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Configuration Guide for Sendmail Syslog SmartConnector

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Configuration Guide for Sendmail Syslog SmartConnector

This guide provides information for installing the SmartConnector for Sendmail Syslog and configuring the device for event collection.

Intended Audience

This guide provides information for IT administrators who are responsible for managing the ArcSight software and its environment.

Additional Documentation

The ArcSight SmartConnector documentation library includes the following resources:

- [Technical Requirements Guide for SmartConnector](#), which provides information about operating system, appliance, browser, and other support details for SmartConnector.
- [Installation and User Guide for SmartConnectors](#), which provides detailed information about installing SmartConnectors.
- [Configuration Guides for ArcSight SmartConnectors](#), which provides information about configuring SmartConnectors to collect events from different sources.
- [Configuration Guide for SmartConnector Load Balancer](#), which provides detailed information about installing Load Balancer.

For the most recent version of this guide and other ArcSight SmartConnector documentation resources, visit the [documentation site for ArcSight SmartConnectors 8.4](#).

Contact Information

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Product Overview

Sendmail is a mail transfer agent (MTA) that is a well known project of the open source and Unix communities and is distributed both as free software and proprietary software. Sendmail delivers complete control over email, from gateway security to mail access and storage. Sendmail is the standard MTA under most variants of the Unix operating system.



If there are multiple recipients in the email, the connector splits the event into multiple events. The event is not merged.

Configuration

Sendmail and Syslog

The Sendmail system log is supported by the `syslogd` (8) program. All messages from Sendmail are logged under the `LOG_MAIL` facility. Each line in the system log consists of a timestamp, the name of the machine that generated it (for logging from several machines over the local area network), the word `sendmail:`, and a message.

The log is arranged as a succession of levels. At the lowest level only extremely strange situations are logged. At the highest level, even the most mundane and uninteresting events are recorded. As a convention, log levels under ten are considered generally useful. Levels from 11-64 are reserved for verbose information that some sites might want. Log levels above 64 are reserved for debugging purposes.

The default log level in sendmail and the level recommended by ArcSight is 9.

The following table provides a description of all levels of logging:

Log Level	Description
0	Minimal logging.
1	Serious system failures and potential security problems.
2	Lost communications (network problems) and protocol failures.
3	Other serious failures, malformed addresses, transient forward/include errors, connection timeouts.
4	Minor failures, out of date alias databases, connection rejections via <code>check_rulesets</code> .
5	Message collection statistics.
6	Creation of error messages, <code>VRFY</code> and <code>EXPN</code> commands.
7	Delivery failures (host or user unknown, etc.).
8	Successful deliveries and alias database rebuilds.
9	Messages being deferred (due to a host being down, etc.).
10	Database expansion (alias, forward, and <code>userdb</code> lookups) and authentication information.
11	NIS errors and end of job processing.

Log Level	Description
12	Logs all SMTP connections.
13	Log bad user shells, files with improper permissions, and other questionable situations.
14	Logs refused connections.
15	Log all incoming and outgoing SMTP commands.

Before `sendmail` issues a warning, it looks at the logging level defined by its `LogLevel` (`L`) option. If the severity of the warning that it intends to issue is less than or equal to the logging level (lower is more serious), it issues the warning.

Note that the `LogLevel` (`L`) option level is different than the syslog priority. The former is used internally by `sendmail` to decide whether it should log a message. The latter is used by syslog to determine how it will dispose of the message (if it gets one).

The complete list of `syslog.conf` levels are shown below. Higher logging levels includes all of the lower logging levels. For example, logging level `crit` also causes alert messages to be logged.

Log Level	Description
alert	Conditions requiring immediate correction
crit	Critical conditions for which action may be deferred
err	Other errors
warning	Warning messages
notice	Nonerrors that may require special handling
info	Statistical and informational messages
debug	Messages used only in debugging a program

The following `syslog.conf` line causes messages from `mail` (the facility) that are at or above severity `info` (the level) to be appended to the file `/var/log/syslog` (the target):

```
mail.info /var/log/syslog
```

When the log level is `info` or above (`alert`, `crit`, `err`, `warning`, `notice`, `info`), `sendmail` logs one line of information for each envelope sender and one line of information for each recipient delivery or deferral. The ArcSight SmartConnector uses event merging to combine the sender and recipient information to make the best use of the logs.

Configuring for syslog SmartConnectors

The syslog SmartConnectors use a sub-connector architecture that lets them receive and process syslog events from multiple devices. There is a unique regular expression that identifies the device. For example, the same SmartConnector can process events from a Cisco Router and a NetScreen Firewall simultaneously. The SmartConnector inspects all incoming messages and automatically detects the type of device that originated the message.

You can install the syslog SmartConnector as a syslog daemon, pipe, or file connector. You can use the Syslog Daemon, Syslog Daemon NG, or Syslog File connector types depending on your requirement. The Syslog File type SmartConnectors also support Syslog Pipe.

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 by default, or can be configured on another port to receive syslog events. You can also configure to use the TCP protocol.

To use the SmartConnector for Syslog Daemon, add the following statement in the *rsyslog.conf* file:

```
*.* @@(remote/local-host-IP):514
```

Example: local1.warning @@10.0.0.1:514

- To read all Syslog events, use *.*.
- To filter specific events, replace regex with the specific event name.
- For example: *.* @@(remote/local-host-IP):514 and local1.warning @@10.0.0.1:514.
- To send events over a TCP connection, use @@ and to send events over an UDP connection, use @.

If you are running SmartConnector for Syslog Daemon on the same machine as the server, you must provide the IP address of the local host. If you want to forward events to other machines, you must provide the IP address of the same.

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

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 additional configurations for the ArcSight syslog file or syslog pipe SmartConnectors in the system where all Syslog Daemon SmartConnector configurations are done.

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.

Using the SmartConnector for Syslog Pipe or File

This section provides information 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.

For Syslog Pipe:

1. Execute the following command to create a pipe:

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

2. Add one of the following lines depending on your OS to the */etc/rsyslog.conf* file:

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

or

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

3. Restart the syslog daemon in one of the following methods:
Enter the following commands:

```
/etc/init.d/syslogd stop  
/etc/init.d/syslogd start
```

or

Execute the following command to send a configuration restart signal:

On RedHat Linux:

```
service syslog restart
```

On Solaris:

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

For Syslog File:

1. Create a file or use the default file into which log messages must be written.
2. Modify the /etc/rsyslog.conf file

The syslog daemon is forced to reload the configuration and start writing to the pipe.

3. Restart the syslog daemon in one of the following methods:
 - a. Restart the syslog daemon in one of the following methods:
Enter the following commands:

```
/etc/init.d/syslogd stop  
/etc/init.d/syslogd start
```

or

Execute the following command to send a configuration restart signal:

On RedHat Linux:

```
service syslog restart
```

On Solaris:

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

Installing the SmartConnector

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

Preparing to Install the SmartConnector

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

For complete product information, refer to the *Administrator's Guide to ArcSight Platform*, available on [ArcSight Documentation](#).

If you are adding a connector to the ArcSight Management Center, see the *ArcSight Management Center Administrator's Guide* available on [ArcSight Documentation](#) for instructions.

Before installing the SmartConnector, make sure that the following are available:

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

Installing and Configuring the SmartConnector

1. Start the installation wizard.
2. Follow the instructions in the wizard to install the core software.
3. Specify the relevant [Global Parameters](#), when prompted.
4. Do one of the following depending on your requirement:

- Select **Syslog Daemon** from the **Type** drop-down:
 - a. Click **Next**, then specify the following parameters:

Parameters	Description
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, apart from the default (ALL) to bind to all available IP addresses.
Protocol	Specify whether to read files in batch mode or real-time mode. In batch mode, all files are read from the beginning.
Forwarder	This option applies to Batch Mode only. Specify None , Rename , or Delete as the action to be performed to the file when the connector finishes reading and reaches end of file . For the real-time mode, retain the default value None .

- b. Click **Next**.
- Select **Syslog File** from the **Type** drop-down:

a. Click **Next**, then specify the following parameters:

Parameters	Description
Pipe Absolute Path Name	Specify an absolute path to the pipe, or accept the default value: <code>/var/tmp/syspipe</code> .
File Absolute Path Name	<p>Specify the full path name for the file from which this connector will read events. The following are default values:</p> <ul style="list-style-type: none">• Solaris: <code>\var\adm\messages</code>• Linux: <code>\var\log\messages</code> <p>You can use a wildcard pattern in the file name.</p> <p>In the real-time mode, rotation can occur only if the file is over-written or removed from the folder. The real-time processing mode assumes the following external rotation:</p> <ul style="list-style-type: none">• Date format log rotation: The device creates a new log at a specified time in the with the naming convention <code>filename.timestamp.log</code>. The connector detects the new log and terminates the reader thread to the previous log after the processing is complete. The connector then creates a new reader thread to the new <code>filename.timestamp.log</code> and begins processing that file. To enable this log rotation, specify timestamp in <code>yyyy-MM-dd</code> date format. For example, <code>filename.yyyy-MM-dd.log</code>• Index log rotation: The device writes to indexed files in the following format: <code>filename.log.001</code>, <code>filename.log.002</code>, <code>filename.log.003</code>, 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: <code>filename'%d,1,99,true'.log</code>; <p>Specifying <code>true</code> indicates that the index can be skipped. For example, if 5 appears before 4, processing proceeds with 5 and will not read 4. Use of <code>true</code> is optional.</p>

Parameters	Description
Reading Events Real Time or Batch	Specify whether to read files in batch mode or real-time mode. In batch mode, all files are read from the beginning.
Action Upon Reaching EOF	This option applies to Batch Mode only. Specify None , Rename , or Delete as the action to be performed to the file when the connector finishes reading and reaches end of file . For the real-time mode, retain the default value None .
File Extension If Rename Action	This option applies to Batch Mode only. Specify the extension to be added to the file name if the action on reaching the end of file is specified as Rename . The default value is Processed , which adds a <code>.processed</code> extension.

b. Click **Next**.

5. Select a [destination and configure parameters](#).
6. Specify a name for the connector.
7. (Conditional) 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 then click **Next**. The certificate is imported and the **Add connector Summary** window is displayed.



Note: If you select Do not import the certificate to connector from destination, the connector installation will end.

8. Select whether you want to install the connector as a service or in the standalone mode.
9. Complete the installation.
10. [Run the SmartConnector](#).

For instructions about upgrading the connector or modifying parameters, see [Installation and User Guide for SmartConnector](#).

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.

Sendmail Mappings to ArcSight ESM Fields

ArcSight ESM Field	Device-Specific Field
Application Protocol	Protocol
Bytes In	Message size
Destination Process Name	'sendmail'
Destination Service Name	Daemon
Destination User Name	Recipient email
Device Action	Action taken by Sendmail
Device Custom Number 1	Class
Device Custom Number 2	Priority
Device Custom Number 3	Number of Recipients
Device Custom String 1	Relay
Device Custom String 2	BodyType
Device Custom String 3	Controlling User
Device Custom String 4	Total Delay
Device Custom String 5	DSN
Device Event Class Id	One of ('mailfrom,' 'Deferred,' 'Sent,' 'Queued,' 'Connection timed out,' or 'Connection refused')
Device Facility	_SYSLOG_FACILITY
Device Product	'Sendmail'
Device Vendor	'Unix'
External Id	messageld
Message	Additional status

ArcSight ESM Field	Device-Specific Field
Name	One of ('Email From Message', 'Email Message Deferred','Email Message')
Source User Name	Sender email
Transport Protocol	TCP

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