SL1 8.12.0.2 Release Notes

SL1 version 8.12.0.2

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WARNING: ***Do not import 8.12.0.2 or 8.12.0 if you do not plan to immediately consume 8.12.0.2 and the 8.12.0 line of releases.*** After you import an 8.12.0 release, all appliances in your SL1 system will now use the *new system update*. After you import an 8.12.0 release, you will not be able to stage and deploy any versions of SL1 previous to 8.12.0 or apply patches to versions of SL1 previous to 8.12.0.

WARNING: ***To install 8.12.0.2 and its new System Updates tool, you have must have already imported, staged, and deployed 8.4.0***

WARNING: ***8.12.0.2 includes important security updates that require you to reboot all appliances after installing 8.12.0.2***. If you would like assistance in planning an upgrade path that meets

your security needs while minimizing downtime, please contact your Customer Success Manager.

WARNING: ***8.10.0 and later releases do not support Data Collectors and Message Collectors running the CentOS operating system. If your system includes Data Collectors and Message Collectors running the CentOS operating system, contact your Customer Success Manager for details on upgrading Data Collectors and Message Collectors to Oracle Linux before installing 8.12.0.***

WARNING: To apply updates to an existing Data Collector, that Data Collector must be a member of a Collector Group. In some SL1 systems, users might have to create a Collector Group for a single Data Collector.

WARNING: ScienceLogic strongly suggest you contact Customer Support or your Customer Success Manager to plan your migration from CentOS (versions of SL1 prior to 8.1.1) to 8.12.0.2.

WARNING: 7.x systems must be upgraded to 7.8.5 before migration to the 8.9.0 release. After migration to 8.9.0, users can upgrade to releases later than 8.9.0. Please contact your Customer Success Manager to begin a discussion on the migration plan that is appropriate for your system.

WARNING: The Knowledge Base includes known vulnerabilities for cross-site scripting and SQL injection. If you are updating from a previous installation, ScienceLogic strongly recommends that you *disable the Knowledge Base*.

WARNING: If your system is not currently running a recent release, the upgrade process includes importing multiple upgrade files. You must wait until an update file has imported successfully (i.e. the ***Import Status*** column displays *Complete* in both the EM7 Release pane and the ScienceLogic OS pane) before importing the next update file.

CAUTION: ScienceLogic recommends that Systems running an AP2 version earlier than 5.55.1.3 upgrade their version of AP2 before upgrading to 8.12.0.2.

CAUTION: Before installing a release, ScienceLogic recommends that you verify that recent backups are available for your system.

CAUTION: During the normal system update process, multiple processes are stopped and restarted. This might result in missed polls, gaps in data, and/or unexpected errors. ScienceLogic recommends that you always install ScienceLogic releases during a maintenance window.

CAUTION: The ScienceLogic system update process starts a background process that can perform any required post-upgrade tasks. The post-patch update process is automatically stopped after 24 hours. However, depending on the size of your database as well as the version from which you are upgrading, the post-upgrade tasks can take several days to perform. If the post-patch update process is stopped after 24 hours, the process will automatically re-start and continue processing from the point at which it was stopped. If you see an event that indicates the post-patch update process was stopped, you do not need to contact ScienceLogic support for assistance until you see the same event for three consecutive days.

TIP: Before you install a ScienceLogic release, ScienceLogic recommends reviewing the hardware specifications of all the appliances in your system to ensure they meet the requirements for the current usage of your system. For more information, see https://support.sciencelogic.com/s/system-requirements

TIP: ScienceLogic regularly uploads new and updated PowerPacks to the Customer Portal before packaging those PowerPacks in a system update file. For more information, see https://portal.sciencelogic.com/portal/powerpacks.

New Features in 8.12.0.2

8.12.0.2 includes the following new features:

System Update

- Added a new feature to the System Updates tool. Most configuration parameters are now stored in the SL1 database instead of in the /etc/silo.conf file so that configuration parameters persist during failovers.

Issues Addressed in 8.12.0.2

The following issues are addressed in the 8.12.0.2:

Data Collection

- Addressed an issue with Data Collection. SL1 can now monitor the subnet 172.17.0.0/16. This subnet was previously used by an internal docker interface. (support ID: 178394) (case 00032460)

  Workaround for All-In-One Appliances:

If you are using Maps on an All-In-One Appliance and have already imported, staged, and deployed 8.12.0 or 8.12.0.1, you must perform the following workaround:

1. In the SL1 user interface, go to the **Device Manager** page (in the unified UI, Devices > Device Manager or in the classic UI, Registry > Devices > Device Manager) and search for devices with IP addresses 172.17.*.* (any IP address that beings with "172.17").
    - If SL1 is not monitoring any devices in this network, you do not have to perform the following steps.
    - If SL1 is monitoring one or more devices in this network, perform the following steps.
2. Log in to the console of the All-In-One appliance or open an SSH session to the All-In-One appliance.
3. To determine which networks Docker is using, enter the following at the shell prompt:

```
docker network ls --format '{{.Name}}' | xargs docker network inspect --format '
{{.Name}}: {{range .IPAM.Config}}{{.Subnet}}{{end}}'
```

   The results will look something like this:

```
bridge: 172.17.0.0/16
docker_gwbridge: 172.18.0.0/16
host:
ingress: 10.255.0.0/16
none:
```

   You can ignore the lines that begin with "host", "ingress" and "none".

4. If both docker and one or more monitored devices are using the 172.17.*.* network, you must assign a different public network to docker.
    - To do this, use vi or another text editor to edit the file **/etc/docker/daemon.json**.
    - If the file does not yet exist, create it with vi or another text editor.
5. Add the following line to the file **/etc/docker/daemon.json**:

```
{
"default-address-pools": [
{
"base": "192.168.0.0/16",
"size": 24
}
]
}
```

    - You could also specify 10.0.0.0/16 as the base network.
    - Although the base network is /16, the size of each subnetwork that docker creates will be /24. For example, docker could create 192.168.0.0/24 and 192.168.1.0/24.
    - For maps,docker creates only one subnetwork.
6. Save your changes to **/etc/docker/daemon.json**.
7. Determine the "mid" for your system. To do this, go to the Database Tool page (System > Tools > DB Tool).

8. In the SQL Query field, enter the following

```
select * from master_platform.appliances
```

9. Note the "mid" value for your All-In-One appliance. Usually, this value is "1" (one).
10. Log in to the console of the All-In-One appliance or open an SSH sesssion to the All-In-One appliance.
11. To clear the previous IP conflict with docker, you must restart docker and restart streamer-push on the All-In-One appliance.
12. To restart docker, enter the following at the shell prompt:

```
siloupdate module-cmd mid 'sudo systemctl restart docker.service'
```

    where *mid* is the value you retrieved in steps 7-8.

13. To verify that docker is running, enter the following at the shell prompt:

```
siloupdate module-cmd mid 'sudo systemctl status docker.service'
```

    where *mid* is the value you retrieved in steps 7-8.

14. Use vi or another text editor to edit the file **/opt/em7/nextui/nextui.env**. Edit the following lines:

```
API_PROXY_HOST=https://localhost
RESPONDER=ip_address_of_database_server
```

> **NOTE**: If these lines don't exist in the file **/opt/em7/nextui/nextui.env**, add them to the file.

15. Restart the NextUI service. to do this, enter the following at the shell prompt:

```
sudo systemctl restart nextui.service
```

Workaround for Distributed Systems:

If you are using Maps on a Distributed System and have already imported, staged, and deployed, you must perform the following workaround:

1. On the Administration Portal, in the SL1 user interface, go to the **Device Manager** page (in the unified UI, Devices > Device Manager or in the classic UI, Registry > Devices > Device Manager) and search for devices with IP addresses 172.17.*.* (any IP address that beings with "172.17").
    - If SL1 is not monitoring any devices in this network, you do not have to perform the following steps.
    - If SL1 is monitoring one or more devices in this network, perform the following steps.
2. Log in to the console of the Database Server or open an SSH session to the Database Server.
3. To determine which networks Docker is using, enter the following at the shell prompt:

```
docker network ls --format '{{.Name}}' | xargs docker network inspect --format '
{{.Name}}: {{range .IPAM.Config}}{{.Subnet}}{{end}}'
```

The results will look something like this:

```
bridge: 172.17.0.0/16
docker_gwbridge: 172.18.0.0/16
host:
ingress: 10.255.0.0/16
none:
```

You can ignore the lines that begin with "host", "ingress" and "none".

4. If both docker and one or more monitored devices are using the 172.17.*.* network, you must assign a different public network to docker.
   - To do this, use vi or another text editor to edit the file **/etc/docker/daemon.json**.
   - If the file does not yet exist, create it with vi or another text editor.
5. Add the following line to the file **/etc/docker/daemon.json**:

```
{
"default-address-pools": [
{
"base": "192.168.0.0/16",
"size": 24
}
]
}
```

   - You could also specify 10.0.0.0/16 as the base network.
   - Although the base network is /16, the size of each subnetwork that docker creates will be /24. For example, docker could create 192.168.0.0/24 and 192.168.1.0/24.
   - For maps,docker creates only one subnetwork.
6. Save your changes to **/etc/docker/daemon.json**.
7. Determine the "mid" for each Data Collector in your system. To do this, go to the Administration Portal, open the UI, and go to the Database Tool page (System > Tools > DB Tool).
8. In the SQL Query field, enter the following

```
select * from master_platform.appliances
```

9. Note the "mid" value for each Data Collector.
10. Log in to the console of the Database Server or open an SSH session to the Database Server.
11. To clear the previous IP conflict with docker, you must restart docker and restart streamer-push on each Data Collector.
12. To restart docker, enter the following at the shell prompt:

```
siloupdate module-cmd mid 'sudo systemctl restart docker.service'
```

where *mid* is the value you retrieved in steps 7-8.

13. To verify that docker is running, enter the following at the shell prompt:

```
siloupdate module-cmd mid 'sudo systemctl status docker.service'
```

where *mid* is the value you retrieved in steps 7-8.

14. To restart streamer_push, enter the following at the shell prompt:

```
siloupdate module-cmd mid 'sudo systemctl restart streamer_push.service'
```

where *mid* is the value you retrieved in steps 7-8.

15. To verify that streamer_push is running, enter the following at the shell prompt:

```
siloupdate module-cmd mid 'sudo systemctl status streamer_push.service'
```

where *mid* is the value you retrieved in steps 7-8.

16. Perform steps 12-15 for each Data Collector in your system.
17. Use vi or another text editor to edit the file **/opt/em7/nextui/nextui.env**. Edit the following lines:

```
API_PROXY_HOST=https://localhost
RESPONDER=ip_address_of_database_server
```

where *>ip_address_of_database_server* is the IP address of the Database Server.

NOTE: If these lines don't exist in the file **/opt/em7/nextui/nextui.env**, add them to the file.

18. Restart the NextUI service. To do this, enter the following at the shell prompt:

```
sudo systemctl restart nextui.service
```

GraphQL and REST API

- Addressed an issue with the ScienceLogic REST API and GraphQL. GQL queries and REST API queries for device relationships no longer run slowly, cause timeouts, and affect the performance of the Database Server. (Support ID: 178242) (case 00031725)

Security

- Updated kernel and packages to address CVE-2018-12130, CVE-2018-12126, CVE-2018-12127, and CVE-2019-11091 (Zombieload vulnerability).
- Updated the wget package in response to CVE-2019-5953.

System Update

- Addressed an issue with System Update. System Update no longer hangs on SL1 appliances with more than 20 CPU cores.
- Addressed an issue with System Updates. During staging, SL1 now automatically examines file partitions and chooses a partition with enough space to temporarily store the repository cache.

New Features in 8.12.0.1

8.12.0.1 includes the following new features:

Security

- The 8.12.0.1 release includes important security updates for Python that address CVE-2019-9636.

Issues Addressed in 8.12.0.1

The following issues are addressed in the 8.12.0.1:

System Update

- During deployment of an update, the deployment icon is now disabled for all other updates.

New Feature in 8.12.0: System Update

Significant changes and improvements to the System Updates page (System > Tools > Updates). For details, see the ***System Administrators*** manual.

WARNING: ***Do not import 8.12.0 if you do not plan to immediately consume 8.12.0 and the 8.12.0 line of releases.*** After you import 8.12.0, all appliances in your SL1 system will now use the new system update. After you import 8.12.0, you will not be able to stage and deploy any versions of SL1 previous to 8.12.0 or apply patches to versions of SL1 previous to 8.12.0.

Improvements

- Improved performance and resilience.
- System Update is now based on the yum utility, which delivers code updates in RPM packages and provides dependency-management.
- The patcher module is now a stand-alone module and in its own python package (silo_update).
- Added a button that allows users to retry staging. SL1 will then retry staging only on those appliances where staging failed.
- Users can deploy to those appliances where staging was successful. If staging fails on some appliances, users can still deploy to those appliances where staging did not fail.

What Has Changed?

- Release downgrades are no longer supported.
- SL1 and platform OS updates are now delivered and managed in a single package.

- You can now choose to auto-stage (or not) when you import an update instead of defining a system-wide policy.
- You cannot use the 8.12.0 System Update tool to update CentOS Data Collectors and Message Collectors
- Removed the Select Actions menu that performs bulk actions as it is no longer required.

Caveats

- After successfully importing 8.12.0, refresh the System Updates page to see the updated user interface.
- After deploying 8.12.0, clear the SL1 cache to see the latest version displayed in the System Updates page.
    - Go to the **Cache Management** page (System > Tools > Cache).
    - From the hamburger menu ( ), select ***Clear EM7 System Cache***.
- 8.12.0 does not support updating Global Manager using the new System Updates page. However, you can upgrade Global Manager to 8.12.0 with the GMAPI.
- Scheduled Deployment is not yet supported in 8.12.0.

New Feature in 8.12.0: Unified User Interface

8.12.0 includes the unified user interface. This interface includes new features developed in the latest user interface and access to all the functionality included in the previous user interface.

To enable the unified user interface, users with administrative access can append "/ap2" to the URL of the SL1 Administration Portal. To allow users to view the unified user interface, SL1 administrators must grant users the access hook for "Admin Portal Access".

The Unified User Interface includes the following new features:

Guided Discovery

A wizard-based Discovery process that prompts you for the required information to discovery devices.

Agent Investigator

If you have installed the ScienceLogic Agent, you can use the Agent Investigator page to view information about the agent and configure the agent settings.

Applications

Applications allow you to monitor the health, availability and risk associated with software or processes.

An application is made up of application components and a status policy:

- An application component is a group of devices that run the software or process you want to monitor. These devices usually deliver that application to end-users. A process rule determines which devices are running

the software or process and should therefore be included in the application component. An application can have one or more application components.

- A status policy contains a set of rules that define the health, availability, and risk criteria for each application component and for the overall application.

Business Services

A business service allows you to monitor the health, availability, and risk associated with a service provided by your organization. A business service includes the following components:

- Device Services monitor a set of related devices, such as all devices from a specific region.
- IT Services monitors a service that IT provides to your organization. An IT service is made up of one or more device services.
- Business Services monitors a service your organization provides to your customers. A business service is made up of one or more IT services.

Maps

A Map is a visual representation of relationships between Devices, Topology Elements, Applications, Application Components, and Business Services. For details on installing the latest features for Maps, see the "Installation" chapter in the ***Maps*** manual. For users who are not on a SaaS platform, the installation requires additional steps.

Themes

The new theme "SL1-AP2" optimizes the display in the unified user interface. This is not the default theme. For details on changing your theme, see the manual ***Customizing User Experience***.

New Features in 8.12.0

8.12.0 includes the following new features:

Agents in the Unified UI

- The new **Agents** page (Devices > Agents) lets you create, upgrade, and delete SL1 Windows and Linux agents.
- The **Agent Investigator** page provides access to all of the data associated with an agent, using the following tabs: **[Config]**, **[Polled Data]**, **[Log Sources]**, and **[Watched Files]**.

API

- Removed the password field from the account resource (/api/account/<acct_id>/password) from the ScienceLogic API.

Applications in the Unified UI

- The new **Applications** page lets you create policies for monitoring the health, availability, and risk associated with software and processes.
- Applications and application components can generate events in SL1 based on the settings on the **Applications Thresholds** page.

Audit Logging

- Added an improvement to audit logging. When a user adds or deletes a Content Monitoring Policy, the entry in the Audit Logs page (System > Monitor > Audit Logs) includes the device ID.

Backups

- Significant changes and improvements to the SL1 backup options. For details, see the ***System Administrators*** manual.
    - For new installations, the only protocol options for config backups and full backups are nfs-remote and smb-remote
    - If you were previously using "local only" FTP, or SFTP, these options persist after installing 8.12.0.
    - If you were previously using nfs or smb, these will automatically be changed to nfs-remote and smb-remote after installing 8.12.0.
- Users can now specify the staging and remote directories they want to use for backups in the master.system_settings_backup database table. This ensures that users can select a directory with enough disk space to stage the backup.
- For configuration backups, increased the default packet size to 128M.
- New database table "master_logs.backup_log" stores start time and end time for backups.

Business Services in the Unified UI

- The **Service Investigator** page includes an **Info** menu that displays additional information about the service, including the service description, the managing organizations, the allowed organizations, and the contact user.
- The ***Root Cause Analysis*** feature allows you to determine what is causing a service to be unhealthy, troubleshoot that service, and refine your policies.

Collector Load Balancing

- Redesigned load balancing for Collector Groups to work more efficiently with Dynamic Component Mapping, collector affinity, and Bulk Snippet Dynamic Applications.

Credentials

- Improved SOAP/XML Credentials. The Embedded Password field now accepts values up to 65,000 characters in length.

Dashboards in the Unified UI

- New dashboard widget options for this release include Agent Polled Data, Agent Processes, Agent Logs, Applications, Application Components, and Maps.
- Dashboards can now display a table of processes running on a device, based upon a given point in time. Also, dashboards can display agent log data in the table widget.
- On a leaderboard table, the dynamic application metrics are properly labeled for the relevant subset of the device.
- You can use an index as a context to which a widget can publish or subscribe.
- Added individual index lines to line charts to let you view time series data from a variety of indexes for a device.
- You can include the organization aligned with a device in a device table or device leaderboard widget.
- You can filter a leaderboard bar chart based on device and organization filters.
- You can filter a device component driver widget to show a list of root parent devices that have a certain device class.
- You can select a service in a table and view a table of events showing only events aligned to that service.
- You can view the name of the Dynamic Application that provides the dashboard with its data.
- When you select a root device on a Device Component widget, all of the devices under that devices are automatically selected.
- You can filter context-driven widgets by device class when selecting a device component.
- You can click the ***Full Map*** link in a map widget to go directly to the full map.

Devices in the Unified UI

- The **Device Investigator** page includes the following updates:
    - New tabs: **[Settings]**, **[Collections]**, **[Journals]**, **[Map]**, **[Monitors]**, **[Notes]**, **[Ports]**, **[Processes]**, **[Redirects]**, **[Relationships]**, **[Schedules]**, **[Services]**, **[Software]**, **[Thresholds]**, and **[Tickets]**.
    - The **[Settings]** tab on a **Device Investigator** page lets you change the collector group and collection type for a device, enable and disable user maintenance, and choose from additional device-specific preferences.
    - The **[Map]** tab on the **Device Investigator** page displays a map of the device and any devices to which it is related.
    - In the ***More*** drop-down list, you can search for specific items on the ***Info*** drop-down list, such as *Device Class*, *Uptime*, or *Category*. You can also search for a device tool name.
    - On a **Device Investigator** page, you can click the forward-slash button (/) to open the ***More*** drop-down list. You can also highlight search results using the up and down arrow keys and select a result by pressing **[Enter]**.
    - *Collection Time* for a device has been added to the **Info** menu.
    - From the **[Events]** tab of the **Device Investigator** page, you can go to the **Event Investigator** page for an event aligned with that device by clicking the link in the **ID** or **Message** field.
- For Device Categories and Device Classes, you can assign icons to multiple categories or classes at the same time, and you can also duplicate and delete categories.

Discovery in the Unified UI

- This release includes a new Universal Discovery Framework process that walks a user through the discovery process. For details, see the manual on ***Credentials and Discovery***.
- As part of the Discovery process, you can view and modify organization-specific credentials. You can also you can create or edit a credential. For details, see the manual on ***Credentials and Discovery***.

Dynamic Applications

- Multiple improvements to the report generated by "Run Dynamic App" (Device Administration panel > Collections tab > lightning-bolt icon). For details, see the Device Management manual.
- Improved logging for failures during Dynamic Application collection. When a Dynamic Application fails, instead of an unhandled exception, create a log entry the specifies that a Dynamic Application job has failed and that includes the application ID, the device ID, a timestamp for the failure and a full traceback.

Events in the Unified UI

- Every event now has its own **Event Investigator** page, even if that event is not aligned with a device.
- The **Events** page will auto-refresh periodically and display new events. You can also click the refresh icon to manual refresh the **Events** page.
- On the **Events** page and the **Event Investigator** page, you can acknowledge an event that has been previously acknowledged by a different user. You can hover your mouse over an acknowledged field to see when the event was acknowledged and who acknowledged it. Also, if an event was acknowledged by another user and you have the relevant permissions, you can click the **[Reacknowledge]** button to acknowledge that event.
- The **Event Investigator** page includes a new section for ***Probable Cause & Resolution*** information.
- Clicking the *Ticket ID* for an event on the **Events** page launches a new window with the **Ticket** detail page in the classic user interface. You can also click the **[Actions]** button and select *Create Ticket* to create a new ticket in the classic user interface.
- Clicking the name of an asset on the **Event Investigator** page launches a new window with the **Asset** detail page in the classic user interface.
- Clicking the name of an organization on the **Events** page launches a new window with the **Organization** detail page in the classic user interface.
- The Card view for the **Events** page has been deprecated.

HA

- Added HA functionality for data engines ("remote databases" where MySQL is not running locally). For details, see the ***Installation*** manual.

Installation

- For ISO installation, removed the entry for the deprecated appliance "Integration Server" from the installation wizard. The Integration Server is now its own product with its own ISO.

Maps in the Unified UI

- For details on installing the latest features for Maps, see the "Installation" chapter in the ***Maps*** manual. The installation requires an additional download.
- The new **Maps** page lets you view relationships between monitored devices in SL1 as maps, and you can also filter maps to show edge and node relationships as needed.
- On the **Maps** page you can also create relationship maps for the various nodes in SL1.

Platform

- Streamer Push was updated to address several security and data collection issues. With this update, the Docker engine and Streamer Push are now installed by default on Data Collector and Message Collector appliances.
- Improved database tables (in_*) that reside on Data Collectors. Sequence numbers are now BIGINT (64-bit) characters, to prevent outage when sequence number hit maximum value.
- Added global settings and per-Data Collector settings for data collection. These settings define how many PowerPacks can be collected in parallel, how many collections within a PowerPack can be processed in parallel, and how many objects can be collected with a single process. For details, see the ***System Administration*** manual.
- Improved platform processes. In the silo.conf file, users can now define the maximum amount of virtual memory that an SL1 process can consume. For details, see the System Administration manual.
- To aid in troubleshooting, each change to the following files will be logged in the SL1 database:
    - /etc/silo.conf
    - /etc/my.cnf.d/silo_mysql.cnf
    - /etc/drbd.d/r0.res
    - /etc/postfix/main.cf

Platform in the Unified UI

- If a user forgets his or her password, the user can click the "Forgot Password?" link to reset his or her password.
- Basic Search and Advanced Search were updated to include better search queries and usability.
- SmartViews were deprecated in this release.

Publisher

- For SaaS users, new Publish/Subscribe services are available. Contact your Customer Success Manager for details.

ScienceLogic Agent

- The Windows SL1 agent (version 115) was updated to prevent reporting an IPv4-mapped TCP socket twice.

Reports

- Scheduled report jobs now appear on the new Scheduled Report Jobs page (Reports > Create Report > Scheduled Job / Report Archive). For details, see the ***Reports*** manual.

NOTE: If you are upgrading to version 8.12.0 from a previous version, you can improve the performance of reports by adding new settings in the silo.conf file. For details, see the ***Reports*** manual or the ***System Administration*** manual.

- Improved performance of the reports in the Reports tab and added the ability to schedule reports.
- Two new options, SL1 Dashboards and ScienceLogic Libraries, were added to the PowerPack Details Selector section of the PowerPack Information Report configuration page (Reports > Run Report > EM7 Administration > PowerPack Information). If selected, details about the SL1 Dashboards and ScienceLogic Libraries included in the selected PowerPack will appear on the generated report.
- Users will now receive a "Report timed out" message if the report they are running fails to generate within 3 hours. This timeout period can be lengthened or shortened by editing the report_fail_check_time value under the [ADHOC_REPORT_IN_BATCH] section of the silo.conf file.

Syslogs and Traps

- Addressed an issue with incoming syslogs and incoming traps. To prevent degraded performance, set the threshold for incoming syslogs and incoming traps to 25 per second.

User Interface Version

- 8.12.0 includes the following version of the user interface:
  - AP2_5.117.2.

Web Configuration Tool

- To aid in troubleshooting, added the ability to access the Web Configuration tool from outside the SL1 stack.

Issues Addressed in 8.12.0

The following issues are addressed in the 8.12.0 release:

For ease of tracking, the Issues Addressed section includes the support ID or case ID associated with each fixed issue. Although you cannot view other users support IDs or case IDs, you can verify if one or more of your issues have been fixed.

Access Hooks

- The Dev:Schedule:View access hook was updated to ensure that it does not enable users to schedule device maintenance. (Support ID: 167553)

Access Logs

- Addressed an issue that was allowing users to sometimes remain logged in even after their user sessions had been killed from the Access Logs page (System > Monitor > Access Logs). With this update, all users will be forced to log back in to SL1 if their session is terminated from that page. (Support ID: 175960)

Asset Records

- An organization can now include multiple asset records with no value in the Asset Tag field. (Support ID: 104322)
- Addressed an issue that was preventing Asset device links from unlinking from previous devices when updated through the API POST and PUT actions, which was resulting in duplicate Asset IDs. (Support ID: 105096)
- If a user creates a tabbed form (System > Customize > Form Fields) with a Form Type of "Asset" and then later deletes an asset record, SL1 cleanly removes the asset record from the database and does not leave an orphaned row in the database. (Support ID: 105906)
- Addressed an issue with Asset Records. When the "Alert on Change" is selected for an asset field in the Asset Automation page (System > Settings > Assets), SL1 now successfully triggers an event when the value of the asset field changes. (Support ID: 171821)
- Addressed an issue with Asset Records. The Host ID/SID field in the Asset Configuration page (Registry > Assets > Asset Manager > create/edit > Configuration tab) now supports 128-bit UUIDs (36 characters in hex), with no truncating. (Support ID: 175921)
- Addressed an issue that was causing Asset device links to not unlike from previous devices when updated through the API POST and PUT actions, which was resulting in duplicate Asset IDs.(Support ID: 105096)
- Addressed an issue that was causing Asset records to become automatically aligned to a default device when edited, even if they were not aligned to a device previously. Users can now create and edit Asset records without aligning to a default device. (Support ID: 177561)

Authentication

- To aid in troubleshooting, fixed an error in the authentication_profile_rescue.php file.(Support ID: 111944)
- The User Search Base field on the Create New LDAP/AD Credential modal page (System > Manage > Credentials > Actions > Create LDAP/AD Credential) now has a 255-character limit. (Support ID: 142205)
- The Search Filter field on the Creating New LDAP/AD Authentication Resource modal page (System > Settings > Authentication > Resources > Actions > Create LDAP/AD Resource) now has a 255-character limit. (Support ID: 142205
- Addressed an issue to ensure that SL1 properly handles user passwords with special characters such as "%" and "@". (Case 00024273)

Backups

- Users can now specify the staging and remote directories they want to use for backups in the master.system_settings_backup database table. This ensures that users can select a directory with enough disk space to stage the backup.(Cisco Support ID 120403)(Support ID: 108802)(Support ID: 150678))
- Users can now modify mount commands in the database to ensure that backups are successful on SMB and NFS servers. (Support ID: 91863) (Support ID: 109003) (Support ID: 131562)
- The backup process has been updated to issue a SQL command every hour to ensure that the connection does not time out if the process runs longer than the default 8-hour MySQL connection timeout. (Support ID: 133036)
- Backup user credentials can now include special characters. (Support ID: 139178)
- An issue was addressed that was causing the backup script to not properly expand wildcard characters in file or directory names. (Case 00021375)

Credentials

- An issue was addressed that was causing deleted credentials that were already aligned to discovery sessions to be replaced with "*unknown credential*" in the discovery session's credentials fields. With this update, if you delete a credential that is aligned to a discovery session, the credential alignment is removed altogether from the discovery session. (Support ID: 94779)

Devices

- Addressed an issue with availability for devices. If a device uses TCP or UDP to monitor availability (Registry > Devices > Device Manager > wrench > Device Properties > Availability field), SL1 now successfully updates the Collection Time field in the Device Properties page for the device. (Support ID: 164480)

Documentation

- In the System Administration manual, chapter on Backups, fixed a bug. (Support ID: 164079) Changed:

```
sudo chown -R mysql:mysql
```

to

```
sudo chown -R mysql:mysql /data/db/*
```

Email

- The Email Formal Name field on the Email Settings page (System > Settings > Email) now appears in the "From" field of emails sent by SL1 for Run Book Actions, password resets, and Report Jobs. (Support ID: 138268)
- Addressed an issue with emails for ticketing. When replying to a ticket from SL1 ticketing, users can edit the "To" field to add additional SL1 users to the email chain. SL1 will correctly parse the list of email addresses in the "to" field and attach comments to tickets. (Support ID: 155470)

Events

- Addressed an issue with Events from Emails. SL1 now correctly matches text that contains multiple newline characters and displays the matched text as a single line in event messages. (Support ID: 117391)
- Addressed an issue with events. Events that are "prepending" must occur the number of times defined in the Occurrence Count field (in the Event Policy Editor) in the time period specified in the Occurrence Time field (in the Event Policy Editor) before SL1 will create a message in the Event Console. SL1 now uses the timestamp attached to each alert message to determine the first occurrence of the event and the triggering occurrence of the event. (Support ID: 159369)
- Addressed an issue with events. Removed an extraneous index that was preventing SL1 from accurately querying existing events, generating and handling syslogs, and process tickets. (Case 00018318) (Case 00023349)

Forms Fields

- Addressed an issue with Form Fields (System > Customize > Form Fields). In form fields of type "Date", users can now select years up to 2099. (Support ID: 175928)

Network Interfaces

- Addressed an issue with interface collection. Interfaces that use 64-bit counters no longer change to 32-bit counters and create inaccurate performance data. (Support ID: 173236) (case 00013461)
- Addressed an issue that was causing gaps to appear in data collection for network interfaces. (Case 00024543)

PhoneHome

- Addressed an issue with PhoneHome configuration. Sudo commands embedded in PhoneHome no longer send email notifications and no longer generate error messages and send those error messages to the /var/spool/postfix/maildrop folder.(Support ID: 136108)

Platform

- Percona Toolkit is now installed on all SL1 appliance types rather than just database servers. (Support ID: 111316)
- The /etc/my.cnf.d/silo_mysql.cnf file now ignores lines that have been commented out. (Support ID: 171816)
- Addressed an issue where medium-frequency collection was falling (rows) behind. To improve performance of discovery, discovery skips the duplicate detection query in cases where discovered devices do not have IP addresses. (Support ID: 171963) (Case 0000738)
- The "EM7: DRBD Status Config" Dynamic Application was updated to fix a typo in the "EM7: DRBD Failover Secondary" alert formula. (Support ID: 173187)
- Addressed an issue with execution environments where an older process, em7_envs_deploy, continues to run after update instead of being deprecated. During ISO or patch upgrades to version 8.8.0 and later, SL1 no longer generates unhandled exceptions that reference " Python Envs Deploy" or "deploy_env". (Support: 00011870)
- The /etc/chrony.d/servers.conf file was updated to correct the NTP servers used in the default configuration. (Support ID: 173895)
- Addressed an issue with log rotation. The log files in /var/log are now successfully rotated so that the partition does not become full.
- Addressed an issue with SL1 self-monitoring. The SL1 script that monitors and reports on "rows behind" is now more resilient and can also detect corruptions to the database tables on Data Collectors and Message Collectors. (Support ID: 174367)
- Addressed an issue with SL1 self-monitoring. SL1 now triggers alerts if database tables on Data Collector and Message Collectors become corrupted. (Support ID: 174367)

PowerPacks

- Addressed an issue with the PowerPacks that was affecting Dashboard widgets. Repeatedly installing a PowerPack no longer creates duplicate rows in the central database.(Support ID: 107249)
- Addressed an issue with IT Service policies in PowerPacks. Large PowerPacks that contain IT Service policies can now be successfully exported and imported. (Support ID: 148462)

PowerShell

- Addressed an issue with PowerShell requests. Dynamic Applications in the Microsoft: Windows Server PowerPack, and in the Microsoft: SQL Server Enhanced PowerPack now successfully complete collection via PowerShell requests. SL1 no longer truncates results from PowerShell requests and correctly displays log entries and Event Descriptions from PowerShell requests.(Support ID: 159475)

Reports

- Addressed an issue with the "Subscription License Usage Report By Device" report (Reports > EM7 Administration > Subscription License Usage Report by Device). The report now accurately reflects the current device count and the device count at the time of the last subscription crunch. (Case 00021094)

Run Book Automation

- Addressed an issue with Run Book Automation. Unhandled Exceptions that occur when Run Book Automations query the SL1 database (in this case, checking for Device Group membership) no longer cause Run Book Automation to crash. Run Book Automation now gracefully handles the exception and does not trigger the Run Book Automation. (Support ID: 164502)
- Addressed an issue with how prepending events and masked events affect Run Book Automations. Prepending events no longer delay an active event from triggering a Run Book Automation. (Support ID: 170261)
- Improved performance of Run Book Automations by creating a new database view for meta-data for Content Libraries. (Case 00006956)
- Addressed an issue with how prepending events and topology suppression affects Run Book Automations. Prepending events and topology events no longer delay an active event from triggering a Run Book Automation. (Support ID: 170261)

ScienceLogic Agent

- Addressed an issue where a SQL Server cluster running the ScienceLogic Agent stopped unexpectedly. The issue was addressed with version 115 of the ScienceLogic Agent. (Support IDL: 174481)
- Addressed an issue with the ScienceLogic Agent. The ScienceLogic Agent now successfully monitors system processes upon reboot. (Case 00019842)
- The ScienceLogic Agent (version 115) was updated to prevent reporting an IPv4-mapped TCP socket twice.

System Update

- Addressed an issue where under rare conditions, the system update tool from versions earlier than 8.12.0 can cause a race condition, update the Data Collector database before updating the Database Server and then overwrite the updated Data Collector database with an older schema from the Database Server. (Case 00006687)

Topology Maps

- Addressed an issue with topology mapping. During collection of data for LLDP maps (System > Classic Views > LLDP), if a device does not conform to the LLDP MIB format, SL1 now gracefully logs an error and continues with collection. (Support ID: 155680)
- Addressed an issue with topology mapping. LLDP maps (System > Classic Views > LLDP) now successfully include Juniper routers. (Support ID: 171017)

Web Configuration Tool

- Addressed an issue that was causing database IP addresses to be deleted from the Web Configuration Utility whenever a user changed the Web Configuration Utility password. (Support ID: 158880)

PowerPacks Released with 8.12.0

When patching to 8.12.0, please verify whether any PowerPacks that your system is currently running are "newer" than the PowerPacks included in this SL1 update. If the PowerPack on your system is "newer" than the one included with the SL1 update, you might see spurious error messages. To avoid spurious error messages:

1. Go to the **Device Components** page (Registry > Devices > Device Components).
2. Find each root device associated with the PP you do not want to update and select its checkbox.
3. Click the ***Select Action*** field and choose *Change Collection State: Disabled (recursive)*. Click the **[Go]** button.
4. Wait five minutes after disabling collection.
5. install the SL1 update.
6. Go to the **Device Components** page (Registry > Devices > Device Components).
7. Select the checkbox for all affected root devices.
8. In the Select Actions drop-down list, select Change Collection State: Enabled (recursive).
9. Click the **[Go]** button.

The 8.12.0 release includes the following PowerPacks that are new or updated and included with the release:

- Amazon Web Service, v113
- AWS Classic Dashboard, v100
- Cisco: ACI, v107
- Cisco: CSP-2100, v105
- Cisco: CUCM Cisco Unified Communications Manager, v111
- Cisco: TelePresence: Endpoints, v100
- Cisco: UC Ancillary, v102
- Cisco: UC Standalone Rack Server v102
- Cisco: UC VOS Applications, v108
- Cisco: UCS Director, v105
- Cisco: UCS Standalone Rack Server, v102
- CouchBase, v100
- Dell EMC: Unity, v100
- Dell EMC: VMAX and PowerMax Unisphere API, v200
- Host Resource Core Pack, v105
- LayerX Appliance Monitoring, v100

- Linux Base Pack, v102
- Microsoft Base Pack, v106
- Microsoft: Azure, v108 rev7607
- Microsoft: IIS Server, v101
- Microsoft: Windows Server Services, v100
- Microsoft: Windows Server, v101
- NetApp Base Pack, v104
- Net-SNMP Base Pack, v100
- Nutanix: Base Pack, v101
- Pure Storage, v100
- ScienceLogic: Integration Service, v103
- Tandberg: Infrastructure, v106
- VMware: vSphere Base Pack, v211
- Windows Restart Automatic Services, v100 WIN-144

Documentation and release notes for each PowerPack are available on the ScienceLogic Portal.

CAUTION: If you are currently using the Amazon Web Services PowerPack included in the 8.1.0 platform release or included in an earlier platform release, please read the release notes for Amazon Web Services before migrating to later versions Amazon Web Services PowerPack. You must first migrate to Amazon Web Services, v100 before upgrading to later versions of the Amazon Web Services.

CAUTION: If you are currently using the VMware: vSphere Base Pack, v202 or earlier, please read the migration instructions in the release notes for VMware: vSphere Base Pack, v203 and migrate to v203 before upgrading to later versions of the PowerPack.

NOTE: The "Microsoft SharePoint" PowerPack is no longer included with platform releases. The PowerPack is superseded by the "Microsoft: SharePoint Server" PowerPack.

NOTE: The "Microsoft SQL Server" PowerPack is no longer included with platform releases. The PowerPack is superseded by the "Microsoft: SQL Server" and "Microsoft: SQL Server Enhanced" PowerPacks.

NOTE: The "Microsoft Exchange" PowerPack is no longer included with platform releases. The PowerPack is superseded by the "Microsoft: Exchange Server 2010" and "Microsoft: Exchange Server 2013" PowerPacks.

NOTE: The "Microsoft HyperV" PowerPack is no longer included with platform releases. The PowerPack is superseded by the PowerPack "Microsoft: Hyper-V Server".

New and Updated Packages in 8.12.0

The 8.12.0 release includes multiple kernel updates and security updates. ***These important security updates will not take effect until each appliance in your system is rebooted. If you would like assistance in planning an upgrade path that meets your security needs while minimizing downtime, please contact your Customer Success Manager.***

Version 8.12.0 includes updates to MariaDB that address security and performance issues. You can download the MariaDB server update at https://portal.sciencelogic.com/portal/miscellaneous. See the section on *Upgrading MariaDB*.

Beta Features

The following beta features are included in the 8.12.0 release:

- **Manual Device Discovery**
    - This beta feature allows monitored devices to be added manually instead of via a discovery session.
- ***Run Book Actions: Custom Action Type***
    - A Run Book Action of type "Custom Action Type" executes a reusable snippet. Unlike the Action Type "Snippet", a Custom Action Type can accept input parameters (in a JSON format) and create output (in a JSON format). A Custom Action Type allows a single snippet to be used in multiple Action Policies, each time with different inputs and different outputs. A Custom Action Type is associated with an Execution Environment. An Execution Environment contains the supporting modules and code (Content Libraries) required by the Custom Action Type. Content Libraries allow snippet developers to isolate the “heavy weight”, re-usable code and write “light weight” snippets that call the Content Libraries.
- **PowerPacks**: Beta versions of the following PowerPacks are available. You can download then from the Customer Portal and import them into SL1:
    - Alibaba Cloud: Aliyun
    - AMQP: RabbitMQ
    - Cisco: ACI Multi-Site Manager
    - Cisco: Cloud Center
    - Cisco: Contact Center Enterprise
    - Cisco: Hyperflex
    - Cisco: Medianet/Mediatrace

- Cisco: Meraki (API)
- Cisco: Tetration
- Cisco: UC Ancillary PowerPack. Includes Dynamic Applications for monitoring Cisco CUBE devices.
- Cisco: UCS Director
- Cisco: Unity Express (Download from the Customer Portal and Import into SL1)
- Docker (Download from the Customer Portal and Import into SL1)
- ELK: AWS CloudTrail
- ELK: Azure Activity Log
- F5: BIG-IP DNS
- Google Cloud Platform
- Hitachi Data Systems: VSP
- Kubernetes
- Link Layer Neighbor Discovery (Download from the Customer Portal and Import into SL1)
- Microsoft: Office 365
- Microsoft: Windows Server Event Logs
- Palo Alto (Download from the Customer Portal and Import into SL1)

To install a beta PowerPack:

1. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
2. Select the **[Actions]** menu and select *Install PowerPack*. The **PowerPack Installer** modal page is displayed.
3. Select the lightning-bolt icon ( ) for the PowerPack you want to install. Information about the contents of the PowerPack and the installation process is displayed.
4. Select the **[Install]** button.

TIP: By default, installing an updated version of a PowerPack will overwrite all content in a PowerPack that has already been installed on the target system. You can use the ***Enable Selective PowerPack Field Protection*** setting in the **Behavior Settings** page (System > Settings > Behavior) to prevent new PowerPacks from overwriting local changes for some commonly customized fields.

Disabling the Knowledge Base

The Knowledge Base includes known security vulnerabilities. ScienceLogic no longer supports the Knowledge Base

- ScienceLogic strongly recommends that existing users disable the Knowledge Base. 8.9.2 and later releases provides a new setting in the silo.conf file to disable the Knowledge Base.
- For new installations that installed the 8.12.0 ISO, the Knowledge Base will be disabled by default.

WARNING: The Knowledge Base includes known vulnerabilities for cross-site scripting and SQL injection. ScienceLogic strongly recommends that you disable the Knowledge Base.

To disable the Knowledge Base:

1. Use SSH to connect to the Administration Portal and Database Server or All-In-One (all SL1 appliances that provide a web interface).
2. Use an editor like vi and edit the file **/etc/silo.conf**. In the LOCAL section, add the line:

```
kbase_disabled=1
```

4. Use an editor like vi and edit the file **/etc/siteconfig/siloconf.siteconfig**. In the LOCAL section, add the line:

```
kbase_disabled=1
```

5. Open a browser session and login to the SL1
6. From the hamburger menu (☰) in the upper right, select ***Clear SL1 System Cache***.
7. Upon your next login, the Knowledge Base tab will not appear. Attempts to access the tab will result in an "Access Denied" error message.

Special Upgrade Process for FIPS-Compliant System

FIP-compliant systems should use the classic SL1 user interface. The Unified User Interface is not yet FIP-compliant.

FIPS-compliant systems (those that are FIPS 140-2 enabled) should *manually upgrade to the latest version of MariaDB*.

The platform patch will automatically update MariaDB-client, MariaDB-common, and MariaDB-shared RPMs but will not update the MariaDB Server.

Special Considerations for Systems Running 8.4.1 or Earlier

WARNING: ***8.10.0 and later releases do not support Data Collectors and Message Collectors running the CentOS operating system. If your system includes Data Collectors and Message Collectors running the CentOS operating system, contact your Customer Success Manager for details on upgrading Data Collectors and Message Collectors to Oracle Linux before installing 8.12.0.***

8.4.2 included a new feature for Ticketing. The Note Editor for tickets includes a drop-down menu where the user can specify that the note be saved as Plain Text or HTML. Ticket notes created in the API can also be saved as Plain Text or HTML. HTML is the default format for ticket notes in both the Note Editor and the API.

This new feature required a change to the database schema that will be performed immediately after a system is upgraded to 8.4.2 or later for the first time. If your system has not been upgraded to 8.4.2 or later, this schema change will be performed after you upgrade.

During the post-patch process, all existing ticket notes will be migrated to the new schema in batches. During the migration, all ticket notes will be unavailable. The user interface and API will not display ticket notes. Ticket notes cannot be viewed or updated during the post-patch process. On a system that included 2,000,000 ticket notes, this process took approximately 6 hours.

If you require access to all ticket notes immediately after installing an 8.4.2 or later release, contact ScienceLogic Customer Support for details on manually updating the database schema before you upgrade to 8.4.2 or later.

The 8.4.2 release also changed the firewall on all appliances from iptables to firewalld. If you are currently running a release earlier than 8.4.2 and have added one or more custom firewall rules, such as a non-standard port for Phone Home Collectors, these rules must be migrated before upgrading to 8.8.1. Please contact ScienceLogic Support for more information.

Upgrade Process for 7.x Systems

WARNING: ***8.10.0 and later releases do not support Data Collectors and Message Collectors running the CentOS operating system. If your system includes Data Collectors and Message Collectors running the CentOS operating system, contact your Customer Success Manager for details on upgrading Data Collectors and Message Collectors to Oracle Linux before installing 8.12.0.***

WARNING: 7.x systems must be upgraded to 7.8.5 before migration to the 8.9.0 release. After migration to 8.9.0, users can upgrade to releases later than 8.9.0. Please contact your Customer Success Manager to begin a discussion on the migration plan that is appropriate for your system.

The 8.1.1 release included a complete update of the ScienceLogic appliance operating system from CentOS 5.11 to Oracle Linux. Major operating system components, including the database, web server, and High Availability/Disaster Recovery packages have been updated or replaced by new industry-standard packages.

When upgrading from version 7.8.5 to version 8.9.0, each appliance must be migrated to 8.9.0 and the Oracle Linux 7.5 operating system.

Upgrade from 7.x to 8.9.0

WARNING: ScienceLogic strongly suggest you contact Customer Support or your Customer Success Manager to plan your migration from CentOS (versions of SL1 prior to 8.1.1) to 8.9.0.

The process of migrating an existing system to 8.9.0 includes multiple additional steps that will vary depending on the current architecture. Please contact your Customer Success Manager to begin a discussion on the migration plan that is appropriate for your system.

The following is the general process for migrating from 7.x to 8.9.0. This is a high-level description only. For details, contact Customer Support or your Customer Success Manager.

- The existing system must be upgraded to 7.8.5 before the upgrade.
- Run the 8.9.0 migration patch.

> **NOTE**: See the separate Migration document for detailed instructions on how to perform the migration steps. Before you migrate to 8.9.0, please contact your Customer Success Manager.

- Use the 8.9.0 ISO to reinstall all Database Servers or All-In-One Appliances. Data is migrated using a logical backup while the database on the existing system is stopped. The downtime of this operation can be mitigated in several ways depending on the current architecture.
- Use the 8.9.0 ISO to reinstall all Administration Portal appliances.
- After reinstalling all Database Servers and Administration Portals, the system is operational and can be upgraded.
- To upgrade to 8.12.0.1, see the section on *Upgrade Process for Systems Running 8.4.0 and Later.*

Features Not Currently Supported by the 8.x Releases

The following functionality that was available in previous releases is not currently available in the 8.12.0 release, but will be re-added in a future release:

- Configuring two All-In-One Appliances for Disaster Recovery
- Applying a patch manually with the apply_patch script

Upgrade Process for Systems Running 8.4.0 and Later

WARNING: ***Do not import 8.12.0.2, 8.12.0.1 or 8.12.0 if you do not plan to immediately consume 8.12.0.2 and the 8.12.0 line of releases.*** After you import an 8.12.0 release, all appliances in your SL1 system will now use the ***new system update***. After you import an 8.12.0 release, you will not be able to stage and deploy any versions of SL1 previous to 8.12.0 or apply patches to versions of SL1 previous to 8.12.0.

WARNING: ***To install 8.12.0.2 and its new System Updates tool, you have must have already imported, staged, and deployed 8.4.0***

WARNING: ***8.10.0 and later releases do not support Data Collectors and Message Collectors running the CentOS operating system. If your system includes Data Collectors and Message Collectors running the CentOS operating system, contact your Customer Success Manager for details on upgrading Data Collectors and Message Collectors to Oracle Linux before installing 8.12.0.2.***

WARNING: ***8.12.0.2 includes important security updates that require you to reboot all appliances after installing 8.12.0.2***. If you would like assistance in planning an upgrade path that meets your security needs while minimizing downtime, please contact your Customer Success Manager.

WARNING: If your system is not currently running a recent release, the upgrade process includes importing multiple upgrade files (8.5.0 > 8.6.0 > 8.7.0 > 8.8.0 > 8.9.0 > 8.10.0 > 8.12.0 > 8.12.0.2). You must wait until an update file has imported successfully (when the ***Import Status*** column displays *Complete*) before importing the next update file.

CAUTION: ScienceLogic recommends that Systems running an AP2 version earlier than 5.55.1.3 upgrade via GQL before upgrading to 8.12.0.2.

To upgrade to the 8.12.0.2 release from an 8.4.0 or later release:

NOTE: Before upgrading, ensure that:

- Each SL1 Appliance has a valid license
- Each Data Collector is a member of a Collector Group
- Each Data Collector is "available" to the Database Server. To check, see the **Collector Status** page (System > Monitor > Collector Status).

NOTE: Staging and deploying SL1 patches is "hitless" and does not require a maintenance window.

1. Familiarize yourself with the *Known Issues* for this release.
2. For systems running an SL1 version prior to 8.12.0, go to the **System Updates** page and disable automatic staging (System > Tools > Updates > Actions > Disable automatic staging).
    - If you have previously used manual staging, perform these additional steps:
        - Go to the **System Updates** page (System > Tools > Updates). Select all updates in the EM7 Releases pane and select all updates in the ScienceLogic OS pane.
        - In the ***Select Action*** menu, select *Unstage Update (remove staging policy override)*. Click **[Go]**.
        - For software that was previously staged with automatic staging, *Unstage Update (remove staging policy override)* does not affect staging.

NOTE: For details on downloading, importing, staging, and installing system updates, see the manual ***System Administration***.

3. ***If you are currently running an 8.4 release***:
    - From the ScienceLogic portal, download the latest update for 8.5.0, 8.6.0, 8.7.0, 8.8.0, 8.9.0, 8.10.0, 8.12.0, and 8.12.0.2 to a local computer. Unzip any zipped files.
    - Import the 8.5.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.

- Import the 8.6.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
- Import the 8.7.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
- Import the 8.8.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
- Import the 8.9.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
- Import the 8.10.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
- Import the 8.12.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
- Go to step #11 and continue.

4. ***If you are currently running an 8.5 release***:

   - From the ScienceLogic portal, download the latest update for 8.6.0, 8.7.0, 8.8.0, 8.9.0, 8.10.0, 8.12.0, and 8.12.0.2 to a local computer. Unzip any zipped files.
   - Import the 8.6.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
   - Import the 8.7.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
   - Import the 8.8.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
   - Import the 8.9.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the

ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.

- Import the 8.10.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
- Import the 8.12.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file. After 8.12.0 has been imported, refresh the **System Updates** page to view the new user interface for the page.
- Go to step #11 and continue.

5. *If you are currently running an 8.6 release*:
   - From the ScienceLogic portal, download the latest update for 8.7.0, 8.8.0, 8.9.0, 8.10.0, 8.12.0, and 8.12.0.2 to a local computer. Unzip any zipped files.
   - Import the 8.7.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
   - Import the 8.8.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
   - Import the 8.9.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
   - Import the 8.10.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
   - Import the 8.12.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file. After 8.12.0 has been imported, refresh the **System Updates** page to view the new user interface for the page.
   - Go to step #11 and continue.

6. *If you are currently running an 8.7 release*:

    - From the ScienceLogic portal, download the 8.8.0, 8.9.0, 8.10.0, 8.12.0, and 8.12.0.2 updates to a local computer. Unzip any zipped files.
    - Import the 8.8.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
    - Import the 8.9.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
    - Import the 8.10.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
    - Import the 8.12.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file. After 8.12.0 has been imported, refresh the **System Updates** page to view the new user interface for the page.
    - Continue to step #11.

7. *If you are currently running an 8.8 release*:

    - From the ScienceLogic portal, download the 8.9.0, 8.10.0, 8.12.0, and 8.12.0.2 updates to a local computer. Unzip any zipped files.
    - Import the 8.9.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
    - Import the 8.10.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.
    - Import the 8.12.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file. After 8.12.0 has been imported, refresh the **System Updates** page to view the new user interface for the page.
    - Go to step #11 and continue.

8. *If you are currently running an 8.9 release*:

    - From the ScienceLogic portal, download the 8.10.0, 8.12.0, and 8.12.0.2 updates to a local computer. Unzip any zipped files.
    - Import the 8.10.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). The system update file will load an update in both the EM7 Releases and the

ScienceLogic OS section. You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file.

- Import the 8.12.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file. After 8.12.0 has been imported, refresh the **System Updates** page to view the new user interface for the page.
- Go to step #11 and continue.

9. ***If you are currently running an 8.10 release***:
   - From the ScienceLogic portal, download the 8.21.0 and 8.12.0.2 updates to a local computer. Unzip any zipped files.
   - Import the 8.12.0 system update file in the System Updates page (System > Tools > Updates > **[Import]** button). You must wait until the update file has imported successfully (i.e. the ***Import Status*** column displays *Complete*) before importing the next update file. After 8.12.0 has been imported, refresh the **System Updates** page to view the new user interface for the page.
   - Go to step #11 and continue.
10. ***If you are currently running the 8.12.0 release or the 8.12.0.1 release***:
    - From the ScienceLogic portal, download the 8.12.0.2 update to a local computer. Unzip any zipped files.
    - Go to step #11 and continue.
11. Import the 8.12.0.2 system update file in the **System Updates** page (System > Tools > Updates > **[Import]** button).

WARNING: ***Do not import 8.12.0.2 if you do not plan to immediately consume 8.12.0.2 and the 8.12.0 line of releases.*** After you import 8.12.0.2, all appliances in your SL1 system will now use the new system update. After you import 8.12.0.2, you will not be able to stage and deploy any versions of SL1 previous to 8.12.0 or apply patches to versions of SL1 previous to 8.12.0.

12. Select the staging icon () for 8.12.0.2.
13. When staging has completed, select the lightning-bolt icon () to deploy 8.12.0.2
14. Clear your browser's cache.
15. Clear the SL1 cache.
    - Go to the **Cache Management** page (System > Tools > Cache).
    - From the hamburger menu (), select ***Clear EM7 System Cache***.
17. If you have not previously upgraded to 8.2.0, perform the steps listed in the *Other Manual Updates* section.

18. Go to the **PowerPack Manager** page (System > Manage > PowerPacks) and install all updated PowerPacks. Updated PowerPacks are loaded on your ScienceLogic system by the patch process. To install an updated PowerPack, find the PowerPack in the **PowerPack Manager** page and select the installation icon ( ) in the ***Update*** column for the PowerPack or use the *Update PowerPacks* option in the ***Select Action*** drop-down list.

TIP: By default, installing an updated version of a PowerPack will overwrite all content in that PowerPack that has already been installed on the target system. You can use the ***Enable Selective PowerPack Field Protection*** setting in the **Behavior Settings** page (System > Settings > Behavior) to prevent new PowerPacks from overwriting local changes for some commonly customized fields.

19. If you are monitoring devices using the ScienceLogic Agent, follow the steps listed in the ***Agent Monitoring*** manual to upgrade to the latest version of the Agent.

CAUTION: *Upgrading MariaDB* and the *rebooting all SL1 appliances* should be performed during a maintenance window. If you would like assistance in planning an upgrade path that minimizes downtime, please contact your Customer Success Manager.

20. Upgrade MariaDB to the latest version. To do so, perform the steps in the *Upgrading MariaDB* section.
21. ***8.12.0.2 includes important security updates that require you to reboot all appliances after installing 8.12.0.2***. If you would like assistance in planning an upgrade path that meets your security needs while minimizing downtime, please contact your Customer Success Manager.

Upgrading MariaDB

Version 8.12.0 requires updates to MariaDB that address security and performance issues. You can download the latest approved MariaDB updates at https://portal.sciencelogic.com/portal/miscellaneous.

NOTE: To address security issues, download the latest MariaDB updates. Earlier MariaDB updates remain on the portal to support users who have not yet migrated to the latest release.

The following sections describe how to perform this upgrade for different appliance types and architectures.

Two Database Servers Configured for High Availability

To upgrade a High Availability cluster, perform the following steps:

WARNING: The system will be unavailable when performing these steps.

1. Copy the MariaDB RPMs to the file system of both appliances.

2. Log in to the command-line of both Database Server appliances as em7admin.
3. Execute the following command on the secondary Database Server:

```
sudo systemctl stop pacemaker.service
```

4. Execute the following command on the primary Database Server:

```
sudo systemctl stop mysql
```

5. Execute the following command on the primary Database Server to determine the current installed version of the RPMs:

```
sudo rpm -qa ^MariaDB-*
```

6. On the primary Database Server, navigate to the directory that you copied the RPMs.
7. For each RPM that the output from step 5 showed at an earlier version, execute the following command on the primary Database Server:

```
sudo rpm -Uvh <file name of RPM>
```

8. Execute the following command on the primary Database Server to validate that the RPMs installed correctly:

```
sudo rpm -qa ^MariaDB-*
```

9. Execute the following command on the primary Database Server:

```
sudo systemctl start mysql
```

10. Execute the following command on the primary Database Server, replacing the password for the root database user when prompted:

```
sudo mysql_upgrade -u root -p
```

11. On the secondary Database Server, execute the following command to determine the current installed version of the RPMs:

```
sudo rpm -qa ^MariaDB-*
```

12. On the secondary Database Server, navigate to the directory where you copied the RPMs.
13. For each RPM that the output from step 11 showed at an earlier version of MariaDB, execute the following command on the secondary Database Server:

```
sudo rpm -Uvh <file name of RPM>
```

14. Execute the following command on the secondary Database Server to validate that the RPMs installed correctly:

```
sudo rpm -qa ^MariaDB-*
```

15. Execute the following command on the secondary Database Server:

```
sudo systemctl start pacemaker.service
```

Two Database Servers Configured for Disaster Recovery

To upgrade two Database Servers configured for disaster recovery, perform the following steps:

WARNING: The system will be unavailable when performing these steps.

1. Copy the latest RPMs to the file system of both appliances.
2. Log in to the command-line of both Database Server appliances as em7admin.
3. Execute the following command on the primary Database Server:

   ```
   sudo systemctl stop mysql
   ```

4. Execute the following command on the primary Database Server to determine the current installed version of the RPMs:

   ```
   sudo rpm -qa ^MariaDB-*
   ```

5. On the primary Database Server, navigate to the directory that you copied the RPMs.
6. For each RPM that the output from step 4 showed at an earlier version, execute the following command on the primary Database Server:

   ```
   sudo rpm -Uvh <file name of RPM>
   ```

7. Execute the following command on the primary Database Server to validate that the RPMs installed correctly:

   ```
   sudo rpm -qa ^MariaDB-*
   ```

8. Execute the following command on the primary Database Server:

   ```
   sudo resource start mysql
   ```

9. Execute the following command on the primary Database Server, replacing the password for the root database user where indicated:

   ```
   sudo mysql_upgrade -u root -p
   ```

10. On the secondary Database Server, execute the following command to determine the current installed version of the RPMs:

    ```
    sudo rpm -qa ^MariaDB-*
    ```

11. On the secondary Database Server, navigate to the directory where you copied the RPMs.
12. For each RPM that the output from step 10 showed at an earlier version, execute the following command on the secondary Database Server:

    ```
    sudo rpm -Uvh <file name of RPM>
    ```

13. Execute the following command on the secondary Database Server to validate that the RPMs installed correctly:

    ```
    sudo rpm -qa ^MariaDB-*
    ```

Three Database Servers Configured for HA and DR

To upgrade a High Availability cluster, perform the following steps:

WARNING: The system will be unavailable when performing these steps.

1. Copy the latest RPMs to the file system of all three appliances.
2. Log in to the command-line of all three Database Server appliances as em7admin.
3. Execute the following command on the secondary Database Server in the HA cluster:

   ```
   sudo systemctl stop pacemaker.service
   ```

4. Execute the following command on the primary Database Server in the HA cluster:

   ```
   sudo systemctl stop mysql
   ```

5. Execute the following command on the primary Database Server in the HA cluster to determine the current installed version of the RPMs:

   ```
   sudo rpm -qa ^MariaDB-*
   ```

6. On the primary Database Server in the HA cluster, navigate to the directory that you copied the RPMs.
7. For each RPM that the output from step 5 showed at an earlier version, execute the following command on the primary Database Server in the HA cluster:

   ```
   sudo rpm -Uvh <file name of RPM>
   ```

8. Execute the following command on the primary Database Server in the HA cluster to validate that the RPMs installed correctly:

   ```
   sudo rpm -qa ^MariaDB-*
   ```

9. Execute the following command on the primary Database Server in the HA cluster:

   ```
   sudo systemctl start mysql
   ```

10. Execute the following command on the primary Database Server in the HA cluster, replacing the password for the root database user where indicated:

    ```
    sudo mysql_upgrade -u root -p
    ```

11. On the secondary Database Server, execute the following command to determine the current installed version of the RPMs:

    ```
    sudo rpm -qa ^MariaDB-*
    ```

12. On the secondary Database Server, navigate to the directory where you copied the RPMs.
13. For each RPM that the output from step 11 showed at an earlier version, execute the following command on the secondary Database Server:

    ```
    sudo rpm -Uvh <file name of RPM>
    ```

14. Execute the following command on the secondary Database Server in the HA cluster to validate that the RPMs installed correctly:

```
sudo rpm -qa ^MariaDB-*
```

15. Execute the following command on the secondary Database Server in the HA cluster:

```
sudo systemctl start pacemaker.service
```

16. On the Database Server for disaster recovery, execute the following command to determine the current installed version of the RPMs:

```
sudo rpm -qa ^MariaDB-*
```

17. On the Database Server for disaster recovery, navigate to the directory that you copied the RPMs.
18. For each RPM that the output from step 16 showed at an earlier version, execute the following command on the Database Server for disaster recovery:

```
sudo rpm -Uvh <file name of RPM>
```

19. Execute the following command on the secondary Database Server in the HA cluster to validate that the RPMs installed correctly:

```
sudo rpm -qa ^MariaDB-*
```

20. Execute the following command on the Database Server for disaster recovery to validate that the RPMs installed correctly:

```
sudo rpm -qa ^MariaDB-*
```

Single Database Server/All-In-One Appliance/Data Collector/Message Collector

To upgrade MariaDB on a single Database Server, All-In-One Appliance, Data Collector, or Message Collector, perform the following steps:

WARNING: The Database Server, All-In-One Appliance, Data Collector, or Message Collector will be inoperable when performing these steps.

1. Copy the latest RPMs to the file system of the appliance:
2. Log in to the command-line of the appliance as em7admin.
3. Execute the following commands:

```
sudo systemctl stop em7
sudo systemctl stop mariadb.service
```

4. Execute the following command to determine the current installed version of the RPMs:

```
sudo rpm -qa ^MariaDB-*
```

5. Navigate to the directory that you copied the RPMs.
6. For each RPM that the output from step 4 showed at an earlier version, execute the following command:

```
sudo rpm -Uvh <file name of RPM>
```

7. Execute the following command to validate that the RPMs installed correctly:

```
sudo rpm -qa ^MariaDB-*
```

8. Execute the following commands:

```
sudo systemctl daemon-reload
sudo systemctl start mariadb.service
sudo systemctl start em7
```

9. Execute the following command, replacing the password for the root database user where indicated:

```
sudo mysql_upgrade -u root -p
```

Manual Updates for 8.4.x Systems Updated to 8.12.0

If you upgraded from an 8.4.x system to 8.12.0, after 8.12.0 is installed, you must manually apply the following changes to every Message Collector and All-In-One Appliance in your system:

1. Either go to the console or use SSH to access the server.
2. Log in as user ***em7admin*** with the appropriate password.
3. Enter the following at the command line:

```
sudo vi /etc/siteconfig/siloconf.siteconfig
```

4. Locate the following line:

```
eventmanager = syslog,trap,internal
```

> **NOTE:** On an All-In-One Appliance, this line will include additional entries in the comma-delimited list.

5. Add ",agent" to the end of the line. The line should now look like this:

```
eventmanager = syslog,trap,internal,agent
```

6. Save the file and exit vi (:wq).
7. At the command line, enter the following command to rebuild the configuration file:

```
sudo /opt/em7/share/scripts/generate-silo-conf.py > /etc/silo.conf
```

Rebooting Appliances

Use the applicable steps listed in this section to reboot your appliances.

Administration Portal

Perform the following steps to reboot an Administration Portal:

1. Either go to the console of the Database Server or use SSH to access the server.
2. Log in as ***em7admin*** with the appropriate password.
3. At the shell prompt, execute the following:

```
python -m silo_common.admin_toolbox <appliance_ID> "/usr/bin/sudo /usr/sbin/shutdown
-r +1"
```

   where:

   - *appliance_ID* is the appliance ID for the Data Collector, Message Collector, or Administration Portal.

If your SL1 system includes multiple Administration Portals, you can remotely reboot the Administration Portals from an Administration Portal. To do so:

1. Go to the **Appliance Manager** page (System > Settings > Appliances).
2. Select the checkboxes for the appliances you want to reboot.
3. In the **[Select Action]** menu, select ***Reboot*** and click the Go button.
4. Click the OK button when the "Are you sure you want to reboot the selected appliances?" message is displayed.
5. During the reboot, the user interface for the affected Administration Portals is unavailable.
6. When the reboot has completed, the **Audit Logs** page (System > Monitor > Audit Logs) will include an entry for each appliance that was rebooted.

Data Collectors and Message Collectors

You can reboot Data Collector and Message Collectors either from the user interface or from the command line.

From the SL1 user interface, perform the following steps to reboot a Data Collector or Message Collector:

1. Go to the **Appliance Manager** page (System > Settings > Appliances).
2. Select the checkboxes for the appliances you want to reboot.
3. In the **[Select Action]** menu, select ***Reboot*** and click the Go button.
4. Click the OK button when the "Are you sure you want to reboot the selected appliances?" message is displayed.
5. During the reboot, go to the **System Logs** page (System > Monitor > System Logs). You should see this message:

```
Major: Could not connect to module (5) database USING SSL=TRUE: Error attempting
to connect to database with SSL enabled True: (2003, 'Can't connect to MySQL
server on '10.2.12.77' (113 "No route to host")')
```

6. When the reboot has completed, the **Audit Logs** page (System > Monitor > Audit Logs) will include an entry for each appliance that was rebooted.

From the console of the Database Server or SSH to the Database Server, perform the following steps to reboot a Data Collector or Message Collector:

1. Either go to the console of a Database Server or SSH to access the server.
2. Log in as ***em7admin*** with the appropriate password.
3. At the shell prompt, execute the following:

```
python -m silo_common.admin_toolbox <appliance_ID> "/usr/bin/sudo /usr/sbin/shutdown
-r +1"
```

   where:

   - *appliance_ID* is the appliance ID for the Data Collector, Message Collector, or Administration Portal.

Standalone All-In-One Appliances and Database Servers

Perform the following steps to reboot a standalone All-In-One Appliance or Database Server:

1. Either go to the console or use SSH to access the server.
2. Log in as ***em7admin*** with the appropriate password.
3. Execute the following commands on the appliance to pause the system and shutdown MariaDB. Enter the password for the em7admin user when prompted:

```
sudo touch /tmp/.proc_mgr_pause
sudo systemctl stop mariadb
```

4. Execute the following command on the appliance to reboot the appliance:

```
sudo reboot
```

5. After the appliance has rebooted, log in to the appliance as the em7admin user using the console or SSH.
6. Execute the following command on the appliance to un-pause the system:

```
sudo rm /tmp/.proc_mgr_pause
```

7. Enter the password for the em7admin user and confirm the command when prompted.

Two Database Servers Configured for Disaster Recovery

Perform the following steps to reboot two Database Servers configured for Disaster Recovery:

1. Either go to the console of the primary Database Server or use SSH to access the server.
2. Log in as ***em7admin*** with the appropriate password.
3. First, you should check the status of the appliances. To do this, enter the following at the shell prompt:

```
cat /proc/drbd
```

4. Your output will look like this:

```
1: cs:Connected ro:Primary/Secondary ds:UpToDate/UpToDate C r----
ns:17567744 al:0 bm:1072 lo:0 pe:0 ua:0 ap:0 ep:1 wo:b oos:12521012
```

> **NOTE:** If your output includes "ro:Primary/Secondary", but does not include "UpToDate/UpToDate", data is being synchronized between the two appliances. You must wait until data synchronization has finished before rebooting.

5. Execute the following commands on the **primary** appliance to pause the system and shutdown MariaDB. Enter the password for the em7admin user when prompted:

```
sudo touch /tmp/.proc_mgr_pause
sudo systemctl stop pacemaker
```

6. Execute the following command on the **primary** appliance to reboot the appliance:

```
sudo reboot
```

7. After the primary appliance has rebooted, log in to the console of the **primary** appliance again.
8. Execute the following commands on the **primary** appliance:

```
sudo rm /tmp/.proc_mgr_pause
```

9. Enter the password for the em7admin user and confirm the command when prompted.
10. Log in to the **secondary** Database Server as the em7admin user using the console or SSH.
11. Execute the following command on the **secondary** appliance to reboot the appliance:

```
sudo reboot
```

12. Enter the password for the em7admin user when prompted.

Two Database Servers in a High Availability Cluster

Perform the following steps to reboot two Database Servers in a high availability cluster:

1. Either go to the console of the secondary Database Server or use SSH to access the server.
2. Log in as ***em7admin*** with the appropriate password.
3. First, you should check the status of the appliances. To do this, enter the following at the shell prompt:

```
cat /proc/drbd
```

4. Your output will look like this:

```
1: cs:Connected ro:Secondary/Primary ds:UpToDate/UpToDate C r----
ns:17567744 al:0 bm:1072 lo:0 pe:0 ua:0 ap:0 ep:1 wo:b oos:12521012
```

NOTE: If your output includes "ro:Secondary/Primary", but does not include "UpToDate/UpToDate", data is being synchronized between the two appliances. You must wait until data synchronization has finished before rebooting.

5. Execute the following command on the **secondary** appliance to stop the cluster service:

```
sudo systemctl stop pacemaker
```

6. Enter the password for the em7admin user when prompted.
7. Log in to the **primary** Database Server as the em7admin user using the console or SSH.
8. Execute the following commands on the **primary** appliance to pause the system and stop the cluster service. Enter the password for the em7admin user when prompted:

```
sudo touch /tmp/.proc_mgr_pause
sudo systemctl stop pacemaker
```

9. Execute the following command on the **primary** appliance to reboot the appliance:

```
sudo reboot
```

10. After the primary appliance has rebooted, log in to the console of the **primary** appliance again.
11. Execute the following command on the **primary** appliance:

```
sudo rm /tmp/.proc_mgr_pause
```

12. Enter the password for the em7admin user and confirm the command when prompted.
13. Ensure that the user interface is now available on the primary appliance.
14. Log in to the **secondary** Database Server as the em7admin user using the console or SSH.
15. Execute the following command on the **secondary** appliance to reboot the appliance:

```
sudo reboot
```

16. Enter the password for the em7admin user when prompted.

Three Database Servers Configured for High Availability and Disaster Recovery

Perform the following steps to reboot three Database Servers configured for high availability and disaster recovery:

1. Either go to the console of the **secondary Database Server in the HA cluster** or use SSH to access the server.
2. Log in as ***em7admin*** with the appropriate password.
3. First, you should check the status of the appliances. To do this, enter the following at the shell prompt:

   ```
   cat /proc/drbd
   ```

4. Your output will look like this:

   ```
   10: cs:Connected ro:Secondary/Primary ds:UpToDate/UpToDate C r----
   ns:17567744 al:0 bm:1072 lo:0 pe:0 ua:0 ap:0 ep:1 wo:b oos:12521012
   ```

NOTE: If your output includes "ro:Secondary/Primary", but does not include "UpToDate/UpToDate", data is being synchronized between the two appliances. You must wait until data synchronization has finished before rebooting.

5. Execute the following command on the **secondary Database Server in the HA cluster** to stop the cluster service:

   ```
   sudo systemctl stop pacemaker
   ```

6. Enter the password for the em7admin user when prompted.
7. Log in to **primary** Database Server as the em7admin user using the console or SSH.
8. Execute the following commands on the **primary** appliance to pause the system and stop the cluster service. Enter the password for the em7admin user when prompted:

   ```
   sudo touch /tmp/.proc_mgr_pause
   sudo systemctl stop pacemaker
   ```

9. Execute the following command on the **primary** appliance to reboot the appliance:

   ```
   sudo reboot
   ```

10. After the primary appliance has rebooted, log in to the console of the **primary** appliance again.
11. Execute the following command on the **primary** appliance:

    ```
    sudo rm /tmp/.proc_mgr_pause
    ```

12. Enter the password for the em7admin user and confirm the command when prompted.
13. Log in to the **secondary Database Server in the HA cluster** as the em7admin user using the console or SSH.
14. Execute the following command on the **secondary Database Server in the HA cluster** to reboot the appliance:

```
sudo reboot
```

15. Enter the password for the em7admin user when prompted.
16. Log in to the **Database Server for Disaster Recovery** as the em7admin user using the console or SSH.
17. Execute the following command on the **Database Server for Disaster Recovery** to reboot the appliance:

```
sudo reboot
```

18. Enter the password for the em7admin user when prompted.

Deprecated Features

As of the 8.2.0 release, the following PowerPacks are no longer included in the default ISO. These PowerPacks will not be automatically removed from an existing system during an upgrade and will remain available for download on the ScienceLogic Portal:

- ADIC Base Pack
- Ascend Communications Base Pack
- Cabletron System Base Pack
- CloudKick Management
- GoGrid Base Pack
- Informant Cluster
- Informant Exchange
- Informant MS SQL
- Informant Windows OS
- NTI Base Pack
- Rackspace Base Pack
- Redback Base Pack
- RIM Blackberry Base Pack
- Sensatronics Base Pack
- SystemEdge Base Pack
- System Uptime
- Tipping Point Base Pack
- Xirrus Base Pack

The new user interface architecture requires API access for all users; API access is automatically granted to users. The following API-specific access hooks have been deprecated and removed from the product:

- API: Resource Indexes
- API: Server Access
- API: Virtual Device

The following functionality that was available in previous releases is no longer available in the 8.12.0.2 release:

- The process for generating rollup/normalized data has been updated to improve performance and scalability. This update deprecates the generation of frequent rollup data. The following user interface pages are affected:
    - The widgets Leaderboard/Top-N, Leaderboard/Top-N (secondary), and Multi-Series Performance no longer support Frequent normalization. If these widgets are used by older dashboards and are already configured to use Frequent normalization, the platform will automatically update these widgets to use hourly normalization.
    - In the Collection Labels page (System > Manage > Collection Labels), the Frequent Data column is deprecated.
- The Cisco Nexus PowerPack has been removed from the default build and is no longer supported. However, the PowerPack is not deleted during the upgrade process. The device classes for Cisco Nexus devices are now included in the Cisco: Base Pack PowerPack.
- The ScienceLogic Agent no longer supports 32-bit versions of Linux or Windows.
- The third-party Azure python library has been removed from the ISO build.
- The FTP, SFTP, NFS, and SMB backup options that stage locally are no longer supported.
- The EMC Base Pack PowerPack has been removed from the default build and is no longer supported. However, the PowerPack is not deleted during the upgrade process. If you are still using the EMC Base Pack PowerPack, ScienceLogic recommends using the EMC: VNX PowerPack instead.
- The SAN wizard is no longer supported. ScienceLogic will no longer provide direct support for configuring a SAN for data storage.
- Integration Server appliances are no longer supported.
- Root access is not enabled on any appliance.
- The VMware: vCloud PowerPack has been removed from the ISO build and is no longer supported.
- The "ifconfig" command is no longer supported by the new appliance operating system. The "ip addr" command must be used instead.
- NOC Screens (System > Manage > Screens) are no longer included in the platform. To re-enable this feature, contact ScienceLogic Customer Support.
- The Knowledge Base is no longer supported by ScienceLogic and will be disabled by default for new users.
- High-Availability and Disaster Recovery no longer support the command "drbd-overview". To check the status of drbd, use "cat /proc/drbd".

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