



SL1 8.14.5 Release Notes

SL1 version 8.14.5

Table of Contents

Overview	3
Caveats	4
Best Practices	5
Issues Addressed in 8.14.5	5
Issues Addressed in 8.14.4	5
Issues Addressed in 8.14.3	6
New and Updated Packages in 8.14.3	6
Issues Addressed in 8.14.2	6
Issues Addressed in 8.14.1	7
Maps and Application Management in 8.14.0	7
SL1 Extended Architecture	7
New Features in 8.14.0	8
Issues Addressed in 8.14.0	12
PowerPacks in 8.14.0	17
New and Updated Packages in 8.14.0	19
Beta Features	19
Disabling the Knowledge Base	21
Special Upgrade Process for FIPS-Compliant System	22
Upgrade Process for Systems Running 8.1.0 and Earlier	22
Migration to 8.9.0	22
Features Not Currently Supported by the 8.x Releases	23
Upgrade Process for Systems Running 8.6.0 and Later	23
Manual Updates for 8.4.x and Earlier Systems Updated to 8.14.5	28
Upgrading MariaDB	29
Two Database Servers Configured for High Availability	29
Two Database Servers Configured for Disaster Recovery	30
Three Database Servers Configured for HA and DR	31
Single Database Server/All-In-One Appliance/Data Collector/Message Collector	33
Rebooting Appliances	34
Administration Portal	34
Data Collectors and Message Collectors	34
Standalone All-In-One Appliances and Database Servers	35
Two Database Servers Configured for Disaster Recovery	36
Two Database Servers in a High Availability Cluster	37
Three Database Servers Configured for High Availability and Disaster Recovery	38
Deprecated Features	39
Known Issues	40

Overview

This document describes:

- [Caveats](#)
- [Best Practices](#)
- [Maps and Application Manager in 8.14 releases](#)
- [SL1 Extended Architecture](#)
- The [Issues Addressed](#) in the 8.14.5 release
- The [Issues Addressed](#) in the 8.14.4 release
- The [Issues Addressed](#) in the 8.14.3 release
- [New and Updated Packages](#) in the 8.14.3 release
- The [Issues Addressed](#) in the 8.14.2 release
- The [Issues Addressed](#) in the 8.14.1 release
- The [New Features](#) in the 8.14.0 release
- The [Issues Addressed](#) in the 8.14.0 release
- The [PowerPacks](#) included in the 8.14.0 release
- [New and Updated Packages](#) in the 8.14.0 release
- [The Beta Features available with the 8.14.0 release](#)
- [Disabling the Knowledge Base](#)
- [Special Upgrade Process for FIPS-Compliant Systems](#)
- [Upgrade Process for Systems Running 8.1.0 and Earlier](#)
- [Upgrade Process for Systems Running 8.6.0 and Later](#)
- [Manual Updates for 8.4.x or Earlier Systems Updated to 8.14.3](#)
- [Upgrading MariaDB](#)
- [Rebooting Appliances](#)
- The [features deprecated](#) in this release
- The [Known Issues](#)

TIP: 8.14.5 includes delta-less updates. If you have already deployed 8.6.0 or later, you can import, stage, and deploy a single update file to update to 8.14.5.

Caveats

Consider the following caveats before deploying 8.14.5:

- 8.14.5 does not support Data Collectors running earlier versions of SL1 if the SL1 Database Server is 8.14.5. You must upgrade all SL1 appliances to 8.14.5, using the System Update tool (System > Tools > Updates).
- As of 8.12.2, ScienceLogic will no longer update the help that appears when you select the **[Guide]** button. The Unified UI provides a new tool for inline help. Under the user name in the upper right corner, click the down arrow and select **Help**. The browser will spawn a new window that displays the appropriate page from docs.sciencelogic.com.
- **SL1 updates overwrite changes to the configuration file `opt/em7/nextui/nextui.env`.** This is a known issue (see <https://support.sciencelogic.com/s/article/1161> and <https://support.sciencelogic.com/s/article/1423>). ScienceLogic recommends that you backup this file before applying an update and then re-apply your changes to this file.
- **If you are running a version prior to 8.12.0, do not install 8.14.5 if you do not plan to immediately consume 8.14.5.** After you import the 8.14.5 release, all appliances in your SL1 system will now use the **new system update**. After you import the 8.14.5 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. For details on the new system update, see the release notes for 8.12.0.
- **To install 8.14.5 and its new System Updates tool, you have must have already imported, staged, and deployed 8.6.0 or a later release.**
- 8.14.5 includes changes from 8.14.4 and 8.14.3. 8.14.3 included important security updates. **If you have not already installed 8.14.3 and rebooted all appliances, you must do so after installing 8.14.5.** If you would like assistance in planning an upgrade path that meets your security needs while minimizing downtime, please contact your Customer Success Manager.
- 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 8.14.5.**
- The Knowledge Base includes known vulnerabilities for cross-site scripting and SQL injection. **If your first installation of SL1 was 8.9.1 or earlier, ScienceLogic strongly recommends that you [disable the Knowledge Base](#).**
- ScienceLogic recommends that Systems running an AP2 version earlier than 5.55.1.3 upgrade their version of AP2 before upgrading to 8.14.5. For details, see the manual **Introduction to SL1**, section on **Managing New Features on the Content Management Page**.
- 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.
- 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.

Best Practices

Consider the following best practices before deploying 8.14.5:

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

Issues Addressed in 8.14.5

Data Collection

- SL1 can now monitor the subnet 172.17.0.0/16. This subnet is no longer used by an internal docker interface. (Case: 00096478) (JIRA ID: EM-37204)

High Availability

- The query for HA status no longer first tries to access the RPM database to determine if the parent database is remote. The query for HA status now reads from a local file. If the local file does not provide the database status, the query for HA status will then try to access the RPM database. (Case: 00088565) (Case: Case 00091272) (Case: 00088565) (JIRA ID: EM-36123) (JIRA ID: EM-36126)

Security

- Multiple improvements to address security issues.

Issues Addressed in 8.14.4

Scheduler

- Improved performance of the Scheduler to ensure that scheduled device maintenance is started and ended as specified without interference from other scheduled tasks. (JIRA ID:EM-27111)
- Addressed an issue with Scheduler. Added additional functionality to detect corrupted schedules and prevent schedule conflicts. (JIRA ID: EM-35479)

System Update

- Addressed an issue with the System Update Manager, The System Update Manager now shuts down cleanly when systemd sends a STOP signal and then subsequently starts up cleanly when systemctl sends a START signal. (JIRA ID: EM-35311)

Issues Addressed in 8.14.3

Dashboards

- In the unified UI, in the **Dashboards** page, when you select the **Share** menu and then select *Specific Organization*, the UI now displays all organizations that you are allowed to see instead of displaying only a maximum of ten organizations. (Case: 00081213) (Case: 00070970) (Case:00081213) (JIRA ID: EM-34649) (JIRA ID: EM-34405) (JIRA ID: SLUI-7603) (JIRA ID: SLUI-6368)

User Interface

- 8.14.3 includes a new version of the unified UI (ap2_5.155.0-hotfix.11), which includes the fixes listed above.

New and Updated Packages in 8.14.3

8.14.3 includes multiple package updates to address security issues and improve performance.

WARNING: *8.14.3 includes important security updates that require you to reboot all appliances after installing 8.14.3.* If you would like assistance in planning an upgrade path that meets your security needs while minimizing downtime, please contact your Customer Success Manager

Issues Addressed in 8.14.2

Alert Functions

- The "prior" function now successfully retrieves the previous value for collection objects in both Dynamic Applications of type Performance and Dynamic Applications of type Configuration. (Case: 00074024) (Case: 00074182) (Case: 00073334) (Case: 00074024) (JIRA ID: EM-34914) (JIRA ID: EM-35300)

PowerShell

- Addressed an issue with PowerShell Dynamic Applications. Added a lock to mysql to prevent multiple collection processes from writing or overwriting changes to the /etc/krb5.conf file. (Support ID: 118343) (Support ID: 19845) (Support ID: 178992) (Case: 00037699) (Case: 00040151) (Case: 00037699) (JIRA ID: POSH-127) (JIRA ID: POSH-36) (JIRA ID: POSH-126) (JIRA ID: EM-17823) (JIRA ID: EM-18388) (JIRA ID: EM-31327)
- Addressed an issue with PowerShell credentials. Set the credential cache file to use a user-specific name (/tmp/krb5cc_<ad domain>_<ad username>). This allows multiple users to run the same Dynamic Application in the same domain without generating the error "authGSSClientInit() failed." (Support ID: 178992), (Case: 00037699), (Case: 00040151), (Case: 00037699), (Case: 00053678), (Case: 00058763), (Case: 00067455) (JIRA ID: EM-31237) (JIRA ID: EM-35061)

Issues Addressed in 8.14.1

Documentation

- Addressed an issue with documentation. The value in the **Component Purge Timeout** field (in either the **Global Threshold Settings** page or the **Device Thresholds** page) specifies the number of hours the device has remained in vanished mode and not the last time SL1 was able to communicate with the device (as was previously documented). The Device Management manual and the System Administration manual have been updated accordingly. (Support ID: 180153) (Case: 00045566) (Case: 00055728)(EM-31947)

Maps and Application Management in 8.14.0

In 8.14.0, the **Maps** tab and **Applications** tab are disabled by default.

These features are considered **experimental** and will be released for general availability in a later release.

If you have been using Maps or Applications in previous releases and want to enable these features, contact your Customer Success Manager.

SL1 Extended Architecture

8.14.0 includes a significant addition to SL1 architecture that provides additional features in the ScienceLogic Agent and provides scale to large deployments.

There are three types of SL1 systems:

- **All-In-One**. In this type of system, a single **appliance**, such as a server, handles all the functions of SL1. The monitoring capacity of an **All-In-One** system cannot be increased by adding additional appliances.
- **Distributed**. The functions of SL1 are divided between multiple appliances. A **Distributed** system can be as small as two appliances, or can include multiple instances of each type of appliance.
- **Distributed plus Extended Architecture**. Includes the SL1 Distributed system plus a compute cluster and a storage cluster. The compute cluster includes multiple Kubernetes nodes. The storage cluster includes multiple Scylla nodes.

In a **Distributed SL1 system**, there are five general functions that an SL1 appliance can perform. In large SL1 systems, a dedicated appliance performs each function. In smaller systems, some appliances perform several functions. In an **All-In-One Appliance** system, a single SL1 appliance performs all five functions.

In a **Distributed System with Extended Architecture**, there are four additional types of SL1 Appliances that support the full set of data collected by the ScienceLogic Agent and provide scale for large deployments.

8.14.0 allows users to upgrade an existing SL1 Distributed systems and then **add the SL1 Extended Architecture**, either hardware-based or VM-based. For details on the SL1 Extended Architecture, see the **Architecture** manual. For instructions on how to deploy the SL1 Extended Architecture, see the **Installation** manual.

New Features in 8.14.0

NOTE: The Unified UI includes pages from the SL1 Classic UI that have been ported to the SL1 Next UI and pages developed in the Next UI.

Architecture and Installation

- New feature for the installation process for Extended Architecture. The installation menu now includes an option for "Platform Node". This option allows users to build a Management Node, one or more Compute Nodes, one or more Storage Nodes, and one or more Load Balancers.
- Added deployment options for the SL1 Extended Architecture.

Automation

- Removed two default Run Book Actions from the SL1 platform: EM7 Ping Snippet and EM7 Event Trap.
 - On SL1 systems that use the action "EM7 Ping Snippet", the action will not be removed.
 - On SL1 systems that use the action "EM7 Event Trap", the action will not be removed.
 - The SL1 platform now includes a new default PowerPack, SL1 Event Trap Automation Action. This PowerPack includes an automation action for sending SL1 event details in an SNMP trap message.

Backups

- Configuration Backups no longer include updated bundles and packages. This results in a faster backup process and smaller backup files (reduced in size by up to 80%).
- Full Backups and Configuration Backups include new settings for daily, weekly, and monthly frequencies.
- Full Backups and Configuration Backups include new option to specify the timezone for scheduled backups.

Collection

- Updated the ScienceLogic Agent to make vital data collection for devices running on the extended SL1 architecture more consistent with data collection for devices running on the classic SL1 architecture.

Credentials

- Updated Net-SNMP to the latest version to add support for credentials that use SNMP v3 and AES encryption. (Support ID: 162987) (Case: 29941)
- Added new features to the Credential Editor page, to support SNMPv3 credentials with AES 128, AES 192, and AES 256 encryption.

Dashboards

- For device widgets that are not leaderboard widgets, you can use the **Select Index** metric option to choose which index to display from a particular metric.

Devices

- The **[Device Investigator]** tab now displays an **Events** pane at the top of the main viewing area instead of a **Logs** pane. The **[Device Investigator]** tab retains any changes you made to the set of device metrics displayed for each device, on a user-by-user basis.
- On the **Device Investigator** page, only tabs relevant to the selected device are available. For example, the Interfaces tabs does not display if the selected does not use interfaces. Also, sections on a **Device Investigator** tab display as "Empty" where no metrics exist for that section.
- On the **[Attributes]** tab for a device, you can edit or unalign an attribute by selecting that attribute and making your changes. You can also align, edit, or unalign more than one attribute without needing to click Save after each action.
- On the **[Collections]** tab for a device, you can view Version, Group, and Label information in the information pane in the **Presentation Objects** section. Also, the **Poll Frequency** field on the information pane now displays the current frequency instead of "not overridden." When you run a dynamic application on this tab, a status window displays the status and relevant logs for the dynamic application.
- The **[Software]** tab for a device was also updated to match the look and feel of the Unified user interface.

Diagnostics

- Added a new diagnostic tool. In the Appliance Manager page (System > Settings > Appliances), users can click the page icon to view diagnostic information about the SL1 appliance. The diagnostic data is collected every 15 minutes.

Discovery

- The universal discovery tool now includes a native credential test tool.

Dynamic Applications

- Improvements to Dynamic Application collection. Post processing of collected Dynamic Application data is now a standalone module.

Events

- On the Event Policies page, you can perform the following bulk actions on more than one event policy: Delete, Enable, Disable, and Clear Suppressions.
- Updated GQL to include bulk actions (Enable/Disable Event Policies, Delete Event Policies, Clear Suppressions for Event Policies) for Event Policies.

- For events of type Dynamic, in the Event Policy page, in the Match Logic tab, the Link-Alert page includes a search field so you can quickly find a specific Dynamic Application and alert.
- The **Masked Events** column on the **Events** page now lists a magnifying glass and the word "Masked" in the column for masked events. You can click this entry to view the details about the masked events on the **Event Investigator** page.
- You can align and unalign external tickets to a specific event or events using the *Align Ticket* option from the **Actions** menu on the **Events** page, or the *Align* option from the bulk action menu.

PhoneHome

- Improvements to PhoneHome:
 - More robust connections and configuration.
 - SL1 now stores PhoneHome configuration data in each Database Server and the database on each Data Collector. SL1 runs a sync command every 15 seconds that allows each appliance to pick up configuration changes, including changes to SSH keys.
 - PhoneHome now includes centralized and robust methods to add/delete/update configuration data on each Database Server.
 - PhoneHome configuration is included in Config Backup.
 - For High Availability configurations, seamless support of failover that requires no user intervention.
 - Improved PhoneHome Watchdog process so that is now mimics the task manager for Data Collectors.
 - The PhoneHome command no longer supports the "enable" and "disable" options.
 - The PhoneHome command no longer supports the "export" and "import" options.
 - The Web Configuration Tool for PhoneHome no longer includes the checkbox "Make requests via HTTPS".
 - To support new PhoneHome configurations on systems where the Database Server resides in a cloud service like AWS, PhoneHome no longer requires password-based authentication for the sshd process.

Platform

- Distributed SL1 system can run on Hyper-V on Windows Server 2016.
- The size of the /var partition increases and decreases dynamically to accommodate the system update tools and docker containers.

PowerPacks

- You can now include dashboards that run in the unified UI in a PowerPack.
- Improvement to the PowerPack Manager page. The PowerPack Manager page (System > Manage > PowerPacks). now displays a column for Dashboards SL1 (dashboards that run in the unified UI).

Publisher

- Added the first iteration of Publisher to SL1.

Reports

- In the Scheduled Report Job page (Reports > Create Report > Scheduled Jobs / Report Archive), if a report fails, SL1 displays its status as "Failed" and displays a count of failures, as well as additional information if available.
- Added a new field to the Device Outage History report. Users can now specify the number of missed polls that must occur for a device to appear in the report. (Case 00018759) (Support ID: 175725) (EM-28979)

ScienceLogic Agent and Agent Pipeline

- The ScienceLogic platform now processes information about Windows services, collected by the Agent.
- The ScienceLogic platform now processes information about network interfaces, collected by the Agent.
- The ScienceLogic Agent now processes information about system processes, collected by the Agent.
- Added new features to the ScienceLogic Agent, including aggregation and availability services. The ScienceLogic Agent was also updated to collect additional system vitals metrics including information about file systems, system swap, and network interfaces.

ScienceLogic REST API

- Made improvements to the REST API. User can now retrieve interface tags, create interface tags, and edit interface tags via the REST API.
- Added new features to the REST API, to support SNMPv3 credentials with AES 128, AES 192, and AES 256 encryption.

ScienceLogic Support PowerPack

- Improvements to the ScienceLogic Support PowerPack. This PowerPack is included with 8.14.0. The ScienceLogic Support PowerPack includes Dynamic Applications, Event Policies, Device Templates, Device Groups, Reports, Run Book Policies, and Credentials. The PowerPack monitors performance metrics, generate alerts when a metric is out-of-band, triggers events, and includes a Run Book Policy that notifies SL1 Administrators.
- The newest version of the ScienceLogic Support PowerPack deprecates SNMP-based monitoring of mysql. However, if you are using this feature, it will not be removed from your system.

Search

- You can save searches for Dashboards, Events, and Devices. After you enter search criteria, save a search by clicking the gear icon and selecting Save, and you can access saved searches by clicking the gear icon and selecting *Saved Searches*.

System Update

- The 8.14.0 release includes a delta-less update. Any system running 8.6.0 or later can be upgraded to the 8.14.0 release by importing, staging, and deploying a single update file.
- Added command-line tools for deltaless system-update, for use by ScienceLogic Customer Support.

Tools

- The **Tools** menu only appears for devices and events where the tools are relevant and can be used. For example, if a device associated with an event does not have an IP address, only the Availability tool will be available, and the following tools will not appear for that device and its events: Ping, Who IS, Port Scan, AP, and Trace Route.

Usage and Billing

- The payload of data sent to ScienceLogic as part of the subscription billing process now includes a list of Dynamic Applications aligned to each monitored device.
- A troubleshooting script has been added for the subscription usage process. The script validates the configuration of the subscription usage process and tests the connection to the ScienceLogic central billing infrastructure. This script can be run from the command-line of the primary Database Server or All-in-One Appliance.
- The payload of data sent to ScienceLogic as part of the subscription billing process now specifies the number of applications, business services, IT services, and device services with which each device is associated.
- The usage payload that is sent to ScienceLogic as part of the subscription billing process now includes counts of device services, IT services, business services, application components, and applications.
- The payload of data sent to ScienceLogic as part of the subscription billing process now specifies the number of run book automation actions being executed in the system per type of automation action.
- The payload of data sent to ScienceLogic as part of the subscription billing process now includes a list of all installed PowerPacks, including the GUID, name, version, revision, and publisher for each PowerPack.

Users

- The new **User Groups** page (Manage > User Groups) lets you view a list of User Groups. This page is only visible to users with the new access hook `USER_GROUP_VIEW`.
- SL1 administrators can assign user permission groups to accounts created with LDAP and Active Directory.

Issues Addressed in 8.14.0

NOTE: The Unified UI includes pages from the SL1 Classic UI that have been ported to the SL1 Next UI and pages developed in the Next UI.

Access Logs

- In the unified UI, when a user opens a second session on the same SL1 appliance with the same user name, the Access Logs page (System > Monitor > Access Logs) now updates the existing log entry for that user on that system (and no longer creates a new entry). (EM-30003)

AWS

- When SL1 is installed on AWS instances, the SL1 process "The Enterprise Database: Collector Task Manager" no longer generates an unhandled exception related to mysql internal tables. (Case: 47605) (Support ID: 180138) (EM-32144) (EM-33230)

Backups

- After restoring a configuration backup, Run Book Automation policies that have the Status "Ticket Is Requested" will no longer trigger automation action based on old data. (Case 00043399) (Support ID: 179409), (EM-31809)

Business Services

- The Business Service Status Rule and the Availability/Health/Risk aggregation now retrieve data that was visible in the Classic Device Dashboards. (Case 00053186) (EM-32706)
- Addressed an issue where the "Business Service: Device Service Risk Is Very Low" event in the Business Services PowerPack was aligned with the wrong alert. (EM-33039)

Credentials

- In SSH Credentials, the Private Key (PEM Format) field is now obfuscated to those who do not have the required access keys. (Case 00035371) (Support ID: 178772) (EM-30891) (EM-30891)

Devices

- The Device Investigator page now displays full list of available presentation objects for a Dynamic Application. (Case 00052456) (EM-32720)
- The SSH Tool has been removed from the Device Toolbox (Registry > Devices > Device Manager > wrench icon > Toolbox). (Case 00022135) (Support ID: 176020), (EM-29178) (EM-29178)
- When two (or more) maintenance schedules apply to a single device or a single IT Service, and the second maintenance schedule starts while the first maintenance schedule is active, and the second maintenance schedule ends after the first maintenance schedule ends, the device or the IT Service no longer goes out of the 'Maintenance' state after the first maintenance schedule ends and no longer ignores the still active, second maintenance schedule. (Case IDs: 60231, 56907, 21945, 48749, 44271) (EM-34349) (EM-29071)
- In systems with over 300 Device Categories, SL1 now assigns accurate Device Categories to discovered devices. (Case 000401560) (Support ID: 179038) (EM-31496)
- In the Device Components page, (Registry > Devices > Device Components), the Select Actions menu now includes an option to recursively delete a root device and all its component devices with a single operation. (Support ID: 94914) (EM-7977)
- In the Device Components page (Registry > Devices > Device Components), the Actions menu includes an entry for Merge Devices only for physical devices with no children component devices. For component devices, the Device Bulk Merge modal page does not include the root device or other component devices as devices to merge with. (Support ID: 91767) (Support ID: 121838) (EM-7892)

Disaster Recovery

- In Disaster Recovery configurations, the primary Database Server is no longer automatically demoted to secondary during system update. (Case 00037880) (Support ID: 178841) (EM-31032)

Dynamic Applications

- After fixing a pathname, the Dynamic Application "EM7: Event Statistics" now returns values. (Case 23530), (Support ID: 107152), (Support ID: 152756), (Support ID: 90047) (EM-23482)

Events

- A search created on the Events page no longer remains in place after you go to another page and then return to the Events page. (Case 00043762) (EM-31724)

File System

- In distributed SL1 systems, SL1 no longer triggers events about a file system if that file system is hidden. (Support ID: 176956) (Case 00025457) (EM-29823)
- When a file system "major" event is cleared, a "healthy" alert is now triggered only for the "major" threshold. When a file system "critical" event is cleared, a "healthy" alert is now triggered for both the "major" threshold and the "critical" threshold. (Support ID: 172082) (EM-27151)

Form Fields

- Dynamic Applications (specifically a collection object) can now populate Form Fields (System > Customize Form Fields) of typed "Tabbed". (Support ID: 131127) (EM-19769)

Interfaces

- CBQoS Interface-specific thresholds now override global thresholds and trigger events appropriately. (Support ID: 110630) (EM-16403)

ITSM

- In IT Service Monitoring policies, addressed an issue with dynamic device groups that was generating spurious alerts "Service Unavailable" and "Service Health: Critical" when member devices were 100% available. (Support ID: 166523) (case 3379) (EM-27287)

Navigation Tabs

- The Navigation Tab Editor page (System > Customize > Navigation Tabs) no longer fails to load due to the low memory limit for PHP. (Support ID: 174543) (EM-30910)

PhoneHome

- The phonehome check command no longer throws the error "Problems when converting string to json". (Case 00036880) (Case 00018548) (Support ID: 176783) (EM-29473) (Support ID: 145680) (EM-22588)
- SL1 now stores configuration data in each Database Server and the database on each Data Collector. SL1 runs a sync command every 15 seconds that allows each appliance to pick up configuration changes within 15 seconds and reflect an accurate status. (Support ID: 161374) (EM-25761) (Support ID: 127506) (EM-19093)
- SL1 now stores configuration data in each Database Server and the database on each Data Collector. SL1 runs a sync command every 15 seconds and maintains accurate SSH keys on each Data collector. (Support ID: 137787) (Support ID: 159536) (EM-24499)
- SL1 now stores PhoneHome configuration data in each Database Server and the database on each Data Collector. SL1 now includes centralized and robust methods to add/delete/update configuration data on each Database Server. (Support ID: 157712) (EM-24243) (Support ID: 153147) (EM-23459)

- Improved PhoneHome Watchdog process so that is now mimics the task manager for Data Collectors. (Support ID: 103629) (EM-13153)
- To support new PhoneHome configuration on SL1 systems where the Database Server resides in a cloud service like AWS, PhoneHome no longer requires password-based authentication for the sshd process. (Support ID: 103274) (EM-12278)

Platform

- The order in which certain storage objects are collected no longer affects high-frequency collection and no longer causes collection outages, (Case 00015562) (Case 00015609) (EM-21037)
- The phpMyAdmin tool (port 8008) now uses HTTPS by default. (Case 00024722) (Support ID: 178237) (EM-30412)
- Pages no longer load slowly or fail to load due to the low memory limit for PHP. (Case 00023026) (Case 00031042) (Case 00025328) (Case 00011848) (Case 00018300) (Case 00013949) (Case 00030891) (Case 00011245) (Case 00025328) (EM-29271)

PowerPacks

- Several PowerPacks were updated to address an issue in which library version conflicts could cause the ScienceLogic Libraries included in those PowerPacks to become corrupted. To address this issue, if you are using the following PowerPacks, you must install the most recent versions, listed below (EM-26345):
 - Amazon Web Services v115
 - Dell EMC: Unity v101
 - Dell EMC: VMAX and PowerMax Unisphere API v201
 - Dynatrace v102
 - Google Cloud Platform v102
 - LayerX: Application Monitor v101
 - Microsoft: Office 365 v102
 - Microsoft: Windows Server Cluster v101
 - Microsoft: Windows Server Services v101
 - NetApp Data ONTAP v105
 - Nginx: Open Source and Plus v102
 - Pure Storage: Flash Array v102
 - REST v105
 - ScienceLogic: Integration Service v104
 - Tivoli Storage Manager v101
 - Windows Restart Automatic Services v101

Reports

- In the Report Job Editor (Reports > Create Report > Report Jobs >edit or create), if the Job Type field specifies "Email & Archive" and is sent to multiple recipients, Amazon SMTP servers no longer reject the email with the error "Illegal semicolon, not in group". (Support ID: 52,013) (Case 00023654) (Case 00036873) (EM-23409)
- In the File System Top Metrics report (Reports > Run Report > Storage > File system Top Metrics), added a new field, Divisor. Users can select either 1000 or 1024, to match the measurement used locally by the device. (Case 00024364) (Support ID: 176,657) (EM-29439)

Run Book Automation

- Run Book Actions of type "Send an AWS SNS Message" no longer fail with the error message "Error in AWS library". (Case 00028646)(Support ID: 177652) (EM-29917) (EM-29917)

ScienceLogic Support PowerPack

- In the Data Pull Support PowerPack, if the table "in_storage.hf_storage", the table "in_storage.mf_storage", or the table "in_storage" includes a null value, the Dynamic Application "[HF \ | MF \ | LF] Data Pull: Statistics" no longer displays the spurious error message "Non-digits in oid with object...when updating performance value (val:None)" (Case 00022816) (Support ID: 176740) (Support ID: 128891) (EM-30584)
- The Support PowerPack can now monitor the SL1 licenses on Database Servers and All-in-One appliances and generate events at 30 days before expiration and again at 14 days before expiration. (Case 00029236) (EM-28013)
- Each SL1 appliance now triggers an alert and event if the EM7 service is paused. The event is "proc_mgr received a close signal and is shutting itself down". (Case 00022682) (Case: 00024500) (EM-27696)
- The Support PowerPack now monitors the following additional MySQL metrics: table_open_cache and table_definition_cache. (Case 00030803) (EM-21104)
- Addressed an issue with the Data Pull Support PowerPack. If the in_storage.hf_storage table, in_storage.mf_storage table or in_storage.lf_storage table includes a null value, the Dynamic Application "[HF \ | MF \ | LF] Data Pull: Statistics" no longer displays the spurious error message "Non-digits in oid with object...when updating performance value (val:None)" (Case 00022816) (Support ID: 176740) (Support ID: 128891) (EM-19398)
- Improved the Support PowerPack to monitor the following additional MySQL metrics: slow_query_log, innodb_buffer_pool_size, innodb_data_file_path, max_connections, innodb_file_per_table, and general_log. (Support ID: 120825) (Support ID: 122611) (EM-18251)

System Update

- Addressed an issue with System Updates (System > Tools > Updates). After importing an update, the Staging Status no longer hangs with a status of "Scheduled". EM-31690.

Web Configuration Tool

- Addressed an issue with The Web Configuration Tool. The Web Configuration Tool no longer displays the error message "Save failed. Please fix form errors and try again" when users configure a Data Collector or Message Collector. (Case 00030636) (Support ID: 175541) (EM-28872) (EM-28872)

PowerPacks in 8.14.0

Before upgrading to 8.14.0, please verify whether any PowerPacks currently running on your system 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 8.14.0 release includes the following PowerPacks that are new or updated and included with the release:

- Amazon Web Services, v115
- Cisco: AppDynamics v101
- Cisco: Video Endpoints v106
- Dell EMC: Unity, v101
- Dell EMC: VMAX and PowerMax API, v201
- Host Resources Core Pack v106
- ScienceLogic Integration Service, v105
- Layer X Appliance Monitoring, v101
- Microsoft: SQL Server Enhanced, v104
- Netapp Base Pack, v105
- Nutanix: Base Pack, v102
- Pure Storage SNMP, v101
- Pure Storage SNMP, v102
- Pure Storage: Flash Array, v102
- SL1 Event Trap Automation Action, v100
- VMWare: vSphere Base Pack v213
- Window Restart Automatic Service, v101

Several PowerPacks were updated to address an issue in which conflicts with library version could cause the ScienceLogic Libraries included in those PowerPacks to become corrupted. To address this issue, if you are using the following PowerPacks, you must update to the most recent versions, as listed below:

- Amazon Web Services v115
- Dell EMC: Unity v101
- Dell EMC: VMAX and PowerMax Unisphere API v201
- Dynatrace v102
- Google Cloud Platform v102
- LayerX: Application Monitor v101
- Microsoft: Office 365 v102
- Microsoft: Windows Server Cluster v101
- Microsoft: Windows Server Services v101
- NetApp Data ONTAP v105
- Nginx: Open Source and Plus v102
- Pure Storage: Flash Array v102
- REST v105
- ScienceLogic: Integration Service v104
- Tivoli Storage Manager v101
- Windows Restart Automatic Services v101

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 "Polycom Infrastructure" PowerPack is no longer included with platform releases. (POLI-11)

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 8.14.0

8.14.0 includes multiple package updates to address security issues and improve performance.

WARNING: 8.14.0 included important security updates that require you to reboot all appliances after installing 8.14.0. ***If you have not previously installed 8.14.0 and rebooted all appliances, you must do so after installing 8.14.3.*** If you would like assistance in planning an upgrade path that meets your security needs while minimizing downtime, please contact your Customer Success Manager

Beta Features

The following beta features are included in the 8.14.5 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 "lightweight" snippets that call the Content Libraries.

SNMP Collection


- Improvements to SNMP Collection to increase performance and capacity. Collections from high-latency devices will not slow collection from other devices. Collections that timeout will not block other collections from executing. This is a beta feature that is not enabled by default. Contact ScienceLogic Customer Support to enable this feature.

PowerPacks

- Beta versions of the following PowerPacks are available. You can download them 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


- If your first installation of SL1 was 8.9.1 or earlier, ScienceLogic strongly recommends that you disable the Knowledge Base. SL1 provides a setting in the `silos.conf` file to disable the Knowledge Base.
- For newer installations where the first installation was 8.9.2 or later, 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 log in 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

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

Upgrade Process for Systems Running 8.1.0 and Earlier

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 8.14.5.

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 a version prior to 8.1.1, each appliance must be migrated to 8.9.0 and the Oracle Linux 7.5 operating system.

If you are running 8.4.0 or earlier and require access to all ticket notes immediately after upgrading, contact ScienceLogic Customer Support for details on manually updating the database schema before you upgrade.

If you are running 8.4.0 or earlier and have added one or more custom firewall rules, such as a non-standard port for Phone Home Collectors, you must migrate these rules to firewallld before upgrading. Please contact ScienceLogic Support for more information.

Migration to 8.9.0

The process of migrating an existing system to 8.9.0 includes multiple additional steps that will vary depending on your 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 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 at least 7.8.5 before the migration.
- 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 your 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.
- If you want to upgrade to a version later than 8.9.0, you must use the 8.9.0 ISO to reinstall all Data Collectors and Message Collectors. 8.10.0 and later versions do not support "mixed-mode", where the Database Servers and Administration Portals are running Oracle Linux and the Data Collectors and Message Collectors are running CentOS.
- To upgrade to 8.14.5, see the section on [Upgrade Process for Systems Running 8.6.0 and Later](#).
- Perform the steps listed in the [Other Manual Updates](#) section.

Features Not Currently Supported by the 8.x Releases

The following functionality that was available in previous releases is not currently available in the 8.14.5 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 8.6.0 and Later

As of 8.12.0, SL1 uses an improved System Update tool (System > Tools > Updates).

As of 8.12.1.3, SL1 uses delta-less upgrades, meaning that you can import a single file and upgrade to the latest version. You must be running SL1 8.6.0 or later to use delta-less updates.

Any system running 8.6.0 or later can be upgraded to the 8.14.5 release by importing, staging, and deploying a single update file.

To upgrade to the 8.14.5 release from an 8.6.0 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:
 - 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 8.6 release:**
 - Please note that 8.10.0 and later versions do not support "mixed-mode", where the Database Servers and Administration Portals are running Oracle Linux and the Data Collectors and Message Collectors are running CentOS. If your system uses "mixed-mode", you must use the 8.6.0 ISO to reinstall the Data Collectors and Message Collectors before upgrading to 8.14.5. **ScienceLogic strongly suggest that you contact Customer Support or your Customer Success Manager to plan your migration from mixed-mode to 8.14.5.**
 - From the ScienceLogic portal, **download the update for 8.14.5** to a local computer. Unzip any zipped files.
 - Review the following release notes to see what has changed between 8.7.x and 8.14.5:
 - Applicable 8.6.x release notes (8.6.1 and 8.6.2.3)
 - 8.7.0
 - 8.7.1.2
 - 8.8.0.1
 - 8.8.1.3
 - 8.8.2.1
 - 8.9.0
 - 8.9.1.1
 - 8.9.2.4
 - 8.10.0
 - 8.10.1.3
 - 8.10.2.1
 - 8.10.3.1

- 8.12.0.2
- 8.12.1.4
- 8.12.2.6
- 8.14.5
- **Go to step #10** and continue.

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

- Please note that 8.10.0 and later versions do not support "mixed-mode", where the Database Servers and Administration Portals are running Oracle Linux and the Data Collectors and Message Collectors are running CentOS. If your system uses "mixed-mode", you must use the 8.7.0 ISO to reinstall the Data Collectors and Message Collectors before upgrading to 8.14.5. **ScienceLogic strongly suggest that you contact Customer Support or your Customer Success Manager to plan your migration from mixed-mode to 8.14.5.**
- From the ScienceLogic portal, **download the update for 8.14.5** to a local computer. Unzip any zipped files.
- Review the following release notes to see what has changed between 8.8.x and 8.14.5:
 - Applicable 8.7.x release notes (8.7.1.2)
 - 8.8.0.1
 - 8.8.1.3
 - 8.8.2.1
 - 8.9.0
 - 8.9.1.1
 - 8.9.2.4
 - 8.10.0
 - 8.10.1.3
 - 8.10.2.1
 - 8.10.3.1
 - 8.12.0.2
 - 8.12.1.4
 - 8.12.2.6
 - 8.14.5
- **Go to step #10** and continue.

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

- Please note that 8.10.0 and later versions do not support "mixed-mode", where the Database Servers and Administration Portals are running Oracle Linux and the Data Collectors and Message Collectors are running CentOS. If your system uses "mixed-mode", you must use the 8.8.0 ISO to reinstall the Data Collectors and Message Collectors before upgrading to 8.14.5. **ScienceLogic strongly suggest that you contact Customer Support or your Customer Success Manager to plan your migration from mixed-mode to 8.14.5.**

- From the ScienceLogic portal, **download the update for 8.14.5** to a local computer. Unzip any zipped files.
- Review the following release notes to see what has changed between 8.9.x and 8.14.5:
 - Applicable 8.8.x release notes (8.8.0.1, 8.8.1.3, 8.8.2.1)
 - 8.9.0
 - 8.9.1.1
 - 8.9.2.4
 - 8.10.0
 - 8.10.1.3
 - 8.10.2.1
 - 8.10.3.1
 - 8.12.0.2
 - 8.12.1.4
 - 8.12.2.6
 - 8.14.5
- **Go to step #10** and continue.

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

- Please note that 8.10.0 and later versions do not support "mixed-mode", where the Database Servers and Administration Portals are running Oracle Linux and the Data Collectors and Message Collectors are running CentOS. If your system uses "mixed-mode", you must use the 89.0 ISO to reinstall the Data Collectors and Message Collectors before upgrading to 8.14.5. **ScienceLogic strongly suggest that you contact Customer Support or your Customer Success Manager to plan your migration from mixed-mode to 8.14.5.**
- From the ScienceLogic portal, **download the update for 8.14.5** to a local computer. Unzip any zipped files.
- Review the following release notes to see what has changed between 8.10.x and 8.14.5:
 - Applicable 8.9.x release notes (8.9.1.1, 8.9.2.4)
 - 8.10.0
 - 8.10.1.3
 - 8.10.2.1
 - 8.10.3.1
 - 8.12.0.2
 - 8.12.1.4
 - 8.12.2.6
 - 8.14.5
- **Go to step #10** and continue.

7. *If you are currently running an 8.10 release:*

- From the ScienceLogic portal, **download the latest update for 8.14.5** to a local computer. Unzip any zipped files.
- Review the following release notes to see what has changed between 8.12.0 and 8.14.5:
 - Applicable 8.10.x release notes (8.10.1.3, 8.10.2.1, 8.10.3.1)
 - 8.12.0.2
 - 8.12.1.4
 - 8.12.2.6
 - 8.14.5
- **Go to step #10** and continue.


8. *If you are currently running an 8.12.x release:*


- From the ScienceLogic portal, **download the update for 8.14.5** to a local computer. Unzip any zipped files.
- Review the following release notes to see what has changed between 8.12.x and 8.14.5:
 - Applicable 8.12.x release notes (8.12.0.2, 8.12.1.4, 8.12.2.6)
 - 8.14.5
- **Go to step #10** and continue.

9. *If you are currently running an 8.14.x release:*

- From the ScienceLogic portal, **download the update for 8.14.5** to a local computer. Unzip any zipped files.
- Review the following release notes to see what has changed between 8.12.x and 8.14.5:
 - Applicable 8.12.x release notes (8.12.0.2, 8.12.1.4, 8.12.2.6)
 - 8.14.5
- **Go to step #10** and continue.


10. Import the 8.14.5 system update file in the **System Updates** page (System > Tools > Updates > **[Import]** button).

11. Select the staging icon () for 8.14.5.


12. When staging has completed, select the lightning-bolt icon () to deploy 8.14.5.

13. Clear your browser's cache.

14. Clear the SL1 cache.

- Go to the **Cache Management** page (System > Tools > Cache).
- From the hamburger menu (), select **Clear EM7 System Cache**.

CAUTION: An update included in 8.12.1 requires that you clear the EM7 System Cache. Until you clear the EM7 System Cache, you might experience errors with credentials that can affect discovery, calls to the ScienceLogic API, and calls to GQL.

15. 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.

16. 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 ScienceLogic Agent.
17. If you upgraded from an 8.4.x or earlier release, perform the steps listed in the [Other Manual Updates](#) section.

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.

18. You must upgrade MariaDB to the latest version. To do so, perform the steps in the [Upgrading MariaDB](#) section.
19. 8.14.5 includes changes from 8.14.4 and 8.14.3. 8.14.3 included important security updates. **If you have not already installed 8.14.3 and rebooted all appliances, you must do so after installing 8.14.5.** For directions, see the section [Rebooting Appliances](#). If you would like assistance in planning an upgrade path that meets your security needs while minimizing downtime, please contact your Customer Success Manager.

Manual Updates for 8.4.x and Earlier Systems Updated to 8.14.5

If you upgraded from an 8.4.x system or earlier to 8.14.5, after 8.14.5 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
```

Upgrading MariaDB

Version 8.14.0 requires updates to MariaDB that address security and performance issues. If you have not previously installed 8.14.0, the 8.14.5 update will automatically update MariaDB-client, MariaDB-common, and MariaDB-shared RPMs but will not update the MariaDB Server RPM. You must manually update the MariaDB Server RPM. 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 to determine the current installed version of the RPMs:

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

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

```
sudo systemctl stop mysql
```

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 to determine the current installed version of the RPMs:

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

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

```
sudo systemctl stop mysql
```

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 systemctl 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 to determine the current installed version of the RPMs:

```
sudo rpm -qa ^MariaDB-*
```
5. Execute the following command on the primary Database Server in the HA cluster:

```
sudo systemctl stop mysql
```
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 start mariadb.service
```

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

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

10. Execute the following command to re-start SL1:

```
sudo systemctl start em7
```

Rebooting Appliances

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

Administration Portal

If your SL1 system includes multiple Administration Portals, you can remotely reboot Administration Portals from another 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.

If your SL1 system include only a single Administration Portal, perform the following steps to reboot that 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.

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

```
sudo reboot
```

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 8.14.5.1 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".
- System Update no longer supports the shell command "deploy_patch".

Known Issues

EM-33993


- If you are running SL1 on AWS with RDS, you must update the EM7 DB credential included with the platform. Run Book actions that create SQL connections to the SL1 database use the EM7 DB credential. The EM7 DB credential includes %D in the **Hostname/IP** field. However, %D resolves to "local host" of the Database

Server. Because RDS does not run on the Database Server, it uses a different host, port, username and password than the Database Server. To update the EM7 DB credential:

1. Either go to the console of the SL1 Database Server or use SSH to access the server.
2. Open the file `/etc/silo.conf`.
3. Note the values of the following lines under [CENTRAL]:

```
dbserver=<IP>
dbport=<port_number>
dbuser=<username>
dbpasswd=<password>
```

where:

- the italicized text is replaced with actual values for the RDS without the "<" and ">" characters.
4. Exit the shell session.
 5. Go to the **Credential Management** page (System > Management > Credentials).
 6. Find the **EM7 DB** credential and then click its wrench icon ().
 7. In the **Edit Database Credential** page, edit the following fields"
 - **DB User**. Enter the value from the line "dbuser=<username>" in the silo.conf file.
 - **Password**. Enter the value from the line "dbpasswd=<password>" in the silo.conf file.
 - **Hostname/IP**. Enter the value from the line "dbserver=<IP>" in the silo.conf file.
 - **Port**. Enter the value from the line "dbport=<port_number>" in the silo.conf file.
 8. Click Save.

For a list of additional Known Issues and workarounds, see the ScienceLogic Customer Portal at <https://support.sciencelogic.com/s/topic/0TO0z000000E6w7GAC/known-issues>.

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