
Release Notes for Zenoss Core Version 4.2.4

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1. About These Notes

These release notes contain important information about Zenoss Core 4.2.4, including:

- New features
- Where to download the software
- Supported software and environments
- Update information and known issues
- Issues addressed in this version
- Reporting problems and providing feedback

1.1. What's New?

This version of Zenoss Core offers new features and improvements in the following areas:

- Implementation of RabbitMQ as a messaging framework, which supports events and jobs processing, increased scalability, and the ability to subscribe to event queues for custom processing
- Significant improvements to the event processing system, increasing to 100M+ events per day
- Alerting framework replaced with more robust, real-time triggers and notifications
- New system requirements, including Python 2.7 and MySQL 5.5.31
- RelStorage, which replaces ZEO and improves the performance of Zope object database queries
- Scalability improvements to zenperfsnmp
- Latest Ext JS® 4.1 framework
- Advanced user configuration options in the interface

- Zenoss Core now stores session information in a persistent database, which is created in MySQL
- Improvements to published JSON API examples, including the introduction of a Python client library
- REST API for querying events
- Support for SNMPv3 traps
- Ability to monitor devices directly over IPv6
- Ability to bind templates to generate ping performance information for devices and interfaces
- Faster and more resilient event suppression through nmap-based zenping

1.2. Downloading Zenoss Core

Zenoss Core is available from this location:

<http://www.zenoss.com/download>

1.3. Client and Browser Matrix

Zenoss Core has been tested with the client operating systems and web browser combinations shown in the following table:

Note

- The tested browsers must have Adobe® Flash® Player 11 (or a more recent version) installed.
- Internet Explorer 10 is not supported for this release.
- Firefox ESR 17.0.5 was not tested for this release.
- Firefox 19.0.2 will not be tested after this release.
- Firefox 20.0 was added for this release.

Table 1. Client and Browser Matrix

Client OS	Tested Browsers
Windows XP Professional (with SP3)	Internet Explorer 8.0.6001.18702
Windows 7 (6.1.7601)	<ul style="list-style-type: none">• Internet Explorer 9.0.8112.16421• Firefox 19.0.2 and 20.0• Chrome 26.0.1410.43 m
OS X Mountain Lion (10.8)	<ul style="list-style-type: none">• Firefox 19.0.2 and 20.0• Chrome 26.0.1410.43 m
Ubuntu 12.4	<ul style="list-style-type: none">• Firefox 19.0.2 and 20.0• Chrome 26.0.1410.43 m

1.4. Supported Software and Environments

You can install Zenoss Core on these platforms:

- RedHat® Enterprise Linux 5 and 6
- CentOS 5 and 6 (verified with CentOS 5.8, CentOS 6.3)

The following partial list of resources can be managed by Zenoss Core:

- Windows Server (2000, 2003, 2008), Windows XP, and Windows Vista®, Windows 7
- Linux or other UNIX® server
- OpenStack
- Tomcat™ and other Java®/JMX servers
- Any SNMP- or SSH-enabled device

1.5. Installation, Upgrade and Implementation Notes

Read this section for important installation, upgrade, and implementation updates. For complete installation and update instructions, refer to the latest versions of the installation documentation.

1.5.1. Upgrade

- Zenoss does not test or evaluate community, customer-developed, and custom ZenPacks for upgrades. Based on the scope of changes in this version, any non-updated ZenPacks are unlikely to allow your upgrade to complete successfully.

If you are using one or more ZenPacks that are not installed through the standard Zenoss installation process, you should contact the ZenPack author about its compatibility with your upgrade version. Zenoss further recommends you test the ZenPack for upgrade compatibility in a test environment.

- Zenoss Core includes a fully redesigned event processing and storage system. At this time, upgrades do not automatically migrate events from Zenoss 3.2.x. A new, empty event table is created in the new schema after upgrade.
- You must clear your browser cache after upgrade. Otherwise, user interface pages may not render correctly or completely.

1.5.2. Updating Custom ZenPacks

- Custom ZenPacks must be compatible with Python 2.7. You must upgrade custom ZenPacks with Python 2.7-compiled extensions.
- Zenoss Core 4.2.x uses the Ext JS 4.1 library. As a result, JavaScript written by ZenPack authors must be upgraded. Zenoss has modified the example JavaScript located in the ZenPack template to show needed changes, and to serve as an example for ZenPack authors.

The differences between the framework versions are significant. Refer to these documents for more information:

- *Modifying Custom Component Grids for Ext JS 4 Compatibility* (<http://community.zenoss.org/docs/DOC-13012>) - Details specific examples you can follow to modify your component grid definition to work with the Ext JS 4 framework.
- *Ext JS 4 Upgrade Guide* (<http://docs.sencha.com/ext-js/4-1/#!/guide/upgrade>) - Overview of all major changes between Ext 3 and 4.

- When upgrading to Version 4.2.x, saved user preferences (such as grid column and window resizing) are cleared. This is required because some preferences are not compatible with the Ext JS 4.1 library. (Internal ZEN-517)
- If you have a custom ZenPack running on Zenoss 3.2.x that includes alerting rules with custom actions, then you must modify the ZenPack before you can use it with Zenoss Core. Otherwise, the system will produce warning messages similar to this:

```
WARNING:zen.migrate: <rule>: Successfully migrated rule to Trigger, \
but was unable to create a Notification - rule has invalid or unknown action type: <action>
```

You must add the following code to your custom ZenPack, in `configure.zcml`:

```
<configure xmlns="http://namespaces.zope.org/zope">
  <utility factory=".actions.MyAction"
            provides="Products.ZenModel.interfaces.IAction"
            name="my_action"/>
</configure>
```

Read the `IAction` class declaration in `$ZENHOME/Products/ZenModel/interfaces.py` for documentation of the attributes and methods your action needs to implement. Add the following code to `actions.py` in your custom ZenPack:

```
class MyAction(IActionBase):
    implements(IAction)

    id = 'my_action'
    name = 'My Action'
    actionContentInfo = ICommandActionContentInfo

    def execute(self, notification, signal):
        ...

    def updateContent(self, content=None, data=None):
        ...
```

Note that the name attribute in the `configure.zcml` file matches up to the `id` attribute in the `actions.py` file. Examples of implementing actions are in `$ZENHOME/Products/ZenModel/actions.py`, which declares four core actions: email, page, command, and trap.

1.5.3. Event Console Filtering

Event console filtering behavior in Zenoss Core 4.2.x is different than that of Zenoss 3.2.x, as follows:

- Regular expressions are not supported when filtering by device or component.
- In device/component fields, if you enclose a query in double quotes, it searches for that device or component by using an exact match search (fastest). For example, searching for "abc" matches abc, but not abcd or babc.

For more information about event console filtering, see the chapter titled "Using Zenoss Core" in *Zenoss Core Administration*.

1.5.4. IPv6

- Zenoss Core can model and monitor IPv6-addressed devices by using SNMP, Telnet or SSH. Ping monitoring is also supported for IPv6. Zenoss Core installation (and communications links among its processes) must continue to be over IPv4.

When adding a new device to Zenoss Core, the DNS resolution of the device name dictates whether it attempts to connect by using IPv4 or IPv6. If you enter an IP address directly (either as a device name or by manually changing a device's management IP), then Zenoss Core can be forced to use IPv4 or IPv6 manually.

If you want to monitor devices in your infrastructure that have IPv6 addresses, make sure you have installed and configured an IPv6 interface on your Zenoss Core server.

- A new setting in the `/opt/zenoss/etc/global.conf` file allows you set a preference of DNS resolution order (IPv4 or IPv6) for managed IPs. Set the value of the `preferredipversion` option to `ipv4` or `ipv6`. (Internal ZEN-602)

1.5.5. Reports

The process for determining device state has changed for the Availability report. Previously, if an event was reported that indicated a device down condition before the start of the report window, this event would not be seen, and the device would be considered 100% available. The Availability report now looks for all open events reported before or during the reporting window, and computes availability by using the device state based on prior open events.

1.5.6. Event Commands and Alerting Rules

Alerting rules or event commands that perform starts or ends with queries on the `ntheid` field, or perform comparisons against a non-numeric `ntheid` field, cannot be migrated to the equivalent Zenoss Core 4.2.x trigger rule. These alerting rules or event commands must be manually migrated to the appropriate trigger after installation. (Internal Defect 28818)

1.5.7. Debug Logging from `zeneventd`

To enable debug logging for `zeneventd`, you must run `zeneventd` with the `-v10` option. (Internal Defect 28626)

```
zeneventd start -v10
```

1.5.8. Host Name Changes

If you change the host name of your Zenoss Core server, then you must clear and rebuild queues before the `zenhub` and `zenjobs` daemons will restart.

To work around this issue, you can issue the following commands (although any data queued at restart time will be lost):

```
export VHOST="/zenoss"  
export USER="zenoss"  
export PASS="zenoss"  
rabbitmqctl stop_app  
rabbitmqctl reset  
rabbitmqctl start_app  
rabbitmqctl add_vhost "$VHOST"  
rabbitmqctl add_user "$USER" "$PASS"  
rabbitmqctl set_permissions -p "$VHOST" "$USER" '.' '*' '.' '*' '.' '*'
```

1.5.9. Dumping and Loading Devices

The `zendevicedump` and `zendeviceload` commands are not supported in this version of Zenoss Core. Use `zenbatchdump` and `zenbatchload` instead. For more information, see the section titled "Dumping and Loading Devices" in *Zenoss Core Administration*.

1.5.10. Triggers

The behavior of triggers has changed in this version of Zenoss Core. You must now add values for production state to avoid alerting on devices not in production.

1.5.11. `zenjobs` Permissions

On CentOS systems, default permissions for `/dev/shm` are set to 1777. For `zenjobs` to perform correctly, you must set permissions on `/dev/shm` to 0755. (ZEN-3504)

1.5.12. Performance

Performance can be degraded if there are n processes executing at 100% CPU utilization on m cores (where $n > m$). ZenHub worker processes can be executed at a lower priority to allow the main ZenHub process (and other daemons) more CPU time.

To support this, the following new parameter has been added to ZenHub:

- `--hubworker-priority` - By default, set to a value of 5. Workers are spawned with the UNIX `nice` command. Priority values range from +0 to +19. A process with a priority of 10 will receive approximately 50% the CPU time of a process with a priority of 0. Relative CPU percentage to "`nice 0`" is $(20 - n) / 20$, where n is the `+nice` value. For more information see, the `nice` man page.

1.6. Known Issues

The following issues are known for this version of Zenoss Core.

1.6.1. zodb_session Table

An exception may occur with the `zodb_session` table that prevents access to Zope. (ZEN-1988)

If this exception occurs, you must drop the `zodb_session` table and then re-create it:

```
DROP DATABASE IF EXISTS zodb_session;
CREATE DATABASE zodb_session;
GRANT ALL ON zodb_session.* TO 'zenoss'@'localhost' IDENTIFIED BY 'zenoss';
FLUSH PRIVILEGES;
```

1.6.2. ZenPacks

- The definitions of the `Text` and `TextLine` schema have changed. Any ZenPacks that use `Text` or `TextLine` in their interface definitions must be updated. `Text` is now `TextLine`, and `TextLine` is now `Text`. An example about how to preserve compatibility with 3.x ZenPacks is available in the ZenPackTemplate GitHub repository (<https://github.com/zenoss/ZenPackTemplate/blob/master/CONTENT/interfaces.py>). (Internal Defect 28507)
- The `zope.app` namespace was deprecated by Zope and has been removed. Zenoss Core includes a backwards compatibility layer, but any references in ZenPacks to `zope.app.*` should be changed to `zope.*` instead. (Internal Defect 28930)

1.6.3. Site Window Portlet

- Some Web sites may not be compatible with the Site Window (Welcome) portlet that appears on the Dashboard. Before customizing this portlet to point to another Web site, make sure that site is not running a JavaScript "frame breaker" script.

1.6.4. Internet Explorer

When using Internet Explorer 9, Zenoss Core user interface page elements may not load and display correctly. To work around this issue, go to the Internet Options **Advanced** tab (from Settings > Internet Options), and then reset Internet Explorer settings.

1.6.5. Reports

- On the Filesystem Utilization report, if insufficient RRD data has been collected you may see a message that begins:

```
WARNING zen.reports Error when processing tales expression python:totalBytes
```

When enough data has been collected, the message will no longer appear. (Internal ZEN-2865)

- After upgrade, reports may not display correctly for users with no assigned roles. (Internal Defect 28822)

To work around this issue, re-index the catalog with the command:

```
zencatalog --reindex
```

1.6.6. User Preferences

Some user preferences, such as grid column and window resizing, are not saved after upgrading to the current version. (Internal Defect 29846)

1.6.7. Amazon Web Services

The Amazon Web Services (ZenPacks.zenoss.AWS) ZenPack supersedes the ZenAWS (ZenPacks.zenoss.ZenAWS) ZenPack that was installed by default on versions of Zenoss prior to 4.2.4. Remove ZenAWS before installing this new ZenPack. This new Amazon Web Services ZenPack is not installed by default and can be installed from the following location: http://wiki.zenoss.org/ZenPack:Amazon_Web_Services.

1.6.8. Google Maps

When working with the Google Maps portlet, you may encounter an OVER_QUERY_LIMIT error. If you receive this error, you may have reached your daily limit and will not be able to use the map until the next day when Google resets your IP address. (See ZEN-2399 for more information and resolution.)

1.6.9. Windows Service Monitoring

For Windows device services, you cannot remove a status of "monitored." (See ZEN-2893 for more information and resolution.)

1.6.10. Any ZenPack that adds or modifies UI elements causes UI breakage on install or uninstall

When installing or uninstalling a ZenPack that changes UI elements, the UI breaks. There are two workarounds to remedy this issue:

- Either restart zenwebservice, or
- Install or uninstall the ZenPack from the command line.

1.6.11. Extracting files from VMware ZIP file

Some builds of UnZip 5.52 are unable to extract the contents of the VMware ZIP file (zenoss-4.2.4-VERSION-x86_64.vmware.zip). For example, the unzip binary included in the RHEL 5.1 distribution fails to extract the files, but the same release of UnZip succeeds with the binary included in the CentOS 5.9 distribution. If you experience a failure extracting the files, update the unzip binary or extract them on a different host. (See ZEN-5727 for more information.)

1.6.12. Localhost zenjob heartbeat failure event

After upgrading from 4.1.1 to 4.2.4, you may see a "localhost zenjobs heartbeat failure" event even though zenjobs is running.

To clear this event:

1. Verify that zenjobs is actually running.
2. Check the time on all the servers making sure they are synched.
3. Clear the heartbeat table.

2. Issues Addressed in this Version

To see a partial list of issues fixed in this version of Zenoss Core 4.2.4, browse to:

<http://jira.zenoss.com/jira/secure/IssueNavigator.jspa?mode=hide&requestId=10791>

Note

You must be logged in to view issues. If the query returns no results, then you must log in or create a Jira account.

3. Reporting Problems and Providing Feedback

Use the Zenoss forums (<http://community.zenoss.org/community/forums>) and Jira (<http://jira.zenoss.com>) to submit issues and provide feedback.

Zenoss welcomes your comments and suggestions to help us improve our product documentation. Please send your comments to:

docs@zenoss.com