Amazon Web Services PowerPack Release Notes

Version 111

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Overview

Amazon Web Services PowerPack version 111 includes updates to many of the Dynamic Applications in the PowerPack, including the migration of all Performance Dynamic Applications to Boto3 to optimize their performance.

- **Minimum Required Platform Version**: 8.9.1.1
- **Support Status**: GA

This document describes:

Before You Install or Upgrade

Ensure that you are running version 8.9.1.1 or later of the ScienceLogic platform before installing the *Amazon Web Services* PowerPack version 111. Additionally, the Data Collectors used to monitor the AWS account must be running the Oracle Linux 7.2 operating system.

If your system is not currently running version 8.9.1.1 or later, you must upgrade to 8.9.1.1 or later as part of the upgrade process for version 111 of the PowerPack.

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. 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 111.

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 8.9.1.1 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 111 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 111 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 111.

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 8.9.1.1 or later release*.
5. If you have made changes to the AWS PowerPack, optionally *enable selective PowerPack field protection*.
6. *Install the AWS 111 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 111.

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 8.9.1.1 or Later Release

If you have not previously done so, upgrade or migrate your system to an 8.9.1.1 or later release using the documentation applicable to your current version:

- For systems running an 8.x release, see the 8.9.1.1 Release Notes.
- For systems running a 7.x release, see the 8.9.1.1 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 111 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 111 of the Amazon Web Services PowerPack

To install version 111 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

To perform this step manually, 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. Ensure the content library version on the Data Collector matches the version from the new PowerPack installation:

   For ScienceLogic platform version 8.5.0 and below:

   ```
   $ cd /var/lib/em7/content/aws
   $ cat version.txt
   ```

   Ensure that the current content library version matches the version installed in the PowerPack.

   For ScienceLogic platform version 8.6.0 and above:

   ```
   $ cd /opt/em7/envs
   $ ls -ltr
   ```

   Locate the soft link "system" and change directories to the path, as in the example below:

   ```
   lrwxrwxrwx. 1 s-em7-core s-em7-core 40 Feb 5 21:40 system ->
   /opt/em7/envs/system-7666504203980756445

   $ cd /opt/em7/envs/system-7666504203980756445
   $ cd lib/python2.7/cl-packages/silo_aws
   $ cat version.txt
   ```

   Ensure that the current content library version matches the version installed in the PowerPack.

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*.

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

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

4. 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 111 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

Enhancements and Issues Addressed

Version 111 of the *Amazon Web Services* PowerPack includes the following enhancements and addressed issues:

- The ***Collector Affinity*** value for all of the Dynamic Applications in the *Amazon Web Services* PowerPack was set to *Root Device Collector*. This means that the Data Collector assigned to the AWS root device will collect data for all of the Dynamic Applications aligned to all of the component devices in the AWS device component map tree.

NOTE: The *Amazon Web Services* PowerPack supports ***Collector Affinity*** set to *Assigned Collector* for only Performance Dynamic Applications. Setting the ***Collector Affinity*** to *Assigned Collector* can help reduce the load from the root collector. The Amazon Web Services PowerPack currently requires a single collector group regardless of whether that group is a single collector or multiple collectors. In version 111 of the PowerPack, all ***Collector Affinity*** values in the PowerPack are delivered set to *Root Device Collector* by default, overwriting any prior settings.

CAUTION: The following AWS Performance Dynamic Applications are exceptions, and their ***Collector Affinity*** values should never be changed from the initial setting of *Root Device Collector*:

- AWS CloudWatch Alarms Performance
- AWS Custom Metrics Performance
- AWS VPN Virtual Private Network Performance

CAUTION: The ***Collector Affinity*** setting should be changed *only* for AWS Performance Dynamic Applications. The AWS Configuration Dynamic Applications *must* run on the AWS root device's Data Collector. As such, their ***Collector Affinity*** is set to *Root Device Collector* and must never be changed from that. For more information about configuring Collector Affinity for AWS Dynamic Applications, see the ***Collector Affinity*** manual.

- All of the Performance Dynamic Applications that monitor AWS services were migrated from Boto to Boto3 to optimize their performance.
- All of the Configuration Dynamic Applications in the PowerPack were updated to ensure that the ***Disable Object Maintenance*** option was selected for all "Label" collection objects. Because these collection objects never have data, this change prevents "collection disabled" errors from appearing for those objects.
- Most of the Performance Dynamic Applications in the PowerPack were updated to ensure that the ***Disable Object Maintenance*** option was *not* selected for all collection objects.

  The following Dynamic Applications, however, were exceptions to this change, and were updated to ensure that the ***Disable Object Maintenance*** option was selected for all collection objects:

  - AWS API Instance Performance
  - AWS API Stage Instance Performance
  - AWS EBS Instance Performance
  - AWS Lambda Function Performance
  - AWS Lambda Function Qualified Performance
  - AWS Lambda Service Performance
  - AWS Storage Gateway Instance Performance
  - AWS Storage Gateway Volume Performance

    - AWS S3 Request Performance
    - AWS S3 Storage Performance

- Numerous Dynamic Applications in the PowerPack were updated to meet current ScienceLogic engineering standards.
- The "AWS Health" Dynamic Application was disabled and its functionality was moved to the AWS Service Health Dynamic Applications. It will be removed from the *Amazon Web Services* PowerPack in a future release.

NOTE: If you are upgrading from an earlier version, you must delete the "AWS Health" Dynamic Application prior to upgrading to version 111. For more information, see the upgrade instructions in these release notes.

- The following Dynamic Applications were updated to no longer use cache and instead communicate directly to the RSS feed endpoints for their respective services/regions:
    - AWS API Gateway Service Health
    - AWS CloudFront Service Health
    - AWS CloudWatch Service Health
    - AWS DDB Service Health
    - AWS EC2 Service Health
    - AWS Elastic Beanstalk Service Health
    - AWS ElastiCache Service Health
    - AWS ELB Service Health
    - AWS EMR Service Health
    - AWS Glacier Service Health
    - AWS Lambda Service Health
    - AWS OpsWorks Service Health
    - AWS RDS Service Health
    - AWS Redshift Service Health
    - AWS Route 53 Service Health
    - AWS S3 Service Health
    - AWS SNS Service Health
    - AWS SQS Service Health
    - AWS Storage Gateway Service Health
    - AWS VPC Service Health
- A new Dynamic Application, "AWS Direct Connect Instance Performance," was added to the PowerPack to monitor Direct Connect instance performance metrics.

- The "AWS Direct Connect Instance Configuration" and "AWS Direct Connect Virtual Instance Configuration" Dynamic Applications were converted to Bulk Snippet Configuration Dynamic Applications with a ***Maximum Devices*** setting of *15*.
- The "AWS Direct Connect Instance" Device Class was updated with a ***Device Class Tier*** setting of *3*.
- CloudWatch Alarm support was added for Direct Connect.
- The polling frequency for the "AWS EBS Performance" Dynamic Application was updated from 10 minutes to 5 minutes. With this change, upon upgrading to version 111 of the *Amazon Web Services* PowerPack from earlier versions, the historical data from previous versions will no longer appear on the graph on the **Device Performance** page (Registry > Devices > Device Manager > bar-graph icon > Performance) due to the polling time discrepancy. However, the historical data is still available for viewing on the **Dynamic Application Collections** page (Registry > Devices > wrench icon > Collections).
- The "AWS: EBS VolumeQueueLength Has Exceeded Threshold" event was updated to appear if there are two occurrences within a 10-minute span, with one as the default threshold.

NOTE: This update might cause more events to appear than in earlier versions of the *Amazon Web Services* PowerPack.

- The "AWS: EC2 Service Discovery" and "AWS: EBS Service Discovery" Dynamic Applications were updated to ensure that EC2 and EBS services are discovered properly and that empty EC2 or EBS containers do not appear under availability zones that do not have EC2 or EBS services.
- The "AWS ElastiCache Redis Node Performance" Dynamic Application was updated to collect engine CPU utilization metrics.
- The "AWS Elasticache Service Discovery" Dynamic Application was updated to discover Elasticache services at the region level instead of the zone level.
- The "AWS: LightSail Service Discovery" and "AWS: LightSail Instance Discovery" Dynamic Applications were updated to ensure that LightSail services and devices are discovered properly.
- The "AWS RDS Service Discovery" Dynamic Application was updated with a new "Availability" collection object, which monitors the RDS service component device's availability.
- The "AWS Region Discovery" Dynamic Application was updated to remove the Boto2 dependency for region validation and to align the "AWS ElastiCache Service Discovery" Dynamic Application to the region.
- The "AWS SNS Instance Performance" Dynamic Application was updated to change the collection objects from counters to gauges.
- The "AWS Storage Gateway Volume Discovery" and "AWS Storage Gateway Volume" Dynamic Applications were updated with a new "Distinguished Name" collection object, which displays the volume's Amazon Resource Name (ARN).
- The "AWS Storage Gateway Volume" Dynamic Application was updated with a new "Volume ID" collection object, which displays the volume's unique ID.

NOTE: The "Storage Gateway Instance Discovery" Dynamic Application now uses the storage gateway instance's name prefixed with its region as the device's name. To ensure that an existing storage gateway instance component device's name is updated, the device's ***Preserve Hostname*** checkbox should *not* be selected when upgrading to version 111. However, you can select the ***Preserve Hostname*** checkbox after you have completed the upgrade to version 111. For more information, see the upgrade instructions in these release notes.

- The "AWS S3 Instance Configuration" Dynamic Application was updated to remove the "Storage Class" collection object.
- The polling frequency for the "AWS S3 Storage Performance" Dynamic Application was updated from 30 minutes to 12 hours.

Known Issues and Workarounds

The following known issues affect version 111 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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