

# syslog-ng Premium Edition 6 LTS

## Release Notes

### February 2019

These release notes provide information about the syslog-ng Premium Edition release.

## About this release

Welcome to syslog-ng Premium Edition (syslog-ng PE) version 6 LTS and thank you for choosing our product. This document describes the new features and most important changes since the latest release of syslog-ng PE. The main aim of this paper is to aid system administrators in planning the migration to the new version of syslog-ng PE. The following sections describe the news and highlights of syslog-ng PE 6 LTS.

This document covers the 6 LTS (long-term supported) release of the syslog-ng Premium Edition product.

The following release policy applies to syslog-ng Premium Edition:

- *Long Term Supported or LTS releases* (for example, syslog-ng Agent 4 LTS) are supported for 3 years after their original publication date and for 1 year after the next LTS release is published (whichever date is later). The second digit of the revisions of such releases is 0 (for example, syslog-ng PE 4.0.1). Maintenance releases to LTS releases contain only bugfixes and security updates.
- *Feature releases* (for example, syslog-ng Agent 4 F1) are supported for 6 months after their original publication date and for 2 months after succeeding Feature or LTS Release is published (whichever date is later). Feature releases contain enhancements and new features, presumably 1-3 new feature per release. Only the last of the feature releases is supported (for example when a new feature release comes out, the last one becomes unsupported).

For a full description on stable and feature releases, see the [Version policy](#).

 **CAUTION:**

**Downgrading from a feature release to an earlier (and thus unsupported) feature release, or to the previous LTS release is officially not supported, but usually works as long as your syslog-ng PE configuration file is appropriate for the old syslog-ng PE version. However, persistent data like the position of the last processed message in a file source will be probably lost.**

**Logstore files created with a newer version of syslog-ng PE might not be readable with an older version of syslog-ng PE.**

# Changes since syslog-ng PE 5 F6

## Parsing key=value pairs

The syslog-ng PE application can separate a message consisting of whitespace or comma-separated **key=value** pairs (for example, Postfix log messages) into name-value pairs. You can also specify other separator character instead of the equal sign, for example, colon (:) to parse MySQL log messages.

## Updated TLS ciphers, new parameters

The OpenSSL application used in syslog-ng PE has been updated to version 1.0.2, so you can use new, stronger ciphers to protect the communication between your syslog-ng PE clients and servers.

Also, you can now specify the curves that are permitted in the connection using the `list-curves()` option, and also import Diffie-Hellman parameters from a file using the `dhparam-file()` option.

## Other changes

- Starting from version 6 LTS, the syslog-ng PE installer packages (earlier called **client** and **server** package) are renamed. From now on, the package with the `compact` suffix does not include SQL support. If you do not use the `sql()` source or destination on the host, use the `compact` binaries. That way no unnecessary components are installed to your system. Earlier, the names of packages containing `sql()` support included the `server` suffix, this suffix has been removed from the package names.

## Changes in syslog-ng Agent for Windows

- The graphical interface of the syslog-ng Agent for Windows application now supports version 4.0 of the Microsoft .NET Framework.
- Group Policies can be configured directly from the syslog-ng Agent for Windows interface.
- When creating a filter based on Event Source names, the Windows Agent interface displayed a list of possible sources. However, the names of this list did not always match the actual name of the Event Source (as displayed in the Event Viewer). From now on, the Windows Agent does not list the possible Event Source names. To create a filter using Event Source names, first find the "Source:" field as shown on the General tab of the Event Viewer, and enter its value in the filter.

## Platform changes in syslog-ng PE 6 LTS

### **New platforms in syslog-ng PE 6 LTS:**

- Ubuntu 16.04 LTS (Xenial Xerus)
- Windows Server 2016 (in syslog-ng PE version 6.0.4)

### **Platforms not supported in syslog-ng PE 6 LTS:**

- AIX 6.1
- FreeBSD 9
- HP-UX 11i v2
- Debian 7 (wheezy) is supported only until version 6.0.15, and will be unsupported in 6.0.16 and later versions.

## Platform changes in syslog-ng Agent for Windows 6 LTS

### **New platforms in syslog-ng Agent for Windows 6 LTS:**

- Windows 10
- Windows Server 2012
- Windows Server 2016 (in syslog-ng PE version 6.0.4)

### **Platforms not supported in syslog-ng Agent for Windows 6 LTS:**

- Microsoft Windows Server 2003
- Microsoft Windows XP SP3

# Changes between syslog-ng PE 5 LTS and 5 F6

## New destinations

### Elasticsearch 2.x and Shield support

Version 5 F6 of syslog-ng PE supports Elasticsearch version 2.0 and newer. Because of compatibility reasons, syslog-ng PE has a separate destination (`elasticsearch2()`) that you can use with Elasticsearch version 2.0 and newer.

[X-Pack security \(Elasticsearch Shield\)](#) is supported for both Elasticsearch 1.x and 2.x destinations, allowing you to authenticate your syslog-ng PE clients on the Elasticsearch server.

### Send messages directly to Elasticsearch

Version 5.4 of syslog-ng PE can directly send log messages to [Elasticsearch](#), allowing you to search and analyze your data in real time, and visualize it with [Kibana](#).

### Publish messages to Apache Kafka

The syslog-ng PE application allows you to publish your log data to your Apache Kafka message bus, where subscribers can access them, making it easy to integrate your log data into a big data solution.

### Hadoop Distributed File System (HDFS) support

Version 5.3 of syslog-ng PE can send plain-text log files to the [Hadoop Distributed File System \(HDFS\)](#), allowing you to store your log data on a distributed, scalable file system. This is especially useful if you have huge amount of log messages that would be difficult to store otherwise, or if you want to process your messages using Hadoop tools (for example, Apache Pig).

## Storing messages in MongoDB database

MongoDB is a schema-free, document-oriented database, ideal to collect log messages. Since it does not require a predetermined schema, it gives you much more flexibility than the SQL databases, making it it easy to store name-value pairs extracted from log messages. That way, you can conveniently store metadata received in a log message (for example, in the SDATA part of RFC5424-formatted log messages), or other data parsed from the body of the log messages (for example, usernames parsed from login/logout messages).

## Sending e-mail alerts

An important aspect of logging is alerting on important but rare events. A common way to do that is via e-mail, sent either to people or to services which process them further. The SMTP destination driver allows you to send e-mails based on incoming log messages to one or more addresses.

## Processing incoming messages

### Parsing JSON messages

JavaScript Object Notation (JSON) is a text-based open standard designed for human-readable data interchange. It is used primarily to transmit data between a server and web application, serving as an alternative to XML. The syslog-ng PE application can separate parts of JSON-encoded log messages to name-value pairs, allowing you to receive structured log messages from such applications, store them, and convert them to other format if needed.

## Reading messages from the systemd journal

The systemd journal is a new type of system log storage. This is used, or will be used on most Linux distributions, such as RHEL (from RHEL7), Fedora, CentOS, and so on. The journal can store name-value pairs instead of the traditional system log entries. syslog-ng PE 6 LTS can directly read log messages from the journal file of platforms using systemd.

## Formatting messages

### Formatting messages as Common Event Format extensions

syslog-ng PE version 5 F6 includes a new template function (*format-cef-extension*) to format name-value pairs as ArcSight Common Event Format extensions. Note that the template function only formats the selected name-value pairs, it does not provide any mapping. There is no special support for creating the prefix part of a Common Event Format message.

### Converting messages into JSON format

The syslog-ng PE application can convert messages or selected value-pairs into JavaScript Object Notation (JSON) format. Including the template function in a message template allows you to store selected information about a log message (that is, its content, macros, or other metadata) in JSON format, or to forward JSON messages to external applications.

### Selecting and using name-value pairs

The syslog-ng PE application allows you to select and construct name-value pairs from any information already available about the log message, or extracted from the message itself. You can directly use this structured information, for example, in the following places:

- *mongodb()* destination
- *format-welf()* template function
- or in other destinations using the *format-json()* template function.

### Rewriting multiple macros

Using the `groupset` rewrite rule, you can rewrite multiple macros at the same time, making it easy to modify the values of fields parsed using `patterndb` or from JSON. You can specify the list of macros manually, or also as a glob pattern.

## Comparing macro values to a list

The `syslog-ng` PE application can compare the value of a macro to a list of strings. Earlier, if a specific macro had several different values, filtering on the macro values required several filter statements. Now you can specify every expected value in a file, and use the contents of that file in a filter.

## Creating hashes from macro values

With the `hash` template function, you can create message digests from parts of the log message.

## Adding a unique ID to log messages

HOSTID is a 32-bit number generated by a cryptographically secure pseudorandom number generator. Its purpose is to identify the `syslog-ng` PE host, thus it is the same for every message of the host. It can be accessed via the `$HOSTID` macro (which cannot be rewritten).

When the global option `use-uniqid(yes)` is set, `syslog-ng` PE generates this practically unique id for every received or locally generated message. You can add this ID to your messages using the `$UNIQID` macro.

## Managing syslog-ng PE

### Displaying license-related information

The `syslog-ng` PE application uses a license in server mode to determine the maximum number of hosts that are allowed to connect. Use the `syslog-ng-ctl show-license-info` command to display license-related information the number of hosts currently logging to your server. This helps you to plan your capacity, to check your license usage, and to



detect client misconfiguration that can result in a license miscount anomaly. Note that in client or relay mode, syslog-ng PE does not require a license.

## Managing syslog-ng PE from Puppet

To simplify the management of large-scale syslog-ng PE deployments, you can now centrally manage your syslog-ng PE hosts from [Puppet](#). The syslog-ng Premium Edition Puppet module allows you to perform the following tasks.

- Install syslog-ng PE from a package repository.
- Upgrade syslog-ng PE to a newer version.
- Delete syslog-ng PE from a host.
- Update the syslog-ng PE configuration file of your hosts from a central repository.
- Create backup of your syslog-ng PE configuration files. You can redistribute these backups to your hosts if a rollback is needed.

The Puppet module supports the following platforms: Red Hat Enterprise Linux (RHEL), Oracle Linux, CentOS, Ubuntu, and Debian. Other Linux platforms based on `.deb` and `.rpm` packages might also work, but are not tested.

## New statistics framework

So far, you could access statistics only in unstructured format, using the **syslog-ng-ctl stats** command. Now you can query information from a running syslog-ng PE instance using the new **syslog-ng-query** utility. This tool allows you to access selected statistics in a controlled way, making it easy to process or monitor the results. This is a first step in a new statistics framework that aims to improve the how syslog-ng PE instances can be monitored.

Note that this new framework might decrease the performance of syslog-ng PE under very high load. If you experience any issues, contact the Balabit Support Team and let us know the details of your use case, so we can correct the problem.

## Improved SELinux support

In addition to Red Hat Enterprise Linux 6.5, syslog-ng PE now supports SELinux on Red Hat Enterprise Linux 5, as well as on 6.0-6.4. The CentOS platforms corresponding to the supported RHEL versions are supported as well.

## Supported platforms

## Other changes

- You can now specify the location where syslog-ng PE stores the disk-buffer files using the `dir()` option of `disk-buffer()`. Note that the `dir()` option overrides the settings of the `--qdisk-dir` command-line option.
- Value-pairs now have a new option to select every value-pair that has a name beginning with a specified prefix, but remove the prefix when formatting the message.
- The syslog-ng Agent on Windows application now searches for CA certificates also in the Intermediate Certification Authorities Store.
- So far, the largest message syslog-ng PE could handle was 64kbyte, because internally syslog-ng PE represented the messages in a 16-bit nhtable. From now on, syslog-ng PE uses a 32-bit nhtable, allowing you to receive and manipulate messages much larger than 64kbyte.
- The `sql()` source and destination driver on the HP-UX platform does not support the Oracle SQL database anymore.
- On other platforms where Oracle SQL database is supported, the `sql()` source and destination driver supports version 12 of the Oracle SQL database.
- CSV-parsers can use strings as delimiters. For details, see *Section delimiters()*.
- Multithreading is enabled by default (`threaded(yes)`).
- The **persist-tool** utility has a new `--rename-key` option to help solve troubleshooting the persist file.
- The **syslog-ng-ctl** utility has a new `stats --reset` option that resets all statistics counters to zero.
- A new utility called **syslog-debun** is available in syslog-ng PE 6 LTS. This tool can be used to collect information about your syslog-ng PE environment into a debug bundle to simplify troubleshooting and increase the speed of solving support tickets.
- When using the `program()` destination, the external application keeps on running when syslog-ng PE exits if the `keep-alive()` option is set.
- So far, you could create custom configuration blocks that had a fixed number of arguments. You can now create custom configuration blocks that can receive variable number of arguments, making the configuration of syslog-ng PE even more flexible. For example, this can be useful when passing arguments to a template, or optional arguments to an underlying driver.

# Resolved issues

The following is a list of issues addressed in this release.

**Table 1: Issues resolved in version 6.0.15**

<b>Resolved Issue</b>	<b>Issue ID</b>
Fix debug logging path using Windows Agent	SYSLOGDEV-4698
Fix possible crash in Windows Agent	SYSLOGDEV-4691
Improved GPO debug logging in Windows Agent	SYSLOGDEV-4686
File destination fd leak after reload when time-reap elapsed	SYSLOGDEV-4661
OpenSSL upgraded to 1.0.2q	SYSLOGDEV-4649
File descriptor leak fix using HDFS destination	SYSLOGDEV-4630
Possible segfault accessing internal name-value pair structures	SYSLOGDEV-4583

**Table 2: Issues resolved in version 6.0.14**

<b>Resolved Issue</b>	<b>Issue ID</b>
Fix possible corrupt disk-queue creation	SYSLOGDEV-4588
Socket leak using udp destination with spoof_source enabled	SYSLOGDEV-4586
Logstore memory leak	SYSLOGDEV-4560
Updated syslog-ng-debun utility	SYSLOGDEV-4553
Reading kernel logs on AIX	SYSLOGDEV-4494
Processed counter negative value	SYSLOGDEV-4479
Failed reload logged later	SYSLOGDEV-4404

**Table 3: Issues resolved in version 6.0.13**

<b>Resolved Issue</b>	<b>Issue ID</b>
Windows Agent does not close all registry handles	SYSLOGDEV-4194
Crash in loggen when using the skip-tokens parameter	SYSLOGDEV-4328
Log message stuck in backlog using disk queue	SYSLOGDEV-4347
CAP_SYSLOG capability not detected correctly	SYSLOGDEV-

<b>Resolved Issue</b>	<b>Issue ID</b>
When syslog-ng was running with only user privileges but with CAP_CHOWN capability enabled, the owner of the logstore file was not set correctly. This issue has been fixed.	4462
RedHat package signature	SYSLOGDEV-4463
Crash when systemd journal is not readable	SYSLOGDEV-4384
OpenSSL upgraded to 1.0.2p	SYSLOGDEV-4492

**Table 4: Issues resolved in version 6.0.12**

<b>Resolved Issue</b>	<b>Issue ID</b>
Support cap_syslog capability	SYSLOGDEV-2848
New debug message when flow-control activates	SYSLOGDEV-3529
Logstore file owner not set correctly	SYSLOGDEV-3749
Incorrect file read using multi-line file source	SYSLOGDEV-3776
Fix include path on Windows platforms	SYSLOGDEV-3862
Crash when receiving too large message in debug mode	SYSLOGDEV-4074
Loggen crash when ssl is used with non-ssl RLTP server	SYSLOGDEV-4190
Crash when message is too long	SYSLOGDEV-4202
Template with file destination creates files instead of directories	SYSLOGDEV-4206
Minor fixes in SELinux installer script	SYSLOGDEV-4292
Log fd number on verbose level for program source/destination	SYSLOGDEV-4297
Messages from journald are not included in center statistics	SYSLOGDEV-4331
Core dump when trying to open a corrupt logstore	SYSLOGDEV-4337
Child process is not terminated with java destination	SYSLOGDEV-4338
JVM is not unloaded during syslog-ng reload	SYSLOGDEV-4339

# Product licensing

## ***To enable a trial license***

1. Apply for a trial license at the [syslog-ng website](#).
2. Download the license and the installation package for your platform, then follow the installation instructions in the Administration Guide.

## ***To enable a purchased commercial license***

1. Download the license and the installation package for your platform, then follow the installation instructions in the Administration Guide.

# Upgrade and installation instructions

To install or upgrade syslog-ng Premium Edition, follow the instructions in the syslog-ng Premium Edition Administration Guide, or the Administrator Guide for syslog-ng Agent for Windows.

## More resources

Additional information is available from the following:

- [Online product documentation](#)

# Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release is Unicode-enabled and supports any character set. In this release, all product components should be configured to use the same or compatible character encodings and should be installed to use the same locale and regional options. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, Japan. It supports bidirectional writing (Arabic and Hebrew). The release supports Complex Script (Central Asia – India, Thailand).



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- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

## Third-party contributions

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