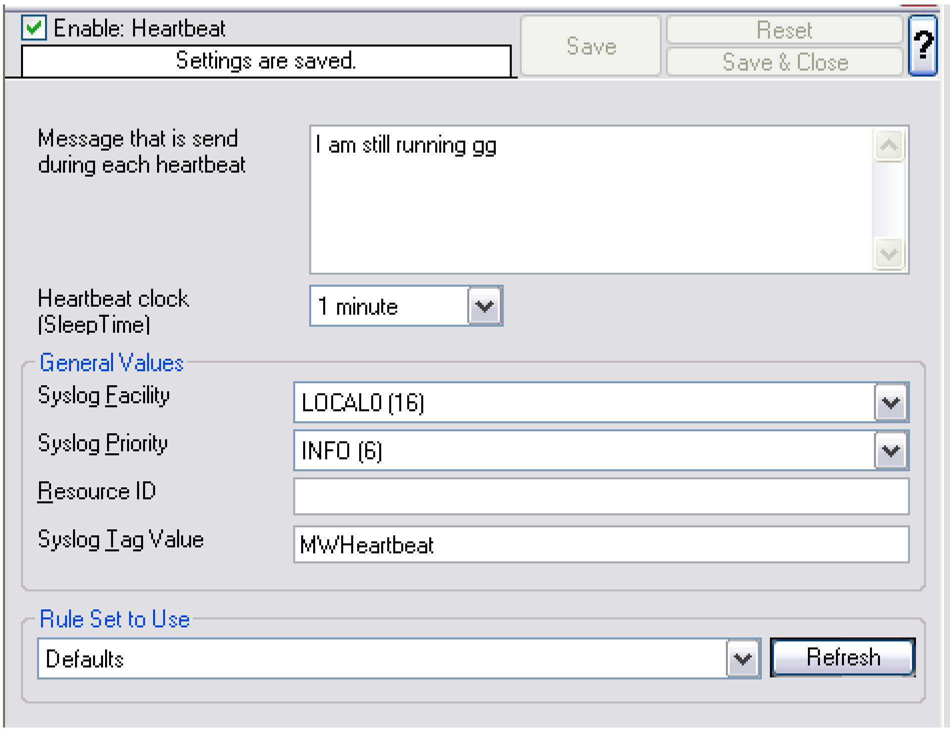
Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

Further Reading

Please visit our white paper on monitoring IIS logs.

6.3.11 Heartbeat

The heartbeat process can be used to continuously check if everything is running well. It generates an information unit every specified time interval. That information unit can be forward to a different system. If it does not receive additional packets within the configured interval, it can doubt that the sender is either in trouble or already stopped running.



☑ Enable: Heartbeat

Settings are saved.

Message that is send during each heartbeat: I am still running gg

Heartbeat clock (SleepTime): 1 minute

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWHeartbeat

Defaults

Heartbeat Properties

Message to Send

This is the message that is used as text inside the information unit. Use whatever value is appropriate. The message text does not have any special meaning, so use whatever value you seem fit.

Sleep Time

This is the interval, in milliseconds, that the heartbeat service generates information units in. **Please note that the receiving side should be tolerant.** The interval specified here is the minimum time between packets. Under heavy load, the interval might be slightly longer. It is good practice to allow twice this interval before the service is considered suspect by the system monitoring the services health.

Syslog Facility

The Syslog facility to be assigned to events created by the heartbeat service. Most useful if the message shall be forwarded to a syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by the heartbeat process. Most useful if the message shall be forwarded to a Syslog server.

Syslog Tag Value

The Syslog tag value to be assigned to events created by the heartbeat process. Most useful if the message shall be forwarded to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by the heartbeat process. Most useful if the message shall be forwarded to a Syslog server.

Default Ruleset Name

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

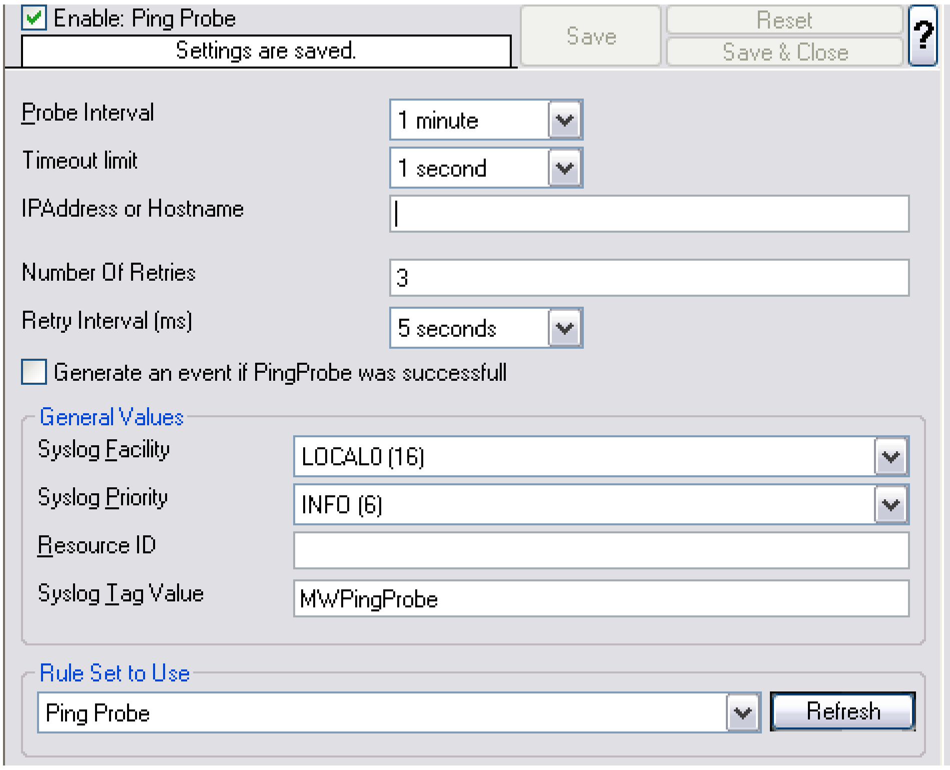
6.3.12 Ping Probe

The ping probe can be used to check the health of a remote system. The ping probe process sends ping messages (more precisely: ICMP Echo Requests) to a configured system. If configured properly, the remote system sends a response. If this response is received, the machine and its IP stack are operating. This does not indicate, however, that all services on this machine are alive.

If no response is received, the remote system or its IP stack is most probably not operating properly. However, the ping message might have been lost in transit or the round-trip time might have been too long so that a timeout occurred. Therefore, a single failing ping makes a system suspect, but it alone cannot be used to confirm problems at the remote system. If multiple successive pings fail, it is relatively safe to assume that the remote system has failed

Please note that most firewall setups do not allow ping messages. As such, a system behind a firewall typically cannot be pinged and the ping probe cannot be used in this configuration. If in doubt, please check with your firewall administrator.

The ping probe is typically used to check the availability of a remote system. The ping probe periodically sends the ping messages. As long as responses are received, nothing happens. If no response is received, it generates an event and passes it to the rule engine. As ping messages can get lost, the ping probe retries failed probes before it reports an error. Both the number of retries and the retry interval can be specified.



☑ Enable: Ping Probe

Settings are saved.

Probe Interval	1 minute
Timeout limit	1 second
IPAddress or Hostname	
Number Of Retries	3
Retry Interval (ms)	5 seconds

□ Generate an event if PingProbe was successfull

General Values

Syslog Facility	LOCAL0 (16)
Syslog Priority	INFO (6)
Resource ID	
Syslog Tag Value	MWPingProbe

Rule Set to Use

Ping Probe

Ping Probe Properties

Probe Interval

This is the interval of the ping probes. After each probe, the MonitorWare Agent 3.0 ping probe process goes "to sleep". This period is specified in milliseconds.

Timeout Limit

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the ping fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the ping probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

IP Address / Hostname

Either the IP address or resolvable host name of the system, the ping probe is to be run against. This system has been called "remote host" in the description above. Please note that specifying a host name can cause the ping probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Please provide the IP address or the hostname according to your environment. We have left it empty by intention.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is forwarded to a Syslog server.

Number of Retries

If a ping fails, it is first retried to see if it is a persistent problem. The "Number of Retries" controls how many retries to be made. If this is set to zero, no retries are made and a ping probe fail event is immediately generated.
For typical systems, we recommend a setting of three retries. This is also the default value.

Retry Interval

If there is a temporary network issue like network congestion, it most probably takes some seconds to resolve it. As such, an immediate retry might not be appropriate. To delay it, configure a retry interval. This value is in milliseconds If a ping fails, the next retry is after a pause specified in this property.
The default and recommended value is 5 seconds (5000 milliseconds).

Generate an event if Ping Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the ping fails. The most common option is to leave it unchecked to catch events upon a failed ping.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is forwarded to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message is forwarded to a Syslog server.

Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is forwarded to a Syslog server.

Default Ruleset Name

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.13 Port Probe

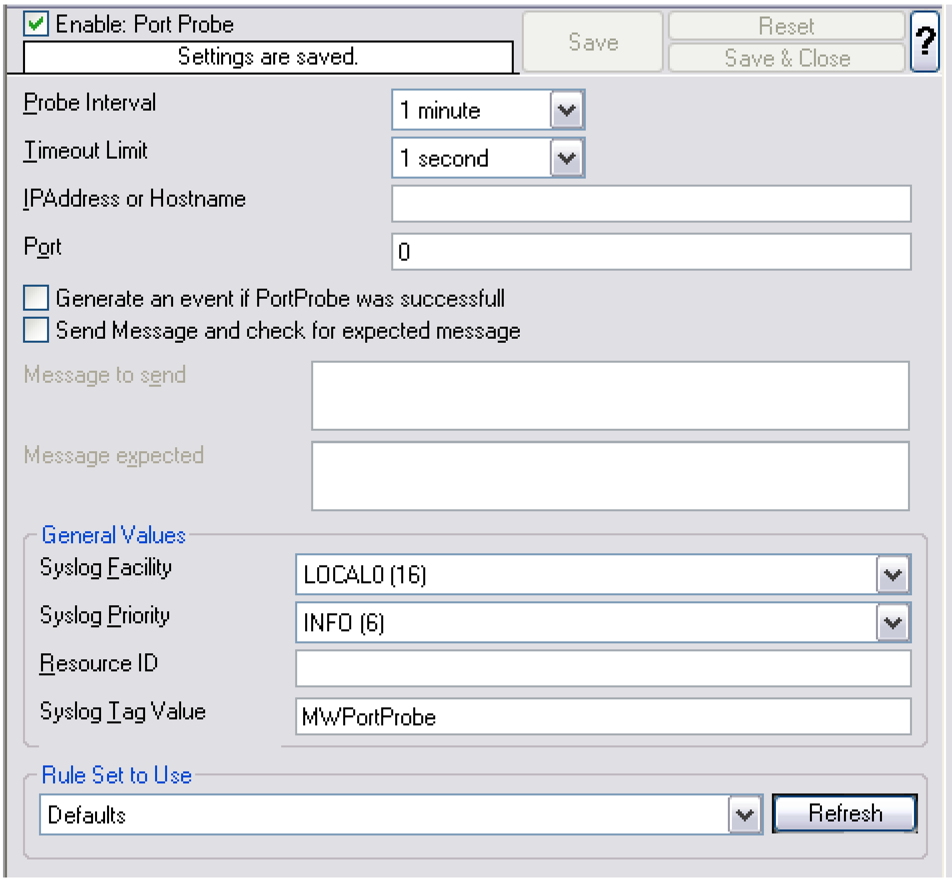
The port probe is very similar to the ping probe described above. The main difference is that it does not check the IP stack availability but rather a specific TCP port.

The difference here is that using this method a specific service on the remote machine is monitored, for example a mail (SMTP) server. The port probe tries to connect to the service port (25 in our example). If that fails, the service is definitely not running. In this case, an event is generated. A single event is a definite indication of problems, as such there is no need for repetitive failures before initiating action on this (although this can be configured in the rule engine).

Being able to connect to the remote machine and service, TCP port most probably means that the remote service is running. However, more certainty can be gained by actually initiating some communication with the service. The exact application protocol needs to be known to try this test. Thus, this step is optional. If turned on, a single command can be send to the remote service and a single response is expected back and can be compared to a pre-defined response. This does not take care of all possible application protocols, but provides an additional layer of confidence for important services like SMTP. It is up to the user to know the command sequences that a given service can understand and reply with.

As a rule of thumb, the port probe provides superior protection against service failure even without checking the message exchange. So if in doubt, use it without this advanced feature.

Please note that the port probe can probe TCP based services only. Most application services are TCP based, but there are some – mostly system – services out there, that are not. One of the most notable exceptions is DNS, which is operated primarily over UDP. In UDP, there is no notion of a session and as such, it is not possible to probe the session setup, which essentially is what the port probe does. As such, a port probe can unfortunately not be used to check the status of those services. However, the majority of services like application server, databases, mail, web and a large number of others can be used with the port probe.



☑ Enable: Port Probe
Settings are saved.

Probe Interval: 1 minute
Timeout Limit: 1 second
IPAddress or Hostname:
Port: 0

□ Generate an event if PortProbe was successfull
□ Send Message and check for expected message

Message to send:
Message expected:

General Values
Syslog Facility: LOCAL0 (16)
Syslog Priority: INFO (6)
Resource ID:
Syslog Tag Value: MWPortProbe

Rule Set to Use
Defaults

Port Probe Properties

Probe Interval

This is the interval of the port probes. After each probe, the MonitorWare Agent 3.0 port probe process goes "to sleep". This period is specified in milliseconds.

Timeout Limit

The amount of time (in milliseconds the remote system is expected to answer in. If no response is received within this period, the ping fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the ping probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

IP Address / Hostname

Either the IP address or resolvable host name of the system the ping probe is to be run against. This system has been called "remote host" in the description above. Please note that specifying a host name can cause the ping probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address. **Please note that you typically can use 127.0.0.1 (the so-called loop back address) to check a service that is running on a local machine. This**

ability might be limited by service configuration, because the service must listen to that IP address.

Please provide the IP address or the hostname according to your environment. We have left it empty by intention.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25 and web servers to 80.

Generate an event if Port Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the port probe fails. The most common option is to leave it unchecked to catch events upon a failed port probe.

Send Message and wait for expected Message

If left unchecked, the port probe checks the TCP session setup to the remote service only. As stated above , a successfully completed session setup most probably means the service is healthy. As an extra measure, some actual message exchange can be enabled. This is done by checking this box.

Message to Send

This message text is sent to the service after the TCP session has been established.

Message Expected

This is the message expected to be received from the service. Reception starts after sending the "Message to Send". Please note that the "Message Expected" is compared against the **first** message sent from the service on the TCP session. With some protocols, this means the message compared is an initial greeting message and **not** a response to the "Message to Send".

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

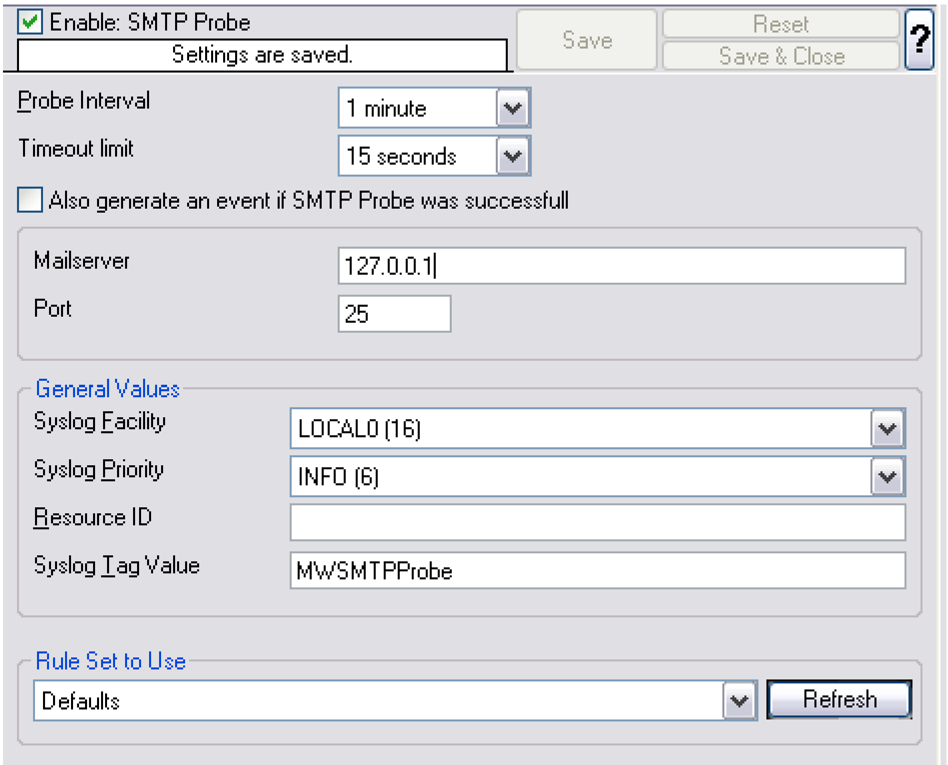
Default Ruleset Name

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.14 SMTP Probe

SMTP probe does a connection to SMTP server and sends the HELLO command. The HELLO command is automatically constructed by MonitorWare Agent on startup by using the fully qualified DNS (Domain name server) name. SMTP server sends response in reply to SMTP probe. On getting the response fom SMTP server, SMTP probe sends the QUIT command to terminate the connection.

The connection status is saved in the property **smtpstatus** and the response in the property **smtprespmsg.**



☑ Enable: SMTP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

□ Also generate an event if SMTP Probe was successfull

Mailserver: 127.0.0.1

Port: 25

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWSMTPProbe

Rule Set to Use

Defaults

SMTP Probe Services

Probe Interval

This is the interval of the SMTP probes probes. After each probe, the MonitorWare Agent 3.0 SMTP probe process goes "to sleep". This period is specified in milliseconds.

Timeout Interval

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the SMTP probe fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the SMTP probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

Mailserver

Either the IP address or resolvable host name of the SMTP server, the SMTP probe is to be run against. This system has been called "remote host" in the description above. Please note that specifying a host name can cause the SMTP probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25.

Also generate an event if SMTP Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the SMTP probe fails. The most common option is to leave it unchecked to catch events upon a failed SMTP probe.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

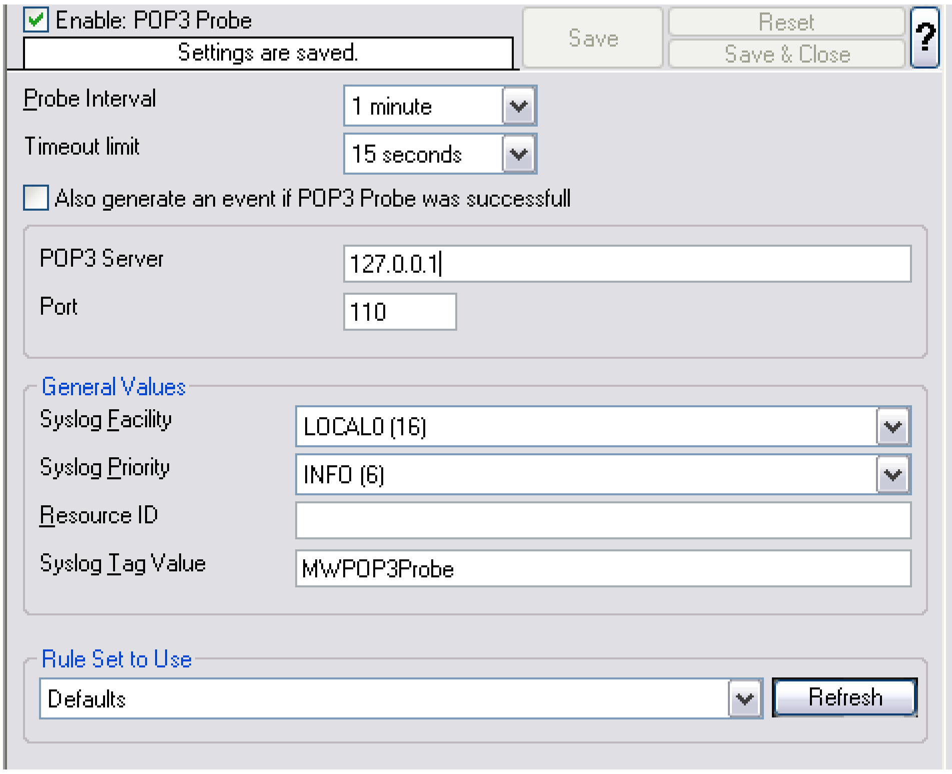
Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

6.3.15 POP3 Probe

POP3 probe does a connection to POP3 server. It receives the response from POP3 server and sends the QUIT command to terminate the connection.

The connection status is saved in the property **pop3status** and the response in the property **pop3respmsg.**



☑ Enable: POP3 Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

□ Also generate an event if POP3 Probe was successfull

POP3 Server: 127.0.0.1

Port: 110

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWPOP3Probe

Rule Set to Use: Defaults

POP3 Probe Properties

Probe Interval

This is the interval of the POP3 probes. After each probe, the MonitorWare Agent 3.0 POP3 probe process goes "to sleep". This period is specified in milliseconds.

Timeout Interval

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the POP3 probe fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the POP3 probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

Pop3 server

Either the IP address or resolvable host name of the POP3 server, the POP3 probe is to be run against. This system has been called "remote host" in the description above. Please note that specifying a host name can cause the POP3 probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25.

Also generate an event if POP3 Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the POP3 probe fails. The most common option is to leave it unchecked to catch events upon a failed POP3 probe.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

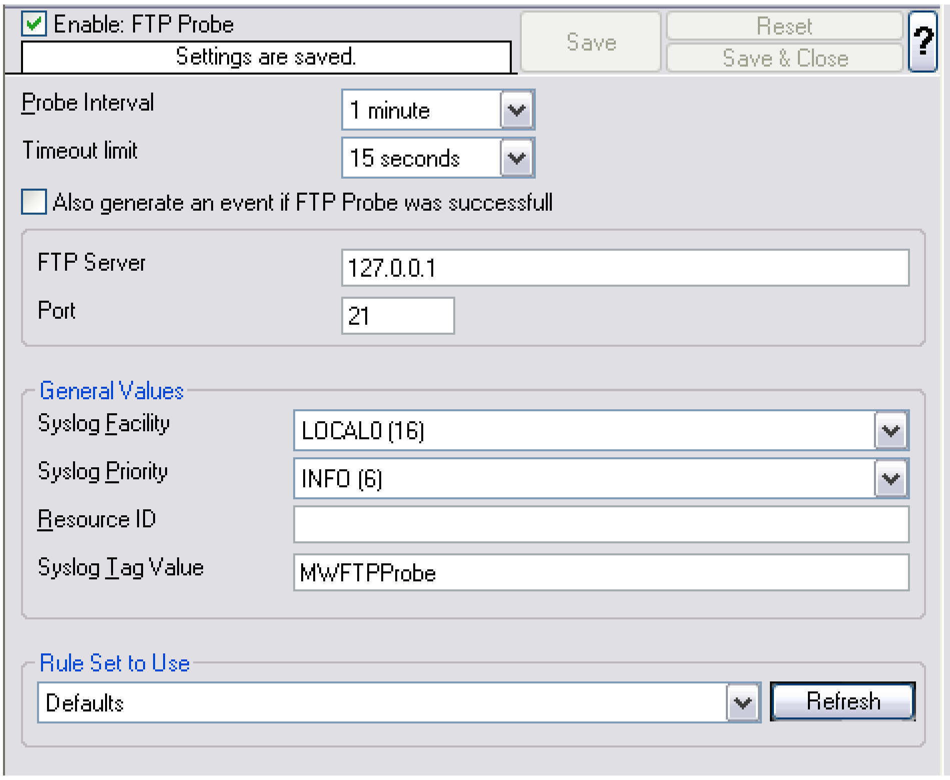
Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

6.3.16 FTP Probe

FTP probe does a connection to FTP server. It receives the response from FTP server and sends the QUIT command to terminate the connection.

The connection status is saved in the property **ftpstatus** and the response in the property **ftprespmsg.**



☑ Enable: FTP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

□ Also generate an event if FTP Probe was successfull

FTP Server: 127.0.0.1

Port: 21

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWFTPProbe

Defaults

FTP Probe Properties

Probe Interval

This is the interval of the FTP probes. After each probe, the MonitorWare Agent 3.0 FTP probe process goes "to sleep". This period is specified in milliseconds.

Timeout Interval

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the FTP probe fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the FTP probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

FTP server

Either the IP address or resolvable host name of the FTP server, the FTP probe is to be run against. This system has been called "remote host" in the description above. Please note that specifying a host name can cause the FTP probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25.

Also generate an event if FTP Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the FTP probe fails. The most common option is to leave it unchecked to catch events upon a failed FTP probe.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

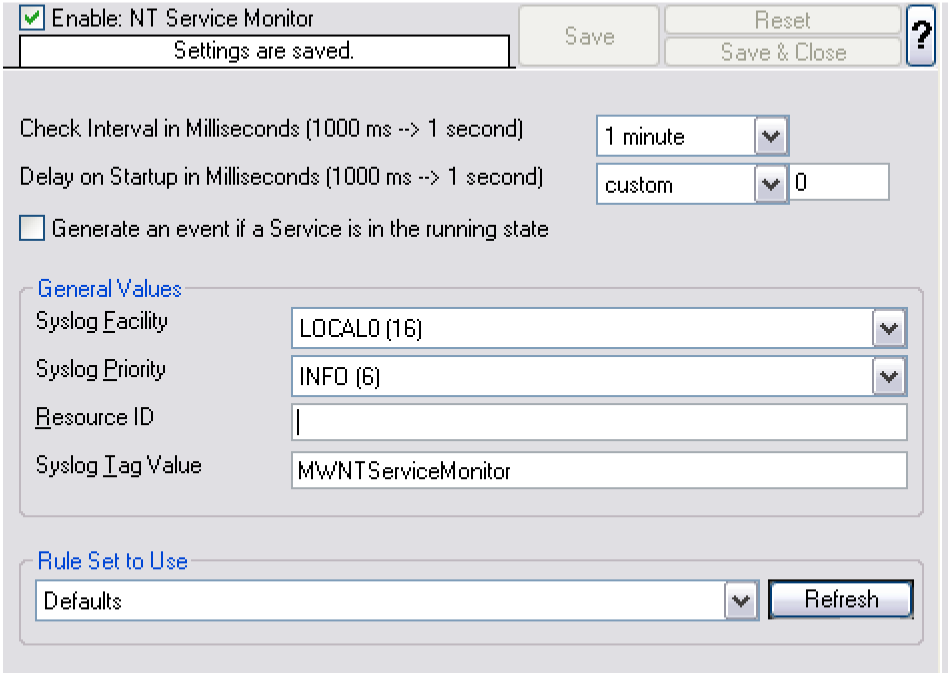
The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

6.3.17 NT Services Monitor

The NT Services Monitor is used to monitor if vital operating services are running. The monitor continuously checks all services set to "automatic" startup. If such a service does not run, an event is generated and passed to the rule engine.



☑ Enable: NT Service Monitor

Settings are saved.

Check Interval in Milliseconds (1000 ms --> 1 second): 1 minute

Delay on Startup in Milliseconds (1000 ms --> 1 second): custom 0

□ Generate an event if a Service is in the running state

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWNTServiceMonitor

Rule Set to Use

Defaults

NT Service Monitor Properties

Check Interval

This is the interval in which the service status is checked. This period is specified in milliseconds. The default is 60,000 ms, which is one minute. We recommend to lower this interval only if the server is performing very critical operations and service stops need to be detected in close real-time.

For performance reasons, we do not recommend using an interval of less than 2000 ms.

Delay on Startup

During system boot, the monitoring service eventually starts before all other services have been started. As such, the service monitor probably finds some services not running – simply because they are to be started very soon. Nevertheless, the service monitor still generates a "service not running" event.

To avoid this situation, use the startup delay setting. It specifies an amount of time (in milliseconds) that the service monitor is to hold right after startup. So during system boot, the operating system has a chance to start all other services before the service monitor comes into action.

The actual delay is very much depending on the number of services and hardware sizing of a particular server. Typically, a value 60,000 ms (one minute) should be a good value. But a busy server with many services might require a much higher value.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Syslog Tag Value

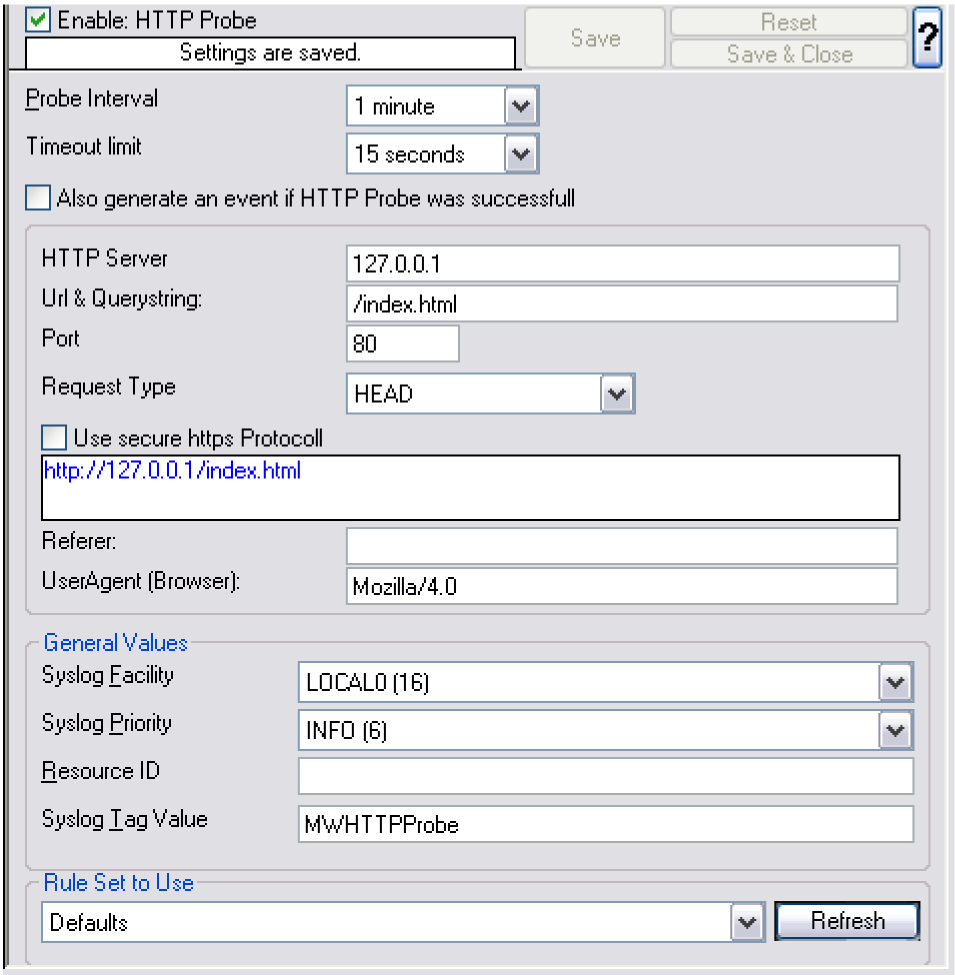
The Syslog tag value to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Rule Set to Use

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.18 HTTP Probe

The HTTP Probe connects to a HTTP Server, and sends a valid HTTP request as configured. It then either receives the header or header and content of a website, depending on how the service is configured (See Request Type).



☑ Enable: HTTP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

□ Also generate an event if HTTP Probe was successfull

HTTP Server: 127.0.0.1

Url & Querystring: /index.html

Port: 80

Request Type: HEAD

□ Use secure https Protocoll

http://127.0.0.1/index.html

Referer:

UserAgent (Browser): Mozilla/4.0

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWHTTPProbe

Rule Set to Use

Defaults

HTTP Probe Properties

Probe Interval

This is the interval of the HTTP probes. After each probe, the MonitorWare Agent 3.0 HTTP probe process goes "to sleep". This period is specified in milliseconds.

Timeout Interval

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the HTTP probe fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the HTTP probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

HTTP Server

Either the IP address or resolvable host name of the HTTP server, the HTTP probe is to be run against. Please note that specifying a host name can cause the HTTP probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Url & QueryString

By default this is /index.html. This value is used to construct an URL which is previewed in a rectangular field under Use secure https Protocol option.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25 and web servers to 80.

Request Type

The Request Type can be HEAD or GET. HEAD just receives the header of a website where GET receives the whole website content. When probing a web server, you should use HEAD in order to reduce network and processing overhead.

Use secure https Protocol

You can enable this option, if you want to query a web server using SSL (Secure Socket Layer). Note that the default port is changed from 80 to 443 here.

Referrer

An optional configuration option where you can specify a Referrer that is send in the HTTP header.

UserAgent (Browser)

It is also an optional value which can be used to specify an UserAgent that is send in the HTTP header.

Also generate an event if HTTP Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the HTTP probe fails. The most common option is to leave it unchecked to catch events upon a failed HTTP probe.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

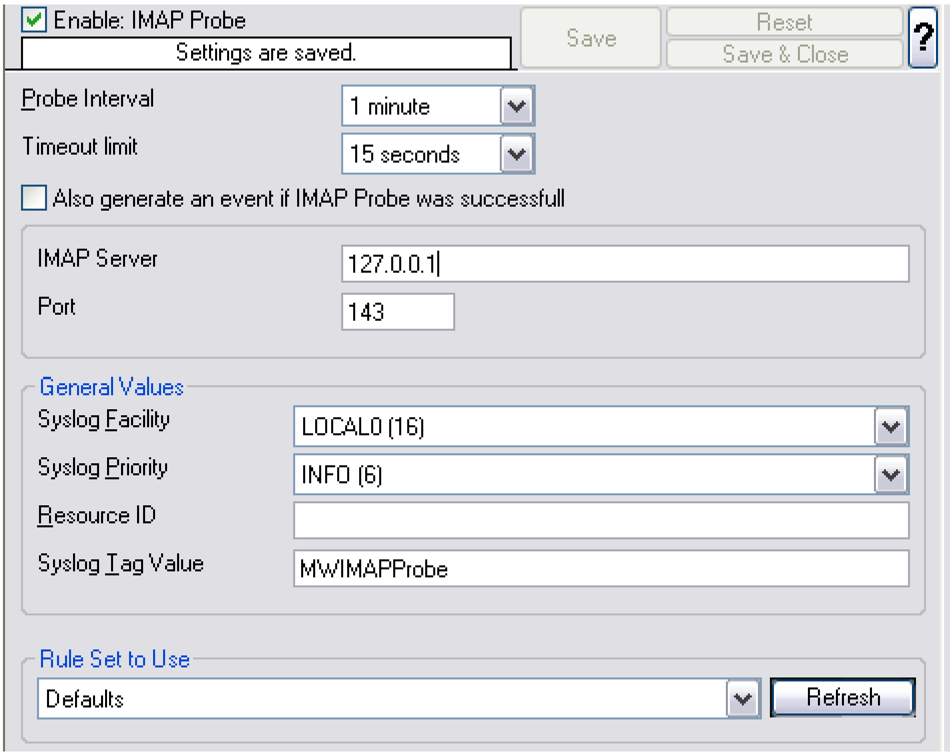
Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

6.3.19 IMAP Probe

IMAP probe does connection to IMAP server. After receiving the response fom IMAP server it sends the QUIT command to terminate the connection.

The connection status is saved in in the property **imapstatus** and the response in the property **imaprespmsg.**



☑ Enable: IMAP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

□ Also generate an event if IMAP Probe was successfull

IMAP Server: 127.0.0.1

Port: 143

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWIMAPProbe

Rule Set to Use

Defaults

IMAP Probe Properties

Probe Interval

This is the interval of the IMAP probes. After each probe, the MonitorWare Agent 3.0 IMAP probe process goes "to sleep". This period is specified in milliseconds.

Timeout Interval

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the IMAP probe fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the IMAP probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

IMAP Server

Either the IP address or resolvable host name of the IMAP server, the IMAP probe is to be run against. Please note that specifying a host name can cause the IMAP probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25 and web servers to 80.

Also generate an event if IMAP Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the IMAP probe fails. The most common option is to leave it unchecked to catch events upon a failed IMAP probe.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

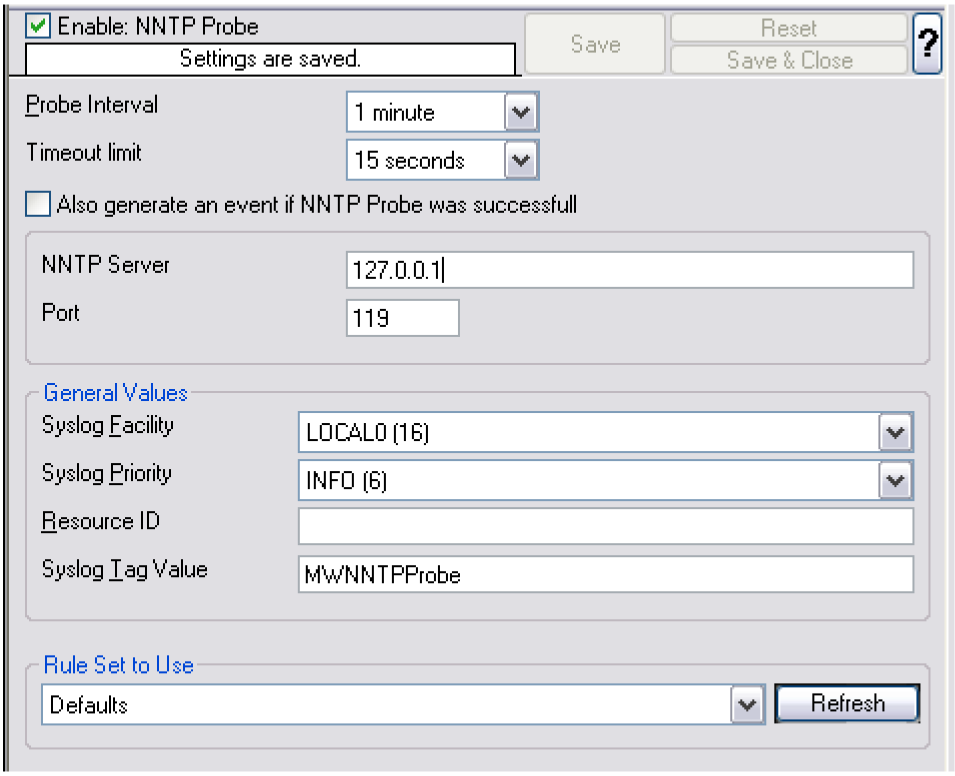
Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

6.3.20 NNTP Probe

NNTP probe does a connection to NNTP server. After receiving the response from NNTP server it sends the QUIT command to terminate the connection.

The connection status is saved in the property **nntpstatus** and the response in the property **nntprespmsg.**



☑ Enable: NNTP Probe

Settings are saved.

Probe Interval: 1 minute

Timeout limit: 15 seconds

□ Also generate an event if NNTP Probe was successfull

NNTP Server: 127.0.0.1

Port: 119

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWNNTPProbe

Rule Set to Use

Defaults

NNTP Probe Properties

Probe Interval

This is the interval of the NNTP probes. After each probe, the MonitorWare Agent 3.0 NNTP probe process goes "to sleep". This period is specified in milliseconds.

Timeout Interval

The amount of time (in milliseconds) the remote system is expected to answer in. If no response is received within this period, the NNTP probe fails and an event is generated. The default value of 1000 milliseconds is a proper value for most well connected networks. If the NNTP probe runs against a heavily loaded system and/or slow network link, the amount must be adjusted accordingly.

Also generate an event if NNTP Probe was successful

When checked, an event is generated every time. If unchecked, it is generated only when the NNTP probe fails. The most common option is to leave it unchecked to catch events upon a failed NNTP probe.

NNTP Server

Either the IP address or resolvable host name of the NNTP server, the NNTP probe is to be run against. This system has been called "remote host" in the description above. Please note that specifying a host name can cause the NNTP probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Resource ID

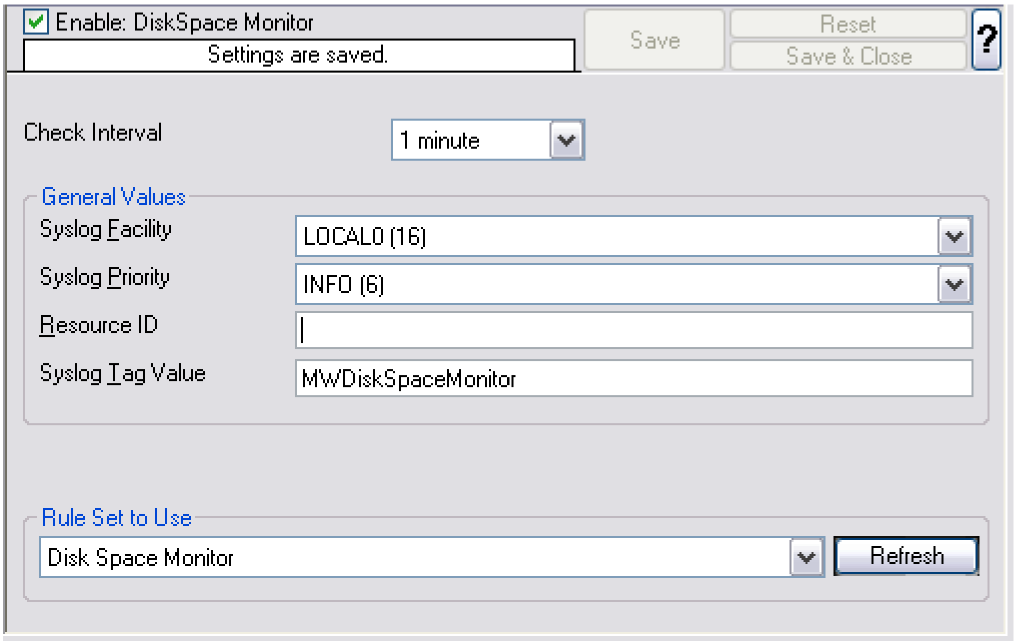
The Resource ID to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message is to forward to a Syslog server.

6.3.21 Disk Space Monitor

This monitor checks the available and used space on all hard disks in the system. All hard disks present in the system are automatically checked. New disks are automatically detected. One event specifying the maximum size and the used size is generated per disk. The Disk Space Monitor runs continuously based on an interval set in the configuration.



☑ Enable: DiskSpace Monitor

Settings are saved.

Check Interval: 1 minute

General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWDiskSpaceMonitor

Rule Set to Use: Disk Space Monitor

DiskSpace Monitor Properties

Check Interval

This is the interval in which the service status is checked. This period is specified in milliseconds. The default is 60,000 ms, which is one minute. This should be sufficient for a typical server. If you would like to have the disk space check run less often, you might for example use the value of 3,600,000 for one hour (or a multiple for multiple hours).
For performance reasons, we do not recommend using an interval of less than 30,000 ms.

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

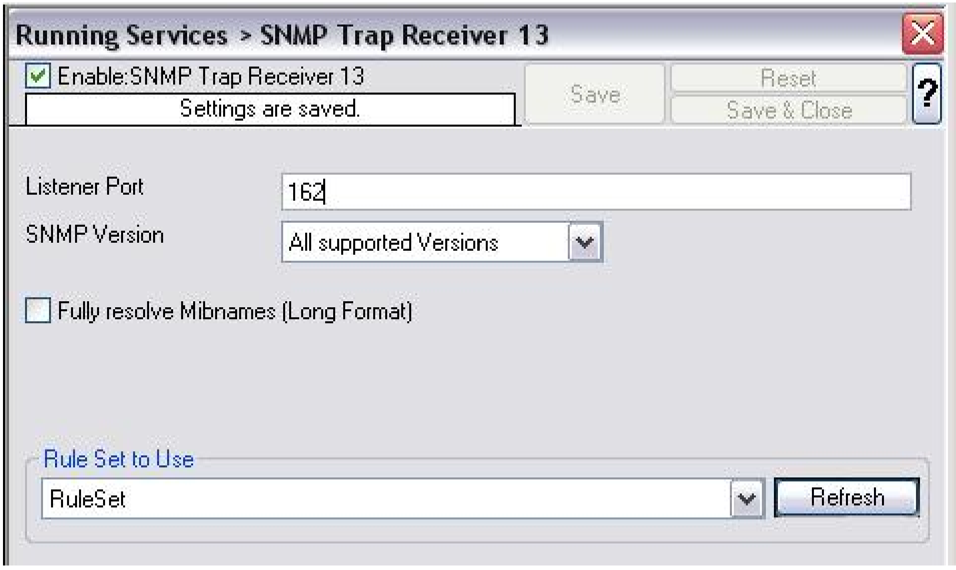
Rule Set to Use

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.22 SNMP Trap Receiver Service

SNMP Trap Receiver allows you to receive SNMP messages. A rough description of a Trap is that it is somewhat like a Syslog message, just over another protocol (SNMP). A trap is generated when the device feels it should do so and it contains the information that the device feels should be transmitted. It also contains some (few) standard items, as the version, community etc. Click here to know more about the SNMP Trap Receiver Service.

The SNMP Trap Receiver Service runs continuously based on the configuration mentioned below:



Running Services > SNMP Trap Receiver 13

☑ Enable:SNMP Trap Receiver 13

Settings are saved.

Listener Port: 162

SNMP Version: All supported Versions

☐ Fully resolve Mibnames (Long Format)

Rule Set to Use: RuleSet

SNMP Trap Receiver Properties

Listener Port

The port the SNMP listener is listening to. If in doubt, leave it at the default of 162, which is the standard port for this.

SNMP Version

Can be used to restrict the SNMP versions. The availabe values are:

1. All Supported Versions (i.e. SNMP Version 1 and SNMP Version 2c only)
2. SNMP Version 1 only
3. SNMP Version 2c only

Fully Resolve Mibnames (Long Format)

This Option fully resolves the Mibnames like in the Client Mibbrowser Application.

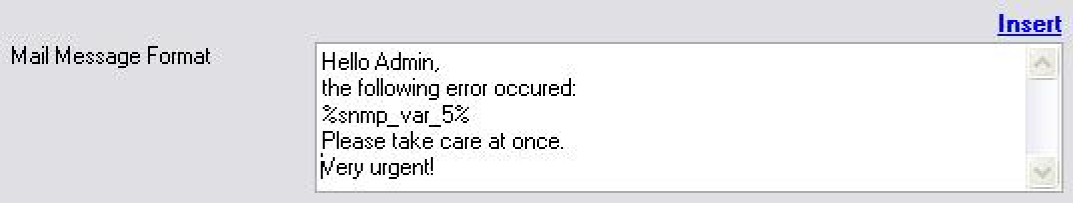
Rule Set to Use

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

Please Note:

Managing incoming Traps works the same way as with a Syslog server for example. Incoming Traps will be forwarded to the corresponding Ruleset and pass by rule after rule. There it can be filtered for general information like the "Community", the "Version" or "Value" for example. Finally it will be processed by an action, which you can select to your needs. The SNMP Agent service will co-exist peacefully next to the Windows SNMP Agent and will not hinder it in it's functionality. The Windows SNMP Agent listens to port 161, while MonitorWare Agent and WinSyslog listen to port 162.

For internal processing, the variables of incoming SNMP messages will be added to a new property. Those properties will be named %snmp_var_x% with the x being a number starting with 1. You can use these custom properties for filtering and everywhere you can use or print properties. For example, you can create a "send mail"-action. Here you can specify complete freely how the message will look like. You can use a introductory text and then let it show the error message in some context. This could look like this:



Mail Message Format

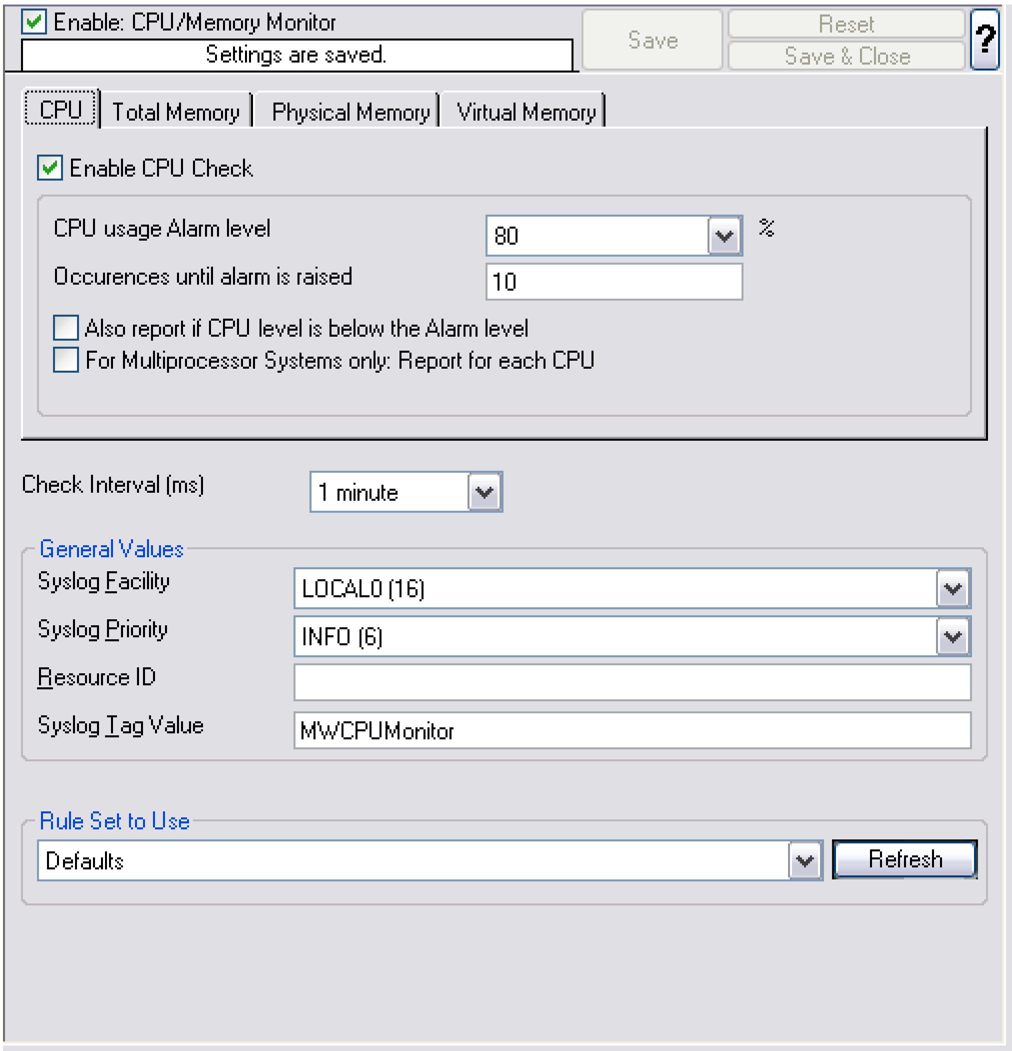
```
Hello Admin,
the following error occured:
%snmp_var_5%
Please take care at once.
Very urgent!
```

The result will be, that the 5th property of the snmp trap will be inserted into the message text.

6.3.23 CPU/Memory Monitor

The CPU/Memory monitor has two parts of monitoring, a CPU and a Memory part. Both parts are checked frequently in a specified check interval. By default this interval is configured to 60 seconds so a check is done after every 1 minute. Both CPU and memory part can be disabled and enabled. The service becomes useless if you disable both parts.

Note for Windows NT4 users: This service uses the WMI (Windows Management Instumentation) to query CPU and memory utilization. By default WMI is not installed on NT4 but it can be obtained and installed from here.



☑ Enable: CPU/Memory Monitor

Settings are saved.

☑ Enable CPU Check

CPU usage Alarm level: 80 %

Occurences until alarm is raised: 10

☐ Also report if CPU level is below the Alarm level

☐ For Multiprocessor Systems only: Report for each CPU

Check Interval (ms): 1 minute

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWCPUMonitor

Defaults

CPU/Memory Monitor Properties

You can see a series of tabs at the top of screen shot above, namely CPU, Total Memory, Physical Memory and Virtual Memory.

CPU

When you click CPU tab, you are shown the options as shown in the screen shot above and explained below:

Enable CPU Check

If this option is checked then it allows you to monitor the CPU.

CPU usage Alarm level

If the CPU usage reaches this level, an event is generated internally. Depending on how the occurences value is configured, an Information Unit is generated.

Note: this value is in terms of percentage.

Occurences until alarm is raised

Defines how often the CPU usage level has to occur in a row until an event is raised.

Also report if CPU level is below the Alarm level

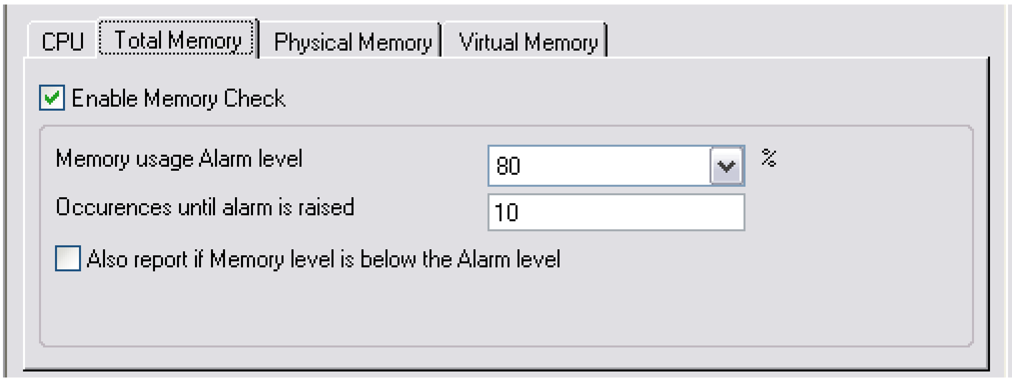
If this option is checked it generates an Information Unit during each run whether it is below the alarm level or above. This option is useful for statistics and debugging.

For Multiprocessor Systems only: Report for each CPU

This option can only be used if you have a Multiprocessor System. When this option is checked the CPU usage is analyzed for each CPU and for the whole amount of CPU usage.

Total Memory

When you click Total Memory tab, you are shown the options as shown in the screen shot below:



☑ Enable Memory Check

Memory usage Alarm level: 80 %

Occurences until alarm is raised: 10

□ Also report if Memory level is below the Alarm level

Total Memory Properties

Enable Memory Check

If this option is checked then it allows you to monitor the memory.

Memory usage Alarm level

Defines the alarm level for the memory usage. Note that virtual and physical memory are calculated together.

Note that this value is in terms of percentage.

Occurences until alarm is raised

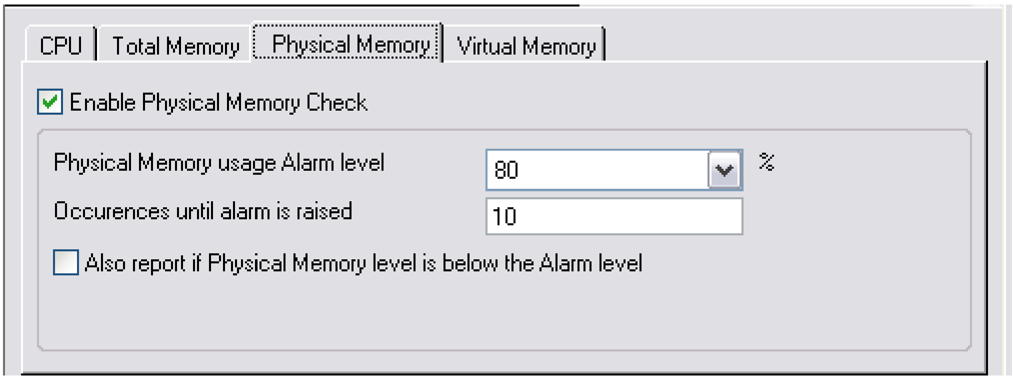
Defines how often the memory usage has to be over the memory usage alarm level in a row.

Also report if Memory level is below the Alarm level

This also generates an event if the memory usage is below the alarm level. A useful option for testing and debugging.

Physical Memory

When you click Physical Memory tab, you are shown the options as shown in the screen shot below:



☑ Enable Physical Memory Check

Physical Memory usage Alarm level: 80 %

Occurences until alarm is raised: 10

□ Also report if Physical Memory level is below the Alarm level

Physical Memory Properties

Enable Physical Memory Check

If this option is checked then it allows you to monitor the physical memory.

Physical Memory usage Alarm level

Defines the alarm level for the physical memory usage.

Note that this value is in terms of percentage.

Occurences until alarm is raised

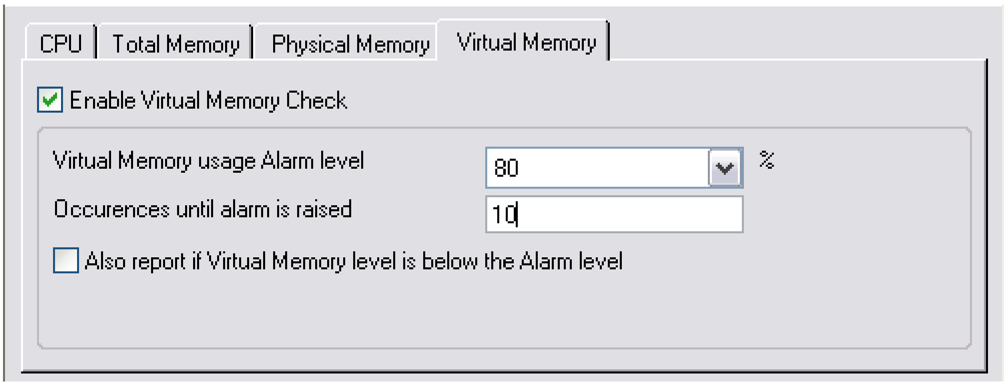
Defines how often the physical memory usage has to be over the physical memory usage alarm level in a row.

Also report if Physical Memory level is below the Alarm level

This also generates an event if the physical memory usage is below the alarm level. A useful option for testing and debugging.

Virtual Memory

When you click Virtual Memory tab, you are shown the options as shown in the screen shot below:



☑ Enable Virtual Memory Check

Virtual Memory usage Alarm level: 80 %

Occurences until alarm is raised: 10

□ Also report if Virtual Memory level is below the Alarm level

Virtual Memory Properties

Enable Virtual Memory Check

If this option is checked then it allows you to monitor the virtual memory.

Virtual Memory usage Alarm level

Defines the alarm level for the virtual memory usage.

Note that this value is in terms of percentage.

Occurences until alarm is raised

Defines how often the virtual memory usage has to be over the virtual memory usage alarm level in a row.

Also report if Virtual Memory level is below the Alarm level

This also generates an event if the virtual memory usage is below the alarm level. A useful option for testing and debugging.

Check Interval

The CPU/Memory Monitor runs periodically. This specifies, how often it should run. Please note that the CPU / Memory Monitor waits the configured amount of time after the current run is finished. The time is the delay in milliseconds.

General Values

In General Values group box, you can see different fields discussed below:

Syslog Facility

The Syslog facility to be assigned to events created by this service. Most useful, if the message shall be forwarded to a Syslog server.

Syslog Priority

The Syslog priority to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Resource ID

The Resource ID to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

Syslog Tag Value

The Syslog tag value to be assigned to events created by this service. Most useful if the message shall be forwarded to a Syslog server.

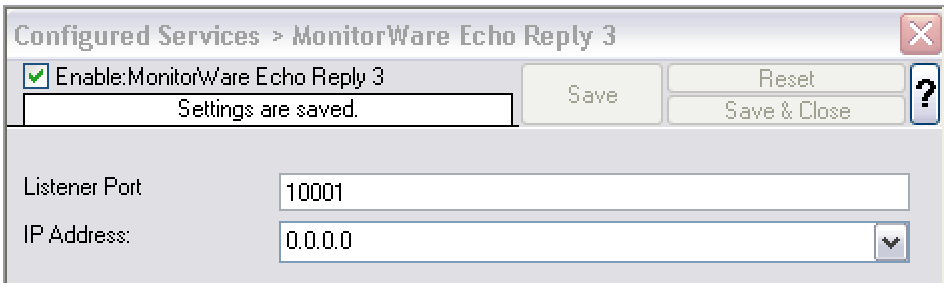
Default Ruleset Name

Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

6.3.24 MonitorWare Echo Reply

The MonitorWare Echo Reply service is a somewhat unusual service. It by itself does **not** generate any events.

It is the passive counterpart of the MonitorWare Echo Request service. These together are used to detect failing agents. In this services configuration, only the listening port can be specified. This port must be the same to which the Echo Request service tries to connect to.


Configured Services > MonitorWare Echo Reply 3

☑ Enable:MonitorWare Echo Reply 3

Settings are saved.

Listener Port: 10001

IP Address: 0.0.0.0

MWEchoReplyService

Listener Port

Specify the listener port here.

IP Adress

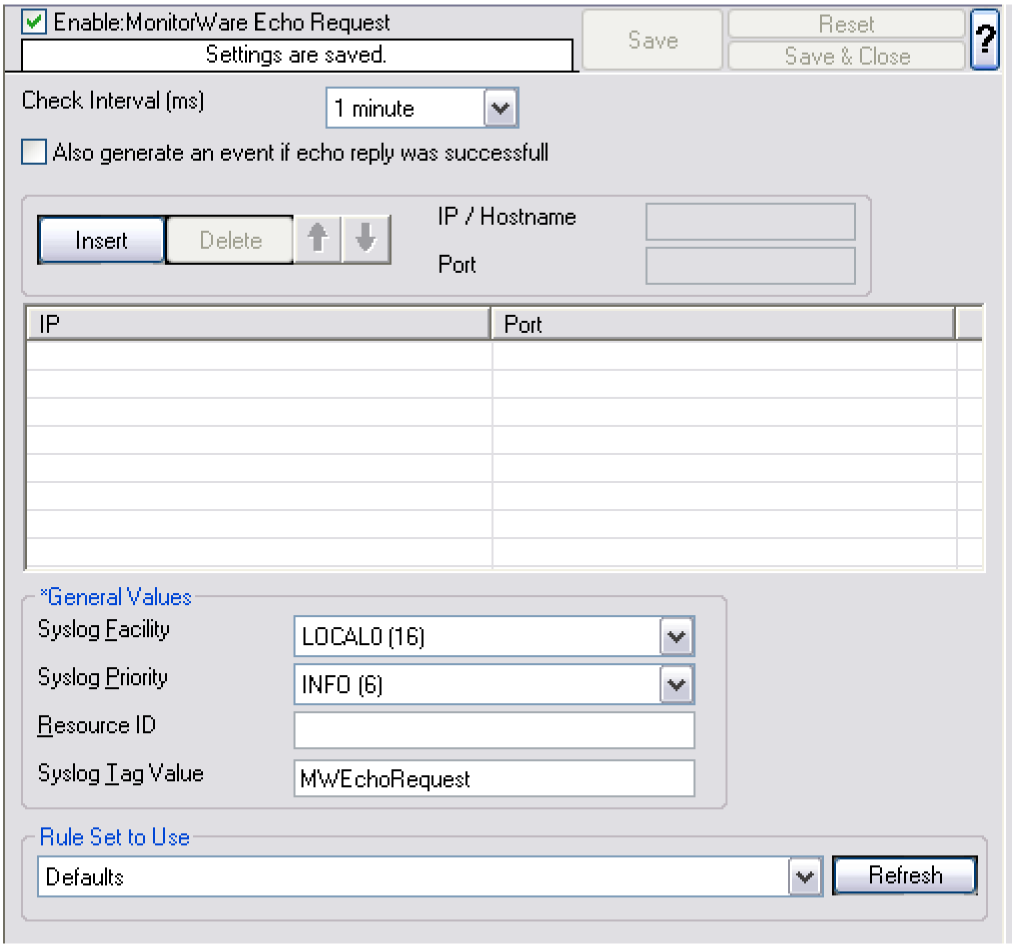
The MonitorWare Echo Reply service can be bound to a specific IP Address. This feature is useful for multihome environments where you want to run different Syslog Servers on different IP Addresses. Please note that the default IP Address 0.0.0.0 means ANY IP Address.

6.3.25 MonitorWare Echo Request

The MonitorWare Echo Request service is used to check the availability of MonitorWare agents (either MonitorWare Agent, WinSyslog or EventReporter). It works in conjunction with the MonitorWare Echo Reply service, which needs to be running on the agents which are to be monitored.

Echo Request service tries to connect to the reply service on remote agents. If it can connect, it checks if the remote agent is alive. If either the connect fails or the remote response is not satisfactory, an event is generated (which could be used for alerting as well as corrective action). Optionally, an event can also be generated when the remote agent can be contacted successfully.

A single MonitorWare Echo Request service can check an unlimited number of remote agents. Please note, however, that all checks are done in sequence. So with a large number of systems to be checked, there may be a longer delay between the checks than you expect. This is especially the case over slow network links (like found in wide area networks). If this is not acceptable, multiple Echo Request services can be configured. They then run independent of each other.



☑ Enable:MonitorWare Echo Request

Settings are saved.

Check Interval (ms): 1 minute

□ Also generate an event if echo reply was successfull

IP / Hostname:

Port:

IP	Port

*General Values

Syslog Facility: LOCAL0 (16)

Syslog Priority: INFO (6)

Resource ID:

Syslog Tag Value: MWEchoRequest

Rule Set to Use: Defaults

Check Interval
The Echo Request service runs periodically. This specifies how often it should run. Please note that the Echo Request service waits for the configured amount of time after the current run is finished. The time is the delay in milliseconds.

Also generate an event if echo reply was successful
If checked, an event is to be created each time the probe runs, even when it is successful. If unchecked, events are only created when the remote system fails.

IP / Port Pairs
This table contains the systems that are to be checked in each interval. Once in each run, each remote system is checked. The checks are carried out in the exact same order that the systems appear in the table - from top to bottom. Use "insert" to create a new entry (you can edit it after it has been inserted), "delete" to delete the current entry and the arrow buttons to change the order of the entries.

Syslog Facility
The Syslog facility to be assigned to events created by the service. Most useful if the message is to be forwarded to a Syslog daemon.

Syslog Priority
The Syslog priority to be assigned to events created by the service. Most useful if the message is to be forwarded to a Syslog daemon.

Resource ID
The Resource ID to be assigned to events created by the service. Most useful if the message is to be forwarded to a Syslog daemon.

Syslog Tag Value
The Syslog tag value to be assigned to events created by the service. Most useful if the message is to be forwarded to a Syslog daemon.

Rule Set to Use
Name of the rule set to be used for this service. The rule set name must be a valid rule set.

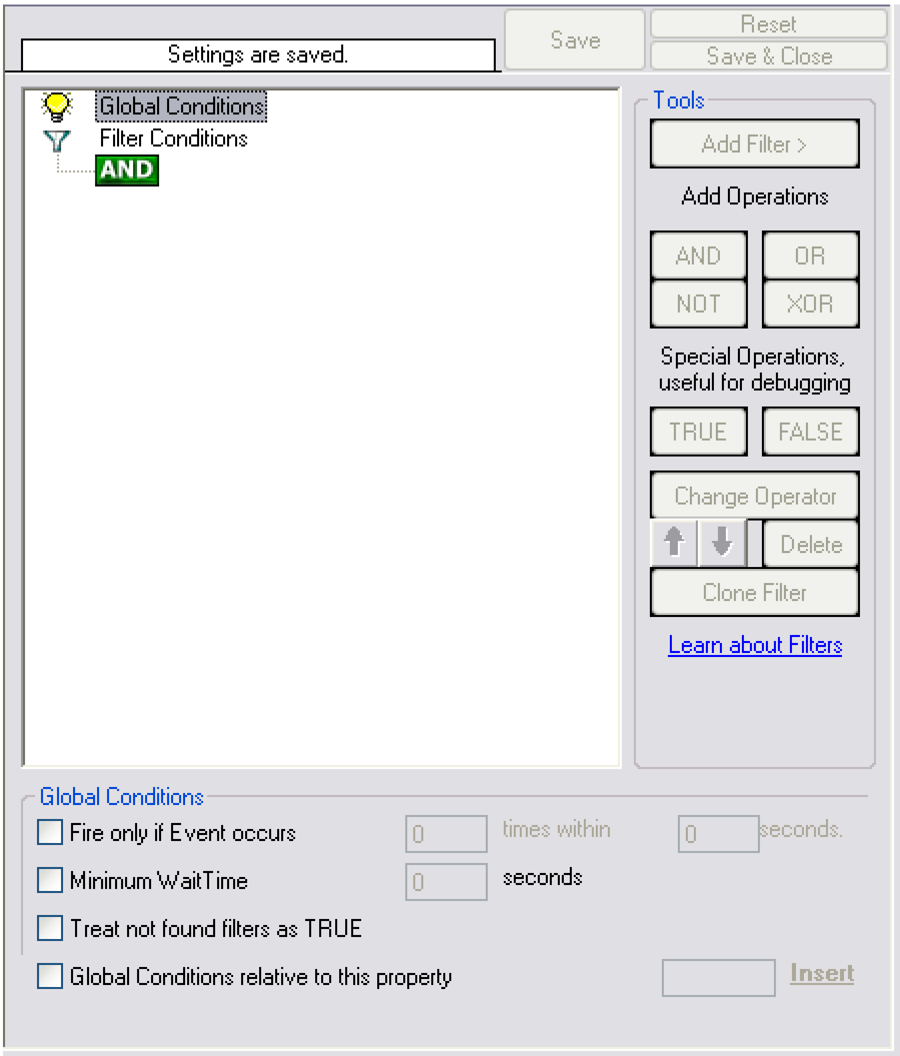
6.4 Filter Conditions

6.4.1 Filter Conditions

Filter conditions specify **when** to apply a rule. If the filter condition evaluates to true, the rule containing those conditions is treated as matching and the actions specified in that rule are carried out.

Filter conditions can be as complex as needed. Full support for Boolean operations and nesting of conditions is supported.

By default, the filter condition is empty, respective tree contains only a single "AND" at the top level. This is to facilitate adding filters (the top level-node is typically "AND" and thus provided by default). A filter condition containing only the "AND" always evaluates as true. A sample screenshot can be found below:



Settings are saved.

Global Conditions
Filter Conditions
AND

Global Conditions

☐ Fire only if Event occurs 0 times within 0 seconds.

☐ Minimum WaitTime 0 seconds

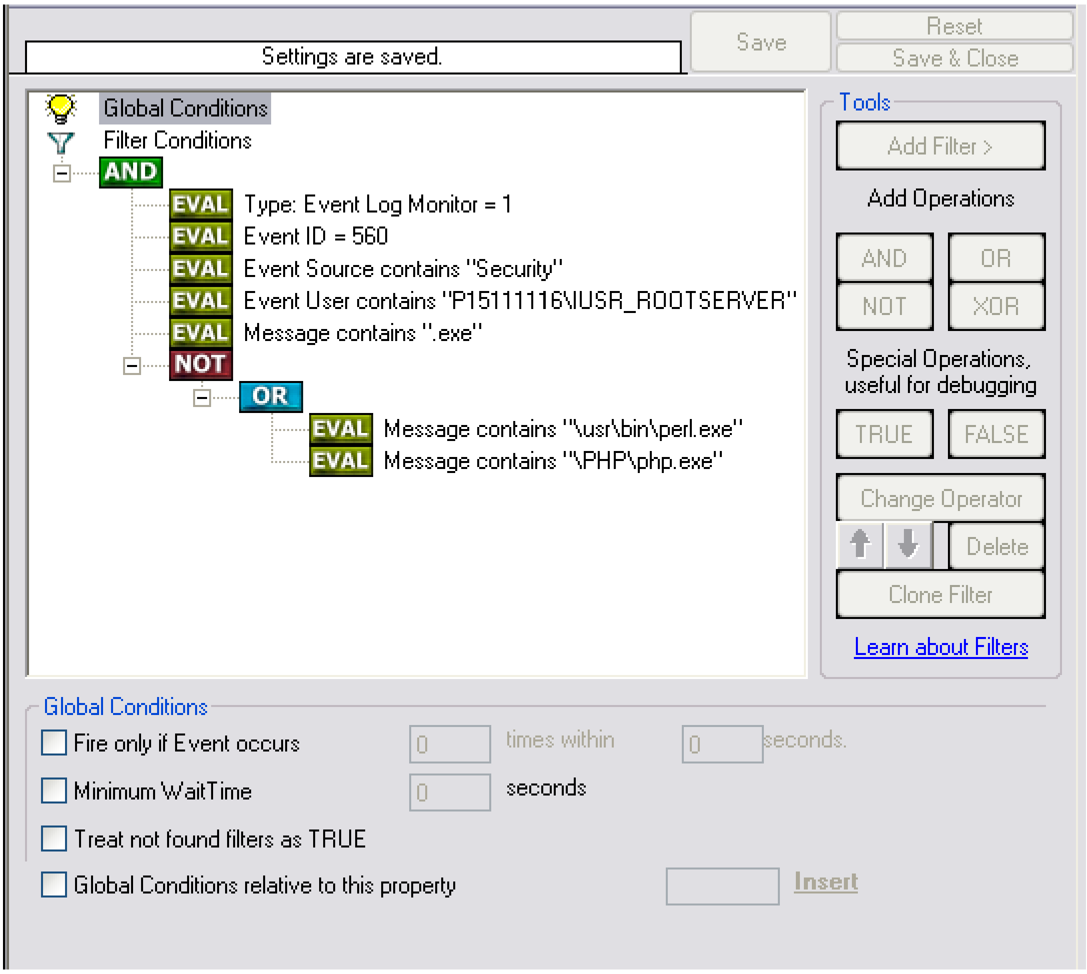
☐ Treat not found filters as TRUE

☐ Global Conditions relative to this property

Filter Conditions - Display form

The default filter condition means that the actions associated with the rule are to be carried out for every information unit received. It is often used for actions that should be broadly taken, for example to write all incoming information units to a database or text file.

On the other hand, there are actions that should only be executed under very special conditions. They may even require a complex filter condition including multiple levels of Boolean operations. Below is a sample of such a condition:



Settings are saved.

Global Conditions
Filter Conditions
AND
- EVAL Type: Event Log Monitor = 1
- EVAL Event ID = 560
- EVAL Event Source contains "Security"
- EVAL Event User contains "P15111116\IUSR_ROOTSERVER"
- EVAL Message contains ".exe"
- NOT
  - OR
    - EVAL Message contains "\usr\bin\perl.exe"
    - EVAL Message contains "\PHP\php.exe"

Global Conditions

☐ Fire only if Event occurs 0 times within 0 seconds.

☐ Minimum WaitTime 0 seconds

☐ Treat not found filters as TRUE

☐ Global Conditions relative to this property

Filter Conditions - Complex Filter

This filter condition is part of an intrusion detection rule set. Here, Windows file system auditing is used to detect a potentially successful intrusion via Internet Information Server (IIS). This is done by enabling auditing on all executable files. Internet Information Server accesses them under the IUSR_<machinename> account, which in our sample is "P15111116\IUSR_ROOTSERVER". If that user runs any unexpected executables, chances are good that someone was able to intrude the machine via IIS. Please note that Perl and PHP scripts need to run the Perl and PHP engine. This is reflected by specifically checking, if perl.exe and php.exe is executed – and if so, no alarm is triggered.

Here is how the above sample works: first, the message contents are checked if it contains either the full path name to perl.exe or php.exe. This is done in the "OR" branch at the bottom. We now need to keep in mind that when a filter condition evaluates to "true", the actions are executed. In case of perl.exe and php.exe, this is just the opposite of what we want. We need it to be executed, when other files are executed. Consequently, we negate (Boolean "NOT") the result of the OR. The end result of the "NOT" operation is then combined via a "AND" with some other properties describing the event we need.

First, we check if the specific event really occurred. For this, we need to make sure we deal with an Event Log Monitor information unit. Then, these information units are identified by the event source as well as the Event ID. We also check for the Event User to identify only IIS generated requests. Lastly, we check if the message contains the string ".exe".

In order to avoid too frequent alerts, we also have specified a minimum wait time of 60 seconds. Therefore, the filter condition evaluates as "true" at most every 60 seconds, even if all other conditions are true.

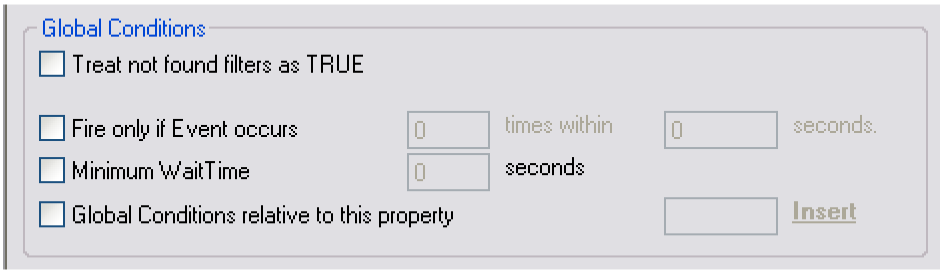
Note: If you want to know more about complex filter conditions you can click on the "Learn about Filters" link.

String comparison in Filter Conditions are "Case Sensitive"! For example, if the Source System name is "ws01" and you had written "WS01" while applying the filter, then this filter condition would **"NEVER"** evaluate to True! Please double check before proceeding further!

If you are not still sure about what to do, you can drop a word about your requirements to support@adiscon.com, and we look into it!

6.4.2 Global Conditions

Global Conditions apply to the rule as whole. They are automatically combined with a logical "AND" with the conditions in the filter tree.



Global Conditions

□ Treat not found filters as TRUE

□ Fire only if Event occurs 0 times within 0 seconds.

□ Minimum WaitTime 0 seconds

□ Global Conditions relative to this property

Filter Form - General Conditions

Treat not found Filters as TRUE

If a property queried in a filter condition is not present in the event, the respective condition normally returns "FALSE". However, there might be situations where you would prefer if the rule engine would evaluate this to "TRUE" instead. With this option, you can select the intended behaviour. If you check it, conditions with properties not found in the event evaluates to "TRUE.

Fire only if Event occurs

This is kind of the opposite of the "Minimum WaitTime". Here, multiple events must come in before a rule fires. For example, this time we use a ping probe. Ping is not a very reliable protocol, so a single ping might be lost. Thus, it may not be the best idea to restart some processes just because a single ping failed. It would be much better to wait for repetitive pings to fail before doing so.

Exactly this is why the "Fire only if Event Occurs" filter condition is made for. It waits until a configured amount of the same events occurs within a period. Only if the count is reached, the filter condition matches and the rule can fire.

Note: If you used previous versions of the product, you might remember a filter called "Occurrences". This has just been renamed.

Minimum Wait Time

This filter condition can be used to prevent rules from firing too often. For example, a rule might be created to check the status of a port probe event. The port probe probes an SMTP server. If the event is fired and the rule detects it, it spawns a process that tries to restart the service. This process takes some time. Maybe the SMTP gateway need some more time to fully start up so that the port probe might fail again while the problem is already taken care of. The port probe as such generates an additional event.

Setting a minimum wait time prevents this second port probe event to fire again if it is – let's say – within 5 minutes from the original one. In this case, the minimum wait time is not yet reached and as such, the rule is not match. If, however, the same event is generated 5 hours later (with the mail gateway failing again), the rule once again fired and corrective action taken.

Global Conditions relative to this property

This feature enables you to control the Global Conditions based on a property.
For example take the source of a message as property. In this case, the Minimum WaitTime for example would be applied individual on each message source.

6.4.3 Operators

In general, operators describes how filter conditions are linked together. The following operators can be used.

AND

All filters placed below must be true. Only then AND returns true.

OR

Even if one of the filter placed below OR is true, OR returns true.

NOT

Only one Filter can be placed below NOT operator, and if the filter evaluation is true, NOT returns false.

XOR

Only one of the two filters are possible in the XOR Operator.

TRUE

Useful for debugging, just returns TRUE.

FALSE

Useful for debugging as well, returns FALSE.

6.4.4 Filters

Filters can be added under each Operation node. There are a few common filters which can be used for all services, and there are special filters which only apply if a special kind of Information Unit is evaluated.

What happens with Filters that are not available in an "Information Unit"?

Every filter that is not found in an Information Unit is ignored in the filtering process. If you want to create filters specialized for types of Information Units, always make sure to add an "Information Unit Type" filter.

An example, you have one ruleset, rule and action. In the filters you have one EventID filter. Then you have two services, one Eventlog Monitor and the other is Heartbeat monitor both pointing to this ruleset. The Information Units from the Eventlog Monitor would be filtered correctly, but those from the Heartbeat monitor would not be filtered as they don't have an EventID property. The EventID filter would be ignored and the actions would be executed every time.

Note, if a filter is used that does not apply to the evaluated Info Unit, it will be just ignored. This gives you the possibility to build one filter set for several types of Information Units.

There are different types of filters, and so there a different ways in which you can compare them to a value. The following Types exist:

String

Can be compared to another String with "=", "Not =" and "Range Match".

Number

Can be compared with another number with "=", "Not =", "<" and ">"

Boolean

Can be compared to either TRUE or FALSE with "=" and "Not ="

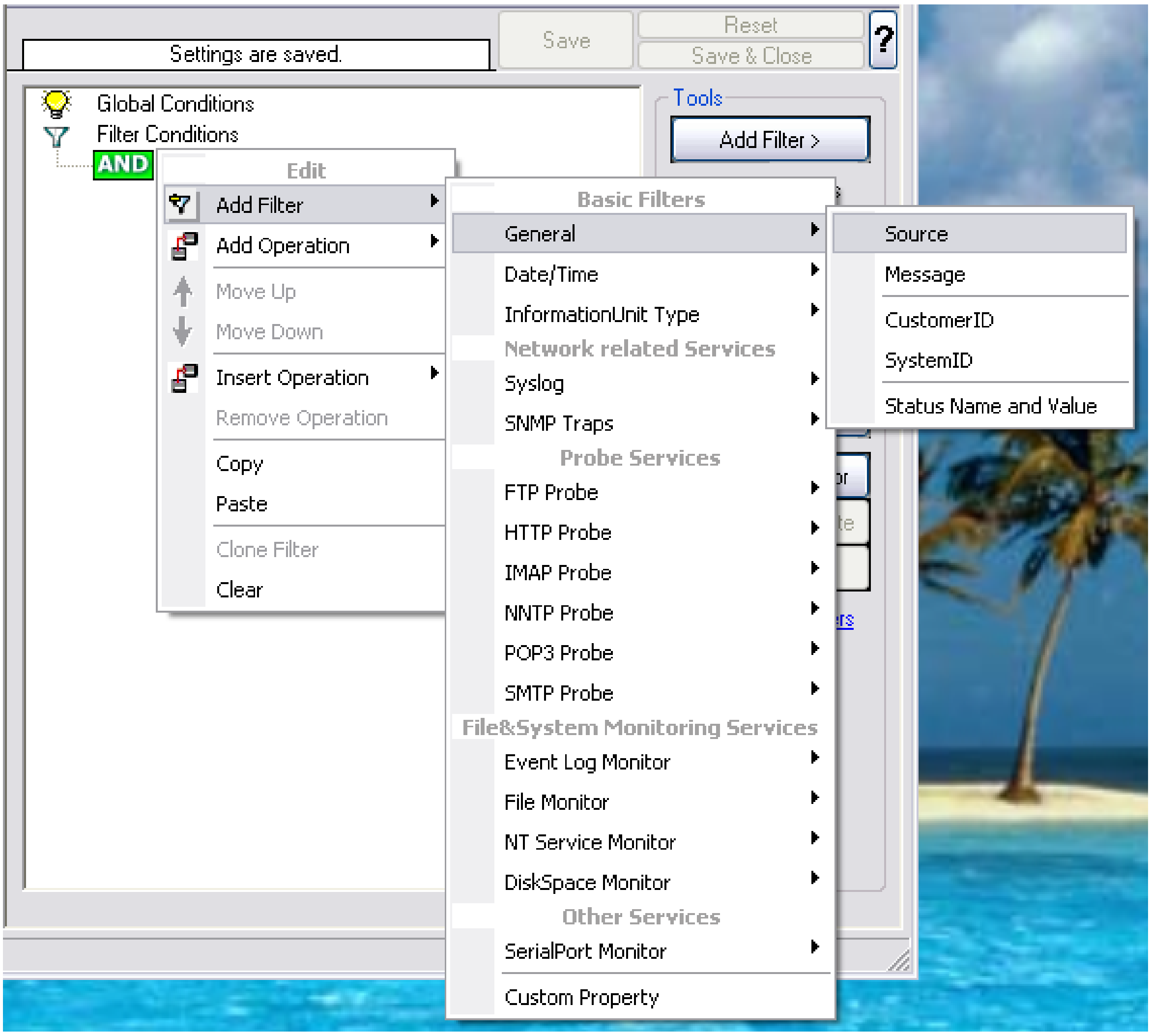
Time

Can be compared with another time but only with "="

The list of possible filters, which can be evaluated is described in the upcoming sections.

6.4.5 General

These are non-event log specific settings.



Filter Conditions - General

Source System

This filter condition checks the system that generated the information unit. For example, in case of the Syslog server, this is the Syslog device sending a Syslog message.

This filter is of type string and should contain the source system name or IP address.

Message Content

The message content filter condition is very powerful. It evaluates to true if the specified content is found anywhere within the message. As there is implicit wildcarding, there is no need for extra wildcards to be specified.

The content search can be limited to a region within the message. To do so, select a starting and ending position within the string by choosing the "**contains within range**" compare opertaion. This can be done by specifying the start range and end range into the respective boxes.

Please note that you can enter the character position you desire in these fields. The default "Start Range" and "End Range" are set to 0.

If you would like to search for a string just between positions 10 and 50, specify these values as start and end values, respectively. Similarly if you want to recieve all logs from 192.168.0.1 then set this as:

Property value = 192.168.0.0
Range Start = 0
Range End = 10

Which means 10 characters starting at zero ("192.168.0."). Please note that the final DOT must be included. If you just used range "9", then 192.168.010 would also match.

This filter is of type string.

CustomerID

CustomerID is of type integer provided for customer ease. For example if someone monitors his customer's server, he can put in different CustomerIDs into each of the agents. Let us say someone monitors servers A and B. A has 5 servers all of them with CustomerID = 1 and B has 2 servers all of them with CustomerID = 2. Both A and B happen to have a server named "SERVER". Together with the customerID, these machines are now uniquely identifiable. This is user configurable.

CustomerID (Type=Number).

SystemID

SystemID is of type integer to be used by our customer. In addition, it is user configurable.

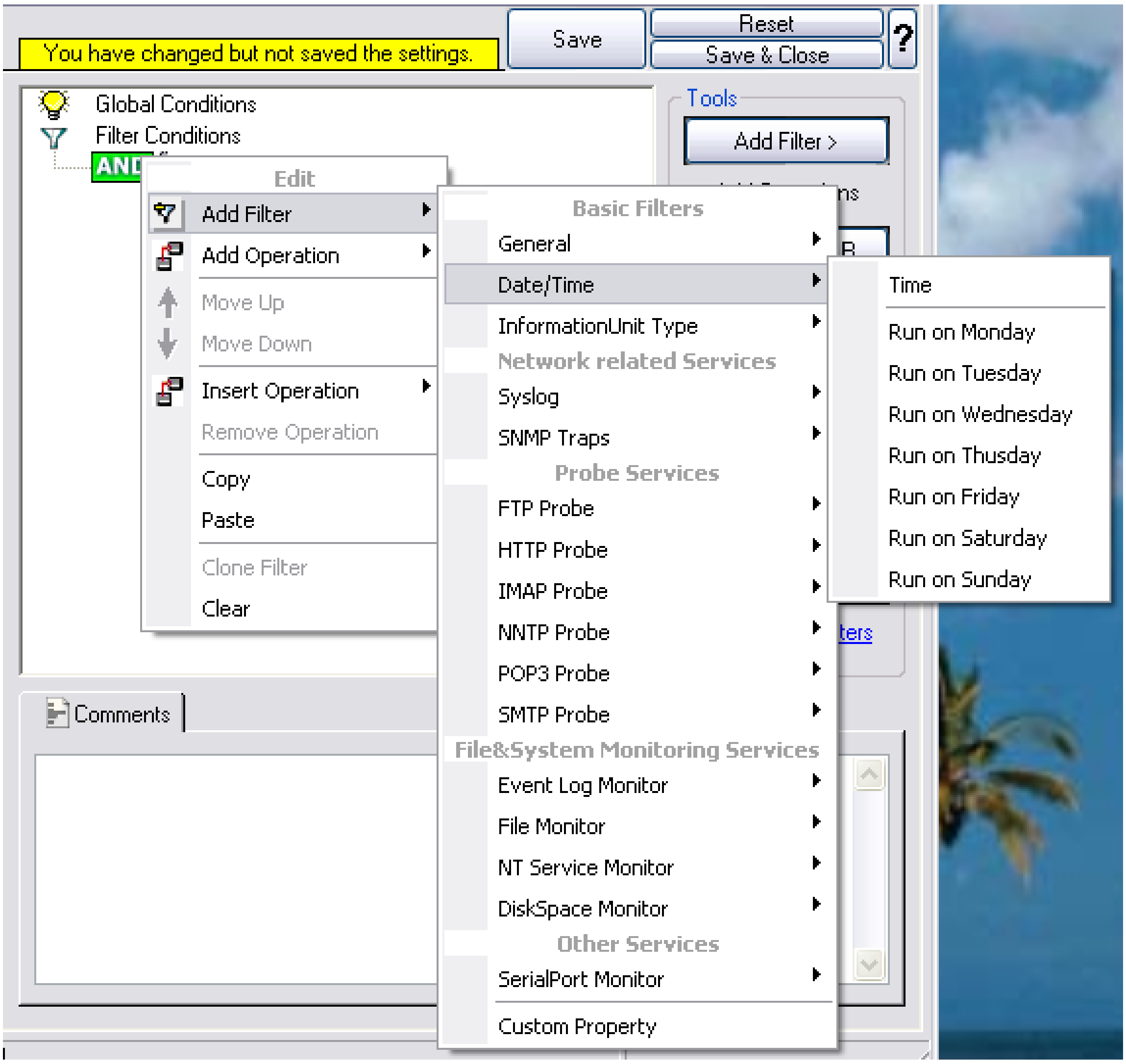
SystemID (Type=Number).

Status Name and Value

These filter type corresponds to "Set Status" Action. Status Name and Value (Type=String)

6.4.6 Date/Time

This filter condition is used to check the time frame and / or day of week in which an event occurred.



You have changed but not saved the settings.

Filter Conditions - Date / Time

Time

This filter condition is used to check the period in which an event occurred. For example, a Syslog message from a Cisco router saying that it dialed up is normal if it occurs during office hours. If it occurs at night, so, it is an alerting signal and an administrator might receive notification of this event (while he might otherwise decide to discard it). This can be done with the time setting.

You can also set the timezone setting (DefaultTimemode, UTC or Localtime) for the TimeMode's (DeviceReportedTime/ReceivedTime).

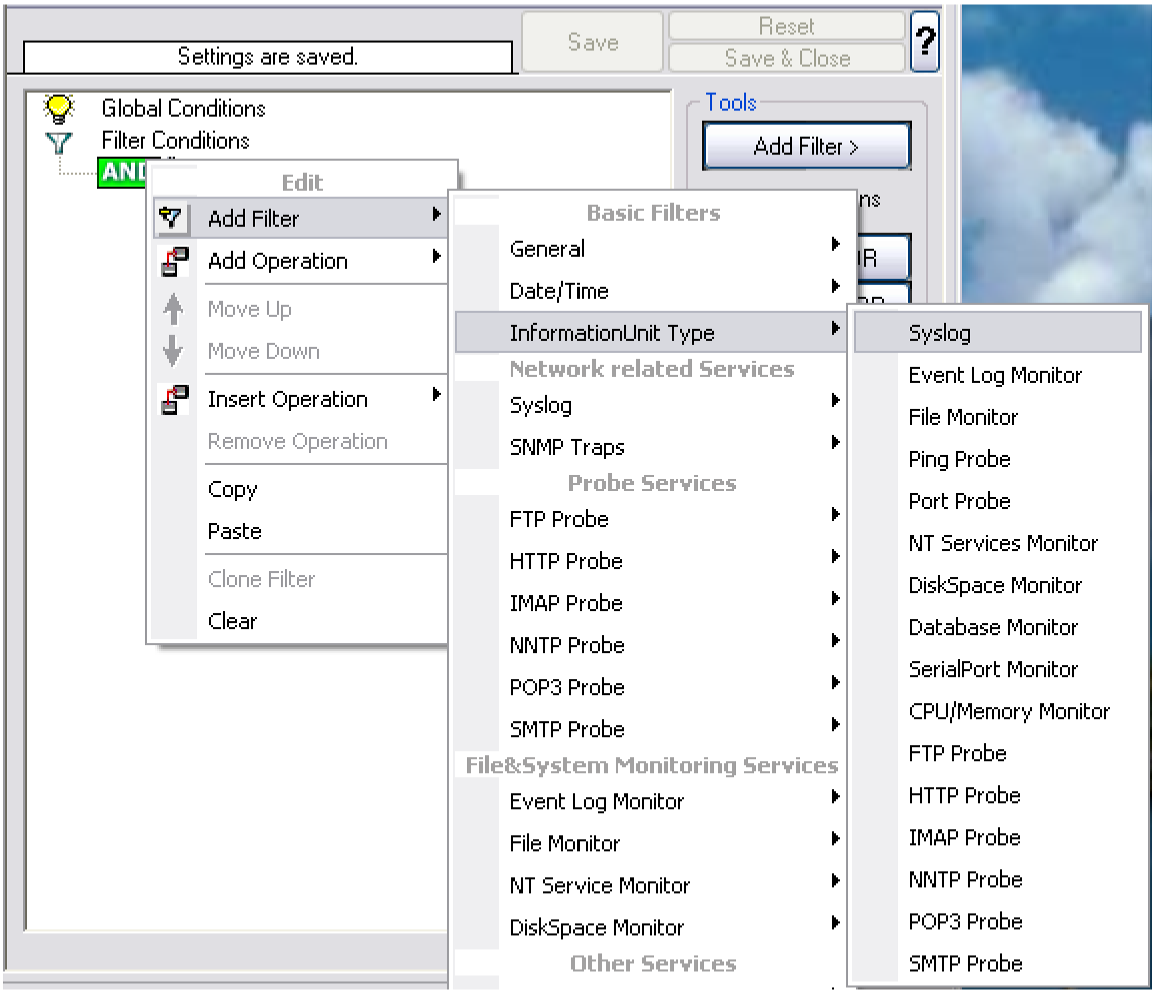
Weekdays

This is closely equivalent to the time filter condition, except that it is applied on a per-day basis. So it can be used to detect for example events occurring on weekends and act differently on them. The following filters are available:

1. Run on Monday (Type=Boolean)
2. Run on Tuesday (Type=Boolean)
3. Run on Wednesday (Type=Boolean)
4. Run on Thursday (Type=Boolean)
5. Run on Friday (Type=Boolean)
6. Run on Saturday (Type=Boolean)
7. Run on Sunday (Type=Boolean)

6.4.7 InformationUnit Type

Select the specific information if a rule should just be processed for some information unit types. This is especially useful if a specific type needs non-standard processing. There is one pre-defined filter for each possible InformationUnit Type available (shown below).



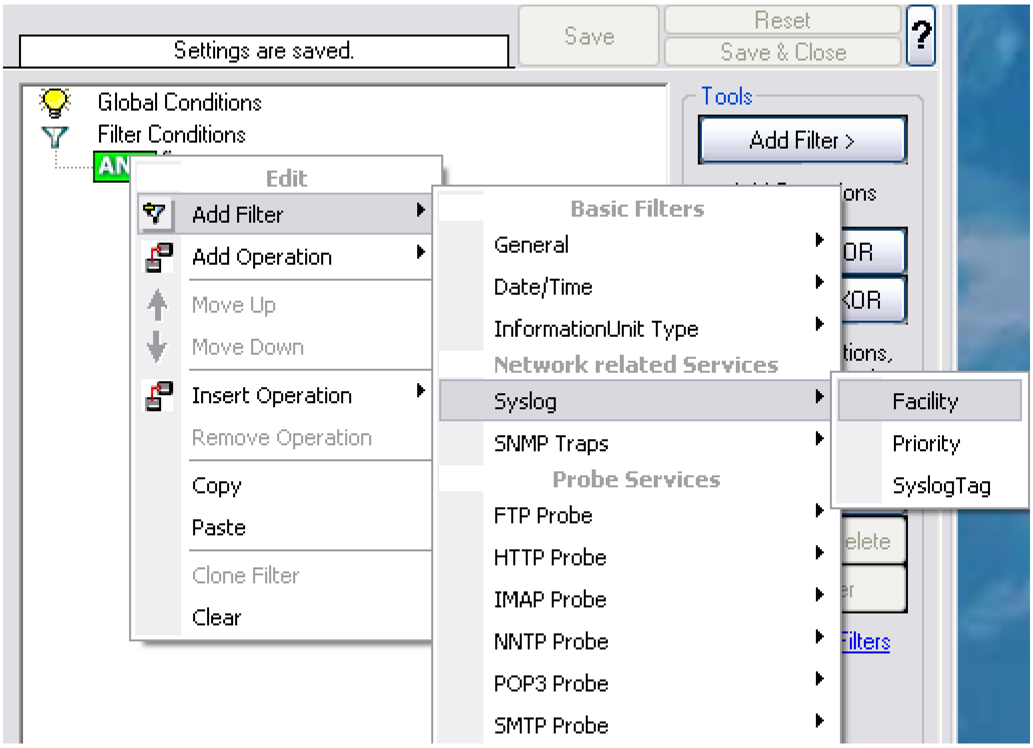
Filter Conditions - InformationUnit Type

The following filters are available:

1. Syslog (Type=Boolean)
2. File Monitor
3. SerialPort Monitor
4. Heartbeat (Type=Boolean)
5. Event Log Monitor (Type=Boolean)
6. File Monitor (Type=Boolean)
7. Ping Probe (Type=Boolean)
8. Port Probe (Type=Boolean)
9. NT Services Monitor (Type=Boolean)
10. Disk Space Monitor (Type=Boolean)
11. FTP Probe
12. HTTP Probe
13. IMAP Probe
14. NNTP Probe
15. POP3 Probe
16. SMTP Probe

6.4.8 Syslog

Syslog related filters are grouped here. Please keep in mind that every Information Unit has assigned a Syslog priority and facility and thus these filters can be used with all Information Units.



Filter Conditions - Syslog

Syslog Facility

The information unit must have the specified Syslog facility value. For Syslog type information units, it is the actual Syslog priority code, for all others it is a value mapped on a best effort basis.

This filter is of type number.

Syslog Priority

The information unit must have the specified Syslog priority value. For Syslog type information units, it is the actual Syslog priority code, for all others it is a value mapped on a best effort basis.

The first list box allows to set a matching mode. The operations "less than" (<), "greater than" (>) and "equal" (=) can be selected. The match is made depending on these operations, so a "less than" operation means that all priorities below the specified priority match. Please note that the specified priority is **not** a match. If you would like to include it, be sure to specify the next higher one.

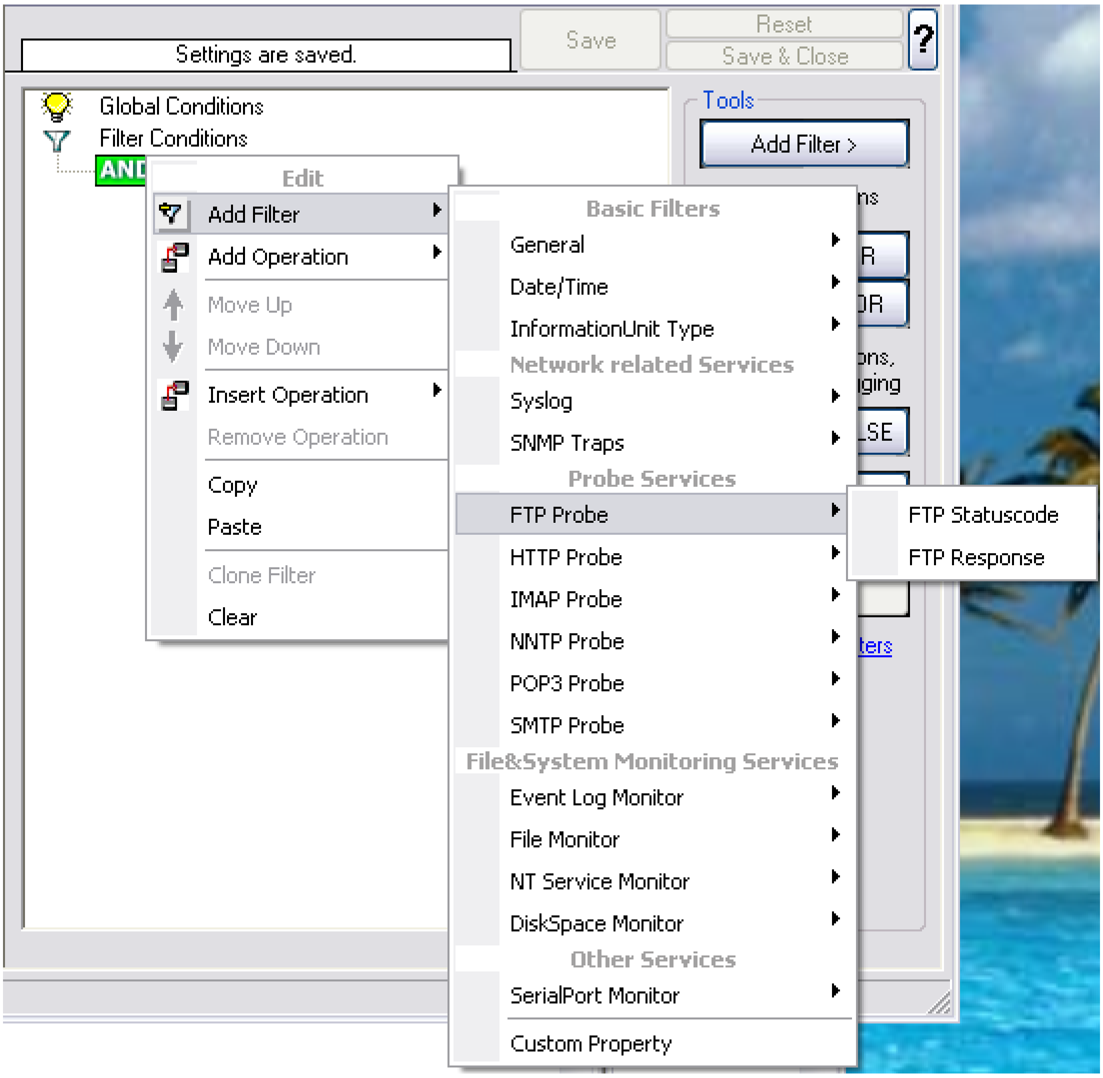
This filter is of type number.

Syslog Tag

This filter is of type string.

6.4.9 FTP

FTP related filters are grouped here.



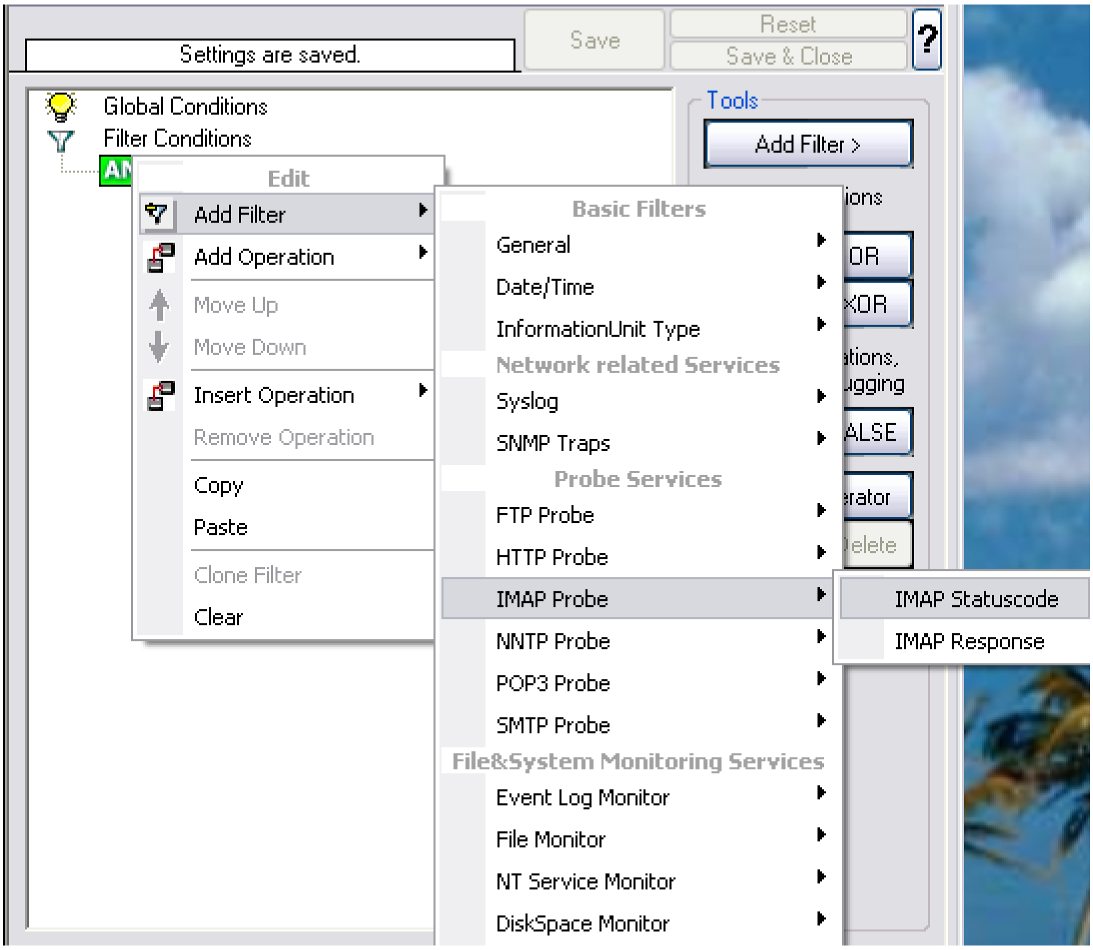
Filter Conditions - FTP

FTP Statuscode
It contains the FTP success or error code. This filter is of type number.

FTP Response
It contains the FTP response.

6.4.10 IMAP

IMAP related filters are grouped here.



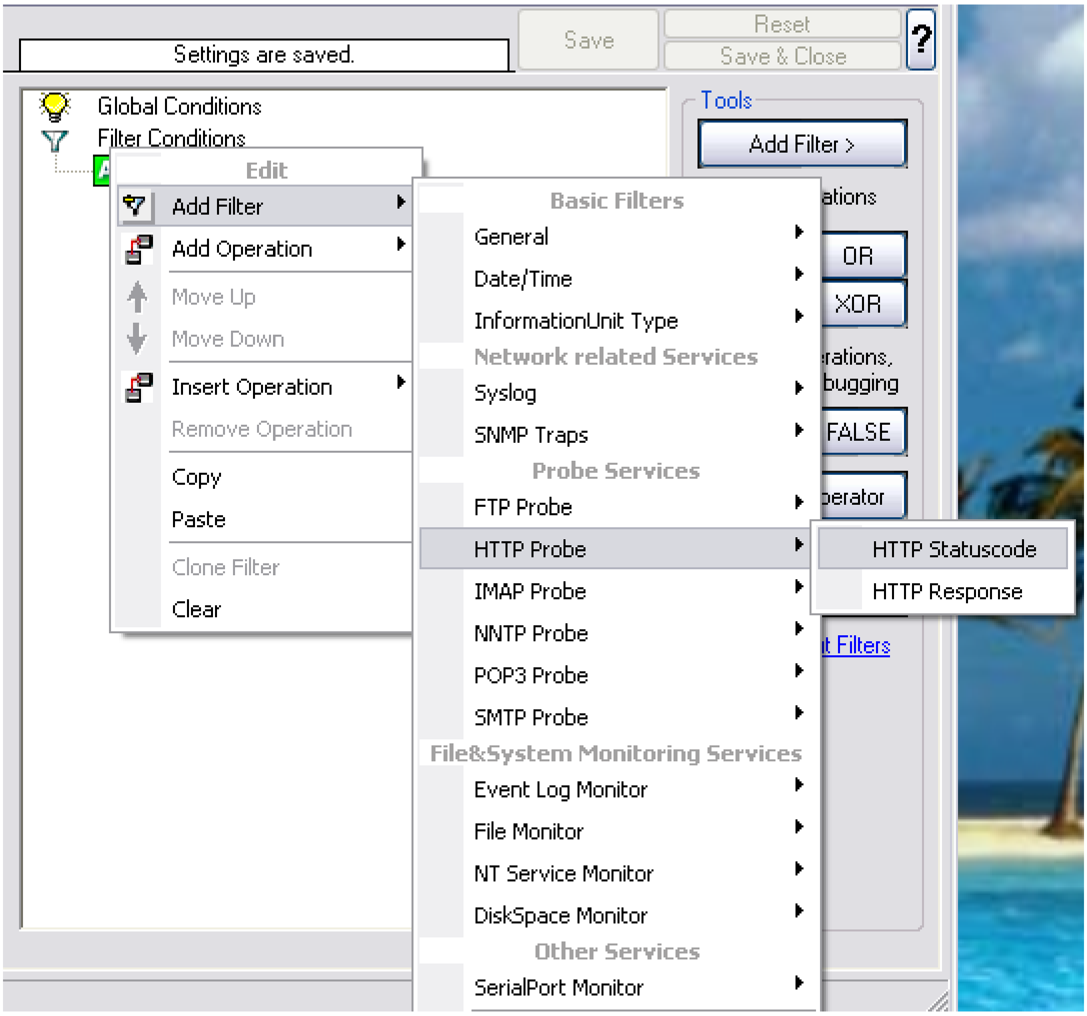
Filter Conditions - IMAP

IMAP Statuscode
It contains the IMAP success or error code. This filter is of type number.

IMAP Response
It contains the FTP response.

6.4.11 HTTP

HTTP related filters are grouped here.



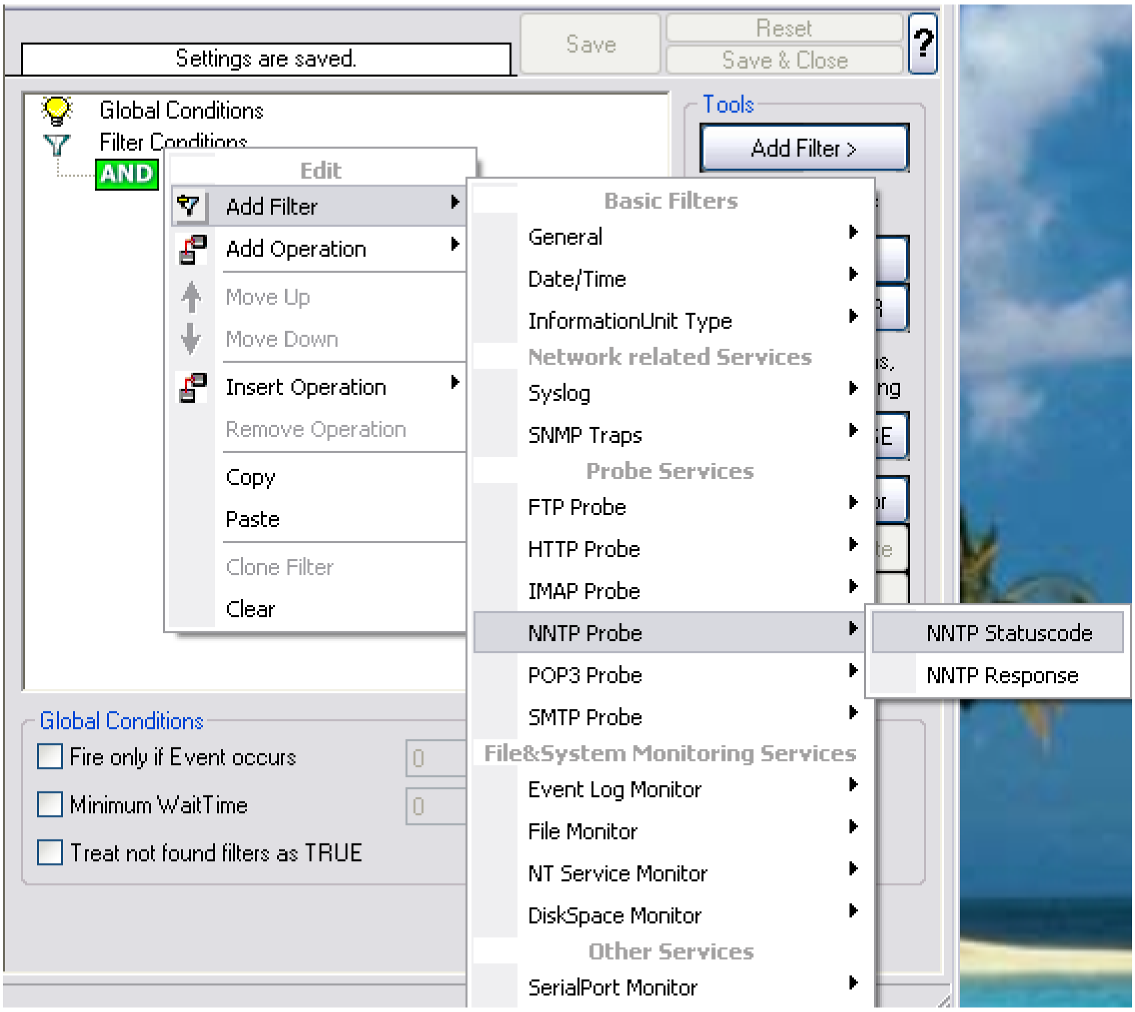
Filter Conditions - HTTP

HTTP Statuscode
It contains the HTTP success or error code. This filter is of type number.

HTTP Response
It contains the FTP response.

6.4.12 NNTP

NNTP related filters are grouped here.



Filter Conditions - NNTP

NNTP Statuscode

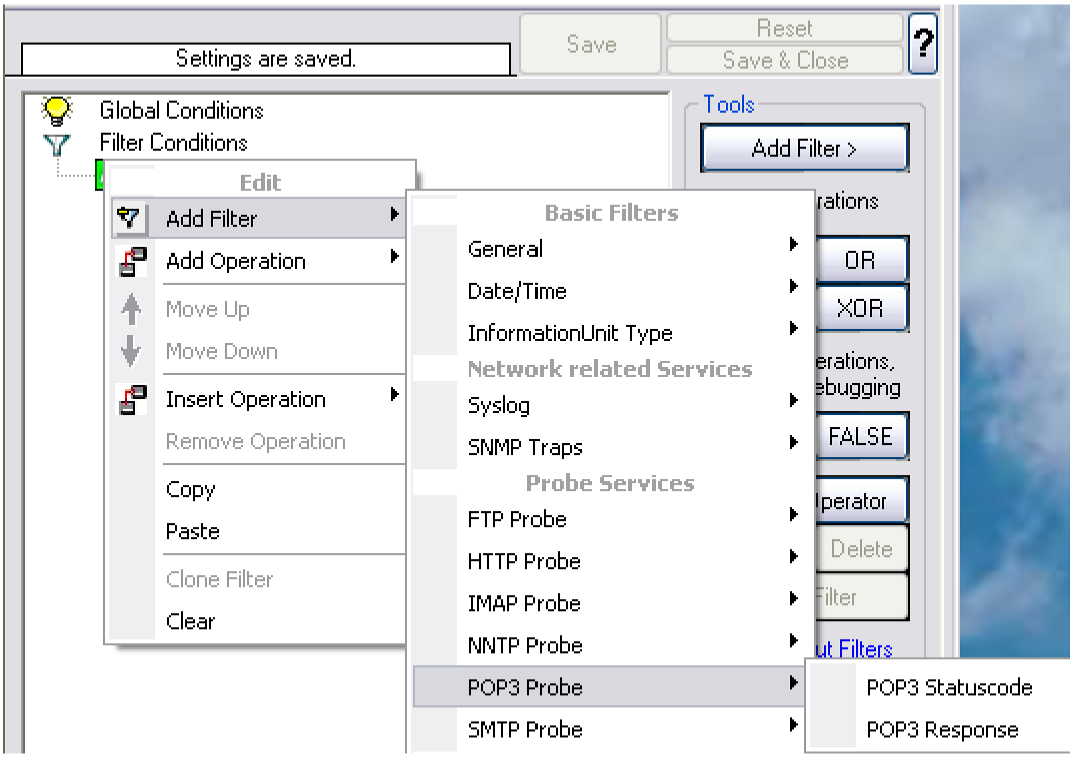
It contains the NNTP success or error code. This filter is of type integer.

NNTP Response

It contains the NNTP response.

6.4.13 POP3

POP3 related filters are grouped here.



Filter Conditions - POP3

POP3 Statuscode

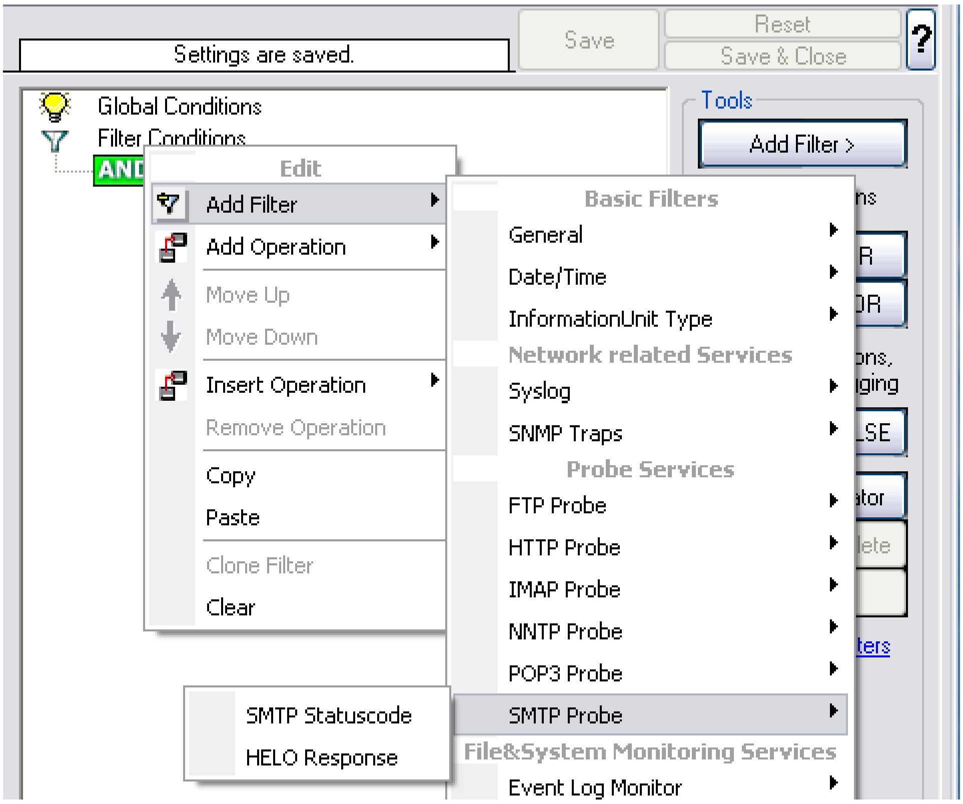
It contains the POP3 success or error code. This filter is of type number.

POP3 Response

It contains the POP3 response.

6.4.14 SMTP

SMTP related filters are grouped here.



Filter Conditions - SMTP

SMTP Statuscode

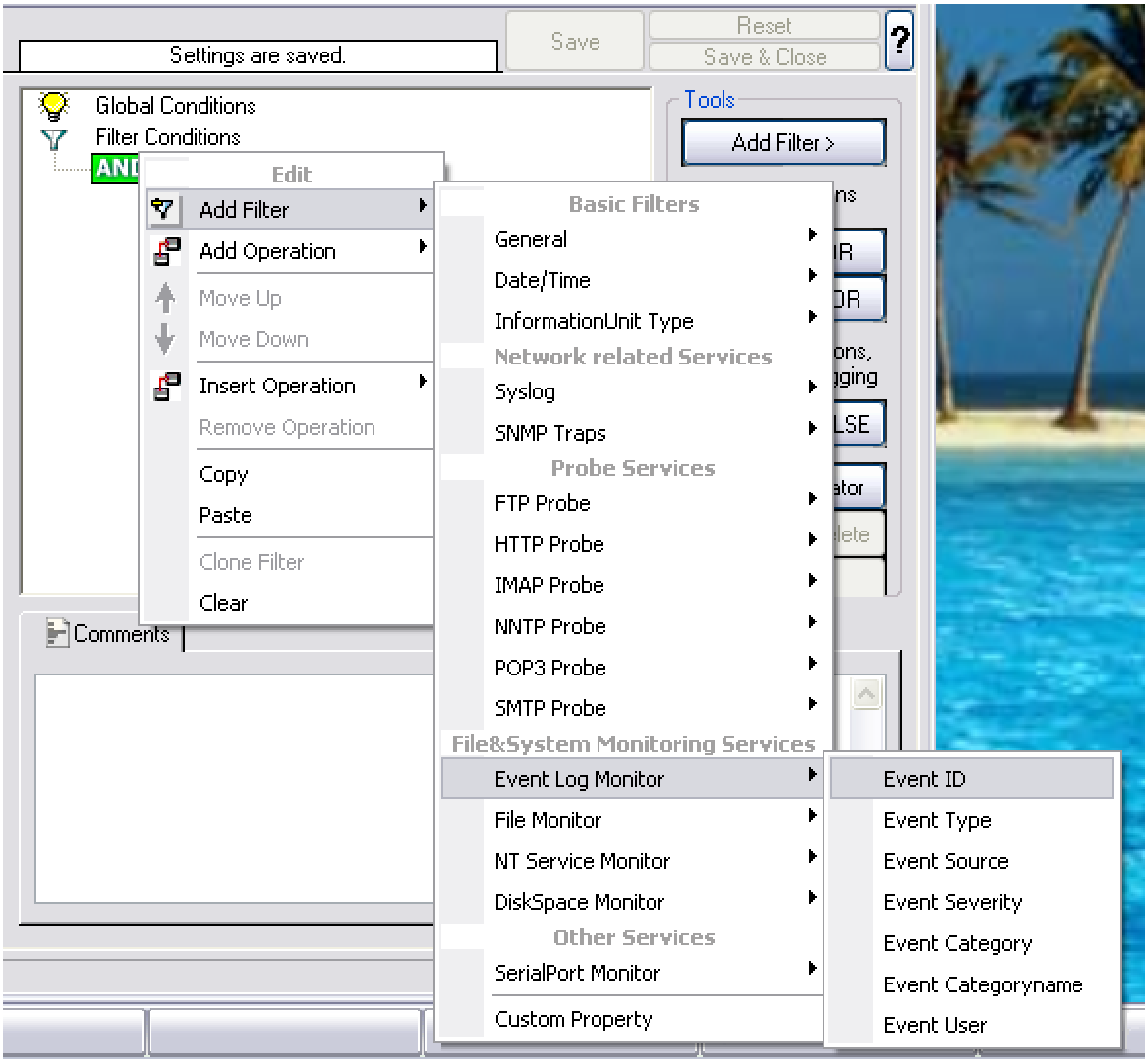
It contains the SMTP success or error code. This filter is of type number.

SMP Response

It contains the SMTP response.

6.4.15 Event Log Monitor

Event log monitor specific filters are grouped here.



Filter Conditions - Event Log Monitor

Event ID

This is the event log ID as specified in the NT event log. If enabled, the event must have the configured event ID or the rule will not match. This is an integer value.

This filter condition should only be used with event log information units. If used with others, a mapped value is to be used which might not properly reflect the actual value.

This filter is of type number.

Event Type

This is the event log type as specified in the NT event log. If enabled, the event must have the configured event type or the rule will not match. The supported values can be selected from the list box.

This filter condition should only be used with event log information units. If used with others, a mapped value is to be used which might not properly reflect the actual value.

This filter is of type string.

Event Source

This is the event log source as specified in the NT event log. If enabled, the event must have the configured event source or the rule will not match. This is a string value. There must be an exact match. Please note that this value is case-sensitive.

This filter condition should only be used with event log information units. If used with others, a mapped value is to be used which might not properly reflect the actual value.

This filter is of type string.

Event Severity

This is the event log severity as specified in the NT event log. If enabled, the event must have the configured severity or the rule will not match. The supported values can be selected from the list box.

This filter condition should only be used with event log information units. If used with others, a mapped value is to be used which might not properly reflect the actual value.

This filter is of type number.

Event Category

This is the event log category as specified in the NT event log. If enabled, the event must have the configured event category or the rule will not match.

This filter condition should only be used with event log information units. If used with others, a mapped value is to be used which might not properly reflect the actual value.

This filter is of type number.

Event Categoryname

This value contains the Category value as string if it can be resolved. Otherwise it contains the category number.

This filter is of type string.

Event User

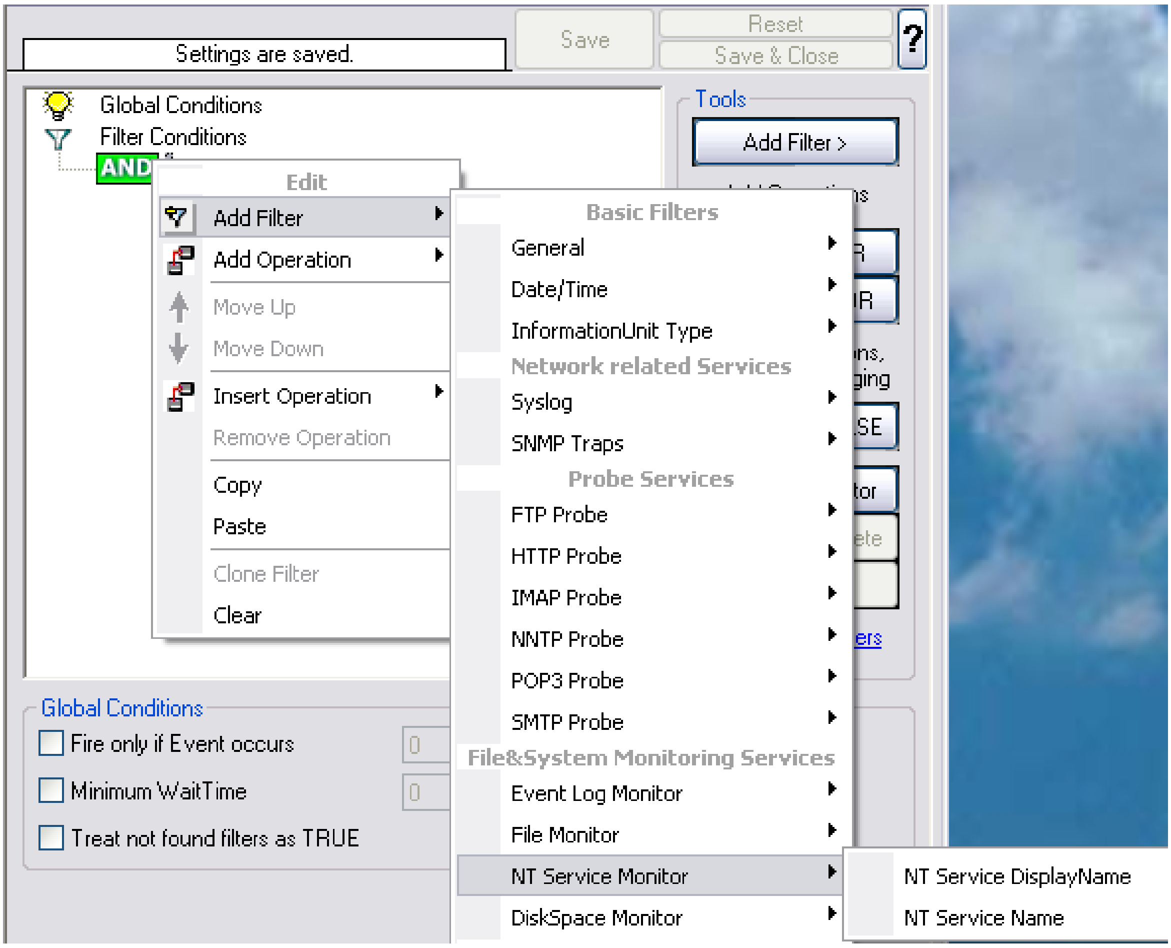
This is the event log user as specified in the NT event log. If enabled, the event must have the configured event user or the rule will not match. Since it's a string value there must be an exact match. Please note that this value is case-sensitive.

This filter condition should only be used with event log information units. If used with others, a mapped value is to be used which might not properly reflect the actual value.

This filter is of type string.

6.4.16 NT Service Monitor

The NT Service Name is used to check if vital operating services are running continuously. By default these services set to "automatic" startup. If the value returned isn't true then corrective measures can be taken e.g. alerts can be generated. See NT Services Monitor for more details.



Settings are saved.

Global Conditions

□ Fire only if Event occurs 0

□ Minimum WaitTime 0

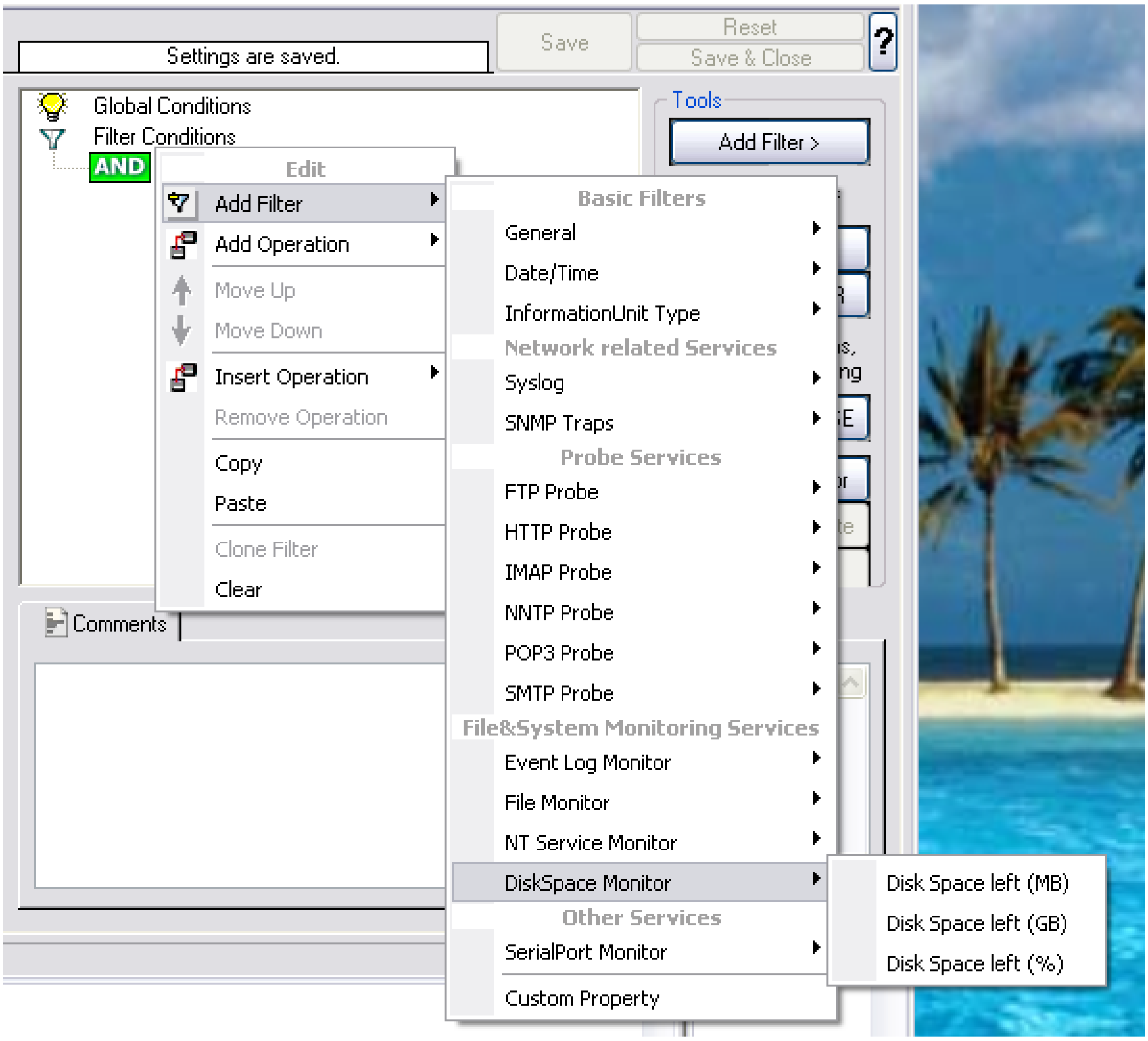
□ Treat not found filters as TRUE

Filter Conditions - NT Service Monitor

NT Service DisplayName
NT Service Name (Type=String).

6.4.17 DiskSpace Monitor

This filter works with the disk space report, only. It can be used to trigger actions when disk space is running low and / or becoming free again.



Filter Conditions - DiskSpace Monitor

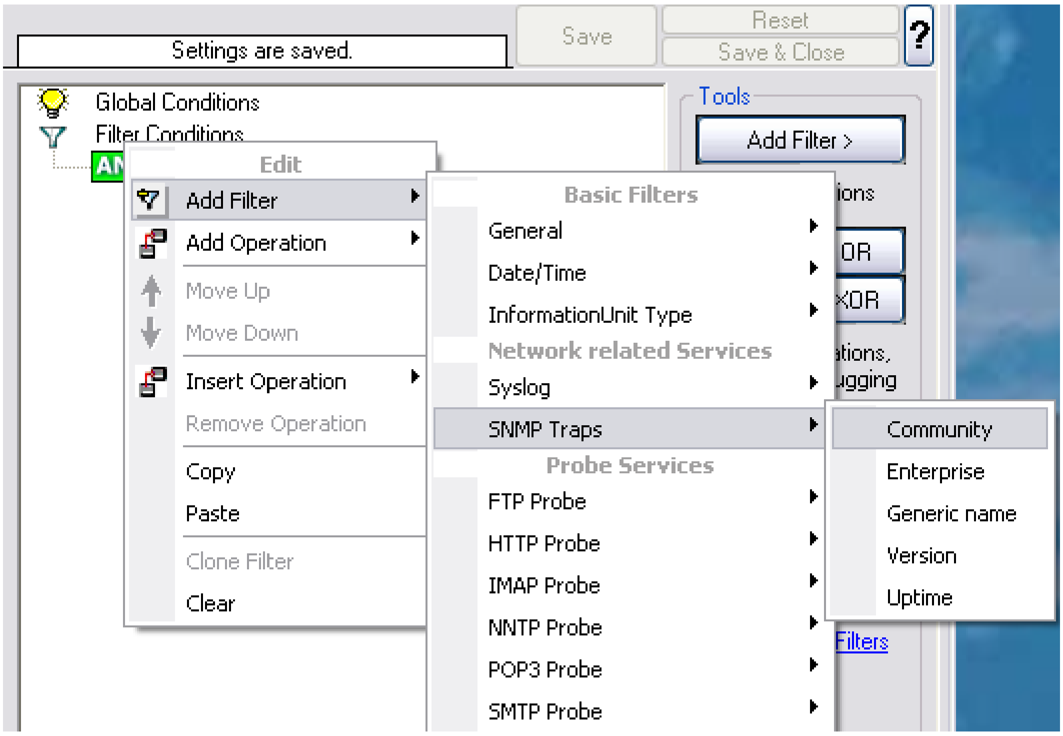
The following filters are available:

1. Disk Space left (MB) (Type=Number)
2. Disk Space left (GB) (Type=Number)
3. Disk Space left (%) (Type=Number)

6.4.18 SNMP Traps

Using SNMP Traps, MonitorWare Agent 3.0 now can be used to manage and monitor all sorts of equipment including computers, routers, wiring hubs, toasters and jukeboxes.

A trap is generated when the device feels it should do so and it contains the information that the device feels should be transmitted.



Filter Conditions - SNMP Traps

Community

It corresponds to the respective SNMP entity.

This filter is of type string.

Enterprise

It corresponds to the respective SNMP entity.

This filter is of type string.

Generic name

It corresponds to the respective SNMP entity.

This filter is of type string.

Version

It corresponds to the respective SNMP entity.

This filter is of type number.

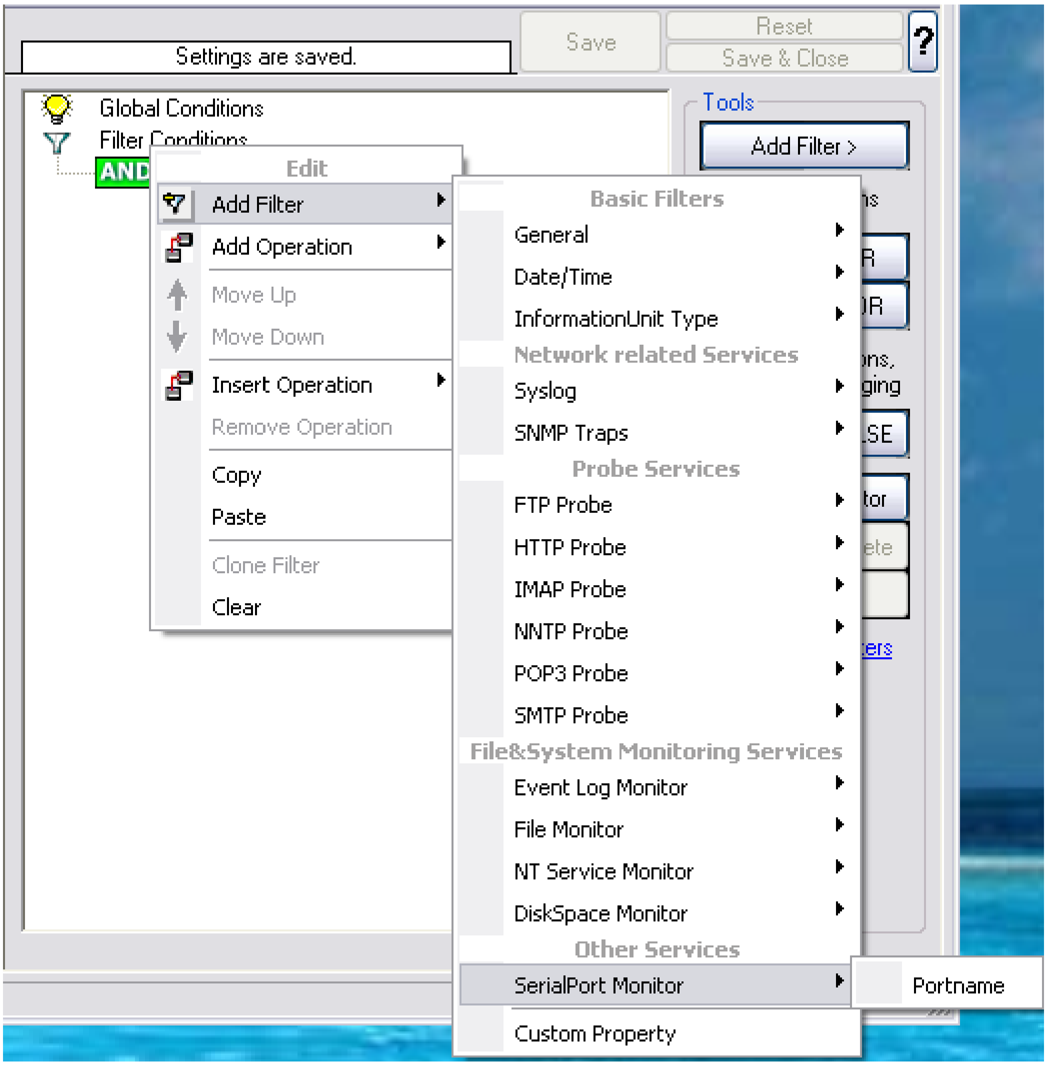
Uptime

It corresponds to the respective SNMP entity.

This filter is of type string.

6.4.19 SerialPort Monitor

SerialPort Monitor specific filter is described here.



Filter Conditions - SerialPort Monitor

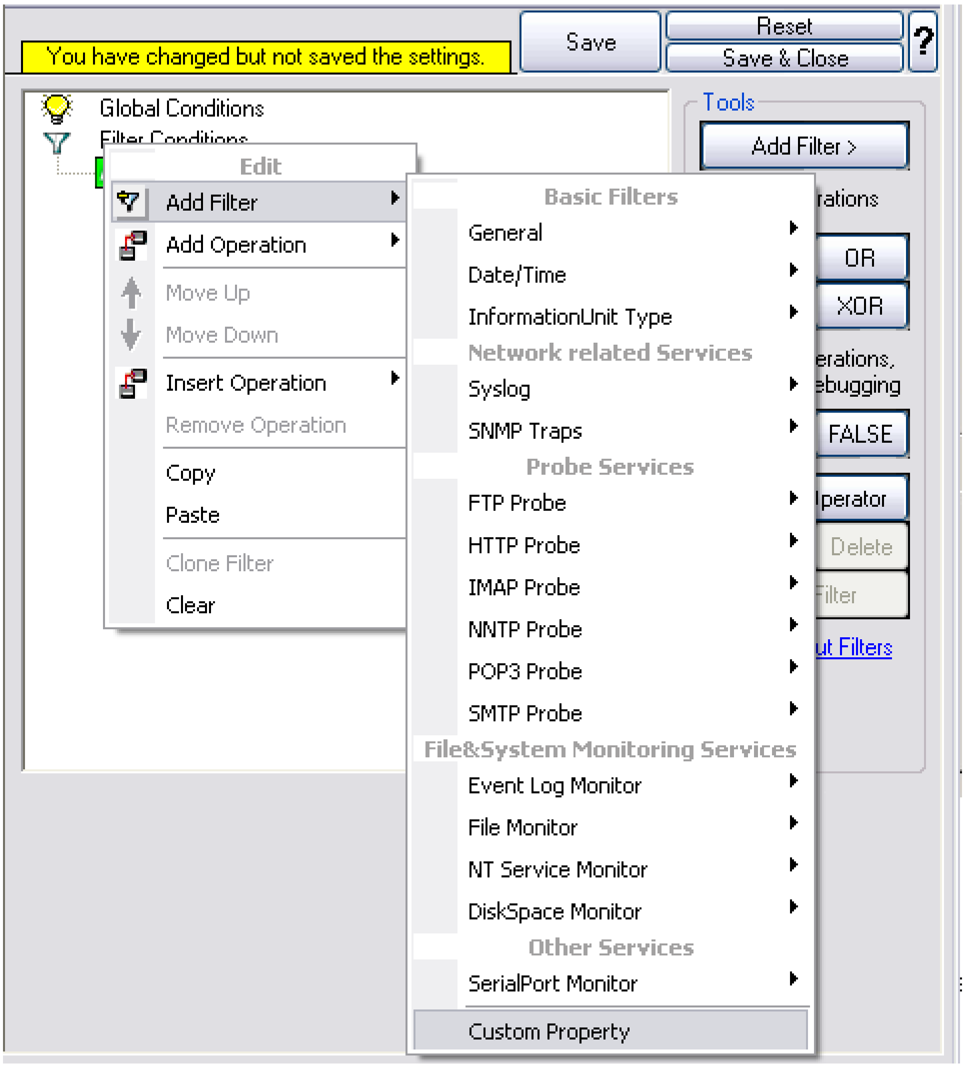
Portname

There can be unlimited number of ports in a system - there is no limitation i.e. port names are not specified. But you can use the default list from the "SerialPort Monitor" configuration window as sample of values, some examples are COM1, LPT1, FILE etc. The MonitorWare Agent Client dynamically reads the properties from the local machine.

This filter is of type string.

6.4.20 Custom Property

Custom Property specific filter is described here.



Filter Conditions - Custom Property

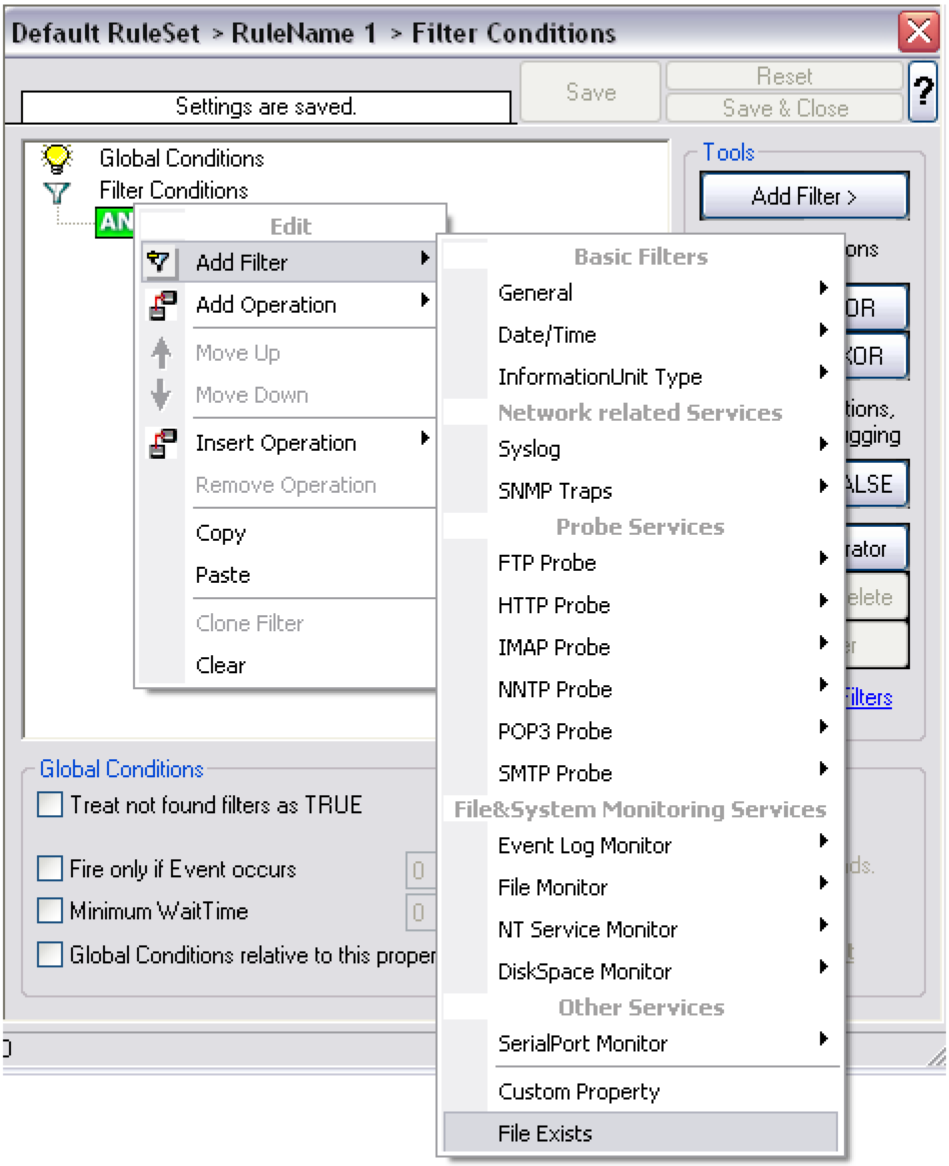
Custom Property

As the name suggests it is a "Custom Property". Internally in MonitorWare Agent all values are stored in properties. For example the main message is stored in a property called "msg". By using this dialog you can access properties which are dynamic (Like those from SNMP Trap Monitor when using V2 protocol).

This filter is of type string.

6.4.21 File Exists

Filter setting by string



Settings are saved.

□ Treat not found filters as TRUE

□ Fire only if Event occurs 0

□ Minimum WaitTime 0

□ Global Conditions relative to this proper

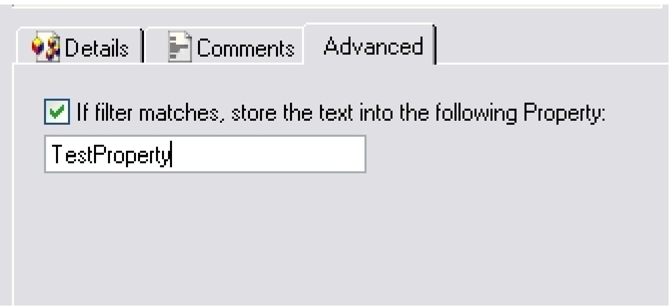
Filter Conditions - File Exists

File Exists

With this Filter you can simply check if a file exists or not. You can directly enter the file and its location or you can use the browse-button to find it.

6.4.22 Store Filter Results

How to store Filter Results is described here.



☑ If filter matches, store the text into the following Property:

TestProperty

Filter Conditions - Store Filter Results Property

Store Filter Results

If a filter matches, you can now store the result of the match into a custom property. This custom property can be used in Actions later.

6.5 Actions

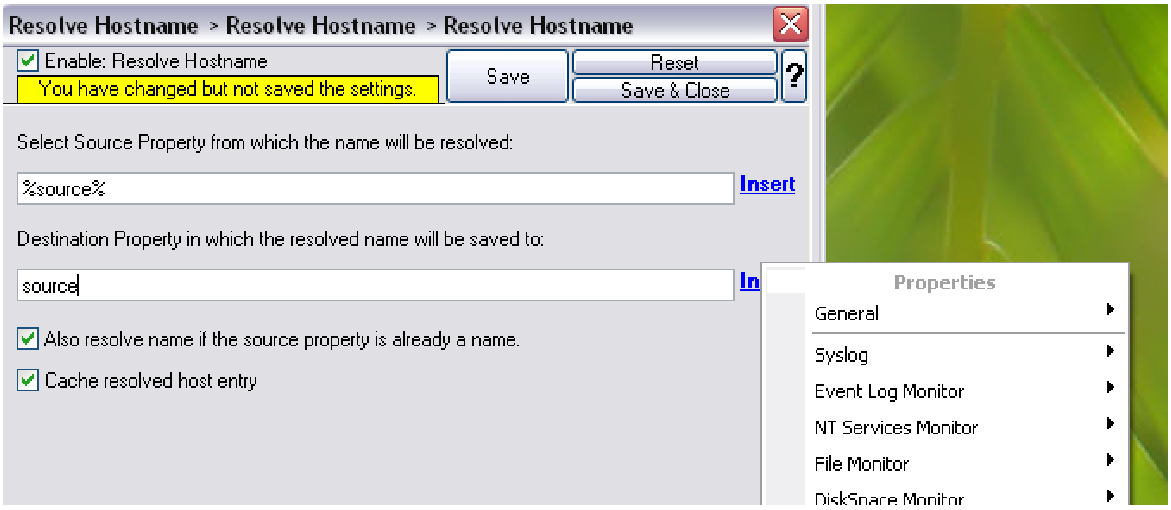
6.5.1 Understanding Actions

Actions tell the application that what to do with a given event. With actions, you can forward events to a mail recipient or Syslog server, store it in a file or database or do many other things with it.

There can be multiple actions for each rule. Actions are processed in the order they are configured. **However you can change the order of the actions by moving them Up or Down.**

6.5.2 Resolve Hostname Action

Many Customers asked for resolve hostname options in different services. This feature has now been implemented as an action. An action can be used with every service, and it doesn't delay the work of a service. See the Screenshot and Descriptions below on how to configure it correctly:


Resolve Hostname > Resolve Hostname > Resolve Hostname

☑ Enable: Resolve Hostname

You have changed but not saved the settings.

Select Source Property from which the name will be resolved:

%source%

Destination Property in which the resolved name will be saved to:

source

☑ Also resolve name if the source property is already a name.

☑ Cache resolved host entry

Figure1: Resolve Hostname Action with opened up "Insert" Menu.

Select Source Property from which the name will be resolved:

Click on the Insert menu link on the right side of the textfield to customize the source property from which the name will be resolved.

Destination Property in which the resolved name will be saved to:

Same as above, please click on the Insert menu link on the right side of the textfield to customize the destination property in which the resolved name will be saved to.

Also resolve name if the source property is already a name.

Activates the feature that the name will also be resolved if there is already a source property with that name.

Cache resolved host entry

If activated this will, as it says, cache the resolved host entry.

6.5.3 File Options

This configuration dialog is available both in the defaults section as well as with file logging actions.

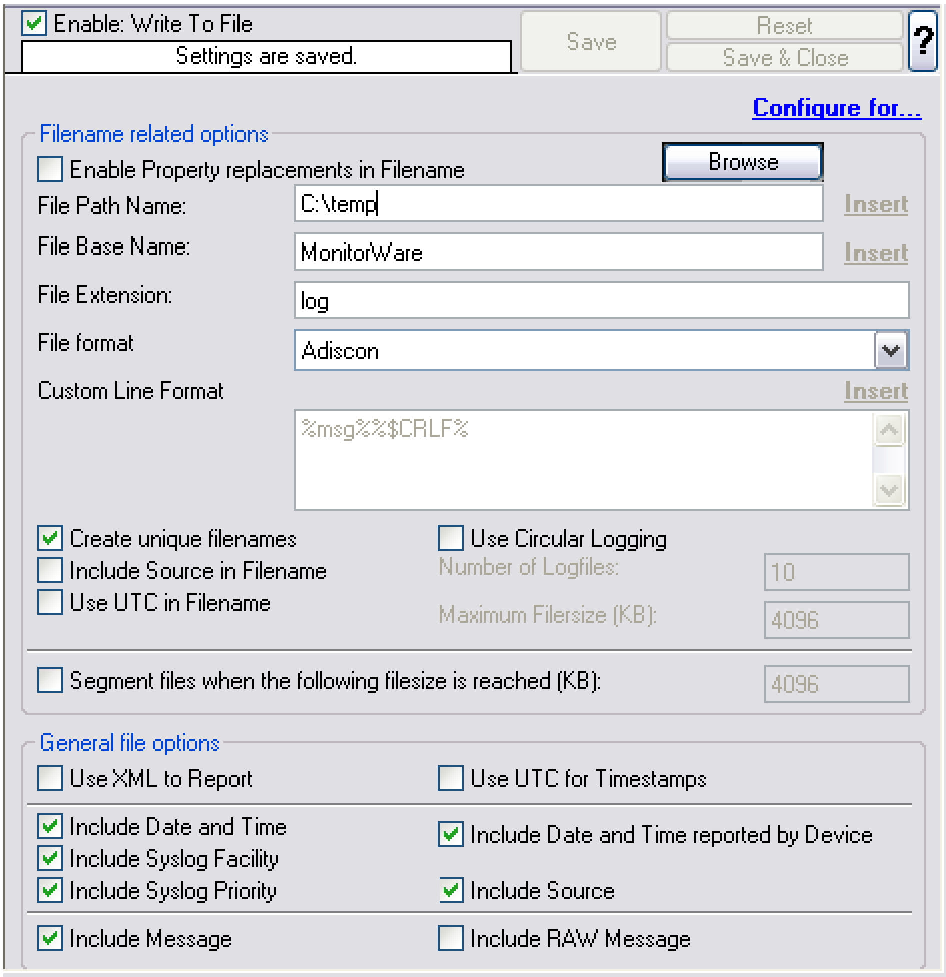
File logging is used to write text files of received messages. One file per day is written. New entries are appended to the end of the file.

File locks are released when currently no data is written. Therefore, other applications can access the files while the service is running. However, please be sure that the other applications do not place a file-lock onto it. Popular WordPad does so. In this case, the service will not be able to log any further messages (an error event is written to the NT Event Log in this case). We recommend copying the file when accessing it at runtime - or use notepad.exe, which does not place file-locks on the files it opens.

The filename is build as follows:

<FilePathName><FileBaseName>-year-month-day.<FileExtension>

Parameters in the brackets can be configured via dialog shown below:



☑ Enable: Write To File

Settings are saved.

Filename related options

☐ Enable Property replacements in Filename

File Path Name: C:\temp

File Base Name: MonitorWare

File Extension: log

File format: Adiscon

Custom Line Format: %msg%%$CRLF%

☑ Create unique filenames

☐ Include Source in Filename

☐ Use UTC in Filename

☐ Use Circular Logging

Number of Logfiles: 10

Maximum Filersize (KB): 4096

☐ Segment files when the following filesize is reached (KB): 4096

General file options

☐ Use XML to Report

☐ Use UTC for Timestamps

☑ Include Date and Time

☑ Include Syslog Facility

☑ Include Syslog Priority

☑ Include Date and Time reported by Device

☑ Include Source

☑ Include Message

☐ Include RAW Message

File Logging Options

Configure For ...

If you want to generate the reports on log files using Monilog or MonitorWare Console, then its absolutely necessary that the log files are in a specific format. This option allows you to configure the file logging format for Monilog and MonitorWare Console.

If the log file entries are not in the correct format for MonitorWare Console (for PIX or

Windows Reports), then it writes error messages for first 50 lines in Windows event log and ignores them for the generation of report, resulting in a generation of empty report.

And, if the log file entries are not in the correct format for Monilog, then an empty report woud be generated.

Following three options are available:

1. Configure for MonitorWare Console PIX Reports
2. Configure for MonitorWare Console Windows Reports
3. Configure for Monilog

Configure for MonitorWare Console PIX Reports

This option changes the file logging format of MonitorWare Agent to the correct format expected by MonitorWare Console for PIX report generation.

Configure for MonitorWare Console Windows Reports

This option changes the file logging format of MonitorWare Agent to the correct fromat expected by MonitorWare Console for Windows report generation.

Configure for Monilog

This option changes the File Logging format of MonitorWare Agent (i.e. custom line format) to the correct format that is expected by Monilog for report generation.

Enable Property replacements in Filename

By activating this option, you can use properties within the file or pathname like %Source% and all the others. For example:

File Path Name can be **F:\syslogs\%source%**
File Base Name can be **IIS-%source%**

If your source is 10.0.0.1, that writes the following file:

F:\syslogs\10.0.0.1\IIS-10.0.0.1.log

Please note that the path f:\syslogs\10.0.0.1 was generated because the source poperty was used inside the path.

Note: You can use ANY property inside the path and base name. Event properties are described in the property replacer section.

File Path Name

The base path (directory) of the file. Please see above for exact placement. Default is "c:\temp". The Insert Menu entry allows you to create "**Dynamic Directories**". For example:

File Path Name can be **F:\syslogs\%source%**

Event properties are described in the property replacer section.

File Base Name

The base name of the file. Please see above for exact placement. Default is "MonitorWare". The Insert Menu entry allows you to recreate "Dynamic Base Filenames". For example:

File Base Name can be **IIS-%source%**

File Extension

The extension to be used when writing the file. Please see above for exact placement. Default is ".log".

File Format

This controls the format that the log file is written in. The default is "Adiscon", which offers most options. Other formats are available to increase log file compatibility to third party applications.

The "Raw Syslog message" format writes raw Syslog format to the log file. That is, each line contains the Syslog message as of RFC 3164. No specific field processing or information adding is done. Some third party applications require that format.

The "WebTrends Syslog compatible" mimics the format that WebTrends applications expect. Please note that we only mimic the log file format. It is still the job of the reporting device (most notable firewall) to generate the correct WebTrends WELF format. The "WebTrends" format is supported because many customers would like to use MonitorWare Agent 3.0 enhanced features while still having the ability to work with WebTrends.

The "Custom" format allows you to customize formats to increase log file compatibility for third party applications. When you choose this option then Custom line format is enabled.

Please note that any other format besides "Adiscon Default" is a fixed format. As such, if it is selected, all other formatting options do not apply and consequently are turned off.

Custom Line Format

Custime Line Format enables you to fully customize the output for the log file. The Insert Menu entry provides further options and they only work in custom line format. Default value is "%msg%%$CRLF%".

Event properties are described in the property replacer section.

Create unique Filenames

If checked, MonitorWare Agent 3.0 creates a unique file name for each day. This is done by adding the current date to the base name (as can be seen above).

If left unchecked, the date is not added and as such, there is a single file with consistent file name. Some customers that have custom scripts to look at the file name use this.

Include Source in Filename

If checked, the file name generation explained above is modified. The source of the Syslog message is automatically added to the file name.

This feature has been introduced because many customers would like to have separate log files for each device. While this can be achieved with multiple rules, it is much more straight forward with this single checkbox. If it is checked, the messages are automatically written to separate files and the file name includes the originating device information.

Use UTC in Filename

This works together with the "Create unique Filenames" setting. If unique names are to be created then select the "Use UTC in Filename" option, in this case the file name is generated on the basis of universal co-ordinated time (UTC) or on local time. UTC was formerly referred to as "GMT" and is the basis of the time zone system. For example, New York, USA is 5 hours behind UTC. Therefore, if it is 12 noon in New York, the UTC time is 5pm.

When it comes to log file creation, it means that the date is computed on UTC. Taking the same example, if the "Use UTC in Filename" is checked, the log file name would roll over to the next date at 7 pm New York time. If it were unchecked, the rollover would occur exactly at midnight New York time (5 am UTC).

Using UTC for file name creation can be helpful if log files are written among different time zones and later consolidated. Using UTC ensures a consistent time notation across all log files.

Please note that this setting does affect the file name creation only. A different setting controls the dates recorded inside the file.

Use Circular Logging

When enabled log files are created and over written in a cycle.

Number of Log files

Once the last logfile is reached, circular logging begins and over write the first log file again.

Maximum File size

Max filesize of a log file, once this size is reached a new logfile is created.

Segment files when the following file size is reached (KB)

Files are seqmented when the defined file size is reached. The file name will have a sequence number appended (_1 to _n).

General file options

Under this group box, you can see two options discussed as under:

Use XML to Report

If checked, the message part includes a complete XML-formatted information record. It includes additional information like timestamps, Syslog facility and priority and others in an easy to parse format. If XML output format is selected, you might consider turning all other information fields off, as they are already included in the XML stream. However, this is not a requirement.

Use UTC for Timestamps

Please see the definition of UTC above at "Use UTC in Filename". This setting is very similar. If checked, all time stamps are written in UTC. If unchecked, local time is used instead. Again, UTC is useful if logs written in multiple time zones are to be consolidated.

Include <Fieldname>

The various "include" settings controls at the bottom are used to specify the fields which are to be written to the log file. All fields except the message part itself are optional. If a field is checked, it is written to the log file. If unchecked, it will not be written. All fields are comma-delimited.

Please note the difference between the "Date and Time" and "Date and Time reported by Device". Both are timestamps. Either both are written in local time or UTC based on the "Use UTC for Timestamps" check box. However, "Date and Time" is the time when MonitorWare Agent 3.0 received the message. Therefore, it is always a consistent value.

In contrast, the "Date and Time Reported by Device" is a timestamp taken from the actual message. As such, it is dependent on the reporting device clock, which might be off. In addition, in the case of Syslog messages, there is no time zone information within the device reported timestamp. As such, if devices from multiple time zones are reporting, the timestamp information is not consistent. This is due to Syslog design as of RFC 3164. The Syslog server can be configured to ignore the RFC in this case and provide a consistent time stamp. However, from the view of the log file writer, the "Date and Time Reported by Device" might not be as trustworthy as the "Date and Time" field. Nevertheless, it might also be more useful than the former one. This is the reason both timestamps are present and can individually be selected.

The "Include Message" and "Include RAW Message" fields allow customizing the message part that is being written. The raw message is the message as MonitorWare Agent 3.0 – totally unmodified, received it. This might be useful if a third party application is expecting raw Syslog entries. The message itself is just that part of the Syslog message that is being parsed as message that is without e.g. host information or a tag value. Please note that we recommend selecting only one of these options, as otherwise two message fields are written. Similarly, if none is selected no message is written at all. Please note that we support these configurations, too – there might be a legitimate need for them.

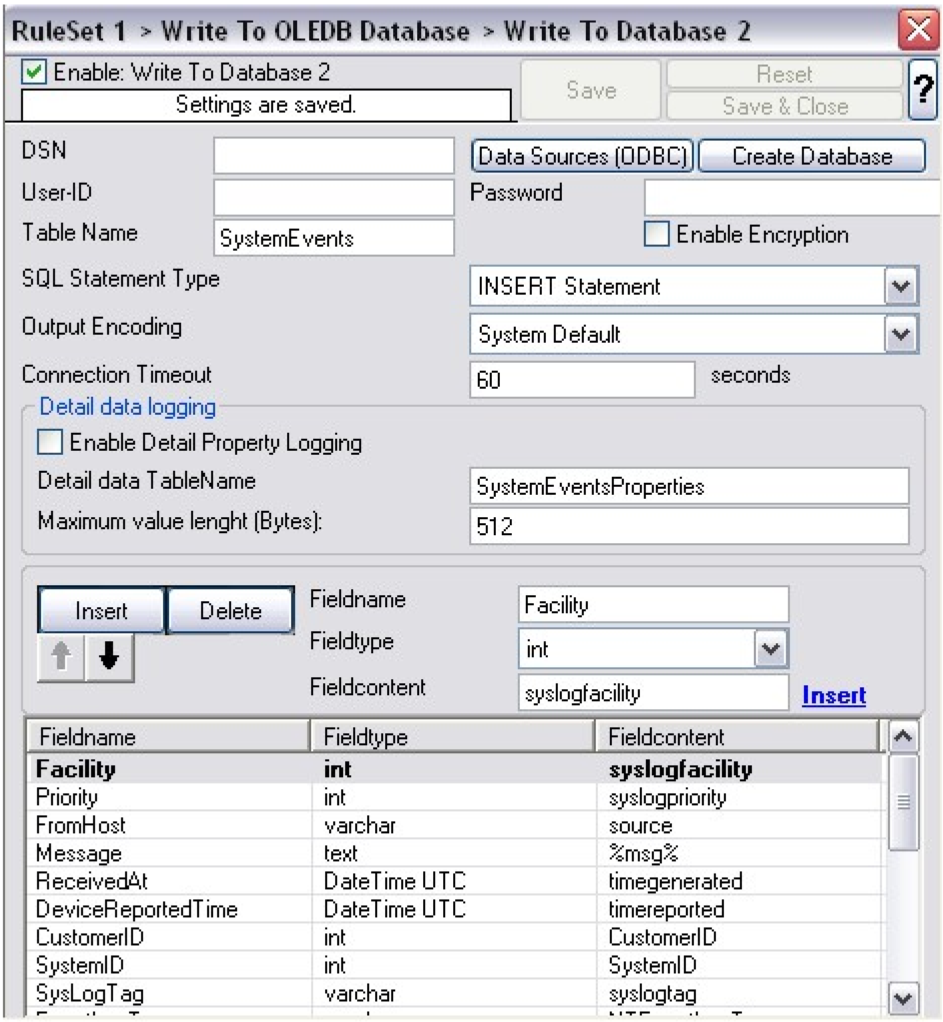
6.5.4 Database Options

Use database logging to store messages into a database.

Database logging allows writing incoming events directly to any ODBC - compliant database (virtually any database system currently available for the Windows operating system supports ODBC). Adiscon directly supports Microsoft JET databases (as used by Microsoft Access), Microsoft SQL Server and MySQL. We also know of many customers who run it successfully with Oracle and Sybase as well as a variety of other systems.

Once stored inside the database, different message viewers as well as custom applications can easily browse them. The defaults for the write database action are suitable for Adiscon MonitorWare Console product as well as the web interface.

The database format can be fine-tuned. This is most useful if you intend to run some additional analysis on the database. Also, in high volume environments, tuning the database action to exactly those fields need helps getting best performance out of the database.



RuleSet 1 > Write To OLEDB Database > Write To Database 2

☑ Enable: Write To Database 2

Settings are saved.

DSN:

User-ID:

Password:

Table Name: SystemEvents

□ Enable Encryption

SQL Statement Type: INSERT Statement

Output Encoding: System Default

Connection Timeout: 60 seconds

Detail data logging

□ Enable Detail Property Logging

Detail data TableName: SystemEventsProperties

Maximum value lenght (Bytes): 512

Fieldname: Facility

Fieldtype: int

Fieldcontent: syslogfacility

Fieldname	Fieldtype	Fieldcontent
Facility	**int**	**syslogfacility**
Priority	int	syslogpriority
FromHost	varchar	source
Message	text	%msg%
ReceivedAt	DateTime UTC	timegenerated
DeviceReportedTime	DateTime UTC	timereported
CustomerID	int	CustomerID
SystemID	int	SystemID
SysLogTag	varchar	syslogtag

Database Logging Options

The main feature of the "Write To Database" property sheet is the field list. The default reflects the typical assignment of event properties to database columns. However, you can modify this assignment in any way you like. You only need to keep in mind that Adiscon analysis products (like MonitorWare Console) need the database contents as specified. As such, malfunctions may occur if you modify the database assignments and then use these tools.

The "**fieldname**" is the database column name. It can be any field inside the table. The povided names are those that Adiscon's schema uses - you can add your own if you have a need for this. "**Fieldtype**" is the data type of the database column. It must reflect the column type selected in the database. It must also be consistent in type with the actual property that must be stored. For example, an integer type property like the syslogpriority can be stored in a varchar column. A string data type like the syslogtag can - for obvious reasons - not be stored in an integer column. Finally, the "**Fieldcontent**" is the event property. For a complete list of supported properties, see **Event properties.**

You can edit the field list by selecting a row and then modifying the text fields above the table. You can insert and delete rows by selecting the respective button. If you press delete, the currently selected row is deleted. You can move rows up and down by using the arrow keys. Moving them up and down is cosmetic - it will not affect the write to database action.

For string data types, you can use the property replacer. This can be helpful if you would like to store a substring. For example, if you intend to store only the first 200 characters of each message, you can use "%msg:1:200%".

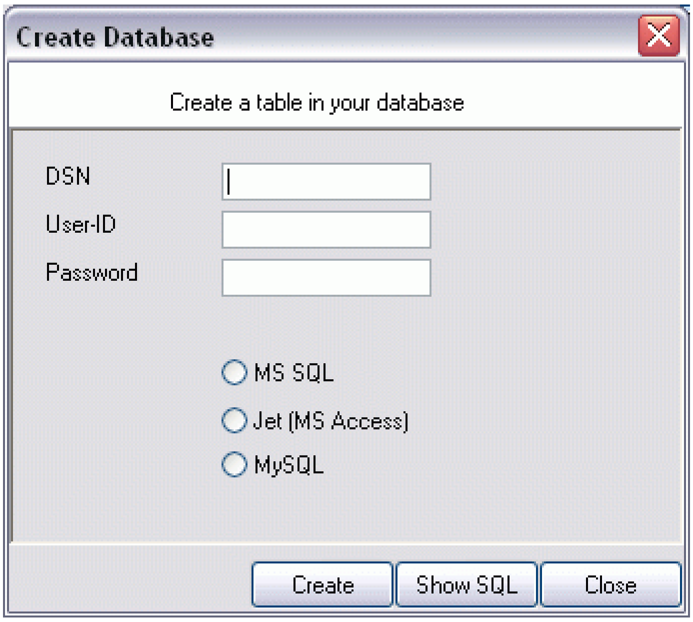
The rest of this section describes the labelled paramters.

Data Sources (ODBC)

If you click on this button, it starts the ODBC administrator of the operating system where you can add, edit or remove a data source(s).

Create Database

If you click on this button, it opens a form as shown below:



Create Database Form

In this form, you have to provide your DSN, User-ID, Password and select your underlying database. After this you have to click Create button to create the table in your database. You can also click Show SQL button to see the SQL query that is to be executed. Close button is to close the form.

DSN

This is the name of the system data source (DSN - data source name) to be used when connecting to the database. Create this in ODBC manager (can be found in control panel under Windows NT). Press the "Data Sources (ODBC)" button to start the operating system ODBC administrator where data sources can be added, edited and removed.

Important: The DSN must be a system DSN, not a user or file DSN. The DSN must be configured to have the correct connection parameters (for example database type and name, server name, authentication mode etc.).

User-ID

The User-ID used to connect to the database. It is dependant on the database system used if it is to be specified (e.g. Microsoft Access does not need one, while Microsoft SQL Server can force you to use one). If in doubt, please see your database administrator.

Password

The password used to connect to the database. It must match the "User-ID". Like the User ID, it is dependent on the database system if a password is needed. Passwords can be stored either encrypted or unencrypted. We highly recommend storing them encrypted.

Enable Encryption

Check to store the ODBC password encrypted. If left unchecked, the password is stored unencrypted. We strongly recommend checking this box.

If you store the password unencrypted for some reason, please be aware of the security implications. In this case, we recommend using an account with limited access privileges. Even when stored encrypted, we recommend using limited privileges accounts. We are not applying strong cryptography here.

Table Name

The name of the table to log to. This name is used to create the SQL insert statement and must match the database definition. Default is "SystemEvents".

Please note that the default table name must be used when other members of the MonitorWare family (like the web interface or the MonitorWare Console) should work with the database. This customization option is meant for those customers that use third-party or custom software.

SQL Statement Type

You can select between a INSERT and Call Statement, which is Microsoft specific for Stored Procedures. This means also this type of SQL Statement will only work if MSSQL is used as database. If you select MSSQL Call Statement, the tablename field will automatically be used as stored procedure name.

Output Encoding

This setting is most important for Asian languages. A good rule is to leave it at "System Default" unless you definitely know you need a separate encoding. "System Default" works perfect in the far majority of cases, even on Asian (e.g. Japanese) Windows versions.

Connection Timeout

Defines the Timeout for the connection

Enable Detail Property Logging

This option logs event properties other than the standard properties to the SystemEventProperties table. A single event can potentially have multiple properties, so selecting this option can result in multiple writes. With Syslog data, however, there are seldom any additional properties. They most often occur when you use the "Post Process" action to define your own properties. Additional properties are typically found in SETP received data originating from an event log monitor, file monitor or database monitor (plus other monitors, but these are the most prominent ones).

For example, with Event Log data received via SETP, these properties contain the actually Windows event properties and the event data. Please note that this does not apply to event log messages received via Syslog, because they are no native events but rather Syslog data.

Please make sure you actually need this before activating it. As a side note, some of the MonitorWare Console reports may need detail logging.

Connection Retry

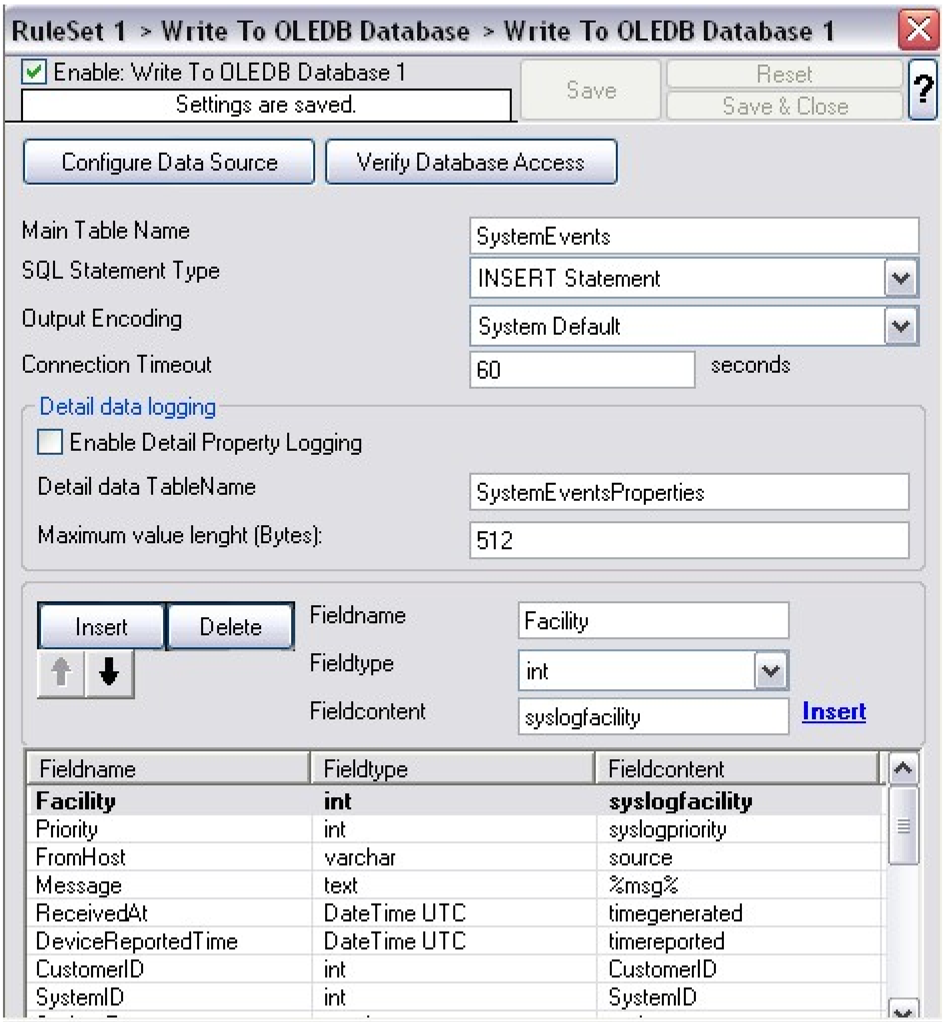
If a connection is broken, MWAgent gracefully shutdowns the DB Connection and tries to reopen the Connection with the next Actioncall.

6.5.5 OLEDB Database Action

Due the changes to x64, it became more important to also support the newer database layer from Microsoft called OLEDB. The OLEDB Action works similar to the ODBC Action from configuration point of few. The MS SQL OLEDB Provider and JET4.0 OLEDB Provider have been successfully tested in the Win32 environment. Unfortunately, the JET4.0 Provider has not been ported to the x64 platform yet. In our internal performance tests, there was an enhancement of up to 30% compared to ODBC. So this action may also be interesting for people with a huge amount of incoming data.

This Action allows writing incoming events directly to any OLEDB - compliant database.
Once stored inside the database, different message viewers as well as custom applications can easily browse them. The defaults for the write database action are suitable for Adiscon MonitorWare Console product as well as the web interface.

The database format can be fine-tuned. This is most useful if you intend to run some additional analysis on the database. Also, in high volume environments, tuning the database action to exactly those fields need helps getting best performance out of the database.



RuleSet 1 > Write To OLEDB Database > Write To OLEDB Database 1

☑ Enable: Write To OLEDB Database 1

Settings are saved.

Main Table Name: SystemEvents

SQL Statement Type: INSERT Statement

Output Encoding: System Default

Connection Timeout: 60 seconds

Detail data logging

☐ Enable Detail Property Logging

Detail data TableName: SystemEventsProperties

Maximum value lenght (Bytes): 512

Fieldname: Facility

Fieldtype: int

Fieldcontent: syslogfacility

Fieldname	Fieldtype	Fieldcontent
Facility	**int**	**syslogfacility**
Priority	int	syslogpriority
FromHost	varchar	source
Message	text	%msg%
ReceivedAt	DateTime UTC	timegenerated
DeviceReportedTime	DateTime UTC	timereported
CustomerID	int	CustomerID
SystemID	int	SystemID

OLEDB Database Action Options

The main feature of the "OLEDB Database Action" property sheet is the field list. The default reflects the typical assignment of event properties to database columns. However, you can modify this assignment in any way you like. You only need to keep in mind that Adiscon analysis products (like MonitorWare Console) need the database contents as specified. As such, malfunctions may occur if you modify the database assignments and then use these tools.

The "**fieldname**" is the database column name. It can be any field inside the table. The povided names are those that Adiscon's schema uses - you can add your own if you have a need for this. "**Fieldtype**" is the data type of the database column. It must reflect the column type selected in the database. It must also be consistent in type with the actual property that must be stored. For example, an integer type property like the syslogpriority can be stored in a varchar column. A string data type like the syslogtag can - for obvious reasons - not be stored in an integer column. Finally, the "**Fieldcontent**" is the event property. For a complete list of supported properties, see **Event properties.**

You can edit the field list by selecting a row and then modifying the text fields above the table. You can insert and delete rows by selecting the respective button. If you press delete, the currently selected row is deleted. You can move rows up and down by using the arrow keys. Moving them up and down is cosmetic - it will not affect the write to database action.

For string data types, you can use the property replacer. This can be helpful if you would like to store a substring. For example, if you intend to store only the first 200 characters of each message, you can use "%msg:1:200%".

The rest of this section describes the labelled paramters.

Configure Data Source

If you click on this button, it starts the OLEDB administrator of the operating system where you can add, edit or remove a data source(s).

Verify Database Access

This button verifies if your indicated data source works fine.

Main Table Name

The name of the table to log to. This name is used to create the SQL insert statement and must match the database definition. Default is "SystemEvents".

Please note that the default table name must be used when other members of the MonitorWare family (like the web interface or the MonitorWare Console) should work with the database. This customization option is meant for those customers that use third-party or custom software.

SQL Statement Type

You can select between a INSERT and Call Statement, which is Microsoft specific for Stored Procedures. This means also this type of SQL Statement will only work if MSSQL is used as database. If you select MSSQL Call Statement, the tablename field will automatically be used as stored procedure name.

Output Encoding

This setting is most important for Asian languages. A good rule is to leave it at "System Default" unless you definitely know you need a separate encoding. "System Default" works perfect in the far majority of cases, even on Asian (e.g. Japanese) Windows versions.

Connection Timeout

Defines the Timeout for the connection

Enable Detail Property Logging

This option logs event properties other than the standard properties to the SystemEventProperties table. A single event can potentially have multiple properties, so selecting this option can result in multiple writes. With Syslog data, however, there are seldom any additional properties. They most often occur when you use the "Post Process" action to define your own properties. Additional properties are typically found in SETP received data originating from an event log monitor, file monitor or database monitor (plus other monitors, but these are the most prominent ones).

For example, with Event Log data received via SETP, these properties contain the actually Windows event properties and the event data. Please note that this does not apply to event log messages received via Syslog, because they are no native events but rather Syslog data.

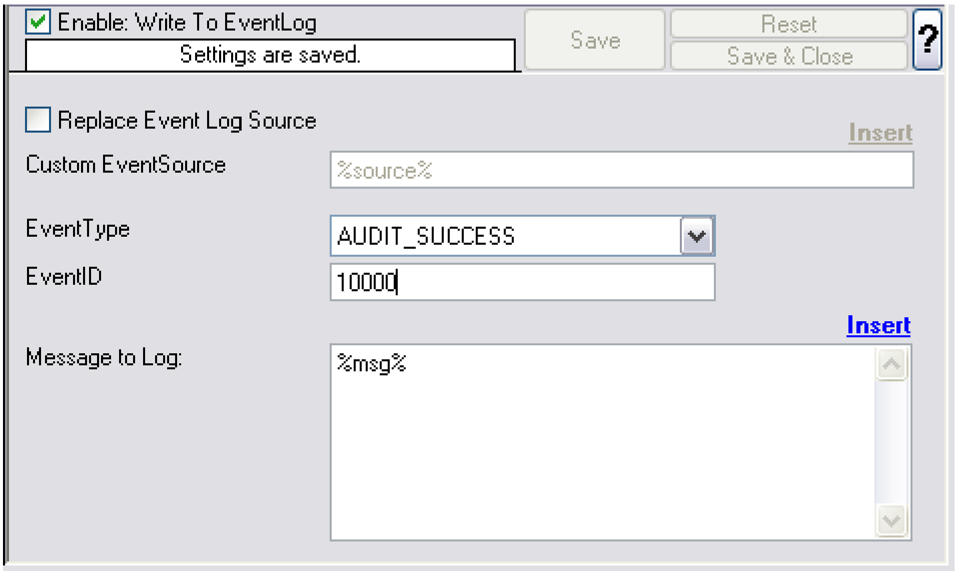
Please make sure you actually need this before activating it. As a side note, some of the MonitorWare Console reports may need detail logging.

Connection Retry

If a connection is broken, MWAgent gracefully shutdowns the DB Connection and tries to reopen the Connection with the next Actioncall.

6.5.6 Event Log options

This tab is used to configure the logging to the Windows NT / 2000 or XP event log. It is primarily included for legacy purposes.



☑ Enable: Write To EventLog

Settings are saved.

☐ Replace Event Log Source

Custom EventSource: %source%

EventType: AUDIT_SUCCESS

EventID: 10000

Message to Log: %msg%

Event Logging Options

Replace Event Log Source

If checked, a special mapping mechanism is activated. In this mode, the Windows event source is set to the IP address of the system sending the Syslog message. In addition, the ID is set to Syslog facility. This mode helps to quickly gather information about the system state in Windows event viewer.

However, this mode has its drawbacks. Effectively, we are writing invalid event source information to the event log. This does not harm any application, but Windows event viewer will try to locate the matching message libraries. Of course, this is impossible. As such, event viewer will warn the user that the message library could not be found. Nevertheless, it will display the complete logged message. This happens only in detail view.

Users should fully understand the implications of this mapping mechanism for their environment before turning this option on.

Custom Event Source

EventSource is now fully configurable with all posibilities the property engine gives you. **Please note that content of this field can be configured. Event properties are described in the property replacer section.**

EventType

The type – or severity – this log entry is written with. Select from the available Windows system values.

EventID

The ID to be used when writing to the event log. Different IDs can be used to provide other processes with a consistent interface to specific messages. WinSyslog does not restrict the IDs that can be used. However, if an ID is written that is not registered with the operating system, Windows event viewer places an error message pointing this out before the actual message text. To avoid this text, event IDs 10,000 to 10,100 have been registered with the OS. We highly recommend that these IDs should be used for all custom messages. IDs below 10,000 should not be used as they might potentially interfere with events generated by MonitorWare Agent 3.0 itself.

Message to Log

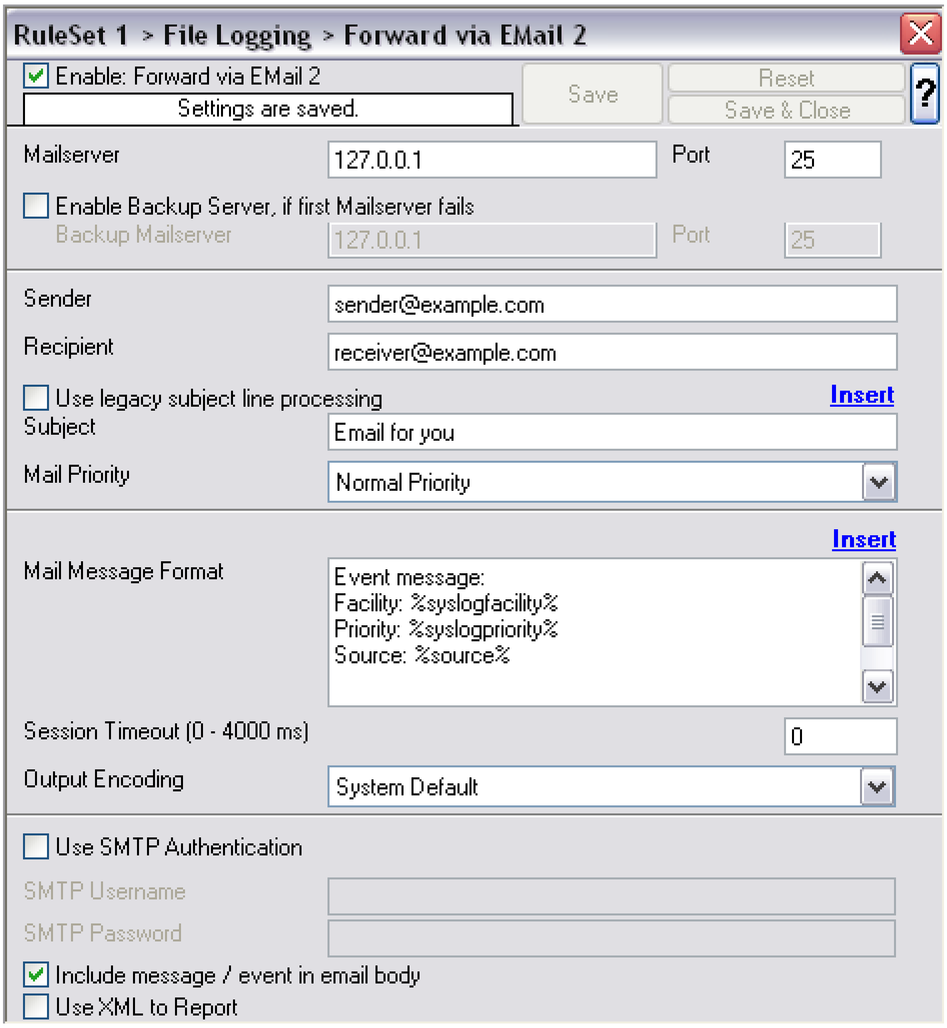
It is the message which will be logged into the Windows event log. It is fully configurable what is logged into the Eventlog.

Please note that Insert Menu entry allows you to add replacement characters e.g. %msg% - you can write the actual message of an event into the Windows event log.

Please note that The message content of the message field can be configured. Event properties are described in the property replacer section.

6.5.7 Mail Options

This tab is used to configure mail (SMTP) parameters. These are the basic parameters for email forwarding. They need to be configured correctly, if mail message should be sent by the service.


RuleSet 1 > File Logging > Forward via EMail 2

☑ Enable: Forward via EMail 2

Settings are saved.

Mailserver: 127.0.0.1 Port: 25

☐ Enable Backup Server, if first Mailserver fails

Backup Mailserver: 127.0.0.1 Port: 25

Sender: sender@example.com

Recipient: receiver@example.com

☐ Use legacy subject line processing

Subject: Email for you

Mail Priority: Normal Priority

Mail Message Format:

```
Event message:
Facility: %syslogfacility%
Priority: %syslogpriority%
Source: %source%
```

Session Timeout (0 - 4000 ms): 0

Output Encoding: System Default

☐ Use SMTP Authentication

SMTP Username:

SMTP Password:

☑ Include message / event in email body

☐ Use XML to Report

Forward Email Properties

Mailserver

This is the Name or IP address of the mail server to be used for forwarding messages. Please note that this server must be able to relay messages if the recipient is not hosted at this server. Be sure to contact your mail server's administrator if in doubt on this issue.

The service expects to talk to a standard SMTP mail server. Message relaying to the final destination must be permitted.

Backup Mailserver

In case that the connection to the main configured mail server can not be established, the backup mail server is tried. Note that an error is only generated, if the connection to the backup server fails as well.

Port

Port the mail server is to be contacted at. Usually, this is 25. It might, however, be changed in your system. Then, specify the port your mail server uses. If in doubt, try the default of 25 - or contact your mail server administrator.

Sender

Email address used as the sender address for outgoing messages. In order for your SMTP server to accept it, it probably must be a valid address.

Recipient

The recipient emails are addressed to. To send a message to multiple recpients, enter all recipient's email addresses in this field. Separate addressed by spaces, semicolons or commas (e.g. "receiver1@example.com, receiver2@example.com"). Alternatively, you can use a single email address and define a distribution list in your mail software. The distribution list approach is best if the recipients frequently change or there is a large number of them. Multiple recipients are also supported. They can be delimited by space, comma or semicolon.

Subject

Subject line to be used for outgoing emails and it is used for each message sent. It can contain replacement characters or "Event Properties" to customize it with event details. This is especially useful when sending email to cellular phones or pagers, which often display only the subject line and not the actual message body. The subject line – after expansion of the any replacement sequences – can hold a maximum of 255 characters. Characters beyond this will be truncated. Please note that many email systems impose a more strict limit and truncation may occur before the 255-character limit. It is advisable to limit the subject line length to 80 characters or less.

The mail body will also include full event information, including the source system, facility, priority and actual message text as well as any other information that came with this event. As there is no size limitation for message bodies, the body always contains the full message received (except otherwise configured – see below).

Please note that Insert Menu entry allows you to add replacement characters e.g.

%msg% - you can send out the actual message of an event in the subject line.

There will be one email for each received message. Email delivery is meant for urgent notifications and actions (e. g. calling pagers and such). It is not meant to provide an email report.

Please note that The message content of the Message field can be configured. Event properties are described in the property replacer section.

Mail Priority

Here you can adjust the priority with which the mail will be sent. You can choose between "low", "normal" and "high" priority. With this you can give your setup some complexity, being able to send some events as "important" and others with less importance.

Use legacy subject line processing

This checkbox specifies which type of subject line processing will be done. If it is checked, the old-style processing using single character replacement sequences is applied. If it is left unchecked, the far more powerful event property based method is used.

In legacy mode, the following replacement characters are recognized inside the subject line:

%s
IP address or name (depending on the "resolve hostnames" setting) of the source system that sent the message.
%f
Numeric facility code of the received message
%p
Numeric priority code of the received message
%m
the message itself. Please note: this is the complete message text and can be rather lengthy. As such, it is most probably subject to truncation. If that occurs, all other information after the %m replacement character is also truncated. As such, we strongly recommend using the %m replacement at the end of the subject line only.
%%
It represents a single % sign.

As an example, you may have the subject line set to "Event from %s: "m" and enabled legacy processing. If a message "This is a test" were received from "172.16.0.1", the resulting email subject would read: "Event from 172.16.0.1: This is a test"

In non-legacy mode, the Property Replacer can be used. With it, you can include any property from the event message and also modify it. Please visit the Property Replacer documentation for details.

As an example, in non-legacy mode, you can set the subject line to "Mesg: '%msg:1:15%' From: %fromhost%". If the message "This is a lengthy test message" were receive from "172.16.0.1", the resulting email subject would read: "Mesg: 'This is a lengt' From: 172.16.0.1". Please note that the message is truncated because you only extracted the first 15 charactes from the message text (position 1 to 15).

Mail Message Format

This is the format of the message body. Properties from the event can be included by using the Property Replacer. Please note that the message body is only sent if "Include Message/Event in Email Body" is checked.

Session Timeout

This option controls if multiple rapidly incoming messages should be combined to a single email message. The SMTP session with the server is held open for the specified timeout period. Please note that the period is specified in miliseconds, not seconds.

If a new event arrives within the specified timeout period, that event will be included in the same email message as the previous one. Then, the timeout is re-started. As such, any events coming in within successive timeout periods will be combined in a single mail.

This is most appropriate when large burst of messages are expected and these should be combined in few mail messages. Otherwise, multiple mail messages can easily overflow the administrator's mailbox.

The session timeout is user configurable between 0 and 4000 milliseconds. Larger values are not supported as they probably affect the SMTP server performance and can lead to unpredictable results.

The session timeout of zero milliseconds has a special meaning: if it is selected, every event will be sent in a separate message, no matter how fast two messages occur after each other.

Use SMTP Authentication

Check this box if your server requires SMTP authentication. To fight SPAM, more and more server operators allow relaying only for authenticated users. It might even happen that an existing account does no longer work because the server has been reconfigured to disallow anonymous posting.

If your server requires (or supports) SMTP authentication, check this box and enter your User ID and password in the boxes below. The exact values will be provided by your server operator – if in doubt, please ask the mail server support.

If the mail server does not support authentication, leave this box unchecked.

We recommend using authentication if it is available. Even when the current server configuration allows unauthenticated relay, this potentially will change in the future (as the SPAM problem grows). If you already use authentication, such a server configuration change will not affect you. Otherwise, it will disrupt mail service.

Include message / event in email body

This checkbox controls whether the Syslog message will be included in the message body or not. If left unchecked, it will not be included in the body. If checked, it will be sent.

This option is useful for pagers and mobile phones, especially those with WML support. These devices are often capable of displaying only limited amounts of data. Some do not display the message body at all. As such, it makes limited sense to send a message body. As such, it can be turned off with this option. With these devices, use a subject line with the proper replacement characters.

Even if your WML enabled phone supports receiving message bodies, it might be a good idea to turn them off. WML and WAP are relatively expensive. Generated messages can become lengthy (depending on the message source). As such, it might be appropriate to disable the message body in such a scenario.

This option is must useful together with a well-formatted subject line in non-legacy mode.

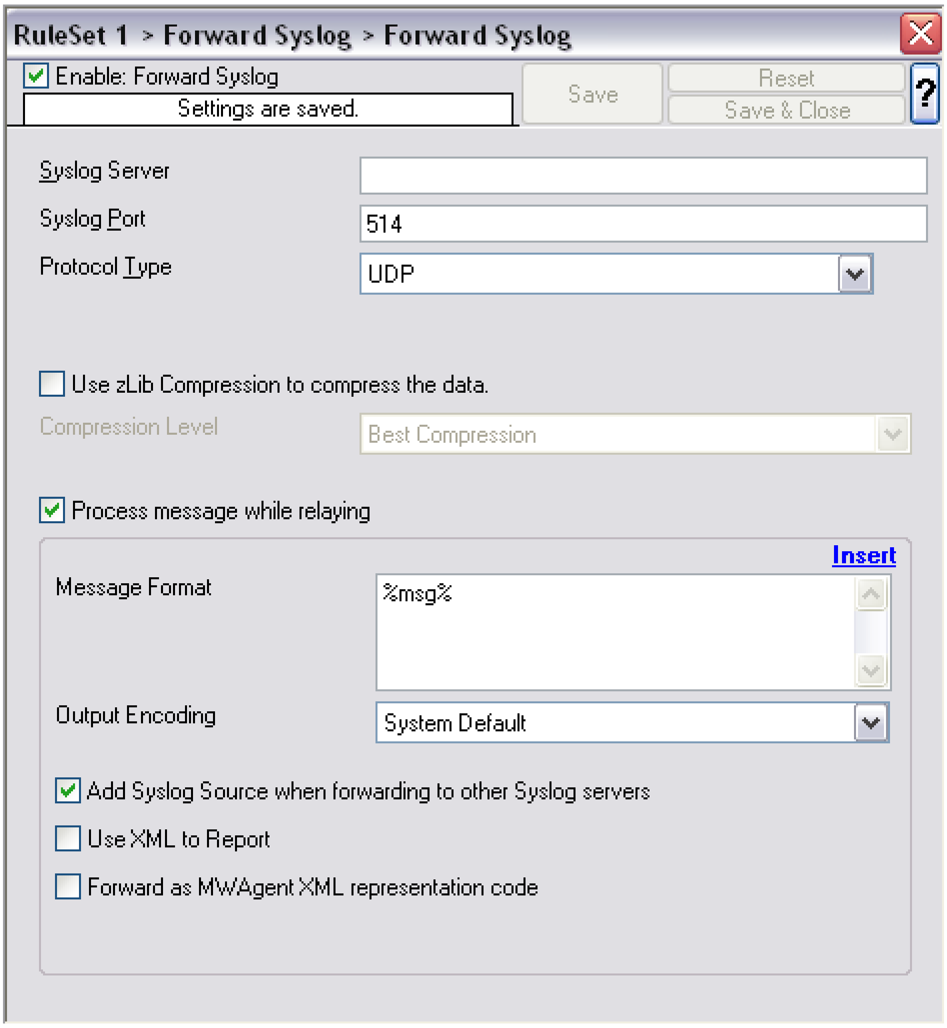
Use XML to Report

If checked, the received event will be included in XML format in the mail. If so, the event will include all information, like the original timestamp, the facility, priority etc. XML format is especially useful if the mail is sent to an automated system, which will then parse the message.

If unchecked, just the plain text message will be included in the mail. This format is more readable for a human reader.

6.5.8 Forward Syslog Options

This dialog controls Syslog forwarding options.



☑ Enable: Forward Syslog

Settings are saved.

Syslog Server

Syslog Port: 514

Protocol Type: UDP

☐ Use zLib Compression to compress the data.

Compression Level: Best Compression

☑ Process message while relaying

Message Format: %msg%

Output Encoding: System Default

☑ Add Syslog Source when forwarding to other Syslog servers

☐ Use XML to Report

☐ Forward as MWAgent XML representation code

Forward Syslog Properties

Syslog Server

This is the name or IP address of the system to which Syslog messages should be sent to.

Syslog Port

The remote port on the Syslog server to report to. If in doubt, please leave it at the default value of 514, which is typically the Syslog port. Different values are only required for special setups, for example in security sensitive areas. Set the port to 0 to use the system-supplied default value (which defaults to 514 on allmost all systems).

Instead of the port number, a service name can be used. If so, that name is looked up via the socket service database functions.

Protocol Type

There are various ways to transmit syslog messages. In general,they can be sent via UDP, TCP or RFC 3195 RAW. Typically, syslog messages are received via UDP protocol, which is the default. UDP is understood by almost all servers, but doesn't guarantee transport. In plain words, this means that syslog messages sent via UDP can get lost if there is a network error, the network is congested or a device (like a router or switch) is out of buffer space. Typically, UDP works quite well. However, it should not be used if the loss of a limited number of messages is not acceptable.

TCP and RFC 3195 based syslog messages offer much greater reliabilty. RFC 3195 is a special standardized transfer mode. However, it has not receive any importance in practice. Servers are hard to find. As one of the very few, Adiscon products support RFC 3195 also in the server implementations. Due to limited deployment, however, RFC 3195 is very little prooven in practice. Thus we advise against using RFC 3195 mode if not strictly necessary (e.g. part of your requirement sheet).

TCP mode comes in three flavours. This stems back to the fact that transmission of syslog messages via plain TCP is not yet officially standardized (and it is doubtful if it ever will be). However, it is the most relevant and most widely implemented reliable transmission mode for syslog. It is a kind of unwritten industry standard. We support three different transmission modes offering the greatest compatibility with all existing implementations. The mode "TCP (one message per connection)" is a compatibility mode for Adiscon servers that are older than roughly June 2006. It may also be required for some other vendors. We recommend not to use this setting, except when needed. "TCP (persistent connection)" sends multiple messages over a single connection, which is held open for an extended period of time. This mode is compatible with almost all implementations and offers good performance. Some issues may occur if control characters are present in the syslog message, which typically should not happen. The mode "TCP (octet-count based framing)" implements algorithms of an upcoming (but not yet finalized) IETF standard. It also uses a persistent connection. This mode is reliable and also deals with embedded control characters very well. However, there is only a limited set of receivers known to support it. As of this writing (January 2007), there were no non-Adiscon receivers supporting that mode. We expect progress once the IETF standard is officially out.

As a rule of thumb, we recommend to use "TCP (octet-count based framing)" if you are dealing only with (newer) Adiscon products. Otherwise, "TCP (persistent connection)" is probably the best choice. If you select one of these options, you can also select a timeout. The connection is torn down if that timeout expires without a message beeing sent. We recommend to use the default of 30 minutes, which should be more than efficient. If an installation only occasionally sends messages, it could be useful to use a lower timeout value. This will free up connection slots on the server machine.

Use zLib Compression to compress the data

With this option you can set the grade of compression for your syslog messages. For more information please read the note at the bottom of this page.

Process Message while relaying

This setting indicates if the message should be processed while it is being forwarded. Processing is necessary if you need to reformat the message, e.g. by using the property replacer. If you just intend the forward the message "as is" to another syslog server, uncheck this box. That will guarantee the message is not reformatted and it also offers the best possible performance. In many cases, leaving the box unchecked is a good idea.

Message Format

You can change the message format. By default the original message is forwarded.

Please note that the message content of the Message field can be configured. Event properties are described in the property replacer section.

Output Encoding

This setting is most important for Asian languages. A good rule is to leave it at "System Default" unless you definitely know you need a separate encoding. "System Default" works perfect in the far majority of cases, even on Asian (e.g. Japanese) Windows versions.

Add Syslog Source

If this box is checked, information on the original originating system is prepended to the actual message text. This allows the recipient to track where the message originally came from.

Please note: This option is not compatible with RFC 3164. We recommend selecting it primarily when message forwarding to a WinSyslog Interactive Server is intended.

Use XML to Report

If this option is checked, the forwarded Syslog message is a complete XML-formatted information record. It includes additional information like timestamps or originating system in an easy to parse format.

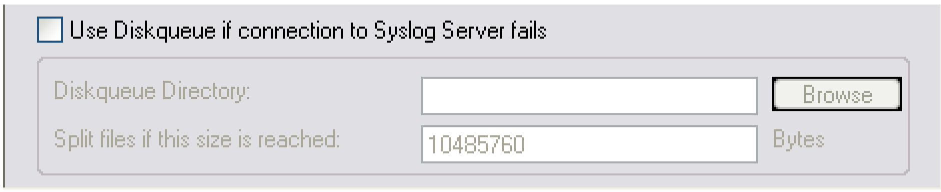
The XML formatted message is especially useful if the receiving system is capable of parsing XML data. However, it might also be useful to a human reader as it includes additional information that cannot be transferred otherwise.

Forward as MW Agent XML Representation Code

MonitorWare supports a specific XML-Representation of the event. If it is checked, that XML representation is used. It provides additional information (like informationunit type, original source system, reception time & many more) but is harder to read by a human. At the same time, it is obviously easier to parse. **Please note that this option is only "experimental" and is not an official standard.**

Please note you can also make Event ID part of the actual Syslog message while forwarding to a Syslog Server then you have to make some changes in the Forward Syslog Action. Click here to know the settings.

Use Diskqueue if connection to syslog server fails



□ Use Diskqueue if connection to Syslog Server fails

Diskqueue Directory:

Split files if this size is reached: 10485760 Bytes

Diskqueue options

When using TCP-based syslog forwarding, you have the additional option to use the diskqueue. Whenever a connection to a remote syslog server fails, the action starts caching the syslog messages into temporary files. The folder for these files can be configured. The filenames are generated using a unique GUID which is automatically generated for each Action, thus enabling you to use this feature in multiple Actions. Once the syslog server becomes available again, the cached messages are being sent automatically. If you restart the Service while the Syslog Cache was active, it cannot be checked during service startup if the syslog server is available now. Once the action is called again, the check is done and if the syslog server is available, the messages are being sent. The size of this cache is only limited by the disk size. Files are splitted by 10MB by default, but this can also be configured. The maximum supported file size is 2GB.

Please Note: This option is not available for UDP or RFC3195.

Note on Using Syslog Compression

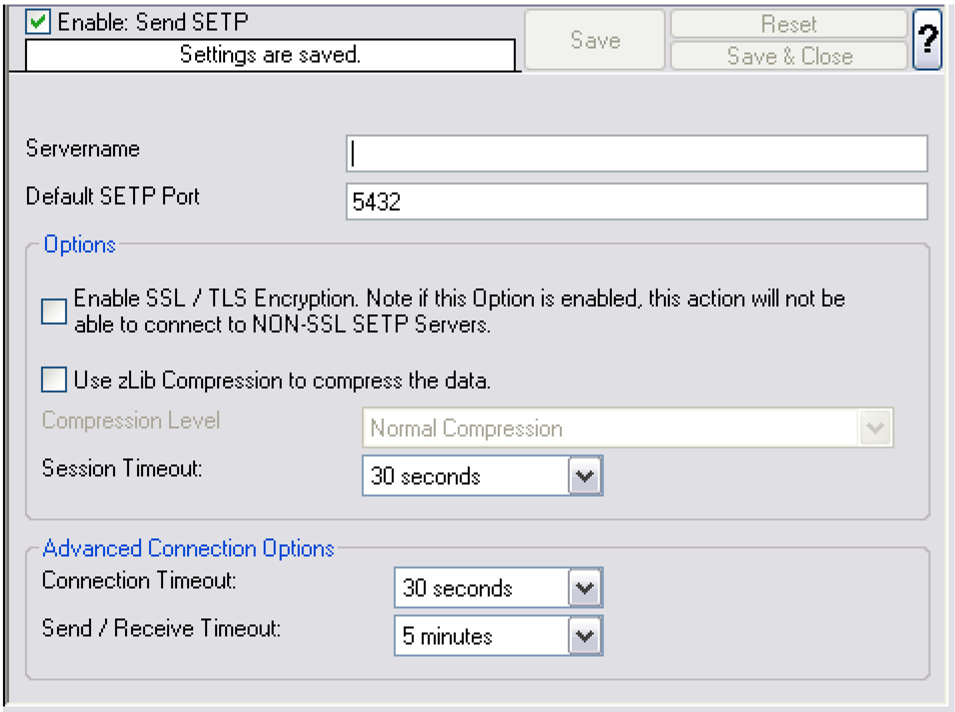
Compressing syslog messages is an **experimental** feature. There is only a very limited set of receivers who is able to understand that format. Turning on compression can save valuable bandwidth in low-bandwidth environments. Depending on the message, the saving can be anything from no saving at all to about a reduction in half. The best savings ratios have been seen with Windows event log records in XML format. In this case, 50% or even a bit more can be saved. Very small messages do not compress at all. Typical syslog traffic in non-xml format is expected to compress around 10 to 25%.

Please note that compressesion over TCP connections requires a special transfer mode. This mode bases on an upcoming IETF standard (syslog-transport-tls) that is not yet finalized. That transfer mode is highly experimental in itself. As a result, future releases of our product might not be able to work with the current implementation. So there is a chance that you need to exchange all parts of the syslog/TCP system in future releases. Backwards compatibility can not be guaranteed.

Besides the fact that the mechanisms behind compression are experimental, the feature itself is solid.

6.5.9 Forward SETP Options

This dialog controls the Send options. With the "Send SETP" action, messages can be sent to a SETP server.



☑ Enable: Send SETP

Settings are saved.

Servername:

Default SETP Port: 5432

□ Enable SSL / TLS Encryption. Note if this Option is enabled, this action will not be able to connect to NON-SSL SETP Servers.

□ Use zLib Compression to compress the data.

Compression Level: Normal Compression

Session Timeout: 30 seconds

Connection Timeout: 30 seconds

Send / Receive Timeout: 5 minutes

Send SETP Dialog

Servername

The MonitorWare Agent sends SETP to the server / listener under this name.

Default SETP Port

The Send SETP sends outgoing requests on this port. The default value is 5432. Set the port to 0 to use the system-supplied default value (which defaults to 5432 if not modified by a system administrator).

Instead of the port number, a service name can be used. If so, that name is looked up via the socket service database functions. The lookup is for protocol TCP.

Please note: The SETP port configured here must match the port configured at the listener side (i.e. MonitorWare Agent 3.0 or WinSyslog Enterprise edition). If they do not match, a Send SETP session cannot be initiated. The

rule engine will log this to the NT Event Log.

Options

Under this group box, you can see different options as discussed below:

Enable SSL/TLS

If this option is enabled then this action will be able to connect to SSL/TLS SETP servers. Please make sure that you want this option to be enabled.

Use zLib Compression to compress the data

It enables zLib compression support. Note that the SETP receiver must have zLib Compression support and enabled, otherwise it does not work.

Compression level

Higher level results in better compression but slower performance.

Session Timeout

The maximum time a session to a SETP server is to be kept open.

Advanced Connection Options

In this group box, you can find the options discussed below:

Connection Timeout

Maximum time a connection can take to connect or disconnect.

Send / Receive Timeout

Whern sending or receiving data, this timeout applies.

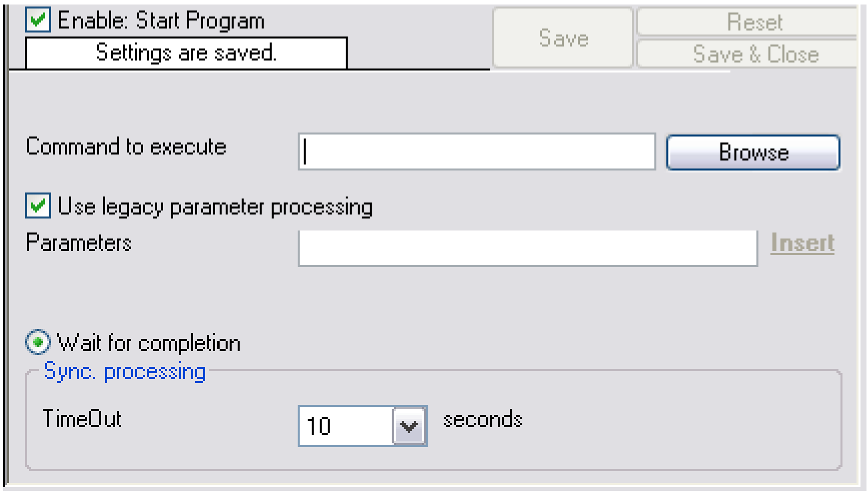
Please note: If this option is enabled, this action is not be able to connect to NON-SSL SETP servers.

6.5.10 Start Program

This dialog controls the start program options.

With the "Start Program" action, an external program can be run. Any valid Windows executable can be run. This includes actual programs (EXE files) as well as scripts like batch files (.BAT) or VB scripts (.vbs).

Start Program can, for example, be combined with the service monitor to restart failed services. Another example application is a script that deletes temporary files if the disk space monitor detects a low space condition.



☑ Enable: Start Program

Settings are saved.

Command to execute

☑ Use legacy parameter processing

Parameters

● Wait for completion

Sync. processing

TimeOut 10 seconds

Start Program Dialog

Command to execute

This is the path of actual program file to be executed. This can be the path of any valid executable file. A relative file name can be specified if it can be found via the operating system default search path.

Use legacy parameter processing

When enabled, old style parameter processing is used. Otherwise all properties can be used.

Parameters

These parameters are passed to the program executed. They are passed as command line parameters. There is no specific format – it is up to the script to interpret them.

Parameters can contain replacement characters to customize it with event details. This allows passing event data to the script. The following replacement characters can be used:

%d	Date and time in local time
%s	IP address or name (depending on the "resolve hostnames" setting) of the source system that sent the message.
%f	Numeric facility code of the received message
%p	Numeric priority code of the received message
%m	The message itself
%%	Represents a single % sign.

In the example above, replacement characters are being used. If a message "This is a test" were received from "172.16.0.1", the script would be started with 3 parameters:

Parameter 1 would be the string "e1" – it is assumed that this has some meaning to the script. Parameter 2 would be the IP address, 172.16.0.1. Parameter 3 would be "This is a test". Please note that due to the two quotes ("), the message is interpreted as a single parameters. If they were missing, it would typically be split into several ones, with parameter 3 being "This", 4 being "is" and so on. So these quotes are very important!

Time Out

Time Out option is under Sync. Processing. When a program is executed, the service waits for it to finish before it carries on further actions. This is needed in order to ensure that all actions are carried out in the correct sequence.

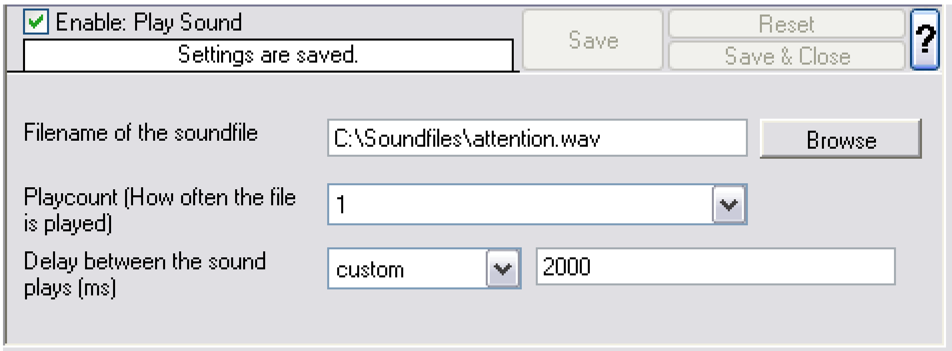
The external program should only run for a limited amount of time. If it would block for some reason, the agent would be prevented from carrying out any further processing. As such, a timeout value must be specified. If the program still runs after the configured timeout, the rule engine cancels it, flags the action as unsuccessful and then carries on with processing.

Important: Even though the timeout value can be as high as 30 seconds, we strongly recommend limiting the run time of external program to below 5 seconds. Otherwise, they could affect the overall performance too much. If the average run time is 5 seconds, the default timeout of 10 seconds ensures that the program can finish even when there is high system activity.

For performance reasons, we also strongly recommend to use the "Start Program" action only for rules that apply relatively seldom.

6.5.11 Play Sound

This action allows you to play a sound file.



☑ Enable: Play Sound

Settings are saved.

Filename of the soundfile: C:\Soundfiles\attention.wav

Playcount (How often the file is played): 1

Delay between the sound plays (ms): custom 2000

Play Sound Dialog

Please note: if your machine has multiple sound cards installed, the "Play Sound" action will always use the card, that was installed first into the system.

However there is a work around if you want to use Play Sound Action for a second sound card!

Filename of the Soundfile

Please enter the name of the sound file to play. **This must be a .WAV file**, other formats (like MP3) are **not** supported. While in theory it is possible that the sound file resides on a different machine, we highly recommend using files on the local machine only. Using remote files is officially not supported (but currently doable if you are prepared for some extra effort in getting this going).
If the file can either not be found or is not in a valid format, a system beep is emitted instead (this should - by API definition - be possible on any system).

Playcount

This specifies how many times the file is played. It can be re-played up to a hundered times.

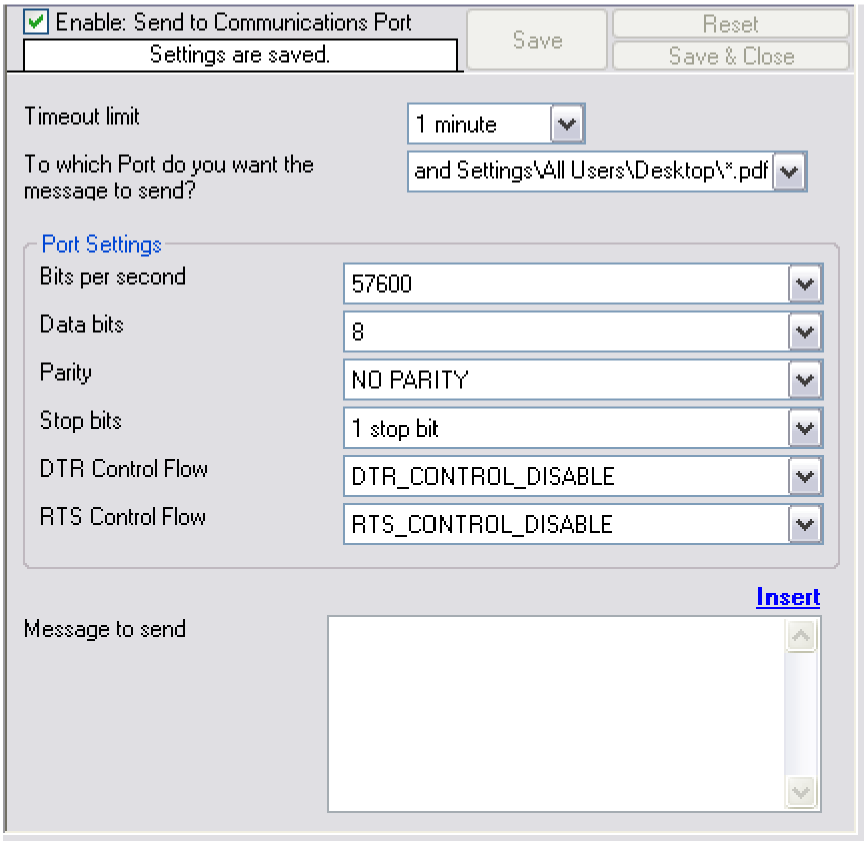
Please note: Playing sounds is performance intense and MonitorWare Agent will block all other actions while sounds are being played. As such, we recommend to limit the duration and repeat count of sounds played.

Delay between Plays

If multiple repeats are specified, this is the amount of time that is to be waited for between each individual play.

6.5.12 Send to Communications Port

This action allows you to send a string to an attached communications device, that is it sends a message through a Serial Port.



☑ Enable: Send to Communications Port

Settings are saved.

Timeout limit: 1 minute

To which Port do you want the message to send?: and Settings\All Users\Desktop\*.pdf

Port Settings

Bits per second: 57600

Data bits: 8

Parity: NO PARITY

Stop bits: 1 stop bit

DTR Control Flow: DTR_CONTROL_DISABLE

RTS Control Flow: RTS_CONTROL_DISABLE

Message to send

Send to Communications Port Options

Timeout Limit

The maximum time allowed for the device to accept the message. If the message could not be send within that period, the action is aborted. Depending on the device, it may be left in an unstable state.

Port to Send To

Specify the port to which your device is being attached. Typically, this should be one of the COMx: ports. The listbox shows all ports that can be found on your local machine. You may need to adjust this to a different value, if you are configuring a remote machine.

1. MSFAX
2. COM1
3. COM2
4. COM3

5. COM4
6. FILE
7. LPT1
8. LPT2
9. LPT3
10. AVMISDN1
11. AVMISDN2
12. AVMISDN3
13. AVMISDN4
14. AVMISDN5
15. AVMISDN6
16. AVMISDN7
17. AVMISDN8
18. AVMISDN9

Port Settings

Use those settings that your device expects. Please consult your device manual if in doubt.

Bits per Seconds

Bits per second can be 110 and go up to 256000, by default 57600 is selected.

Databits

Databits defines that how many bits you want to send and receive to the communication port.

Parity

With Parity you can configure the Parity scheme to be used. This can be one of the following values:

1. Even
2. Mark
3. No parity
4. Odd
5. Space

Stop bits

You can configure the number of stop bits to be used. This can be one of the following values:

1. 1 stop bit
2. 1.5 stop bits
3. 2 stop bits

DTR Control Flow

DTR (data-terminal-ready) flow control. This member can be one of the following values:

1. DTR_CONTROL_DISABLE - Disables the DTR line when the device is opened and leaves it disabled.
2. DTR_CONTROL_ENABLE - Enables the DTR line when the device is opened and leaves it on.
3. DTR_CONTROL_HANDSHAKE - Enables DTR handshaking.

RTS Control Flow

RTS (request-to-send) flow control. This member can be one of the following values:

1. RTS_CONTROL_DISABLE - Disables the RTS line when the device is opened and leaves it disabled.
2. RTS_CONTROL_ENABLE - Enables the RTS line when the device is opened and leaves it on.
3. RTS_CONTROL_HANDSHAKE - Enables RTS handshaking. The driver raises the RTS line when the "type-ahead" (input) buffer is less than one-half full and lowers the RTS line when the buffer is more than three-quarters full.
4. RTS_CONTROL_TOGGLE - Specifies that the RTS line will be high if bytes are available for transmission. After all buffered bytes have been sent, the RTS line will be low.

Message to Send

This is the message that is to be send to the device. You can enter text plainly and you can also include all properties from the current event. For example, if you have a serial audit printer and you would just plainly like to log arrived messages to that printer, you could use the string "%msg%%$CRLF%" to write the actual message arrived plus a CRLF (line feed) sequence to the printer.

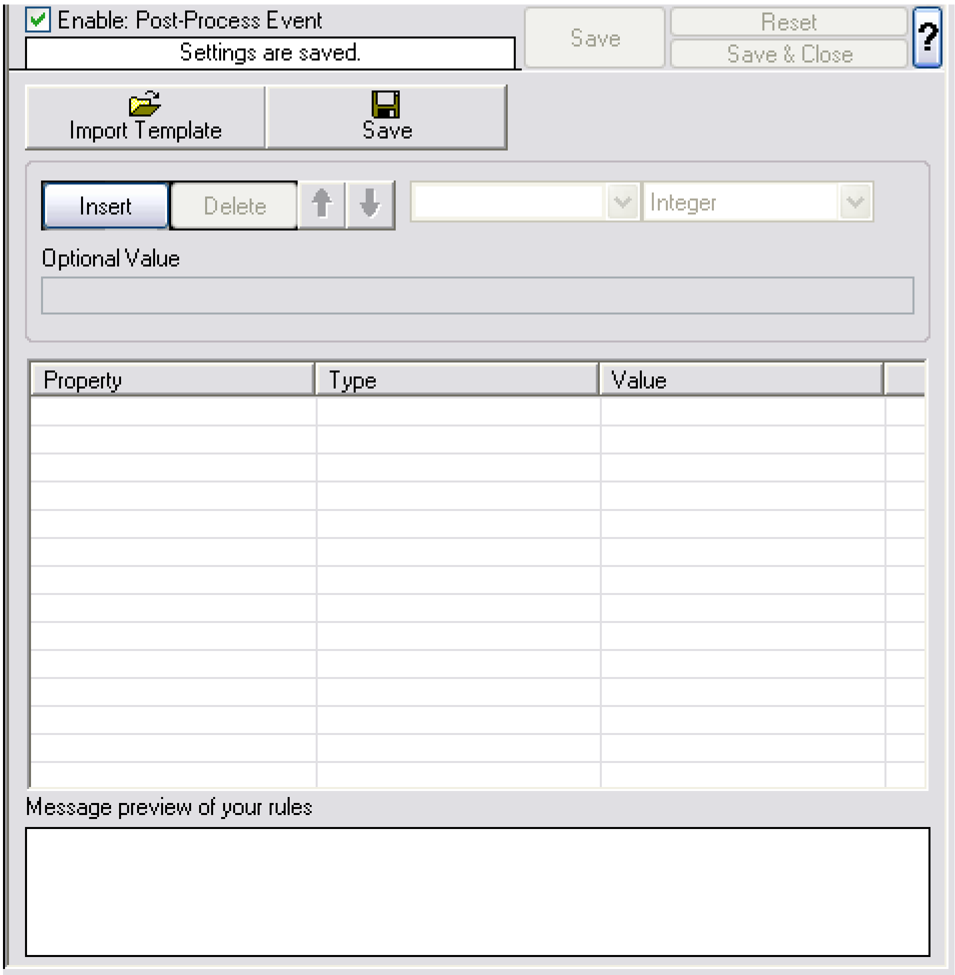
Please note that the message content of the Message field can now be configured. Event properties are described in the property replacer section.

6.5.13 Post-Process Event

The post process action allows you to re-parse a message after it has been processed e.g. **Tab Delimited** format.

Such re-parsing is useful if you either have a non-standard Syslog format or if you would like to extract specific properties from the message.

The post process action takes the received message and parses it according to a parse map. The parse map specifies which properties of which type are present at which position in the message. If the message actually matches the parse map, all properties are extracted and are set as part of the event. If the parse map does not match the message, parsing stops at the first-non matching entry.



☑ Enable: Post-Process Event

Settings are saved.

Post Process Dialog

Templates

Parse maps can be quite complex. In order to facilitate exchange for parse maps, they can be persisted to XML files. Adiscon also plans to provide parse maps for some common devices.

We know that creating a parse map is often not a trivial task. If you are in doubt how to proceed, please contact support@adiscon.com - we will happily assist you with your needs. In this case, you will probably receive a parse map file that you can import here.

The Parse Map Editor

In this dialog, you can edit only in the text boxes above the data grid. When you select an entry in the grid, its values are updated in the textboxes. Any edits made there will automatically be reflected to the grid. Pressing Insert or Delete will create a new entry or delete the currently selected one.

Property

The property name that is to be parsed. The list box is pre-populated with standard and event properties. However, you can add any property name you like. If you create your own properties, we highly recommend prefixing their name with "u-" so that there will be no duplicates with standard properties. Adiscon will never prefix any properties with "u-". For example, if you would like to create a custom property "MyProperty", we highly suggest that you use the property name "u-MyProperty" instead.

The property name "Filler" is reserved. Any values assigned to the Filler-property will be discarded. This is the way to get rid of fill-characters that you do not really need.

Type

This is the format that will be parsed from the message. For example, an integer type will parse one integer from the message while a word type will parse the next word.

Value

Some types need an additional value. If that is needed, you can provide it here.

Message Preview

This is a read-only box. It shows a hypothetical message that would match the configured parsing rules.

Parsing log messages

This article describes how to parse log message via "Post-Process". It illustrates the logic behind Post-Process action.

Get relevant information from logs

Log files contain a lot of information. In most cases only a small part of the log message is of actual interest. Extracting relevant information is often difficulty. Due to a variety of different log formats a generic parser covering all formats is not available.

Good examples are firewalls. Cisco PIX and Fortigate firewalls both use syslog for logging.. But the content of their respective log messages are very different. Therefore a method is needed to parse the logs in a generic way. Here Post-Process action of Adiscon's MonitorWare comes into play.

Tool kit for parsing

Post-Process action provides an editor for creating a log format template. A template consists of as many rules as necessary to parse out the relevant information.

Determine necessary information

In order to parse out information it is vital to know the exact structure of the message. Identifying the position of each relevant item is essential. Assuming for auditing purposes the following items are needed:

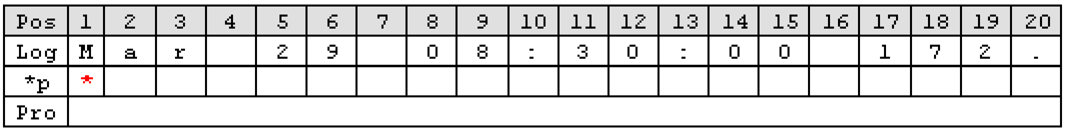
Timestamp | *Source IP-Address* | *SyslogTag* | *MessageID* | *Username* | *Status* | *Additional Information*

A sample message looks like:

Mar 29 08:30:00 172.16.0.1 %Access-User: 12345: rule=monitor-user-login user=Bob status=denied msg=User does not exist

In order to extract the information let us examine each item within the message. Splitting the message makes it easier to explain. So here we go.

Pos = Position of the character.
*p = Points to the position the parser stands after parsing the rule.
Log = Message subdivided into its characters.
Pro = Property. In the term of Adiscon a property is the name of the item which is parsed out.



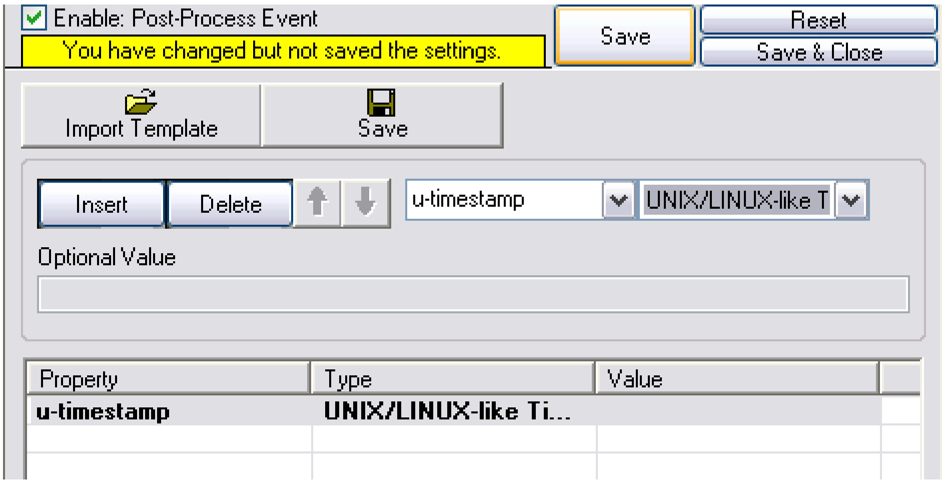
Pos	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Log	M	a	r		2	9		0	8	:	3	0	:	0	0		1	7	2	.
*p	*																			
Pro																				

Note that at beginning of the parse process the parser's pointer points to the first character. Each parse type starts parsing at the current position of the pointer.

Parsing out a Timestamp

The first identified item is a so called Unix/Timestamp. It has always a length of 15 characters. 'UNIX/LINUX-like Timestamp' parse type exactly covers the requirement to parse this item. Therefore insert a rule and select 'UNIX/LINUX-like Timestamp' type. This rule parses out the timestamp and moves the pointer to the next character after the timestamp. Name the property 'u-timestamp' [1].

Note: There is a second timestamp-type, the **ISO-like-timestamp**. It has the format **2006-07-24 13:37:00.**

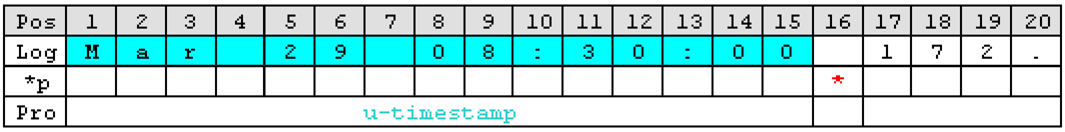


You have changed but not saved the settings.

u-timestamp | UNIX/LINUX-like T

Property	Type	Value
u-timestamp	**UNIX/LINUX-like Ti...**	

Post-Process Editor: Inserted a 'UNIX/LINUX like timestamp' rule

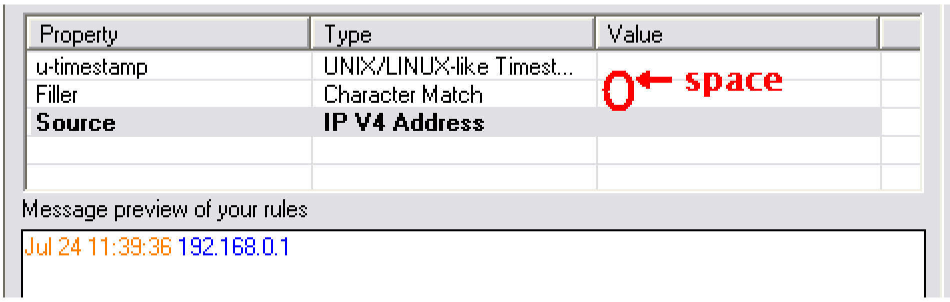


Pos	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Log	M	a	r		2	9		0	8	:	3	0	:	0	0		1	7	2	.
*p																*				
Pro	u-timestamp																			

Get the IP-Address

Next item is the IP address. Note that after the timestamp follows a space and then the IP address. Therefore insert a 'Character Match' rule with a space as value. Select the 'Filler' [2] property for this rule. 'Character Match' requires a user defined value. This parse type compares the given value with the character at the current position of the message. The character has to be identical with the given value otherwise the parse process will fail. After applying this parse type the parse pointer is moved to the position immediately after the given value. In our sample this is the start position of the IP Address (Pos 17).

After that the address can be obtained. Place in a 'IP V4 Address' type. This type parses out a valid IP regardless of its length. No need to take care about the characters. Select 'Source' property or name it to whatever you prefer. The parser will automatically move the pointer to the position next to the address.

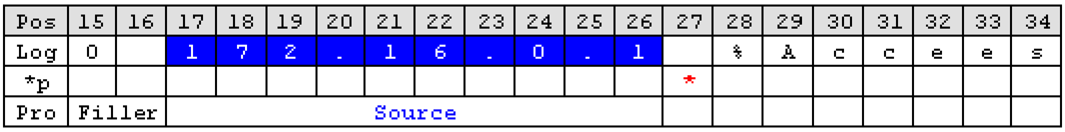


Property	Type	Value
u-timestamp	UNIX/LINUX-like Timest...	
Filler	Character Match	
Source	**IP V4 Address**	

Message preview of your rules

Jul 24 11:39:36 192.168.0.1

Note the value of 'Character Match' rule is a space.

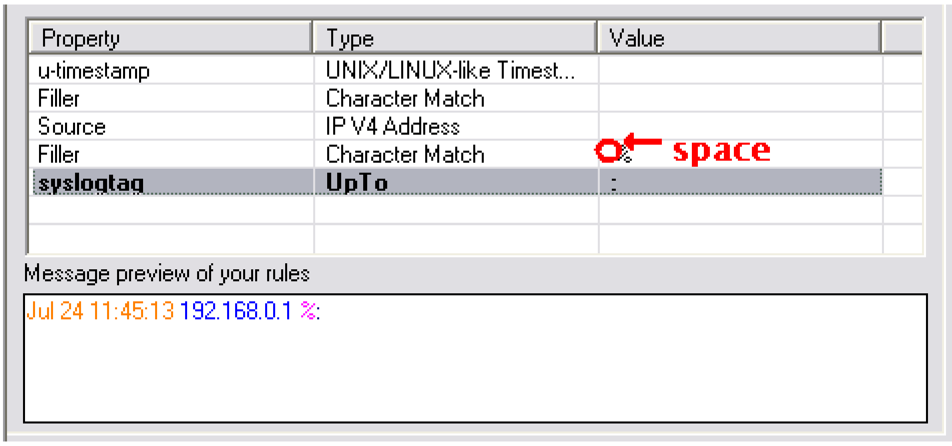


Pos	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Log	0		1	7	2	.	1	6	.	0	.	1		%	A	c	c	e	e	s
*p													*							
Pro	Filler		Source																	

Obtain the syslogtag

Behind the IP it is a blank followed by a percent sign. The percent indicates that the syslogtag is following. To move the pointer to the syslogtag position once again a 'Character Match' rule is necessary. It has to match the space (actual position of the pointer) and the percent sign. This content is not needed therefore assign it to the 'Filler' property.

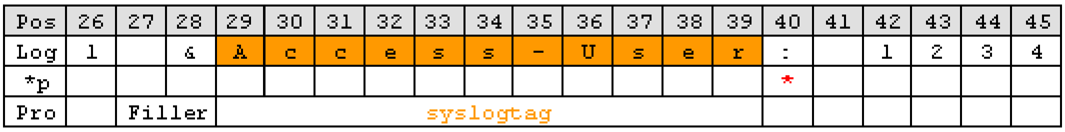
A colon is immediately behind the syslogtag. So all characters between the percent sign and the colon are needed. The 'UpTo' type can do this job. Insert an 'UpTo' rule. As value enter ':' (without the quotes) and select the syslogtag property. Note that after parsing the pointer stands on the first character of the 'UpTo' value.



Property	Type	Value
u-timestamp	UNIX/LINUX-like Timest...	
Filler	Character Match	
Source	IP V4 Address	
Filler	Character Match	%
syslogtag	UpTo	:

Message preview of your rules

Jul 24 11:45:13 192.168.0.1 %:



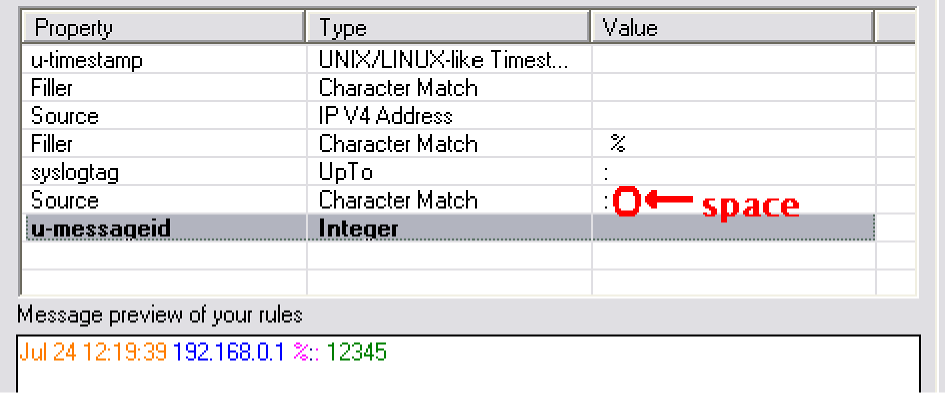
Pos	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Log	1		&	A	c	c	e	s	s	-	U	s	e	r	:		1	2	3	4
*p															*					
Pro		Filler		syslogtag																

Important: It points to the colon not to the blank.

Take the MessageID

The next interesting item is the MessageID. Move the pointer to start position of the MessageID part. Again, do this by using a 'Character Match' rule. Keep in mind that the pointer points to the colon. Behind the colon is a space and then the MessageID starts. Thus, the value of the rule has to be ': '.

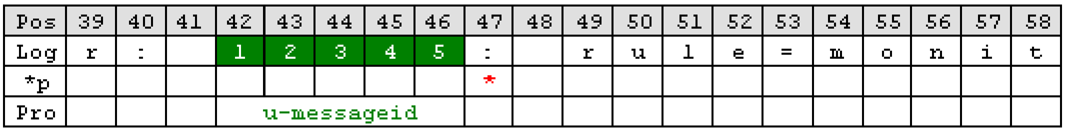
MessageID consist of numbers only. For numeric parsing the 'Integer' parse type exist. This type captures all characters until a non-numeric character appears. The pointer is moved behind the number. Note that numeric values with decimal dots can not be parsed with this type (because they are not integers). This means trying to parse 1.1 results in 1, because the dot is a non-numeric value.



Property	Type	Value
u-timestamp	UNIX/LINUX-like Timest...	
Filler	Character Match	
Source	IP V4 Address	
Filler	Character Match	%
syslogtag	UpTo	:
Source	Character Match	:
u-messageid	**Integer**	

Message preview of your rules

Jul 24 12:19:39 192.168.0.1 %:: 12345

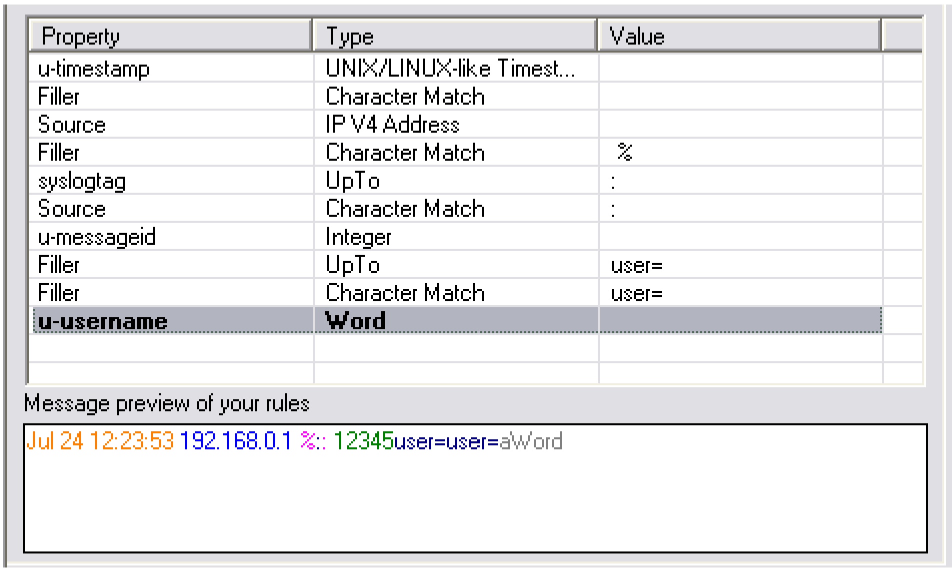


Pos	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
Log	r	:		1	2	3	4	5	:		r	u	l	e	=	m	o	n	i	t
*p									*											
Pro				u-messageid																

Find the username and status

Looking at the remainder of the message indicates that the username is not immediately after syslogtag. Thankfully though, the username always starts with 'user='. Consequently the 'UpTo' type can be used to identify the username. To get the start position of the username we have to use 'UpTo' together with 'Character Match'. Remember that 'UpTo' points to the first character of the given value. For this reason the 'Character Match' rule is necessary.

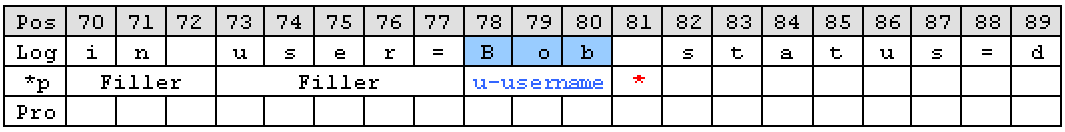
After locating the start position of the username 'Word' parse type can be used. 'Word' parses as long as a space sign is found. Enter 'u-username' as property.



Property	Type	Value
u-timestamp	UNIX/LINUX-like Timest...	
Filler	Character Match	
Source	IP V4 Address	
Filler	Character Match	%
syslogtag	UpTo	:
Source	Character Match	:
u-messageid	Integer	
Filler	UpTo	user=
Filler	Character Match	user=
u-username	**Word**	

Message preview of your rules

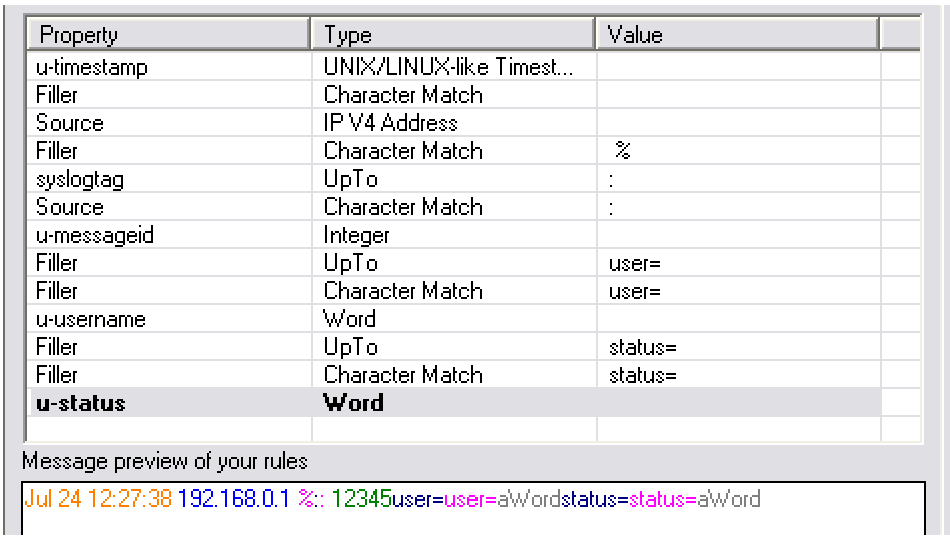
Jul 24 12:23:53 192.168.0.1 %:: 12345user=user=aWord



Pos	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89
Log	i	n		u	s	e	r	=	B	o	b		s	t	a	t	u	s	=	d
*p	Filler			Filler					u-username			*								
Pro																				

Notice: After parsing a word the pointer stands on the space behind the parsed word.

The steps to get the status are very similar to the previous one.



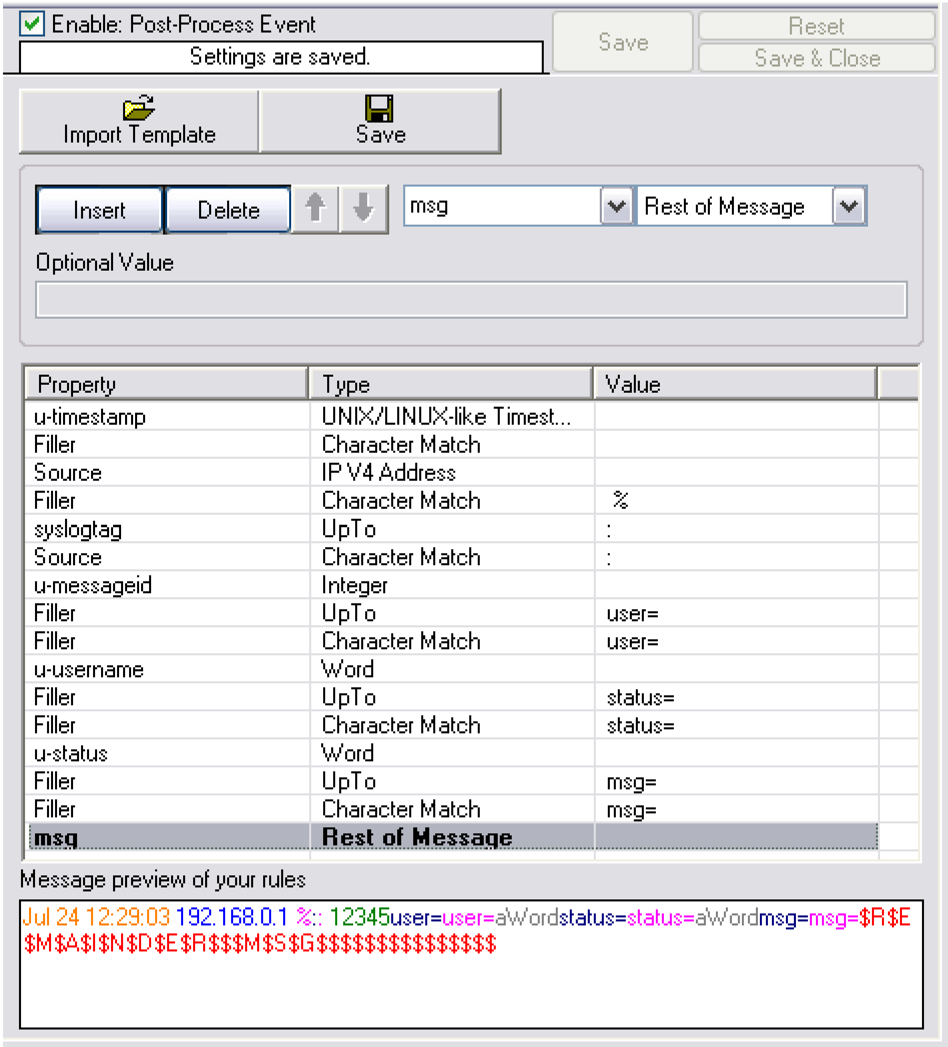
Property	Type	Value
u-timestamp	UNIX/LINUX-like Timest...	
Filler	Character Match	
Source	IP V4 Address	
Filler	Character Match	%
syslogtag	UpTo	:
Source	Character Match	:
u-messageid	Integer	
Filler	UpTo	user=
Filler	Character Match	user=
u-username	Word	
Filler	UpTo	status=
Filler	Character Match	status=
u-status	**Word**	

Message preview of your rules

Jul 24 12:27:38 192.168.0.1 %:: 12345user=user=aWordstatus=status=aWord

The last rule - Additional Information

One item of interest is left. The last part of the message contains additional information. It starts after 'msg='. So the combination of 'UpTo' and 'Character Match' is used to go to the right position. All characters after 'msg=' until the end of the message are interesting. For this purpose the 'Rest of Message' parse type is available. It stores all characters from the current position until the end of the message. This also means that this rule can only be used once in a template and is always the last rule.



☑ Enable: Post-Process Event

Settings are saved.

msg | Rest of Message

Optional Value

Property	Type	Value
u-timestamp	UNIX/LINUX-like Timest...	
Filler	Character Match	
Source	IP V4 Address	
Filler	Character Match	%
syslogtag	UpTo	:
Source	Character Match	:
u-messageid	Integer	
Filler	UpTo	user=
Filler	Character Match	user=
u-username	Word	
Filler	UpTo	status=
Filler	Character Match	status=
u-status	Word	
Filler	UpTo	msg=
Filler	Character Match	msg=
msg	**Rest of Message**	

Message preview of your rules

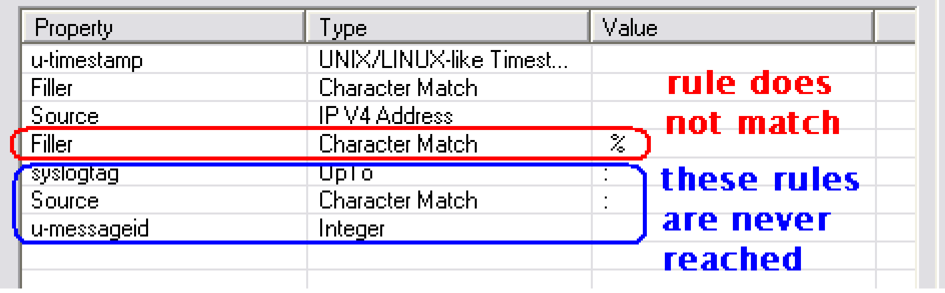
```
Jul 24 12:29:03 192.168.0.1 %:: 12345user=user=aWordstatus=status=aWordmsg=msg=$R$E
$M$A$I$N$D$E$R$$$M$S$G$$$$$$$$$$$$$$$$
```

Complete parse template.

What happens if the parser fails?

If a rule does not match processing stops at this point. This means all properties of rules which were processed successfully until the non-matching rule occurs are available.

Let's assume the fourth rule of the following sample does not match.



Property	Type	Value
u-timestamp	UNIX/LINUX-like Timest...	
Filler	Character Match	
Source	IP V4 Address	
Filler	Character Match	%
syslogtag	UpTo	:
Source	Character Match	:
u-messageid	Integer	

rule does not match

these rules are never reached

The first three rules were processed successfully. Therefore u-timestamp and Source are available. But syslogtag and u-messageid are always empty due to the parser never process this rules.

The Post-Process template which was created in this article is available for download. If you have further question on Post-Process, please contact our support.

[1] Using the "u-" prefix is recommended to differentiate between MonitorWare-defined properties and user defined one. It is not required, but often of great aid. A common trap is that future versions of MonitorWare may use property names that a user has also used. MonitorWare will never use any name starting with "u-", so the prefix also guards against such a scenario.

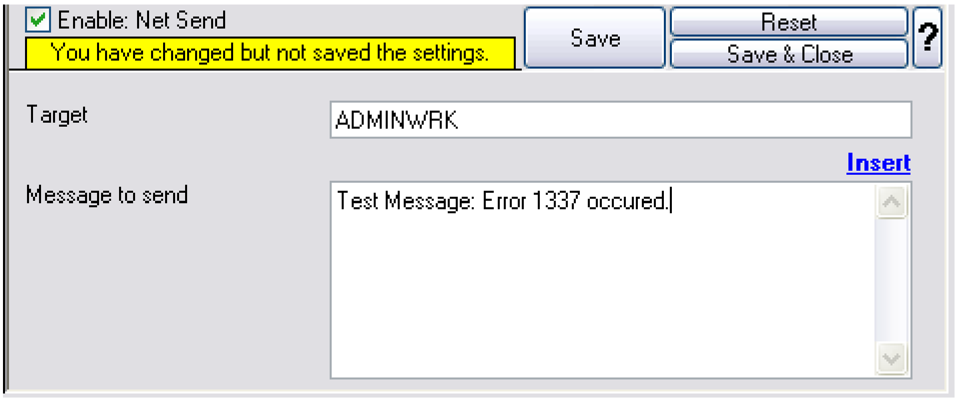
[2] Filler is a predefined property which acts as a bin for unwanted characters. Essentially, the data is simply discarded.

Please Note: There's also a StepByStep Guide available which describes how the PostProcessAction works, you can find it here.

6.5.14 Net Send

This dialog controls the net send options.

With the "Net Send" action, short alert messages can be sent via the Windows "net send" facility. These messages are delivered on a best-effort basis. If the recipient can be reached, they will pop up in a message box on the recipient's machine. If the recipient cannot be reached, they will simply be discarded. No buffering takes place. Consequently, the rule engine does not check if the message can be delivered. It will never flag an action to be in error due to a reported delivery problem with "net send".


☑ Enable: Net Send

You have changed but not saved the settings.

Target: ADMINWRK

Message to send: Test Message: Error 1337 occured.

Net Send Dialog

Target

This is the Windows user name of the intended recipient, a NETBIOS machine name or even an IP address (in the form of 10.1.1.1)

Message to Send

This is the message that is sent to the intended target.

Please note that the message content of the Message to send field can now be configured. Event properties are described in the property replacer section.

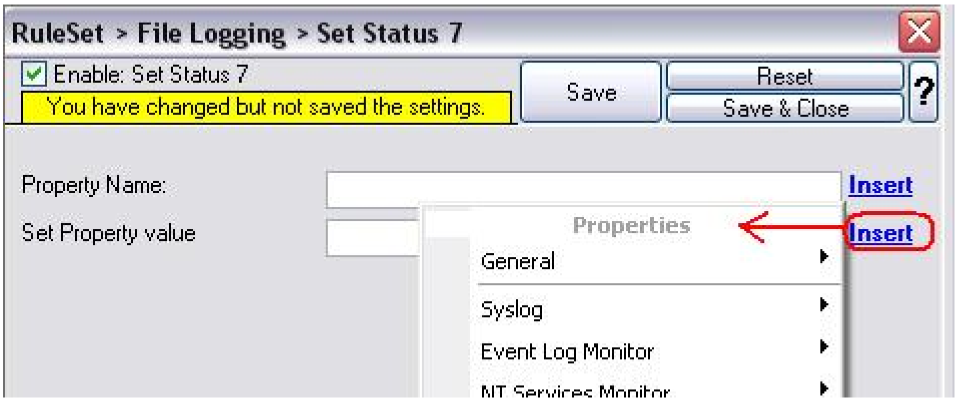
6.5.15 Set Status

This dialog controls the set status options.

Each information unit have specific properties e.g. EventID, Priority, Facility etc. These properties have some values. Lets suppose that EventID has property value 01. Now, If you want to add "**a new property of your own choice**" in the existing set of properties then Set Status action allows you to accomplish this!

You can create a new property and assign any valid desired value to it e.g. we had created a new property as CustomerID and set its value to 01 in the screen-shot below. After you have created the property through this action, then you can define filters for them. There is an internal status list within the product which you can use for more complex filtering.

Please note: when you change a property, the value will be changed as soon as the set status action is carried out. It will not change before that happens and the old value is no longer available thereafter. That means all actions and filter conditions will use the new value after it is set. So if you would like e.g. rename a system, make sure the set status actions are at the top of the rule base!



Set Status Dialog

Property Name

Enter the Property name. That name will from now on be used inside the rule base. More precisely, it will be used in the filter conditions and actions.

Set Property Value

The value to be assigned to the property. Any valid property type value can be entered.

Insert

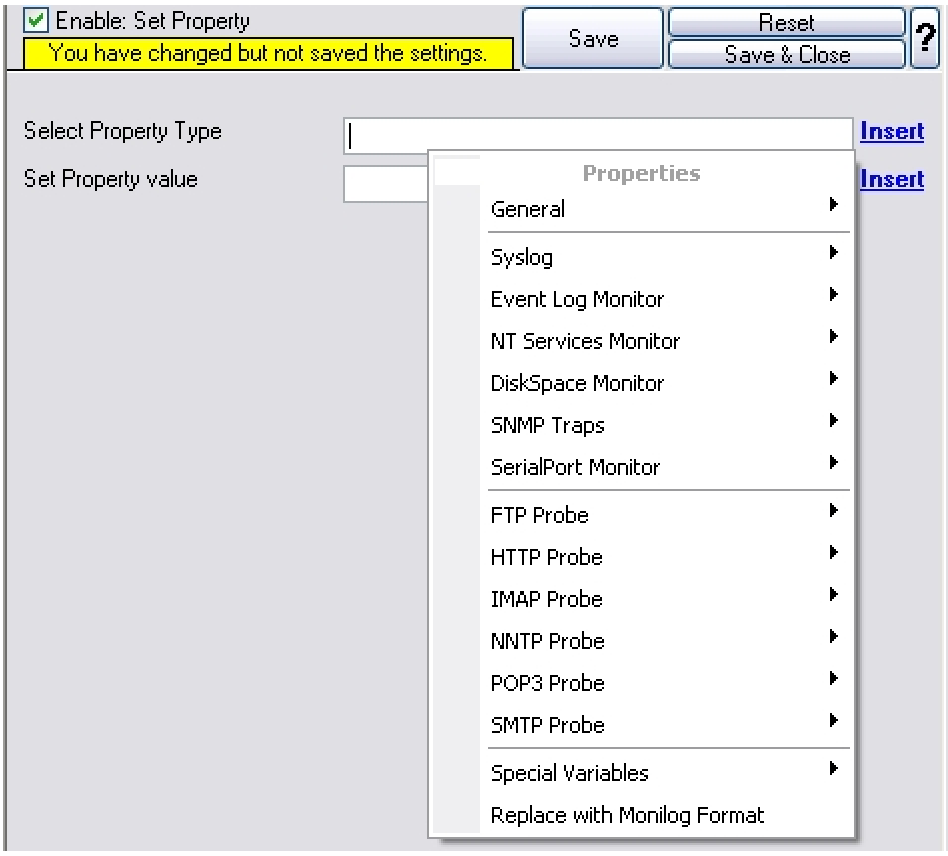
Click here to get a list of predefined variables/values to insert.

6.5.16 Set Property

You can set every property and custom properties using this action.

This dialog controls the set property options. With the "Set Property" action, some properties of the incoming message can be modified. This is especially useful if an administrator would like to e.g. rename two equally named devices.

Please note: when you change or create a property, the value will be changed as soon as the set property action is carried out. It will not change before that happens and the old value is no longer available thereafter. That means all actions and filter conditions will use the new value after it is set. So, if you would like e.g. rename a system, make sure the set property actions are at the top of the rule base!



☑ Enable: Set Property

You have changed but not saved the settings.

Set Property Dialog

Select Property Type

Select the property type to be changed. The list box contains all properties that can be changed. By default it is set to nothing.

Set Property Value

The new value to be assigned to the property. Any valid property value can be entered. Please use the "Insert Button".

In the example above, the SourceSystem is overridden with the value "newname". That name will from now on be used inside the rule base. More precisely, it will be use in the filter conditions and actions.

Insert

Click here to get a list of predefined variables/values to insert.

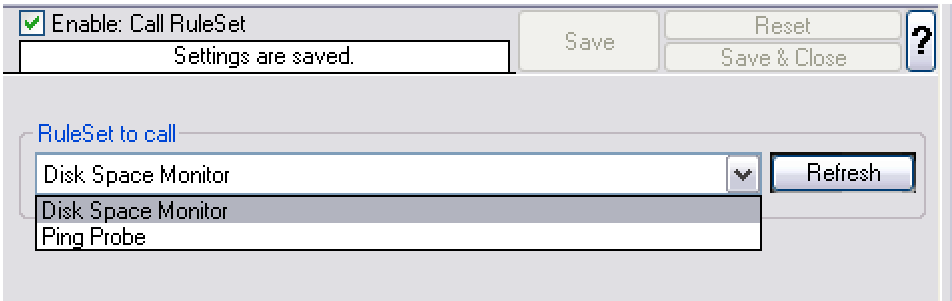
6.5.17 Call RuleSet

The dialog shown below controls the Call RuleSet options.

A Call RuleSet action simply calls another rule set in some existing rule set. When this action is encountered, the rule engine leaves the normal flow and go to the called rule set (which may contain many rules as well). It executes all the rules that have been defined in the called Rule Set. After the execution of all of them, it will return to its point from where it left the original flow. Let's take an example to clarify it a little further.

Let's say that Rule 1 has two actions - Action 1 and Action 2. The Action 1 of Rule 1 is an include (Call Ruleset) action. If the filter condition result of Rule 1 evaluates to true, it will execute the Action 1. Since Action 1 is the include action in this example, it will go to the included rule set and will execute its filter condition. If that filter condition evaluates to true, it will execute all of its actions and will return to Action 2 of Rule 1 (of normal flow) and if on the other hand, the filter condition of the included rule set evaluates to false, it will skip all of its actions and will come back to the Action 2 of Rule 1 (of normal flow).

Note that there is no limit on including the rules which means that a rule that has been included in another rule may contain another rule in it which might contain another rule in it and so on.



☑ Enable: Call RuleSet

Settings are saved.

RuleSet to call: Disk Space Monitor

Call Ruleset Dialog

Ruleset to Call

Select the Ruleset to be called.

Note: Call RuleSet stays disabled until you have more then "One" RuleSet!

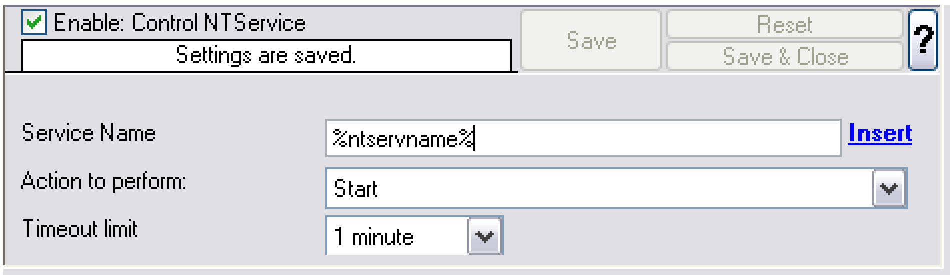
6.5.18 Discard

A Discard Action immediately destroys the current Information Unit and any action of any rule that has been defined after the Discard action execution. When this action is been selected then no dialog appears as nothing needs to be configured for this.

Click here to see an example about the Discard action.

6.5.19 Control NT Service

This dialog controls the Control NT Service options.



☑ Enable: Control NTService

Settings are saved.

Service Name: %ntservname%

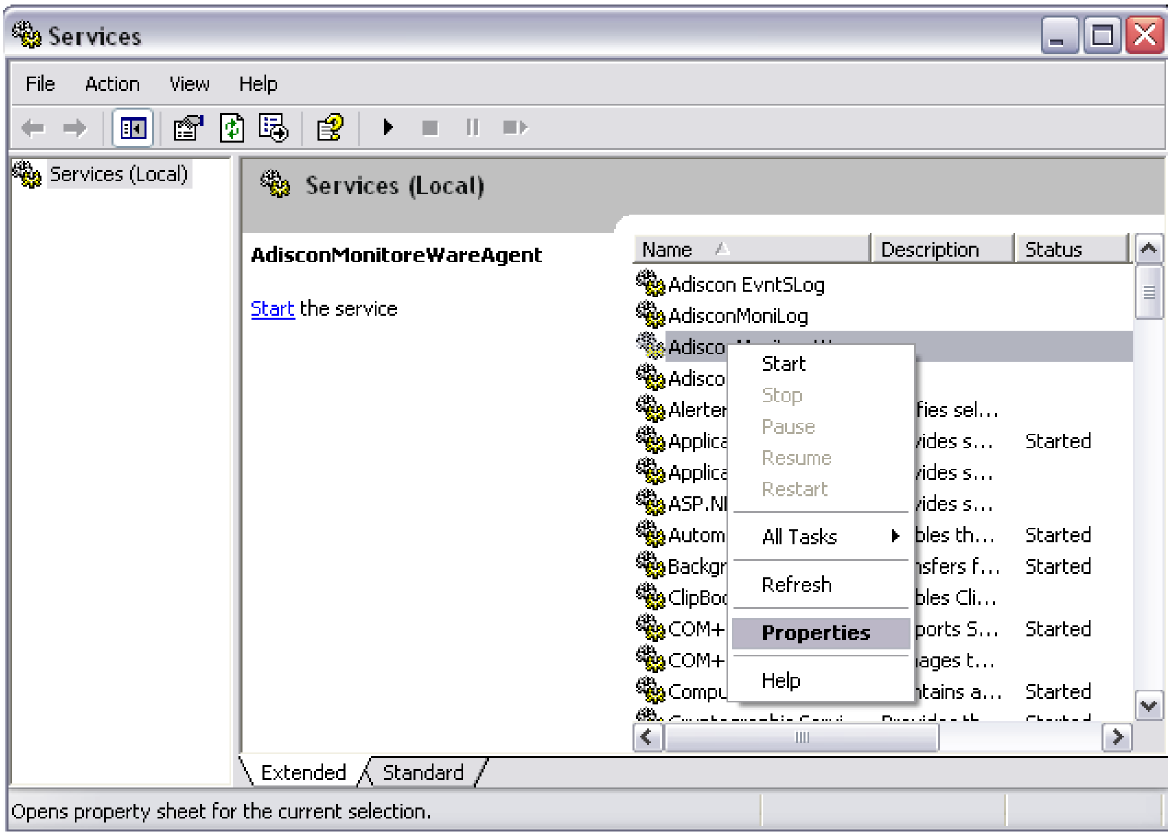
Action to perform: Start

Timeout limit: 1 minute

Control NTService Dialog

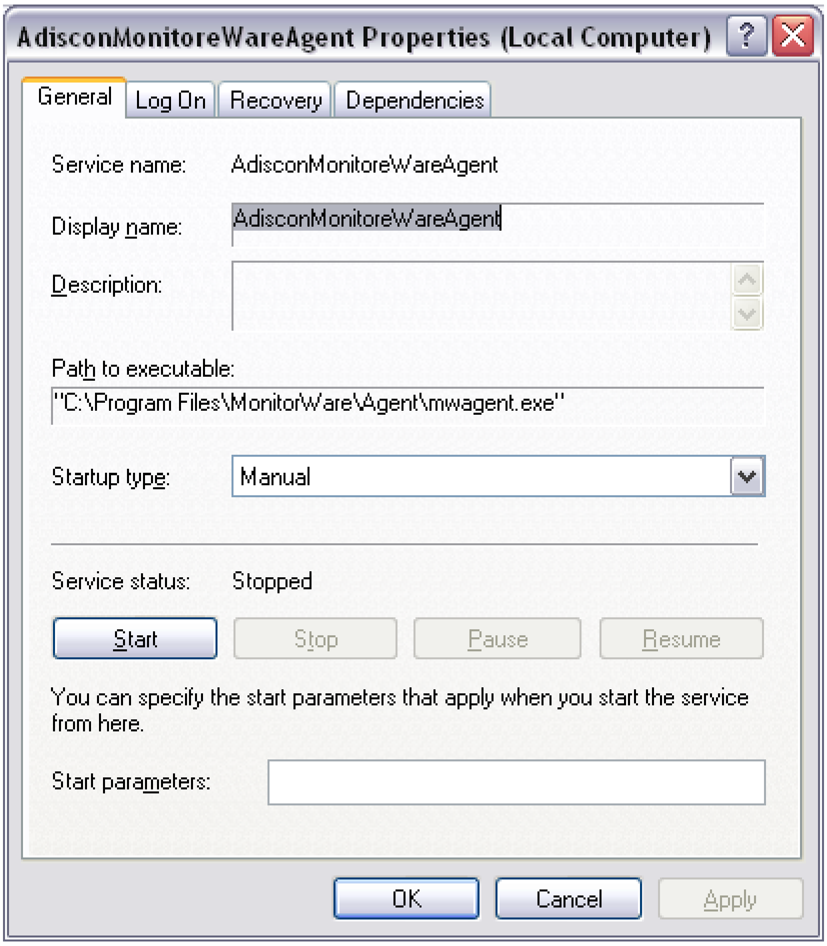
Service Name

Specify the service name which you want to control. Please note that it is the internal name, not the display name. You can see the service internal name when you view the properties in the services control panel, as shown below:



Services Control Panel

If you click on properties, you get a properties form as shown below:



AdisconMonitoreWareAgent Properties (Local Computer)

Service name: AdisconMonitoreWareAgent

Display name: AdisconMonitoreWareAgent

Description:

Path to executable:
"C:\Program Files\MonitorWare\Agent\mwagent.exe"

Startup type: Manual

Service status: Stopped

You can specify the start parameters that apply when you start the service from here.

Start parameters:

Service Properties Form

Here, you can see the Service name as well as the service Display name.

Action to perform

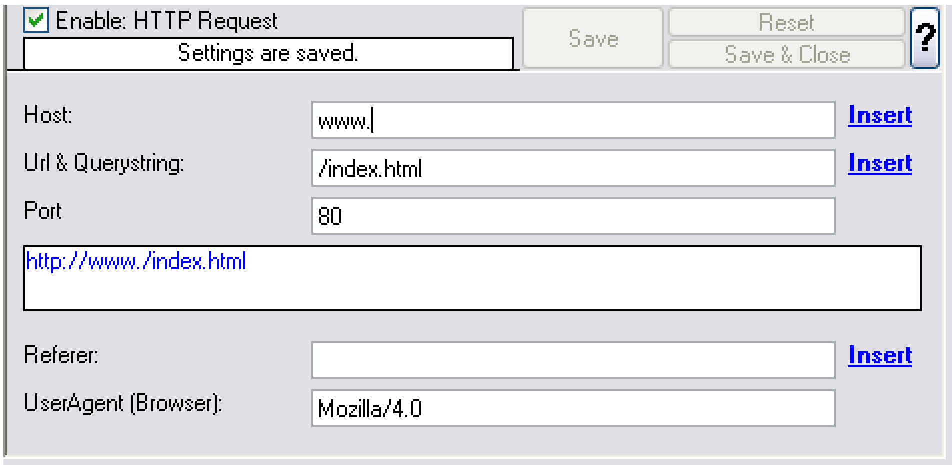
Few Actions are available in the drop down namely Start, Stop, Restart, Pause and Unpause. The selected action is performed on the configured service.

Timeout limit

The amount of time (in milliseconds) the service is expected to wait for the configured action to take place.

6.5.20 HTTP Request

This dialog controls the HTTP request options.



☑ Enable: HTTP Request

Settings are saved.

Host: www.

Url & Querystring: /index.html

Port: 80

http://www./index.html

Referer:

UserAgent (Browser): Mozilla/4.0

HTTP Request Dialog

Host

Specify the targetted host here.

URL & Querystring

By default this is /index.html. This value is used to construct an URL which is previewed in a rectangular field under Use secure https Protocol option.

Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25 and web servers to 80.

Referrer

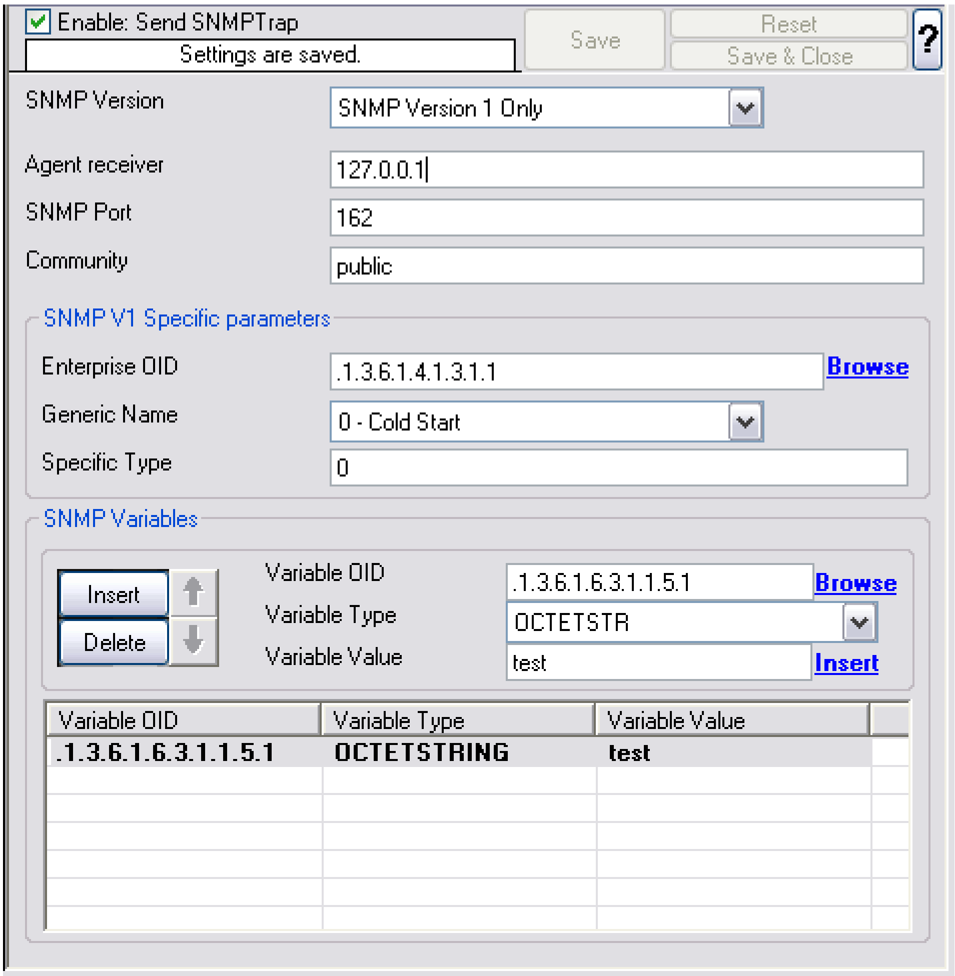
An optional configuration option where you can specify a Referrer that is send in the HTTP header.

UserAgent (Browser)

It is also an optional value which can be used to specify a UserAgent that is send in the HTTP header.

6.5.21 Send SNMP Trap

This dialog controls the send SNMP trap options.



☑ Enable: Send SNMPTrap

Settings are saved.

SNMP Version: SNMP Version 1 Only

Agent receiver: 127.0.0.1

SNMP Port: 162

Community: public

SNMP V1 Specific parameters

Enterprise OID: .1.3.6.1.4.1.3.1.1

Generic Name: 0 - Cold Start

Specific Type: 0

SNMP Variables

Variable OID: .1.3.6.1.6.3.1.1.5.1

Variable Type: OCTETSTR

Variable Value: test

Variable OID	Variable Type	Variable Value
.1.3.6.1.6.3.1.1.5.1	OCTETSTRING	test

Send SNMP Trap Dialog

SNMP Version

Specify the SNMP version here.

Agent receiver

Specify the agent that has to receive the SNMP trap. Please note that specifying a host name can cause the SMTP probe to fail if DNS name resolution fails (for example due to a failing DNS server). To avoid this, specify an IP address.

SNMP Port

This port is to be probed. Please see your server's reference for the actual value to use. For example, mail servers typically listen to port 25 and web servers to 80.

Community

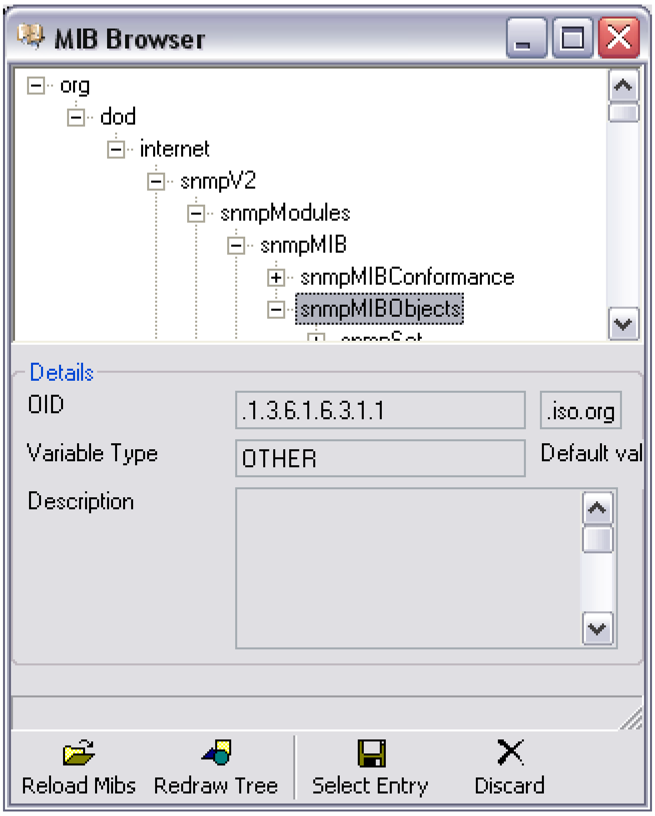
Specify the SNMP community to which the messages belong too.

SNMP V1 Specific Parameters

Under this group box you can see the parameters related to SNMP version 1.

Enterprise OID

Specify the enterprise object ID here. You can use Browse option to select your OID. If you click the Browse link, the screen similiar to shown below is appeared:



OID .1.3.6.1.6.3.1.1 .iso.org

Variable Type OTHER

Default val

Description

MIB Browser

You can select your MIB here.

Generic Name

You can specify the generic name of the trap which can be one of the coldStart(0), warmStart(1), linkDown(2), linkUp(3), authenticationFailure(4), egpNeighborLoss(5) and enterpriseSpecific(6).

Specific Type

You can define an additional code for the trap. It is also an Integer value.

SNMP Variables

These are the variables to send in the SNMP Trap. If you know the trap codes, you can enter them manually, otherwise use the inbuild SNMP MIB Browser. Under this group box, you see the following fields:

Variable OID

OID of the SNMP Trap. Use the inbuild SNMP Mib Browser for a list of known and available OIDs.

Variable Type

The variable type of the variable, usually OCTETSTRING or INTEGER. Depending on this type, the Variable value needs to be formatted correctly (Like for the type IPADDR).

Variable Value

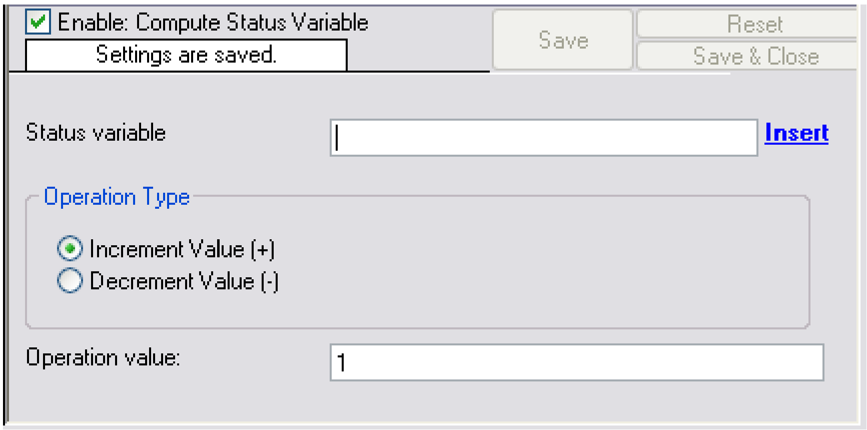
The value of the Variable. It needs to be formatted depending on the variable type.

Please Note:

The "Send SNMP Trap"-Action is capable of sending all kinds of Traps. You can choose the whole variety of the MonitorWare Products' Properties as a value for the messages. With that, you can send SNMP Traps to the Windows internal SNMP Agent or any other device that is able to receive SNMP Traps. Of course you have full enterprise support, too. This gives you the possibility to involve every machine on your network into your security plan or whatever purpose it should serve.

6.5.22 Compute Status Variable

An internal action used to compute a status variable. This is needed for RuleSets which operate on a counter basis. This dialog controls the compute status variable options.


☑ Enable: Compute Status Variable

Settings are saved.

Status variable:

Operation Type

● Increment Value (+)

○ Decrement Value (-)

Operation value: 1

Compute Status Variable Dialog

Status variable

Name of the status variable. You can use property replacement variables here.

Operation Type

In this group box, you can see two options:

Increment Value

It increments the value by the opertaion value.

Decrement Value

It decrements the value by the opertaion value.

Operation value

The operation value that is to be used.

7 Getting Help

MonitorWare Agent is very reliable. In the event you experience problems, find here how to solve them.

Please note that all options (except priority support) are also open to evaluating customers. So do not hesitate to try them. Help is available in English and German language. Our local resellers may provide local language support. Please check with them.

Frequently Asked Questions

For a current list of Frequently Asked Questions (FAQ), please visit http://www.mwagent.com/en/FAQ/. The FAQ area is continuously being updated.

Support Forum

Share questions and answers with your peers! The forum is also monitored by Adiscon support staff. To access the forum, point your browser at http://forum.adiscon.com/forum,1.html.

Customer Support System

Our customers service and support system is available at http://custservice.adiscon.com. With it, you can quickly open a support ticket via a web-based interface. This system can be used to place both technical support calls as well as general and sales questions. We would appreciate if you select the appropriate category when opening your ticket.

Please note: the customer service system asks you for a User ID and Password when you open it. If you do not have a User ID yet, you can simply follow the "register" link (in the text part) to create one. You can also open a ticket without registering first, in which case the system creates one for you. You receive the generated User ID as part of the email notifications the system generates.

Why using the customer support system? As you see further below, we also offer support by email. In fact, email is just another way to create a ticket in the customer support system. Whenever we reply to your ticket, the system automatically generates an email notification, which includes a link to your ticket as well as the answer we have provided. So for the most cases, you can use email, only. However, there are some situations where the support system should be used:

- **Email notifications do NOT include attachments!** If we provide an attachment, you must login into the ticket in order to obtain this. For your convenience, each email notification contains an active link that allows you to login immediately.
- **If you seem to not receive responses from us, it is a very good idea to check the web interface.** Unfortunately, anti-SPAM measures are being setup more and more agressive. We are noticing an increasing number of replies that simply do not make it to your mailbox, because some SPAM filter considered it to be SPAM and removed it. Also, it may happen that your support question actually did not get past our own SPAM filter. We try very hard to avoid this. If we discard mail, we send a notification of this, so you should at least have an indication that your mail did not reach us. Using the customer support system via its own web interface removes all SPAM troubles. So we highly recommend doing this if communication otherwise seems to be distrubed. In this case, please remember that notification emails may also get lost, so it is a good idea to check your ticket for status updates from time to time.

MonitorWare Agent Web Site

Visit the support area at www.mwagent.com/en/support/ for further information. If for any reason that URL ever becomes invalid, please visit www.adiscon.com for general information.

Email

Please address all support requests to support@adiscon.com. An appropriate subject line is highly appreciated.

Please note: we have increasingly seen problems with too-agressive SPAM filtering, resulting in loss of our replies. If you do not receive a response from us within two working days, we highly recommend re-submitting your support call via the customer support system.

Online Seminars

Adiscon offers a selection of online seminars. This selection is continuously being expanded. All available seminars can be found at http://www.adiscon.com/Common/en/SeminarsOnline/

Please note: Windows Media Player is required to view the seminars.

Phone

Phone support is limited to those who purchased support incidents. If you are interested in doing so, please email info@adiscon.com **for further details.**

Fax

Please direct your faxes to

+49-9349-928820

Toll free in the US: 1-888-900-3772

with "+" being the international dialing prefix, e.g. 011 in the US and 00 in most other countries.

Software Maintenance

Adiscon's software maintenance plan is called UpgradeInsurance. It offers unlimited free upgrades and priority support during its duration. It can be purchased for a period between 1 and 5 years.

Click here to learn more about UpgradeInsurance.

Non-Technical Questions

Please address all non-technical questions to info@adiscon.com. This email alias answers all non-technical questions like pricing, licensing or volume orders.

Please note: we have increasingly often problems with too-agressive SPAM filtering, resulting in loss of our replies. If you do not receive a response from us within two working days latest, we highly recommend re-submitting your question via the customer support system.

Product Updates

The MonitorWare line of products is being developed since 1996. New versions and enhancements are made available continuously.

Please visit www.mwagent.com for information about new and updated products.

8 MonitorWare Concepts

MonitorWare Agent offers advanced monitoring capabilities. It can not only monitor the system it is installed on; it can also include information received from Syslog-enabled devices. To fully unleash MonitorWare's power, you need to learn a bit about its concepts. These web resources (provided links) describe each element in detail.

MonitorWare Agent operates on a set of elements. These are

- Services
- Information Units
- Filter Conditions
- Actions
- Rules
- Rule Engine
- The SETP Protocol

It is vital to understand each element and the way they interact. MonitorWare Agent has multiple and very powerful capabilities. This enables very quick configuration of highly efficient and comprehensive systems. On the other hand, the concepts must be fully understood to make such complex systems really work.

9 Purchasing MonitorWare Agent

All MonitorWare Agent features can be used for 30 days after installation without a license. However, after this period a valid license must be purchased. The process is easy and straightforward.

The License

The end user license agreement is displayed during setup. If you obtained a ZIP file with the product, there is also a file license.txt inside that ZIP file. If you need to receive a copy of the license agreement, please email info@adiscon.com.

Pricing & Ordering

Please visit http://www.mwagent.com/en/intermediate-order.php to obtain pricing information. This form can also be used for placing an order online. If you would like to place a purchase order, please visit http://www.adiscon.com/Common/en/OrderByPO.asp to obtain details.

If you would like to receive assistance with your order or need a quote, please contact info@adiscon.com.

10 Reference

The following references provide in-depth information to some very specific things. You may want to review them if you are looking for one of these. Some references are placed on the web and some other are directly contained in this manual. We decided to provide web-links wherever we considered them useful.

- The MonitorWare Agent Service
- Support for Mass Rollouts
- Formats (XML and Database)
- Version History
- ICMP Codes
- Property Replacer
- Comparsion Sheet of Property Replacer

10.1 Comparison of properties Available in MonitorWare Agent, EventReporter and WinSyslog

The property replacer is a reference - the actual properties are very depending on the edition purchased. We have just included information on what is available in which products for your ease and convenience.

Properties Available	**MonitorWare Agent**	**WinSyslog**
Standard Property	Yes	Yes
Windows Event Log Properties	Yes	
Syslog Message Properties	Yes	Yes
Disk Space Monitor	Yes	
File Monitor	Yes	
Windows Service Monitor	Yes	
Ping Probe	Yes	
Port Probe	Yes	
Database Monitor	Yes	
Serial Port Monitor	Yes	
MonitorWare Echo Request	Yes	
System Properties	Yes	Yes
Custom Properties	Yes	Yes
NNTP Probe	Yes	
HTTP Probe	Yes	
FTP Probe	Yes	
SMTP Probe	Yes	
POP3 Probe	Yes	

10.2 Event Properties

Events have certain properties, for example the message associated with the event or the time it was generated. Each of this properties has an assigned name. The actual properties available depend on the type of event. The following sections desribe both how to access properties as well as properties available.

Knowing about event properties is important for building complex filter conditions, customized actions as well as for integrating into a third-party system. Event properties provide a generic way to look at and process the events generated. Thus we highly recommend that you atleast briefly read this reference section.

10.2.1 Acessing Properties

Properties are accessed by their name. The component used for this is called the "property replacer" It is a generic component that allows you to merge properties from the event processed to e.g. the email subject line or a log file line. It is a central component that is used as often in the product as possible. The idea behind the property replacer is that there is often need to specify a value from the event processed.

The property replacer provides very powerful ways to acces the properties: they can not only be accessed as one full property. They can also be acceessed as substrings and even be reformatted. As such, the property replacer provides a specifc syntax to access properties:

%property:fromPos:toPos:options%

The percent-signs ("%") indicates the start of a special sequence. The other parameters have the following meanings

FromPos and ToPos can be used to copy a substring from a lenghty property. The options allow to specify some additional formating.

Within the properties, all time is based on UTC regardless if your preferred time is UTC or localtime. So if you want to display localtime instead of UTC, you have to use the following syntax: %variable:::localtime%

10.2.1.1 Property

This is the name of the property to be replaced. It can be any property that a given event posses. If a property is selected that is empty for the event processed, an empty string is returned.

A property is either an event property, a custom property, a dynamic property or a system property.

If a property is selected that is **not** present, the result will always be an empty string, no matter which other options have been selected.

10.2.1.2 FromPos

If you do not want to use the full string from the property, you can specify a start position here. There are two ways to specify the start location:

Fixed Character position

If you know exactly on which position the string of interest begins, you can use a fixed location. In this case, simply specify the character position containing the first character of interest. Character positions are counted at 1.

Search Pattern

A search pattern is specified as follows:

/<search-pattern>/<options>

If a search pattern is specified, the property value is examined and the first occurence of <search-pattern> is detected. If it is not found, nothing is returned. If it is found, the position where the pattern is found is the start postion or, if the option "$" is specified, the position immediately after the pattern.

The search pattern may contain the "?" wildcard character, which represents any character. Other wildcards are not supported with the property replacer.

Please note that a slash inside the search pattern will terminate the search field. So pure slashes can not be used. However, they can be escaped by prefixing them with a backslash (\). The same applies to the '?' character. For example, if you intend to search for "http://" inside a search pattern, you must use the following search string: "/http:\/\/".

Default Value

If the FromPos is not specified, the property string is copied starting at position 1.

10.2.1.3 ToPos

If you do not want to use the full string from the property, you can specify the highest character position to be copied here.

Absolute Position

Specify a simple integer if you would like to specify an absolute ending position.

Relative Position

This is most useful together with the serach capabilities of **FromPos**. A relative position allows you to specify how many characters before or after the FromPos you would like to have copied. Relative positions are specified by putting a plus or minus ("+"/"-") in front of the integer.

Please note: if you specify a negative postion (e.g. -20), FromPos and ToPos will internally be swapped. That is the property value will not be (somehow) reversely copied but they will be in right order. For example, if you specify %msg:30:-20% actually character positons 10 to 30 will be copied.

Search Pattern

Search pattern support is similar to search pattern support in **FromPos**.

A search pattern is specified as follows:

/<search-pattern>/<options>

If a search pattern is specified, the property value is examined and the first occurence of <search-pattern> is detected. The search is only carried out in the string that follows FromPos. If the string is not found, nothing is returned. If it is found, the position where the pattern is found is the ending postion or, if the option "$" is specified, the position immediately after the pattern.

The search pattern may contain the "?" wildcard character, which represents any character. Other wildcards are not supported with the property replacer.

Please note that a slash inside the search pattern will terminate the search field. So pure slashes can not be used. However, they can be escaped by prefixing them with a backslash (\). The same applies to the '?' character. For example, if you intend to search for "http://" inside a search pattern, you must use the following search string: "/http:\/\//".

Search Example

A common use case is to combine searches in **ToPos** and **FromPos** to extract a substring that is delimited by two other strings. To do so, use search patterns in both fields. An example is as follows: assume a device might generate message in the form "... error XXX occurred..." where "..." represents additional message text and XXX the actual error cause. You would like to extract the phrase "error XXX occurred". To do so, use the following property replacer syntax:

%msg:/error/:/occured/$/%

Please note that the FromPos is used without the $-option, while in ToPos it is used. If it hadn't been used in ToPos, only the part "error XXX " would have been extracted, as the ToPos would point to the last character before the search string.

Similarily, if only " XXX " should be extracted, the following syntax might be used:

%msg:/error/$:/occured/%

If you would also like to remove the spaces (resulting in just "XXX"), you must include them into the search strings:

%msg:/error /:/ occured/$/%

Default

If not specified, the ending position will be the last character.

10.2.1.4 Options

Options allow you to modify the the contents of the property. Multiple options can be set. They are comma-separated. If conflicting options are specified, always the last option will be in effect (e.g. specifying "uppercase,lowercase" will lead to lowercase conversion of the property value).

The following options are available with this release of the product:

lowercase All characters in the resulting property extract will be converted to lower case.

uppercase All characters in the resulting property extract will be converted to upper case.

uxTimeStamp This is a special switch for date conversions. It only works if the extracted property value is an ISO-like timestamp (YYYY-MM-DD HH:MM:SS). If so, it will be converted to a Unix-like ctime() timestamp. If the extracted property value is not an ISO-like timestamp, no conversion happens.

uxLocalTimeStamp This is the same as uxTimeStamp, but with local time instead of GMT.

escapecc Control characters* in property are replaced by the sequence ##hex-val##, where hex-val is the hexadecimal value of the control character (at least two digits, may be more).

spacecc Control characters* in the property are replaced by spaces. This option is most useful when a message contains control characters (e.g. a Windows Event Log Message) and should be written to a log file.

compressspace Compresses multiple consecutive space characters into a single one. The result is a string where all words are separated by just single spaces.
To also compress control characters, use the compressspace and spacecc options together (e.g. '%msg:::spacecc,compressspace%').

Please note that space compression happens on the final substring. So if you use the FromPos and ToPos capabilities, the substring is extracted first and then the space compression applied. For example, you may have the msg string "1 2". There are two space between 1 and 2. Thus, the property replacer expression

%msg:1:3:compressspace%

will lead to "1 " ('1' followed by two spaces). If you intend to receive "1 2" ('1' followed by one space, followed by '2'), you need to use

%msg:1:4:compressspace%

or

%msg:1:/2/$:compressspace%

In the second case, the exact length of the uncompressed string is not known, thus a search is used in "ToPos" to obtain it. The result is then space-compressed.

compsp Exactly the same as **compressspace**, just an abbreviated form for those that like it brief.

csv For example %variable:::csv%. This option will create a valid CSV string, for example a string like this this is a "test"! becomes this "this is a ""test""!" where quotes are replaced with double quotes.

* = control characters like e.g. carriage return, line feed, tab, ...

Important: All option values are case-sensitive. So "uxTimeStamp" works while "uxtimestamp" is an invalid option!

10.2.1.5 Examples

Simple Examples

A good example for this is the email subject line, which has severe length constraints. If you would like to have only the first 40 characters of the actual message text in the subject, you could use the replacer: "%msg:1:40%".

If you know the first 10 characters of the message are meaningless for you but you would like to see the full rest of the message (no matter how long it may be), you can use a sequence like "%msg:11%.

If you would just like to see the plain message from beginning to end, you can simply omit FromPos and ToPos: "%msg".

Of course, all of these sample not only work with the "msg" property, but also with all others like "facility" or "priority", or W3C-log header extracted property names.

More complex Examples

If you would like to extract the 50 characters from the message after the word DROP, you would use the following replacer string:
%msg:/DROP/$:+50%

If you would like to have the first 40 characters in front of the string "- aborted" (including that string):
%msg:/- aborted/$:-40%

If you would like to receive everything starting from (and including) "Log:":
%msg:/Log/%

If you would like to have everything between the string "FROM" and "TO" including NONE of the both searchstrings:
%msg:/FROM/$:/TO/%

If you would just like to log lowercase letters in your log messages:
%msg:::lowercase%

And if you would just like to have the first 50 characters (and these in lower case):
%msg:50:::lowercase%

If you need to change a timestamp to a UNIX-like timestamp, you could use this:
%datereceived:::uxTimeStamp%

Please see also the focussed sample in the ToPos description.

A real world Sample

We use the following template to generate output suitable as input for MoniLog:

```
%timegenerated:1:10%,%timegenerated:12:19%,%source%,%syslogfacility%,%sysl
ogpriority%,EvntSlog: %severity% %timereported:::uxTimeStamp%:
%source%/%sourceproc% (%id%) - "%msg%"%$CRLF%
```

Please note: everything is on one line with no line breaks in between. This example is from the "write to file" action (with custom file format).

10.2.2 System Properties

System properties are special sequences that can be helpful. They are available with all event types. They are:

$CRLF	A Windows newline sequence consisting in the characters CR and LF. If you just need CR, you can use %$CRLF:1:1% and if you need use LF you can use %$CRLF:2:2%
$TAB	An US-ASCII horizontal tab (HT, 0x09) character
$HT	same as $TAB
$CR	A single US-ASCII CR character (shortcut for %$CRLF:1:1%)
$LF	A single US-ASCII LF character (shortcut for %$CRLF:2:2%)
$xNN	A single character, whoms value (in hexadecimal) is given by NN. NN **must** be two hexadecimal digits - a leading zero must be used if a value below 16 is to be represented. The value 0 (%x00) is invalid and - if specified - replaced by the "?" character. As an example, $CR could also be expressed as %$x0d%. Please note that only **one** character can be represented. If you need to specify multiple characters, you need multiple $xNN sequences. An example may be $CRLF which could also be specified as %$x0d%%$x0a% (but **not** as %$x0d0a%).
$NOW	Contains the current date and time in the format: YYYY-MM-DD HH.MM.SS Please note that the time parts are delimited by '.' instead iof ':'. This makes the generated name directly suitable for file name generation. If you need just parts of the timestamp, please use the property replacer's substring functionality to obtain the desired part. Use **%$NOW:1:4%** to get the **year**, **%$NOW:6:7%** to get the **month**, ... **%$NOW:1:10%** to get the **full datestamp**, **%$NOW:12:20%** to get the **full timestamp**

10.2.3 Custom Properties

Users can create an unlimited number of custom properties. These can be created with for example the "PostProcess" action (if the product edition purchased supports this action).

Custom properties can theoretically have any name, but Adiscon highly recommends to prefix them with "u-" (e.g. "u-MyProperty" - "u" like "user"). This ensures that no compatibility problems will arise in current and future versions of the software. Adiscon guarantees that it will never use the "u-" prefix for Adiscon-assigned properties.

Custom properties can be used just like regular properties. Wherever you can specify a property, you can also specify a custom property.

10.2.4 Event-Specific Properties

Each network event is represented by a so-called "Event Record" (sometime also named an "InfoUnit", an "Unit of Information"). Data obtained from all services will end up as an event. For example, Windows Event Log data, syslog data and a file line obtained by the file monitor will all be an event. That kind of generalization make it easy to deal with all of these events in a consistent way.

Each event has a set of properties which in turn have values. For example, there is a property named "source" and it will always contain an indication of which system the event orginated on. Obviously, not every event source does support all properties. For example, a syslog message does not contain a Windows NT Event ID - simply because there is no such thing as an event ID in syslog. So, depending on the type of event, it may contain different properties.

In order to make the product really generally useful, some few properties have been defined in a generic way and are guarantted to be present in every event, no matter what type it may have. Sometimes this is a "natural" common property, like the "fromhost". Sometimes, though, it may look a bit artificial. An example of the later is the "syslogfacility" property. It is guaranteed to be present in every event - but actually this is a syslog-only thing. The non-syslog event sources either emulate this property (in a consistent manner) or allow the user to configure a syslogfacility that should be used for all events generated by that service. At the bottom line, this will ensure that the property is available in all events and - given proper configuration - that can be extremely helpful for the administrators to set up things in a powerful and generic way.

10.2.4.1 Standard Properties

As outlined under Event Properties, these are properties present in all types of events. Some event types have only these standard properties. Others have additional properties. Those with additional properties are documented in the other sections. If there is no specific documentation for a specific event type, this means that it supports the standard properties, only.

msgPropertyDescribed	A human-readable representation of the message text. While this is genereally available, the exact contents largely depends on the source of the information. For example, for a file monitor it contains the file line and for a syslog message it contains the parsed part of the syslog message.
source	The source system the message orignated from. This can be in various representations (e.g. IP address or DNS name) depending on configuration settings.
syslogpriority	The severity of a syslog message. For non-syslog messages, this should be a close approximation to what a syslog severity code means.
syslogfacility	The facility of a syslog message. For non-syslog messages, the value is provided based on configuration. In essence, this is simply an integer value that can be used for quick filtering inside your rules.
syslogtag	The syslog tag value, a short string. For non-syslog messages, this is provided based on configuration. In most cases, this is used for filtering.
resource	A user-assgined numerical value. Does not have any specific meaning. Primarily intended for quick filtering.
CustomerID	A user-assgined numerical value. Does not have any specific meaning. Primarily intended for quick filtering.
SystemID	A user-assgined numerical value. Does not have any specific meaning. Primarily intended for quick filtering.
timereported	The time the originator tells us when this message was reported. For example, for syslog this is the timestamp from the syslog message (if not configured otherwise). Please note that timereported eventually is incorrect or inconsistent with local system time - as it depends on external devices, which may not be properly synchronized. For Windows Event Log events, timereported contains the timestamp from the event log record.
timegenerated	The time the event was recorded by the service. If messages are forwarded via SETP, this timestamp remains intact.
importance	Reserved for future use.
iut	Indicates the type of the event. Possible values are: 1- syslog message 2- hearbeat 3- Windows Event Log Entry 4- SNMP trap message 5- file monitor 8- ping probe 9- port probe 10- Windows service monitor 11- disk space momitor 12- database monitor 13- serial device monitor
iuvers	Version of the event record (info unit). This is a monitorware interal version identifier.

10.2.4.2 Windows Event Log Properties

id	Windows Event ID
severity	severity as indicated in the event log. This is represented in string form. Possible values are: [INF] - informational [AUS] - Audit Success [AUF] - Audit failure [WRN] - Warning [ERR] - Error [NON] - Success (called "NON" for historical reasons)
severityid	The serverity encoded as a numerical entity (like in Windows API)
sourceproc	The process that wrote the event record (called "source" in Windows event viewer).
category	The category ID from the Windows event log record. This is a numerical value. The actual value is depending on the event source.
catname	The category name from the Windows event log record. This is a string value. The actual value is depending on the event source. This value is a textual representation from the Category ID. This property could contain line feeds, which can be removed by activating the option "Remove Control Characters from String Parameters" in the advanced options of the EventLog Monitor Service.
user	The user name that was recorded in the Windows event log. This is "N\A" if no user was recorded.
NTEventLogType	The name of the Windows event log this event is from (for example "System" or "Security").
bdata	Windows event log records sometimes contain binary data. The event log monitor service can be set to include this binary data into the event, if it is present. If it is configured to do so, the binary data is put into the "bdata" property. Every byte of binary data is represented by two heaxdecimal characters. Please note that it is likely for bdata **not** to be present. This is because the binary data is seldomly used and very performance-intense.

10.2.4.3 Syslog Message Properties

rawmessage	The message as it was received from the wire (unparsed).

10.2.4.4 Disk Space Monitor

currusage	The currently used disk space.
maxavailable	The overall capacity of the (logical) disk drive.

10.2.4.5 CPU/Memory Monitor

wmi_type	This variable is a string and can be one of the following variables: cpu_usage, mem_virtual_usage, mem_physical_usage, mem_total_usage
cpu_number	Number of the current checked CPU
cpu_load	The workload of the CPU as number, can be 0 to 100
mem_virtual_load	How much virtual memory is used (MB)
mem_virtual_max	How much virtual memory is max available (MB)
mem_virtual_free	How much virtual memory is free (MB)
mem_physical_load	How much physical memory is used (MB)
mem_physical_max	How much physical memory is max available (MB)
mem_physical_free	How much physical memory is free (MB)
mem_total_load	How much total(Virtual+Physical) memory is used (MB)
mem_total_max	How much total(Virtual+Physical) memory is max available (MB)
mem_total_free	How much total(Virtual+Physical) memory is free (MB)

10.2.4.6 File Monitor

genericfilename	The configured generic name of the file being reported.

Special IIS LogFile Properties

The Logfile Fields in IIS Logfiles are customizeable, so there is no hardcoded command for their use.
The property-name depends on its name in the logfile. For example we take this Logfile:

```
#Software: Microsoft Internet Information Services 5.0
#Version: 1.0
#Date: 2005-10-27 14:15:25
#Fields: date time c-ip cs-username s-ip s-port cs-method cs-uri-stem cs-uri-query
sc-status cs(User-Agent)
2005-10-27 14:15:16 127.0.0.1 - 192.168.0.1 443 POST /eCommerce/asdf.php
2005-10-27 14:15:16 127.0.0.1 - 192.168.0.1 443 POST /eCommerce/asdf.php
2005-10-27 14:15:16 127.0.0.2 - 192.168.0.1 443 POST /eCommerce/asdf.php
2005-10-27 14:15:16 127.0.0.2 - 192.168.0.1 443 POST /eCommerce/asdf.php
```

As you can see, in our sample the fields are named: date, time, c-ip, cs-username, s-ip, ... and so on.
To use them as a Property inside our MonitorWareProducts, just use the names from your Logfile and add a "p-" before it:

p-date	The Date on which the Event occurs
p-time	The Time on which the Event occurs

p-c-ip	The IP Adress of the User which accessed
p-cs-username	The Username of the User which accessed
p-s-ip	The Server IP
p-s-port	The Server Port
p-cs-method	The Client-Server Method (POST,GET)
p-cs-uri-stem	The accessed File including its path

10.2.4.7 Windows Service Monitor

sourceproc	The name of the service whoms status is being reported (from the Windows service registry).

10.2.4.8 Ping Probe

echostatus	Status returend for the echo request
roundtriptime	Round trip time for the ping packet (if successful)

10.2.4.9 Port Probe

responsestatus	The status of the probe.
responsemsg	The response message received (if any)

10.2.4.10 Database Monitor

Database-Monitor created events are a bit different than other events. The reason is that the database fields themselves become properties - but obviously these are not fixed but depend on what you monitor.

All queried data fields are available as properties via their database field name **prefixed with "db-"**.

An example to clarify: we assume the following select statement is used for the database monitor:

select name, street, zip, city from addresses

There is also an ID column named "ID". So the event generated by this database monitor will have the following specific properties:

- db-ID
- db-name
- db-street
- db-zip

- db-city

These properties will contain the field values as they are stored in the database. Please note that NULL values are translated into empty strings (""), so there is no way to differentiate a NULL value from an empty string with this version of the database monitor.

Other than the custom "db-" properties, no specific database monitor properties exist.

10.2.4.11 Serial Monitor

portname	The name of the port that the data orginated from (typical examples are COM1, COM2). The actual name is taken from the configuration settings (case is also taken from there).

10.2.4.12 MonitorWare Echo Request

responsestatus	The status of the echo request. Possible values: 0 - request failed (probed system not alive) 1 - request succeeded If the request failed, additional information can be found in the *msg* standard property.

10.2.4.13 FTP Probe

ftpstatus	The status of the connection.
ftprespmsg	The response of the connection.

10.2.4.14 IMAP Probe

imapstatus	The status of the connection.
imaprespmsg	The response of the connection.

10.2.4.15 NNTP Probe

nntpstatus	The status of the connection.
nntprespmsg	The response of the connection.

10.2.4.16 SMTP Probe

smtpstatus	The status of the connection.
smtprespmsg	The response of the connection.

10.2.4.17 POP3 Probe

pop3status	The status of the connection.
pop3respmsg	The response of the connection.

10.2.4.18 HTTP Probe

httpstatus	The status of the connection.
httprespmsg	The response of the connection.

10.3 Complex Filter Conditions

The rule engine uses complex filter conditions.

Powerful boolean operations can be used to build filters as complex as needed. A boolean expression tree is graphically created. The configuration program is modelled after Micorosoft Network Monitor. So thankfully, many administrators are already used to this type of Interface. If you are not familiar with it, however, it looks a bit confusing at first. In this chapter, we are provinding some samples of how boolean expressions can be brought into the tree.

Example 1

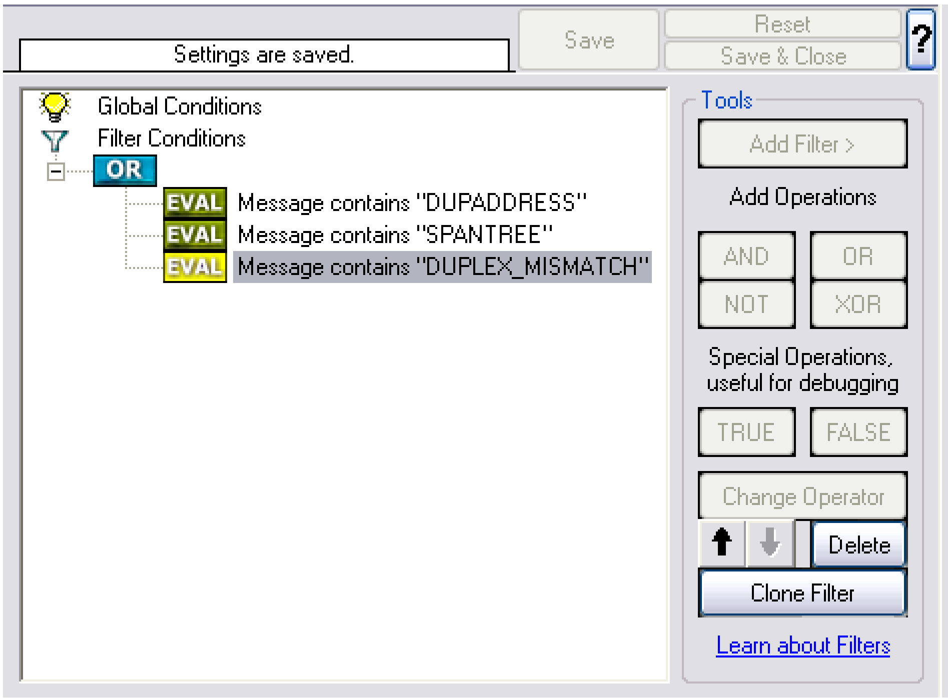
In this example, the message text itself shall be checked. If it contains at least one of three given strings, the filter should become true. If none of the string is found, the boolean expression tree evaluates to false, which means the associated action(s) will not be executed.

In pseudo-code, the filter could be written like this:

```
If (msg  = "DUPADDRES") Or (msg = "SPANTREE") Or (msg = "DUPLEX_MISMATCH) then
   execute action(s)
end if
```

Please note: in the example, we have abbreviated "message" to just "msg". Also note that for brevity reasons we use the equals ("=") comparison operator, nicht the contains. The difference between the equals and the contains operator is that with "contains", the string must just be part of the message.

In the filter dialog, this pseudo code looks as follows:



Settings are saved.

Global Conditions

Filter Conditions

OR

EVAL Message contains "DUPADDRESS"

EVAL Message contains "SPANTREE"

EVAL Message contains "DUPLEX_MISMATCH"

Figure 1 - Example 1

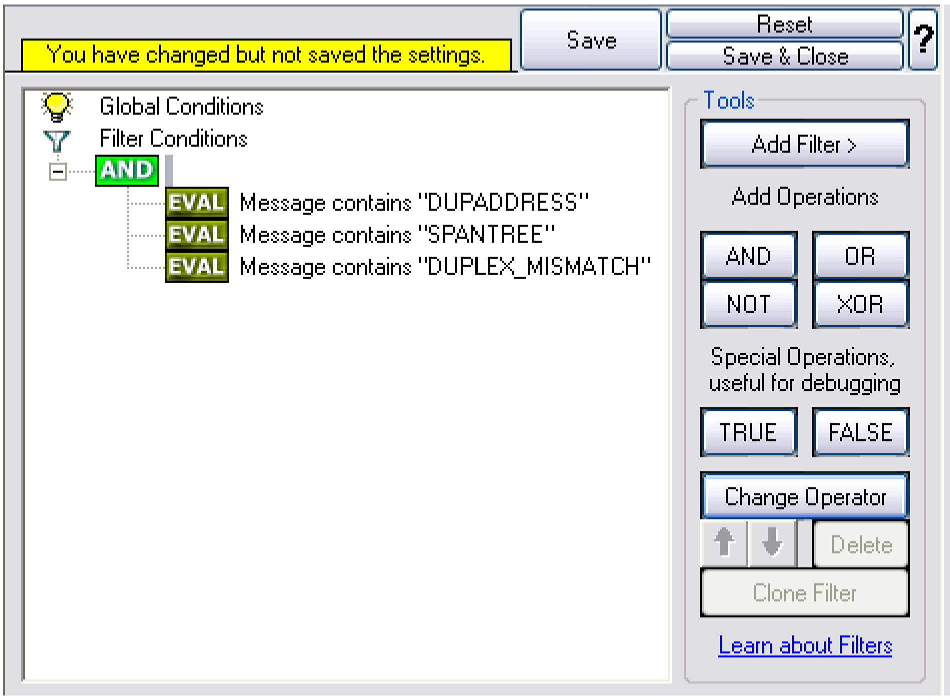
Example 2

Example 2 is very similar to example 1. Again, the message content is to be checked for three string. This time, **all** of these strings must be present in order for the boolean tree to evaluate to false.

The pseudo code would be as follows (under the same conditions outlined in example 1 above):

```
If (msg  = "DUPADDRES") And (msg = "SPANTREE") And (msg = "DUPLEX_MISMATCH) then
   execute action(s)
end if
```

In the filter dialog, this pseudo code looks as follows:



You have changed but not saved the settings.

Global Conditions
Filter Conditions
AND
EVAL Message contains "DUPADDRESS"
EVAL Message contains "SPANTREE"
EVAL Message contains "DUPLEX_MISMATCH"

Figure 2 - Example 2

Example 3

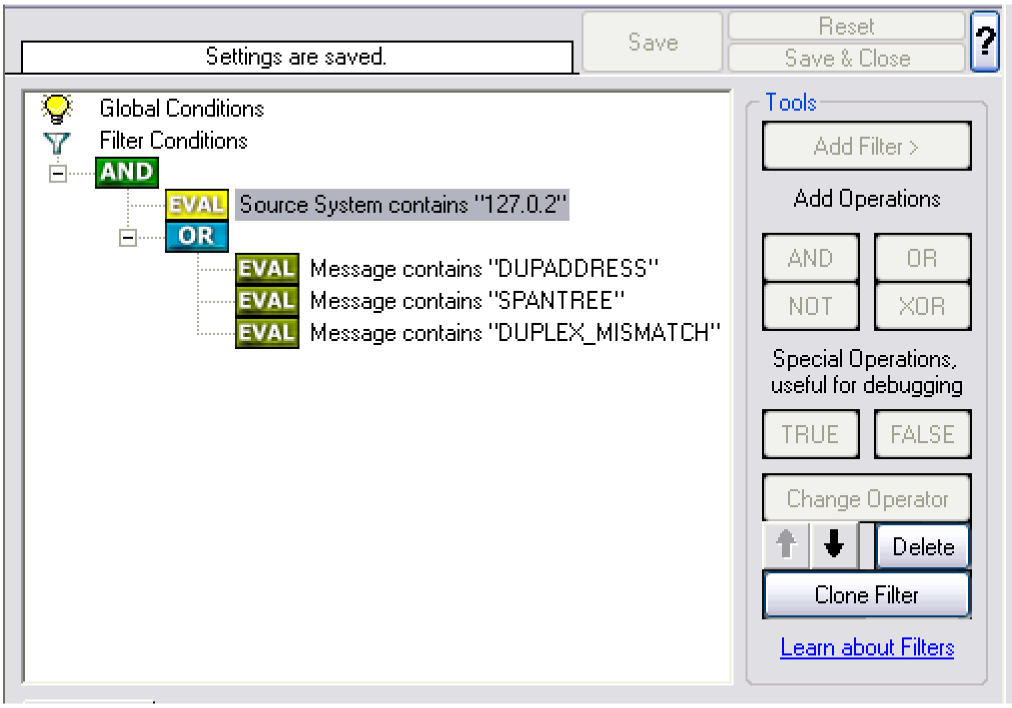
This example is a bit more complex version of example 1. Again, the same message text filtering is done, that is if any one of the provided substrings is present, the filter eventually evaluates to true. To do so, the source system must also contain the string "192.0.2", which can be used to filter on a device from a specifc subnet.

An example like this can be used for a rule where the administrator of a specific subnet should be emailed when one of the strings indicate a specific event.

The pseudo code would be as follows (under the same conditions outlined in example 1 above):

```
If ((sourceSys = "192.0.2")
   And
    ((msg  = "DUPADDRES") Or (msg = "SPANTREE") Or (msg = "DUPLEX_MISMATCH))
   ) then
   execute action(s)
end if
```

In the filter dialog, this pseudo code looks as follows:



Source System contains "127.0.2"
Message contains "DUPADDRESS"
Message contains "SPANTREE"
Message contains "DUPLEX_MISMATCH"

Figure 3 - Example 3

As a side note, you may want to use a range check instead of a simple include for the source system. With a range string check, you can specify that the string must be within a specified column range, in this case obviously at the beginning of the source system IP address.

Real-World Examples

To see some real-world examples of where boolean conditions inside filtering are used, please visit these web links:

- Detecting Password Attacks under Windows

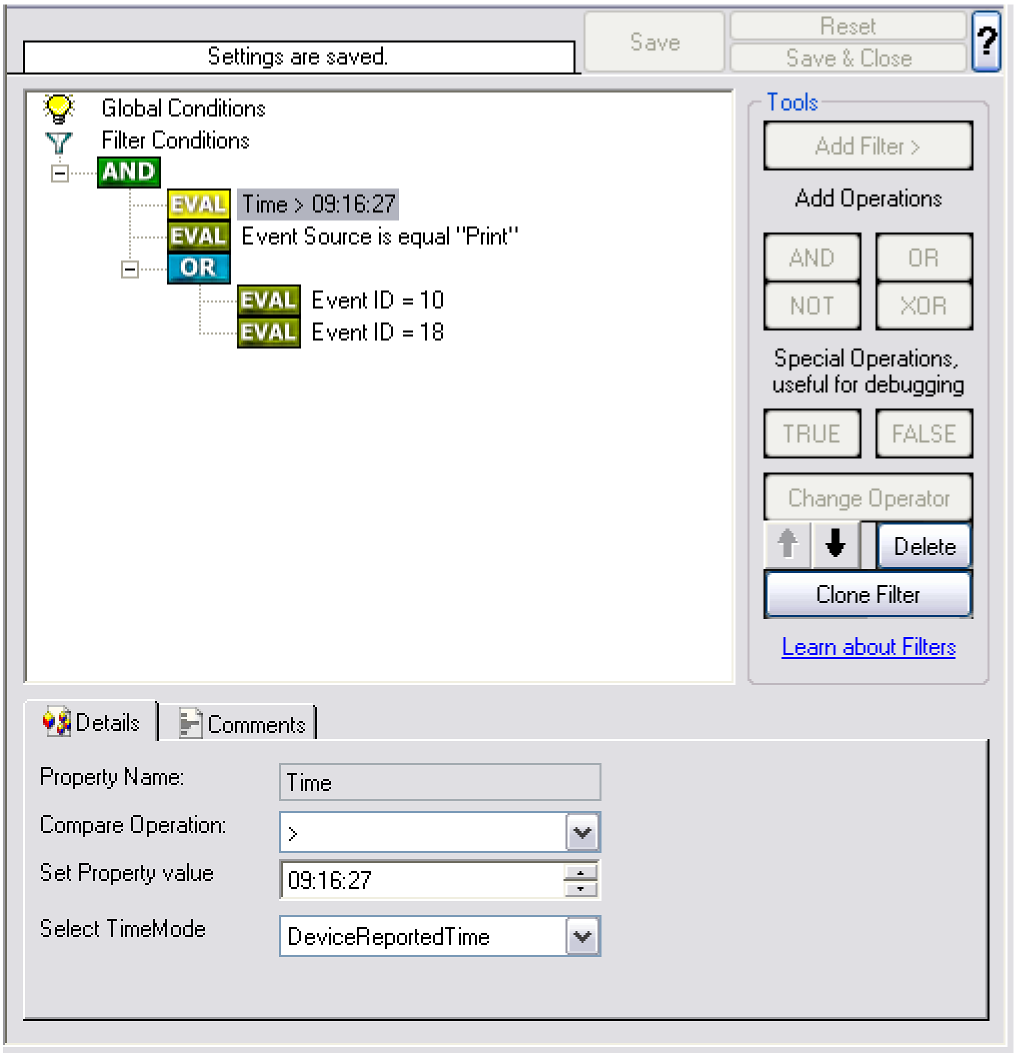
Example 4

In this example, the report is to be filtered in such a way that it shows information only in the case, if the time is greater then certain time with certain event source and one of two event ID's.

In pseudo-code, the filter could be written like this:

If (DeviceReportedTime is greater than {9:16:27} AND EventSource is equal to {Print} AND [EventID is equal to {10} OR EventID is equal to {18}]]

In the filter dialog, this pseudo code looks as follows:



Settings are saved.

Global Conditions
Filter Conditions
AND
EVAL Time > 09:16:27
EVAL Event Source is equal "Print"
OR
EVAL Event ID = 10
EVAL Event ID = 18

Property Name: Time

Compare Operation: >

Set Property value 09:16:27

Select TimeMode DeviceReportedTime

10.4 MonitorWare Agent Shortcut Keys

Use shortcut keys as an alternative to the mouse when working in MonitorWare Agent Client. Keyboard shortcuts may also make it easier for you to interact with MonitorWare Agent. All these shortkeys are usually available in textboxes only. Listed below are the available short keys:

Press	**To**
CTRL+S	Save
CTRL+X	Cut
CTRL+C	Copy
CTRL+V	Paste
CTRL+Z	Undo

Note: This is in synchronization with most major Windows applications.

10.5 Version Comparison

MonitorWare Agent comes in different versions. Some of them are more feature-richer then others. The manual covers description about the full feature set. In order to remove confusion we have created a Product Comparison Sheet which identifies the differences between different available versions. Click here to see that which Version provides which services, actions and other features.

11 Copyrights

This documentation as well as the actual MonitorWare Agent product is copyrighted by Adiscon GmbH, Germany. To learn more about other Adiscon products, please visit http://www.adiscon.com/en/products. To obtain information on the complete MonitorWare product line, please visit www.monitorware.com.

We acknowledge using these following third party tools. Here are the download links:

Openssl-0.9.8a:	http://www.adiscon.org/3rdparty/openssl-0.9.8a.tar.gz
Net-SNMP-5.2.1:	http://www.adiscon.org/3rdparty/net-snmp-5.2.1.tar.gz
Liblogging:	http://www.adiscon.org/3rdparty/liblogging.zip
VB6 NeoCaption:	http://www.adiscon.org/3rdparty/VB6_NeoCaption_Full_Source.zip

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Other mentioned trademarks are for reference only. They belong to their respective owners.

12 Glossary of Terms

The Glossary of Terms is also available on the Web:

http://www.monitorware.com/Common/en/glossary/

The web version most probably has more and more up-to-date content. We highly encourage you to visit the web if in doubt.

12.1 EventReporter

EventReporter is Adiscon's solution to forward Windows NT/2000/XP/Vista event log entries to a central system.
These central systems can be either WinSyslog's, other Syslog daemons (e.g. on UNIX) or MonitorWare Agents. EventReporter is part of Adiscon's MonitorWare line of products.

Click here for more Information about EventReporter.

12.2 Millisecond

A millisecond is a thousand of a second. It is abbreviated as "ms". As such, 500ms mean half a second.
Inside the MonitorWare line of products, many timers are expressed in milliseconds as a fine control over the services and actions is provided to the administrator.

Click here for more Information about Milliseconds.

12.3 Monitor Ware Line of Products

Adiscon's MonitorWare line of products includes monitoring and operations management tools. It consists of several components, each of which can be used either individually or as a complete solution. As of this writing, the following products are available:

- Adiscon Logger (www.monitorware.com/en/logger/)
- ActiveLogger (www.activelogger.com)
- EventReporter (www.eventreporter.com)
- IISLogger (www.iislogger.com)
- MoniLog (www.monilog.com)
- MonitorWare Agent (www.mwagent.com)
- MonitorWare Console (www.mwconsole.com)
- WinSyslog (www.winsyslog.com)

There is also an open source syslog library available for programmers whishing to integrate syslog into their C/C++ programs:

- Liblogging (www.liblogging.org)

New products are continously being added - please be sure to check www.monitorware.com from time to time for updates.

Click here for more Information about the MonitorWare Line of Products.

12.4 Resource ID

The Resource ID is an identifier used by the MonitorWare line of products. It is a simple, administrator assigned string value. It can be used to correlate different events - even from different source - to a specific resource.
For example, on a Windows server running Microsoft Exchange, all Exchange events could be assigned to a resource id of "Exchange Server".

In MonitorWare Agent 1.0 and WinSyslog 4.0 support for Resource IDs is limited. The field is present and can be persisted to the database or stored in XML files, but besides this there is no value in it.

Later releases of the MonitorWare Line of Products will much broader support the

Resource ID.

Click here for more Information about the Resource ID:

12.5 SETP

SETP is the "Simple Event Transfer Protocol". SETP allows reliable delivery of events between SETP supporting systems. EventReporter, WinSyslog and MonitorWare Agent support SETP. EventReporter works as SETP Client Only. As such, it can forward events generated and gathered by them to central or intermediary SETP servers. WinSyslog EnterPrise Edition works as SETP client and server, only. The MonitorWare Agent can operate both as a SETP server and client and as such also as a relay. It plays a vital role in a complex, distributed environment.

SETP was developed for MonitorWare. It allows synchronous communication between SETP clients and servers. With SETP, an event can be forwarded exactly as it was on the original event generating system. For example, if a syslog message is received on a remote system, that exact syslog message can be forwarded via as many SETP relays as is configured. During that relaying, no information from the original message is altered or lost. As such, each of the relays as well as the final SETP server will see the original source address, time stamps and message.

Furthermore, SETP guarantees reliable delivery. It is based on TCP, so each of the SETP peers know exactly that the communication partner can successfully receive and process the message. SETP guarantees that new events are only forwarded after the previous ones were successfully received and processed. SETP also checks for on the wire errors. Due to its characteristics, SETP can successfully be used in barely or occasionally connected environments like radio connected systems.

The SETP design is influenced by many industry standard movements, most notably the BEEP protocol and XML. However, SETP is optimized to have a very lightweight footprint. As such, it can be implemented even in low powered devices with little overhead.

Click here for more Information about SETP.

12.6 SMTP

The "Simple Mail Transfer Protocol". This is an Internet standard for sending email messages. Virtually all major email systems are either based on SMTP or at least offer gateways to SMTP capable systems.

SMTP is used for sending email. It can not be used to pick up email messages. For this purpose, protocols like POP3 or IMAP4 are required.

SMTP is highly standardized. As such, a standard email client can work with all SMTP compliant servers. In the public Internet, almost all providers offer SMTP compliant mail servers for their customer's use.

Click here for more Information about SMTP.

12.7 Syslog Facility

Syslog Facility is one information field associated with a syslog message. It is defined by the Syslog protocol. It is meant to provide a very rough clue from what part of a system the message originated from. Tradidionally, under UNIX, there are facilities like KERN (the OS kernel itself), LPD (the line printer daemon) and so on. There are also the LOCAL_0 to LOCAL_7 facilities, which were traditionally reserved for administrator and application use.

However, with the wide adaption of the syslog protocol, the facility field contents has become a little less clear. Most syslog enabled devices nowadays allow configuring any value as the facility. So it is basically left to distinguish different classes of syslog messages.

The facility can be very helpful to define rules that split messages for example to different log files based on the facility level.

Click here for more Information about Syslog Facility.

12.8 TCP

A reliable IP transport protocol. TCP communication ensures that no packets are lost in transit. As such, it is most useful in low-bandwidth or unreliable environments. Examples are slow WANs or packet radio networks.

12.9 UDP

A non-reliable IP transport protocol. It provides best effort delivery. Typically, in LAN environments UDP packets are never lost. However, in WAN scenarios or with heavily loaded LANs, UDP packets might be lost.

Click here for more Information about UDP.

12.10 Upgrade Insurance

UpgradeInsurance is Adiscon's software maintenance plan. It offers free major upgrades as well as priority support. UpgradeInsurance is available for all Adiscon products and can be purchased for a period between 1 and 5 years.

Click here for more Information about Upgrade Insurance.

12.11 UTC

UTC is the so-called "universal coordinated time". UTC was formerly referred to as "GMT" (Greenwich Mean Time) and is the basis of the international time zone system. For example, New York, USA is 5 hours behind UTC. So if it is 12 noon in New York, the UTC time is 5pm.

The MonitorWare line of products often uses UTC. UTC has the fast advantage of providing one consistent time notation, even if devices are across multiple time zones. This is extremely valuable if a centrel location is to consolidate events from senders in multiple time zones.

Using UTC might not be appropriate if a whole system is contained within a single time zone. As such, most time parameters inside the MonitorWare line of products can be configured to work with local time instead of UTC.

Click here for More Information about UTC.

12.12 NNTP

NNTP stands for Network News Transport Protocol. This protocol is used by client and server software to carry USENET postings back and forth over a TCP/IP network.

When you are using any of the common softwares like Netscape, Internet Explorer, etc, you are taking benefit of the NNTP connection to participate in newsgroups.

12.13 SNMP

SNMP stands for Simple Network Management Protocol. A set of standards for communication with devices connected to a TCP/IP network, like routers, hubs and switches. A device is said to be SNMP compatible if it can be monitored and/or controlled using SNMP messages.

SNMP messages are known as PDU's - Protocol Data Units. Devices that are SNMP compatible contain SNMP 'agent' software to receive, send, and act upon SNMP messages. Software for managing devices via SNMP are available for every kind of commonly used computer and are often bundled along with the device they are designed to manage. Some SNMP software is designed to handle a wide variety of devices.

12.14 FTP

FTP stands for File Transfer Protocol. FTP is the best means for moving large files across the Internet. FTP is a client/server protocol that enables a user with an FTP client to log on to a remote machine, navigate the file system of that remote machine, and upload and download files from that machine.

There are two basic types of FTP on the Internet, anonymous ftp and private ftp. With anonymous ftp, one logs in as user anonymous, giving one's email address as a password. With private FTP, one logs in with the username and password one has established on that particular system. You are logged into your home directory, with all the file permissions you would normally have there.

12.15 HTTP

HyperText Transfer Protocol, the underlying protocol used by the World Wide Web. HTTP defines how messages are formatted and transmitted, and what action Web servers and browsers should take in response to various commands. For example, when you enter a URL in your browser, this actually sends an HTTP command to the Web server directing it to fetch and transmit the requested Web page.

12.16 POP3

POP3 (Post Office Protocol 3) is the most recent version of a standard protocol for receiving e-mail. POP3 is a client/server protocol in which e-mail is received and held for you by your Internet server. Periodically, you (or your client e-mail receiver) check your mail-box on the server and download any mail. It's also built into the Netscape and Microsoft Internet Explorer browsers.

12.17 IMAP

Internet Message Access Protocol. A protocol allowing a client to access and manipulate electronic mail messages on a server. It permits manipulation of remote message folders (mailboxes), in a way that is functionally equivalent to local mailboxes.

IMAP includes operations for creating, deleting, and renaming mailboxes; checking for new messages; permanently removing messages; searching; and selective fetching of message attributes, texts, and portions thereof. It does not specify a means of posting mail; this function is handled by a mail transfer protocol such as SMTP.