MySQL Enterprise Monitor 3.1 Release Notes

Abstract

This document lists the changes to the MySQL Enterprise Monitor 3.1 product, beginning with the most recent release. Each release section covers added or changed functionality, bug fixes, and known issues, if applicable. For information about changes in a different MySQL Enterprise Monitor series, see the release notes for that series.

For additional MySQL Enterprise Monitor 3.1 documentation, see the MySQL Enterprise Monitor 3.1.7 Manual.

For legal information, see the Legal Notices.

For help with using MySQL, please visit either the MySQL Forums or MySQL Mailing Lists, where you can discuss your issues with other MySQL users.

For additional documentation on MySQL products, including translations of the documentation into other languages, and downloadable versions in variety of formats, including HTML and PDF formats, see the MySQL Documentation Library.

Document generated on: 2017-05-15 (revision: 11661)

Table of Contents

Preface and Legal Notices

This document lists the changes to the MySQL Enterprise Monitor 3.1 product, beginning with the most recent release.

Legal Notices

Changes in MySQL Enterprise Monitor 3.1.7 (2017-03-13)

Important

As of this release, MySQL Enterprise Monitor documentation is now included in the MySQL Enterprise Service Manager, MySQL Enterprise Monitor Agent, and MySQL Enterprise Monitor Proxy and Aggregator packages available from My Oracle Support or Oracle Software Delivery Cloud.

- Bugs Fixed

Functionality Added or Changed

- The OpenSSL libraries used by the MySQL Enterprise Monitor installers and MySQL Enterprise Monitor Aggregator have been upgraded to 1.0.2k.
- The Tomcat server, bundled with the MySQL Enterprise Service Manager, has been upgraded to 7.0.75.

Bugs Fixed

- **Security Fix:** MySQL Enterprise Service Manager has been updated to use Apache Struts 2.3.32, which has been publicly reported as not vulnerable to CVE-2017-5638. (Bug #25698531, CVE-2017-5638)
- MySQL Enterprise Service Manager failed to start if the operating system's locale was set to FR_FR. (Bug #25615156)
- MySQL Enterprise Monitor Agent installer stopped unexpectedly on Solaris platforms. This occurred for both unattended and text installation modes during the agent user credential step. (Bug #25427615)
- No error was generated if the General and Limited user passwords violated a server-side password validation rule. This error occurred if the MySQL server used the password validation plug-in.

  As of this release, if a monitoring connection request fails because the General or Limited user's passwords do not meet the requirements on the server, an error is displayed with the server error message and the username which caused the error. (Bug #25153652)
- Query detail graphs were not displayed on the **Graphs** tab of the query details dialog on the Query Analyzer page if the locale was set to Japanese. (Bug #24830763)
- If `agent.sh` was run as `root`, incorrect permissions were applied to some log and keystore files, making them inaccessible to the agent, which runs as `mysql`.

  As of this release, it is not possible to run `agent.sh` from the command line as `root`, but only as `mysql`. (Bug #24338452)
- The agent failed to start on Solaris platforms due to incorrectly defined permissions. (Bug #24327644)
- MySQL Enterprise Monitor Agent upgrades overwrote custom, log4j configuration files with a new, default configuration file. As of this release, the custom log4j configuration files are preserved, and the new, default configuration is written to the same directory with the filename `log4j.properties.default`. (Bug #18501221)
- MySQL Enterprise Service Manager upgrade, installed as root, reported errors on OS X. Services did not start after the upgrade completed, but could be started manually.

Changes in MySQL Enterprise Monitor 3.1.6 (2017-01-20)

Important

As of this release, MySQL Enterprise Monitor documentation is available from the MySQL Enterprise Products page, only.

MySQL Enterprise Monitor documentation is no longer available as a separate, downloadable package from My Oracle Support or Oracle Software Delivery Cloud.

Online help is still installed with MySQL Enterprise Service Manager.

Functionality Added or Changed

- The configuration menu item **Event Handling** was renamed **Event Handlers**.
- The bundled JRE was updated to 1.8.0_112 for both the Agent and Service Manager.
- The OpenSSL libraries used by the MySQL Enterprise Monitor installers and MySQL Enterprise Monitor Aggregator have been upgraded to 1.0.2j.
- The specific operating system version is now displayed in the **Host Details** section of the **MySQL Instances** dashboard.
- The MySQL database, bundled with the MySQL Enterprise Service Manager, has been upgraded to MySQL 5.6.35.

Bugs Fixed

- Under certain circumstances, the asset selector list would not load on the **Assets** tab of the **Groups** page. (Bug #25051693)
- Under certain circumstances, if a notification group contained one or more invalid email addresses, the notification failed.

  As of this release, the invalid address exception generated by the email server is handled correctly, the invalid email address is removed, and the notification is resent. If the notification group contains multiple invalid addresses, they are removed and the message resent until either the notification is sent or no email addresses remain.

  Errors are logged to the Action Log. (Bug #25037204)
- If the backup directory was set to the same directory as the installation directory, the upgrade installer removed the installation, and the upgrade process failed.

  As of this release, the installers check if the backup directory is set to the same directory as the installation directory.

  This issue affected the upgrade installers for the MySQL Enterprise Service Manager, MySQL Enterprise Monitor Agent, and the MySQL Enterprise Monitor Proxy and Aggregator. (Bug #25027413, Bug #25078184, Bug #25078204)
- The **Show n entries** drop-down menu on the **Query Analyzer** page was too small. This affected the Google Chrome browser, only. (Bug #24948388)
- Comma-separated external role definitions were not correctly parsed on the **Roles** page. (Bug #24918199)
- The **External Role** field on the **Roles** and **Settings** pages, was too small. (Bug #24917944)
- The fields on the **Encryption Settings** tab of the **Add MySQL Instance** or **Edit Instances** dialogs did not reflect the actual configuration. (Bug #24833411)
- The **Group Settings** tab on the Edit Instance dialog was too small to properly display its contents. (Bug #24481474)
- **Resume Event Handler** dialog was too small for its contents. (Bug #24481411)

- Duplicate actions were taken, and notifications sent, if multiple event handlers used the same advisor.

  As of this release, duplicate actions and notifications are combined into a single action or notification.

  However, each event handler is logged as handling the event. (Bug #24341371)
- The Line and Stack graph controls were not displayed for graphs with many series. (Bug #22378850)
- The `auto-update` parameter of the MySQL Enterprise Service Manager configuration utilities, `config.sh`, did not behave as expected.
- Fields of the **Add Instance** dialog, for unmonitored instances, did not auto-populate with the correct, agent, hostname, or port number.

Changes in MySQL Enterprise Monitor 3.1.5 (2016-10-13)

Functionality Added or Changed

- **Important Change:** The bundled sys schema is upgraded to version 1.5.1.

  

  Important

  If you have installed an older version of sys schema on your monitored instances, it is recommended to upgrade to the latest version. The upgrade must be performed from the command line. It is not currently possible to upgrade sys schema from MySQL Enterprise Service Manager.
- **Important Change:** As of this release, it is not possible to use MySQL Server 5.1 or 5.5 as the MySQL Enterprise Monitor repository. The installer displays an error and the installation process stops.
- The query collection for Query Analyzer was improved in this release. (Bug #22179215)
- The required privileges for configuring a non-bundled repository were updated in this release. (Bug #21534737)
- The Tomcat server, bundled with the MySQL Enterprise Service Manager, has been upgraded to 7.0.69.
- The **Warnings Not Being Logged** advisor text was updated.
- Events for any future-dated asset which is not an agent, OS, or MySQL instance, are deleted. Under certain circumstances, these events contained empty fields.
- The following commands are added to the MySQL Enterprise Service Manager configuration utility (`config.sh/config.bat`):
  - `--renew`: renews the existing self-signed certificate.
  - `--import-certificate=<value>`: imports the defined certificate
  - `--import-key=<value>`: imports the defined private key.
- The OpenSSL libraries used by the MySQL Enterprise Monitor installers and MySQL Enterprise Monitor Aggregator have been upgraded to 1.0.1u.
- The bundled JRE was updated to 1.8.0_102 for both the Agent and Service Manager.

- The MySQL database, bundled with the MySQL Enterprise Service Manager, has been upgraded to MySQL 5.6.34.

Bugs Fixed

- The documentation did not specify the correct format for the `ssl-ca-keystore-path` parameter. It was listed as a file path, but is a URL. For example:

  `ssl-ca-keystore-path=file:///mysql/enterprise/agent/etc/mykeystore` (Bug #24386496)

- The **InnoDB Redo Log Pending Writes** graph was not displayed for MySQL 5.7 instances. (Bug #23563358)

- The Event Handler **Asset** column did not display any assets for the eleventh handler created. That is, the **Asset** column correctly displayed assets for the first 10 event handlers, but did not for any other event handler. (Bug #23543149)

- The LDAP and SSL documentation did not contain information on how to connect to LDAP servers which implement AES256. (Bug #23507489)

- The following variables were missing from the **Fulltext Search** section of the MySQL Instance **InnoDB** tab:

  - innodb_ft_enable_diag_print
  - innodb_ft_result_cache_limit
  - innodb_ft_total_cache_size

  (Bug #23474063)

- LDAP configuration settings were not validated by the upgrade process. Some of the fields were empty.

  As of this release, default values are added to the empty fields. (Bug #23299301)

- LDAP configuration was not validated when saved. As a result, if the LDAP connection information was incorrectly configured, NullPointerExceptions were logged, and it was not possible to connect to the LDAP server. (Bug #23299288)

- Under certain circumstances, when monitoring MySQL 5.7, warnings were generated in Query Analyzer due to a conflict between the default `mysql_mode` and the `mysql_mode` set by MySQL Enterprise Monitor. (Bug #23033046)

- It was possible to check/uncheck the assets in the **Select Instances** field on the **Edit Replication Group** tab, although the selection or deselection had no effect on the contents of the replication group. Replication groups are populated dynamically, not manually. (Bug #22620609)

- The certificate to keystore upgrade process attempted to use the system's openSSL installation instead of that delivered with the installer. As a result, if openSSL was not installed on the system, the upgrade failed. As of this release, the upgrade only uses the openSSL libraries delivered with the installer. (Bug #22522309)

- Under certain circumstances, deleting events resulted in a long-running query which generated empty events. (Bug #22247688)

- The MySQL Enterprise Service Manager utility `config.sh` returned a stack trace for unsupported commands, instead of redirecting the user to the help.

- Custom agent service names were not maintained by the agent upgrade process. The custom name was overwritten by the default agent service name, `MySQLEnterpriseMonitorAgent`.
- The advice page generated by the **MySQL Enterprise Backup Health** advisor contained broken links to the InnoDB chapters of the MySQL Reference Manual. It also incorrectly referred to the `--start-lsn` option as the `--lsn` option.
- On certain browser versions, the symbol << was transformed to Â<<.
- A message about keystore loading was logged every minute by the certificate loader. The log level for this message was changed to reduce the unnecessary log entries.

Changes in MySQL Enterprise Monitor 3.1.4 (2016-05-23)

Functionality Added or Changed

- **Important Change:** It is now possible to configure the MySQL Enterprise Service Manager from the command line, or from a script, using the MySQL Enterprise Service Manager Configuration Utilities defined in `config.sh`, or `config.bat` on Windows platforms. This tool is located in the `bin` directory of your MySQL Enterprise Service Manager installation.
- The Agent backlog is no longer written to the filesystem, but to active RAM only.
- The default font used in MySQL Enterprise Service Manager is now Open Sans Fontface 1.4.2.
- The OpenSSL libraries bundled with MySQL Enterprise Monitor and the MySQL Enterprise Monitor Proxy and Aggregator have been upgraded to OpenSSL 1.0.1s.
- The **Memory Usage - OS Resident** graph now also displays filesystem buffer and cache data for Linux systems.
- **Duplicate MySQL Server UUID** events are generated with Critical status.
- A new advisor, **HTTP Server KeyStore's Certificate About to Expire**, is added in this release. This advisor checks the expiry date of the TLS certificate and raises events as the expiration date approaches.

  The events are raised against configurable thresholds, defined in number of days.

Bugs Fixed

- The default instance name was not applied to a instance which had been renamed, deleted, then added again. The custom name was cached and reapplied to the newly detected instance. (Bug #23063022)
- The default replication group name was not applied to a replication group which had been renamed, deleted, then added again. The custom name was cached and reapplied to the newly detected group. (Bug #23062844)
- Events were not displayed if the monitored instance was installed on a host whose system time was set to a future time. (Bug #23049015)
- Replication groups were removed from event handlers during the upgrade process for upgrades from 3.0.x to 3.2. (Bug #23012687)

- Exporting graphs as PNG did not export the graph correctly. Some of the graph data, such as y-axis detail, was not exported. (Bug #23004372)
- The agent troubleshooting documentation incorrectly stated that the agent failed to start if the supplied credentials were incorrect. (Bug #22989144)
- Under certain circumstances, time-unit drop-down menus on Advisor configuration dialogs disappeared when selected. (Bug #22977419)
- The Event label **Worst Alarm Time** is renamed **Time of Worst Status** (Bug #22849129)
- The documentation on installing SSL certificates was not included. (Bug #22724280)
- If the network was misconfigured, SSL certificate generation failed because the `CN` could not be defined. As of this release, if the fully-qualified domain name cannot be retrieved, the system falls back to the contents of `hostname`, or, if `hostname` does not return a usable value, uses `localhost.localdomain` as the `CN` value. (Bug #22583338)
- The help text of the **Binary Log Space Exceeds Specified Limit** advisor was updated. (Bug #2078129)
- The self-signed certificate expiration date was 10 years. It is now changed to 365 days.
- The advice text in the Events table overlapped the adjacent text.
- The help output of the agent configuration utility contained spelling errors and a duplicated entry.

Changes in MySQL Enterprise Monitor 3.1.3 (2016-03-04)

Functionality Added or Changed

- The sys-related information presented on the Database File I/O and Lock Waits reports now includes a link to the sys schema GitHub repository. (Bug #22540573)
- The MySQL database, bundled with the MySQL Enterprise Service Manager, has been upgraded to MySQL 5.6.29.
- The openSSL libraries, delivered with the MySQL Enterprise Monitor Proxy and Aggregator have been upgraded to 1.0.1r.
- It is now possible to pause the page refresh using the pause button adjacent to the **Refresh** drop-down list.

  

  Note

  The pause is temporary. If the page is manually refreshed, the pause is cancelled and the defined refresh behavior resumes.

  To resume the defined page refresh, click the button again.

  Also in this release, 5, 10, and 30 second refresh options were added to the **Refresh** drop-down list.

Bugs Fixed

- If MySQL Enterprise Service Manager installed sys schema to a replication master, the sys installation was propagated to the replica instances. If the replica instance already used sys, replication stopped with an error.

As of this release, if sys is installed on a master instance, it is not propagated to the replicas. (Bug #22807490)

- It was not possible to upgrade MySQL Enterprise Service Manager from 2.3.x to 3.1.x if the 2.3 installation of Tomcat was not configured to use SSL. (Bug #22759744)
- The data in the sys schema-related reports did not refresh. (Bug #22750089)
- Monitoring a slow filesystem could result in gaps in other OS collections, such as CPU usage, affecting the OS-related graphs.

  As of this release, filesystem collections are performed independently of CPU and RAM usage collections.

  

  Note

  Filesystem-related collection can still be affected by slow filesystem performance.

  (Bug #21459378)
- It was not possible for MySQL Enterprise Monitor Agent 2.3.x to communicate with a MySQL Enterprise Service Manager 3.1.x.

Changes in MySQL Enterprise Monitor 3.1.2 (2016-02-10)

- Functionality Added or Changed
- Bugs Fixed

Functionality Added or Changed

- The **Agent Transport** selector on the **MySQL Instance Details** filter was removed in this release. (Bug #22584794)
- Auto-close notifications are now sent only if a previous condition triggered a notification. If the auto-close is the first condition, no notifications are sent.

  

  Note

  Manually closing an event always triggers a notification.

  (Bug #22500665, Bug #22617829)
- Deleting a user also closes the active sessions opened by that user.
- The **Create Event Handler** dialog was redesigned for usability.
- The bundled `libcurl` library was upgraded to 7.45.
- The MySQL database, bundled with the MySQL Enterprise Service Manager, has been upgraded to MySQL 5.6.28.
- The Connector/J component was upgraded to 5.1.38.
- `block_encryption_mode` is reported on the **Security** tab of the **Instance Configuration** section of the instance drilldown.

- As of this release, the agent restarts in the event of an Out Of Memory error.
- The OpenSSL library bundled with MySQL Enterprise Monitor has been upgraded to OpenSSL 1.0.1q.

Bugs Fixed

- It was not possible to define a custom backup location in the MySQL Enterprise Service Manager upgrade installer. The default location was used regardless of the path defined.
- Selecting the Stack display option for some graphs displayed areas instead of the stacked data.
- Dependent permissions were not displayed correctly in Firefox. For example, if **Server Group** was set to Administer, **MySQL Instances** should also have changed to Administer, automatically, but was not.
- Some elements of MySQL Enterprise Monitor User Interface were not displayed correctly in Microsoft internet Explorer.
- The hostname was not displayed in the **Unmonitored Instances** list if the `mysqld` process arguments could not be read.

  As of this release, the hostname is displayed even if the process arguments cannot be read.
- Graphs of long time ranges were inaccurate if the range was expanded and reduced. The individual points on the graph represented larger values than were actually present.
- The graphed value for free space in the InnoDB Buffer Pool was incorrectly calculated. It was possible for the free space to be a negative number.
- Under certain circumstances, a Null Pointer Exception was logged when the sys schema was installed from the MySQL Enterprise Service Manager. This exception blocked the installation of the sys schema.
- The contents of the **Security** advisor category were not displayed if the thresholds of the **MySQL Enterprise Audit Plug-in** advisor were edited.
- `config.bat` did not return a result code. As a result, errors were not detected by the calling process.
- The Timezone and Locale selection drop-down lists were not displayed correctly in the **Welcome!** dialog.
- An error was displayed in the Support Diagnostics report if the first instance in the selected group used sys schema.

  This also occurred if the report was run on a single instance if that instance used sys schema.
- Windows 10 Operating Systems were listed as Windows 8.1.

Changes in MySQL Enterprise Monitor 3.1.1 (2015-11-30)

Functionality Added or Changed

- The bundled JRE was updated to 1.8.0_66 for both the Agent and Service Manager.
- As of this release, the 32-bit MySQL Enterprise Service Manager is discontinued.

For more information, see MySQL Enterprise Service Manager Supported Platforms.

- The MySQL database, bundled with the MySQL Enterprise Service Manager, has been upgraded to MySQL 5.6.27.
- As of this release, on OS X platforms, the upgrade process preserves any existing, custom certificates and keystores. If no keystore exists, one is created.

Important

If a keystore exists, but does not use the default name `keystore`, the upgrade process renames it to `keystore`.

- In previous versions, if the agent was unable to retrieve sys-schema-based collection, no message was displayed in the user interface. The failure was written to the log files.

  As of this release, any such failure is treated as an event and displayed on the **Events** page.

Bugs Fixed

- It was not possible to connect to MySQL 5.7.9 using the MySQL Enterprise Agent Proxy Service. (Bug #22256273)
- Replication groups were renamed during the upgrade process. (Bug #22226374)
- The documentation did not describe which privileges were required to install sys schema from within MySQL Enterprise Monitor.

  For more information, see Creating MySQL User Accounts for the Monitor Agent. (Bug #22188730)
- An error was generated by the installer if it was run on a non-English language platform. (Bug #22174999)
- It was not possible to upgrade to MySQL Enterprise Monitor 3.1 from MySQL Enterprise Monitor 2.3 without upgrading to 3.0 first. As of this release, it is possible to upgrade directly from 2.3 to 3.1.1. (Bug #22144486)
- If the passwords entered on the **Repository Configuration** page of the MySQL Enterprise Service Manager upgrade installer did not match, the **Use SSL when connecting to the database** check box was deselected. (Bug #22137484)
- Under certain circumstances, a deadlock occurred in the MySQL Enterprise Service Manager repository and event updates could be lost. As of this release, further checks for such deadlocks are included. (Bug #22079805)
- The **Password Digest Mechanism** drop-down menu, on the Settings page, was disabled.
- The Service Manager's Small installation type generated out of memory errors.

  As of this release, the heap size parameter of the small installation type is 512MB.
- Errors were displayed twice on the Users and Roles pages.
- It was possible for the current user to delete themselves on the **Users** page.
- Under certain circumstances, groups did not display their contents.
- Under certain circumstances, Roles did not display their default selections. Some or all of the permissions were not selected.

- The Roles page was not reset if another area of the product was selected and the Roles page selected again. Unsaved data was displayed.
- A system error occurred if the default Admin user was assigned to a new Role.
- Locally monitored instances were displayed as remotely monitored if their connections used SSL.
- Instances with unknown status, because they were no longer monitored, were reported as running and available.
- Under certain circumstances, if the received data was incomplete, the Asset Selector could not render some nodes in the tree. For example, if the Server Name could not be resolved, the Asset Selector was unable to display the instances nested beneath the server name in the asset tree.
- Under certain circumstances, it was possible for the Exponential Moving Average calculations to generate invalid values (`Double.NaN`). A `MySQLException` error was logged as a result.
- The MySQL Enterprise Monitor Proxy and Aggregator menu items on the Windows **Start** were incorrectly named.

Changes in MySQL Enterprise Monitor 3.1.0 (2015-10-28)

Important

Changes have been made to the platform support in this release. For more information, see MySQL Enterprise Monitor Platform Support List.

Important

As of this release, openSSL is no longer used to secure MySQL Enterprise Monitor connections. JSSE is used to provide secure communications.

- Security Enhancements in MySQL Enterprise Monitor 3.1
- Performance Tuning Enhancements in MySQL Enterprise Monitor 3.1
- Functionality Added or Changed
- Bugs Fixed

Security Enhancements in MySQL Enterprise Monitor 3.1

- **Important Change:** Access Control Lists (ACL) are introduced in MySQL Enterprise Monitor 3.1.0. The MySQL Enterprise Monitor ACL system is based on Users and Roles.

  ACL enables you to manage the following:

  - Asset visibility: the rights to access data collected from hosts or MySQL instances. Access can be strictly limited to specific groups of monitored assets.
  - Application administration: the rights to view or change the MySQL Enterprise Monitor configuration.
  - Specific data access: the rights to view specific types of potentially sensitive data.
  - Role reuse: rather than define permissions per User, as in previous releases, permission sets are defined in Roles and multiple Users can be assigned to each Role. Users can be assigned to one or more Roles.

Important

Access Control Lists are a fundamental change in the treatment of users and application visibility in MySQL Enterprise Monitor. It is strongly recommended you read Access Control before installing this product.

- MySQL Enterprise Monitor now supports MySQL Enterprise Audit. The **MySQL Enterprise Audit** security advisor generates events on the following:
  - Events filtered due to configuration issues.
  - Events filtered due to excluded accounts or states.
  - Events filtered due to enabling the `PERFORMANCE` log strategy.
  - Events filtered due to excessive waits caused by full buffers.

  Enterprise Audit Log Plug-in Event Counts and **Enterprise Audit Log Plug-in Log Size** timeseries graphs are included in this release. (Bug #18336425)
- The Service Manager installer generates a self-signed certificate during the installation process.

  If you are performing an upgrade, and used your own certificates in the original installation, those certificates are preserved by the upgrade process.
- MySQL Enterprise Firewall is now supported. The **MySQL Enterprise Firewall** Security Advisor generates events on Firewall status (ON/OFF), suspicious access, and number of denied statements.

  The timeseries graphs, **Enterprise Firewall Cached Entries** and **Enterprise Firewall Access Counts** are also included in this release.

Performance Tuning Enhancements in MySQL Enterprise Monitor 3.1

- It is now possible to identify I/O hot spots and lock wait contention in your application using the new Database File I/O and Lock Waits reports. These reports utilize `sys` schema which can be installed on the selected instance from the **Database File I/O** report. For more information, see Database File I/O and Lock Waits.

Note

`sys` schema is supported on MySQL 5.6 and higher.

- MySQL Enterprise Monitor checks if the `sys` schema is installed, using the new **Sys Schema Install Advisor**. If `sys` is not installed, an alert is generated. The **Sys Schema Install Advisor** also checks if the monitored instance is capable of running `sys` schema and, if configured to do so, installs the schema automatically. If not configured to install it automatically, `sys` can be installed from the **Database File I/O** report. For more information, see sys Schema Install Advisor.

Note

`sys` schema is supported on MySQL 5.6 and higher.

Functionality Added or Changed

- As of this release, SMTP notifications use a default 5 minute timeout for read and write actions. In previous releases, no such timeout existed. (Bug #21912643)

- As of this release, SMTP event close notifications are sent regardless of the status of the event prior to closing. (Bug #21631100)
- The contents of the **Configuration** menu, **Advisors** and **Event Handling** are now located on the System menu.

  The **Global Settings** menu item is renamed **Settings**. (Bug #20883203)
- It is now possible to specify daily schedules on Advisors. (Bug #20067198)
- The bundled JRE was updated to 1.8.0_51 for both the Agent and Service Manager.
- The **Reset** button on the **All Timeseries** graphs page is renamed to **Reset To Default**. This enables you to revert your changes to the last saved filter settings.
- A replication group display profile is added to the Asset Selector on the **All Timeseries** graphs page. The **Replication Slave Delay** graph is displayed for replication groups.

  

  Note

  The graph is displayed only if the data exists to populate it. If there is no slave delay, or if a problem exists in the replication setup, the graph is not displayed.
- The LDAP configuration settings are updated in this release. It is now possible to configure connections to Active Directory servers.
- System variables introduced in MySQL 5.7 are now available in the per-instance drilldown on the MySQL instance dashboard. For more information on these variables, see What Is New in MySQL 5.7.
- As of this release, auto-closed events are closed by the MySQL Enterprise Event Auto-Closer User, not the MySQL Enterprise Event System User used in previous releases.
- The **Logs** page and link were removed in this release. All logging information is available in the `./apache-tomcat/logs` directory.
- The **Manage Users** page is replaced by the **Users** and **Roles** pages. **Users** and **Roles** pages can be opened from the System (Gear) menu.
- FreeBSD 8 and 9 are no longer supported platforms for the MySQL Enterprise Monitor Agent and MySQL Enterprise Monitor Proxy and Aggregator. FreeBSD 10 is supported.
- Group management can now be opened from the Settings (Gear) menu.

  The Group Management page was updated in this release.
- It is now possible to change the log4j properties while the MySQL Enterprise Service Manager is running. Any change is detected and implemented within 60 seconds.

  

  Note

  It is not possible to remove a logger without restarting the application.
- The OpenSSL library bundled with MySQL Enterprise Service Manager and MySQL Enterprise Monitor Agent has been upgraded to OpenSSL 1.0.1p.
- MySQL Enterprise Monitor Agent installation now supports SSL connection configuration and SSL connections to the monitored MySQL instance.

- The supported cipher suite list in the Tomcat configuration file, `server.xml`, has been updated with those ciphers supported by TLSv1.1 and 1.2.

Bugs Fixed

- Under certain circumstances, an error message, `(U0002) You must log in to access the requested resource` was displayed during the group creation process. (Bug #18319970)
- Under certain circumstances, for remotely monitored replication topologies, the agent was unable to detect master/slave relationships based on the UUIDs of the instances. This occurred if the hostnames of the instances were not resolvable and the detection process fell back to the UUIDs.
- A file not found exception was displayed in the `mysqlenterprisetomcat-stderr.log` for the `logging.properties` file.
- On Windows platforms, the MySQL Enterprise Monitor Agent service name was not removed from the services list when the MySQL Enterprise Monitor Agent was uninstalled. As a result, if the MySQL Enterprise Monitor Agent was reinstalled, the installer prompted for a new service name, because the default name was still in use.
- The MySQL Enterprise Service Manager installation documentation incorrectly defined the Small installation type as being suitable for monitoring 5-10 MySQL servers. The correct range of monitored servers for this installation type is 1 to 5.
- The user's full name was not retrieved from LDAP.
- Several of the Advisor's documentation links were broken.
- LDAP nested roles and groups were not supported.