Zenoss Analytics Release Notes

Release 5.0.5

Zenoss, Inc.

www.zenoss.com

Zenoss Analytics Release Notes

About this document

Zenoss Analytics Release Notes contains important information about the current release of Zenoss Analytics (Analytics).

Table 1: Release dates

Date	Release
April 2017	5.0.5
March 2017	5.0.4
August 2016	5.0.3
March 2016	5.0.2
December 2015	5.0.1
June 2015	5.0.0

Analytics 5.0.5

1

Fixed issues

ID	Description
ANA-222	Change shipping default for Analytics Heap size from 2G to 4G.
ANA-228	Support new metric naming convention.
ANA-230	Cannot toggle `zenperfetl` into debug mode in Analytics 5.0.4

Known issues

ID	Description
ANA-223	Wide performance ETL batches have ability to blow out the Heap in CentralQuery service. For more information see the discussion and workaround listed below.
ZPS-757	In the LinuxMonitor ZenPack, there is an RPN syntax error in several aliases. Perform the workaround listed below.

Notes

The following section provide additional information or procedures regarding Analytics issues.

ANA-223: Wide performance ETL batches have ability to blow out the Heap in CentralQuery service.

If you create too wide a perf ETL batch, you may blow out the Heap and receive error messages similar to the following in `zenoss_analytics.out`:

```
2017-03-07 13:59:07,748 ERROR perfextractjob-8
 com.zenoss.reporting.extract.service.PerfExtractionTask -
 Failed to execute request: Unexpected end of ZLIB input stream
 task="fs_inodes__pct-4052", batch=8746, exception=EOFException
2017-03-07 13:59:07,748 ERROR perfextractjob-6
 com.zenoss.reporting.extract.service.PerfExtractionTask -
 Failed to execute request: Unexpected end of ZLIB input stream
 task="fs_inodes_used-4050", batch=8746, exception=EOFException
```

```
2017-03-07 13:59:07,748 WARN  quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [ExecutionException]
 java.io.EOFException: Unexpected end of ZLIB input stream
2017-03-07 13:59:07,748 WARN  quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [ExecutionException]
 java.io.EOFException: Unexpected end of ZLIB input stream
2017-03-07 13:59:07,748 ERROR perfextractjob-7
 com.zenoss.reporting.extract.service.PerfExtractionTask - Failed to
 execute request: Bad Gateway   task="fs_used__pct-4051", batch=8746,
 exception=HttpResponseException
2017-03-07 13:59:07,749 ERROR perfextractjob-4
 com.zenoss.reporting.extract.service.PerfExtractionTask - Failed to
 execute request: Bad Gateway   task="fs_used__pct-4048", batch=8746,
 exception=HttpResponseException
2017-03-07 13:59:07,748 ERROR perfextractjob-1
 com.zenoss.reporting.extract.service.PerfExtractionTask - Failed to
 execute request: Bad Gateway   task="fs_used__pct-4045", batch=8746,
 exception=HttpResponseException
2017-03-07 13:59:07,750 ERROR quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [HttpResponseException]
 Bad Gateway
2017-03-07 13:59:07,750 ERROR quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [HttpResponseException]
 Bad Gateway
```

To remedy this situation, you need to adjust the QueryService RAM commitment from its current value to 4G, and retry the batch.

To increase the QueryService RAM commitment, perform the following:

1 In Control Center, navigate to the CentralQuery service of your deployed Zenoss application
   `Zenoss.resmgr > Zenoss > Metrics > CentralQuery`.
2 Click the **Edit Service** link near the top of the page.
3 In the dialog box, locate the field labeled `RAM Requested` and change the value in that field to `4G`. If the
   value is already `4G` or has a larger value, then make no changes.
4 Click **Save Changes**.

ZPS-757: RPN syntax error in several aliases

In the LinuxMonitor ZenPack, there are syntax errors that need to be manually fixed in order for Analytics to perform data extraction. After you have successfully installed or upgraded Analytics to version 5.0.4, perform the following commands on the Resource Manager master as `root` or a user with superuser permissions:

```
serviced service attach zope/0

su - zenoss

cd /opt/zenoss/ZenPacks/ZenPacks.zenoss.ZenETL-5.0.4-py2.7.egg/ZenPacks/
zenoss/ZenETL/bin

./dumpAliases.py --aliases=with

egrep "(mem_buffers__pct|mem_cached__pct|mem_free__pct|
mem_swap_free__pct|lvm_pv_free__pct|lvm_vg_free__pct)" aliases.txt >
 aliases_changes.txt

sed -i 's/,\*,100/,100,\*/' aliases_changes.txt

./manageAliases.py --action=add --inputFile=aliases_changes.txt --commit
```

```
exit
exit

# Remove the disk cache which does not get cleared on restart

serviced service stop zenperfetl

rm -rf /opt/serviced/var/volumes/<tenantid>/etl-analytics/zenperfetl/
perf-config-cache

serviced service start zenperfetl

# Wait until the new PERFORMANCE extractor has registered with Analytics

select * from meta_extractor where extractor_name = 'PERFORMANCE';

# The above command must return one row before you proceed

# Get the key of the new extractor

select extractor_key into @extractor_key from meta_extractor where
 extractor_name = 'PERFORMANCE';

# Update all existing PERF batches to have the new key

update meta_batch set extractor_key = @extractor_key where
 extractor_key != @extractor_key and extractor_key in (select
 extractor_key from meta_extractor where extractor_type = 'PERFORMANCE');

# Remove all the old performance extractors

delete from meta_extractor where extractor_name like '%/_%';
```

zenoss

Analytics 5.0.4

2

New features

Analytics 5.0.4 provides improvements in the following areas:

- Performance ETL now uses parallel processing instead of sequential scheduling resulting in the following:

  - Reduced ETL time from 5 hours to under an hour.
  - On average, a 72% reduction in ETL time.
- Alias management

  - The `aliases.dsv` override file has been eliminated in favor of a new alias management process using administration scripts from the `ZenossAnalyticsMontitoring` ZenPack.
- Structured logging
- New batch states

Fixed issues

ID	Description
ANA-23	The JSESSIONID cookie does not set the HttpOnly flag for Resource Manager or Analytics.
ANA-27	Performance ETL: Slow device and component key lookups. New configuration option `max-key-fetch-batch-size` (default 1000) controls the number of keys retrieved at once.
ANA-35	Performance ETL: Performance config does not scale.
ANA-39	Device Availability report is loading only 0 and 100% availability.
ANA-42	Nth Percentile data not aggregating - silent failure
ANA-44	Provide visibility into when Analytics actually begins to extract perf data. Added new batch states `CONFIGURING` and `READY`. Removed batch state `EXTRACTING_PERF`.
ANA-46	Do not extract user passwords.

ID	Description
ANA-51	Analytics server: 5.x PERF extraction was serialized by metric. Now extracts multiple metrics concurrently. The `perf_metric_processing_threads` setting in the `met_table` limits the number of concurrent requests made on the Query service.
ANA-56	Performance ETL: Performance config extract overwhelmed `zenhub`. Now all ETL services are located in their own service folder in Control Center named PEFORMANCE (5.x only). There are no `zenperfetl` services running in the collector service folders (5.x only). The original PERFORMANCE extractors registered in Analytics need to be manually removed using the `remove_extractor.sh` script in the `ZenossAnalyticsMonitoring` ZenPack. The names of the extractors to be removed will have the form of `<collector-name>/<#>`.
ANA-190	Performance ETL: One of many `zenperfetl` is slow
ANA-191	Analytics server: Sub-optimal v2 query API usage
ANA-196	Analytics server: Optimize the timestamp formatting in perf data extraction process
ANA-198	Performance ETL: When a device is added, the perf batch is blocked until the config cache is refreshed.
ANA-210	Analytics server: Perf data extraction cannot extract performance data for devices with a very high number of components (tens of thousands). Implemented the following new settings. ■ `query_tag_threshold` (default 1000). Use wildcard queries unless the number of time series results for a metric exceeds this value. If exceeded, specify the tags for specific time series using multiple queries instead. ■ `query_max_tags_per_metric` (default 200). When specifying tags to select time series, the number of tags specified in one query shall not exceed this value. ■ `query_min_tags_per_metric` (default 10). When tags are used to select time series, queries will not be subdivided if the number of tags specified in one query falls below this value.
ANA-212	Optimize the `meta_etl` clean up query in partition rotation stored procedure.
ZEN-21265	`dim_zenoss_instance` not updated when config is saved.
ZEN-23396	Limited visibility on batch processings. Have now added structured logging and improved the INFO and DEBUG log output.
ZEN-24465	Cisco UCS Fabric Interconnects Analytics aliases for `mem_pct` produces negative values in Analytics.
ZEN-24475	Two aliases defined for `cpu__pct` in one template.
ZEN-24573	`zenmodeletl` chronically slow due to hits to query service every second.
ZEN-24619	Alias management: ZenETL: Remove all ZenPack aliases from `aliases.dsv`.
ZEN-24664	Need a dimension table representing time for Hourly data queries in Analytics.
ZEN-25841	Alias management: Rewrite process for alias management. Now have new scripts `dumpAliases.py` and `manageAliases.py` and a new process.

Known issues

ID	Description
ANA-223	Wide performance ETL batches have ability to blow out the Heap in CentralQuery service. For more information see the discussion and workaround listed below.
ZPS-757	In the LinuxMonitor ZenPack, there is an RPN syntax error in several aliases. Perform the workaround listed below.

Notes

The following section provide additional information or procedures regarding Analytics issues.

ANA-223: Wide performance ETL batches have ability to blow out the Heap in CentralQuery service.

If you create too wide a perf ETL batch, you may blow out the Heap and receive error messages similar to the following in `zenoss_analytics.out`:

```
2017-03-07 13:59:07,748 ERROR perfextractjob-8
 com.zenoss.reporting.extract.service.PerfExtractionTask -
 Failed to execute request: Unexpected end of ZLIB input stream
 task="fs_inodes__pct-4052", batch=8746, exception=EOFException
2017-03-07 13:59:07,748 ERROR perfextractjob-6
 com.zenoss.reporting.extract.service.PerfExtractionTask -
 Failed to execute request: Unexpected end of ZLIB input stream
 task="fs_inodes_used-4050", batch=8746, exception=EOFException
2017-03-07 13:59:07,748 WARN  quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [ExecutionException]
 java.io.EOFException: Unexpected end of ZLIB input stream
2017-03-07 13:59:07,748 WARN  quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [ExecutionException]
 java.io.EOFException: Unexpected end of ZLIB input stream
2017-03-07 13:59:07,748 ERROR perfextractjob-7
 com.zenoss.reporting.extract.service.PerfExtractionTask - Failed to
 execute request: Bad Gateway   task="fs_used__pct-4051", batch=8746,
 exception=HttpResponseException
2017-03-07 13:59:07,749 ERROR perfextractjob-4
 com.zenoss.reporting.extract.service.PerfExtractionTask - Failed to
 execute request: Bad Gateway   task="fs_used__pct-4048", batch=8746,
 exception=HttpResponseException
2017-03-07 13:59:07,748 ERROR perfextractjob-1
 com.zenoss.reporting.extract.service.PerfExtractionTask - Failed to
 execute request: Bad Gateway   task="fs_used__pct-4045", batch=8746,
 exception=HttpResponseException
2017-03-07 13:59:07,750 ERROR quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [HttpResponseException]
 Bad Gateway
2017-03-07 13:59:07,750 ERROR quartzScheduler_Worker-6
 com.zenoss.reporting.schedule.ExtractPerfJob - [HttpResponseException]
 Bad Gateway
```

To remedy this situation, you need to adjust the QueryService RAM commitment from its current value to 4G, and retry the batch.

To increase the QueryService RAM commitment, perform the following:

1   In Control Center, navigate to the CentralQuery service of your deployed Zenoss application
     `Zenoss.resmgr > Zenoss > Metrics > CentralQuery.`
2   Click the **Edit Service** link near the top of the page.
3   In the dialog box, locate the field labeled `RAM Requested` and change the value in that field to `4G`. If the
     value is already `4G` or has a larger value, then make no changes.
4   Click **Save Changes**.

ZPS-757: RPN syntax error in several aliases

In the LinuxMonitor ZenPack, there are syntax errors that need to be manually fixed in order for Analytics to
perform data extraction. After you have successfully installed or upgraded Analytics to version 5.0.4, perform
the following commands on the Resource Manager master as `root` or a user with superuser permissions:

```
serviced service attach zope/0

su - zenoss

cd /opt/zenoss/ZenPacks/ZenPacks.zenoss.ZenETL-5.0.4-py2.7.egg/ZenPacks/
zenoss/ZenETL/bin

./dumpAliases.py --aliases=with

egrep "(mem_buffers__pct|mem_cached__pct|mem_free__pct|
mem_swap_free__pct|lvm_pv_free__pct|lvm_vg_free__pct)" aliases.txt >
 aliases_changes.txt

sed -i 's/,\*,100/,100,\*/' aliases_changes.txt

./manageAliases.py --action=add --inputFile=aliases_changes.txt --commit

exit
exit

# Remove the disk cache which does not get cleared on restart

serviced service stop zenperfetl

rm -rf /opt/serviced/var/volumes/<tenantid>/etl-analytics/zenperfetl/
perf-config-cache

serviced service start zenperfetl

# Wait until the new PERFORMANCE extractor has registered with Analytics

select * from meta_extractor where extractor_name = 'PERFORMANCE';

# The above command must return one row before you proceed

# Get the key of the new extractor

select extractor_key into @extractor_key from meta_extractor where
 extractor_name = 'PERFORMANCE';

# Update all existing PERF batches to have the new key

update meta_batch set extractor_key = @extractor_key where
 extractor_key != @extractor_key and extractor_key in (select
 extractor_key from meta_extractor where extractor_type = 'PERFORMANCE');
```

zenoss

```
# Remove all the old performance extractors

delete from meta_extractor where extractor_name like '%/_%';
```

ANA-44: Provide visibility into when Analytics actually begins to extract perf data

Prior to version 5.0.4, the analysis and prep of batches was merged into the same phase. Now the process is more granular to identify the key phases, so you will see progression through the following states: UNSTARTED, CONFIGURING, READY, EXTRACTING, STAGING, FAILED, COMPLETED. A CANCELLED state indicates that the collector went offline for a long period of time.

Analytics 5.0.3

3

Fixed issues

ID	Description
ZEN-21206	Reduce the amount of `INFO` logging.
ZEN-22039	Analytics becomes unresponsive. Logs report "`java.lang.OutOfMemoryError: unable to create new native thread`".
ZEN-23288	`zenperfetl` performance improvements for collecting perf data for large collectors.
ZEN-23431	Model properties are missing due to `zenmodeletl` service not importing ZEP.
ZEN-23635	Analytics causes slowdowns in Central Query.
ZEN-23797	Analytics should write data to tmp directory defined in the service definition and not to Docker storage.
ZEN-24341	The zenperfetl config files are not deleted after being uploaded to the server.
ZEN-24405	Passwords are written to `zenmodeletl.log`.

Known issues

ID	Description
ZEN-17531	The Device Availability report is only showing either 0% or 100% availability.
ZEN-18185	The Interface Volume report is not converting numbers to a more readable format.
ZEN-18203	Selecting Gaps in an Analytics Batch Processing report generates an error.
ZEN-18720	Users have administrative privileges in Analytics despite not having the `reporting_user` role.
ZEN-18734	InstallDate as part of the software component is not available in the dim_software table.
ZEN-19073	Performance batches for collectors with no devices get marked as FAILED.

zenoss

ID	Description
ZEN-21265	The `dim_zenoss_instance.zenoss_instance_fqdn` value is not updated when the configuration is saved.
ZEN-21269	A silent failure for perf extraction occurs when using a zproxy virtual host URL for Resource Manager.
ZEN-21548	A four-level domain name for Resource Manager breaks Analytics perf ETL.

Analytics 5.0.2

4

Fixed issues

ID	Description
ZEN-19826	Analytics ETL process has been modified to skip loading any perf files containing alias names longer than 60 characters.
ZEN-21479	Analytics ETL is not accounting for datapoint RRD Type.
ZEN-21563	ZenETL 5.0.1 breaks perf ETL on Resource Manager 4.x.

Known issues

ID	Description
ZEN-17500	A user with ReportingUser role cannot see Basic reports
ZEN-17531	The Device Availability report is only showing either 0% or 100% availability.
ZEN-18185	The Interface Volume report is not converting numbers to a more readable format.
ZEN-18203	Selecting Gaps in an Analytics Batch Processing report generates an error.
ZEN-18229	The dim_device table displays a null value in the Device Availability By Week report.
ZEN-18720	Users have administrative privileges in Analytics despite not having the `reporting_user` role.
ZEN-18734	InstallDate as part of the software component is not available in the dim_software table.
ZEN-19073	Performance batches for collectors with no devices get marked as FAILED.
ZEN-21265	The `dim_zenoss_instance.zenoss_instance_fqdn` value is not updated when the configuration is saved.
ZEN-21269	A silent failure for perf extraction occurs when using a zproxy virtual host URL for Resource Manager.
ZEN-21501	Not all of the devices with locations are populating `dim_location` during ETL modeling.

zenoss

ID	Description
ZEN-21548	A four-level domain name for Resource Manager breaks Analytics perf ETL.
ZEN-22039	Random crashing of Analytics.

Analytics 5.0.1

5

Fixed issues

ID	Description
ZEN-17590	Improved memory performance for zenperfetl.
ZEN-19863	zenperfetl is not install under the correct service grouping in Resource Manager 5.x

Analytics 5.0.0

6

New features

Analytics 5.0.0 offers these new features and improvements:

- Analytics 5.0.0 ETLs model, events, and data from one or more Resource Manager 4.x and/or 5.x instances.
- Performance metrics can be extracted from both OpenTSDB and HBase (Resource Manager 5.x) as well as RRD files (Resource Manager 4.x).
- Added ETL of all device and component template bindings so you can determine which monitoring templates are attached to what devices/components.
- Min and Max thresholds for devices and device components are now ETL'ed to a new dimension table named "dim_threshold_values". Even if the threshold definitions are complicated TALES expressions referencing modeled, z-, or c- properties, the ETL will calculate the thresholds (at the time of the ETL) and store the resulting threshold values into the new dimension table so that it can be included in reports. For example, set `/FileSystem/Server/` thresholds high disk usage maximum Value to "here.zCommandLoginTimeout". You can now include the min and max threshold values in your reports by selecting the "threshold_max_value" and "threshold_min_value" columns from the dim_threshold_values table.
- OpenJDK replaces Oracle JRE.
- Uses the TIBCO Jaspersoft 6 solution, which enables Embeddable Dashboards, Interactive Report Workbooks, New Chart Types, and Custom Visualizations. For more information, see *http://www.jaspersoft.com/introducing-jaspersoft-6*.
- All Zenoss 5.x products replace ZenDS (backed by Oracle MySQL) data stores with its derivative MariaDB 10. Analytics follows suit and replaces ZenDS with MariaDB as the ETL data warehouse destination data store. MariaDB is now the only supported Analytics relational database store.

Fixed issues

ID	Description
ZEN-7993	Not able to tell which monitoring template is attached to what devices/components in Analytics.
ZEN-8712	Create a new way to handle deleted entities.
ZEN-10804	The zenperfetl extracts data for a different time than the extract window had specified.
ZEN-13383	Create a dimension table representing time for raw data queries.

ID	Description
ZEN-14164	Analytics batches do not load in the UI on Resource Manager 4.2.5.
ZEN-14612	Cannot determine if aggregation is currently running.
ZEN-14616	Add ability to define business hours to include day of week as a qualifier.
ZEN-14626	Business Hours aggregation does not correctly calculate for a start time that is in the middle of an hour.
ZEN-14771	The Nth percentile and projection calculation can create table names that are too long.
ZEN-14789	Performance batches created through the UI stay in a permanent STAGING state.
ZEN-14994	Aggregation fails when the raw table corresponding to meta_metric does not exist.
ZEN-15018	The extract_count and staging_count/load_count for model batches are different.
ZEN-15094	A zenperfetl recovery swamps the host with multiple logical collector installs.
ZEN-15718	The meta_batch.extract_end is set to 0 if max-batches is set to 1 in zenperfetl.conf.
ZEN-15766	The group_filter for the Analytics aggregation configuration does not apply to the entire group hierarchy below the path provided.
ZEN-15791	When the Analytics server gets shut down, any batches in the LOADING state permanently stay in that state.
ZEN-16299	The meta_batch, meta_batch_file and meta_etl tables grow uncontrollably and should be partitioned and purged by the daily purging process.
ZEN-16437	Batch cancellation logic was changed so that they are no longer permanently cancelled.
ZEN-16610	The RotateAndPrunePartitionsTrigger does not log completion, thus there is no way to tell how long it takes.
ZEN-16906	The percentile and projection tables are not pruned.
ZEN-16910	The Nth percentile calculations fail when nth_percentile_config.period is set to 1.
ZEN-16999	The dim_rrd_datapoint does not contain a foreign key to dim_rrd_template. It should contain an rrd_template_key column.
ZEN-17139	Enable zenperfetl to use a MAX rather than an AVERAGE consolidation function for extracting performance data.
ZEN-17542	Add ETL of threshold expression evaluations.
ZEN-17650	Custom event fields that contain a period cause Event ETL load to fail, since periods are not valid characters in names of mysql table fields.
ZEN-17707	The dimension table creation fails for tables with 60 attributes.
ZEN-17830	The mem__pct alias is not correct for /Server/SSH/AIX

Known issues

The following issues are known for this release of Analytics:

- Due to slightly different time windows and different resolutions in the data, Zenoss and Analytics reports may vary slightly.
- Default accounts are not locked, disabled, or set-to-good-default-passwords on initial installation.

- Full access controls (device ACLs, roles, and groups) are not supported.
- Sometimes the data set being used for projections may not be appropriate for the projection algorithm producing a situation where the projection is marked as UNRUN with the projection table created, but empty.

Additional information

A

This section includes the following information:

■   The list of supported browser clients.
■   Release-specific documentation errata, if any.
■   Descriptions of related publications, how to contact support, and how to provide feedback.

Supported clients and browsers

The client operating systems and web browser combinations supported in this release.

■   All browsers must have Adobe® Flash® Player 11 installed, or a more recent version.
■   Compatibility mode is not supported in Internet Explorer.

Client OS	Supported Browsers
Windows 7 and 8.1	Internet Explorer 11 (enterprise mode is supported)
	Internet Explorer 10
	Firefox 30 and above
	Chrome 30 and above
Windows Server 2012 R2	Firefox 30
	Chrome 36
Macintosh OS/X 10.9	Firefox 30 and above
	Chrome 36 and above
Ubuntu 14.04 LTS	Firefox 30 and above
	Chrome 37 and above
Red Hat Enterprise Linux 6.5, CentOS 6.5	Firefox 30 and above
	Chrome 37 and above

Publications, questions, and comments

Zenoss Analytics publications

Title	Description
Zenoss Analytics Release Notes	Provides important information about the current release.
Zenoss Analytics Installation and Administration Guide	Installation, upgrade, and administration.

Additional information and comments

If you have technical questions about this product that are not answered in this guide, please visit the *Zenoss Support* site or contact Zenoss Support.

Zenoss welcomes your comments and suggestions regarding our documentation. To share your comments, please send an email to `docs@zenoss.com`. In the email, include the document title and part number. The part number appears at the end of the list of trademarks, at the front of this guide.