# Micro Focus Security ArcSight Connectors

## SmartConnector for McAfee Firewall Enterprise Syslog

## Configuration Guide

**June, 2018**

Configuration Guide

SmartConnector for McAfee Firewall Enterprise Syslog

June, 2018



### Warranty



### Restricted Rights Legend



### Trademark Notices



## Revision History

| Date | Description |
|---|---|
| 10/17/2017 | Added encryption parameters to Global Parameters. |
| 11/30/2016 | Updated installation procedure for setting preferred IP address mode. |
| 09/30/2016 | Updated mappings for 'Destination Address' and 'Destination Port.' Added a 'File Size' mapping. |
| 08/30/2016 | Updated mappings. Removed support for versions 5.2 through 8.2 due to end of support by vendor. |
| 05/15/2015 | Added new parameters for Syslog File. |
| 02/16/2015 | Added parameter for Syslog Daemon connector configuration. |
| 02/14/2014 | Added support for version 8.3. Updated mappings table. |
| 05/15/2012 | Added new installation procedure. |

# SmartConnector for McAfee Firewall Enterprise Syslog

This guide provides information for installing the SmartConnector for McAfee Enterprise Firewall Syslog (formerly Secure Computing Sidewinder Syslog) and configuring the device for syslog event collection. Firewall Enterprise Appliance Software version 8.3 is supported.

## Product Overview

The McAfee Enterprise Firewall is a network security gateway that lets you connect your organization to the Internet while protecting your network from unauthorized users and network attackers. It combines an application-layer firewall, IPSec VPN capabilities and clientless VPN access, anti-spam/anti-fraud and anti-virus/anti-spyware filtering engines, and SSL decryption into one Unified Threat Management (UTM) security appliance, designed to offer centralized perimeter security.

Although syslog pipe and file have a default event length of 2048 characters, the Enterprise Firewall device is limited to a default event length of 1032 characters. Events with a greater length are truncated.

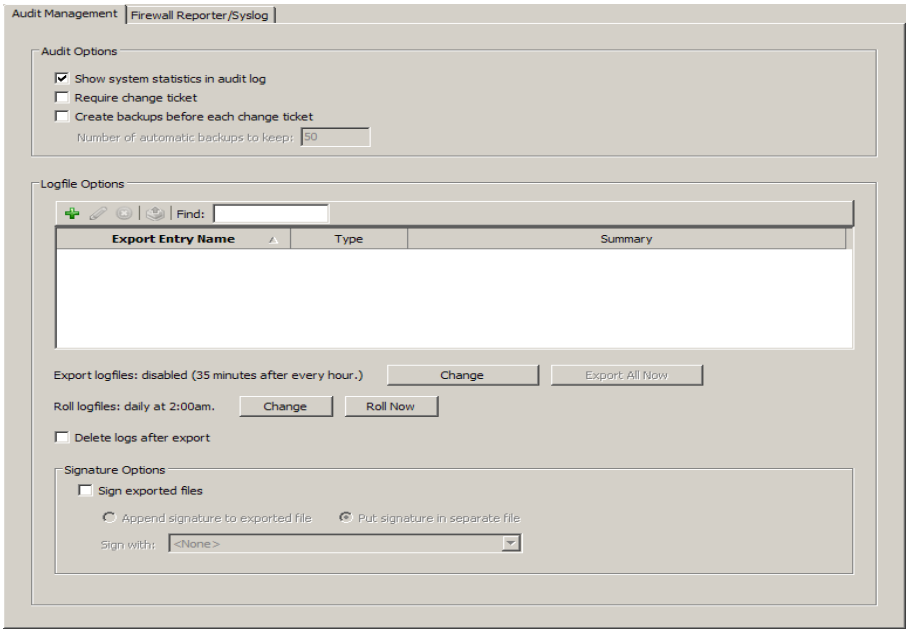
## Configuration

### Configure Firewall Enterprise

For complete information about McAfee Firewall Enterprise logging, see the Auditing chapter in the *McAfee Firewall Enterprise Product Guide*, from which information in this section has been derived.

From the **Audit Management** window, you can export log files in various formats to a specified host.

Click **Monitor -> Audit Management** to display the Audit Management window.




To capture network and system utilization statistics, make sure "Show system statistics in audit log" is selected. This option is enabled by default and should rarely, if ever, require disabling.

When you configure and enable a schedule, the firewall automatically checks to determine whether any log files are to be exported, and, if so, exports them.

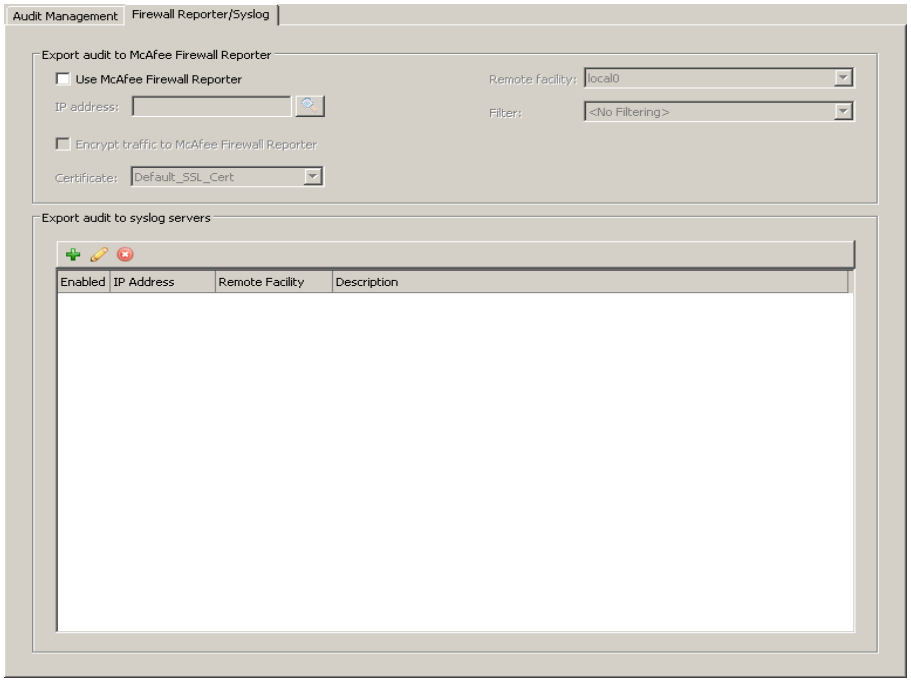
You can configure a schedule, or export or roll log files on request.

### Export Audit Data

Use the **Firewall Reporter/Syslog** tab to export audit data to designated syslog servers.

1 Select **Monitor -> Audit Management**.

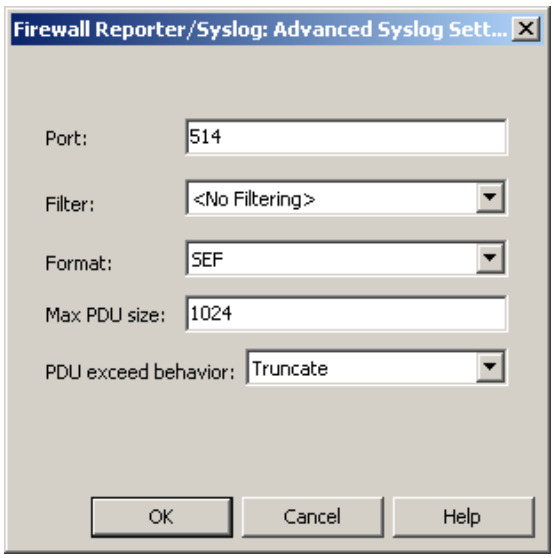
2 Click the **Firewall Reporter/Syslog** tab.




This pane lets you manage audit data exports to a syslog server.

To create a syslog server export entry:

1. Do not select the "Use McAfee Firewall Reporter" checkbox.
2. From the toolbar, click **New**.
3. Click the **IP Address** cell, and enter the IP address of the syslog server to which you are sending audit data.
4. From the **Remote Facility** drop-down list, select a syslog facility to help identify the audit export.
5. (Optional) Click in the **Description** cell and enter a further description of the audit export entry.
6. (Optional) to define additional parameters for an export entry, select the entry and click **Advanced**. The Advanced Syslog Settings window is displayed.




Specify the additional parameters:

**Port:** The default port is 514.
**Filter:** From the drop-down list, select a filter to include or exclude certain types of audit records.
**Format:** From the drop-down list, select the format to convert the audit data into.
**Max PDU size:** Enter the maximum size of the syslog record.
**PDU exceed behavior:** Select a method for auditing export records that exceed the maximum PDU size.

7 Click **OK**.

## Configure the Syslog SmartConnectors

The three ArcSight Syslog SmartConnectors are:

Syslog Daemon
Syslog Pipe
Syslog File

### The Syslog Daemon SmartConnector

The Syslog Daemon SmartConnector is a syslogd-compatible daemon designed to work in operating systems that have no syslog daemon in their default configuration, such as Microsoft Windows. The SmartConnector for Syslog Daemon implements a UDP receiver on port 514 (configurable) by default that can be used to receive syslog events. Use of the TCP protocol or a different port can be configured manually.

If you are using the SmartConnector for Syslog Daemon, simply start the connector, either as a service or as a process, to start receiving events; no further configuration is needed.

Messages longer than 1024 bytes may be split into multiple messages on syslog daemon; no such restriction exists on syslog file or pipe.

### The Syslog Pipe and File SmartConnectors

When a syslog daemon is already in place and configured to receive syslog messages, an extra line in the syslog configuration file (`rsyslog.conf`) can be added to write the events to either a ***file*** or a system ***pipe*** and the ArcSight SmartConnector can be configured to read the events from it. **In this scenario, the ArcSight SmartConnector runs on the same machine as the syslog daemon.**

The **Syslog Pipe** SmartConnector is designed to work with an existing syslog daemon. This SmartConnector is especially useful when storage is a factor. In this case, syslogd is configured to write to a named pipe, and the Syslog Pipe SmartConnector reads from it to receive events.

The **Syslog File** SmartConnector is similar to the Pipe SmartConnector; however, this SmartConnector monitors events written to a syslog file (such as `messages.log`) rather than to a system pipe.

### Configure the Syslog Pipe or File SmartConnector

This section provides information about how to set up your existing syslog infrastructure to send events to the ArcSight Syslog Pipe or File SmartConnector.

The standard UNIX implementation of a syslog daemon reads the configuration parameters from the `/etc/rsyslog.conf` file, which contains specific details about which events to write to files, write to pipes, or send to another host. First, create a pipe or a file; then modify the `/etc/rsyslog.conf` file to send events to it.

**For syslog pipe:**

1. Create a pipe by executing the following command:

   ```
   mkfifo /var/tmp/syspipe
   ```

2. Add the following line to your `/etc/rsyslog.conf` file:

   ```
   *.debug  /var/tmp/syspipe
   ```

   or

   ```
   *.debug  |/var/tmp/syspipe
   ```

   depending on your operating system.

3. After you have modified the file, restart the syslog daemon either by executing the scripts `/etc/init.d/syslogd stop` and `/etc/init.d/syslogd start`, or by sending a `configuration restart` signal.

On RedHat Linux, you would execute:

```
service syslog restart
```

On Solaris, you would execute:

```
kill -HUP `cat /var/run/syslog.pid´
```

This command forces the syslog daemon to reload the configuration and start writing to the pipe you just created.

**For syslog file:**

Create a file or use the default for the file into which log messages are to be written.

After editing the `/etc/rsyslog.conf` file, be sure to restart the syslog daemon as described above.

When you follow the SmartConnector Installation Wizard, you will be prompted for the absolute path to the syslog file or pipe you created.

## Install the SmartConnector

The following sections provide instructions for installing and configuring your selected SmartConnector.

### Syslog Installation

Install this SmartConnector (on the syslog server or servers identified in the *Configuration* section) using the SmartConnector Installation Wizard appropriate for your operating system. The wizard will guide you through the installation process. When prompted, select one of the following **Syslog** connectors (see *Configure the Syslog SmartConnectors* in this guide for more information):

Syslog Daemon
Syslog Pipe
Syslog File

Because all syslog SmartConnectors are sub-connectors of the main syslog SmartConnector, the name of the specific syslog SmartConnector you are installing is not required during installation.

The syslog daemon connector by default listens on port 514 (configurable) for UDP syslog events; you can configure the port number or use of the TCP protocol manually. The syslog pipe and syslog file connectors read events from a system pipe or file, respectively. Select the one that best fits your syslog infrastructure setup.

## Prepare to Install Connector

Before you install any SmartConnectors, make sure that the ArcSight products with which the connectors will communicate have already been installed correctly (such as ArcSight ESM or ArcSight Logger).

For complete product information, read the *Administrator's Guide* as well as the *Installation and Configuration* guide for your ArcSight product before installing a new SmartConnector. If you are adding a connector to the ArcSight Management Center, see the *ArcSight Management Center Administrator's Guide* for instructions, and start the installation procedure at "Set Global Parameters (optional)" or "Select Connector and Add Parameter Information."

Before installing the SmartConnector, be sure the following are available:

- Local access to the machine where the SmartConnector is to be installed
- Administrator passwords

## Install Core Software

Unless specified otherwise at the beginning of this guide, this SmartConnector can be installed on all ArcSight supported platforms; for the complete list, see the *SmartConnector Product and Platform Support* document, available from the Micro Focus SSO and Protect 724 sites.

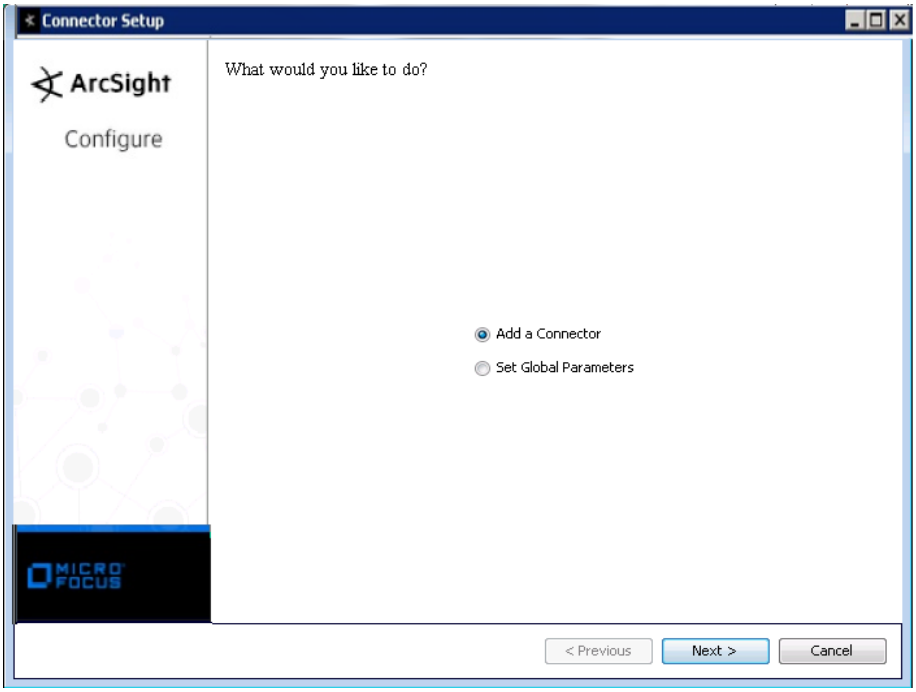
1. Download the SmartConnector executable for your operating system from the Micro Focus SSO site.
2. Start the SmartConnector installation and configuration wizard by running the executable.

> When installing a syslog daemon SmartConnector in a UNIX environment, run the executable as 'root' user.

Follow the wizard through the following folder selection tasks and installation of the core connector software:

Introduction
Choose Install Folder
Choose Shortcut Folder
Pre-Installation Summary
Installing...

3. When the installation of SmartConnector core component software is finished, the following window is displayed:




## Set Global Parameters (optional)

If you choose to perform any of the operations shown in the following table, do so before adding your connector. You can set the following parameters:

| Parameter | Setting |
|---|---|
| FIPS mode | Select 'Enabled' to enable FIPS compliant mode. To enable FIPS Suite B Mode, see the SmartConnector User Guide under "Modifying Connector Parameters" for instructions. Initially, this value is set to 'Disabled'. |
| Remote Management | Select 'Enabled' to enable remote management from ArcSight Management Center. When queried by the remote management device, the values you specify here for enabling remote management and the port number will be used. Initially, this value is set to 'Disabled'. |
| Remote Management Listener Port | The remote management device will listen to the port specified in this field. The default port number is 9001. |
| Preferred IP Version | When both IPv4 and IPv6 IP addresses are available for the local host (the machine on which the connector is installed), you can choose which version is preferred. Otherwise, you will see only one selection. The initial setting is IPv4. |

The following parameters should be configured only if you are using Micro Focus SecureData solutions to provide encryption. See the *Micro Focus SecureData Architecture Guide* for more information.

| Parameter | Setting |
|---|---|
| Format Preserving Encryption | Data leaving the connector machine to a specified destination can be encrypted by selecting 'Enabled' to encrypt the fields identified in 'Event Fields to Encrypt' before forwarding events. If encryption is enabled, it cannot be disabled. Changing any of the encryption parameters again will require a fresh installation of the connector. |
| Format Preserving Policy URL | Enter the URL where the Micro Focus SecureData Server is installed. |
| Proxy Server (https) | Enter the proxy host for https connection if any proxy is enabled for this machine. |

| Parameter | Setting |
|---|---|
| Proxy Port | Enter the proxy port for https connection if any proxy is enabled for this machine. |
| Format Preserving Identity | The Micro Focus SecureData client software allows client applications to protect and access data based on key names. This key name is referred to as the identity. Enter the user identity configured for Micro Focus SecureData. |
| Format Preserving Secret | Enter the secret configured for Micro Focus SecureData to use for encryption. |
| Event Fields to Encrypt | Recommended fields for encryption are listed; delete any fields you do not want encrypted and add any string or numeric fields you want encrypted. Encrypting more fields can affect performance, with 20 fields being the maximum recommended. Also, because encryption changes the value, rules or categorization could also be affected. Once encryption is enabled, the list of event fields cannot be edited. |

After making your selections, click **Next**. A summary screen is displayed. Review the summary of your selections and click **Next**. Click **Continue** to return to proceed with "Add a Connector" window. Continue the installation procedure with "Select Connector and Add Parameter Information."

## Select Connector and Add Parameter Information

1. Select **Add a Connector** and click **Next**. If applicable, you can enable FIPS mode and enable remote management later in the wizard after SmartConnector configuration.
2. Select **Syslog Daemon, File, or Pipe** and click **Next**.
3. Enter the required SmartConnector parameters to configure the SmartConnector, then click **Next**.

| | | |
|---|---|---|
| ***Syslog Daemon Parameters*** | *Network port* | The SmartConnector for Syslog Daemon listens for syslog events from this port. |
| | *IP Address* | The SmartConnector for Syslog Daemon listens for syslog events only from this IP address (accept the default (ALL) to bind to all available IP addresses). |
| | *Protocol* | The SmartConnector for Syslog Daemon uses the selected protocol (UDP or Raw TCP) to receive incoming messages. |
| | *Forwarder* | Change this parameter to 'true' only if the events being processed are coming from another SmartConnector sending to a CEF Syslog destination, and that destination also has CEF forwarder mode enabled. That allows attributes of the original connector to be retained in the original agent fields. |
| ***Syslog Pipe Parameter*** | *Pipe Absolute Path Name* | Absolute path to the pipe, or accept the default: /var/tmp/syspipe |
| ***Syslog File Parameters*** | *File Absolute Path Name* | Enter the full path name for the file from which this connector will read events or accept the default: \var\adm\messages (Solaris) or \var\log\messages (Linux).<br>A wildcard pattern can be used in the file name; however, in realtime mode, rotation can occur only if the file is over-written or removed from the folder. Realtime processing mode assumes following external rotation.<br>For date format log rotation, the device writes to 'filename.timestamp.log' on a daily basis. At a specified time, the device creates a new daily log and begins to write to it. The connector detects the new log and terminates the reader thread to the previous log after processing is complete. The connector then creates a new reader thread to the new 'filename.timestamp.log' and begins processing that file. To enable this log rotation, use a date format in the file name as shown in the following example:<br>`filename'yyyy-MM-dd'.log;` |

| | |
|---|---|
| | For index log rotation, the device writes to indexed files - 'filename.log.001', 'filename.log.002', 'filename.log.003', and so on. At startup, the connector processes the log with highest index. When the device creates a log with a greater index, the connector terminates the reader thread to the previous log after processing completes, creates a thread to the new log, and begins processing that log. To enable this log rotation, use an index format, as shown in the following example:<br>`filename'%d,1,99,true'.log;`<br>Specifying 'true' indicates that it is allowed for the index to be skipped; for example, if 5 appears before 4, processing proceeds with 5 and will not read 4, even if 4 appears later. Use of 'true' is optional. |
| *Reading Events Real Time or Batch* | Specify whether file is to be read in batch or realtime mode. For batch mode, all files are read from the beginning. The 'Action Upon Reaching EOF' and 'File Extension if Rename Action' parameters apply for batch mode only. |
| *Action Upon Reaching EOF* | For batch mode, specify 'None', 'Rename', or 'Delete' as the action to be performed to the file when the connector has finished reading and reaches end of file (EOF). For realtime mode, leave the default value of 'None' for this parameter. |
| *File Extension If Rename Action* | For batch mode, specify the extension to be added to the file name if the action upon EOF is 'Rename' or accept the default value of '.processed'. |

## Select a Destination

1. The next window asks for the destination type; select a destination and click **Next**. For information about the destinations listed, see the *ArcSight SmartConnector User Guide*.
2. Enter values for the destination. For the ArcSight Manager destination, the values you enter for **User** and **Password** should be the same ArcSight user name and password you created during the ArcSight Manager installation. Click **Next**.
3. Enter a name for the SmartConnector and provide other information identifying the connector's use in your environment. Click **Next**. The connector starts the registration process.
4. If you have selected ArcSight Manager as the destination, the certificate import window for the ArcSight Manager is displayed. Select **Import the certificate to the connector from destination** and click **Next**. (If you select **Do not import the certificate to connector from destination**, the connector installation will end.) The certificate is imported and the **Add connector Summary** window is displayed.

## Complete Installation and Configuration

1. Review the **Add Connector Summary** and click **Next**. If the summary is incorrect, click **Previous** to make changes.
2. The wizard now prompts you to choose whether you want to run the SmartConnector as a stand-alone process or as a service. If you choose to run the connector as a stand-alone process, select **Leave as a standalone application**, click **Next**, and continue with step 5.
3. If you chose to run the connector as a service, with **Install as a service** selected, click **Next**. The wizard prompts you to define service parameters. Enter values for **Service Internal Name** and

**Service Display Name** and select **Yes** or **No** for **Start the service automatically**. The **Install Service Summary** window is displayed when you click **Next**.

4 Click **Next** on the summary window.

5 To complete the installation, choose **Exit** and Click **Next**.

For instructions about upgrading the connector or modifying parameters, see the *SmartConnector User Guide*.

## Run the SmartConnector

SmartConnectors can be installed and run in stand-alone mode, on Windows platforms as a Windows service, or on UNIX platforms as a UNIX daemon, depending upon the platform supported. On Windows platforms, SmartConnectors also can be run using shortcuts and optional Start menu entries.

If the connector is installed in stand-alone mode, it must be started manually and is not automatically active when a host is restarted. If installed as a service or daemon, the connector runs automatically when the host is restarted. For information about connectors running as services or daemons, see the *ArcSight SmartConnector User Guide*.

To run all SmartConnectors installed in stand-alone mode on a particular host, open a command window, go to `$ARCSIGHT_HOME\current\bin` and run: `arcsight connectors`

To view the SmartConnector log, read the file `$ARCSIGHT_HOME\current\logs\agent.log`; to stop all SmartConnectors, enter `Ctrl+C` in the command window.

## Device Event Mapping to ArcSight Fields

The following section lists the mappings of ArcSight data fields to the device's specific event definitions. See the *ArcSight Console User's Guide* for more information about the ArcSight data fields.

### McAfee Firewall Enterprise Mappings to ArcSight Fields

| ArcSight ESM Field | Device-Specific Field |
|---|---|
| Agent (Connector) Severity | p_critical = Very High; p_major = High; p_trivial = Medium; p_minor = Low |
| Base Event Count | num_events |
| Bytes In | One of (bytes_written_to_server, ibytes) |
| Bytes Out | One of (bytes_written_to_client, obytes) |
| Destination Address | One of (dstip, dest_ip) |
| Destination DNS Domain | dstburb |
| Destination Geo Location Info | dst_geo |
| Destination Host Name | dsthost |
| Destination Port | One of (dstport, dest_port) |

| ArcSight ESM Field | Device-Specific Field |
|---|---|
| Destination Process Name | service_name |
| Destination User Name | One of (user_name, udb_user, user_auth_name) |
| Device Action | One of (alert_type, udb_action, status) |
| Device Custom IPv6 Address 2 | scrip (Source IPv6 Address) |
| Device Custom IPv6 Address 3 | dstip (Destination IPv6 Address) |
| Device Custom String 1 | rule_name (Rule Name) |
| Device Custom String 2 | auth_method (Authentication Method) |
| Device Custom String 3 | submessage2 (Continued Message) |
| Device Event Category | fac |
| Device Event Class ID | type |
| Device Host Name | hostname |
| Device Inbound Interface | interface |
| Device Process ID | pid |
| Device Process Name | module |
| Device Product | 'Firewall Enterprise' |
| Device Receipt Time | date |
| Device Severity | pri |
| Device Vendor | 'McAfee' |
| End Time | end_time |
| Event Outcome | result (1=Success, 0=Failure) |
| External ID | netsessid |
| File Name | file |
| File Size | max_pdu_size |
| File Type | filetype |
| Message | Both (reason, information) |
| Name | One of (event, 'continued message', type (without t_)) |
| Reason | result_code |
| Request Client Application | application |
| Request Method | request_command |
| Request URL | url |
| Source Address | scrip |
| Source DNS Domain | srcburb |
| Source Geo Location Info | src_geo |
| Source Host Name | srchost |
| Source Port | srcport |
| Source Process Name | cmd |
| Source User ID | logid |
| Source User Name | admin |
| Start Time | start_time |
| Transport Protocol | One of (protocol, protocolname) |

## Troubleshooting

**How can I check whether auditd is sending messages to syslogd?**

To check whether auditd is sending messages to syslogd using the local1 facility (as outlined above), add this line to `/etc/syslog.conf` and restart syslogd.

```
local1.* /var/log/testlocal1
```

All audit messages should now appear in that file (check using `tail -f /var/log/testlocal1`). You might want to undo this step after the test is successful.

**How can I check whether the loghost is receiving messages from Sidewinder and writing to the syslog pipe?**

To check whether the loghost is receiving messages from Sidewinder and writing to the pipe:

1. Make sure no other process is listening on the pipe on the loghost.
2. Start listening on the pipe:

   ```
   "cat /path/to/pipe"
   ```

3. On the Sidewinder appliance, enter the command

   ```
   "logger -p local1.notice This is a test from sidewinder"
   ```

4. If everything is correctly configured, the above message should now be displayed on the terminal where step 2 was performed.

Make sure that the cat process is killed before starting the connector, as only one process may read from the pipe.