



# **WinSyslog 13.3**

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# 1 Introduction

## 1.1 About WinSyslog

**WinSyslog is an enhanced syslog server for Windows. It serves the same purpose as a Unix Syslog daemon. It is an integrated, modular and distributed solution for system management.**

Network administrators can continuously monitor their systems and receive alarms as soon as important events occur.

[Syslog](#) is a standard protocol for centralized reporting of system events. Its roots are in the UNIX environment, but most modern devices (e. g. Cisco routers) use the Syslog protocol. They report important events, operating parameters and even debug messages via Syslog. Unfortunately Microsoft Windows does not include a Syslog server (a Syslog server is called "Syslog daemon" or - short - Syslogd under UNIX).

Adiscon's [WinSyslog](#) fills this gap. Prior to version 3.0, WinSyslog was known under the name of "NTSLog". WinSyslog is the first and original Syslog server available on the Windows platform. Its initial version was created in 1996 just to receive Cisco routers status messages. The product has been continuously developed during the past years. Version 3 represented a major stepping stone. That was the main reason we decided to rename the product.

WinSyslog can also be used in conjunction with Adiscon's [MonitorWare Agent](#), [EventReporter](#) and [ActiveLogger](#) products to build a totally centralized Windows event log monitoring tool. More information on centrally monitoring Windows operating systems can be found at [www.monitorware.com](http://www.monitorware.com)

Most customers use WinSyslog to gather events reported from Syslog enabled devices (routers, switches, firewalls and printers to name a few) and store them persistently on their Windows system. WinSyslog can display Syslog messages interactively on-screen but also store them in flat ASCII files, ODBC databases or the Windows event log. The product runs as a reliable background service and needs no operator intervention once it is configured and running. As a service, it can start up automatically during Windows boot.

The improvised services and rules introduced in version 4 allow very flexible configuration of WinSyslog. WinSyslog detects conditions like string matches in the incoming messages and can actively act on them. For example, an email message can be send if a high priority message is detected. There can also be multiple Syslog servers running at the same time, each one listening to different ports.

## 1.2 Features

### Centralized Logging

This is the key feature. WinSyslog gathers all Syslog messages send from different sources and stores them locally on the Windows system. Event source can be any Syslog enabled device. Today, virtually all devices can use Syslog. Prominent examples are Cisco routers.

## **Ease of Use**

Using the new WinSyslog Client interface, the product is very easy to setup and customize. We also support full documentation and support for large-scale unattended installations.

## **Powerful Actions**

Each message received is processed by WinSyslog's powerful and extremely flexible rule engine. Each rule defines which actions to carry out (e. g. send an email message or store event log to a database) when the message matches the rule's filter condition. Among others, filter conditions are string matches inside the message or Syslog facility or priority. There are an unlimited number of filter conditions and actions per rule available.

## **Interactive Server**

Use the Interactive Syslog Server to interactively display messages as they arrive. Message buffer size is configurable and only limited by the amount of memory installed in the machine.

## **Send Syslog Test Message**

WinSyslog client comes with "Send Syslog Test Message" facility. It can be accessed via the "Tools" menu. This option enables to check if syslog messages being sent properly to the destination or not.

Please note that the "Send Syslog Test Message" sends UDP syslog, only! It does not at all send RFC 3195, or syslog/tcp!

## **Freeware Mode**

We care for the home user! WinSyslog can operate as freeware in so-called "freeware mode" without a valid license. It supports a scrolling interactive display of the 60 most current messages for an unlimited time. This feature is most commonly requested for home environments. And: even our free copies come with Adiscon's great support!

## **Standards Compatible**

WinSyslog is compatible with the Syslog [RFC 3164](#). It operates as an original sender (device), server and relay. All specified operation modes are supported. Non-RFC compliance can be configured by the administrator to fine-tune WinSyslog to the local environment (e.g. timestamps can be taken from the local system instead of the reporting device in case the device clocks are unreliable).

## **WinSyslog Web Access**

Never need to look at plain text files! WinSyslog comes with a fully functional ASP application that will display the contents of WinSyslog generated database entries. The ASP pages are in full source code and can easily be customized.

### **Syslog Hierarchy**

WinSyslog supports cascaded configurations most commonly found in larger organizations. In a cascaded configuration, there are local WinSyslog instances running at department or site level which report important events to a central WinSyslog in the headquarter. There is no limit on the number of levels in a cascaded system.

### **Email Notifications**

WinSyslog emails receive events based on the user defined rule set. Email notifications can be sent to any standard Internet email address, which allows forwarding not only to typical email clients but also pager and cellular phones. The email subject line is fully customizable and can be set to include the original message. That way, pagers can receive full event information.

### **Store Messages Persistently**

The WinSyslog server process stores all messages persistently. It helps to audit and review important system events later on without any hard effort. Messages can be written to flat ASCII files, ODBC data sources and the Windows event log.

### **Multiple Instances**

WinSyslog supports running multiple Syslog servers on the same machine. Each instance can listen to a different Syslog port, either via [TCP](#) or [UDP](#) and can be bound to a different rule set for execution.

### **Full Logging**

WinSyslog logs the received Syslog message together with its priority and facility code as well as the sender's system IP address and date. It is also able to log abnormally formatted packages (without or with invalid priority / facility), so no message is lost.

### **Robustness**

WinSyslog is written to perform robust even under unusual circumstances. Its reliability has been proven at customers sites since 1996.

### **Minimal Resource Usage**



WinSyslog has no noticeable impact on system resources. It was 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.

### **Firewall Support**

Does your security policy enforce you to use a non-standard Syslog port? WinSyslog can be configured to listen on any [TCP](#)/IP port for Syslog messages.

### **Windows Service**

The WinSyslog service is implemented as a native multithreaded Windows service. It can be controlled via the control panel services applet or the computer management MMC (Windows 2000).

### **IPv6**

Support for IPv6 is available in all network related facilities of the engine. All network related actions will automatically detect IPv6 and IPv4 target addresses if configured. You can also use DNS resolution to resolve valid IPv6 addresses. Network related Services can either use IPv4 or IPv6 as internet protocol. In order to support both protocols, you will need to create two services. The only exception is the RELP Listener, which uses IPv4 and IPv6 automatically if available.

### **Full Windows 2000\*, 2003, XP, Vista, 2008, 7, 8, 10 and Windows 2012 Support**

We have full Windows 2000\* support since Windows 2000 ships! WinSyslog versions 3.6 and above are specifically designed for Windows XP and support advanced features like the new themes and fast user switching.

### **Multi-Language Client**

The WinSyslog Client comes with multiple languages ready to go. Out of the box English, French, German, Spanish and Japanese are supported. Languages can be switched instantly. Language settings are specific to a user.

Additional languages can be easily integrated using Adiscon's XML based localization technology. We ask customers interested in an additional language for a little help with the translation work (roughly 1 hour of work). Adiscon will then happily create a new version. This service is free!

### **Friendly and Customizable User Interface**

New Cloning feature added to the WinSyslog Client. In short you can now 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 WinSyslog Client.

The WinSyslog Client Wizards has 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.

\* Support for Windows 2000 and other EOL operating systems is only partially available. Only a minimal service installation may be possible. More details: [Information for a Mass Rollout](#)

## **1.3 Components**

### **1.3.1 Core Components**

#### **WinSyslog Configuration Client**

The WinSyslog Configuration Client - called "the Client" - is used to configure all components and features of the WinSyslog Service. 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.

#### **WinSyslog Service**

The WinSyslog 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 WinSyslog 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 or XP. The Client can also be used to control service instances.

#### **x64 Build**

The installer inherits the 32bit as well as the 64bit edition. It determines directly, which version is suitable for your operating system and therefore installs the appropriate version. 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 WinSyslog!**

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 a 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 WinSyslog.
3. Install WinSyslog 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**

### **InterActive SyslogViewer**

The InterActive SyslogViewer is a Windows GUI application receiving and displaying Syslog events. It is a Syslog server in its own right. Typically, it is used in conjunction with the WinSyslog service, but it can also be used as a stand-alone Syslog server.

The InterActive SyslogViewer replaces the Interactive display from the pre 4.0 release WinSyslog Client. It was brought into a separate program because there was some confusion about the interactive display in the past.

### **Adiscon LogAnalyzer**

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

Adiscon LogAnalyzer is an easy to use solution for browsing Syslog messages, Windows event log data and other network events over the web. Adiscon LogAnalyzer 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.

Adiscon LogAnalyzer is included in the MonitorWare Agent install set. It gets copied onto machine but not installed. For installation of Adiscon LogAnalyzer, refer to the installation instructions in the doc folder of Adiscon LogAnalyzer or see the online manual at

<http://logalyzer.adiscon.com/doc/>

### **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 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 give 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](http://www.mwconsole.com)

## **1.3.3 How these components work together**

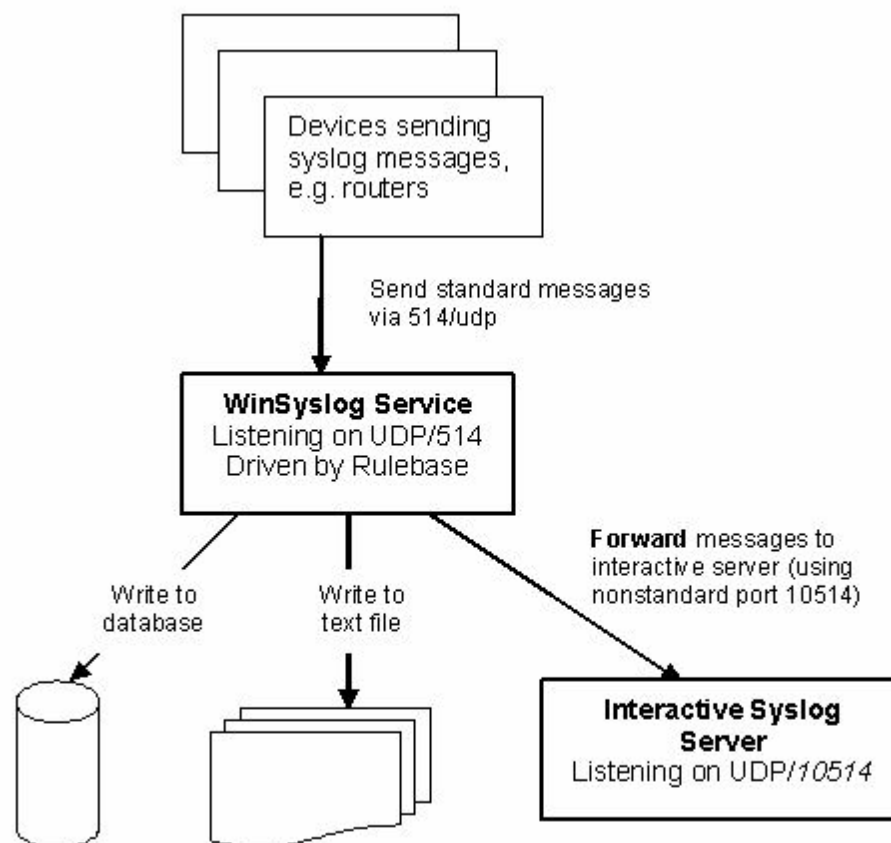
### **How these components work together?**

All four components work closely together. The core component is the WinSyslog Service, continuously running in the background. WinSyslog Configuration Client creates the service configuration. This is the only task performed with the Configuration Client. Consequently, the Configuration Client does not need to be run continuously.

Once the service is configured, it operates in the background and performs the configured duties. Most importantly, this includes receiving Syslog messages, processing them via the rule base and storing them e.g. to a database, text file or creating alerts.

The WinSyslog service itself does not have any interactive component. If Syslog messages should be displayed with a Windows GUI, the Interactive Syslog Server is needed. That server is implemented as a lightweight Syslog server. So itself is a full Syslog server with limited capabilities but interactive message display. It performs its work only while it is running. To view Syslog messages interactively, the WinSyslog service forwards them to the Interactive server. By default, this is done via the non-standard port 10514 over UDP. As such, both Syslog servers (the service as well as the interactive one) can run on a single machine without conflicts.

The message flow can be seen in this diagram:



In a typical configuration, the Syslog devices (for example routers or switches) send standard Syslog messages via port 514 to the WinSyslog service. The service receives these messages and processes them as configured in the rule base. In our example, there are three actions configured for all incoming messages: writing them to a database, to a text file as well as forwarding them to the Interactive Syslog Server.

By default, messages are forwarded to the local (127.0.0.1) Interactive Server via port 10514. The Interactive Server in turn listens to that port and receives the forwarded Syslog messages from the server.

In UNIX-speak, the WinSyslog Service acts as a receiver as well as a Syslog relay. The Interactive Syslog Server is just a receiver (and can never relay).

In fact, we have a cascaded Syslog server configuration here. Please note that the Interactive Server is able to display the original message origin's address as the message source because it honors a custom extension to the Syslog protocol that enables this functionality.

The Configuration Client is only needed to create the service configuration. Once this is done, it need not to be used and as such is not part of the message flow.

Adiscon LogAnalyzer is only needed if accessing Syslog messages over the web is desired. It is a convenient facility to access MonitorWare gathered events over the web. All major browsers are supported. Adiscon LogAnalyzer is included in the WinSyslog install set. It gets copied onto machine but not installed. For installation of Adiscon LogAnalyzer, refer to the installation instructions in the doc folder of Adiscon LogAnalyzer or see the online manual at <http://loganalyzer.adiscon.com/doc/manual.html>. Please email [support@adiscon.com](mailto:support@adiscon.com), if you want some more help in this regard.

Please keep in mind that the above example is just an example - there are numerous ways to configure WinSyslog and its components to suit every specific need. But we hope this sample clarifies how the WinSyslog components work together.

## 1.4 System Requirements

The WinSyslog Service 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 very minimal requirements, enabling it to run on a large variety of machines - even highly utilized ones.

### Client

- The **client and Interactive Syslog Server** can be installed on Windows 2000 SP3 and above. This includes Windows XP, Windows 2003/2008/2012 servers, Windows Vista and Windows 7/8. The operating system variant (Workstation, Server ...) is irrelevant.
- The client is suited for 32bit and 64bit operating systems. The installer determines the correct version for the operating system by itself.
- 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 6 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 4 MB of main memory and less than 1 MB of disk space. However, the actual resources used by the service largely depend on the services configured.
- If the service shall just receive a few syslog messages per second, a performance impact is barely noticeable, if at all visible.
- If the WinSyslog service is receiving hundreds of messages per second, it will need much 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 will do nicely. A typical Syslog message (including overhead) will take roughly 1.5 KB. With 64 MB, you can buffer up to 50,000 messages in 64 MB.
- WinSyslog is capable of storing such bursts temporarily in memory even if the machine would otherwise be too slow to process the messages.

### Adiscon LogAnalyzer

- Adiscon LogAnalyzer requires Microsoft Internet Information Server (IIS) version 4 or higher to be present on the machine where Adiscon LogAnalyzer is to be installed but it is not mandatory, we recommend to go on with Apache in conjunction with PHP5 such as included in the package [WAMP](#).

## 2 Getting Started

**WinSyslog** can be used for simple as well as complex scenarios.

This chapter provides a quick overview of the 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 WinSyslog 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 will definitely be a worth time spent.

### 2.1 Setup

***Setup is quick and easy. The WinSyslog Service uses a standard setup wizard.***

We highly recommend visiting our [Online Seminars](#) - to access the online seminars on WinSyslog as well as other members of this product family.

**Please note that these are not marketing videos but actually technically-packed presentations that will help you getting started quickly and efficiently.**

[Installing WinSyslog](#) is simple and easy. A standard setup program installs the application. WinSyslog is part of Adiscon's [MonitorWare line of products](#).

A number of different [Download Versions](#) of the product is available. The install set (the ZIP file you downloaded) contains a standard setup program and its necessary helper files. Please unzip the archive to any directory you like. This can be a local drive, a removable one or a remote share on a file server. A Win32 Unzip program can be found at [www.winzip.com](#).

After unzipping, simply double-click "setup.exe" (this is the setup program) and follow the onscreen instructions.

Please note: The installer adds a Windows Firewall exception for the service process automatically during the installation routine.

**Please note that you might have downloaded the setup.exe file directly. This is depending from where you download the install set. In this case simply run it to setup the product.**

## 2.2 Creating an Initial Configuration

Once WinSyslog is installed, a working configuration needs to be created. The reason is that WinSyslog does not perform any work without being instructed to do so. To create some basic work, the following needs to be done:

- **Create a simple rule set** - The most basic rule set includes no criteria, which means all incoming messages will match. To get started, we recommend using just a single "[Write to File](#)" action which will write the incoming messages to the local disk.
- **Create at least one syslog listener** - Be sure to associate the created rule set with the "[Syslog Listener](#)".
- **Start the WinSyslog service**

Your system is now ready to accept and store incoming messages.

## 2.3 Installing LogAnalyzer

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

For installation of Adiscon LogAnalyzer, refer to the installation instructions in the doc folder of Adiscon LogAnalyzer or see the online manual at <http://logalyzer.adiscon.com/doc/install.html.phtml>. Please email [support@adiscon.com](mailto:support@adiscon.com), if you want some more help in this regard.

## 2.4 Obtaining a Printable Manual

A printable version of the manual can be obtained at <http://www.winsyslog.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.

## 2.5 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.

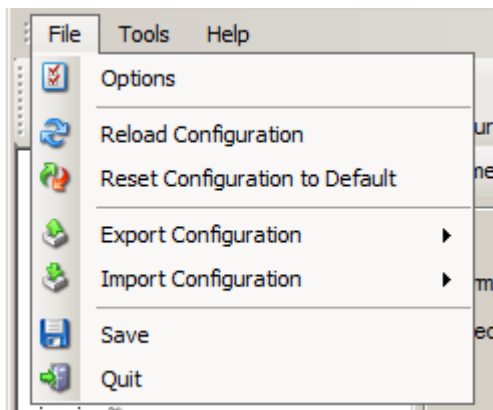


Figure1: Export Settings to a file

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.

## 3 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 <http://www.monitorware.com/Common/en/stepbystep/> for new guides.

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

### Installations and Configurations

- [How do I export the configuration and create a debug file?](#)
- [How do I enter the license information from the product delivery email?](#)
- [MonitorWare Agent Database Formats](#)
- [Database Logging with MSSQL](#)
- [How do I apply filters in MonitorWare Agent, WinSyslog and EventReporter?](#)
- [How To Setup MonitorWare Agent/ WinSyslog/ EventReporter](#)
- [How To setup php-syslog-ng with MonitorWare Products?](#)

### Services

- [How To create a simple Syslog Server](#)
- [How To setup SETP Server Service](#)
- [Forwarding Windows event logs to a Syslog server](#)
- [Forwarding Windows event logs to an SETP server](#)

### Actions

- [How To setup the Forward via Syslog Action](#)
- [How To setup an SETP Action](#)

- [How To setup a Write to File Action](#)
- [How To setup the Forward via EMail Action](#)
- [How To setup the Set Property Action](#)
- [How To setup the Set Status Action](#)
- [How To setup the Start Program Action](#)
- [How To setup the Control Windows Services Action](#)
- [How To Create a Rule Set for Database Logging](#)
- [How to store custom properties of a log message in a database](#)

### Centralized Monitoring

- [How To setup PIX centralized Monitoring \(WinSyslog 8.x, MonitorWare Agent 5.x & MonitorWare Console 3.x\)](#)
- [How To setup Windows centralized Monitoring \(EventReporter 9.x & WinSyslog 8.x\)](#)
- [How To setup Windows centralized Monitoring \(EventReporter 8.x, WinSyslog 7.x and Monilog 2.x\)](#)

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.

## 4 Using Interactive Syslog Server

*With interactive Syslog Server is easy to immediately display Syslog messages.*

Interactive Syslog server is an add-on to the WinSyslog. **Please note that it is a utility program, with a primary focus on real-time troubleshooting.**

Interactive Syslog Server is **not** meant to continuously 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.

The Interactive Syslog Server replaces the Realtime Display from older WinSyslog Client version. It is a very helpful application to verify that the WinSyslog Service is running and working correctly. You can configure a Syslog Server. WinSyslog default with one Forward Syslog Action that forwards Syslog messages to the local machine on port 10514. The Interactive Server is configured to run on port 10514 by default. That means that after installing WinSyslog, you can directly use the Interactive Syslog Server to display Syslog messages.

### 4.1 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.

### 4.1.1 Features

#### Fast and Easy syslog Viewing

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

#### Review stored logs from a database

You can as well directly review log entries in a database. Simply enter the login details and thats it. You can then review your logs and even filter the view. That helps you to find the important data in an easy way.

#### 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.

### 4.1.2 Requirements

Any Windows-Windows based operating system like Windows XP, Vista, 7, 8, 10, 2003, 2008, 2012.

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

Hardware requirements:

- 32MB RAM

## 4.2 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 continuously 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.

### 4.2.1 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

## 4.2.2 Using InterActive SyslogViewer

InterActive SyslogViewer is an add-on to the MonitorWare Agent and WinSyslog.

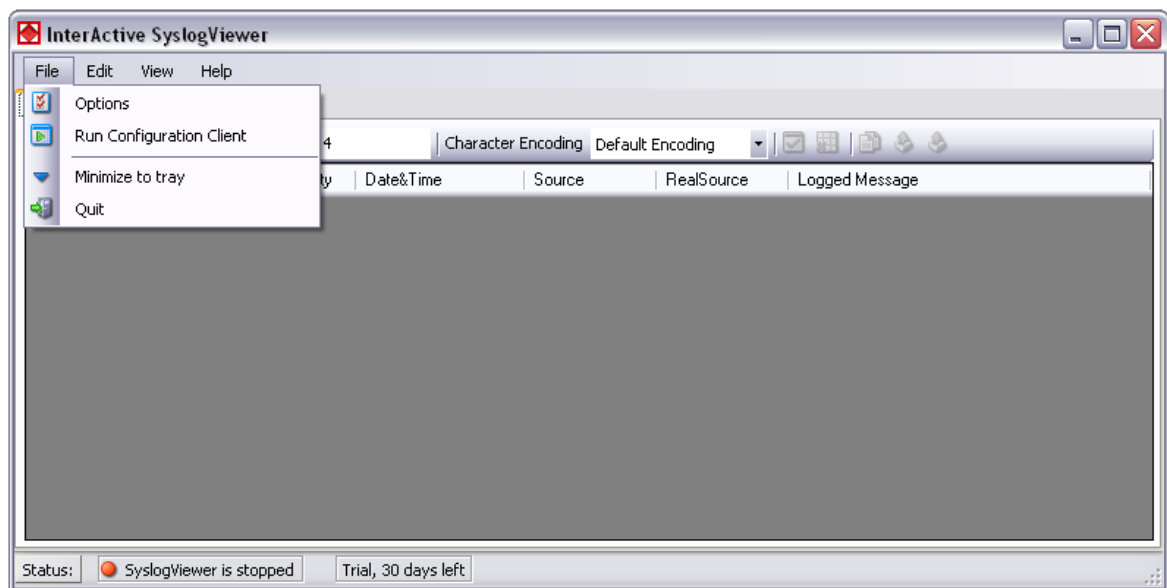
**Please note that it is a utility program with a primary focus on real-time troubleshooting.**

Interactive Syslog Server is **not** meant to continuously 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.

## 4.2.3 Options & Menus

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

### 4.2.3.1 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

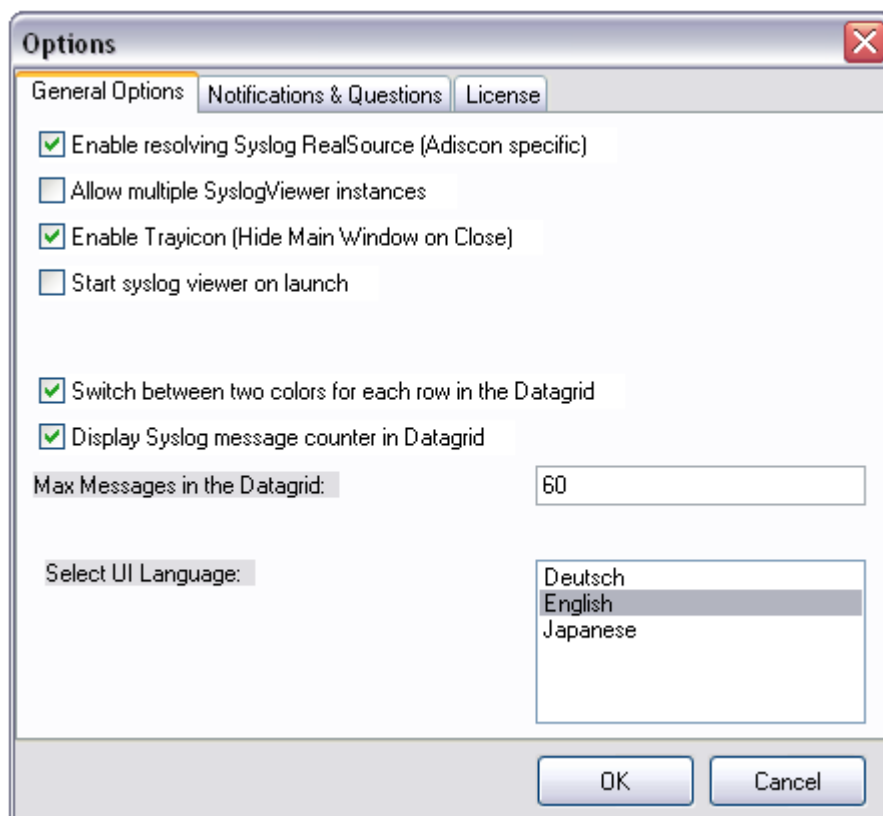
This will minimize the InterActive SyslogViewer window and remove it from the taskbar. You can open it again by double-clicking on the icon in the system tray.

### Quit

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

#### 4.2.3.1.1 Options

##### 4.2.3.1.1.1 General Options



*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.

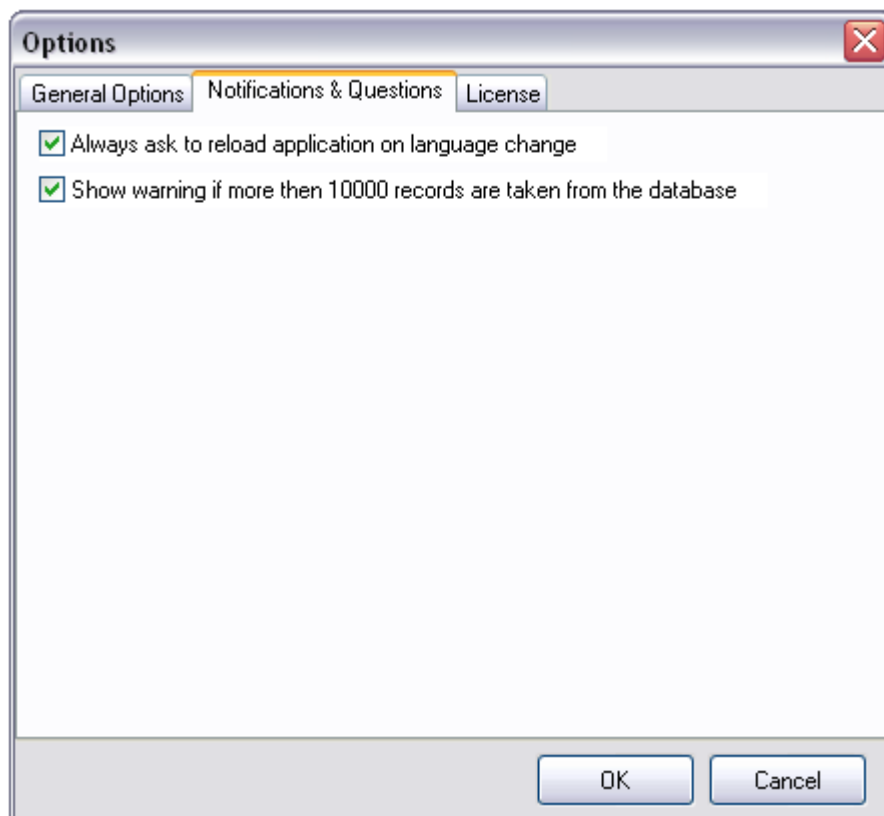
### **Max Messages in the Datagrid**

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.

## 4.2.3.1.1.2 Notifications &amp; Questions

*Notifications & Questions Tab***Always ask to reload application on language change**

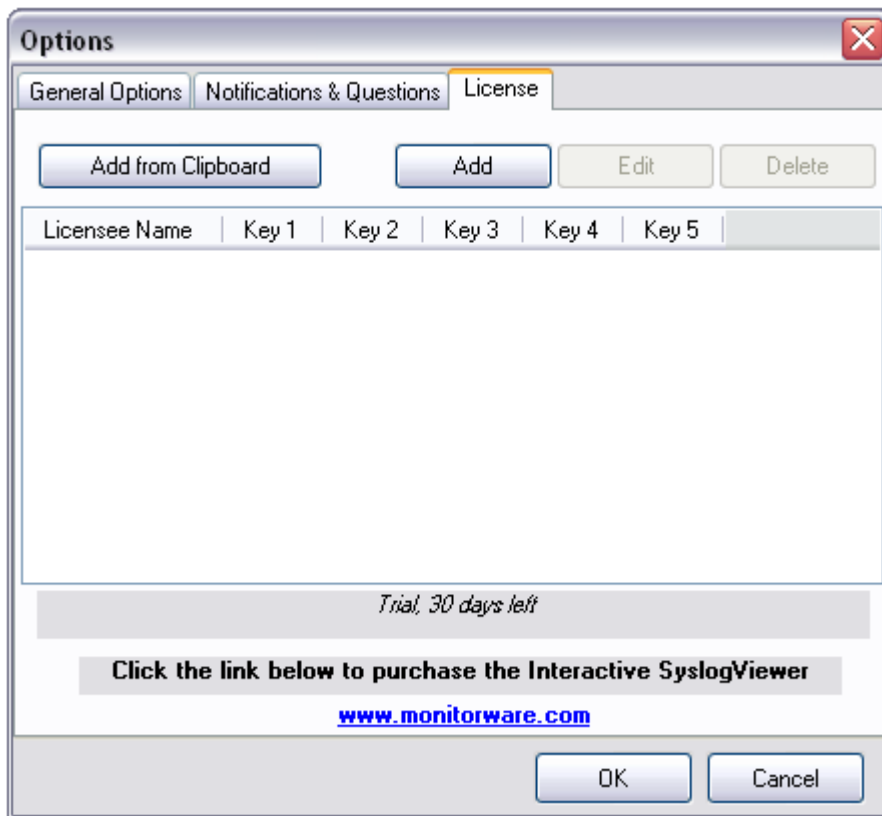
While the box is checked, InterActive SyslogViewer will ask to reload the application on a language change. This is, because the language file can only be loaded while starting the application and not while it is running.

**Show warning if more than 10000 records are taken from the database**

By activating this option, you will be warned, if the records in the database are just too much. This is to prevent the machine from receiving too much load. Polling lots of messages from a database can have a severe impact on the performance of the machine.



## 4.2.3.1.1.3 License

*License Tab*

Here you can insert the license. You have several options:

**Add from Clipboard**

This will insert the license you have currently on your clipboard.

**Add**

This button is to manually add a license manually. A new window will open, which shows you the form for entering the license information. This consists of a license name and five blocks of numbers.

**Edit**

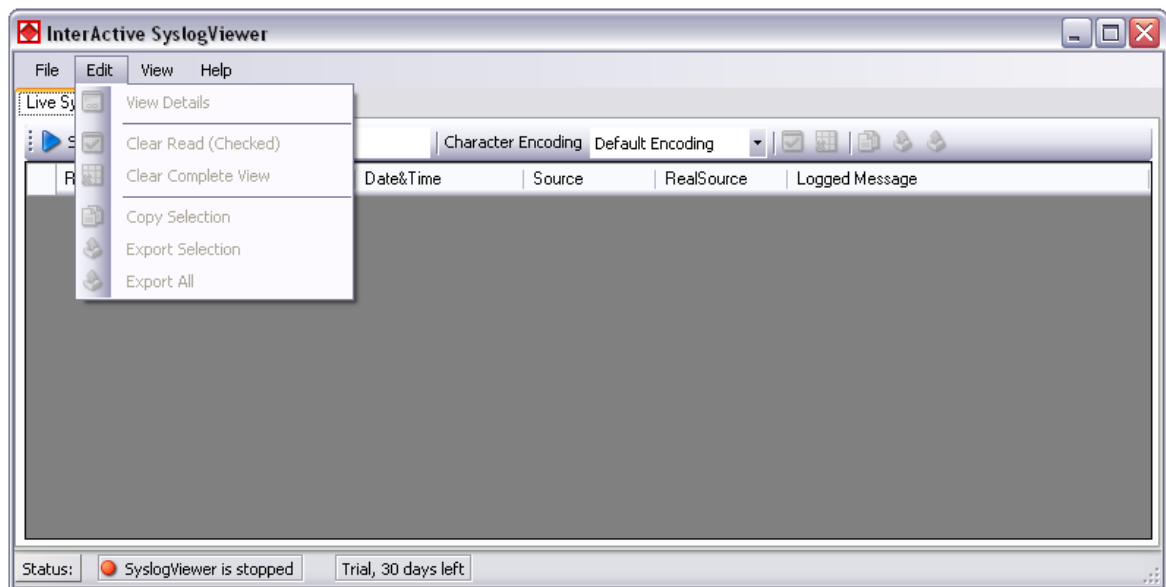
Once a license is entered, it can be changed afterwards. This is done with this button. Mark the license you want to edit and click the button. A window will open which looks just like when adding a license, but the marked license details are inserted already. You can edit every field separately.

**Delete**

If a license is not needed anymore, you can delete it from the license screen. Mark the license and hit the button. The license will be deleted directly.

**Please note**, that the screen will give you additional information. You have an overview of the licenses used and if not entered correctly it will show how long your trial period still is.

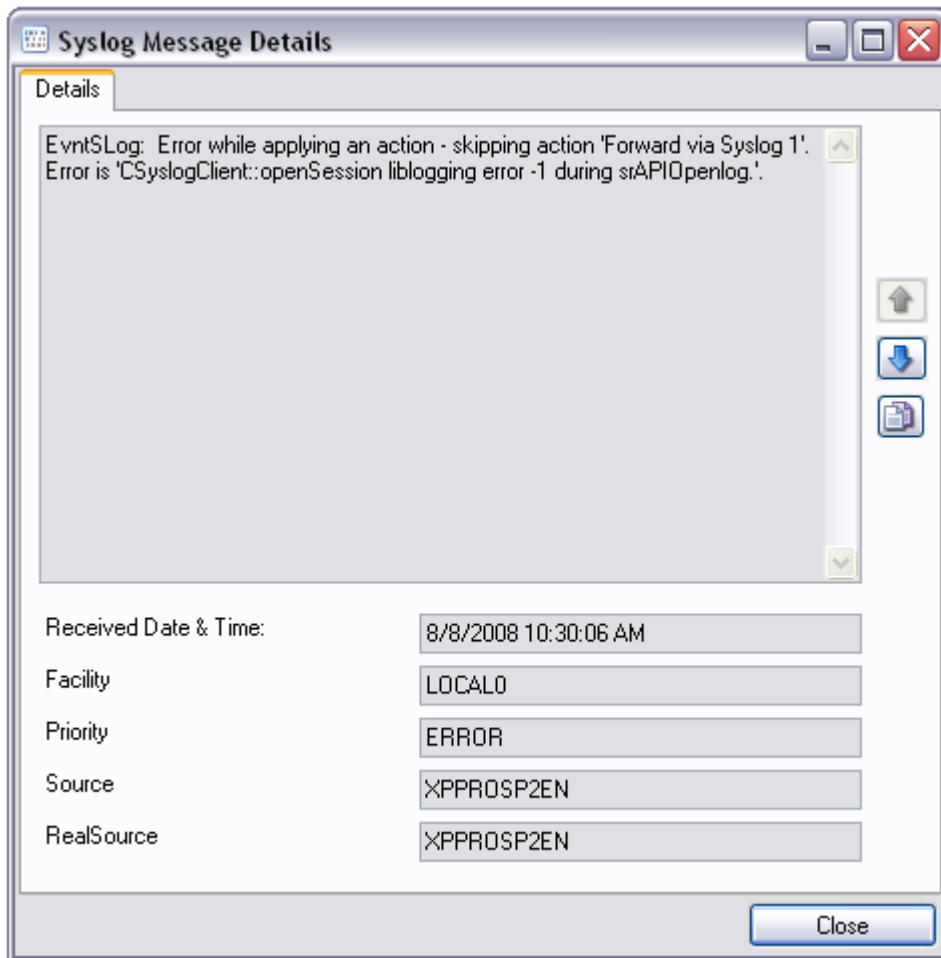
#### 4.2.3.2 Edit Menu



*Edit Menu*

#### **View Details**

When using this option, another window will open up, which shows the details of this event in a more readable view. This could look like this:



*Syslog Message Details*

### **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 mutiple entries, you can copy them using this function.

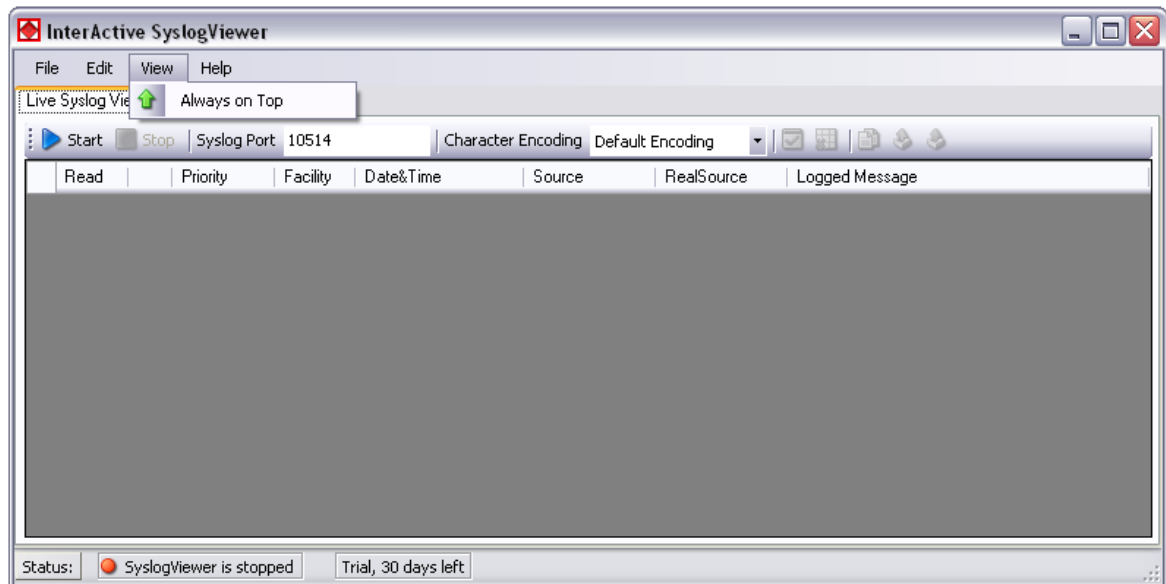
### **Export Selection**

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.

### 4.2.3.3 View Menu

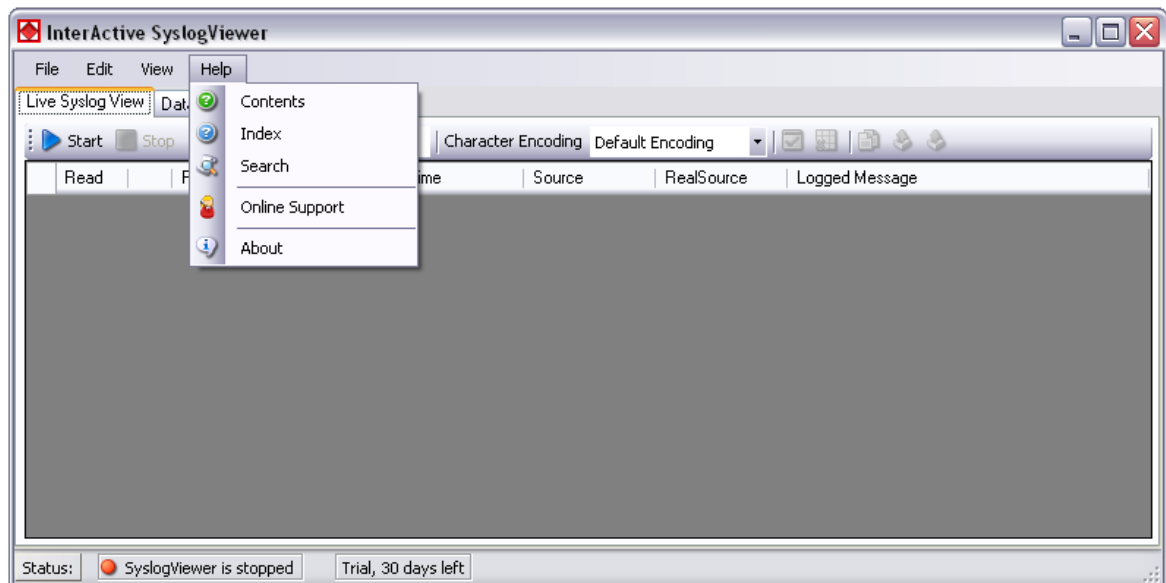


View Menu

## 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.

### 4.2.3.4 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.

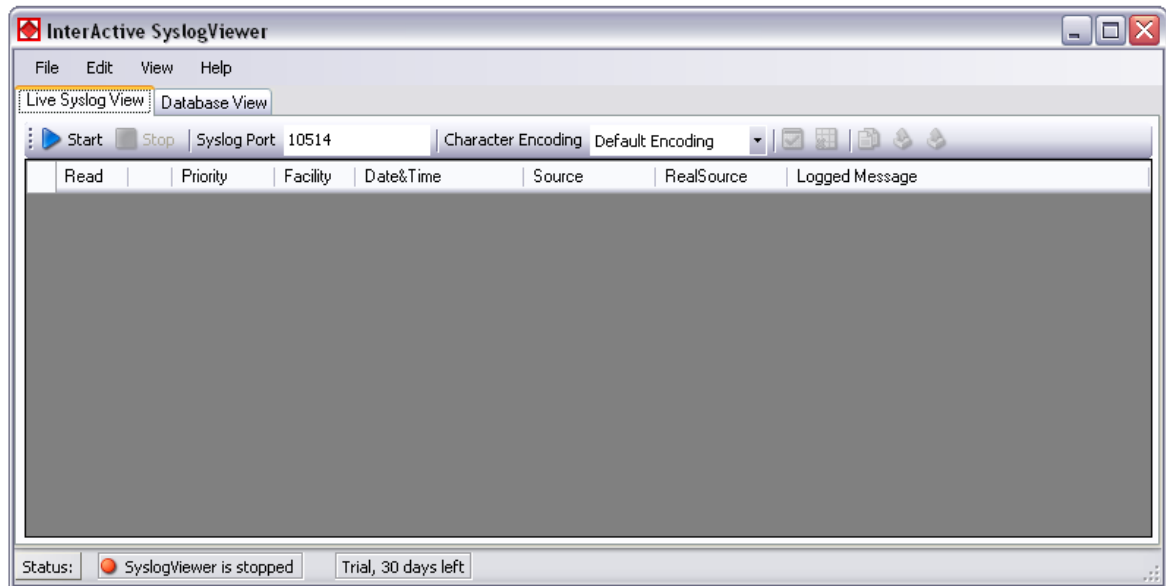
**About**

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

#### **4.2.4 Live Syslog View**

Primarily, the InterActive SyslogViewer is used for viewing current syslog traffic. All messages are shown in a list with the most important information. These are the Priority, Facility, Date&Time, Source, RealSource and the Message. At the beginning of each line you can see the number of the logged event and a checkbox, for you to track if a message has been read.

The status bar at the bottom of the screen shows you, if the SyslogViewer is running or stopped and how much time you have left for the trial or your licensing status.



*Live Syslog View*

The toolbar provides you with direct access to the most important functions. These are described here:

### **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 syslog messages.

### **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.

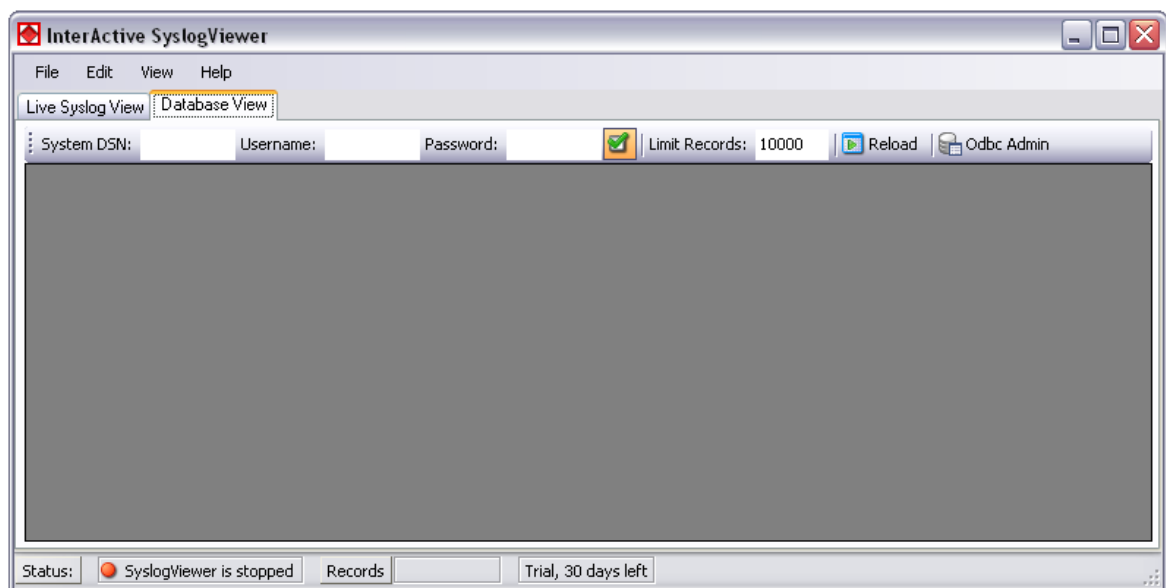
### Export All

Export the complete data that is in the data grid.

## 4.2.5 Database View

Another feature is the possibility to review log messages which are stored in a database.

The status bar at the bottom of the screen shows you, if the SyslogViewer is running or stopped, how many records are currently shown and how much time you have left for the trial or your licensing status.



*Database View*

The toolbar in this case is for entering the login information for the database.

### System DSN

Specify the System DSN of your database here.

**Username**

The username for the database.

**Password**

The appropriate password for the database.

**Store Username and Password**

With the checkbox you can tell the InterActive SyslogViewer to keep the username and password or not. This is to make usage easier for you.

**Limit Records**

This limits the maximum of the shown records. The default value is 10000. If changed, this can have a enormous impact on your machine.

**Reload**

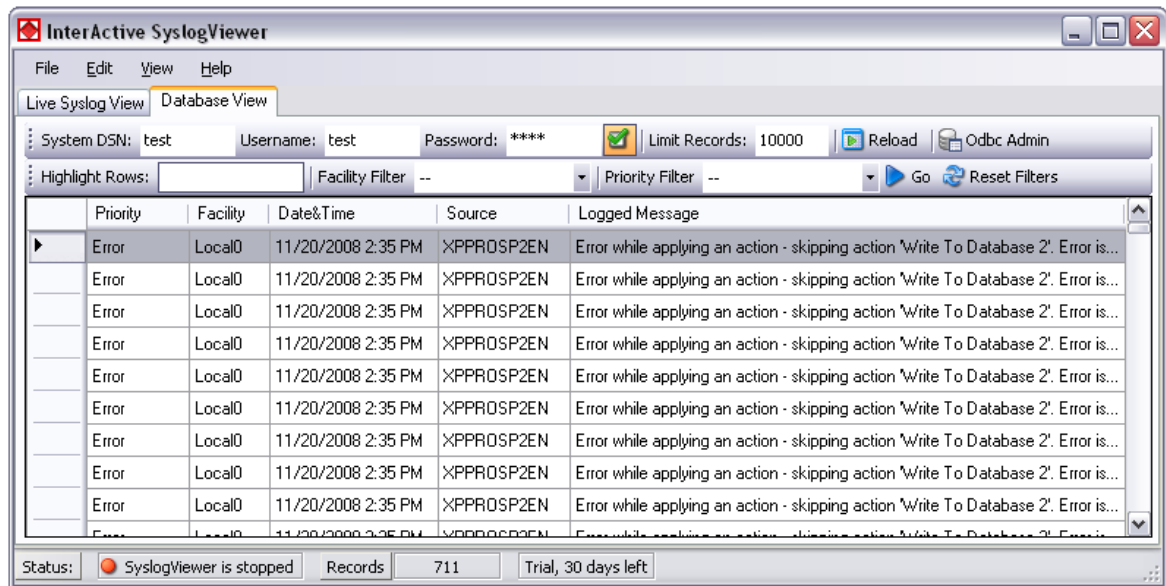
This button is to reload the database. This is needed to view if there are new log messages in the database.

**Odbc Admin**

This button opens the Administration Panel for ODBC Data Source connections

Once a database connection is successfully established, you can see another toolbar with the filter options:





Active Database View

### Highlight Rows

You can enter a keyword into the field, the rows containing this keyword will be highlighted. You can then find the messages much easier,

### Facility Filter

Allows you to only show messages with a certain facility. You can use the dropdown menu to specify the facility.

### Priority Filter

Allows you to only show messages with a certain priority. You can use the dropdown menu to specify the priority.

### Go

With this button, you apply the filter settings to the current view. Depending on the filter settings you chose you will see either colored lines and/or only the lines from the category you wish to see.

### Reset Filters

Resets the filter settings and returns you to the default view of your database.

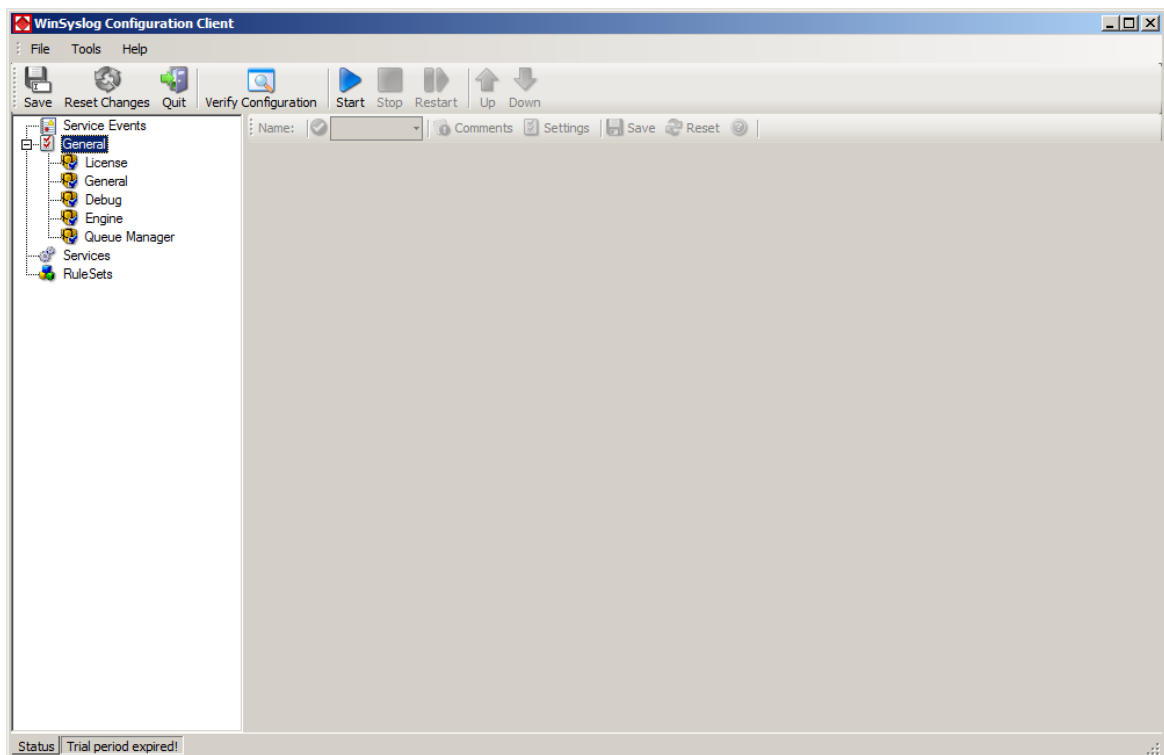
## 5 Configuring WinSyslog

*WinSyslog is easy to use and powerful.*

In this chapter, you will learn how to configure the WinSyslog Service.

The most important part of WinSyslog - the 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 WinSyslog configuration Client application. It is used to configure the service settings.

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



*WinSyslog 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 WinSyslog system. On the right hand side are 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, which 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 WinSyslog 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 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 will be 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 will be applied 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 are now 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).

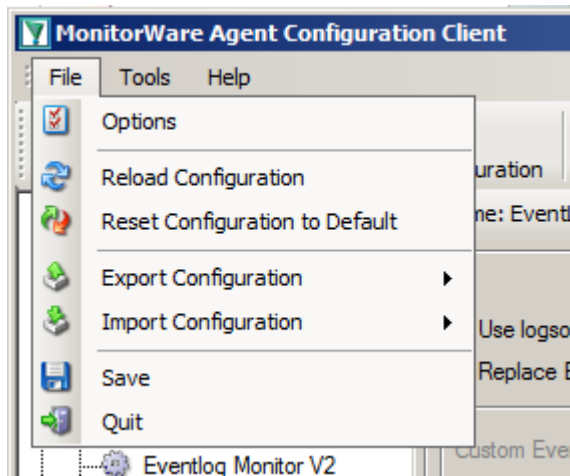
Beneath each rule set are the individual rules. As described in [Rules](#), a rule's position in the list is vitally important. Rules at the top of the rule set are executed before those further down. To move a rule up or down, simply right click it and select "move up" or "move down" from the pop up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

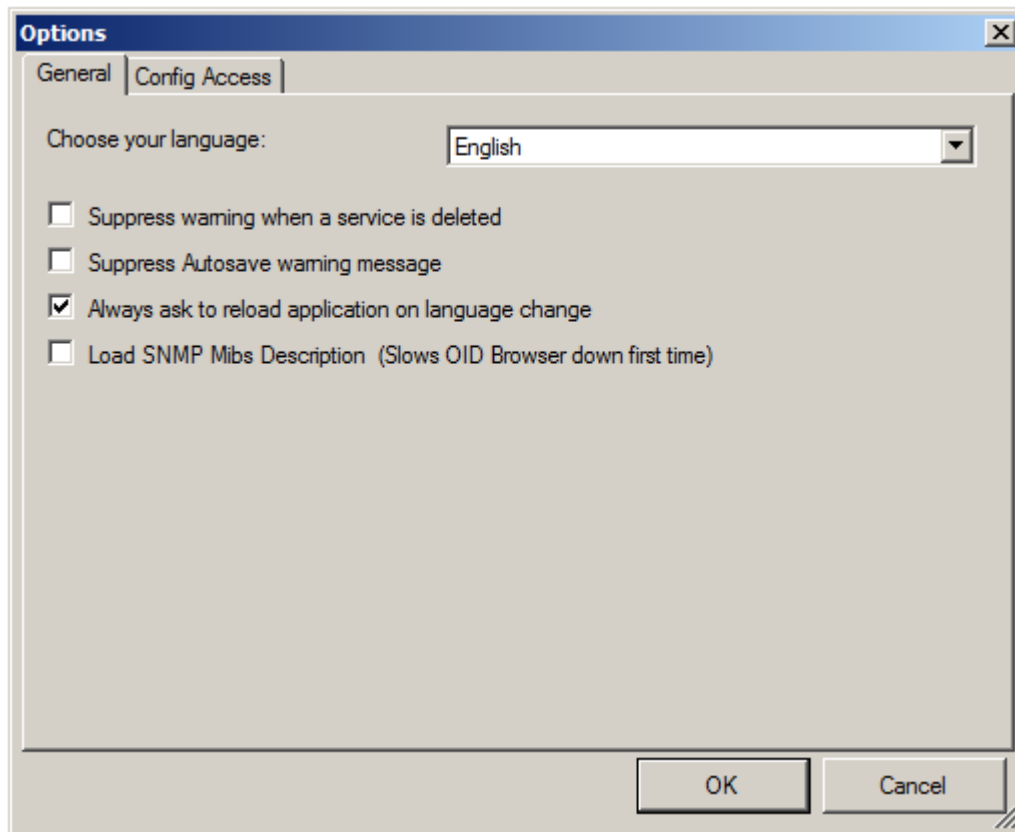
The following sections describe each element's properties.

## 5.1 Client Options

There are several options, that refer to the configuration client and not the service. These can be found under File -> Options



### General Options



### **Choose your language**

You can choose from various language packs, delivered with the client. Please note, that some languages are not fully supported and "English" is the default and suggested language.

### **Suppress warning when a service is deleted**

If this option is checked, warnings when deleting a service will be suppressed. Such a warning can occur when you try deleting a service and there is no other service using the connected ruleset.

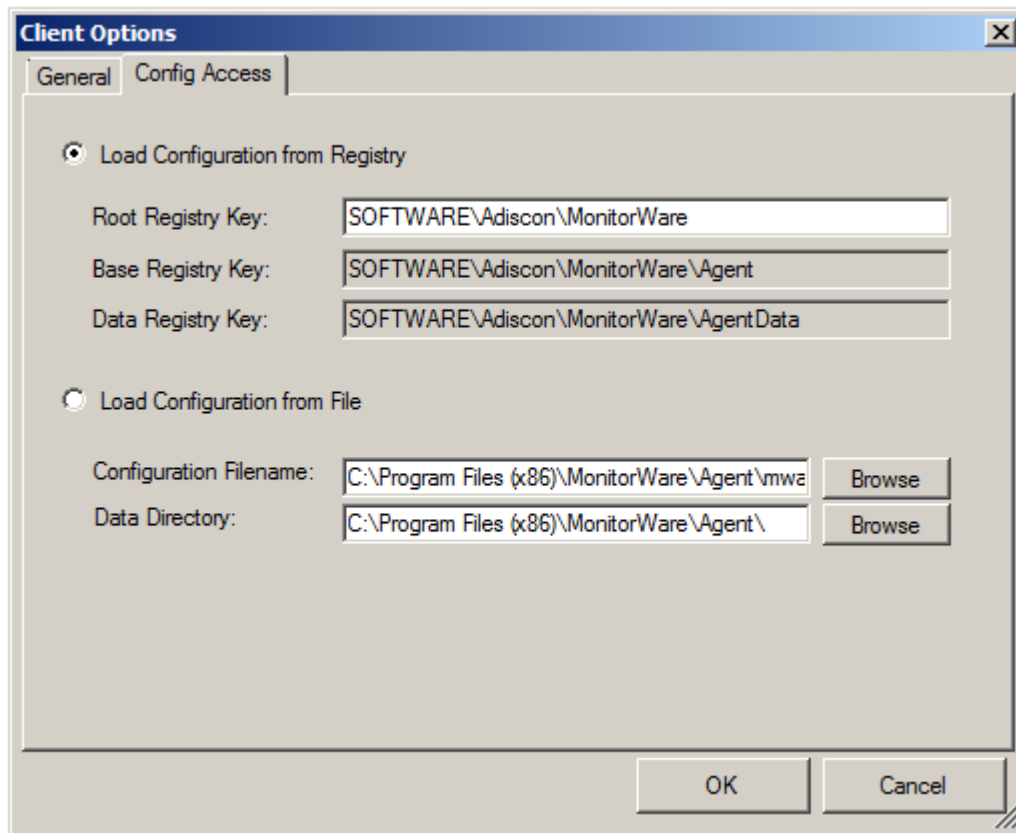
### **Show autosave warning message**

If you make changes in the configuration and switch to another component, a warning will occur if you haven't saved the changes. This warning will also allow you to directly enable auto-saving the configuration.

### **Always ask to reload application after language change**

When you change the language, a popup will ask you to reload the configuration client to properly apply the changes and load with the set language.

## Config Access



### Load Configuration Registry Path

The Configuration Client can be switched to a different registry path for configuration. The registry path change can be made permanent here. The changed registry path is the saved within the Parameters key of the Service.

### Load Configuration from File

Alternatively, you can configure the service to load the configuration from a file. You can set the paths with the two fields below.

## 5.2 Using File based configuration

### Working with File based Configurations

Support for running the Service from file based configuration may be interesting for environments where you want to minimize registry access to a minimum or you want to manually edit the configuration without using the configuration client every time.

The Adiscon Configuration format is quite simple. In the following description, all the configuration options will be explained in detail.

### **Adiscon Configuration format explained**

Our configuration format is something between JSON and XML but holds at a very simple level.

### **Variables**

All variables start with a dollar (\$). Name and Value of a variable are separated by the FIRST space character. Everything else behind the first space will be considered as the Value. A linefeed terminates the value. If your configuration value contains linefeeds, you have to replace them with "\\n" or "\\r\\n". A single backslash can be used to escape brackets ( { and } ).

### **Comments**

All lines starting with a sharp (#) at the beginning will be ignored.

### **File Includes**

Sample

```
includeconfig my-subconfigfiles-*.cfg
```

The includeconfig statement will include either a single file or many files based on a filename pattern. In this sample all Files starting with "my-subconfigfiles-" and ending with ".cfg" will be included into the configuration. It is possible to create your own custom file structure with includes. The configuration client will be able to load and show your custom file structure, however it will not be able to maintain (save) it. We support a maximum include depth of up to 10 levels when using the includeconfig statement.

### **General Options**

Sample

```
general(name="[name]") {  
    $nOption 1
```

```
    ...
}
```

All options between the brackets will be loaded as variables into the general configuration object. The name attribute field specifies the general configuration block name. The brackets start and end an object block.

## Services

Sample

```
input(type="[ID]" name="[name]") {
    $var1 Value1
    $var2 Value2
    ...
}
```

The brackets start and end a service block. All variables between the brackets will be loaded into the service configuration. The name attribute specifies the service display name. The type attribute contains the service type ID. It can be one of the following types:

- 1 = Syslog
- 2 = Heartbeat
- 3 = EventLog Monitor V1 (Win 2000 / XP / 2003 )
- 4 = SNMP Trap Listener
- 5 = File Monitor
- 8 = Ping Probe
- 9 = Port Probe
- 10 = NTService Monitor
- 11 = Diskspace Monitor
- 12 = Database Monitor
- 13 = Serialport Monitor
- 14 = CPU Monitor
- 16 = MonitorWare Echo Request
- 17 = SMTP Probe
- 18 = FTP Probe
- 19 = POP3 Probe
- 20 = IMAP Probe
- 21 = IMAP Probe
- 22 = NNTP Probe
- 23 = EventLog Monitor V2 (Win VISTA/7/2008 or higher)
- 24 = SMTP Listener
- 25 = SNMP Monitor
- 26 = RELP Listener
- 27 = Passive Syslog Listener



1999998= MonitorWare Echo Reply  
 1999999= SETP Listener

## RuleSets

Sample

```
ruleset(name="[name]" expanded="[on/off]") {
    rule(name="[name]" expanded="[on/off]" actionexpanded="[on/off]"
    ThreatNotFoundFilters="[on/off]" GlobalCondProperty="[on/off]"
    GlobalCondPropertyString="" ProcessRuleMode="[0/1/2]"
    ProcessRuleDate="[uxtimestamp]") {
        action(type="[ID]" name="[name]") {
            $var1 Value1
            $var2 Value2
            ...
        }
        filter(nTabSelection="0") {
            $nOperationType AND
            $PropertyType NOTNEEDED
            $PropertyValue NOTNEEDED
            $CompareOperation EQUAL
            $nOptionalValue 0
            $nSaveIntoProperty 0
            $szSaveIntoPropertyName FilterMatch
        }
    }
}
```

The brackets start and end a ruleset block. The attributes of a Ruleset are self-explainable. Within a RuleSet, you can have Rules. The attributes of Rules are also self-explainable and partially Global Conditions that are equal to the options found in the Filter dialog. Within a Rule you can one Basefilter. This Basefilter again can have child filters it, and these child filters can have child filters again. All "expanded" settings are optional and only important for the client treeview.

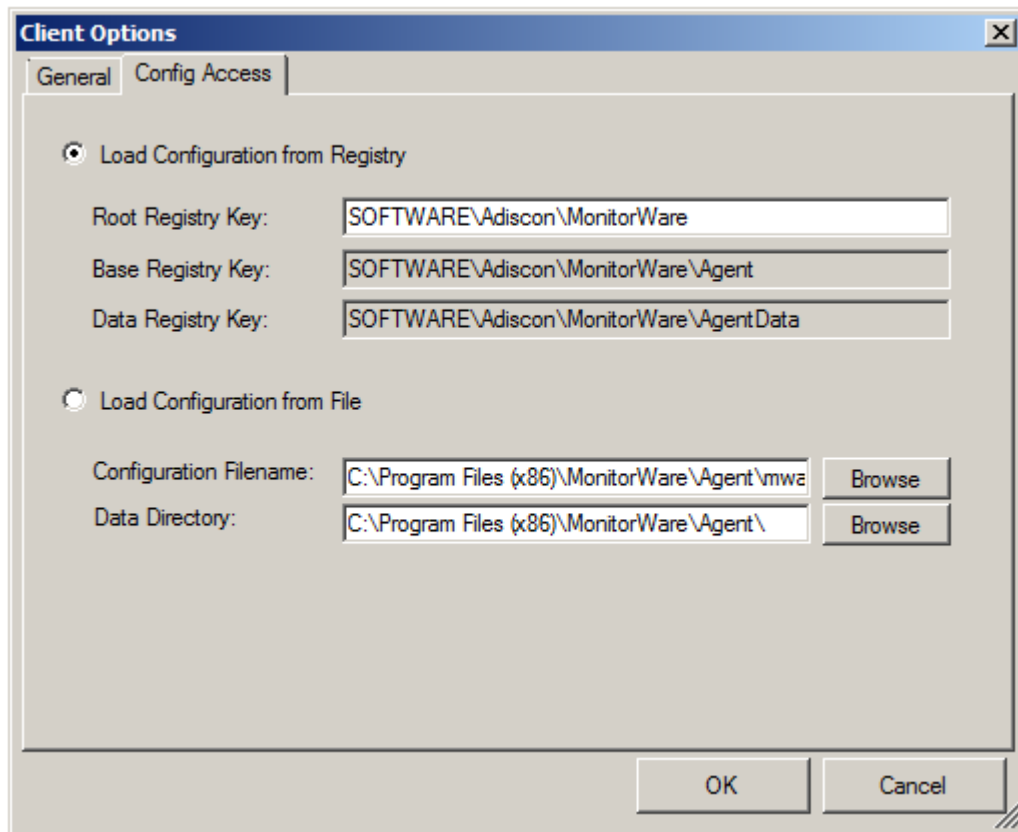
Within a Rule you can have Actions. The brackets start and end an action block. All variables in an action block between the brackets will be loaded into the action configuration. The name attribute specifies the service display name. The type attribute contains the action type ID. It can be one of the following types:

1000 = ODBC Database  
 1001 = Send Syslog  
 1008 = Net Send  
 1009 = Start Program  
 1011 = Send SETP

1012 = Set Property  
1013 = Set Status  
1014 = Call RuleSet  
1015 = Post Process  
1016 = Play Sound  
1017 = Send to Communication Port  
1021 = Send SNMP  
1022 = Control NT Service  
1023 = Compute Status Variable  
1024 = HTTP Request  
1025 = OleDb Database  
1026 = Resolve Hostname  
1027 = Send RELP  
1028 = Send MS Queue  
1029 = Normalize Event  
1030 = Syslog Queue

### **How to enable file based configuration?**

To switch from registry to file configuration mode, all you need to do is go the "Config Access" tab in the Configuration "Client Options" and switch from "Load Configuration from Registry" to "Load Configuration from File" mode. Once you accept the change, the Client will ask you if you want to export the current loaded configuration into the file. Hit YES if you want to do so, and NO if already have an existing configuration file. The configuration client will reload itself automatically after this.



*Screenshot from Client Options to configure Config Access*

### **Create individual configuration files for Services**

When enabled, the configuration client will create separated configuration files for each configured service. The main configuration file will then use the includeconfig statement to include all these configuration files by using a pattern. When deleting a service, its configuration file will be deleted as well.

### **Create individual configuration files for RuleSets**

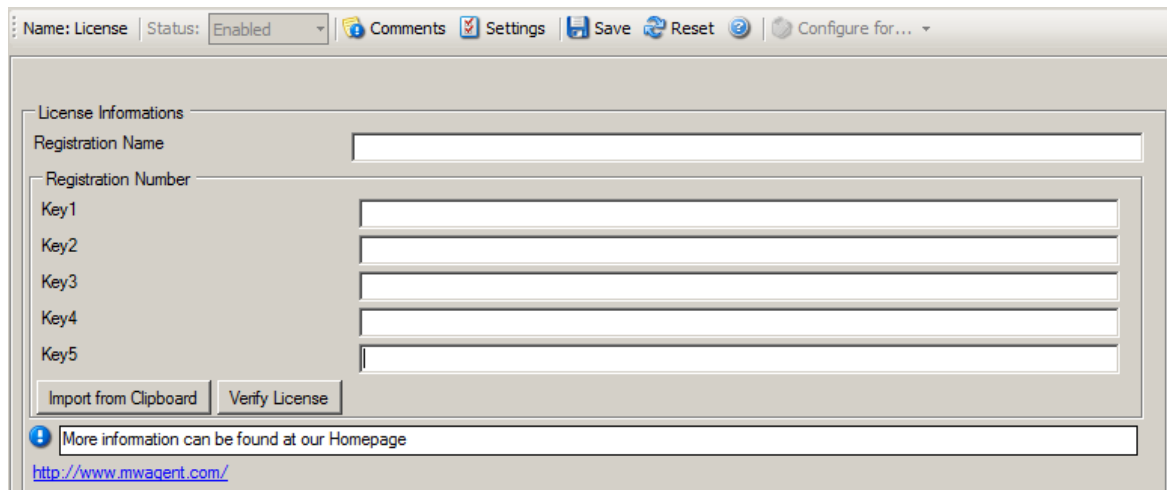
When enabled, the configuration client will create separated configuration files for each configured ruleset. The main configuration file will then use the includeconfig statement to include all these configuration files by using a pattern. When deleting a ruleset, its configuration file will be deleted as well.

## 5.3 General Options

### 5.3.1 License Options

#### License Options Tab

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

The screenshot shows the 'License Options' tab in the WinSyslog application. At the top, there is a status bar with 'Name: License' and 'Status: Enabled'. Below this are several icons and buttons: 'Comments', 'Settings', 'Save', 'Reset', and 'Configure for...'. The main area is titled 'License Informations' and contains a 'Registration Name' field. Below it is a 'Registration Number' section with five 'Key' fields (Key1 to Key5). At the bottom of this section are two buttons: 'Import from Clipboard' and 'Verify License'. A message box at the bottom states 'More information can be found at our Homepage' with a link to 'http://www.mwagent.com/'.

*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.**

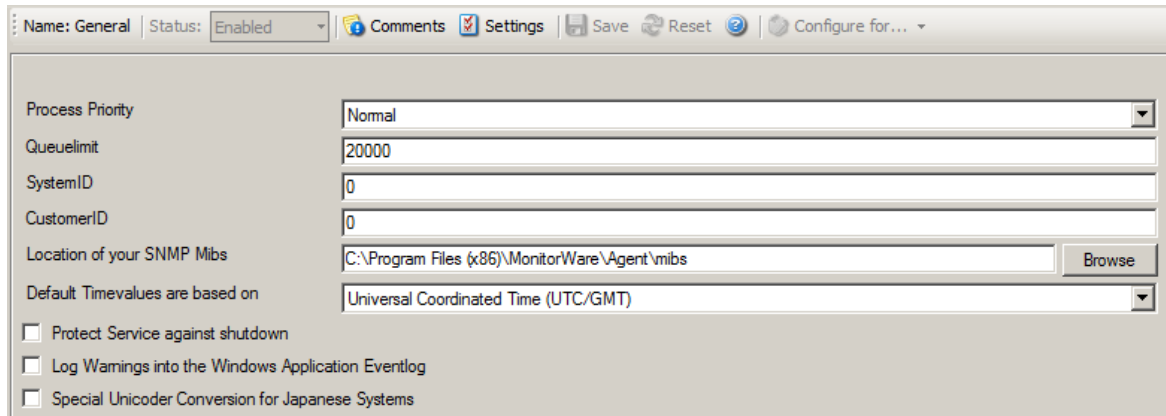
#### Registration Number

Adiscon provides this number. It is valid for a specific registration name. Be sure to enter the correct registration number. Each block of the license key must be filled into one of the key fields. Alternatively, you can use the "Import from Clipboard" button. The client detects invalid registration numbers and report the corresponding error.

### 5.3.2 General

#### General Options Tab

The General Options available on this form are explained below:



### *General Options*

## **Process Priority**

Configurable Process Priority to fine-tune application behavior.

## **Queue Limit**

The application 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.

## **SystemID**

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

## **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.

### Location of your MIBS

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

## 5.3.3 Debug

### 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.**

Name: Debug | Status: Enabled | Comments | Settings | Save | Reset | Configure for...

☐ Enable Debug output into file

File and path name: C:\Program Files (x86)\MonitorWare\Agent\MonitorWare Agent.txt | Browse

☒ Errors Warnings  
☒ Minimal Output  
☐ Information Output  
☐ Ultra Verbose Output  
☐ Rule Filter Engine Output

☒ Use circular Logging

Number of logfiles: 10  
Maximum filesize (KB): 51200

#### 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 accidental overload of the harddisk. Of course you can also customize the amount of files used and their size or disable this feature.

## **5.3.4 Engine**

### **Engine specific Options Tab**

The Engine specific Options are explained below:

The screenshot shows the WinSyslog configuration window. At the top, there is a header bar with the following elements: 'Name: Engine', 'Status: Enabled', and a series of icons for 'Comments', 'Settings' (which is active), 'Save', 'Reset', and 'Configure for...'. Below the header, the configuration is organized into several sections:

- Action specific:** Contains a checkbox 'Enable retry of Actions on failure'. Below it, there are two input fields: 'Retry Count' with the value '1' and 'Retry period (ms)' with the value '100'.
- Rule Engine specific:** Contains a checkbox 'Abort Rule Execution when one Rule fails?' which is unchecked, and a checked checkbox 'Enable internal DNS Cache'.
- DNS Cache Options:** Contains three input fields: 'How long should dns names be cached?' with a dropdown set to '1 hour', 'How many DNS records can be cached?' with the value '1024', and 'Internet Protocoltype' with a dropdown set to 'IPv4'.
- Resource Library Cache Options:** Contains one input field: 'How long should libraries be cached?' with a dropdown set to '30 minutes'.

### 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 reverse 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-existing 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 overwritten 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 much 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.

### **Preferred protocol for name resolution**

Select if you wish to prefer IPv4 or IPv6 addresses for name resolution. Note that this only has an effect on names which return both, IPv4 and IPv6 addresses.

## **Ressource Library Cache Options**

### **How long should libraries be cached?**

This feature will be mainly useful for EventLog Monitor. For events with the same reoccurring 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.

### 5.3.5 QueueManager

## Queue Manager Tab

### 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 Manager specific

### Number of worker threads

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

### 5.3.6 Permitted Peers

## Permitted Peers Tab

#### *Permitted Peers Parameters*

### Enable permitted Senders List

If this option is enabled, all network related services will be limited to receive messages only from the configured IP Addresses. Please note the list is also limited to your license limit. For example if your license allows 10 devices, only the first 10 configured senders will be allowed.

### Only receive syslog messages from the following IP Addresses

This list contains all sender IP Addresses which are allowed to send data to network related services. You can either configure IPv4 or IPv6 Addresses here.

## 5.4 Services

### 5.4.1 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.

## 5.4.2 Syslog Server

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

*Syslog Server Properties*

### Internet Protocol Type

Select the desired protocol type. IPv4 and IPv6 are available. The IPv6 protocol needs to be properly installed in order to be used. Note that one Service can only handle IPv4 or IPv6, so if you want to use both protocols, you will need to create two separate services.

### 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 Address. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 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.

## 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.

## General Options

### 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!**

### Save original source into property

When this options is enabled, the original network source will be stored into the custom defined property (%sourceorig% by default). In case the original network source is needed for filtering for example.

### Resolve Hostnames

If this box is checked, the name of the source system is retrieved via DNS reverse 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.**

### **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.

### **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.

### **Enable RFC 5424 Parsing**

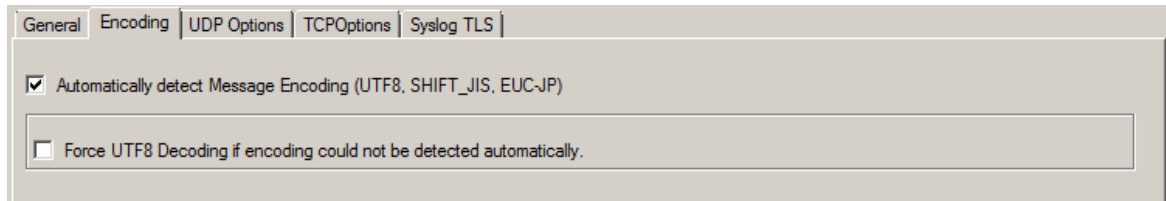
If this box is checked, RFC 5424 compliant message parsing is enabled for Syslog RFC5424 Header detection and decoding. This also involves new useable Syslog properties.

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 5424 compliant message parsing. Many existing devices do not fully comply with RFC 5424 and this can cause those issues.

### **Appen ProcessID to SyslogTag if available**

This option is related to RFC5424 header parsing and was default in previous versions. However the default now is off in order to separate the Syslogtag from the ProcessID.

### **Encoding options**



The screenshot shows the 'Encoding' tab of the WinSyslog configuration window. It has a tab bar at the top with 'General', 'Encoding', 'UDP Options', 'TCPOptions', and 'Syslog TLS'. The 'Encoding' tab is selected. Below the tab bar, there is a checked checkbox labeled 'Automatically detect Message Encoding (UTF8, SHIFT\_JIS, EUC-JP)'. Below this, there is an unchecked checkbox labeled 'Force UTF8 Decoding if encoding could not be detected automatically'.

### *Encoding Options*

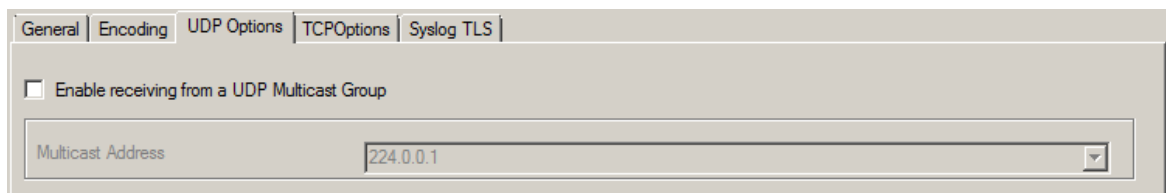
#### **Automatically detect Message Encoding (UTF8, SHIFT\_JIS, EUCJP)**

If enabled, the message will be checked for different encodings. This is important if you have syslog messages with multibyte characters. Once an encoding is detected, it will automatically be converted into UTF16 internally.

#### **Force UTF8 Decoding**

This option forces UTF8 Decoding of all incoming messages. This is also useful for syslog messages encoded in UTF8 but missing the BOM within the Syslog message.

### **UDP Options**



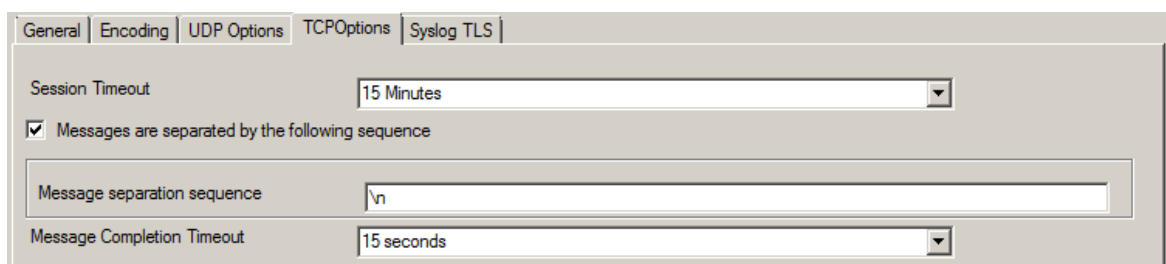
The screenshot shows the 'UDP Options' tab of the WinSyslog configuration window. It has a tab bar at the top with 'General', 'Encoding', 'UDP Options', 'TCPOptions', and 'Syslog TLS'. The 'UDP Options' tab is selected. Below the tab bar, there is an unchecked checkbox labeled 'Enable receiving from a UDP Multicast Group'. Below this, there is a text field labeled 'Multicast Address' with the value '224.0.0.1' and a dropdown arrow on the right.

### *UDP Options*

#### **UDP Options - Enable receiving from a UDP Multicast Group**

This option supports receiving Syslog messages via multicast IP Addresses like 224.0.0.1 for example.

### **TCP specific options**



The screenshot shows the 'TCP Options' tab of the WinSyslog configuration window. It has a tab bar at the top with 'General', 'Encoding', 'UDP Options', 'TCP Options', and 'Syslog TLS'. The 'TCP Options' tab is selected. Below the tab bar, there is a 'Session Timeout' dropdown menu set to '15 Minutes'. Below this, there is a checked checkbox labeled 'Messages are separated by the following sequence'. Below this, there is a text field labeled 'Message separation sequence' with the value '\n'. Below this, there is a 'Message Completion Timeout' dropdown menu set to '15 seconds'.

### *TCP Options*

#### **TCP Options - Session Timeout**

One of the TCP-specific options is the session timeout. This value declares, how long a TCP session may be kept open, after the last package of data has been sent. You can by default set values between 1 second and 1 day. Or you can use a custom value with a maximum of 2147483646 milliseconds. If you wish to disable the session timeout, you can use a custom value of 0 milliseconds to disable it.

### TCP Options - Messages are separated by the following sequence

If this option is checked, you can use multiple messages in the same transmission and the following options are enabled:

*Message separation sequence* - determines, how you want to separate the messages. By default "\r\n" is the value for this, as most times a message ends with a carriage return and/or a line feed. But, you can choose your own separation sequence here as well.

*Message Completion Timeout* - here you can set the time that is allowed to complete a message. Is the time exceeded, but the message not yet completed, the rest will be treated as a new message. The counter is resetted each time, a new message begins. You can choose from multiple values between 1 second and 1 day, or choose a custom value in milliseconds (0 = disable, maximum = 2147483646)

### Syslog TLS

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

TLS Mode: Anonymous authentication

Select common CA PEM:  Browse

Select Certificate PEM:  Browse

Select Key PEM:  Browse

Permitted Peers

Permitted Peername / SHA1 / etc
*

SSL/TLS Options

### Enable SSL / TLS Encryption



This option enables SSL / TLS encryption for your syslog server. Please note, that with this option enabled, the server only accepts SSL / TLS enabled senders.

### **TLS Mode**

The TLS mode can be set to the following:

#### *Anonymous authentication*

Default option, which means any client certificate will be accepted, or even none.

#### *x509/name (certificate validation and name authentication)*

When this mode is selected, the subject within the client certificate will be checked against the permitted peers list. This means the Syslog Server will only accept the secured connection if it finds the permitted peer in the subject.

#### *509/fingerprint (certificate fingerprint authentication)*

This mode creates a SHA1 Fingerprint from the client certificate it receives, and compares it to fingerprints from the permitted peers list. You can use the debuglog to see fingerprints of client certificates which were not permitted.

#### *x509/certvalid (certificate validation only)*

A Syslog Sender is accepted when the client certificate is valid. No further checks are done.

### **Select common CA PEM**

Select the certificate from the common Certificate Authority (CA), the syslog receiver should use the same CA.

### **Select Certificate PEM**

Select the client certificate (PEM Format).

### **Select Key PEM**

Select the keyfile for the client certificate (PEM Format).

### **Permitted Peers**

This list contains all permitted peers. If x509/name is used, this can contain parts of the client certificate subject. For example if you have CN = secure.syslog.msg in the certificate subject, you can add "secure.syslog.msg" as permitted peer. When using x509/fingerprint, this list holds a list of permitted SHA1 fingerprints. The fingerprints can either be generated with OpenSSL Tools, or grabbed from the debug logfile. The format is like described in RFC 5425, for example:

"SHA1:2C:CA:F9:19:B8:F5:6C:37:BF:30:59:64:D5:9A:8A:B2:79:9D:77:A0".

### **Default Ruleset Name**

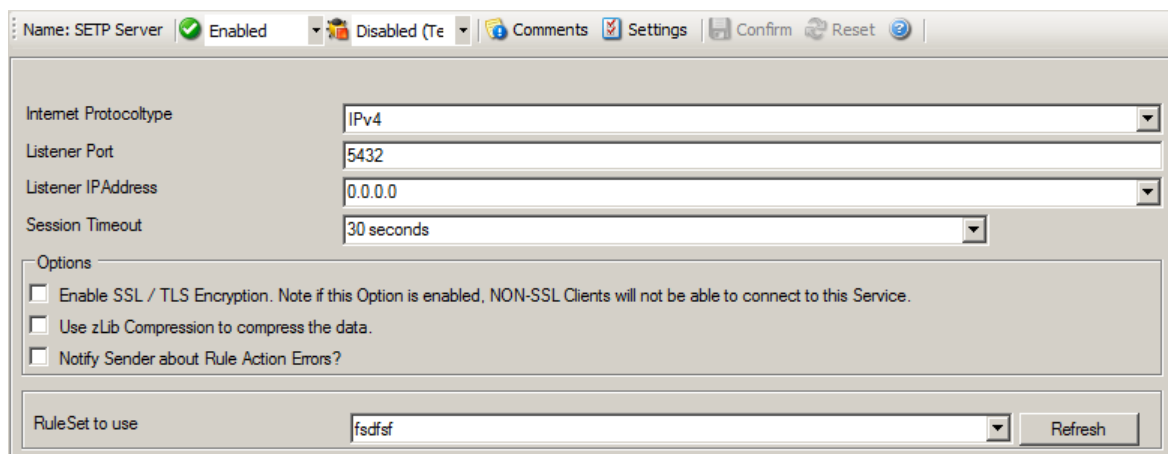
Name of the rule set to be used for this service. The Rule Set name must be a valid Rule Set.

**Please Note**

Updated the OpenSSL components and libraries with the latest Version openssl-1.0.1j.

**5.4.3 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.



*SETP Server Properties*

**Internet Protocoltype**

Select the desired protocol type. IPv4 and IPv6 are available. The IPv6 protocol needs to be properly installed in order to be used. Note that one Service can only handle IPv4 or IPv6, so if you want to use both protocols, you will need to create two separate services.

**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](#).

## Listener IP Address

The SETP server service can be bound to a specific IP Address. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 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.

## Session Timeout

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

## 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 losing syslog messages is explicitly 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.

## 5.4.4 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.

Name: Heartbeat ☒ Enabled ☐ Disabled (Te)  ☒ Settings

Message that is send during each

Heartbeat clock (Sleeptime)

General Values

Syslog Facility

Syslog Priority

Syslog Tag Value

Resource ID

RuleSet to use

*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.

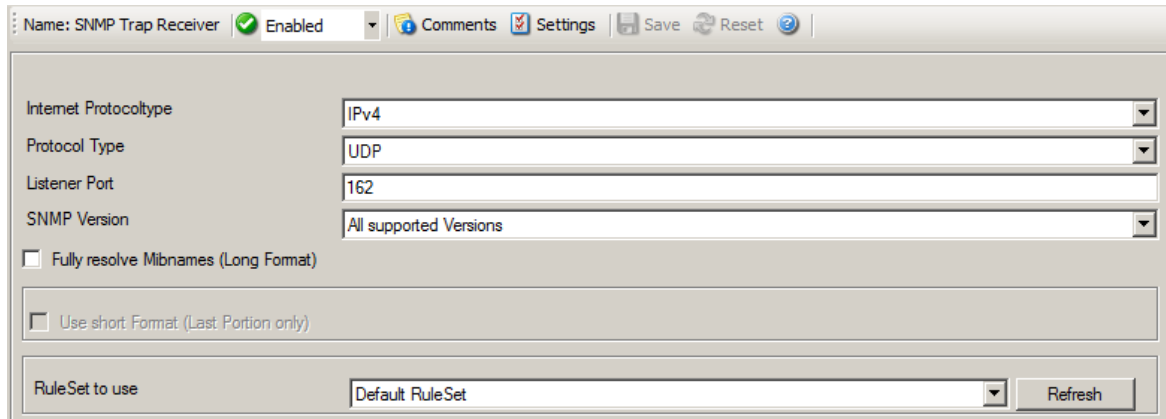
### RuleSet to Use

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

## 5.4.5 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:



The screenshot shows the 'SNMP Trap Receiver Properties' window. At the top, it says 'Name: SNMP Trap Receiver' with a green checkmark and 'Enabled' status. Below this are buttons for 'Comments', 'Settings', 'Save', 'Reset', and a help icon. The main configuration area includes four dropdown menus: 'Internet Protocoltype' set to 'IPv4', 'Protocol Type' set to 'UDP', 'Listener Port' set to '162', and 'SNMP Version' set to 'All supported Versions'. Below these are two unchecked checkboxes: 'Fully resolve Mibnames (Long Format)' and 'Use short Format (Last Portion only)'. At the bottom, there is a 'RuleSet to use' dropdown set to 'Default RuleSet' and a 'Refresh' button.

*SNMP Trap Receiver Properties*

### **Internet Protocoltype**

Select the desired protocol type. IPv4 and IPv6 are available. The IPv6 protocol needs to be properly installed in order to be used. Note that one Service can only handle IPv4 or IPv6, so if you want to use both protocols, you will need to create two separate services.

### **Protocol Type**

You can select to listen on UDP or TCP protocol for SNMP Traps.

### **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 available 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.

### Use short Format (Last Portion only)

Fully resolved mibnames including their tree can become very long and unreadable. Use this option to shorten them to the last portion of the full mibname.

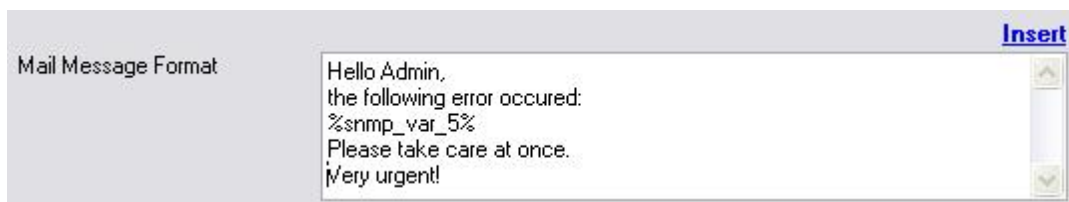
### Rule Set to Use

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 its 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 an introductory text and then let it show the error message in some context. This could look like this:**



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

## 5.4.6 MonitorWare Echo Reply

The Echo Reply service is used on each of the installed EventReporter/MonitorWare Agent. A central agent running the MonitorWare Agent is using the echo request and instructs to poll each of the other EventReporter/MonitorWare Agent services. When the request is not carried out successfully, an alert is generated. The MonitorWare echo protocol ensures that always a fresh probe of the remote EventReporter/MonitorWare Agent Service is done.

Name: MonitorWare Echo Reply Enabled Disabled (Te) Comments Settings Confirm Reset ?

Internet Protocoltype: IPv4

IP Listener Address: 127.0.0.1

Listener Port: 10001

RuleSet to use: RuleSet1 Refresh

*MonitorWare Echo Reply Properties*

## Internet Protocoltype

Select the desired protocol type. IPv4 and IPv6 are available. The IPv6 protocol needs to be properly installed in order to be used. Note that one Service can only handle IPv4 or IPv6, so if you want to use both protocols, you will need to create two separate services.

## Listener Port

Specify the listener port here.

## IP Address

The MonitorWare Echo Reply service can be bound to a specific IP Address. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 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.

## 5.5 Filter Conditions

### 5.5.1 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:

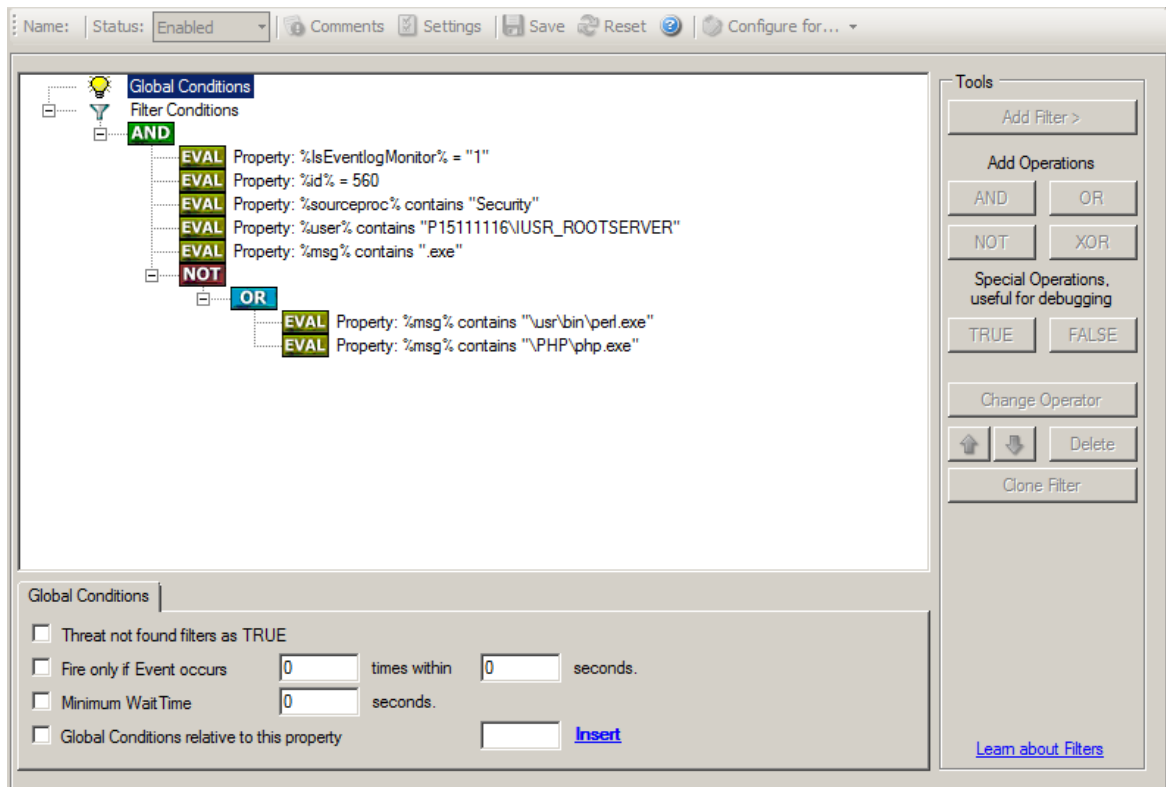


The screenshot shows the 'Filter Conditions' configuration window in WinSyslog. The window has a title bar with 'Name:' and a dropdown menu set to 'Enabled'. Below the title bar are buttons for 'Comments', 'Settings', 'Save', 'Reset', and a help icon. The main area is a tree view on the left with 'Global Conditions', 'Date Conditions', and 'Filter Conditions'. Under 'Filter Conditions', there is a green box labeled 'AND'. The right side of the window is a 'Tools' panel with buttons for 'Add Filter >', 'Add Operations' (AND, OR, NOT, XOR), 'Special Operations, useful for debugging' (TRUE, FALSE), 'Change Operator', 'Delete' (with up and down arrows), and 'Clone Filter'. At the bottom right of the panel is a link 'Learn about Filters'.

*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:



*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](mailto:support@adiscon.com), and we look into it!

## 5.5.2 Filter Conditions - Brushup

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 not 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.

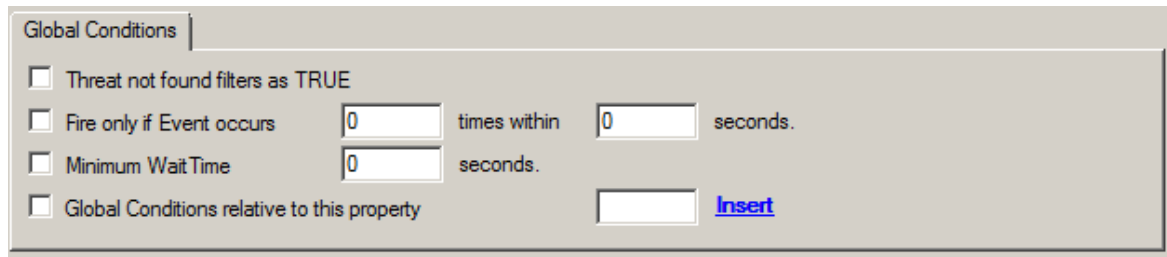
**NOT** – Negates a value. Example: NOT A: If A is true, the outcome is false and vice versa. There can only be a single operand for a NOT operation.

**TRUE** – Returns true.

**FALSE** – Returns false.

### 5.5.3 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.



*Filter Form - Global 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

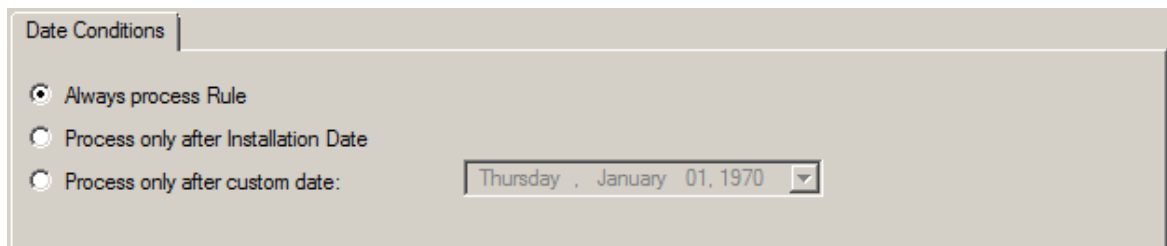
is not yet reached and as such, the rule is not match. If, however, the same event is generated 5 hours later (with the mail gateway failing again), the rule once again fired and corrective action taken.

### 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.

## 5.5.4 Date Conditions

Rule processing can be bound the a specific or installation date. By default a Rule will always be processed.



*Filter Form - Date Conditions*

### Always process Rule

No date filter will be applied

### Process only after Installation Date

Rule will only be processed if message was generated / received after the application installation date.

### Process only after custom date

Rule will only be processed if message was generated / received after the custom specified date.

### 5.5.5 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.

### 5.5.6 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 are 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 ="

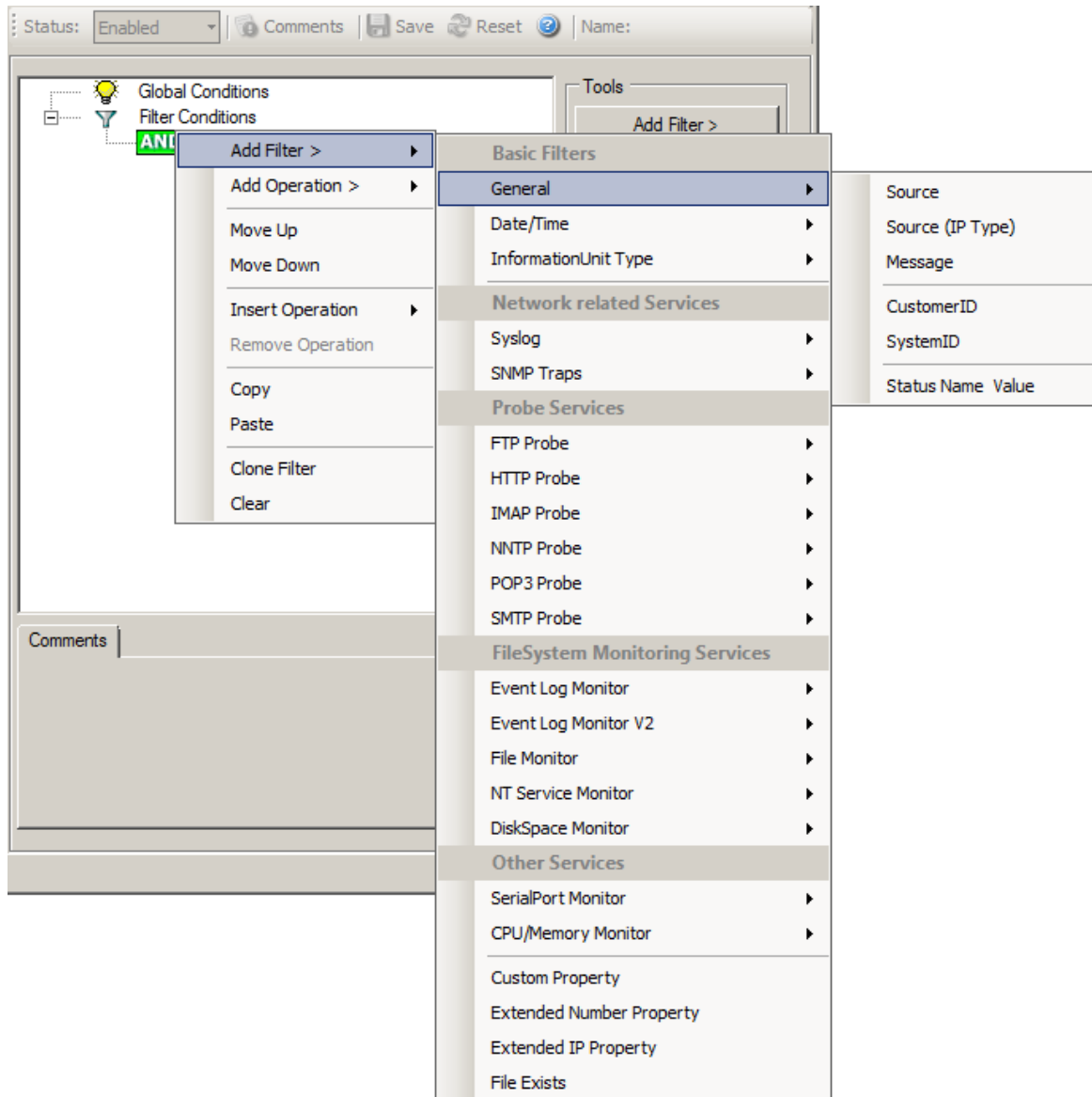
### **Time**

Can be compared with another time but only with "="

The list of possible filters, which can be evaluated is described in the upcoming sections.

### 5.5.7 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.

#### Source System (IP)



The IP Filter can basically work on any property, but we recommend to only use it on the %source% property, as we usually can be sure that this contains a valid IP Address or hostname. The IP Filter can filter against hostnames and IP Addresses, hostnames are automatically resolved using the internal DNSCache (for obvious performance reasons).

This filter is of type string and should contain the source system name or IP address.

Please see the description for "Extended IP Property" for more information on how to use this property.

### 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 operation. 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 receive 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.

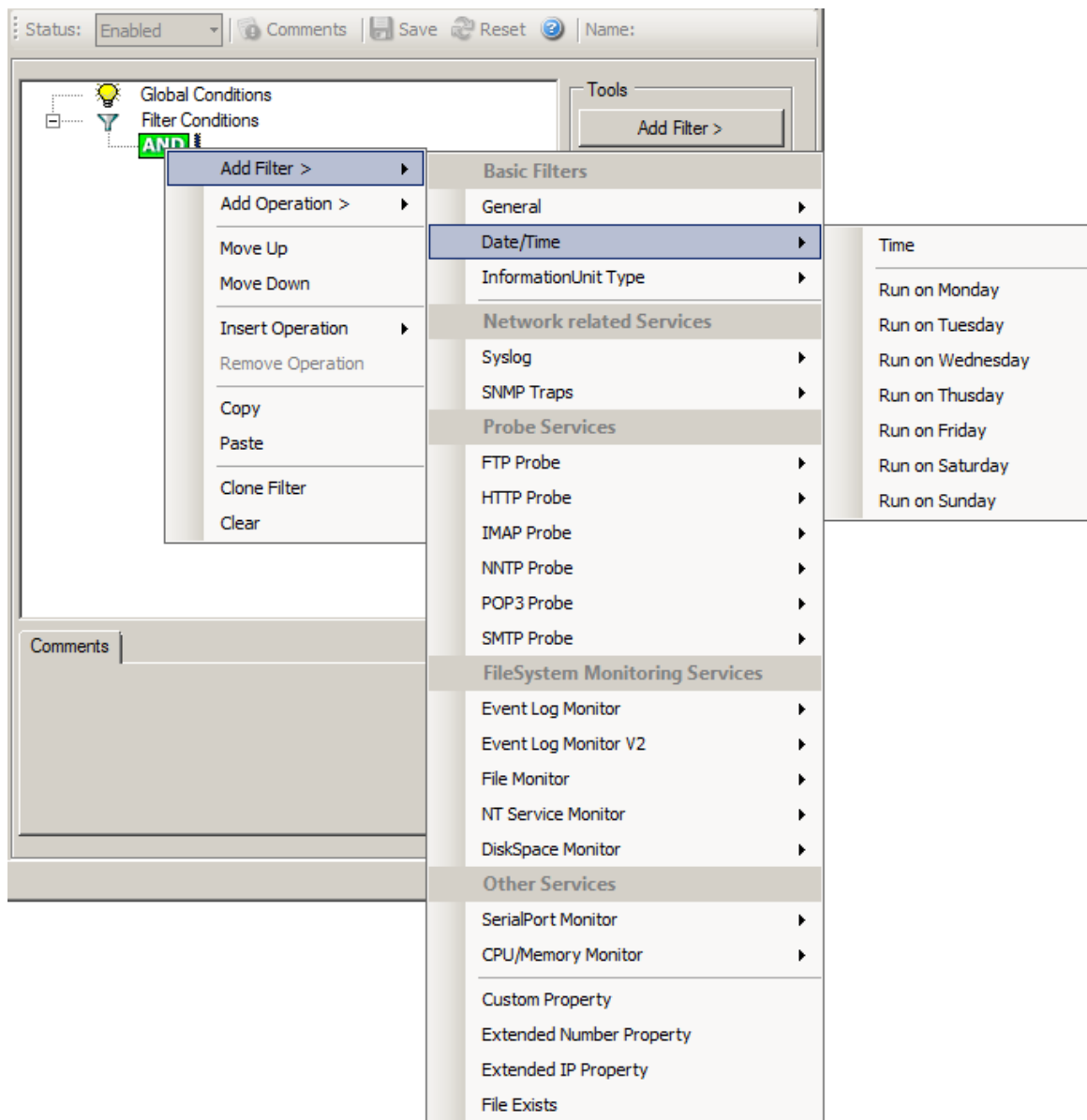
SystemID (Type=Number).

**Status Name and Value**

These filter type corresponds to "[Set Status](#)" Action. Status Name and Value (Type=String)

### 5.5.8 Date/Time

This filter condition is used to check the time frame and / or day of week in which an event occurred.



*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).

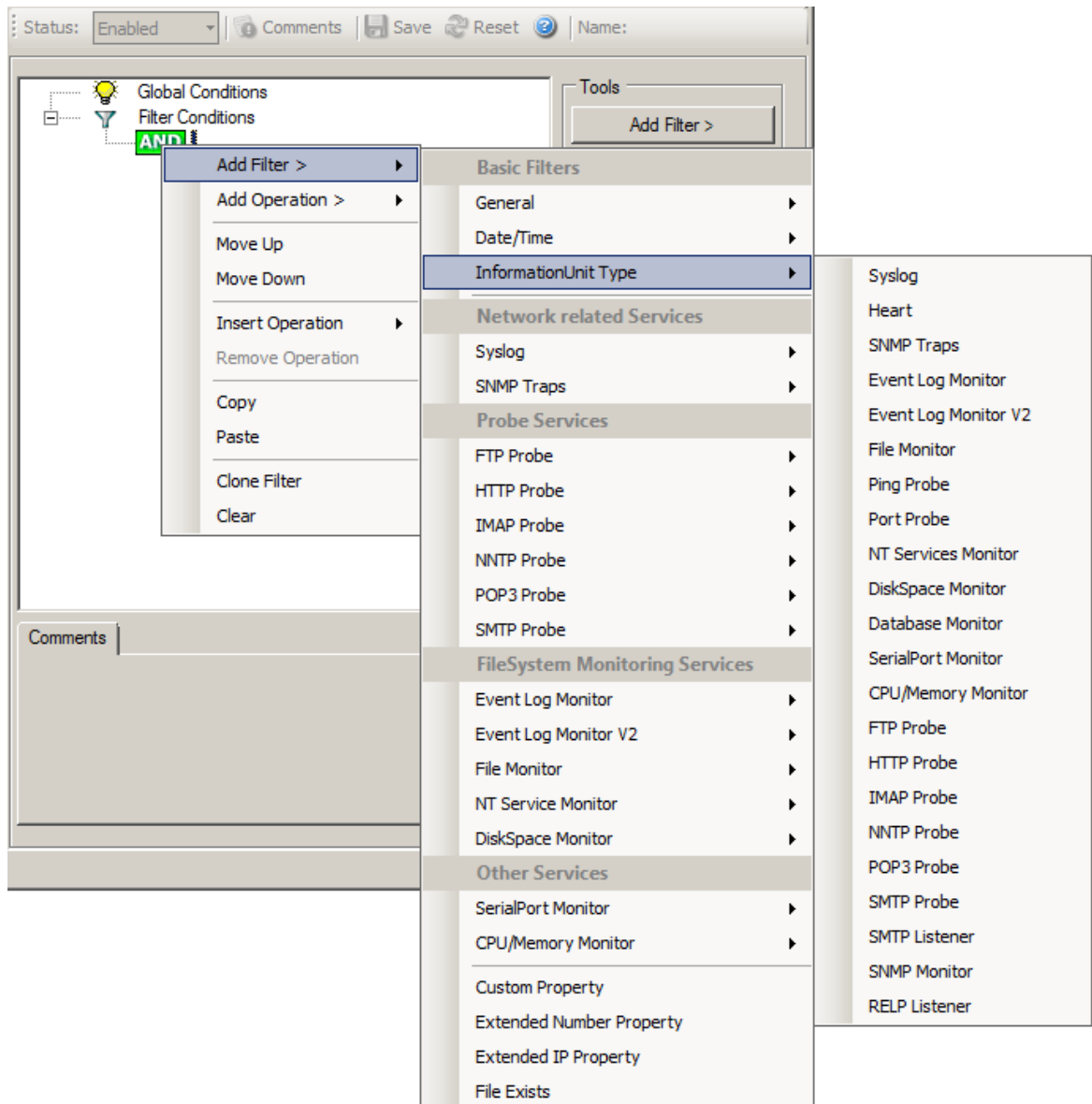
### **Weekdays**

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)

### **5.5.9 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*

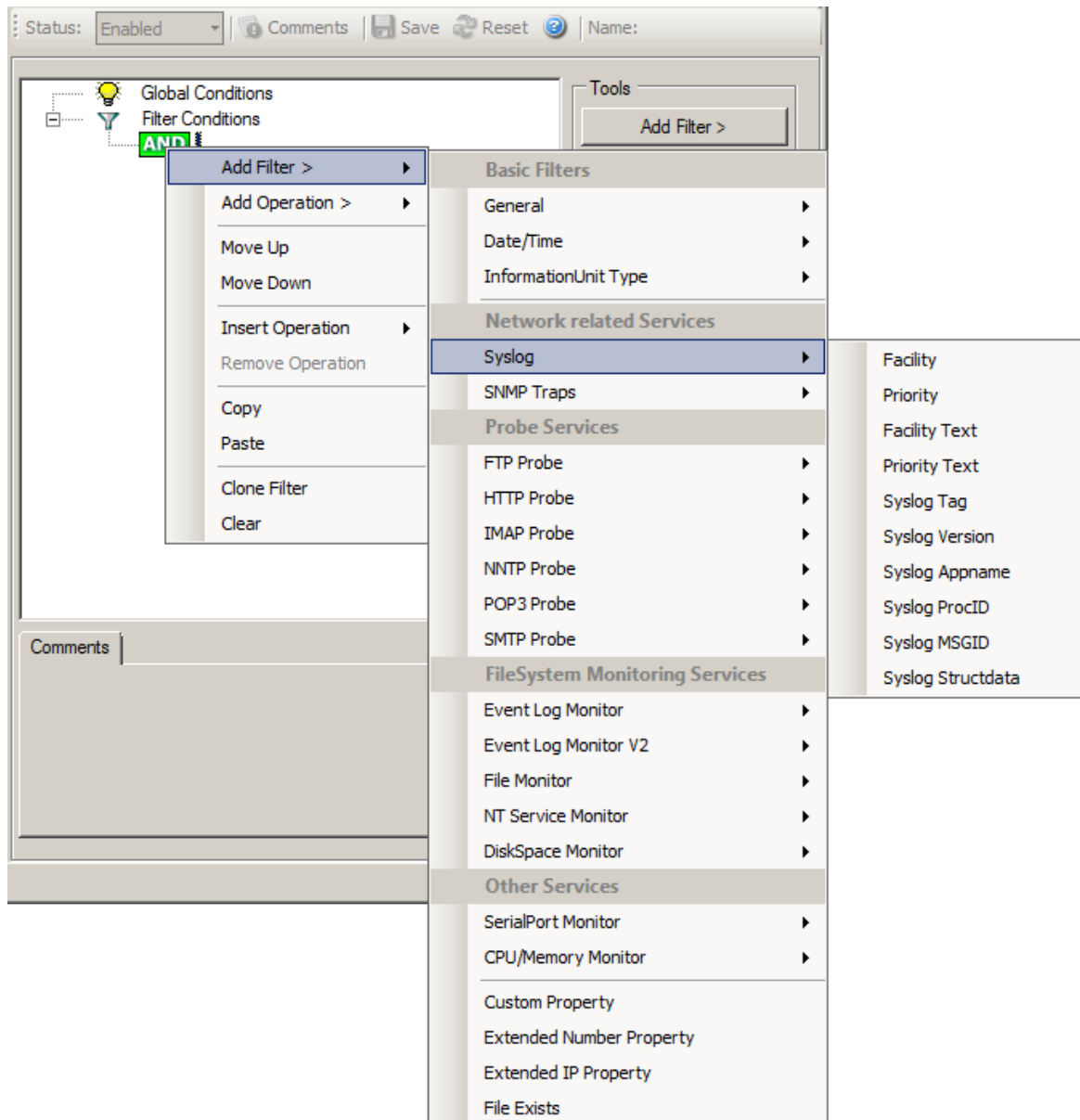
The following filters are available:

1. Syslog (Type=Boolean)
2. Heartbeat (Type=Boolean)
3. SNMP Traps (Type=Boolean)
4. Event Log Monitor (Type=Boolean)
5. File Monitor (Type=Boolean)
6. Ping Probe (Type=Boolean)
7. Port Probe (Type=Boolean)
8. NT Services Monitor (Type=Boolean)
9. Disk Space Monitor (Type=Boolean)
10. Database Monitor (Type=Boolean)
11. Serial Port Monitor (Type=Boolean)
12. CPU/Memory Monitor (Type=Boolean)

13. FTP Probe (Type=Boolean)
14. HTTP Probe (Type=Boolean)
15. IMAP Probe (Type=Boolean)
16. NNTP Probe (Type=Boolean)
17. POP3 Probe (Type=Boolean)
18. SMTP Probe (Type=Boolean)

### 5.5.10 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.

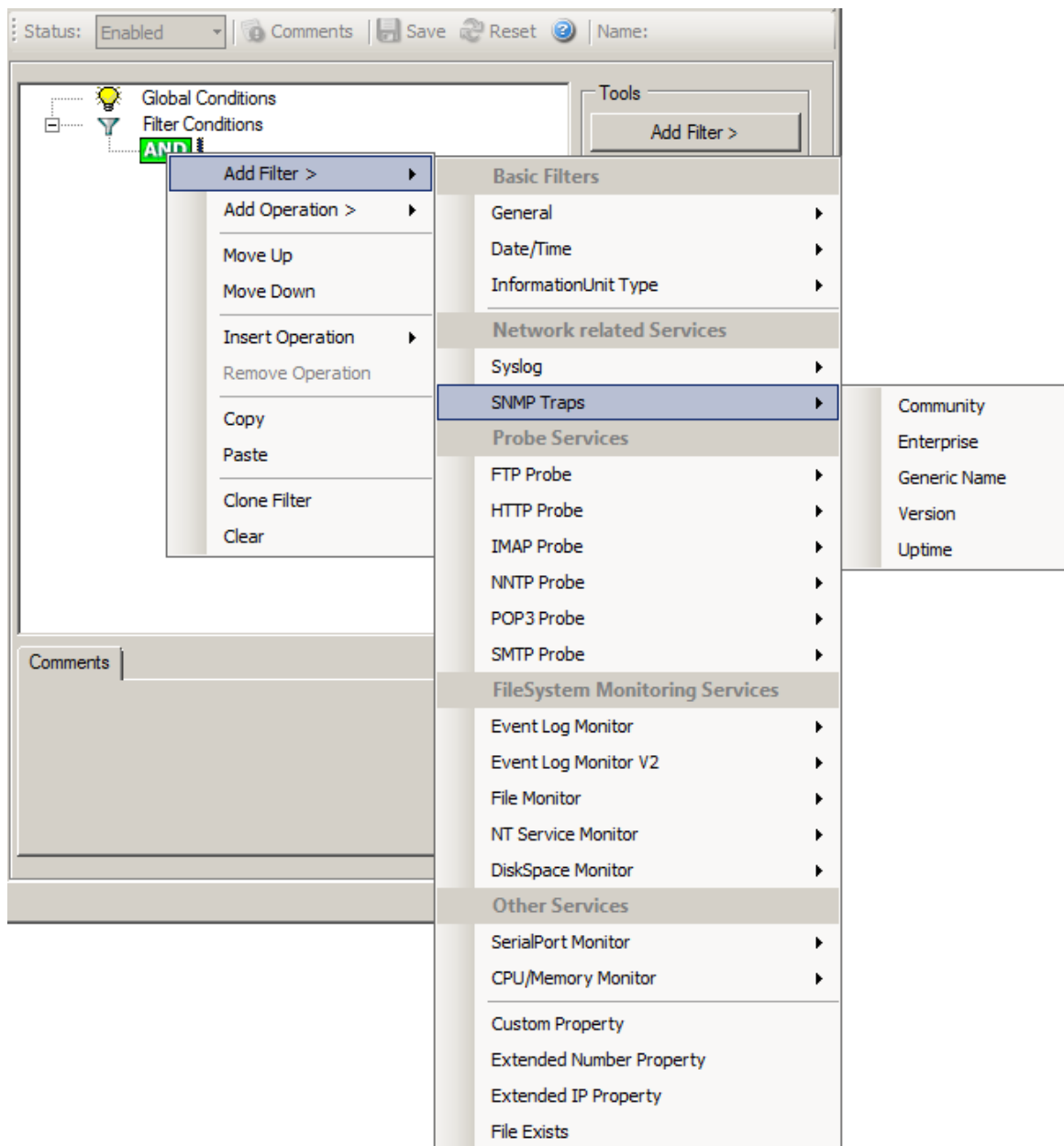
### Syslog Tag

This filter is of type string.

## 5.5.11 SNMP Traps

Using SNMP Traps, since 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.

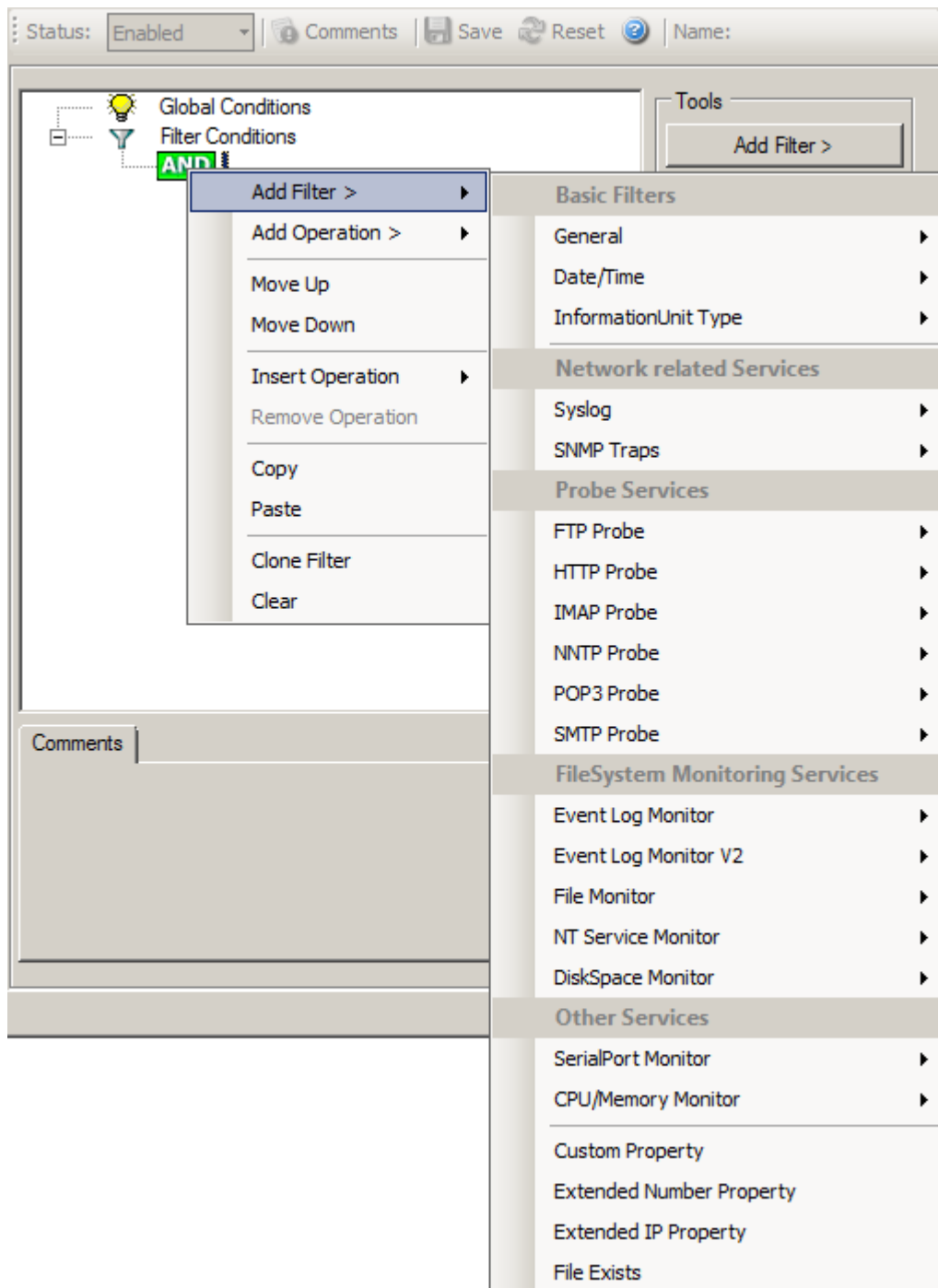
**Uptime**

It corresponds to the respective SNMP entity.

This filter is of type string.

### 5.5.12 Custom Property

Custom Property specific filter is described here.



*Filter Conditions - Custom Property*

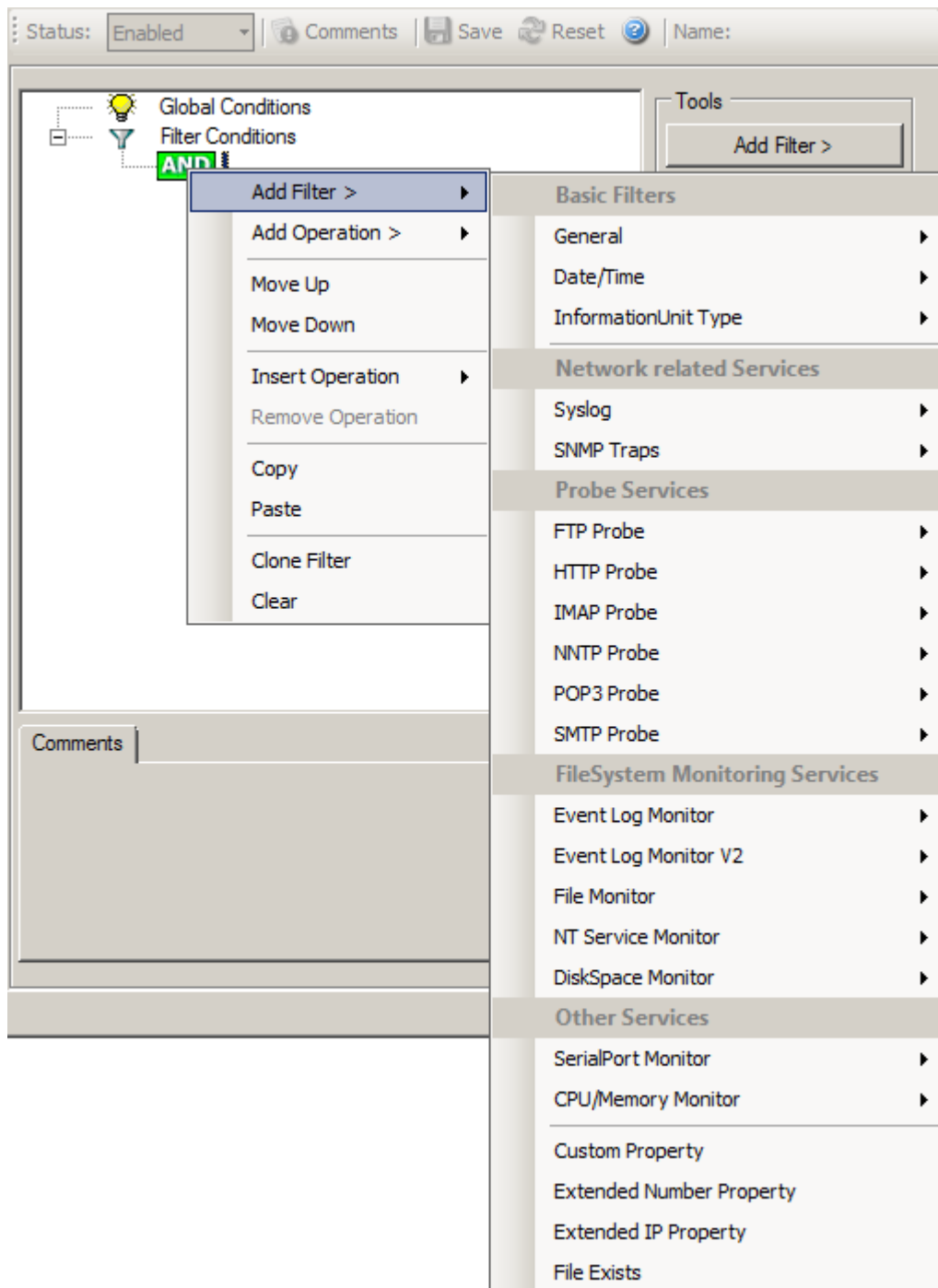
#### Custom Property

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.

### 5.5.13 File Exists

Filter setting by string



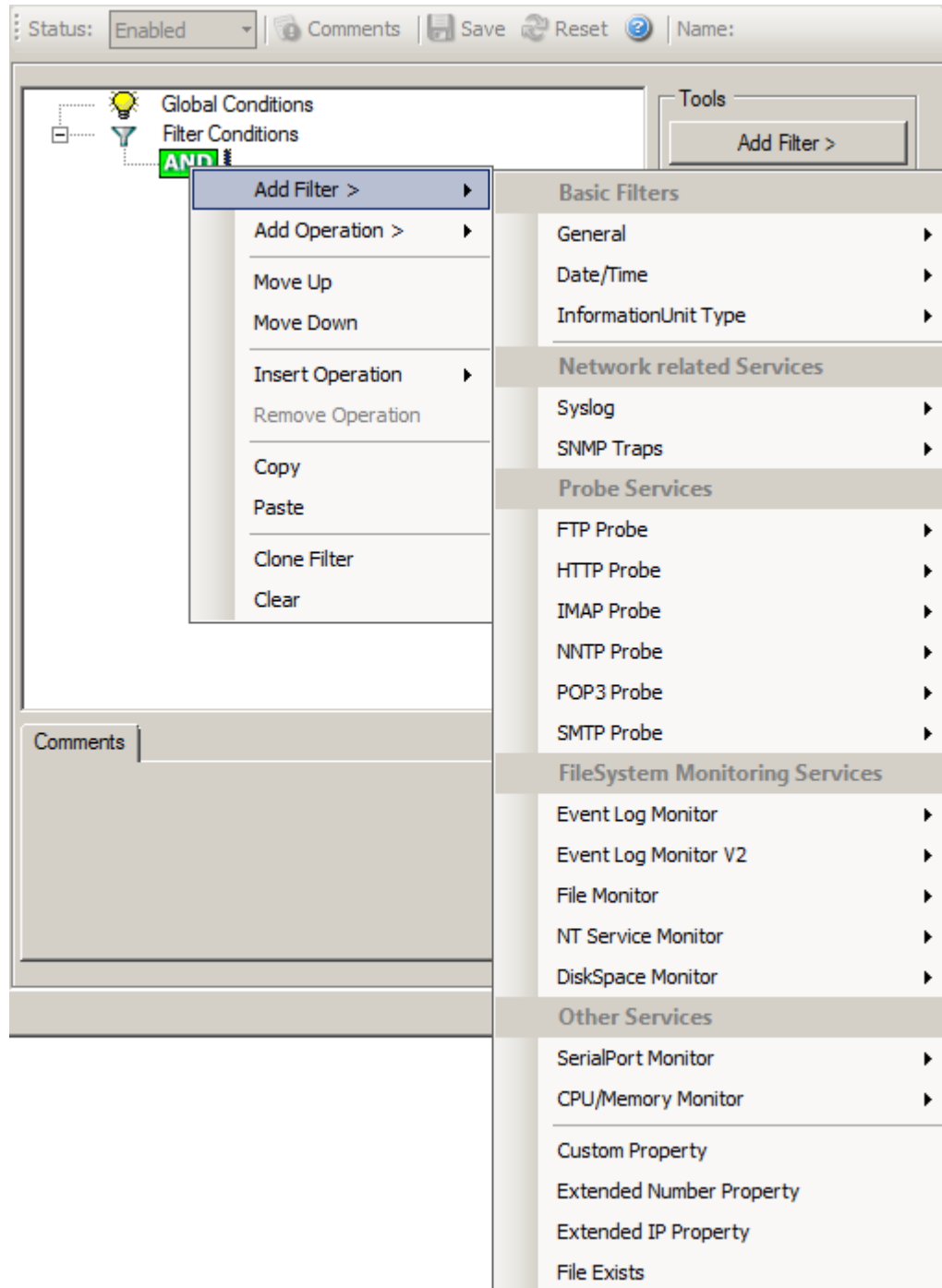
*Filter Conditions - File Exists*

### 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.

### 5.5.14 Extended IP Property

Extended IP Property filter settings



*Filter Condition - Extended IP Property*

The IP Filter can basically work on any property, but we recommend to only use it on the %source% property, as we usually can be sure that this contains a valid IP Address or hostname. The IP Filter can filter against hostnames and IP Addresses, hostnames are automatically resolved using the internal DNSCache (for obvious performance reasons). If you are going to use a different or custom property, please make sure, that the data in the property is a valid IP Address.

Available compare operations for the IP Filter Type are:

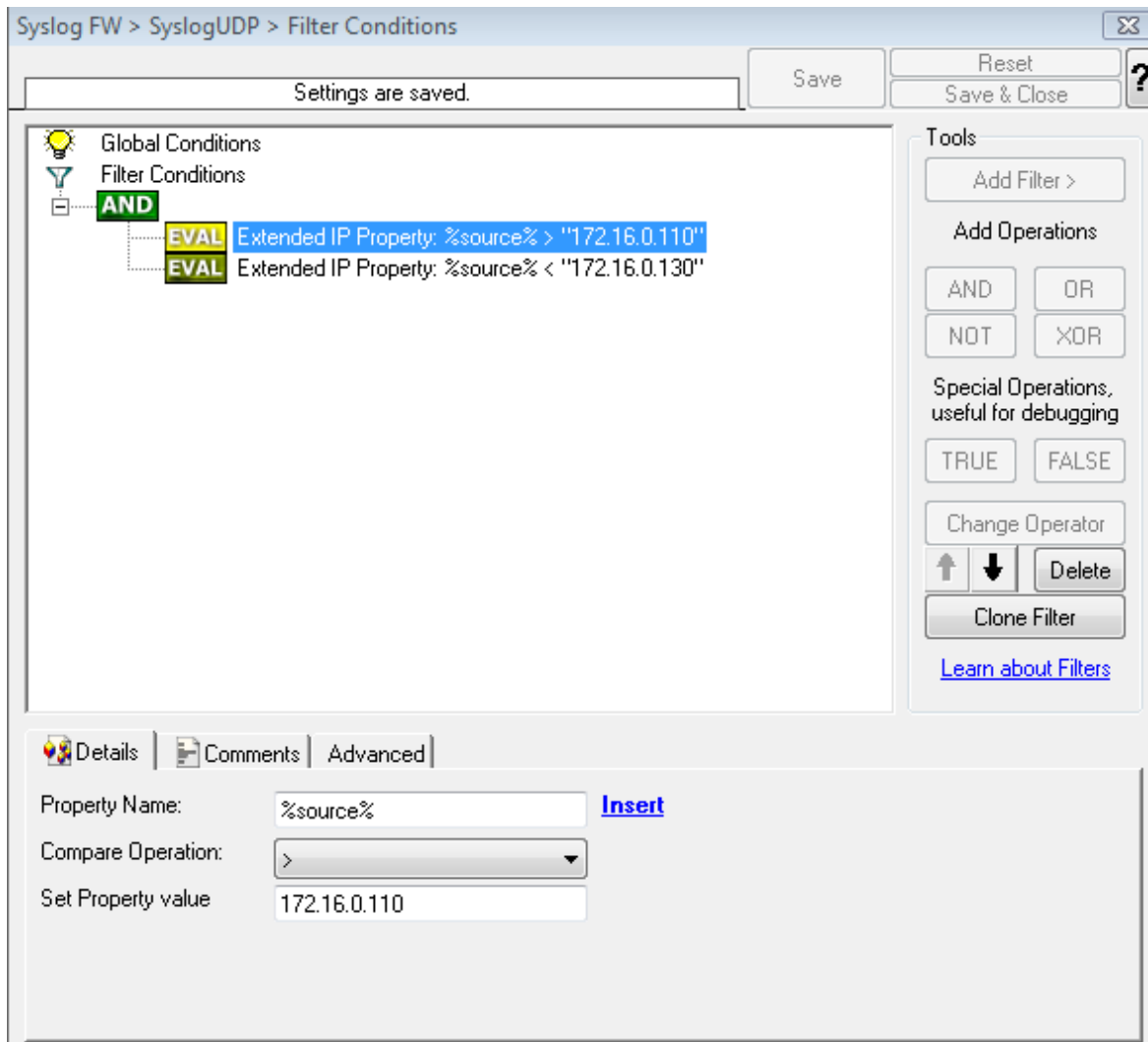
Equal (=): The IP Address must match the one you configured in the Property Value field.

Not Equal (!=): The IP Address must not match the one you configured in the Property Value field.

Higher (>): The IP Address must be higher than the one you configured in the Property Value field. You can use IP Address Formats like 192.168.0.10, 192.168.0, 192.168 or even 192. It depends on what IP Ranges you are going to filter for.

Lower (<): The IP Address must be lower than the one you configured in the Property Value field. You can use IP Address Formats like 192.168.0.10, 192.168.0, 192.168 or even 192. It depends on what IP Ranges you are going to filter for.

If you want to filter for IP Ranges, I recommend to use two filters to define the range, one filter with the "Higher (>)" compare operation, and one with the "Lower (<)" compare operation. This could look like the following:

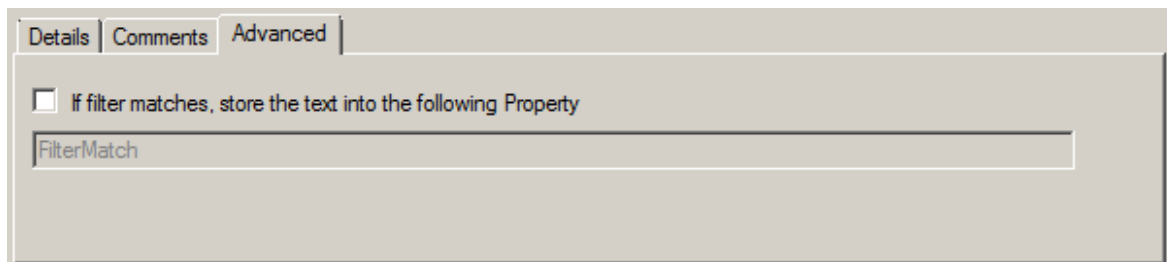


*Filter Condition - Filtering for an IP Range*

The filter you can see here will accept all IPs which lie between 172.16.0.110 AND 172.16.0.130. That means, that for every IP that matches these two conditions, the whole filter will evaluate to true and therefore the message will be processed. If the filter does not evaluate to true, the rule will be aborted and the message is sent to the next rule.

### 5.5.15 Store Filter Results

How to store Filter Results is described here.



## 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.

## 5.6 Actions

### 5.6.1 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.**

### 5.6.2 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:

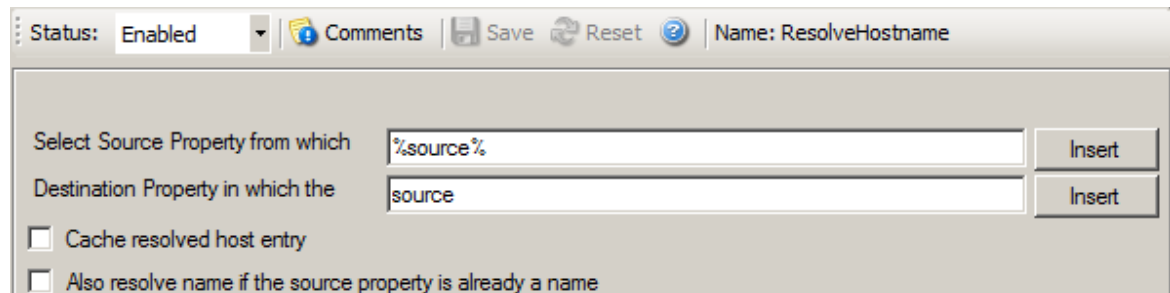


Figure1: Resolve Hostname Action with opened up "Insert" Menu.

#### 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.

## 5.6.3 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 Windows 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><FileName>-year-month-day.<FileExtension>

Parameters in the brackets can be configured via dialog shown below:

*File Logging Options*

### 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 property 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".

### 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).

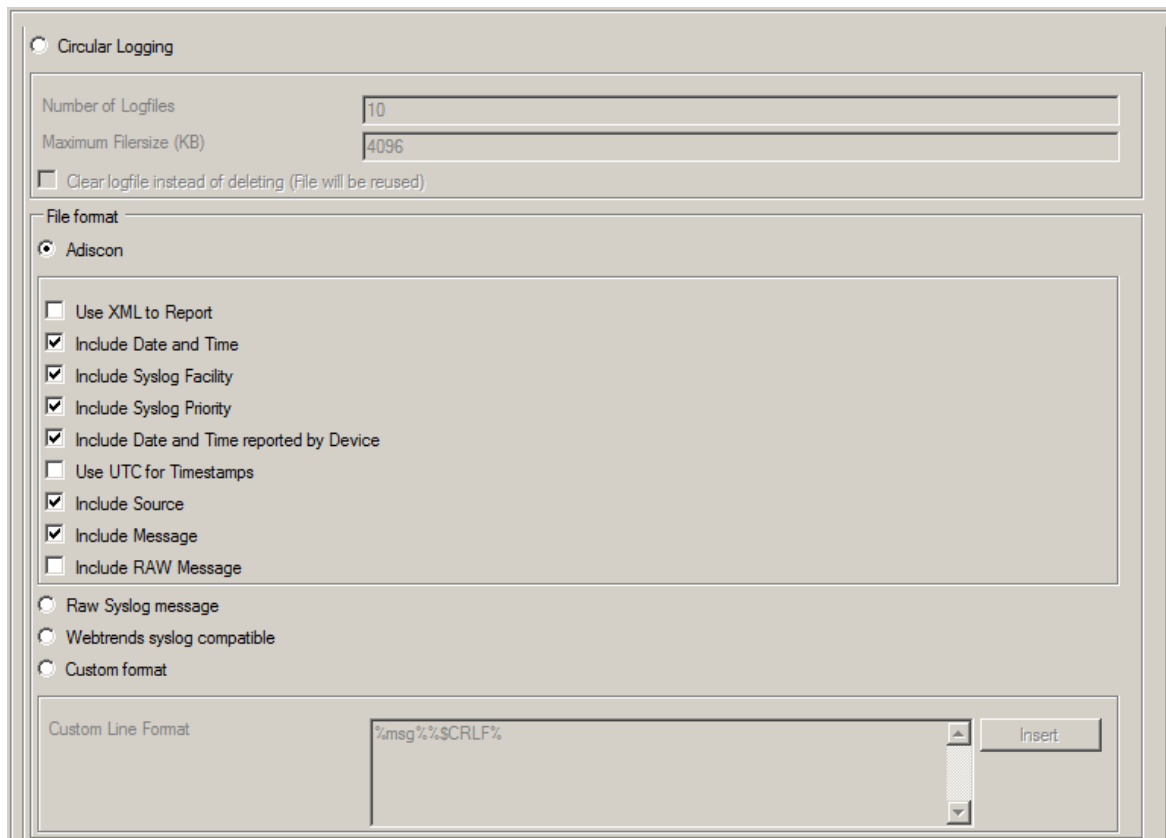
Using UTC for file name creation can be helpful if log files are written among different time zones and later consolidated. Using UTC ensures a consistent time notation across all log files.

**Please note that this setting does affect the file name creation only. A different setting controls the dates recorded inside the file.**

### **Segment files when the following file size is reached (KB)**

Files are segmented when the defined file size is reached. The file name will have a sequence number appended (\_1 to \_n).

**[Event properties](#) are described in the [property replacer section](#).**



The image shows the 'File Logging Options #2' dialog box in WinSyslog. It has a tabbed interface with the 'Circular Logging' tab selected. Under 'Circular Logging', there are two input fields: 'Number of Logfiles' set to 10 and 'Maximum Filesize (KB)' set to 4096. Below these is a checkbox 'Clear logfile instead of deleting (File will be reused)' which is unchecked. The 'File format' section has a radio button 'Adiscon' selected. Below this is a list of checkboxes: 'Use XML to Report' (unchecked), 'Include Date and Time' (checked), 'Include Syslog Facility' (checked), 'Include Syslog Priority' (checked), 'Include Date and Time reported by Device' (checked), 'Use UTC for Timestamps' (unchecked), 'Include Source' (checked), 'Include Message' (checked), and 'Include RAW Message' (unchecked). Below these are three radio buttons: 'Raw Syslog message' (selected), 'Webtrends syslog compatible' (unchecked), and 'Custom format' (unchecked). At the bottom, there is a 'Custom Line Format' section with a text box containing '%msg%%\$CRLF%' and an 'Insert' button.

*File Logging Options #2*

### 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.

### Clear logfile instead of deleting (File will be reused)

This option causes the File Action to truncate the logfile instead of deleting and recreating it.

### 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.**

### 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.

### **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%".

### **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 would 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 format 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.

## **5.6.4 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.

Name: DatabaseOdbc | Status: Enabled | Comments | Settings | Save | Reset | Configure for...

**Connection Options**

DSN | Verify Database

User-ID: test

Password: \*\*\*\* ☐ Enable Password

SQL Connection Timeout: 0 (disabled)

**szSQLOptions**

Table Name: SystemEvents

Statement Type: CALL (MSSQLStored Procedure)

Output Encoding: System Default

☒ Insert NULLValue if string is empty

☒ Enable Detail Property Logging

Detaildata Tablename: SystemEventsProperties

Maximum value length (Bytes): 512

**Datafields**

	Fieldname	Fieldtype	Fieldcontent
▶	CurrUsage	int	cumusage
	CustomerID	int	CustomerID
	DeviceReportedTime	Date Time UTC	timereported
	EventBinaryData	text	%bdata%
	EventCategory	int	category
	EventID	int	id
	EventSource	varchar	sourceproc
	EventUser	varchar	user
	Facility	int	syslogfacility

### 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 provided 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 parameters.

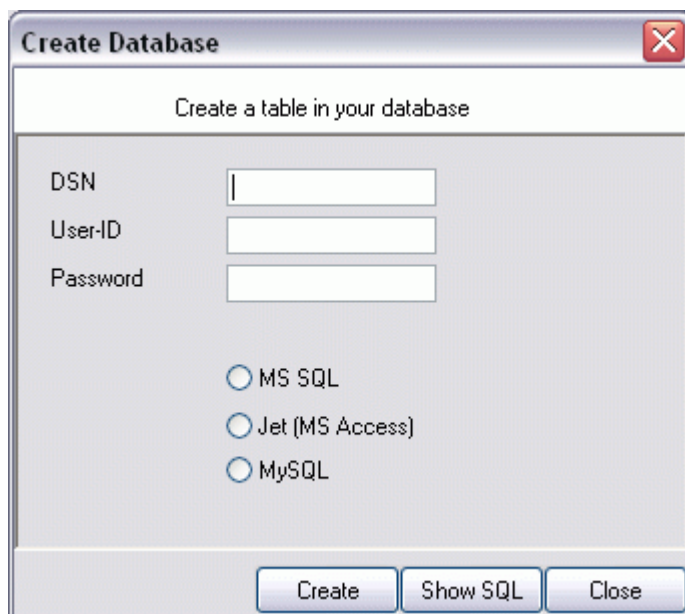
### Data Sources (ODBC)

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).

**Please Note: The DSN must be a System DSN.**

### 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). 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.

### **Insert NULL Value if string is empty**

This option inserts a NULL value, if a property is empty.

## **5.6.5 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 view. 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.

The screenshot shows the 'OLEDB Database Action Options' configuration window. At the top, it displays 'Name: DatabaseOledb', 'Enabled' status, and buttons for 'Comments', 'Settings', 'Confirm', and 'Reset'. Below this, the 'Connection Options' section includes 'Configure Oledb Connection', 'Verify Database', and a 'SQL Connection Timeout' set to '1 Minute'. The 'SQLOptions' section contains 'Table Name' (SystemEvents), 'Statement Type' (CALL (MSSQLStored Procedure)), and 'Output Encoding' (System Default). A checkbox for 'Enable Detail Property Logging' is checked. Below this, 'Detaildata Tablename' is set to 'SystemEventsProperties' and 'Maximum value length (Bytes):' is set to '512'. The 'Datafields' section contains a table with columns 'Fieldname', 'Fieldtype', and 'Fieldcontent'.

Fieldname	Fieldtype	Fieldcontent
CurrUsage	int	currusage
CustomerID	int	CustomerID
DeviceReportedTime	DateTime UTC	timereported
EventBinaryData	text	%bdata%
EventCategory	int	category
EventID	int	id
EventLogType	varchar	NTEventLogType
EventSource	varchar	sourceproc
EventUser	varchar	user

*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 provided 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.

## **5.6.6 Event Log options**

This tab is used to configure the logging to the Windows 2000 or XP event log. It is primarily included for legacy purposes.

The screenshot shows the WinSyslog configuration window with the 'EventLog' service selected and 'Enabled'. The 'Settings' tab is active. Under 'Event Logging Options', the 'Use logsource from service' radio button is selected. Below this, there is a 'Custom Eventlog Source' field containing '%source%' and an 'Insert' button. The 'Use logsource from service' checkbox is unchecked. Below this, there is a 'Custom Eventlog Type' field and an 'Insert' button. The 'Use Custom Eventlog Type' checkbox is checked, and the 'Event ID' field contains '4'. The 'Message to log' field contains '%msg%' and has an 'Insert' button.

*Event Logging Options*

### Use logsource from service

Takes the service name as logsource for the log entry. This option is enabled by default.

### 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 possibilities the property engine gives you. **Please note that content of this field can be configured. [Event properties](#) are described in the [property replacer section](#).**

### Use custom Eventlog Type

**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](#).**

### 5.6.7 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.



The screenshot shows the 'Mail Server Options' tab in the WinSyslog configuration interface. At the top, there is a status bar with 'Name: Mail', a green checkmark, 'Enabled', and buttons for 'Comments', 'Settings', 'Confirm', 'Reset', and a help icon. Below this, the 'Mail Server Options' tab is active, showing fields for 'Mailserver' (127.0.0.1) and 'Mailserver port' (25). There is an unchecked checkbox for 'Enable Backup Server, used if first Mailserver fails'. Below this, there are fields for 'Backup Mailserver' (127.0.0.1) and 'Backup Mailserver port' (25). Another unchecked checkbox is for 'Use SMTP Authentication'. Below this, there are fields for 'SMTP Username' and 'SMTP Password'. A 'Session Timeout' field is set to 0 milliseconds. At the bottom, there are three unchecked checkboxes: 'Use a secure connection (SSL) to the mail server', 'Use STARTTLS SMTP Extension', and 'Use UTC Time in Date-Header'.

*Forward Email Properties - Server Options*

## Mailserver

This is the Name or IP address of the mail server to be used for forwarding messages. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 Address. 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.

## Mailserver 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.

## Enable Backup Server, used if first Mailserver fails

When enabled, you can configure a second Mailserver that will be used if the regular Mailserver is not available/accessible.

## 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.

**Backup Mailserver 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.

**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.

**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 milliseconds, 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 a secure connection (SSL) to the mail server**

This option enables SSL-secured traffic to the mail server. Please note, that this only works, if the receiving mail server supports SSL-secured transmission of emails.

### Use STARTTLS SMTP Extension

This extension is required for SMTP Servers which can optionally enable encryption during communication.

### Use UTC time in Date-Header

Some Email Readers do not support UTC time in date-headers. Therefore here is a switch to turn the UTC time on or off.

The screenshot shows the 'Mail Format Options' tab in the WinSyslog configuration window. The fields and their values are as follows:

- Sender Emailaddress:** sender@example.com
- Recipient Emailaddress:** receiver@example.com
- Use legacy subject line processing:** ☐
- Subject:** Email for you (with an 'Insert' button)
- Mail Priority:** Normal Priority (dropdown menu)
- Mail Message Format:** Event message: Facility: %syslogfacility% Priority: %syslogpriority% Source: %source% (with an 'Insert' button)
- Output Encoding:** System Default (dropdown menu)
- Include message / event in email body:** ☒
- Use XML to Report:** ☐

*Forward Email Properties - Format Options*

### 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 recipients, enter all recipient's email addresses in this field. Separate addresses 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.

### **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 received 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 characters from the message text (position 1 to 15).

### **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.

### **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.

### **Output Encoding**

Determines the character encoding mode.

### **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.

## 5.6.8 Forward Syslog Options

This dialog controls Syslog forwarding options.

*Forward Syslog Properties*

### 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 reliability. RFC 3195 is a special standardized transfer mode. However, it has not received 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 proven 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 being 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.

## Syslog Server

This is the name or IP address of the system to which Syslog messages should be sent to. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 Address.

## 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 almost 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.

### Use this backup syslog server if first one fails

The backup server is automatically used if the connection to the primary server fails. The primary server is automatically retried when the next Syslog session is opened. This option is only available when using TCP syslog.

### Session Timeout

Timeout value for TCP persistent and octet-count based framing connections.

### Syslog Message Options

*Syslog Message Options*

### Syslog processing

With this settings you can assign how your syslog messages will be processed. For processing syslog you can choose out of four different options. You can use [RFC3164](#) or RFC5424 (recommended) which is the current syslog standard, you are able to customize the syslog header or you do not process your syslog and forwards it as it is.

### Custom Header Format

In this field you can specify the contents of your syslog header. This option is only available when you choose "Use Custom Syslog Header" in the Syslog Processing menu.



The contents can be either a fixed message part which you can write into the field yourself or you use properties as dynamic content. By default the Header field is filled with the content of the RFC 5424 header.

**Please note that the header content of the Header 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.

## Used Message Format

You can use several different message formats for forwarding messages via syslog.

### *Use Custom Format*

The custom format lets you decide how the content of a syslog message looks like. You can use properties to insert content dynamically or have fixed messages that appear in every message. [Event properties](#) are described in the [property replacer section](#).

### *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.**

### *Use CEE enhanced Syslog Format*

If enabled, the new CEE enhanced Syslog format will be used (work in progress). All useful properties will be included in a JSON Stream. The message itself can be included as well, see the "Include message property in CEE Format" option. Here is a sample how the format looks like for a security Eventlog message:

```
@cee: {"source": "machine.local", "nteventlogtype": "Security",
```

```
"sourceproc": "Microsoft-Windows-Security-Auditing", "id": "4648",
"categoryid": "12544", "category": "12544", "keywordid":
"0x8020000000000000", "user": "N\\A", "SubjectUserSid": "S-1-5-11-
222222222-333333333-444444444-5555", "SubjectUserName": "User",
"SubjectDomainName": "DOMAIN", "SubjectLogonId": "0x5efdd",
"LogonGuid": "{00000000-0000-0000-0000-000000000000}",
"TargetUserName": "Administrator", "TargetDomainName": " DOMAIN ",
"TargetLogonGuid": "{00000000-0000-0000-0000-000000000000}",
"TargetServerName": "servername", "TargetInfo": " servername ",
"ProcessId": "0x76c", "ProcessName": "C:\\Windows\\System32\\
spoolsv.exe", "IpAddress": "-", "IpPort": "-", "catname": "Logon",
"keyword": "Audit Success", "level": "Information", }
```

Additionally to this format you can set *Include message property in CEE Format*

If enabled, the message itself will be included in the JSON Stream as property. Disable this option if you do not want the message itself in the CEE Format.

**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.**

### 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](#).**

### 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.**

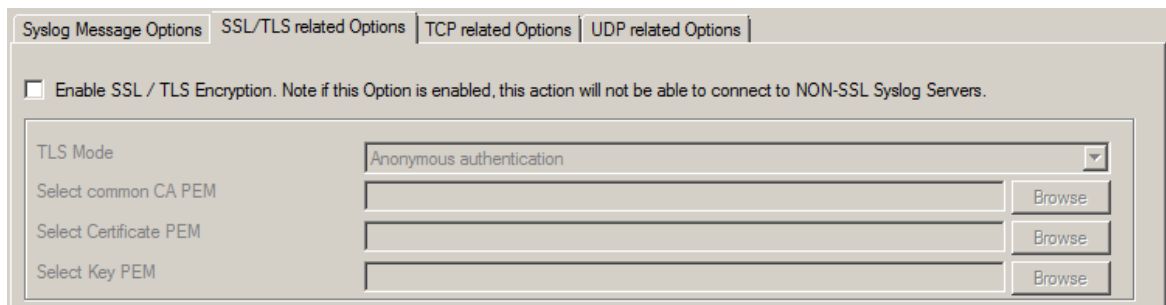
### Use zLib Compression to compress the data

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.

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## SSL/TLS related Options



The screenshot shows the 'SSL/TLS related Options' tab in the WinSyslog configuration window. At the top, there are four tabs: 'Syslog Message Options', 'SSL/TLS related Options' (selected), 'TCP related Options', and 'UDP related Options'. Below the tabs, there is a checkbox labeled 'Enable SSL / TLS Encryption. Note if this Option is enabled, this action will not be able to connect to NON-SSL Syslog Servers.' Below this, there is a section for TLS configuration. It includes a 'TLS Mode' dropdown menu currently set to 'Anonymous authentication'. Below the dropdown are three text input fields: 'Select common CA PEM', 'Select Certificate PEM', and 'Select Key PEM'. Each of these fields has a 'Browse' button to its right.

### SSL/TLS related Options

#### Enable SSL / TLS Encryption

If this option is enabled, the action will not be able to talk to a NON-SSL secured server. The method used for encryption is compatible to RFC5425 (Transport Layer Security (TLS) Transport Mapping for Syslog).

#### TLS Mode

##### *Anonymous Authentication*

Default option. This means that a default certificate will be used.

##### *Use Certificate*

If this option is enable, you can specify your own certificate. For further authentication solutions, you will need to create your own certificates using OpenSSL Tools for example.

#### Select common CA PEM

Select the certificate from the common Certificate Authority (CA). The syslog receiver should use the same CA.

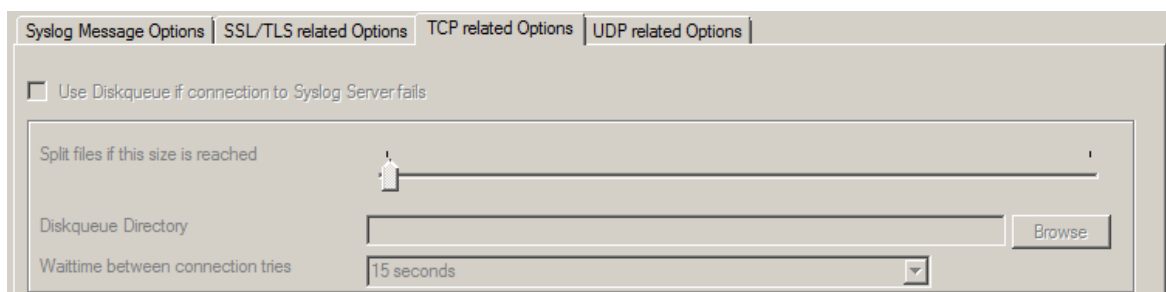
#### Select Certificate PEM

Select the client certificate (PEM Format).

#### Select Key PEM

Select the keyfile for the client certificate (PEM Format).

## TCP related Options



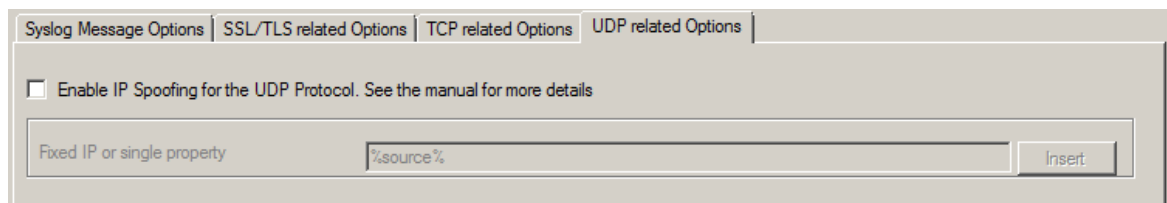
The screenshot shows the 'TCP related Options' tab in the WinSyslog configuration window. At the top, there are four tabs: 'Syslog Message Options', 'SSL/TLS related Options', 'TCP related Options' (selected), and 'UDP related Options'. Below the tabs, there is a checkbox labeled 'Use Diskqueue if connection to Syslog Server fails'. Below this, there is a section for TCP configuration. It includes a slider control labeled 'Split files if this size is reached'. Below the slider is a text input field labeled 'Diskqueue Directory' with a 'Browse' button to its right. Below the 'Diskqueue Directory' field is a text input field labeled 'Waittime between connection tries' with a dropdown menu to its right, currently set to '15 seconds'.

### TCP related 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.

### UDP related Options



#### *UDP related Options*

#### **Enable IP Spoofing for the UDP Protocol**

This option enables you to spoof the IP Address when sending Syslog messages over UDP. Some notes regarding the support of IP Spoofing. It is only supported the UDP Protocol and IPv4. IPv6 is not possible yet. Due system limitations introduced by Microsoft, **IP Spoofing is only possible on Windows Server 2003, 2008 or higher.** It is NOT possible in Windows XP, VISTA, 7 or higher. For more information see the Microsoft explanation. Also please note that most routers and gateways may drop network packages with spoofed IP Addresses, so it may only work in local networks.

#### **Fixed IP or single property**

You can either use a static IP Address or a property. When using a property, the IP Address is tried to be resolved from the content of the property. For example by default the %source% property is used. If the name in this property cannot be resolved to an IP Address, the default local IP Address will be used.

### **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

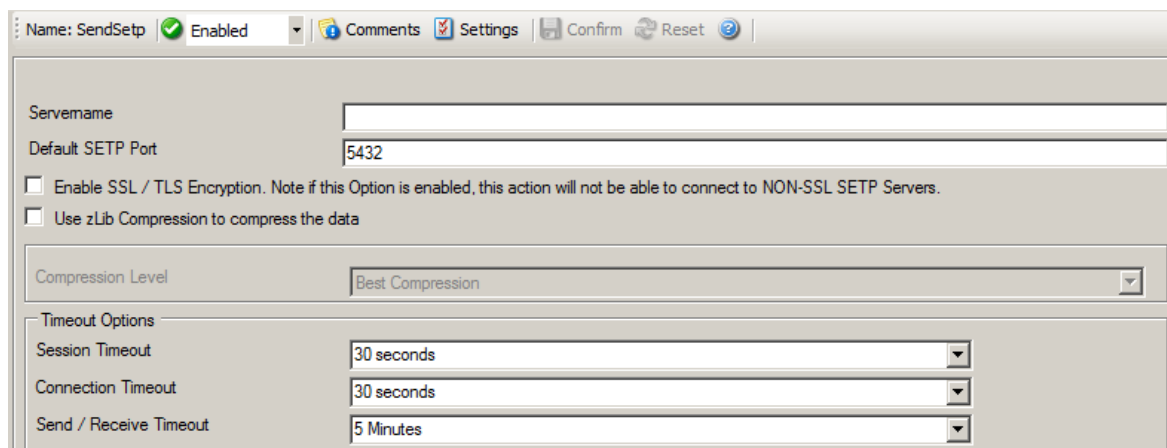
case, 50% or even a bit more can be saved. Very small messages do not compress at all. Typical syslog traffic in non-xml format is expected to compress around 10 to 25%.

Please note that compression 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.

### 5.6.9 Forward SETP Options

This dialog controls the Send options. With the "Send SETP" action, messages can be sent to a SETP server.



*Send SETP Dialog*

#### Servername

The MonitorWare Agent sends [SETP](#) to the server / listener under this name. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 Address.

#### 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 Windows 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

When 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.

## 5.6.10 Send MSQueue

In order to use this Action, the "Microsoft Message Queue (MSMQ) Server" needs to be installed. This Action can be used to send a message into the Microsoft Message Queue.

Name: SendMSQueue Enabled Comments Settings Confirm Reset ?

QueueName: localhost

QueueName:

Queue Priority: 3

Queue Message Label: Message Insert

Queue Message Body: %msg% Insert

*Send MSQueue Properties*

### Server Computername/IP

Sets the computername or IP which contains the MSQueue you want to query. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 Address.

### QueueName

Specify the QueueName into which you want to write.

### Queue Priority

Configure or set the priority property here.

### Queue Message Label

Sets the Label text of a queue item.

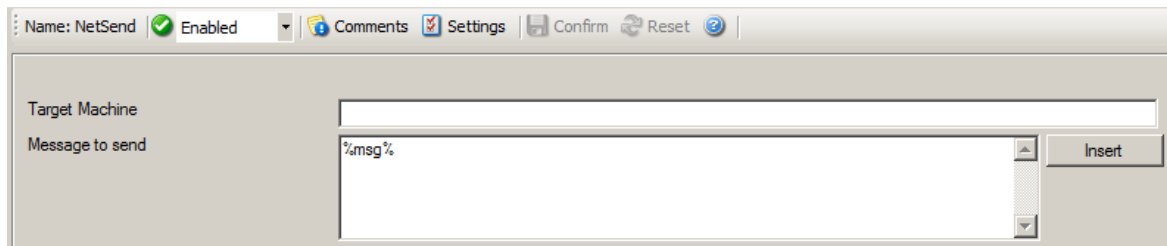
### Queue Message Body

The text here will be set to the body of a queue item.

## 5.6.11 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".



*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). You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 Address.

### 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](#).**

## 5.6.12 Start Program

This dialog controls the start process 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 process 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.



*Start Process 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:

<b>%d</b>	Date and time in local time
<b>%s</b>	IP address or name (depending on the "resolve hostnames" setting) of the source system that sent the message.
<b>%f</b>	Numeric facility code of the received message
<b>%p</b>	Numeric priority code of the received message
<b>%m</b>	The message itself
<b>%%</b>	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!

### Sync Timeout

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.

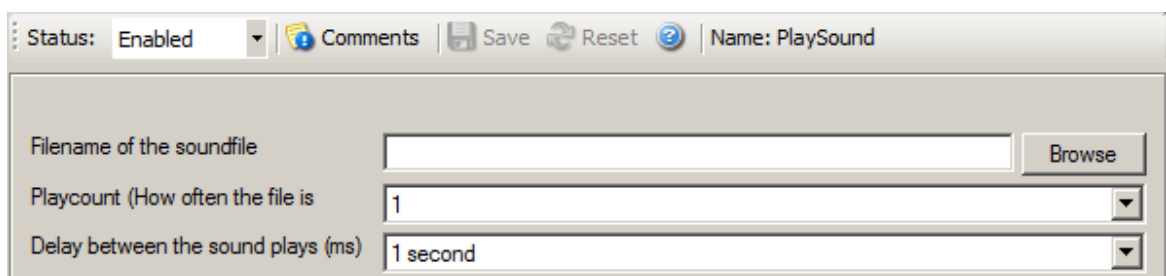
The external program should only run for a limited amount of time. If it would block for some reason, the agent would be prevented from carrying out any further processing. As such, a timeout value must be specified. If the program still runs after the configured timeout, the rule engine cancels it, 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.

### 5.6.13 Play Sound

This action allows you to play a sound file. Since Windows VISTA/2008/7, Microsoft has disabled any interaction between a system service and the user desktop. This includes playing sounds as well. So if you want to use the Play Sound Action on any of this Windows Version, you will need to run the service in console mode (From command prompt with the -r option).



*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 hundred 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.

## 5.6.14 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.

*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](#).**

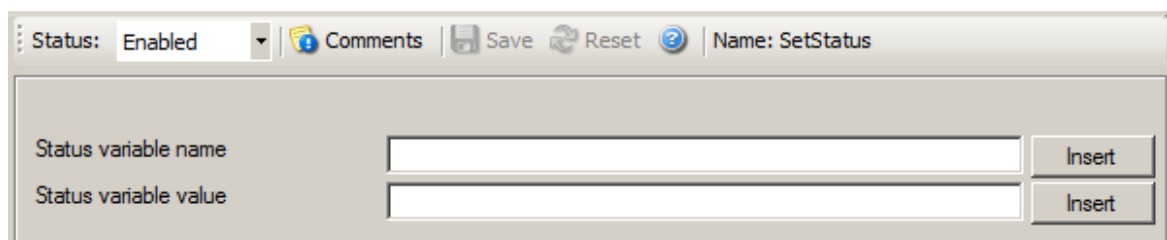
## 5.6.15 Set Status

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!**



The screenshot shows a software dialog box titled "Set Status". At the top, there is a status indicator "Status: Enabled" with a dropdown arrow, followed by icons for "Comments", "Save", "Reset", and a question mark. The "Name" field is set to "SetStatus". The main body of the dialog contains two rows of input fields. The first row is labeled "Status variable name" and the second row is labeled "Status variable value". Each input field has a corresponding "Insert" button to its right.

### *Set Status Dialog*

#### **Status Variable 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.

#### **Status Variable Value**

The value to be assigned to the property. Any valid property type value can be entered.

#### **Insert**

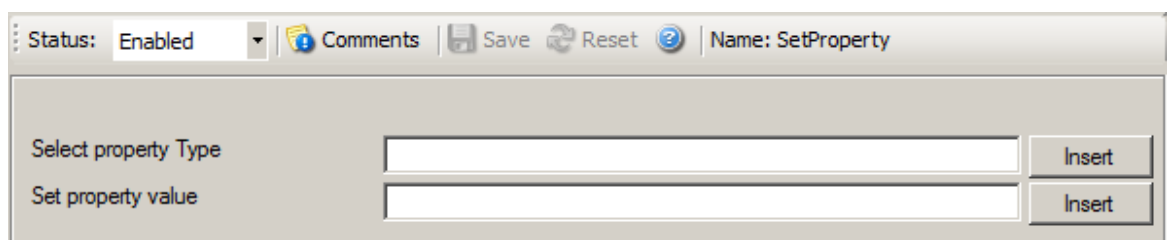
[Click here](#) to get a list of predefined variables/values to insert.

### **5.6.16 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!**



*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.

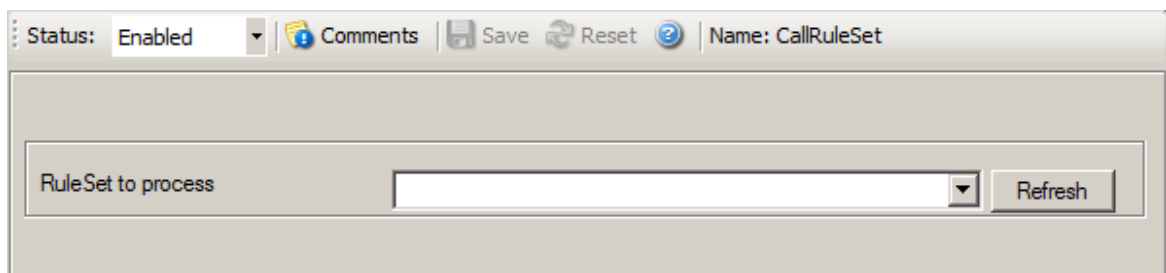
## 5.6.17 Call RuleSet

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.**



*Call Ruleset Dialog*

### Ruleset to Call

Select the Ruleset to be called.



**Note: Call RuleSet stays disabled until you have more then "One" RuleSet!**

### 5.6.18 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.

### 5.6.19 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.

Property Name	Type	Value
*		

*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](mailto: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 difficult. 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.

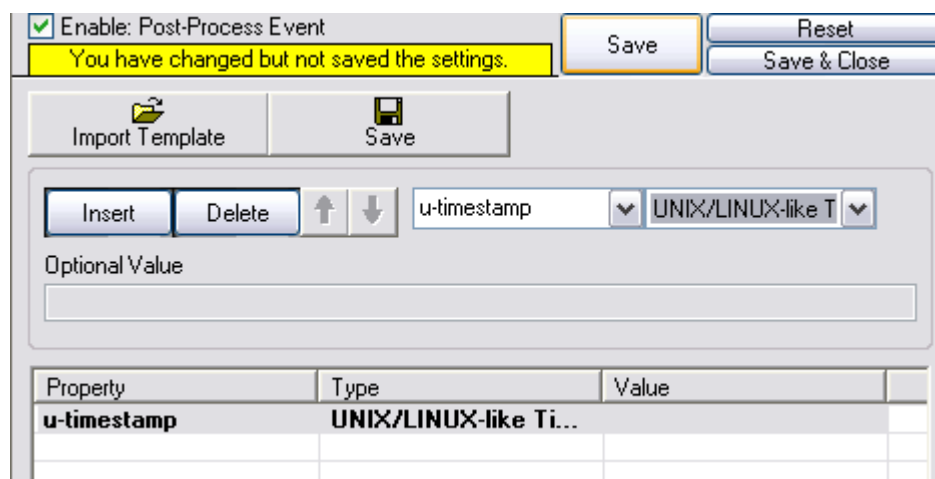
Pos	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Log	M	a	r		2	9		0	8	:	3	0	:	0	0		1	7	2	.
*p	*																			
Pro																				

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**.



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	
<b>Source</b>	<b>IP V4 Address</b>	

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	%
<b>syslogtag</b>	<b>UpTo</b>	:

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	: ← space
<b>u-messageid</b>	<b>Integer</b>	

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=
<b>u-username</b>	<b>Word</b>	

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=
<b>u-status</b>	<b>Word</b>	

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.

Save Reset

Save & Close

Import Template Save

Insert Delete ↑ ↓ 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=
<b>msg</b>	<b>Rest of Message</b>	

Message preview of your rules

```
Jul 24 12:29:03 192.168.0.1 %: 12345user=user=a\wordstatus=status=a\wordmsg=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	Up to	:
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](#).

## 5.6.20 Send SNMP Trap

This dialog controls the send SNMP trap options.

The dialog box 'Send SNMP Trap' is shown with the following fields and options:

- General SNMP Options:**
  - Internet Protocoltype: IPv4
  - Protocol Type: (empty dropdown)
  - Agent Receiver: 127.0.0.1
  - SNMP Port: 162
  - Community: public
- SNMP Version 1 Only:** (radio button selected)
  - Enterprise OID: 1.3.6.1.4.1.3.1.1
  - Generic Name: 0 - Cold Start
  - Specific Type: 0
- SNMP Version 2c Only:** (radio button selected)
  - Trap OID: 1.3.6.1.4.1.19406.1.2.2
- SNMP Variables:**

	Variable OID	Variable Type	Variable Value
▶	1.3.6.1.4.1.19406.1.1.1.7	Octet String	%msg%
*			

*Send SNMP Trap Dialog*

### SNMP Version

Specify the SNMP version here.

### Internet Protocoltype

Select the desired protocol type. IPv4 and IPv6 are available. The IPv6 protocol needs to be properly installed in order to be used. Note that one Service can only handle IPv4 or IPv6, so if you want to use both protocols, you will need to create two separate services.

### Protocol Type

You can select to listen on UDP or TCP protocol for SNMP Traps.

### 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. You can either use an IPv4, an IPv6 Address or a Hostname that resolves to an IPv4 or IPv6 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

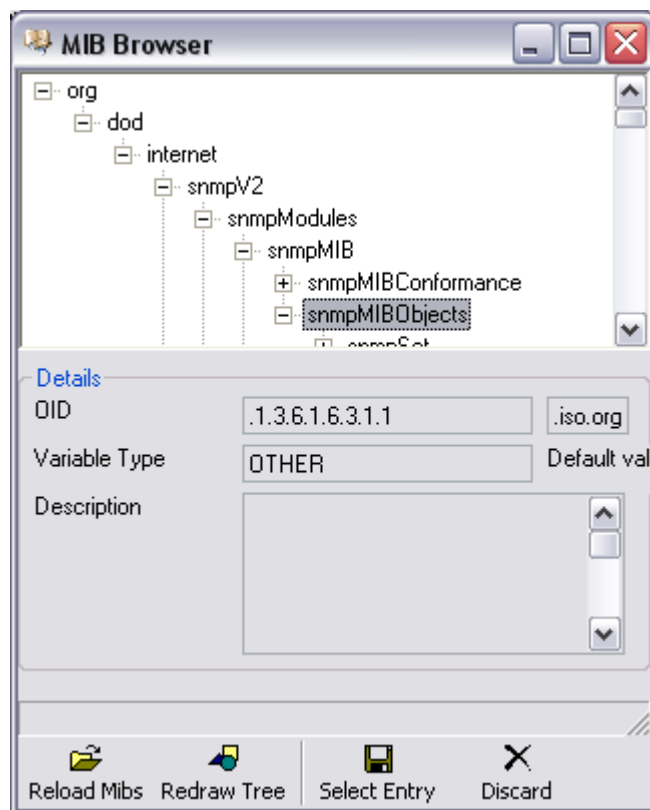
Specify the SNMP community to which the messages belong too.

### 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 similar to shown below is appeared:



*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 Getting Help**

***The WinSyslog Service is very reliable. In the event you experience problems, find here how to solve them.***

Do you need help with the WinSyslog Service or WinSyslog in general? Do you need an important question answered? No problem, there is lots of help available!

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 [www.winsyslog.com/en/FAQ](http://www.winsyslog.com/en/FAQ)

The FAQ area is continuously being updated.

### 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 userid and password when you open it. If you do not have a userid 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 will create one for you. You will receive the generated userid 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 to 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 not to 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 aggressive. 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 disturbed. 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.

### WinSyslog Web Site

Visit the support area at [www.winsyslog.com/en/support/](http://www.winsyslog.com/en/support/) for further information. If for any reason that URL will ever become invalid, please visit [www.adiscon.com](http://www.adiscon.com) for general information.

### 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,4.html>.

### Email

Please address all support requests to [support@adiscon.com](mailto:support@adiscon.com). An appropriate subject line is highly appreciated.

**Please note:** we have increasingly often problems with too-aggressive 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 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/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](mailto:info@adiscon.com) for further details.**

### 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.

To learn more about UpgradeInsurance, please visit

<http://www.adiscon.com/Common/en/products/upgrade-insurance-details.asp>

### Non-Technical Questions

Please address all non-technical questions to [info@adiscon.com](mailto:info@adiscon.com). This email alias will answer all non-technical questions like pricing, licensing or volume orders.

## Product Updates

The [MonitorWare line of products](#) is being developed since 1996. New versions and enhancements will be made available continuously.

Please visit [www.winsyslog.com](http://www.winsyslog.com) for information about new and updated products.

## 7 WinSyslog Concepts

***Learn what WinSyslog is made for and made of.***

WinSyslog 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 WinSyslog's power, you need to learn a bit about its concepts. These web resources (provided links) describe each element in detail.

WinSyslog 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. WinSyslog 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.

## 8 Purchasing WinSyslog

***If you would like to use WinSyslog's advanced features, you can purchase your own copy.***

### 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](mailto:info@adiscon.com).

### Which Edition is for Me?

Information on all available WinSyslog editions can be found on the web at the following URL. This includes a feature and price comparison.

<http://www.winsyslog.com/common/en/products/winsyslog5-editions.asp>

## Pricing & Ordering

Please visit <http://www.winsyslog.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](mailto:info@adiscon.com).

## 9 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 WinSyslog Service](#)
- [Support for Mass Rollouts](#)
- [Version History](#)
- [Formats \(XML and Database\)](#)
- [Property Replacer](#)

**Note: Please go through the Formats (XML and Database) specifically "Database Formats", sometimes looking into it can solve your problems!**

### 9.1 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	<a href="#">MonitorWare Agent</a>	<a href="#">WinSyslog</a>	<a href="#">EventReporter</a>
<a href="#">Standard Property</a>	Yes	Yes	Yes
MonitorWare Echo Reply		Yes	Yes
<a href="#">Windows Event Log Properties</a>	Yes		Yes
<a href="#">Syslog Message Properties</a>	Yes	Yes	
<a href="#">Disk Space Monitor</a>	Yes		
<a href="#">File Monitor</a>	Yes		
<a href="#">Windows Service Monitor</a>	Yes		Yes



<a href="#">Ping Probe</a>	Yes		
<a href="#">Port Probe</a>	Yes		
<a href="#">Database Monitor</a>	Yes		
<a href="#">Serial Port Monitor</a>	Yes		
<a href="#">MonitorWare Echo</a>	Yes		
<a href="#">Request</a>			
<a href="#">System Properties</a>	Yes	Yes	Yes
<a href="#">Custom Properties</a>	Yes	Yes	Yes

## 9.2 Event Properties

Events have certain properties, for example the message associated with the event or the time it was generated. Each of these properties has an assigned name. The actual properties available depend on the type of event. The following sections describe 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 at least briefly read this reference section.

### 9.2.1 Accessing 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 access the properties: they can not only be accessed as one full property. They can also be accessed as substrings and even be reformatted. As such, the property replacer provides a specific 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 lengthy property. The options allow to specify some additional formatting.

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%`

#### 9.2.1.1 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.

#### 9.2.1.2 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 occurrence 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 position 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.

### 9.2.1.3 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 search 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 ("+" or "-") in front of the integer.

Please note: if you specify a negative position (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 positions 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 occurrence 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 position 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.

Similarly, 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.

#### 9.2.1.4 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:

<b>lowercase</b>	All characters in the resulting property extract will be converted to lower case.
<b>uppercase</b>	All characters in the resulting property extract will be converted to upper case.
<b>uxTimeStamp</b>	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.
<b>uxLocalTimeStamp</b>	This is the same as uxTimeStamp, but with local time instead of GMT.
<b>date-rfc3339</b>	This option is for replacing the normal date format with the date format from RFC3339.
<b>date-rfc3164</b>	This option is for replacing the normal date format with the date format from RFC3164.
<b>escapecc</b>	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).
<b>spacecc</b>	Control characters* in the property are replaced by spaces. This option is most useful when a message contains control characters

<b>compressspace</b>	<p>(e.g. a Windows Event Log Message) and should be written to a log file.</p> <p>Compresses multiple consecutive space characters into a single one. The result is a string where all words are separated by just single spaces.</p> <p>To also compress control characters, use the <code>compressspace</code> and <code>spacecc</code> options together (e.g. <code>%msg:::spacecc,compressspace %'</code>).</p> <p>Please note that space compression happens on the final substring. So if you use the <code>FromPos</code> and <code>ToPos</code> capabilities, the substring is extracted first and then the space compression applied. For example, you may have the <code>msg</code> string <code>"1 2"</code>. There are two space between 1 and 2. Thus, the property replacer expression</p> <p style="text-align: center;"><code>%msg:1:3:compressspace%</code></p> <p>will lead to <code>"1 "</code> ('1' followed by two spaces). If you intend to receive <code>"1 2"</code> ('1' followed by one space, followed by '2'), you need to use</p> <p style="text-align: center;"><code>%msg:1:4:compressspace%</code></p> <p>or</p> <p style="text-align: center;"><code>%msg:1:/2/\$:compressspace%</code></p> <p>In the second case, the exact length of the uncompressed string is not known, thus a search is used in <code>"ToPos"</code> to obtain it. The result is then space-compressed.</p>
<b>compsp</b>	Exactly the same as <b>compressspace</b> , just an abbreviated form for those that like it brief.
<b>csv</b>	For example <code>%variable:::csv%</code> . This option will create a valid CSV string, for example a string like this <code>this is a "test"!</code> becomes <code>this "this is a ""test""!"</code> where quotes are replaced with double quotes.
<b>convgermuml</b>	Converts German Umlaut characters to their official replacement sequence (e.g. <code>"ö"</code> --> <code>"oe"</code> )
<b>localtime</b>	Now you can print the Time with <code>localtime</code> format by using <code>%variable:::localtime%</code>
<b>nomatchblank</b>	If this is used, the Property Replacer will return an empty string if the <code>FromPos</code> or <code>ToPos</code> is not found.
<b>replacepercent</b>	This option replaces all <code>%</code> occurrences with a double <code>%%</code> , which is needed for the property replacer engine in case that a string is reprocessed. This is needed because the percent sign is a special character for the property replacer. Once the property is processed, the double <code>%%</code> become automatically one <code>%</code> .
* = 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!

### 9.2.1.5 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%,%
syslogpriority%,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).**

### 9.2.2 System Properties

System properties are special sequences that can be helpful. They are available with all event types. They are:

<b>\$CRLF</b>	A Windows newline sequence consisting in the characters CR and LF. If you just need CR, you can use <code>%%\$CRLF:1:1%</code> and if you need use LF you can use <code>%%\$CRLF:2:2%</code>
<b>\$TAB</b>	An US-ASCII horizontal tab (HT, 0x09) character
<b>\$HT</b>	same as \$TAB
<b>\$CR</b>	A single US-ASCII CR character (shortcut for <code>%%\$CRLF:1:1%</code> )
<b>\$LF</b>	A single US-ASCII LF character (shortcut for <code>%%\$CRLF:2:2%</code> )
<b>\$xNN</b>	<p>A single character, whoms value (in hexadecimal) is given by NN. NN <b>must</b> be two hexadecimal digits - a leading zero must be used if a value below 16 is to be represented. The value 0 (<code>0x00</code>) is invalid and - if specified - replaced by the "?" character. As an example, \$CR could also be expressed as <code>%%\$x0d%</code>.</p> <p>Please note that only <b>one</b> 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 <code>%%\$x0d%%\$x0a%</code> (but <b>not</b> as <code>%%\$x0d0a%</code>).</p>
<b>\$NOW</b>	<p>Contains the current date and time in the format:</p> <p>YYYY-MM-DD HH.MM.SS</p> <p>Please note that the time parts are delimited by '.' instead iof ':'. This makes the generated name directly suitable for file name generation.</p> <p>If you need just parts of the timestamp, please use the property replacer's substring functionality to obtain the desired part. Use</p> <p><b><code>%%\$NOW:1:4%</code> to get the <b>year</b>,</b>  <b><code>%%\$NOW:6:7%</code> to get the <b>month</b>,</b>  ...  <b><code>%%\$NOW:1:10%</code> to get the <b>full datestamp</b>,</b>  <b><code>%%\$NOW:12:20%</code> to get the <b>full timestamp</b></b></p>
<b>\$NEWUUID</b>	Creates a new UUID (Universally Unique Identifiers), a unique 128-bit integer represented as a 32 digit hexadecimal number.

### 9.2.3 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.

## 9.2.4 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 originated on. Obviously, not every event source does support all properties. For example, a syslog message does not contain a Windows 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 guaranteed 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.

### 9.2.4.1 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.

<b>msgPropertyDescribed</b>	A human-readable representation of the message text. While this is generally 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.
<b>source</b>	The source system the message originated from. This can be in various representations (e.g. IP address or DNS name) depending on configuration settings.



<b>resource</b>	A user-assigned numerical value. Does not have any specific meaning. Primarily intended for quick filtering.
<b>CustomerID</b>	A user-assigned numerical value. Does not have any specific meaning. Primarily intended for quick filtering.
<b>SystemID</b>	A user-assigned numerical value. Does not have any specific meaning. Primarily intended for quick filtering.
<b>timereported</b>	<p>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.</p> <p>For Windows Event Log events, timereported contains the timestamp from the event log record.</p>
<b>timegenerated</b>	The time the event was recorded by the service. If messages are forwarded via SETP, this timestamp remains intact.
<b>importance</b>	Reserved for future use.
<b>iut</b>	<p>Indicates the type of the event. Possible values are:</p> <ul style="list-style-type: none"> <li>1- syslog message</li> <li>2- heartbeat</li> <li>3- Windows Event Log Entry</li> <li>4- SNMP trap message</li> <li>5- file monitor</li> <li>8- ping probe</li> <li>9- port probe</li> <li>10- Windows service monitor</li> <li>11- disk space monitor</li> <li>12- database monitor</li> <li>13- serial device monitor</li> </ul>
<b>iuvers</b>	Version of the event record (info unit). This is a monitorware internal version identifier.

#### 9.2.4.2 Windows Event Log Properties

<b>id</b>	Windows Event ID
<b>severity</b>	<p>severity as indicated in the event log. This is represented in string form. Possible values are:</p> <ul style="list-style-type: none"> <li>[INF] - informational</li> <li>[AUS] - Audit Success</li> <li>[AUF] - Audit failure</li> <li>[WRN] - Warning</li> <li>[ERR] - Error</li> <li>[NON] - Success (called "NON" for historical reasons)</li> </ul>
<b>severityid</b>	The severity encoded as a numerical entity (like in Windows API)
<b>sourceproc</b>	The process that wrote the event record (called "source" in Windows event viewer).
<b>category</b>	The category ID from the Windows event log record. This is a numerical value. The actual value is depending on the event source.

<b>catname</b>	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.
<b>user</b>	The user name that was recorded in the Windows event log. This is "N\A" if no user was recorded.
<b>NTEventLogType</b>	The name of the Windows event log this event is from (for example "System" or "Security").
<b>bdata</b>	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 hexadecimal characters.  Please note that it is likely for bdata <b>not</b> to be present. This is because the binary data is seldomly used and very performance-intense.

#### 9.2.4.3 Windows Event Log V2 Properties

<b>id</b>	Windows Event ID
<b>severity</b>	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)
<b>severityid</b>	The severity encoded as a numerical entity (like in Windows API)
<b>sourceproc</b>	The process that wrote the event record (called "source" in Windows event viewer).
<b>category</b>	The category ID from the Windows event log record. This is a numerical value. The actual value is depending on the event source.
<b>catname</b>	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.
<b>user</b>	The user name that was recorded in the Windows event log. This is "N\A" if no user was recorded.
<b>ntheventlogtype</b>	The name of the Windows event log this event is from (for example "System" or "Security").

<b>channel</b>	The channel property for event log entries, for classic Event logs they match the %eventlogtype% property, for new event logs, they match the "Event Channel".
<b>sourceraw</b>	This contains the full internal name of the event source for new event logs, for classic event logs it contains the same value as in %sourceproc%.
<b>level</b>	Textual representation of the eventlog level (which is stored as number in %severityid%). This property is automatically localized by the system.
<b>categoryid</b>	Internal category id as number.
<b>keyword</b>	Textual representation of the event keyword. This property is automatically localized by the system.
<b>user_sid</b>	If available, contains the raw SID of the username (%user%) property.
<b>recordnum</b>	Contains the internal event record number. Please note that if the event log has been truncated before, it may not start with 0 or 1 but a higher number.

#### 9.2.4.4 Syslog Message Properties

<b>rawsyslogmsg</b>	The message as it was received from the wire (unparsed).
<b>syslogfacility</b>	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.
<b>syslogfacility_text</b>	The facility of a syslog message. This property is automatically created by using the syslogfacility property and set to these values: "Kernel", "User", "Mail", "Daemons", "Auth", "Syslog", "Lpr", "News", "UUCP", "Cron", "System0", "System1", "System2", "System3", "System4", "System5", "Local0", "Local1", "Local2", "Local3", "Local4", "Local5", "Local6", "Local7"
<b>syslogpriority</b>	The severity of a syslog message. For non-syslog messages, this should be a close approximation to what a syslog severity code means.
<b>syslogpriority_text</b>	The severity of a syslog message. This property is automatically created by using the syslogpriority property and set to these values: "Emergency", "Alert", "Critical", "Error", "Warning", "Notice", "Informational", "Debug"
<b>syslogtag</b>	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.
<b>syslogver</b>	Contains the syslog version number which will be one or higher if a RFC 5424 valid message has been received, or 0 otherwise
<b>syslogappname</b>	Contains the appname header field, only available if the Syslog message was in RFC 5424 format. Otherwise, this field will be emulated by the %syslogtag% property
<b>syslogprocid</b>	Contains the procid header field, only set if the Syslog message was in RFC 5424 format.
<b>syslogmsgid</b>	Contains the msgid header field, only set if the Syslog message was in RFC 5424 format.

<b>syslogstructdata</b>	Contains the structdata header field (in raw format), only set if the Syslog message was in RFC 5424 format.
<b>syslogprifac</b>	Contains combined syslog facility and priority useful to build your own custom syslog headers

#### 9.2.4.5 Disk Space Monitor

<b>currusage</b>	The currently used disk space.
<b>maxavailable</b>	The overall capacity of the (logical) disk drive.

#### 9.2.4.6 CPU/Memory Monitor

<b>wmi_type</b>	This variable is a string and can be one of the following variables: cpu_usage, mem_virtual_usage, mem_physical_usage, mem total usage
<b>cpu_number</b>	Number of the current checked CPU
<b>cpu_load</b>	The workload of the CPU as number, can be 0 to 100
<b>mem_virtual_load</b>	How much virtual memory is used (MB)
<b>mem_virtual_max</b>	How much virtual memory is max available (MB)
<b>mem_virtual_free</b>	How much virtual memory is free (MB)
<b>mem_physical_load</b>	How much physical memory is used (MB)
<b>mem_physical_max</b>	How much physical memory is max available (MB)
<b>mem_physical_free</b>	How much physical memory is free (MB)
<b>mem_total_load</b>	How much total(Virtual+Physical) memory is used (MB)
<b>mem_total_max</b>	How much total(Virtual+Physical) memory is max available (MB)
<b>mem_total_free</b>	How much total(Virtual+Physical) memory is free (MB)

#### 9.2.4.7 File Monitor

<b>genericfilename</b>	The configured generic name of the file being reported.
<b>generatedbasefilename</b>	Contains the generated file name without the full path.

### Special IIS LogFile Properties

The Logfile Fields in IIS Logfiles are customizable, 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:

<b>p-date</b>	The Date on which the Event occurs
<b>p-time</b>	The Time on which the Event occurs
<b>p-c-ip</b>	The IP Address of the User which accessed
<b>p-cs-username</b>	The Username of the User which accessed
<b>p-s-ip</b>	The Server IP
<b>p-s-port</b>	The Server Port
<b>p-cs-method</b>	The Client-Server Method (POST,GET)
<b>p-cs-uri-stem</b>	The accessed File including its path

#### 9.2.4.8 Windows Service Monitor

<b>sourceproc</b>	The name of the service whoms status is being reported (from the Windows service registry).
-------------------	---

#### 9.2.4.9 Ping Probe

<b>echostatus</b>	<p>Status returned for the echo request</p> <p>The status value can be one of the following:</p> <p>0 = IP_SUCCESS</p> <p>11002 = IP_DEST_NET_UNREACHABLE</p> <p>11003 = IP_DEST_HOST_UNREACHABLE</p> <p>11010 = IP_REQ_TIMED_OUT</p> <p>11013 = IP_TTL_EXPIRED_TRANSIT</p> <p>11016 = IP_SOURCE_QUENCH</p> <p>11018 = IP_BAD_DESTINATION</p>
<b>roundtriptime</b>	Round trip time for the ping packet (if successful)

#### 9.2.4.10 Port Probe

<b>responsestatus</b>	The status of the probe.
<b>responsemsg</b>	The response message received (if any)

#### 9.2.4.11 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.

#### 9.2.4.12 Serial Monitor

<b>portname</b>	The name of the port that the data originated from (typical examples are COM1, COM2). The actual name is taken from the configuration settings (case is also taken from there).
-----------------	---

#### 9.2.4.13 MonitorWare Echo Request

<b>responsestatus</b>	<p>The status of the echo request. Possible values:</p> <p>0 - request failed (probed system not alive)</p> <p>1 - request succeeded</p> <p>If the request failed, additional information can be found in the <i>msg</i> <a href="#">standard property</a>.</p>
-----------------------	---

#### 9.2.4.14 FTP Probe

<b>ftpstatus</b>	The status of the connection.
<b>ftprespmsg</b>	The response of the connection.

#### 9.2.4.15 IMAP Probe

<b>imapstatus</b>	The status of the connection.
<b>imaprespmsg</b>	The response of the connection.

#### 9.2.4.16 NNTP Probe

<b>nntpstatus</b>	The status of the connection.
<b>nntprespmsg</b>	The response of the connection.

#### 9.2.4.17 SMTP Probe

<b>smtpstatus</b>	The status of the connection.
<b>smtprespmsg</b>	The response of the connection.

#### 9.2.4.18 POP3 Probe

<b>pop3status</b>	The status of the connection.
<b>pop3respmsg</b>	The response of the connection.

#### 9.2.4.19 HTTP Probe

<b>httpstatus</b>	The status of the connection.
<b>httprespmsg</b>	The response of the connection.

## 9.3 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 Microsoft 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 providing 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:

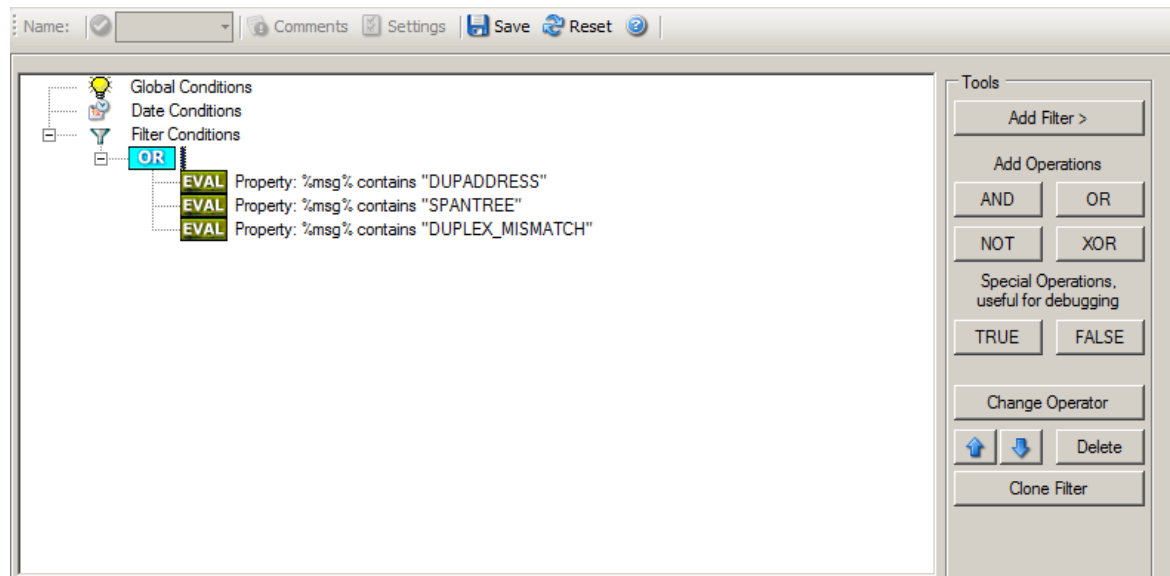


Figure 1 - Example 1

## 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 = "DUPADDRESS") And (msg = "SPANTREE") And (msg = "DUPLX_MISMATCH") then
    execute action(s)
end if
```

In the filter dialog, this pseudo code looks as follows:



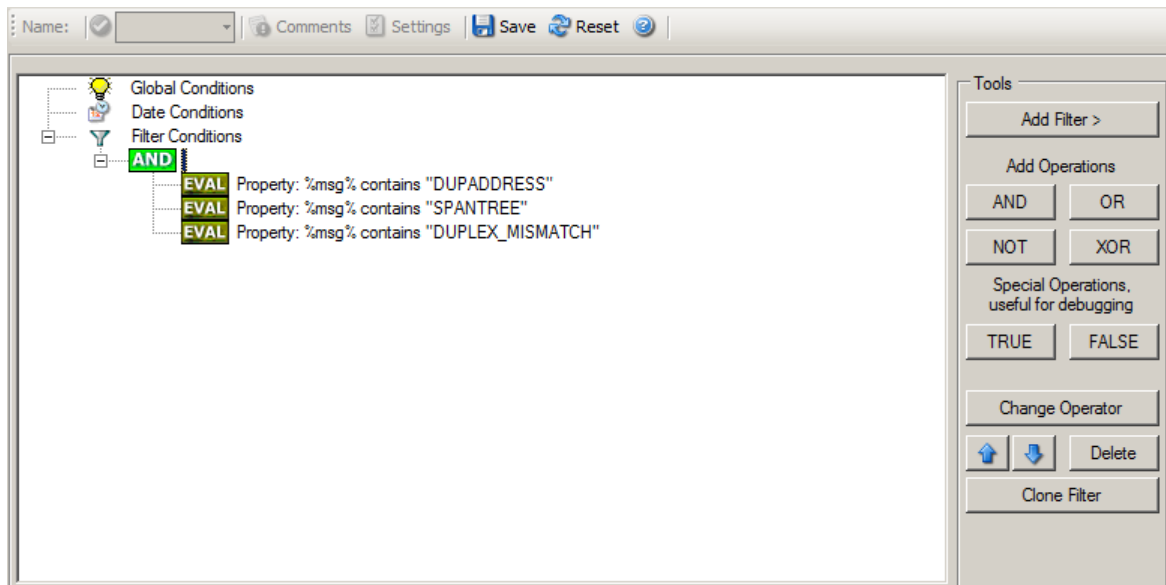


Figure 2 - Example 2

### 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 specific 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 = "DUPADDRESS") Or (msg = "SPANTREE") Or (msg = "DUPLEX_MISMATCH"))
) then
    execute action(s)
end if
```

In the filter dialog, this pseudo code looks as follows:

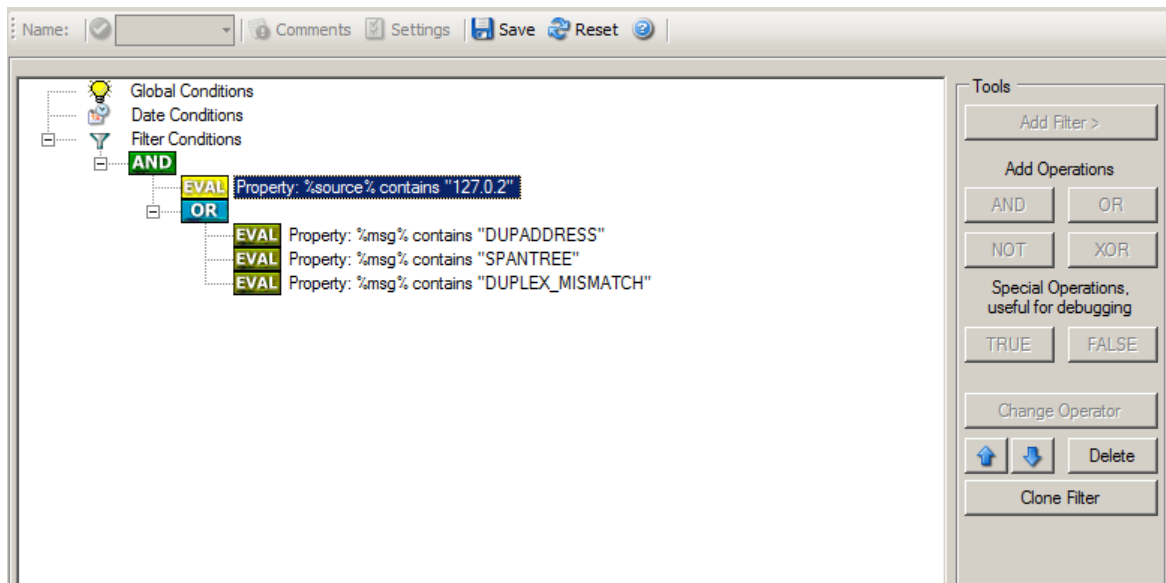


Figure 3 - Example 3

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](#)

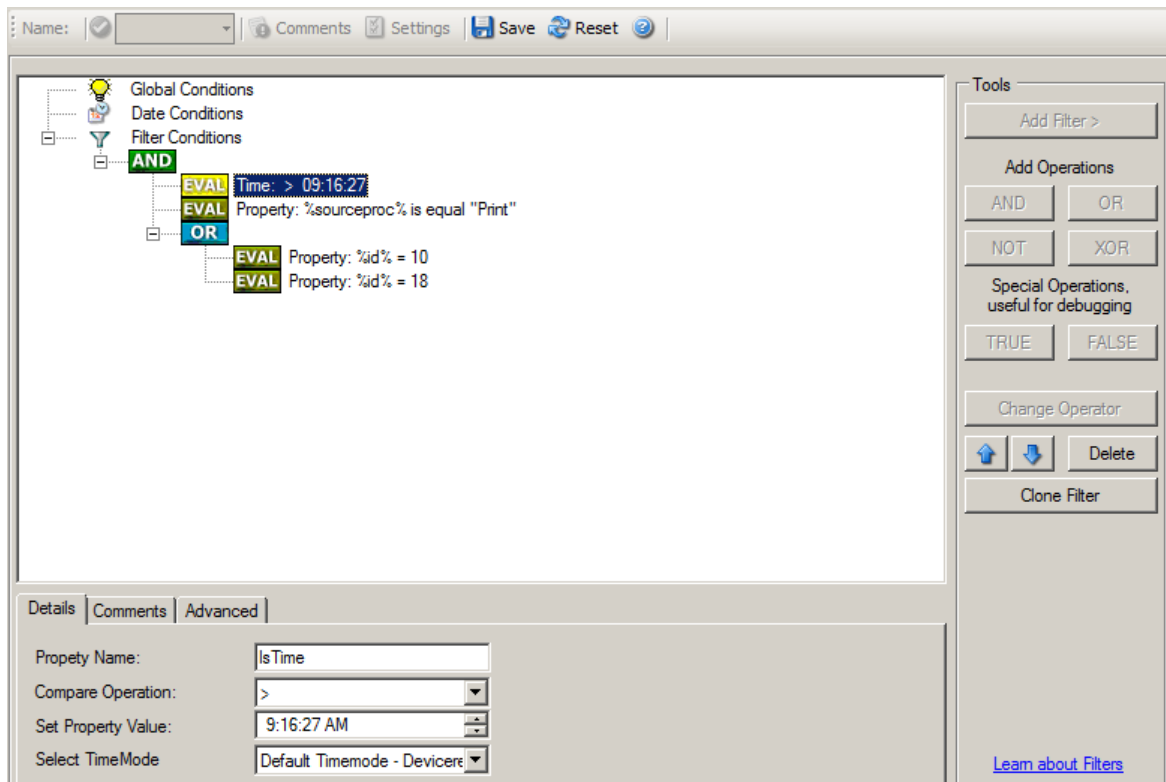
### Example 4

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 than 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:



## 9.4 WinSyslog Shortcut Keys

Use shortcut keys as an alternative to the mouse when working in WinSyslog Client. Keyboard shortcuts may also make it easier for you to interact with WinSyslog. All these shortcuts 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.

## 9.5 Command Line Switches

There are several command line switches available for using the agent via the command line.

-v	Show version information
-i	Install service
-u	Remove (uninstall) service
-r	Run as console application
-r -o	Run ONCE as console application

If you install the service, you can start and stop the service with the "net start" and "net stop" commands. By using the "-r" switch, you run it only on the command line. When you close the command line, the program will stop working.

The "-v" switch gives you information about the version of the service.

**You can install the Service with a custom name by using the command line.** Use

`<servicefile> -i "Service Name"` to install the Service with a custom name, and use  
`<servicefile> -u "Service Name"` to uninstall the Service.

**You can import XML configuration files via the commandline as well.** The syntax is quite easy. Simply execute the configuration client and append the name of the configuration file. This could look like this:

<code>mwclient.exe example.xml</code>	Sample for MonitorWare Agent
<code>CFGEvntSLog.exe example.xml</code>	Sample for EventReporter
<code>WINSyslogClient.exe example.xml</code>	Sample for WinSyslog
<code>RSyslogConfigClient.exe example.xml</code>	Sample for RSyslog Windows Agent

or

<code>mwclient.exe "example.xml"</code>	Sample for MonitorWare Agent
<code>CFGEvntSLog.exe "example.xml"</code>	Sample for EventReporter
<code>WINSyslogClient.exe "example.xml"</code>	Sample for WinSyslog
<code>RSyslogConfigClient.exe "example.xml"</code>	Sample for RSyslog Windows Agent

After this is executed, you will see the splash screen of the configuration client and then the import dialogue, which you have to confirm manually.

For doing a silent import, the "/f" (without the quotes) parameter has to be appended. This will look like this:

`mwclient.exe "example.xml" /f`

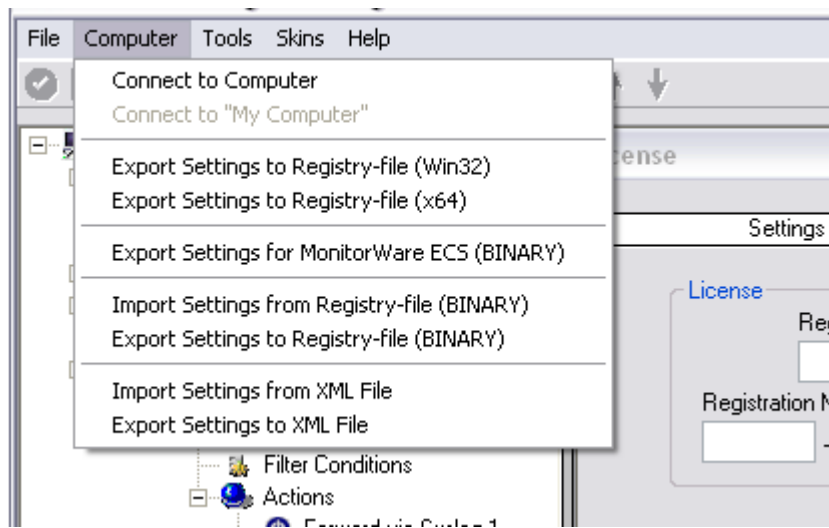
In this case, the filename of the configuration has to be used with the quotes.

## 9.6 Version Comparison

WinSyslog comes in different versions. Some of them are feature-richer than 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 which Version provides which services, actions and other features.

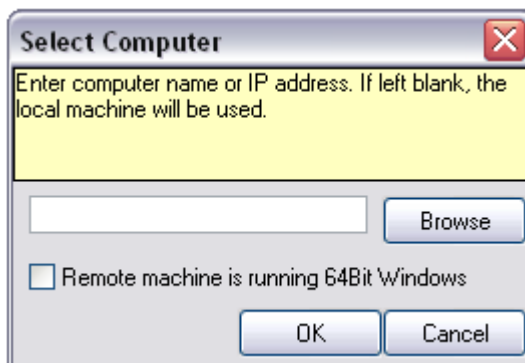
## 9.7 Connect to Computer

**Please note:** This option is only available in versions pre-2015. After that, it is available through the Legacy Configuration Client only.



*Computer Menu*

By connecting to another computer, you can remotely configure the machine. Simply go to the computer menu and choose "Connect to Computer". A window will open up.



*Select Computer*

Here you can enter the name of the machine you want to configure remotely. You can either directly enter the name into the textfield or you use the Browse button to see a list of available machines in the network. If the target machine has a 64Bit Windows operating system, please check the box at **Remote machine is running 64Bit Windows**.

**Please Note,** for remote configurations, you must ensure, that the remote machine is accessible by network and by the user, that is currently logged on.

## 9.8 Information for a Mass Rollout

**A mass rollout in the scope of this topic is any case where the product is rolled out to more than 5 to 10 machines and this rollout is to be automated.** This is described first in this article. A special case may also be where remote offices shall receive exact same copies of the product (and configuration settings) but where some minimal operator intervention is acceptable. This is described in the second half of this article.

The common thing among mass rollouts is that the effort required to set up the files for unattended distribution of the configuration file and product executable is less than doing the tasks manually. For less than 5 systems, it is often more economical to repeat the configuration on each machine – but this depends on the number of rules and their complexity. Please note that you can also export and re-import configuration settings, so a hybrid solution may be the best when a lower number of machines is to be installed (normal interactive setup plus import of pre-created configuration settings).

Before considering a mass rollout, be sure to read "The WinSyslog Service". This covers necessary background information and most importantly the command line switches.

### Automated Rollout

The basic idea behind a mass rollout is to create the intended configuration on a master (or baseline) system. This system holds the complete configuration that is later to be applied to all other systems. Once that system is fully configured, the configuration will be transferred to all others.

The actual transfer is done with simple operating system tools. The complete configuration is stored in the the registry. Thus, it can be exported to a file. This can be done with the client. In the menu, select "Computer", then select "Export Settings to Registry File". A new dialog comes up where the file name can be specified. Once this is done, the specified file contains an exact snapshot of that machine's configuration.

This snapshot can then be copied to all other machines and put into their registries with the help of regedit.exe.

An example batch file to install, configure and run the service on "other" servers might be:

```
copy \\server\share\winsyslg.exe c:\some-local-dir
copy \\server\share\winsyslg.pem c:\some-local-dir
copy \\server\share\Microsoft.VC90.CRT.manifest c:\some-local-dir
copy \\server\share\msvcm90.dll c:\some-local-dir
copy \\server\share\msvcp90.dll c:\some-local-dir
copy \\server\share\msvcr90.dll c:\some-local-dir
cd \some-local-dir
winsyslg -i
regedit /s \\server\share\configParams.reg
net start "AdisconWINSyslog"
```

**Please note:** These files are needed if you are using WinSyslog 12.0 and above. If you are using a older version, you additionally need the files "libeay32.dll" and "ssleay32.dll".

The file "configParams.reg" would be the registry file that had been exported with the configuration client.

Also, in this file, the service name can be changed to a different name if needed. When the configParams.reg is imported, then the service name will be set as specified in the Windows Services snap-in.

Of course, the batch file could also operate off a CD – a good example for DMZ systems which might not have Windows networking connectivity to a home server.

Please note that the above batch file fully installs the product – there is no need to run the setup program at all. All that is needed to distribute the service i.e. winsyslg.exe and its helper dlls, which are the core service. For a locked-down environment, this also means there is no need to allow incoming connections over Windows RPC or NETBIOS for an engine only install.

Please also note that, in the example above, "c:\some-local-dir" **actually is the directory where the product is being installed**. The "winsyslg -i" does not copy any files - it assumes they are already at their final location. All "winsyslg -i" does is to create the necessary entries in the system registry so that the WinSyslog is a registered system service.

### **Branch Office Rollout with consistent Configuration**

You can use engine-only install also if you would like to distribute a standardized installation to branch office administrators. Here, the goal is not to have everything done fully automatic, but to ensure that each local administrator can set up a consistent environment with minimal effort.

#### **You can use the following procedure to do this:**

- Do a complete install on one machine.
- Configure that installation the way you want it.
- Create a .reg file of this configuration (via the client program).
- Copy the winsyslg.exe, winsyslg.pem, libeay32.dll, ssleay32.dll, Microsoft.VC90.CRT.manifest, msvcm90.dll, msvcp90.dll, msvcr90.dll and .reg file that you created to a CD (for example). Take these executable files from the install directory of the complete install done in step 1 (there is no specific engine-only download available).
- Distribute the CD.
- Have the users create a directory where they copy all files. This directory is where the product is installed in - it may be advisable to require a consistent name (from an admin point of view - the product does not require this).
- Have the users run "winsyslg -i" from that directory. It will create the necessary registry entries so that the product becomes a registered service.
- Have the users double-click on the .reg file to install the pre-configured parameters (step 3).
- Either reboot the machine (neither required nor recommend) or start the service (via the Windows "Services" manager or the "net start" command).

**Important:** The directory created in step 6 **actually is** the program directory. Do not delete this directory or the files contained in it once you are finished. If you would do, this would disable the product (no program files would be left on the system).

If you need to update an engine-only installation, you will probably only upgrade the master installation and then distribute the new exe files and configuration in the same way you distributed the original version. Please note that it is **not** necessary to uninstall the application first for an upgrade - at least not as long as the local install directory remains the same. It is, however, vital to **stop** the service, as otherwise the files can not be overwritten.

## 9.9 Registry Paths

Here are some more details regarding registry paths.

Since 64bit Windows re-routes all registry keys for 32bit programs automatically (HKEY\_LOCAL\_MACHINE\SOFTWARE\ to HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node), Adiscon decided in the course of development that the 32bit as well as 64bit registry keys of the service should use the „HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node“ subkey.

But for your case, this is rather problematic since you need a registry file for 32bit and for 64bit systems. Thus we decided to use a workaround, namely to use the parameters key in the service area. In the services subkey of the registry is no automatic mapping for Win32/64 applications and thus you can use the same registry file for all systems.

## 10 Copyrights

This documentation as well as the actual WinSyslog 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](http://www.monitorware.com).

We acknowledge using these following third party tools. Here are the download links:

**Openssl-1.0.1h:** <http://www.openssl.org/source/openssl-1.0.1h.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](http://www.adiscon.org/3rdparty/VB6_NeoCaption_Full_Source.zip)

**Note:** Microsoft, Windows, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Other mentioned trademarks are for reference only. They belong to their respective owners.



## 11 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.

### 11.1 IPv6

Adiscon Products officially support IPv6. The IPv6 support is introduced with the following versions:

MonitorWare Agent 8.0  
WinSyslog 11.0  
EventReporter 12.0

Support for IPv6 is available in all network related facilities of the engine. All network related actions will automatically detect IPv6 and IPv4 target addresses if configured. You can also use DNS resolution to resolve valid IPv6 addresses. Network related Services can either use IPv4 or IPv6 as internet protocol. In order to support both protocols, you will need to create two services. The only exception is the RELP Listener, which uses IPv4 and IPv6 automatically if available.

### 11.2 EventReporter

[EventReporter](#) is [Adiscon's](#) solution to forward Windows 2000/2003/2008/2012/XP/Vista/7/8/10 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.

### 11.3 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.

## 11.4 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/](http://www.monitorware.com/en/logger/))
- ActiveLogger ([activelogger.adiscon.com](http://activelogger.adiscon.com))
- EventReporter ([www.eventreporter.com](http://www.eventreporter.com))
- IISLogger ([iislogger.adiscon.com](http://iislogger.adiscon.com))
- MoniLog ([monilog.adiscon.com](http://monilog.adiscon.com))
- MonitorWare Agent ([www.mwagent.com](http://www.mwagent.com))
- MonitorWare Console ([www.mwconsole.com](http://www.mwconsole.com))
- WinSyslog ([www.winsyslog.com](http://www.winsyslog.com))

There is also an open source syslog library available for programmers wishing to integrate syslog into their C/C++ programs:

- Liblogging ([www.liblogging.org](http://www.liblogging.org))

New products are continuously being added - please be sure to check [www.monitorware.com](http://www.monitorware.com) from time to time for updates.

[Click here](#) for more Information about the MonitorWare Line of Products.

## 11.5 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:

## 11.6 RELP

RELP is the "Reliable Event Logging Protocol". It assures that no message is lost in transit, not even when connections breaks and a peer becomes unavailable. The current version of the RELP protocol has a minimal window of opportunity for message duplication after a session has been broken due to network problems. In this case, a few messages may be duplicated (a problem that also exists with plain tcp syslog).

RELP addresses many shortcomings of the traditional plain tcp syslog protocol. For some insight into that, please have a look at <http://blog.gerhards.net/2008/04/on-unreliability-of-plain-tcp-syslog.html>. Please note that RELP is currently a proprietary protocol. So the number of interoperable implementations is limited.

Note that for reliable operation where messages should be preserved over a service shutdown, queue cache mode must be activated.

## 11.7 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.

## 11.8 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.

## 11.9 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. Traditionally, 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.

## 11.10 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.

## 11.11 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.

## 11.12 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.

## 11.13 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 central 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.

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