Amazon Web Services PowerPack Release Notes

Version 112

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Overview

Amazon Web Services PowerPack version 112 introduces the ability to discover and monitor Elastic Compute Services (ECS) and their component devices, as well as Network Elastic Load Balancing (ELB) instances and ELB target group instances. Version 112 also includes new Device Classes, new device dynamic component map relationships, and updates to numerous Dynamic Applications.

- **Minimum Required Platform Version**: 8.10.0
- **Support Status**: GA

This document describes:

Before You Install or Upgrade

Ensure that you are running version 8.10.0 or later of SL1 before installing the *Amazon Web Services* PowerPack version 112. Additionally, the Data Collectors used to monitor the AWS account must be running the Oracle Linux 7.2 operating system.

If your SL1 system is not currently running version 8.10.0 or later, you must upgrade to 8.10.0 or later as part of the upgrade process for version 112 of the PowerPack. If your SL1 system has been upgraded to a later release, you should go to the **PowerPack Manager** page (System > Manage > PowerPacks) and ensure that the *Amazon Web Services* PowerPack has been upgraded to the most recent version.

NOTE: For details on upgrading the ScienceLogic platform, see the appropriate ScienceLogic Release Notes.

Upgrade Process from PowerPack version 100 or Later

This section describes the upgrade process when upgrading from version 100 or later of the *Amazon Web Services* PowerPack.

TIP: By default, installing a new 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 local changes for some commonly customized fields from being overwritten.

To upgrade from version 100 or later of the *Amazon Web Services* PowerPack:

1. Familiarize yourself with the ***Known Issues*** for this release.
2. Disable collection for AWS devices. To do so, go to the **Device Components** page (Registry > Devices > Device Components) and then select the checkbox for all Amazon Web Services root devices. In the ***Select Actions*** drop-down list, select *Change Collection State: Disabled (recursive)*, and then click the **[Go]** button.
3. If you are upgrading from a version of the *Amazon Web Services* PowerPack prior to version 112, you must ensure that the ***Preserve Hostname*** checkbox is *not* selected for any Storage Gateway Instances. To do so, go to the **Device Manager** page (Registry > Devices > Device Manager) and then type "AWS | Storage Gateway Instance" in the ***Device Class | Sub-class*** column filter field. For each Storage Gateway Instance component device in the list, click the wrench icon (), uncheck the ***Preserve Hostname*** checkbox, and then click **[Save]**.

NOTE: If desired, you can select the ***Preserve Hostname*** checkbox again for these devices *after* you have completed the upgrade to version 112.

4. Delete the "AWS Health" Dynamic Application. To do so, go to the **Dynamic Applications Manager** page (System > Manage > Applications) and then select the checkbox for the "AWS Health" Dynamic Application. In the ***Select Actions*** drop-down list, select *DELETE Application*, and then click the **[Go]** button.

CAUTION: You should *not* delete any of the AWS Service Health Dynamic Applications, nor any other Dynamic Applications that include "Health" in the name. Only the "AWS Health" Dynamic Application should be deleted.

5. If you have not done so already, upgrade your system to the 8.10.0 or later release.

NOTE: For versions 8.6.0 and later of the ScienceLogic platform, the *Amazon Web Services* PowerPack content library will not update until you enable collection for your AWS devices.

6. If you are upgrading from a version of the *Amazon Web Services* PowerPack between versions 104 and 107, you must delete any LightSail Instances that were previously discovered by the "AWS LightSail EC2 Instance Discovery" Dynamic Application. To do so, go to the **Device Manager** page (Registry > Devices > Device Manager), type "LightSail EC2 Instance" in the ***Device Class | Sub-class*** column search field, and then select the checkboxes for all of the devices listed. In the ***Select Action*** drop-down list, select *DELETE Selected Devices*, and then click the **[Go]** button.

> **NOTE:** Deleting these devices results in the loss of any historical data collected by the beta EC2 LightSail Dynamic Applications between versions 104 and 107.

7. Download version 112 of the *Amazon Web Services* PowerPack from the Customer Portal to a local computer.
8. Go to the **PowerPack Manager** page (System > Manage > PowerPacks). Click the **[Actions]** menu and choose *Import PowerPack*. When prompted, import version 112 of the *Amazon Web Services* PowerPack.
9. After importing the PowerPack, you will be prompted to install the PowerPack. Click the **[Install]** button to install the PowerPack.

Upgrade Process from PowerPack version 8.1.0 or Earlier

This section describes the upgrade process when upgrading from version 8.1.0 or earlier of the *Amazon Web Services* PowerPack to version 112.

To upgrade from version 8.1.0 or earlier, you must perform the following general steps:

1. *Disable collection for AWS devices*.
2. *Uncheck "Preserve Hostname" for Storage Gateway Instances*
3. *Delete the "AWS Health" Dynamic Application*.
4. *Upgrade to the 8.10.0 or later release*.
5. If you have made changes to the AWS PowerPack, optionally *enable selective PowerPack field protection*.
6. *Install the AWS 112 PowerPack*.
7. If you enabled selective PowerPack field protection, *edit collection objects*.
8. *Clear the cache on all Data Collectors*.
9. *Unalign the AWS Custom Metrics Dynamic Application*.
10. *Enable collection for AWS devices*.
11. If you enabled selective PowerPack field protection, optionally *disable selective PowerPack field protection* after the installation.

Step 1: Disable Collection for AWS Devices

To disable collection for AWS devices:

1. Go to the **Device Components** page (Registry > Devices > Device Components).
2. Select the checkbox for all Amazon Web Services root devices.
3. In the ***Select Actions*** drop-down list, select *Change Collection State: Disabled (recursive)*.
4. Click the **[Go]** button.

Step 2: Uncheck the "Preserve Hostname" Option for Storage Gateway Instances

To ensure that the ***Preserve Hostname*** checkbox is *not* selected for any Storage Gateway Instance component devices:

1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
2. In the ***Device Class | Sub-class*** column filter field, type "AWS | Storage Gateway Instance".
3. For each Storage Gateway Instance component device in the list, click the wrench icon (). The **Device Properties** page appears.
4. Uncheck the ***Preserve Hostname*** checkbox.
5. Click **[Save]**.

NOTE: If desired, you can select the ***Preserve Hostname*** checkbox again for these devices *after* you have completed the upgrade to version 112.

Step 3: Delete the "AWS Health" Dynamic Application

To delete the "AWS Health" Dynamic Application:

1. Go to the **Dynamic Applications Manager** page (System > Manage > Applications).
2. Locate the "AWS Health" Dynamic Application and then select its checkbox.
3. In the ***Select Actions*** drop-down list, select *DELETE Application*.
4. Click the **[Go]** button.

CAUTION: You should *not* delete any of the AWS Service Health Dynamic Applications, nor any other Dynamic Applications that include "Health" in the name. Only the "AWS Health" Dynamic Application should be deleted.

Step 4: Upgrade to the 8.10.0 or Later Release

If you have not previously done so, upgrade or migrate your system to an 8.10.0 or later release using the documentation applicable to your current version:

- For systems running an 8.x release, see the 8.10.0 Release Notes.
- For systems running a 7.x release, see the 8.10.0 Migration Steps document.

> **NOTE:** For versions 8.6.0 and later of the ScienceLogic platform, the *Amazon Web Services* PowerPack content library will not update until you enable collection for your AWS devices.

Step 5 (Optional): Enable Selective PowerPack Field Protection

If you have made changes to the *Amazon Web Service* PowerPack on your system, you can use the ***Enable Selective PowerPack Field Protection*** option to preserve changes to some fields. For a full list of fields that are preserved by this option, click the **[Guide]**button on the **Behavior Settings** page (System > Settings > Behavior). If you use the ***Enable Selective PowerPack Field Protection*** option, you must perform the steps listed in the *Step 7 (If Applicable): Edit Collection Objects* section after installing version 112 of the *Amazon Web Services* PowerPack.

To enable selective PowerPack field protection:

1. Go to the **Behavior Settings** page (System > Settings > Behavior).
2. Enable the ***Enable Selective PowerPack Field Protection*** checkbox.
3. Click the **[Save]** button.

Step 6: Install Version 112 of the Amazon Web Services PowerPack

To install version 112 of the *Amazon Web Services* PowerPack:

1. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
2. Click the **[Actions]** button and select *Import PowerPack*. The **Import PowerPack** modal page appears.
3. Click the **[Browse]** button and select the PowerPack file in your file browser.
4. Click the **[Import]** button. A confirmation dialog appears.
5. Click the **[OK]** button. The **PowerPack Installer** modal page appears.
6. Click the **[Install]** button. A confirmation dialog appears.
7. Click the **[OK]** button.

Step 7 (If Applicable): Edit Collection Objects

If you performed the steps listed in the *Step 5(Optional): Enable Selective PowerPack Field Protection* section, you must perform the following steps:

1. Go to the **Dynamic Applications Manager** page (System > Manage > Application).
2. Click the wrench icon () for the "AWS CloudFront Origin" Dynamic Application. The **Dynamic Applications Properties Editor** page appears.
3. Click the **[Collections]** tab.
4. Click the wrench icon () for the Distinguished Name collection object.
5. Select the ***Hide Object*** checkbox.
6. Click the **[Save]** button.

Step 8: Clear Data Collector Cache

Beginning with *Amazon Web Services* PowerPack version 112, ScienceLogic libraries are delivered with the PowerPack. However, you must ensure that *Amazon Web Services* PowerPack versions 108-111 that were installed on Data Collectors prior to updating to SL1 version 8.11.0 still work and that the silo_aws system library is set to 2.9.5.

NOTE: All versions of the ScienceLogic libraries appear on the **ScienceLogic Library Manager** page (System > Customize > ScienceLogic Libraries). The default silo_aws library is indicated by a ***System*** setting of *True*.

After validating the ScienceLogic library versions on the Data Collectors, you must also clear the Data Collectors' cache.

Perform the following steps for every Data Collector used to monitor an AWS account:

1. Log in to the command-line of the appliance as the em7admin user.
2. Validate the versions of the ScienceLogic libraries on the Data Collector at the paths below:

```
$ cd /opt/em7/envs/<PP GUID>/lib/python2.7/cl-packages/silo_aws
$ cd /opt/em7/envs/system/lib/python2.7/cl-packages/silo_aws
```

   - The library versions might be the same if you have not yet upgraded the *Amazon Web Services* PowerPack to the latest version that was delivered in SL1.
   - The library versions might be different if you have upgraded the *Amazon Web Services* PowerPack to the latest version that was delivered in SL1.

3. On the Data Collector, ensure that the current content library version matches the version installed in the PowerPack:

```
$ cat version.txt
```

NOTE: For versions 8.6.0 and above of the ScienceLogic platform, the content library version listed in the version.txt file will not update until you *enable collection for your AWS devices*.

4. Execute the following command to open a MariaDB prompt:

```
$ sudo bash
[sudo] password for root:
# silo_mysql
```

5. Execute the following command:

```
DELETE FROM cache.dynamic_app WHERE `key` LIKE 'AWS_SELF_MONITOR_%';
```

Step 9: Unalign the AWS Custom Metrics Dynamic Application

A previous release of the *Amazon Web Services* PowerPack erroneously aligned the "AWS Custom Metrics" Dynamic Application to certain types of devices. To unalign the "AWS Custom Metrics" Dynamic Application from these devices:

1. Copy the provided aws_unalign_custom_metrics_app.py file to the home directory of the em7admin user on an appliance in your system:
   - If your system includes All-In-One Appliances, use the primary All-In-One Appliance.
   - If your system includes Database Servers where the user interface/API has not been disabled on the Database Servers, use the primary Database Server.
   - If your system includes Database Servers where the user interface/API has been disabled on the Database Servers, use an Administration Portal.

NOTE: The aws_unalign_custom_metrics_app.py file can be found by clicking the "Contrib Files" link for the most recent version of the Amazon Web Services PowerPack on the ScienceLogic customer portal.

2. Log in to the command-line of the appliance as the em7admin user.
3. Execute the following command:

```
sudo python aws_unalign_custom_metrics_app.py --base-url http://[IP address of appliance] --username [username of administrator user] --password [password of administrator user]
```

The output will show information about each device from which the "AWS Custom Metrics" Dynamic Application was unaligned.

Step 10: Enable Collection for AWS Devices

To enable collection for AWS devices:

1. Go to the **Device Components** page (Registry > Devices > Device Components).
2. Select the checkbox for all AWS Web Services root devices.
3. In the ***Select Actions*** drop-down list, select *Change Collection State: Enabled (recursive)*.
4. Click the **[Go]** button.

Step 11 (Optional): Disable Selective PowerPack Field Protection

If you performed the steps listed in the *Step 5 (Optional): Enable Selective PowerPack Field Protection* section and want to disable the option for future PowerPack updates, perform the following steps:

1. Go to the **Behavior Settings** page (System > Settings > Behavior).
2. Disable the ***Enable Selective PowerPack Field Protection*** checkbox.
3. Click the **[Save]** button.

Features

Amazon Web Services version 112 includes the following features:

- Dynamic Applications that discover, model, and collect data from AWS component devices
- Event Policies and corresponding alerts that are triggered when AWS component devices meet certain status criteria

NOTE: Many of the Event Policies included in the *Amazon Web Services* PowerPack are disabled by default. You must manually enable the Event Policies that you want to use. To do so, go to the **Event Policy Editor** page (Registry > Events > Event Manager > create or edit) and change the ***Operational State*** to *Enabled*.

- Device Classes for each of the AWS component devices monitored
- Sample credentials for discovering AWS component devices
- Reports and dashboards that display information about AWS instances and component devices
- Run Book Action and Automation policies that can automate certain AWS monitoring processes
- The ScienceLogic Libraries that are utilized by this PowerPack:
    - boto3
    - content
    - recordreplay
    - silo_aws
    - silo_snippet
    - silo_vmware

Enhancements and Issues Addressed

Version 112 of the *Amazon Web Services* PowerPack includes the following enhancements and addressed issues:

- The following Dynamic Applications were added to discover and monitor Elastic Compute Services (ECS) and their component devices:
  - AWS ECS Service Discovery
  - AWS ECS Service Health
  - AWS ECS Cluster Services Discovery
  - AWS ECS Cluster Services Configuration
  - AWS ECS Cluster Services Performance
  - AWS ECS Cluster Services Tasks Discovery
  - AWS ECS Cluster Tasks Configuration
  - AWS ECS Cluster Instance Discovery
  - AWS ECS Cluster Instance Configuration
  - AWS ECS Cluster Instance Performance
  - AWS ECS Cluster Instance Tasks Discovery
- The following Dynamic Applications were added to discover and monitor Elastic Load Balancing (ELB) instances and target group instances:
  - AWS ELB Target Group Instance Configuration
  - AWS ELB Target Group Instance Discovery
  - AWS ELB Target Group Performance
  - AWS Network ELB Instance Configuration
  - AWS Network ELB Instance Discovery
  - AWS Network ELB Instance Performance

NOTE: In previous versions of the *Amazon Web Services* PowerPack, Network ELB instances were being discovered as application ELB instances, although no data was ever collected for these devices. With version 112, Network ELB instances are now discovered properly. ScienceLogic recommends that you enable device vanishing prior to installing version 112, which will result in SL1 vanishing those erroneously discovered instances and correctly discovering them as Network ELB instances and collecting data from them. To enable global device vanishing, go to the **System Threshold Defaults** page (System > Settings > Thresholds > System), set the ***Component Vanish Timeout Mins.*** field to any value other than zero, and then click **[Save]**.

- The Dynamic Applications in the PowerPack were updated to create the following dynamic component map relationships:
    - Application ELBs and Route 53-Hosted Zones
    - Application ELBs and Target Groups
    - ECS Cluster Instances and EC2 Instances
    - ECS Services and Classic Load Balancers
    - ECS Services and Security Groups
    - ECS Services and Subnets
    - ECS Services and Target Groups
    - ECS Services and VPC Instances
    - EC2 Instances and Target Groups
    - Network ELBs and Availability Zones
    - Network ELBs and Route 53-Hosted Zones
    - Network ELBs and Target Groups
    - Network ELBs and VPC Instances
    - VPC Instances and Target Groups

NOTE: Dynamic component map relationships are created from ECS Cluster Instances to EC2 Instances only when a cluster has at least one EC2 type service. Because EC2 data is not returned for the Fargate service, no relationship is created between EC2 and Cluster Instances that only contain Fargate services.

NOTE: If you are currently monitoring a Classic Load Balancer, you can view related component devices on the Classic Load Balancer's **Topology** page.

- The boto3 ScienceLogic Library was updated to retrieve information about tags associated with Classic ELB instances.
- A new "AWS S3 Service Performance" Dynamic Application was added to monitor AWS S3 storage performance metrics for all buckets in a region.
- The "AWS S3 Storage Performance" Dynamic Application was updated to collect data about the size of buckets that are using the storage classes Intelligent Tiering, One Zone-IA, and Glacier, as well as the number of objects.
- The "AWS CloudWatch Alarms Performance" Dynamic Application was updated to retrieve CloudWatch alarms for ECS components.
- The "AWS EBS Instance Performance" Dynamic Application was updated to present the metrics for Volume Queue Length in counts and the metrics for Volume Idle Time in seconds.

- The "AWS EC2 Instance Configuration" Dynamic Application was updated to ensure that reservation information is collected and to address an issue that was causing empty EC2 service containers to be created in all zones in a particular region instead of only in the regions/zones where EC2 services exist.
- The "AWS EC2 Instance Performance" Dynamic Application was updated to change the collection unit for the "Network In" and "Network Out" metrics from number of bytes to bytes per second. With this change, the formula for calculating these metrics is hard-coded based on a poll time of 5 minutes (300 seconds).

NOTE: This change might cause some historical data to appear different.

- The "AWS ELB Instance Performance" Dynamic Application was updated to remove the "HTTPCode_ELB_4XX" (and related) metrics, which were retired by AWS.

NOTE: You must manually delete the "AWS: ELB HTTPCode_4XX Threshold" metric. To do so, go to the **Dynamic Applications Manager** page (System > Manage > Applications), locate the "AWS ELB Instance Performance" Dynamic Application and click its wrench icon (), click the **[Threshold]** tab, and then locate the "AWS ELB HTTPCode_4XX Threshold" metric and click its bomb icon ().

- Several Dynamic Applications were updated to ensure "Datetime" Collection Object format consistency.
- The following Device Classes were added to the PowerPack:
    - ECS Service
    - ECS Cluster Instance
    - ECS EC2 Service
    - ECS EC2 Task
    - ECS Fargate Service
    - ECS Fargate Task
    - ECS Generic Service
    - ECS Generic Task
    - ELB Target Group
    - Network ELB Instance
- The following Device Classes were added to monitor AWS resources in the Ningxia region of China:
    - Region China (Ningxia)
    - Availability Zone - Ningxia
- The following Device Dashboards were added to display data about AWS Application and Network Load Balancers:
    - AWS Application ELB
    - AWS Network ELB

NOTE: These Device Dashboards are set as the default dashboards for their respective Device Classes.

- An issue was addressed that was causing deleted ELB instances to be rediscovered or returned to a "Healthy" state when an application ELB exists in the same region.
- An issue was addressed that was preventing the "AWS VPC Table Configuration" Dynamic Application from collecting the correct "Main" status for route tables with multiple subnets.
- An issue was addressed that was preventing the "AWS CloudFront Restriction Configuration" Dynamic Application from collecting the status when the "Status" value was "False".
- An issue was addressed that was preventing the "AWS Auto Scale Launch Config Instance Configuration" Dynamic Application from displaying "Monitoring" and "EBS Optimized" metrics when the values were "False."

Known Issues and Workarounds

The following known issues affect version 112 of the *Amazon Web Services* PowerPack:

- Some disk-related alerts and events were removed from the "AWS LightSail Instance Performance" Dynamic Application as of *Amazon Web Services* PowerPack version 108. If you are upgrading from a version prior to version 108, then you must manually delete the thresholds relating to these removed alerts and events. To do so, go to the **Dynamic Applications Threshold Objects** page (System > Manage > Applications > wrench icon > Thresholds) for the "AWS LightSail Instance Performance" Dynamic Application, and then click the bomb icon () for the following thresholds:
  - AWS: LightSail Disk IOPS High
  - AWS: LightSail Disk GB Usage High
- AWS does not currently support IPv6 addresses for LightSail services. However, the "AWS LightSail Instance Configuration" Dynamic Application includes support for IPv6 addresses in the event that AWS adds support in the future.
- Because AWS Government accounts do not support all of the services supported by AWS Commercial accounts, some expected errors will appear when discovering AWS Government Accounts. For example:

```
Unable to process AWS request: AID: 402, SID: 415, DID: 3, Class:
AwsOpsWorksServiceDisc UnrecognizedClientException The security token included in
the request is invalid.

Unable to process AWS request: AID: 279, SID: 275, DID: 84, Class:
AwsOpsWorksServiceDisc UnrecognizedClientException The security token included in
the request is invalid. Invalid credentials for billing metric retrieval.
```

  If you are discovering **only** an AWS Government account, then a simple workaround to these errors is to disable and delete the Dynamic Applications relating to services that are not supported by the AWS Government account.

NOTE: For more information about which services are supported by AWS Government account, see https://aws.amazon.com/about-aws/global-infrastructure/regional-product-services.

WARNING: If you are discovering both AWS Government and Commercial accounts, you should not disable or delete any AWS Dynamic Applications.

- SSL EOF error messages might appear in the system log when connecting to AWS through a proxy server. The error does not seem to prevent or cause issues with data collection.
- "Read operation timed out" and "Connection reset by peer" error messages might appear in the system log and device logs when upgrading the *Amazon Web Services* PowerPack from versions prior to 108.

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