

# Monitoring Amazon Web Services

Amazon Web Services PowerPack version 104 (Revision 2)

## Table of Contents

Introduction	1
Overview	. 1
What is AWS?	. 2
What is an AWS Region?	. 2
What is an AWS Zone?	. 2
What Does the Amazon Web Services PowerPack Monitor?	. 3
Dynamic Applications: Naming Scheme and Roles	
AWS Account Discovery	
Installing the Amazon Web Services PowerPack	
Monitoring Consolidated Billing Accounts	
ScienceLogic Events and AWS Alarms	
Configuring AWS Monitoring	
Overview	
Configuring Amazon Web Services for Monitoring	
Creating an AWS Credential	
Testing the AWS Credential	
Creating an AWS Virtual Device	
Aligning the AWS Dynamic Applications	
Viewing AWS Component Devices	
Relationships Between Component Devices	
Configuring the AWS Dashboards	
Amazon API Throttling Events	
Configuring AWS to Report Billing Metrics	
Enabling Custom Metrics Collection	
Configuring Inbound CloudWatch Alarms	
Overview	
Prerequisites	
Configuring CloudWatch to Send Alarms for a Metric	
Configuring the platform to Receive CloudWatch Alarms	
AWS Reports	
Overview	
AWS Billing Report	
AWS Inventory Report	
AWS Running Config Report	
AWS Dashboards	
Overview	
Installing the Amazon Web Services: Dashboards PowerPack	
AWS Account Billing Dashboard	
AWS Health Status Dashboard	
AWS Nearing Status Dashboard	⊿1
	-+ 1

# Chapter

## Introduction

#### Overview

This manual describes how to monitor Amazon Web Services using the Dynamic Applications in the Amazon Web Services PowerPack.

This manual also describes the reports you can generate and the dashboards you can view after you collect data from Amazon Web Services.

**NOTE**: To view Amazon Web Services dashboards, you will first need to install the Amazon Web Services: Dashboards PowerPack. For more information, see the AWS Dashboards chapter.

**NOTE:** For more information about setting up a ScienceLogic appliance on an Amazon Web Services EC2 instance, see the *Installation and Initial Configuration* manual.

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#### What is AWS?

Amazon Web Services (AWS) is Amazon's "Infrastructure As A Service" offering. AWS includes multiple products (called **Services**) including virtual servers, DNS, private cloud, content delivery, storage, and database products.

#### What is an AWS Region?

An AWS region is an individual data center located in a specific geographic locale. Regions have a canonical naming scheme of:

country/continent-direction-number

For example, the 'us-east-1' region is located in the United States, on the east coast, and it is the #1 data center in that region.

AWS regions are also commonly referred to by the city or state in which the data center is located. For example, us-west-2 is commonly referred to as "Oregon", ap-northeast-1 is commonly referred to as "Tokyo", etc.

The Dynamic Applications in the Amazon Web Services PowerPack create a "region" component device for each discovered region. The component devices for regions include both the region name and city/state description. For example, the Dynamic Applications might discover a component device called "Oregon: us-west-2". Component devices that represent AWS services reside under the appropriate "region" component device and appropriate "zone" component device.

#### What is an AWS Zone?

All instances of an AWS service reside in one or more Zones. A zone is a physical network and power partition (airgap firewall) within a regional data center. Some AWS instances, like EC2 instances, are in a single zone. Other AWS instances, like an SNS queue, exist in all zones simultaneously.

The AWS naming convention for a zone is:

region[a-z]

For example, zone 'a' for the region 'us-east-1' is named 'us-east-1a'.

When a user deploys a service instance, the user can specify a "zone preference", but the final zone for that service instance is decided by AWS, not the user.

The Dynamic Applications in the Amazon Web Services PowerPack create a "zone" component device for each discovered zone.

AWS services with a specific zone affinity reside under the appropriate zone component device. For example, the Dynamic Applications in the PowerPack might discover the zone "us-west-1b" and create a component device called ""us-west-1b".

AWS services reside under the appropriate "region" component device and appropriate "zone" component device. The Dynamic Applications in the PowerPack create a "multi-zoned" component device for services that are inherently zone agnostic such as the Simple Queue Service (SQS).

Component devices that represent Zones are a named container with no associated performance metrics.

## What Does the Amazon Web Services PowerPack Monitor?

To collect data from Amazon Web Services, the ScienceLogic Data Collector or All-In-One Appliance connects via HTTPS to the URLs listed in the following AWS document: http://docs.aws.amazon.com/general/latest/gr/rande.html.

The Amazon Web Services PowerPack includes Dynamic Applications that can monitor performance metrics and collect configuration data for the following AWS Services and components:

- AutoScale
- CloudFront
- CloudTrail
- Direct Connect
- DynamoDB (DDB)
- ElastiCache
- Elastic Beanstalk
- Elastic Block Store (EBS)
- Elastic Compute Cloud (EC2)
- Elastic Load Balancers (ELB)
- Elastic Map Reduce (EMR)
- Glacier
- Lightsail
- OpsWorks
- RedShift
- Relational Data Store (RDS)
- Route53
- Security Groups
- Simple Notification Service (SNS)
- Simple Queue Service (SQS)
- Simple Storage Service (S3)
- Storage Gateways (ASG)
- Storage Gateway Volumes
- Virtual Private Cloud Service (VPC)

**NOTE**: The CloudFront service is not monitored for GovCloud accounts.

**NOTE:** To monitor performance metrics for an AutoScale group, you must activate detailed instance monitoring for that group. For instructions on how to perform this task, see <a href="http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/as-instance-monitoring.html">http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/as-instance-monitoring.html</a>.

The Dynamic Applications in the PowerPack also monitor:

- The general health of each AWS service
- Current billing metrics for each service aligned with the account
- The total volume of API calls that the ScienceLogic platform makes over time and a call-by-call breakdown of successes, failures, and response latency
- Custom, application-specific performance metrics configured on the account
- The state of any AWS Alarms set on metrics in Cloudwatch

In addition to Dynamic Applications, the PowerPack includes the following features:

- Event Policies and corresponding alerts that are triggered when AWS component devices meet certain status criteria
- Device Classes for each of the AWS component devices monitored
- Reports and dashboards that display information about AWS instances and component devices
- A sample credential for discovering AWS component devices

#### Dynamic Applications: Naming Scheme and Roles

The Dynamic Applications in the Amazon Web Services PowerPack are divided in to four types:

- **Discovery**. These Dynamic Applications poll AWS for new instances of services or changes to existing instances of services.
- **Instance**. These Dynamic Applications retrieve configuration information about each service instance and retrieve any changes to that configuration information.
- Performance. These Dynamic Applications poll AWS for performance metrics.
- *Health*. These Dynamic Applications collect the RSS status update messages from the Amazon Health Status page (http://status.aws.amazon.com/).

Service Discovery Dynamic Applications are responsible for searching the AWS cloud for instances of specific service. Typically, a Service Discovery Dynamic Application will then align Discovery Dynamic Applications for each AWS service it discovers, Performance Dynamic Applications for each discovered service, and Configuration Dynamic Applications for each discovered service.

For example, the Dynamic Application "AWS EC2 Service Discovery" will create a component device for the EC2 service and align the Dynamic Applications "EC2 Service Performance", "EC2 Service Health", and "EC2 Instance Discovery" to that component device.

The Dynamic Application "EC2 Instance Discovery" will create component devices for each EC2 instance and align the Dynamic Applications "EC2 Instance" (a Configuration Dynamic Application), "EC2 Instance Performance", and "EBS Discovery" to that component device.

The general Dynamic Application hierarchy is:

- Account Discovery
  - Region Discovery
    - Zone Discovery
      - Service Discovery
        - Service Performance
        - Service Health
        - Instance Discovery
          - Instance Config
          - Instance Performance

#### AWS Account Discovery

The Dynamic Application "AWS Account Discovery" is the root Dynamic Application that retrieves the user's account permissions. The "Account" component device uses the full user ID as the device name.

The "AWS Account Discovery" Dynamic Application aligns the Dynamic Applications "AWS Region Discovery" and "AWS Region Instance" to the account component device. These Dynamic Applications discover the AWS Regions that contain services for the user.

The "AWS Account Discovery" Dynamic Application retrieves account-specific performance statistics such as total number of API calls and custom (application-specific) performance metrics.

#### Installing the Amazon Web Services PowerPack

Before completing the steps in this manual, you must import and install version 104 of the Amazon Web Services PowerPack.

**NOTE:** To install version 104 of the PowerPack, your ScienceLogic system must be upgraded to the 8.4.2 release or later.

To download and install a PowerPack:

TIP: By default, installing a new version of a PowerPack overwrites 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. (For more information, see the *System Administration* manual.)

- 1. Download the PowerPack from the <u>ScienceLogic Customer Portal</u>.
- 2. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
- 3. In the **PowerPack Manager** page, click the **[Actions]** button, then select *Import PowerPack*.
- 4. The **Import PowerPack** dialog box appears:

Import PowerPack™		×
Browse for file	Browse Import	

- 5. Click the [Browse] button and navigate to the PowerPack file.
- 6. When the **PowerPack Installer** modal page appears, click the **[Install]** button to install the PowerPack.

**NOTE:** If you exit the **PowerPack Installer** modal page without installing the imported PowerPack, the imported PowerPack will not appear in the **PowerPack Manager** page. However, the imported PowerPack will appear in the **Imported PowerPacks** modal page. This page appears when you click the **[Actions]** menu and select *Install PowerPack*.

#### Monitoring Consolidated Billing Accounts

Consolidated billing is an option provided by Amazon that allows multiple AWS accounts to be billed under a single account. For more information about consolidated billing, see <a href="http://docs.aws.amazon.com/awsaccountbilling/latest/aboutv2/consolidated-billing.html">http://docs.aws.amazon.com/awsaccountbilling/latest/aboutv2/consolidated-billing.html</a>.

If a consolidated billing account is monitored by the ScienceLogic platform, the billing metrics associated with that account include only the consolidated amounts, per service. If you use consolidated billing and want to collect billing metrics per-account, you must discover each account separately. To monitor only the billing metrics for an AWS account, you can create credentials that include only billing permissions.

## ScienceLogic Events and AWS Alarms

In addition to the ScienceLogic platform collecting metrics for AWS instances, you can configure CloudWatch to send alarm information to the platform via email. The platform will generate an event for each alarm.

For instructions on how configure CloudWatch and the platform to generate events based on CloudWatch alarms, see the **Configuring Inbound CloudWatch Alarms** chapter.

## Chapter

## **Configuring AWS Monitoring**

#### Overview

The following sections describe the steps required to discover Amazon Web Services and component devices in the ScienceLogic platform using the Amazon Web Services PowerPack:

- Configuring Amazon Web Services for Monitoring
- Creating an AWS Credential
- Testing the AWS Credential
- Creating an AWS Virtual Device
- Aligning the AWS Dynamic Applications
- Viewing AWS Component Devices
- Configuring the AWS Dashboards
- Amazon API Throttling Events
- Configuring AWS to Report Billing Metrics
- Enabling Custom Metrics Collection

## Configuring Amazon Web Services for Monitoring

To use the AWS Dynamic Applications, you must configure a credential that allows the ScienceLogic platform to connect to the AWS REST API. The *Amazon Web Services* PowerPack includes a credential template.

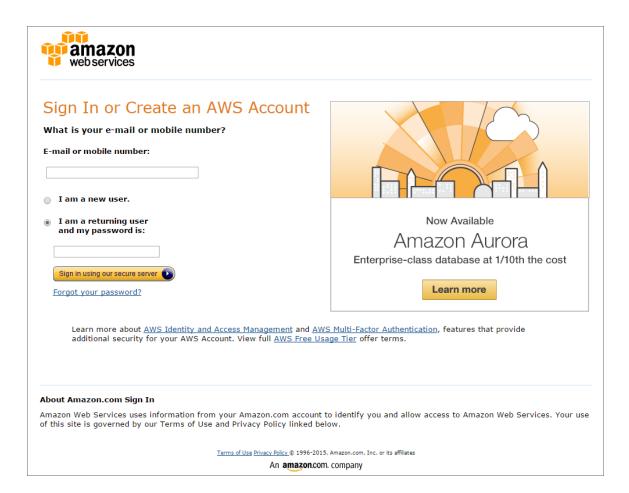
To use the credential template included in the PowerPack, you must download the security credentials for a user associated with your AWS account. The user must meet the following requirements:

- The user must have read permissions in all regions and zones that you want to monitor. The default Read-Only user policy for Amazon Web Services does not allow collection for all AWS Dynamic Applications. ScienceLogic maintains a read-only user policy definition that specifies the permissions required for the Dynamic Applications in the PowerPack. You can download this policy from the ScienceLogic Customer Portal under Downloads > Miscellaneous. If you are using the ScienceLogic policy definition, you must create a user policy before creating a user account.
- To collect billing metrics, the user must have read permission in the us-east-1 zone. For instructions on how to configure your AWS account to report billing metrics, see the **Configuring AWS to Report Billing Metrics** section.
- If you are using multiple users to monitor AWS, each instance of a service must be visible to only one of those users. If an instance is visible to multiple users that are used to monitor AWS in the ScienceLogic platform, the device record for that instance will repeatedly switch between the component trees of the accounts that have visibility to that instance.

To create a read-only user account, perform the following steps:

1. Open a browser session and go to <u>aws.amazon.com</u>.

2. Click [My Account] and then select AWS Management Console. If you are not currently logged in to the AWS site, you will be prompted to log in:



- 3. In the AWS Management Console, under the Security & Identity heading, click [Identity & Access Management].
- 4. After logging in, the Identity & Access Management Dashboard page appears:

ashboard	Welcome to Identity and Access Managemer	t	Feature Spotlight
etails	IAM users sign-in link:		Introduction to AWS IAM < 🚯
roups	https://642636115777.signin.aws.amazon.com/console	Customize   Copy Link	
sers	IAM Resources		
oles	Users: 6	Roles: 0	
olicies	Groups: 0	Identity Providers: 0	● ▶ ■() 0:00/2:16 「 ]
lentity Providers	Customer Managed Policies: 1		
ccount Settings	Security Status	2 out of 5 complete.	< •••• >
redential Report	<ul> <li>Delete your root access keys</li> </ul>	~	Additional Information
	Activate MFA on your root account	~	IAM documentation
ncryption Keys	Create individual IAM users	*	Web Identity Federation Playground Policy Simulator
	Use groups to assign permissions	*	Videos, IAM release history and additional resources
	Apply an IAM password policy	*	

5. To create a user account for the ScienceLogic platform, click **[Users]** on the Dashboard menu.

	1					3 ¢
Details	Q Search					Showing 6 res
roups	User Name 🗢	Groups	Password	Password Last Used \$	Access Keys	Creation Time \$
sers	U Oser Marine V	Gioups	T assword		Accessiteys	Creation nine V
oles	EM7	0		N/A	1 active	2015-05-28 15:55 EDT
olicies	EM7-RW	0		N/A	1 active	2015-06-09 13:15 EDT
lentity Providers	em7admin	0		N/A	1 active	2015-06-08 15:16 EDT
ccount Settings	useast1	0		N/A	1 active	2015-08-24 17:47 EDT
redential Report	uswest1	0		N/A	1 active	2015-08-24 17:47 EDT
	uswest2	0		N/A	1 active	2015-08-24 17:47 EDT
ncryption Keys						

- 6. Click the [Create New Users] button.
- 7. Enter a username for the new user, e.g. "EM7", and make sure the **Generate an access key for each user** checkbox is selected.

8. Click the **[Create]** button to generate your user account. The **Create User** page appears:

🎁 AWS 🗸 S	ervices 🗸 Edit 🗸	ScienceLogic Training	▼ Global ▼ Support ▼
Create User	<ul> <li>Your 1 User(s) have been created successfully. This is the last time these User security credentials will be You can manage and recreate these credentials any time.</li> <li>Show User Security Credentials</li> </ul>	e available for download.	
		Close	Download Credentials

- 9. Click the **[Download Credentials]** button to save your Access Key ID and Secret Key as a CSV (commaseparated value) text file, and then click **[Close]**.
- 10. After creating a user, you must assign it a set of permissions policies. Click the username of the user account you created. The user's account information appears:

🎁 AWS 🗸 Service	es 👻 Edit 👻		ScienceLogic Training	• Global <del>•</del>	Support +
Dashboard	IAM > Users > EM7-BA				
● Details	<ul> <li>Summary</li> </ul>				
	User ARN:	arn:aws:lam::642636115777:user/EM7-BA			
Groups	Has Password:	No			
Users	Groups (for this user):	0			
Roles	Path:	I			
Policies	Creation Time:	2015-09-02 11:32 EDT			
Identity Providers					
Account Settings	- Groups				
Credential Report	This user does not belong to an	groups.			
Credential Report	Add User to Groups				
Encryption Keys	<ul> <li>Permissions</li> </ul>				
	• Fermissions				
	Managed Policies				^
	There are no managed policies	Itechad to the user			
	Attach Policy				
	Inline Policies				^
	There are no inline policies to sh	ow. To create one, click here.			
					•
🗨 Feedback 🔇 English		© 2008 - 2015, Amazon Web Ser		rivacy Policy	Terms of Use

11. Under the Permissions heading, click the [Attach Policy] button. The Attach Policy page appears:

Policy	Attach F	olicy			
	Select one o	r more policies to attach. Each user can have	up to 10 policies attached.		
	Filter: P	olicy Type ▼ Q Search			Showing 150
		Policy Name 🗢	Attached Entities \$	Creation Time 🗢	Edited Time \$
	<b>I</b>	ReadOnlyAccess	5	2015-02-06 13:39 EST	2015-06-15 18:16 EDT
	0	AdministratorAccess	1	2015-02-06 13:39 EST	2015-02-06 13:39 EST
	0 🔋	AmazonAPIGatewayAdministrator	0	2015-07-09 13:34 EDT	2015-07-09 13:34 EDT
	0	AmazonAPIGatewayInvokeFullAccess	0	2015-07-09 13:36 EDT	2015-07-09 13:36 EDT
	0 🔋	AmazonAppStreamFullAccess	0	2015-02-06 13:40 EST	2015-02-06 13:40 EST
	0	AmazonAppStreamReadOnlyAccess	0	2015-02-06 13:40 EST	2015-02-06 13:40 EST
	0 🔋	AmazonCognitoDeveloperAuthenticate	0	2015-03-24 13:22 EDT	2015-03-24 13:22 EDT
	0 🔋	AmazonCognitoPowerUser	0	2015-03-24 13:14 EDT	2015-03-24 13:14 EDT
	0	AmazonCognitoReadOnly	0	2015-03-24 13:06 EDT	2015-03-24 13:06 EDT
	0 🔋	AmazonDRSVPCManagement	0	2015-09-01 20:09 EDT	2015-09-01 20:09 EDT
	0 🙃	AmazonDynamoDBFullAccess	0	2015-02-06 13:40 EST	2015-02-06 13:40 EST
	0 🗯	AmazonDynamoDBFullAccesswithDat	0	2015-02-06 13:40 EST	2015-02-06 13:40 EST

12. Select the checkbox for *Read Only* Access or select the policy based on the definition supplied by ScienceLogic.

**NOTE**: The default Read-Only user policy for Amazon Web Services does not allow collection for all AWS Dynamic Applications. ScienceLogic maintains a read-only user policy definition that specifies the permissions required for the Dynamic Applications in the PowerPack. You can download this policy from the ScienceLogic Customer Portal under Downloads > Miscellaneous.

13. Click the **[Attach Policy]** button.

#### Creating an AWS Credential

To use the Dynamic Applications in the Amazon Web Services PowerPack, you must first define an AWS credential in the ScienceLogic platform. The PowerPack includes a sample SOAP/XML credential (Amazon Web Services Credential) you can use as a template.

To define an AWS credential:

1. Go to the **Credential Management** page (System > Manage > Credentials).

2. Click the wrench icon ( for the Amazon Web Services Credential. The Credential Editor modal page appears:

Basic Settings       Soap Options         Profile Name       Content Encoding       Method       HTTP Version       Embedded Pass         Amazon Web Services Credential       [text/xml]        [POST]       [HTTP/1.1]         Embedded Pass         URL [http://example.com/       URU Web Services Credential       [text/xml]        [Post]       Embed Value [%1]       Embed Value [%3]       E         Proxy Settings          [0           # Add a header          CURL Options          [CAINFO CAPATH CLOSEPOLICY CONNECTTIMEOUT COOKIE	x
Profile Name       Content Encoding       Method       HTTP Version         Amazon Web Services Credential       [text/xml]       [POST]       [[HTTP/1.1]         URL [http://example.com/       Immediate Address   %N = Aligned Device Host Name ]       Embed/del Passw         HTTP Auth User       HTTP Auth Password       Timeout (seconds)       Embed Value [%1]       Embed Value [%3]         [AWS Account Access Key]       Immediate Address   %N = Aligned Device Host Name ]       Immediate Address   %N = Aligned Device Host Name ]       Immediate Address   %N = Aligned Device Host Name ]         Proxy Settings       Immediate Address   %N = Aligned Device Address   %N = Aligned Device Address   %N = Aligned Device Host Name ]       Immediate Address   %N = Aligned Device Address   %N = Aligned Device Address   %N = Aligned Device Host Name ]         Proxy Settings       Immediate Address   %N = Aligned Device Address   %N = Aligned Dev	New Reset
Hostname/IP Port User + Add a header	Content Encoding       Method       HTTP Version       Embedded Password [%P]         [[text/xml] <ul> <li>[POST]</li> <li>[[HTTP/1.1]</li> <li>[HTTP/1.1]</li> <li>Embed Value [%1]</li> <li>Embed Value [%2]</li> <li>Embed Value [%3]</li> <li>Embed Value [%4]</li> </ul>
CAINFO CAPATH CLOSEPOLICY CONNECTTIMEOUT COOKIE	Port User + Add a header
COOKIEFILE COOKIEJAR COOKIELIST CRLF CUSTOMREQUEST DNSCACHETIMEOUT	

- 3. Enter values in the following fields:
  - Profile Name. Enter a new name for your AWS credential.
  - HTTP Auth User. Enter your Access Key ID.
  - HTTP Auth Password. Enter your Secret Access Key. The characters appear as asterisks to protect your password privacy.
  - **Embed Value [%1]**. To monitor a GovCloud account, enter "us-gov-west-1". To monitor the Beijing region, enter "cn-north-1". Otherwise, leave this field blank.
- 4. Click the [Save As] button, and then click [OK].

#### Testing the AWS Credential

The ScienceLogic platform includes a Credential Test for Amazon Web Services. Credential Tests define a series of steps that the platform can execute on demand to validate whether a credential works as expected.

The AWS Credential Test can be used to test a SOAP/XML credential for monitoring AWS using the Dynamic Applications in the *Amazon Web Services* PowerPack. The AWS Credential Test performs the following steps:

• Test Reachability. Performs an ICMP ping request to the URL for the EC2 service in the region specified in the credential. If a region is not specified in the credential, the us-east-1 region is used.

- Test Port Availability. Performs an NMAP request to TCP port 443 on the URL for the EC2 service in the region specified in the credential. If a region is not specified in the credential, the us-east-1 region is used.
- **Test Name Resolution**. Performs an nslookup request on the URL for the EC2 service in the region specified in the credential. If a region is not specified in the credential, the us-east-1 region is used.
- Make connection to AWS account. Attempts to connect to the AWS service using the account specified in the credential.
- Scan AWS services. Verifies that the account specified in the credential has access to the ec2, iam, and s3 services.

To test the AWS credential:

- 1. Go to the **Credential Test Management** page (System > Customize > Credential Tests).
- 2. Locate the AWS Credential Test and click its lightning bolt icon ( *F*). The Credential Tester modal page appears:

Credential Tester [I	BETA]	×
Test Type	[ AWS Credential Test ]	
Credential	Amazon Web Services Credential	
Hostname/IP		
Collector	[RS-DCU-69]	
	Run Test	

- 3. Supply values in the following fields:
  - Test Type. This field is pre-populated with the credential test you selected.
  - **Credential**. Select the credential to test. This drop-down list includes only credentials that you have access to that can be tested using the selected credential test.
  - Hostname/IP. Leave this field blank.
  - Collector. Select the All-In-One Appliance or Data Collector that will run the test.
- 4. Click the [Run Test] button to run the credential test. The Test Credential window appears:

Step	Description	Log Message	Status	
Test Reachability	Check to see if the EC2 service is reachable using ICMP	The EC2 service is reachable using ICMP. The average response time is 3.400ms	Passed	
Test Port Availability	Check to see if the EC2 HTTPS port is open	Port 443 is open	Passed	
Test Name Resolution	Check to see if nslookup can resolve the EC2 Service	Name resolution succeeded: Forward returned 1 result	Passed	
Make connection to AWS	account Check to see if an AWS account can be connected to and querie	ed. AWS connection succeeded	Passed	
Scan AWS Services	Verify services are available to specified account.	AWS service scan succeeded	Passed	

The **Test Credential** window displays a log entry for each step in the credential test. The steps performed are different for each credential test. The log entry for each step includes the following information:

• **Step**. The name of the step.

- **Description**. A description of the action performed during the step.
- Log Message. The result of the step for this credential test.
- **Status**. Whether the result of this step indicates the credential or the network environment is configured correctly (Passed) or incorrectly (Failed).
- Step Tip. Mouse over the question mark icon (C) to display the tip text. The tip text recommends what to do to change the credential or the network environment if the step has a status of "Failed".

#### Creating an AWS Virtual Device

Because the Amazon Web Service does not have a specific IP address, you cannot discover an AWS device using discovery. Instead, you must create a *virtual device* that represents the Amazon Web Service. A virtual device is a user-defined container that represents a device or service that cannot be discovered by the ScienceLogic platform. You can use the virtual device to store information gathered by policies or Dynamic Applications.

To create a virtual device that represents your Amazon service:

- 1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
- 2. Click the [Actions] button, then select Create Virtual Device. The Virtual Device modal page appears:

Virtual Device		>				
Create Virtual Device		Reset				
Device Name	Amazon Cloud					
Organization	System	T				
Device Class	Service   AWS Service	T				
Collector	CUG	•				
Add						
-						

- 3. Enter values in the following fields:
  - **Device Name**. Enter a name for the device. For example, you could enter "Amazon Cloud" in this field.
  - **Organization**. Select the organization for this device. The organization the device is associated with limits the users that will be able to view and edit the device.
  - Device Class. Select Service | AWS Service.
  - Collector Group. Select the collector group that will monitor the device.
- 4. Click the [Add] button to create the virtual device.

2

### Aligning the AWS Dynamic Applications

You must manually align the following Dynamic Applications with the AWS Virtual Device:

- AWS Health
- AWS Account Discovery

You will need to manually align only the "AWS Health" and "AWS Account Discovery" Dynamic Applications. The other AWS applications will be automatically aligned.

To align the Dynamic Applications to your virtual device, perform the following steps:

- 1. Go to the **Device Manager** page (Registry > Devices > Device Manager).
- 2. Click the wrench icon ( *for your virtual device*.
- 3. In the **Device Administration** panel, click the **[Collections]** tab. The **Dynamic Application Collections** page appears:

Close <u>S</u> chedule	Properties Logs	T <u>h</u> resholds T <u>o</u> olbox	<u>C</u> ollections Interfaces	<u>M</u> onitors <u>R</u> elationships	Tickets	Redirects	<u>N</u> otes		
ID Class	Amazon Cloud 1651 Service System			Catego Sub-Clas Uptim				Service	
	ation <sup>™</sup> Collections	Application Added		-	_	Expand	Actions	Reset Guide	
+ AWS Account + AWS Health	Discovery	Dynamic Application			Poll Frequency 5 mins 30 mins	Type Snippet Configuration Snippet Configuration		Credential eb Services Credential b Services Credential	
				Save		[Select Action]		T Go	

- 4. Click the **[Actions]** button, and then select Add Dynamic Application from the menu.
- 5. In the **Dynamic Application Alignment** modal page, select AWS Health in the **Dynamic Applications** field.

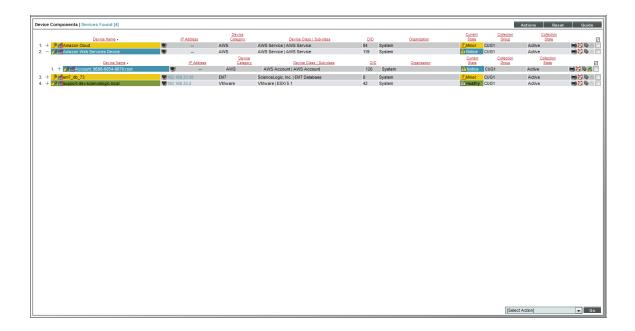
- 6. In the Credentials field, select the credential you created for your AWS service.
- 7. Click the [Save] button to align the Dynamic Application.
- 8. Repeat steps 4 7 for the "AWS Account Discovery" Dynamic Application.

#### Viewing AWS Component Devices

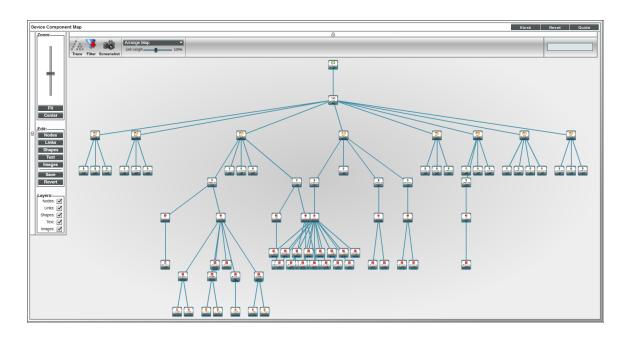
When the ScienceLogic platform performs collection for the AWS virtual device, the platform will create component devices that represent each element in your AWS infrastructure and align other Dynamic Applications to those component devices. Some of the Dynamic Applications aligned to the component devices will also be used to create additional component devices. All component devices appear in the **Device Manager** page just like devices discovered using the ScienceLogic discovery process.

In addition to the **Device Manager** page, you can view the AWS service and all associated component devices in the following places in the user interface:

• The **Device Components** page (Registry > Devices > Device Components) displays a list of all root devices and component devices discovered by the ScienceLogic platform in an indented view, so you can easily view the hierarchy and relationships between child devices, parent devices, and root devices. To view the component devices associated with an AWS service, find the AWS virtual device and click its plus icon (+):



The Component Map page (Views > Device Maps > Components) allows you to view devices by root
node and view the relationships between root nodes, parent components, and child components in a map.
This makes it easy to visualize and manage root nodes and their components. The ScienceLogic platform
automatically updates the Component Map as new component devices are discovered. The platform also
updates each map with the latest status and event information. To view the map for an AWS service, go to
Views > Device Maps > Components, and select the map from the list in the left NavBar. To learn more
about the Component Map page, see the Views manual.



#### **Relationships Between Component Devices**

In addition to the parent/child relationships between component devices, relationships are automatically created by the Dynamic Applications in the *Amazon Web Services* PowerPack between the following component devices:

- AWS Application ELBs and AWS Availability Zones
- AWS Application ELBs and AWS Security Groups
- AWS Application ELBs and AWS VPC Instances
- AWS Auto Scale Groups and AWS Auto Scale Launch Configurations
- AWS EC2 Instances and AWS Auto Scale Groups
- AWS EC2 Instances and AWS EBS Volumes
- AWS EC2 Instances and AWS Elastic Beanstalk Applications
- AWS EC2 Instances and AWS ELB Instances
- AWS EC2 Instances and AWS EMR Instances
- AWS EC2 Instances and AWS OpsWorks Instances
- AWS EC2 Instances and AWS Security Groups
- AWS EC2 Instances and AWS VPC Instances

- AWS EC2 Instances and AWS VPC Subnets
- AWS EC2 Instances and the Cisco Cloud Center application
- AWS VPC Instances and other intra-account AWS VPC Instances
- AWS Route Tables and AWS Subnets
- AWS Route Tables and AWS Virtual Private Gateways
- AWS S3 Instances and AWS CloudTrail Instances
- AWS Security Groups and AWS VPC Instances
- AWS SNS Instances and AWS CloudTrail Instances
- AWS SNS Instances and AWS Glacier Instances

#### Configuring the AWS Dashboards

The AWS Account Billing and AWS Health Status dashboards must have their (base) Custom Table widgets manually configured to filter only AWS service-specific events. To do this:

- 1. Go to Dashboards > AWS Account Billing.
- 2. Click the down-arrow in the upper-right of the AWS Events widget, and then select *Configure* from the **Options** menu. The **Widget Configuration** modal page appears.
- 3. In the **Device Class** filter, enter "AWS" to show only AWS device classes:

Dashboards					Quick Add Action	is Reset Guide
[ AWS Account Billing ]						
S GH	Widget Configuration				Close / Esc	
Estimated Billing (Last 12 hours)	Editing: (base) Custom Table				Reset	
Carnined During (clust 12 hours)	Widget N	ame		Widget Refresh Rate	,	
200 no data	AWS Events		Widget default (1 minute)		•	
<ul> <li>The data was found for</li> </ul>	Optiona Exect : * can be Contentially Driven Page Results (25 der dep ) © Drive of page © Drive of page Contentiable Driven of responsed Use Trensper content environs Page for Trensper content [sast Driver of the section] * field = * field =					
	Disabled Columns	Event Severity AWS	Device Class	Device Group / IT Service		
-	Construction	All Seventies AWS Act		Groups		
AWS Events	Crganization CAcknowledged	Notice AWS Aut	o Scale Launch Config   AW Exam	(IT Service) mple Map		
	e Ticket D	Major AWS Ava	ilability Zone I AWS Availab KVM	b Disable ≡ 1 (IT Service)		
🗊 /data local: File system usage exci	📽 External Ticket	Critical AWS Clo	udFront Behavior   AWS Cio Some udFront Error Page   AWS C + VMw	e Devices vare Heath (IT Service) +		
Nar: File system usage exceeded	Cate Acknowledged	Event Policy	Device Category	Organization	-	
Nameserver not responding to DN			Save		Create Template	
Physical Memory has exceeded the	salion. (or va) contentity (or va)				2014-10-23 13 23,00	
Swap Memory has exceeded three						

- 4. Control-click on the following items in the Device Class field:
  - AWS DDB Service
  - AWS EC2 Service
  - AWS ELB Service

2

- AWS EMR Service
- AWS RDS Service
- AWS SNS Service
- AWS SQS Service
- AWS Storage Gateway Service
- 5. Click the **[Save]** button.
- 6. Repeat steps 1 5 for the AWS Health Status dashboard.

## Amazon API Throttling Events

By default, the ScienceLogic platform will use the Collector Group aligned with the root AWS virtual device to retrieve data from AWS devices and services.

If the platform must collect data from a large set of AWS devices and services, the platform might generate Notify events with a message ending in the text "Retry #1-6". The platform generates these events when the Amazon API throttles collection in response to a large number of requests to the API. Even though the platform is generating Notify "Retry" events, the platform is still collecting data from AWS. This issue commonly occurs when a specific Amazon data center edge is close to capacity.

If the ScienceLogic platform generates the Minor event "Collection missed on <device> on 5 minute poll", this indicates that the platform was unable to retrieve that specific datum from the Amazon cloud during the most recent five-minute polling cycle. If you frequently see the "Collection missed" event across your cloud, you must contact Amazon support to whitelist the IP address of your Data Collector. This will prevent further throttling from occurring.

## Configuring AWS to Report Billing Metrics

To use the "AWS Billing Performance Percent" Dynamic Application, your AWS account must meet the following requirements:

- The user account you supplied in the AWS credential must have permission to view the us-east-1 zone.
- Your AWS account must be configured to export billing metrics to the CloudWatch service.

If your AWS account is not configured to export billing metrics to the CloudWatch service, the AWS Billing Performance Percent Dynamic Application will generate the following event:

No billing metrics can be retrieved. Your AWS account is not configured to export billing metrics into CloudWatch.

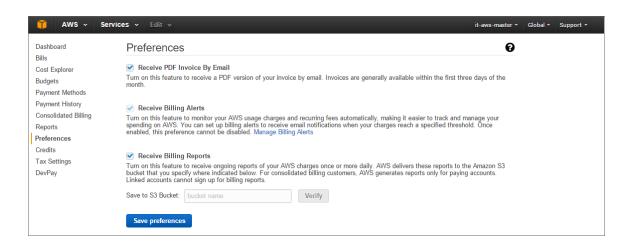
To configure your AWS account to export billing metrics to the CloudWatch service, perform the following steps:

1. Open a browser session and go to <u>aws.amazon.com</u>.

2. Click [My Account] and then select Billing & Cost Management. If you are not currently logged in to the AWS site, you will be prompted to log in:

web services	
Sign In or Create an AWS Account   What is your e-mail or mobile number?   E-mail or mobile number:   • I am a new user.   • I am a returning user and my password is:   Image: Sign in using our secure server   • Forgot your password?	Now Available Amazon Aurora Enterprise-class database at 1/10th the cost
Learn more about <u>AWS Identity and Access Management</u> and <u>AW</u> additional security for your AWS Account. View full <u>AWS Free Us</u>	
About Amazon.com Sign In Amazon Web Services uses information from your Amazon.com account of this site is governed by our Terms of Use and Privacy Policy linked be	
<u>Terms of Use Privacy Policy</u> © 1996-2015 An <b>amazon</b> .com	

3. After logging in, the **Billing & Cost Management Dashboard** page appears. In the left navigation bar, click **[Preferences]**. The **Preferences** page appears:



4. Select the **Receive Billing Alerts** checkbox.

CAUTION: If you enable this option, this option cannot be disabled.

5. Click the [Save Preferences] button.

#### **Enabling Custom Metrics Collection**

By default, the Dynamic Applications that collect data for custom AWS metrics (metrics that are not in the "AWS" cloud namespace) are disabled.

To enable these Dynamic Applications:

- 1. Go to the **Dynamic Applications Manager** page (System > Manage > Applications).
- 2. Click the wrench icon (*P*) for the "AWS Custom Metrics" Dynamic Application. The **Dynamic Applications Properties Editor** page appears.
- 3. In the **Operational State** field, select Enabled.
- 4. Click the **[Save]** button.
- 5. Repeat steps 1 4 for the "AWS Custom Metrics Cache" Dynamic Application.

# Chapter

## **Configuring Inbound CloudWatch Alarms**

#### Overview

In addition to the ScienceLogic platform collecting metrics for AWS instances, you can configure CloudWatch to send alarm information to the platform via email. The platform will generate an event for each alarm. This chapter describes how to configure CloudWatch and the platform to generate events based on CloudWatch alarms.

The Amazon Web Services PowerPack includes three pre-defined event policies for CloudWatch alarms:

- Emails indicating an alarm state will generate a Major-severity event using the "AWS: EmailAlarmAlarm" event policy.
- Emails indicating an insufficient data state will generate a Notice-severity event using the AWS: "EmailAlarmNoInfo" event policy.
- Emails indicating an OK state will generate a Healthy-severity event using the "AWS: EmailAlarmOK" event policy.

These events are aligned to devices in the following way:

- If the CloudWatch alarm is generated for a specific AWS instance, the event in the ScienceLogic platform will be aligned to the component device for that instance.
- If an alarm is not aligned to a specific instance, the event in the ScienceLogic platform will be aligned to the component device for the AWS account. You can optionally specify a different device with which these events will be aligned.

**NOTE**: Because the AWS services make new data points available at varying time intervals, there might be a difference in the data points collected by the ScienceLogic platform when compared to data presented in CloudWatch at a given time. The difference between the ScienceLogic platform and CloudWatch is typically less than 1%.

#### Prerequisites

Before you perform the configuration steps in this chapter, you must:

- Configure the platform to receive inbound email. For instructions on how to configure inbound email, see Chapter 2 in the *Inbound Email* manual.
- Configure an email alias to which AWS will send email. The recipients for this alias must include:
  - The Events-from-Email address for the ScienceLogic platform. This email address is in the following format:

notify@domain-name-of-ScieceLogic-platform

Where "domain-name-of-ScienceLogic-platform" is one of the fully qualified domain names of the Database Server or All-In-One Appliance, i.e., one of the domain names you entered in the **Authorized Email Domains** field in the **Email Settings** page.

• An email account to which you have access. This account will be used during the configuration steps to confirm with Amazon that you want to receive emails. This email address can be removed from the alias after the configuration is complete.

### Configuring CloudWatch to Send Alarms for a Metric

To configure CloudWatch to send alarms to the ScienceLogic platform for a metric, perform the following steps:

1. Open a browser session and go to <u>aws.amazon.com</u>.

2. Click [My Account] and then select AWS Management Console. If you are not currently logged in to the AWS site, you will be prompted to log in:



- 3. In the AWS Management Console, under the Management Tools heading, click [CloudWatch].
- 4. Click the [Browse Metrics] button.
- 5. Select the metric for which you want CloudWatch to send alarms.
- 6. Select the instances for which you want CloudWatch to send alarms for this metric.

7. Click the [Create Alarm] button. The Create Alarm page is displayed:

1. Select Metric 2. Define Alarm	
larm Threshold	Alarm Preview
ovide the details and threshold for your alarm. Use the graph on the right to help set the propriate threshold.	This alarm will trigger when the blue line goes up to or above the red line for a duration of 5 minutes
Name:	CPUUtilization >= 0
Description:	30 25 20 15
Whenever: CPUUtilization is: >= v 0 for: 1 consecutive period(s)	10 5 0 9/03 11:00 12:00 13:00 14:00
ctions	Namespace: AWS/EC2 Instanceld: i-51c892a6
fine what actions are taken when your alarm changes state.	InstanceName: student13
Notification     Delete       Whenever this alarm:     State is ALARM	Metric Name: CPUUtilization
Send notification to: Select a notification list   New list Enter list	Period: 5 Minutes V Statistic: Average V
+ Notification + AutoScaling Action + EC2 Action	

- 8. Specify a Name and Description for the alarm.
- 9. If you have previously configured an alarm for the ScienceLogic platform, select the notification list for the platform in the Send notification to field. Otherwise, select the [New list] link to the right of the Send notification to field and supply values in the following fields:
  - Send notification to. Enter a name for the new notification list. If you add additional alarms, you can select the name you enter in this field instead of re-entering the email address.
  - Email list. Enter the email alias you configured for the ScienceLogic platform email address.
- 10. Supply values in the other fields in this page as desired.
- 11. Click the [Create Alarm] button.
- 12. Log in to the email account you configured to receive email from the email alias.
- 13. Open the confirmation email from Amazon and click the [Confirm subscription] link.

## Configuring the platform to Receive CloudWatch Alarms

For each AWS account for which you want the platform to receive CloudWatch alarms, perform the following steps:

- 1. Go to the **Emailer Redirection** page (Registry > Events > Inbound Email).
- 2. Click the [Create] button. The Add Policy page is displayed:

d Policy   Create New		Res
	Originator Address	
	Alignment Type	
device not found, discard unmatched	email ]	
	Regex Pattern	
	Regex Type	
ubject ]		

- 3. Supply values in the following fields:
  - Originator Address. Enter "no-reply@sns.amazonaws.com".
  - Alignment Type. Select If device not found, align unmatched email with default element.
  - **Regex Pattern**. Enter "InstanceId =".
  - **Regex Type**. Select Body.
- 4. Click the binoculars icon (<sup>th</sup>) in the **Default Element** field. The **Element Alignment** page is displayed.
- 5. In the **Element Alignment** page, search for the component device for the AWS account.

**NOTE:** Events for CloudWatch alarms that are not associated with a specific instance will be associated with this device. If you want those events to be associated with a different device, search for and select that device.

- 6. Click the name field for the component device for the AWS account. The **Element Alignment** page will close and the component device will be displayed in the **Default Element** field.
- 7. Click the **[Save]** button.

# Chapter

## **AWS Reports**

#### Overview

This chapter describes the reports that are included in the Amazon Web Services PowerPack.

## AWS Billing Report

This report displays service costs for Amazon Web Services. The report includes Total, Monthly, Quarterly, and Annual costs.

Science	Logic			
WS Billing Report – Total S	Service Costs			
eport Start Date: 2014/04 eport Duration: To present Billing data may be inaccurate due to missed polls.				
Accoun	t: (none)			
Service	# Instances	Total Cost		
	0	\$0.00		
Total for Account: (none)	0	\$0.00		
Account: AIDAJ5CRUC	DWAW7CRUTMS [14	4115]		
Service	# Instances	Total Cost		
sqs	2	\$0.00		
EC2	72	\$0.00		
SNS	15	\$0.00		
Total for Account: AIDAJ5CRUCDWAW7	89	\$0.00		
Overall Totals:	89	\$0.00		

Science	eLogic						Monthly Cos	15					
WS Billing Report – Mon	thly Costs												
						Account: (none)							
Region	Service	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015
		\$0.00	\$0.00	\$0.00	\$0.00	90.00	\$0.00	90.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
otal for Account: (none)		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
					Account: Al	IDAJ5CRUCDWAW7C	RUTMS [14115]						
Region	Service	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015
Frankfurt: eu-central-1 (14444)	sçs	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	90.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Frankfurt: eu-central-1 [14444]	EC2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	SNS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	V7CRUTMS [14115]	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
otal for Account: AIDAJSCRUCDWAV		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

# ....ScienceLogic

#### AWS Billing Report – Quarterly Costs

Account: (none)											
Region	Service	Q2 2014	Q3 2014	Q4 2014	Q1 2015						
		\$0.00	\$0.00	\$0.00	\$0.00						
Total for Account: (none)		\$0.00	\$0.00	\$0.00	\$0.00						
	Account: All	DAJ5CRUCDWAW7CF	RUTMS [14115]								
Region	Service	Q2 2014	Q3 2014	Q4 2014	Q1 2015						
Frankfurt: eu-central-1 [14444]	SQS	\$0.00	\$0.00	\$0.00	\$0.00						
Frankfurt: eu-central-1 [14444]	EC2	\$0.00	\$0.00	\$0.00	\$0.00						
	SNS	\$0.00	\$0.00	\$0.00	\$0.00						
Total for Account: AIDAJ5CRUCDWAV	V7CRUTMS [14115]	\$0.00	\$0.00	\$0.00	\$0.00						
		\$0.00	\$0.00	\$0.00	\$0.00						

# ....ScienceLogic

#### AWS Billing Report – Annual Costs

Region	Service	2014	2015
		\$0.00	\$0.00
Total for Account: (none)	\$0.00	\$0.00	
Account:	RUTMS [14115]		
Region	Service	2014	2015
Frankfurt: eu-central-1 [14444]	\$0.00	\$0.00	
Frankfurt: eu-central-1 [14444]	EC2	\$0.00	\$0.00
	SNS	\$0.00	\$0.00
Total for Account: AIDAJ5CRUCDWAW7	CRUTMS [14115]	\$0.00	\$0.00
Overall Totals:		\$0.00	\$0.00

Science	0
Description:	AWS Billing
Report Version:	1.1
Generated On:	2015/04/17 07:46:56
AWS Accounts:	All
Start Date:	2014/04
Duration:	To present
G	enerated on: 2015/04/17 07:46:56

The following input options are available when generating the report:

- AWS Accounts. Select the AWS Account(s) for which you want to generate the report. The All Accounts checkbox is selected by default. De-selecting this checkbox allows you to select one or more specific accounts for which to generate a report.
- **Report Span**. Select a span from one to 36 months for the report, or specify a specific starting date for the report.

This description covers the latest version of this report as shipped by ScienceLogic. This report might have been modified on your ScienceLogic system.

## AWS Inventory Report

This report displays an inventory of AWS instance counts. The report includes the number of each kind of instance in every zone associated with the chosen accounts. It also includes a count of each EC2 instance size in each zone.

ScienceL	oa	IC															
	- 9																
AWS Inventory Report – Instanc	e Coun	ts															
							JCDWAV	V7CRUTMS									
								rvice [14120]									
Zone 112tibk6abt264.cloudfront.net [14150]	Glacier 0	Launch Con AS 0	Sroup	Web Dist x	udFront Ori 1	CloudTrail	ELB	Subnet 0	SNS	EC2	RDS 0	3 Health Che	3 Hosted Zo	S3 0	SQS 0	EBS	VP0
		-	-	-	-		-		-	-			· ·	-			
Totals for Level1: CloudFront Service [14120]	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
								ntral-1 [1444									
Zone su-central-1 Glacier Service [14467]	Glacier 1	Launch Con AS 0	Sroup	Web Dist >	udFront Ori	CloudTrail	ELB	Subnet	SNS	EC2	RDS	3 Health Che	3 Hosted Zo	S3 0	sqs	EBS 1	VPC
u-central-1 Glacier Service [14467] u-central-1 VPC Service [14447]	1		0	0	0	0	0	2	0	0	0	0	0	0	0	1	1
eu-central-1 VPC Service [14447]	0		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Totals for Level1: Frankfurt: eu-central-1	1	-	0	0	0	0	0	2	0	1	0	0	0	0	0	1	1
[14444]		U	•			o evel1: Irelan	· ·	-	0	1	U		U		U	1	1
Zone	Glacier	Launch Con AS	Trown	Web Diet w		ever1: Treian CloudTrail	a: eu-we	St-1 [14117] Subnet	SNS	EC2	RDS	3 Health Che	2 Hosted 7o	53	SOS	FBS	VP
u-west-1 Glacier Service [14129]	1		0	0	0	0	0	0	0	0	0	0	0	1	0	8	0
u-west-1 CloudTrail Service [14346]	ō		0	ŏ	ŏ	1	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ō	ŏ	ŏ	ŏ
u-west-1 ELB Service [14124]	ŏ	õ	0	ō	ŏ	ō	1	ŏ	ŏ	7	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ō
eu-west-1 SNS Service [14123]	ō	Ō	0	ō	ō	ō	0	ō	1	0	ō	ō	ō	ō	Ō	ō	ō
eu-west-1 VPC Service [14130]	0		0	0	0	0	0	9	0	0	0	0	0	0	0	0	2
Totals for Level1: Ireland: eu-west-1 [14117]	1	0	0	0	0	1	1	9 ast-1 [14118	1	7	0	0	0	1	0	8	2
Zone	Glacier	Launch Con AS	Sroup	Web Dist			ELB	Subnet	SNS	EC2	RDS	3 Health Chr	3 Hosted Zo	53	SOS	EBS	VPO
is-east-1 Auto Scale Service [14138]	0		1	0	0	0	2	0	0	38	0	0	0	0	0	0	0
s-east-1 CloudTrail Service [14139]	0		0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
is-east-1b [14133]	0		0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
is-standard S3 Service [14137]	0		0	0	0	0	0	0	0	0	0	0	0	5	0	41	0
is-east-1 SQS Service [14340]	0		0	0	0	0	0	0	8	0	0	0	0	0	1	0	0
us-east-1 VPC Service [14141]	0		0	0	0	0	0	8	0	0	0	0	0	0	0	0	6
Totals for Level1: N. Virginia: us-east-1 [14118]	0	2	1	0	0	1	2	8	8	38	3	0	0	5	1	41	6
						evel1: Orego											
Zone	Glacier	Launch Con AS (				CloudTrail	ELB	Subnet	SNS	EC2	RDS	3 Health Che	A Hosted Zo	53	sqs	EBS	VP
s-west-2 Auto Scale Service [14147] s-west-2 CloudTrail Service [14148]	0		1	0	0	1	0	0	0	9	0	0	0	0	0	0	0
is-west-2 Cloud Frail Service [14148] is-west-2 S3 Service [14146]	0		0	0	0	0	0	0	0	0	0	0	0	3	0	6	0
is-west-2 S3 Service [14146] is-west-2 SOS Service [14336]	0		0	0	0	0	0	0	4	0	0	0	0	3	1	0	
is-west-2 SQS Service [14336]	ö		0	ő	ő	ő	ŏ	3	ő	ő	ö	ő	ő	ö	ō	ő	1
Totals for Level1: Oregon: us-west-2 [14119]	0		1	0	0	1	Ő	3	4	9	0	0	0	3	1	6	1
						evel1: Route											
Zone	Glacier	Launch Con AS (		Web Dist 3			ELB	Subnet	SNS	EC2	RDS	3 Health Che		S3	SQS	EBS	VP
napmycloud.net [14121]	0		0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Totals for Level1: Route 53 Service [14116] Totals for Account:	0	•	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Totals for Account: AIDAJ5CRUCDWAW7CRUTMS [14115]	2	3	2	1	1	3	3	22	13	55	3	1	1	9	2	56	10
Totals for Organization: Pittock [193]	2	3	2	1	1	3	3	22	13	55	3	1	1	9	2	56	10
Overall Totals:	2	3	2	1	1	3	3	22	13	55	3	1	1	9	2	56	10

ScienceLogic									
S Inventory Report – EC2 Instance Details									
		tion: Pittocl							
	unt: AIDAJ5CR								
	evel1: Frankfu								
Zone	M1.small		T1.micro	T2.small	T2.micro	C3.large		M3.medium	
eu-central-1a [14446]	0	0	0	0	1	0	0	0	0
Totals for Level1: Frankfurt: eu-central-1 [14444]	0	0	0	0	1	0	0	0	0
	Level1: Irelar								
Zone	M1.small	M3.large	T1.micro	T2.small	T2.micro	C3.large		M3.medium	
eu-west-1a [14126]	0	1	2	0	0	0	0	0	0
eu-west-1c [14127]	0	0		0	0	0	0	0	0
eu-west-1b [14125]	0	0	2	0	0	0	0	0	0
Totals for Level1: Ireland: eu-west-1 [14117]	•		•		U	U	U	U	0
Zone	Level1: N. Virg			T2.small	<b>T</b> 0	0.01			
us-east-1a [14134]	M1.small	M3.large	T1.micro 3	12.smail 11	T2.micro 1	C3.large	M3.xtarge 0	M3.medium	M1.medi
us-east-1a [14134]	ö	ö	0	0	3	ő	1	ŏ	ő
us-east-16 [14133]	1	ő	4	ŏ	0	ő	ō	ŏ	1
us-east-10 [14135]	2	ő	2	ŏ	ŏ	1	ő	ŏ	ō
Totals for Level1: N. Virginia: us-east-1 [14118]	7	4		11	4	1	1	ő	1
in the second se	Level1: Orego		-2 [14119]						-
Zone	M1.small		T1.micro	T2.small	T2.micro	C3.large	M3.xlarge	M3.medium	M1.medi
us-west-2c [14145]	0	0	4	0	0	0	0	1	0
us-west-2a [14144]	0	0	3	0	0	0	0	0	0
us-west-2b [14143]	Ó	0	0	Ó	Ó	0	Ó	1	Ó
Totals for Level1: Oregon: us-west-2 [14119]	0	0	7	0	0	0	0	2	0
Totals for Account: AIDAJ5CRUCDWAW7CRUTMS [14115]	7	5	22	11	5	1	1	2	1
	7	5	22	11	5	1	1	2	1
Totals for Organization: Pittock [193]									

The following input options are available when generating the report:

- **Organizations**. Select the organization for which you want to generate the report. The *All Organizations* checkbox is selected by default. De-selecting this checkbox allows you to select one or more specific organizations for which to generate a report.
- AWS Accounts. Select the AWS Account(s) for which you want to generate the report. The All Accounts checkbox is selected by default. De-selecting this checkbox allows you to select one or more specific accounts for which to generate a report.
- *Filter on EC2 Instance Config Data*. Select the EC2 instances that will be included in the report based on the configuration data reported for each EC2 instance:
  - Choose up to four configuration parameters for EC2 instances.
  - For each selected configuration parameter, enter a value to match against and select how that value should be matched.
  - In the **Comparison Operator** field, select whether an EC2 instance must match all configuration parameters (and) or only one configuration parameter (or) to be included on the report.
- **Report Options**. Select the Include Terminated Instances checkbox to include all terminated instances.

This description covers the latest version of this report as shipped by ScienceLogic. This report might have been modified on your ScienceLogic system.

## AWS Running Config Report

This report displays the running config of all AWS instances for one to all organizations across a number of AWS billing accounts.

		Awa Kuning Conig	
:			
ScienceLogic			
JuniocienceLogic			
AWS Running Config Report			
	IDA MODU		_
A	IDAJ5CRU	CDWAW7CRUTMS [14115]	
	Clo	udFront Service [14120]	
	d12tib	k6qbt264.cloudfront.net [14150]	
	Key	/ Value *** AWS CloudFront Origin Discovery ***	
		am:aws:cloudFront:01gin Discovery *** am:aws:cloudfront:789135808643:distribution/E1KPRUBCK0YU3E	
	Exists:		
	ld:	cloudfront E1KPRUBCK0YU3E/silocloudtrail.s3.amazonaws.com	
	Name:	silocloudtrail.s3.amazonaws.com	
***** App	plication *****:	*** AWS CloudFront Web Distribution ***	
Tru	sted Signers:		
		doudfront E1KPRUBCK0YU3E	
	State:		
Disting	Comment:	am:avs:cloudfront::789135808643:distribution/E1KPRUBCK0YU3E	
Del	ivery Method:		
		Not Available	
	Name:	d12tibk6qbt264.cloudfront.net	
1	Last Modified:	2014-09-18T03:25:03.777Z	
	CNames:		
		Deployed	
App		*** AWS CloudFront Restriction Discovery ***	
***** 6.02	Exists:	1 *** AWS CloudFront Error Page Discovery ***	
Ap	Exists:		
***** An		*** AWS CloudFront Behavior Discovery ***	
4	Exists:		

The following input options are available when generating the report:

- Organizations. Select one, multiple, or all organizations to include in the report.
  - All Organizations. This checkbox is selected by default. De-selecting this checkbox allows you to select one or more specific organizations for the report.
  - Organizations. If you unchecked the All Organizations checkbox, select one or more organizations to include in the report.
- AWS Accounts. Select one, multiple, or all AWS Accounts to include in the report.
  - All Accounts. This checkbox is selected by default. De-selecting this checkbox allows you to select one
    or more specific AWS accounts for the report.
  - Accounts. If you unchecked the All Accounts checkbox, select one or more AWS Accounts to include in the report.

- Filter on EC2 Instance Config Data. Select the EC2 instances that will be included on the report based on the configuration data reported for each EC2 instance:
  - Choose up to four configuration parameters for EC2 instances.
  - For each selected configuration parameter, enter a value to match against and select how that value should be matched.
  - In the **Comparison Operator** field, select whether an EC2 instance must match all configuration parameters (*and*) or only one configuration parameter (or) to be included in the report.
- Report Options. Select the Include Terminated Instances checkbox to include all terminated instances.

This description covers the latest version of this report as shipped by ScienceLogic. This report might have been modified on your ScienceLogic system.

# Chapter

5

## **AWS Dashboards**

#### Overview

The ScienceLogic platform includes several dashboards for Amazon Web Services in the Amazon Web Services: Dashboards PowerPack. This chapter describes how to install these dashboards and also includes a description of each dashboard.

## Installing the Amazon Web Services: Dashboards PowerPack

To view the Amazon Web Services dashboards in the ScienceLogic platform, you must first install the Amazon Web Services: Dashboards PowerPack. To do so:

- 1. Go to the **PowerPack Manager** page (System > Manage > PowerPacks).
- 2. Click the [Actions] button, then select Install PowerPack. The Imported PowerPacks modal page appears.

 Use the search filter in the PowerPack Name column heading to locate the PowerPack you want to install. To do so, enter text to match, including special characters, and the Imported PowerPacks modal page displays only PowerPacks that have a matching name.

ърс	orted PowerPacks™   PowerPack	Files I	Found	[298]								Re	set
	PowerPack Name		Revisio	GUID		Last E				porte			_
	FowerFack Name	Version	<u>n</u>		All	Laste		-		porte	• <u>u</u> •		
1	Event Association Test	1	1	DED1884762194566B70BCD4DF3A742	201	5-12-1	6.09.43			2-16	09:43:0	9	
	Event Suppression Test	1	1	EC64565DCA55E155135F91F81F44D8								~	F
	SLPSD: Onboarding	0.20000	287	E121312B60972ED35BEDA19E88D195	_							~	Ē.
	SL PS Cisco 3rd Party Device Support	1.39999		8B78EDB3A373B2D187ECEAE2545744									F.
5.	NetApp Base Pack	7.7.0	6873	8014D5DAD2B8C9AC3E1DD84CC227E	201	5-10-2	1 13:31	:472	015-1	0-29	14:56:5	1	
6.	Cisco: Contact Center Enterprise *BETA*	0.5	1119	7CC6AD933EFB4FF5D840EFEA40F85C	201	5-12-14	4 13:50	:5( 2	015-1	0-29	14:56:5	1	
7.	EM7 Standard Device Categories	7.7.0	255	7A7322AA30F189B42943C082EFD7121	201	5-06-0	2 18:30	:562	015-1	0-29	14:56:5	1	
8.	BL Test	1	2	74F7E816CF0FC9153700D2AF0982C27	201	5-10-2	9 10:56	:112	015-1	0-29	10:56:0	1	
9.	BL Test	1	1	74F7E816CF0FC9153700D2AF0982C2	201	5-10-2	9 10:56	:112	015-1	0-29	10:54:1	1	
10.	Microsoft: Office 365 *BETA*	0.5	138	8FA30F7D1FAC9162DD8C717D9EF778				2	015-1	0-20	16:44:3	1	
11.	NetApp Base Pack	7.7.0	6838	8014D5DAD2B8C9AC3E1DD84CC227E	201	5-10-2	1 13:31	:472	015-1	0-20	16:44:3	1	
12.	Cisco: Contact Center Enterprise *BETA*	0.5	1109	7CC6AD933EFB4FF5D840EFEA40F85C	201	5-12-14	4 13:50	:5( 2	015-1	0-20	16:44:3	1	
13.	EM7 Default Internal Events	7.7.0	316	BE1F363DB4BA9A10F5C6BC28931F0B	201	5-10-2	B 13:26	:25 2	015-1	0-20	16:44:3	1	
14.	F5 BIG-IP *BETA*	7.7.0	3242	BFA4E6B316FD2302D913EF38FE7FF82	201	5-10-2	B 13:26	:272	015-1	0-20	16:44:3	1	
15.	Microsoft: Office 365 *BETA*	0.5	136	8FA30F7D1FAC9162DD8C717D9EF778				2	015-1	0-14	15:12:2	1	
16.	Cisco: Contact Center Enterprise *BETA*	0.5	1022	7CC6AD933EFB4FF5D840EFEA40F85C	201	5-12-14	4 13:50	:5( 2	015-1	0-14	15:12:2	1	
17.	Microsoft Base Pack	7.7.0	868	97469E96E98B5DAB516F3CCC8747CE	201	5-10-2	8 13:26	:26 2	015-1	0-13	12:47:5	1	
18.	EM7 Default Internal Events	7.7.0	315	BE1F363DB4BA9A10F5C6BC28931F0B	201	5-10-2	8 13:26	:25 2	015-1	0-13	12:47:5	1	
19.	NetApp Base Pack	7.7.0	6792	8014D5DAD2B8C9AC3E1DD84CC227E	201	5-10-2	1 13:31	:472	015-1	0-13	12:47:5	1	$\Box$

- 4. Click the lightning-bolt icon ( $\swarrow$ ) for the PowerPack that you want to install.
- 5. The Install PowerPack modal page appears. To install the PowerPack, click [Install].

nstall Power-Pack™   .kates_test_pp_3	Version 1		Reset
Package Information GUID: 9F7EC Created: 2015-07-28 14:10:53	F5CBC81D713AD94AF704FBA136C 3 Updated: 2015-07-28 14:10:53	Exported From: 7.6.0.beta d: 2015-07-28 14:12:21	
Package Content			
	Theme Name	GUID	Action
1. kates_test_theme_3		A6D9EA56C5FAE1F35E6F0411BD79AD0	update
<ol><li>kates_test_theme_4</li></ol>		ADA02B6763C3CCA014FBB00A9A21A64	update
Installation Key: hBGC6WETV3SH8Ep	eyp7cpySyuEak0FeBpD/IYENPd0oBScX	 noIbNRR/6MJw6aZOvgFY()	

6. The PowerPack now appears in the **PowerPack Manager** page. The contents of the PowerPack are automatically installed in your ScienceLogic system.

#### AWS Account Billing Dashboard

The AWS Account Billing Dashboard displays:

🕙 हस <b>12H 24H</b> :	70	14(	)	300		90D	No Or	ganizations Selecter		Organizations Selector •			e V
Estimated Billing (Last 12 hours)	• Total (\$) (	Last 12 hours)											
Elastic MapReduce -													
Storage Galway	479.75												
	479.68\$												
	479.665												_
-EC2	479.64\$												
ROS	479.625												
	479.65												
		7:00 0	8.00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16.00 17	00	18:00
AWS Events													
Message -							Element		Severity	Last	Detected	2	
WISNoBillingEvent: No billing metrics can be retrieved. Your AWS account is not configured to export billing metrics can be retrieved. Your AWS account is not configured to export billing metrics.						1)143308194941 1)443629253563		Minor		27/10/2013 06: 27/10/2013 06:			
AWSNoBillingEvent: No billing metrics can be retrieved. Your AWS account is not configured to export billing me	strics into Clo					1 233364061881		Minor		27/10/2013 06:	01:00 pm		
Device Failed Availability Check: Your AWS account keys are invalid or your account does not have sufficient pri	vileges.					T/AWS test		Major		27/10/2013 06:	25:10 pm		

- A pie chart that shows the estimated billing amount for each service over the selected time period.
- A performance graph that shows the estimated billing amount for the selected service, over time. To select a service, click on the pie-chart segment for that service.
- A table that shows the currently active AWS events.
- A time span selector that controls the amount of data shown in the pie chart and the performance graph.
- An organization selector that limits the data in the pie chart and performance graph to include only instances associated with the selected organizations.

## AWS Health Status Dashboard

The AWS Health Status Dashboard displays:

	Organizations Selec	tor •			Device Groups Sele	dar •							
No Organizations Selected			- N	o Device Groups Selected									
W/S Services (all types)	<ul> <li>Selected Device Details</li> </ul>		<ul> <li>Selected Service Health</li> </ul>										
eu-west-1a EC2 Service	<ul> <li>DID</li> </ul>	26688	Dete -			Health							
eu-west-1c EC2 Service	Device Name	Ameu-west-1a EC2 Service	2013-07-09 10:22:35	Service is operating normally. [RESOL									
sa-east-1 EMR Service	IP Address		2013-08-01 04:44:10	Informational message: Small number of instances unavailable in a single availability zone									
sa-east-1 SNS Service	Device Class   Sub-class	AWS EC2 Service   AWS EC2 Service	2013-08-01 05:23:51	Informational message: Small number									
sa-east-1 SQS Service	Organization	💕 Bosozoku Org	2013-08-01 05:49:30	Service is operating normally: Small n									
sa-east-1a EC2 Service	Current State	Healthy	2013-08-09 07:21:54	Informational message: Network Con									
sa-east-1a EC2 Service	LastPoll		2013-08-09 07:54:09	Service is operating normally. Network									
sa-east-1a EC2 Service	Group/Collector	CUG_20212	2013-08-09 10:43:35	Informational message: Network Con									
us-east-1 DDB Service			2013-08-09 11:30:11	Informational message: Network Con	nectivity								
us-east-1 DDB Service			2013-08-09 12:23:55	Informational message: [RESOLVED]	Network Connectivity								
us-east-1 DDB Service			2013-08-16 11:11:58	Informational message: Increased Au									
us-east-1 ELB Service			2013-08-16 11:25:48	Service is operating normally: [RESOL	VED] Increased Auto Scaling Error Ra	tes							
us-east-1 EMR Service			2013-09-21 17:52:46	Informational message: Increased La	unch Latencies and Error Rates								
us-east-1 SNS Service			2013-09-21 18:32:15	Service is operating normally: [RESOL	VED] Increased Launch Latencies and	d Error Rates							
us-east-1 SNS Service			2013-09-30 09:28:13	Informational message: [RESOLVED]									
us-east-1 SNS Service			2013-10-24 09:05:37	Informational message: [RESOLVED]	Increased API Error Rates								
us-east-1 SNS Service													
us-east-1 SQS Service	2												
us-east-1 Storage Gateway Service													
us-east-1a EC2 Service	ANC Capies seleted EN7 C	vents: Last Detected (Last 12 hours)											
us-east-1a EC2 Service	And Service-related Entr E	(											
us-east-1a RDS Service		Managa •		Organization	Element	Severitz	Admontedged	Ticket ID	Last Detected				
us-east-1b EC2 Service													
us-east-1b EC2 Service													
us-east-1b EC2 Service													
us-east-1b RDS Service				No results to display.									
us-east-1b RDS Service				Two reduits to display.									
us-east-1c EC2 Service													
us-east-1c RDS Service													
us-east-1c RDS Service													
us-east-1d RDS Service													
us-west-1 ELB Service													
us-west-1 SNS Service													
us-west-1 SQS Service													
us-west-1a EC2 Service													
us-west-1a RDS Service													
us-west-1b EC2 Service													
us-west-1b RDS Service													
us-west-1c EC2 Service													
us-west-1c RDS Service													

- A traffic light widget that displays a list of AWS services. To populate the other widgets in this dashboard, select a service.
- A tear-sheet widget that displays information and links for the selected service.
- A service health widget, that displays log messages about the health of the service.
- A table that displays currently active events for the service.
- An organization selector and a device group selector that control which services are shown in the traffic light widget.

#### AWS Service Instance Performance Dashboards

The Amazon Web Services: Dashboards PowerPack includes a dashboard for each service type. Each dashboard displays performance metrics for instances of an AWS service. The following dashboards are included:

- AWS DDB Performance
- AWS EBS Performance
- AWS EC2 Performance
- AWS ELB Performance
- AWS EMR Performance
- AWS RDS Performance
- AWS SQS Performance
- AWS Storage Gateway Performance

Each performance dashboard includes:

								Organizati	ons Selector •			Device Groups Selec	dar •	Z
6H 12H	24H	70	140	300	900	No Organizatio	ins Selected			✓ No	Device Groups Selecte	d		4
C2 Instances	CPU Utilization	n % (Last 12 hours)					<b>1</b> .	Disk Ops F	Read & Write (Last 12 hou	(18)				
euwest, to t1 micro: i.4346defte							-							
eu-west-1c ScienceLogic-Proxy: t1.micro: i-3895														
sa-east-1a m1 small: i-815b139e	5%						~							
sa-east-1a m1 small: i-e1c5/3fe	574							0.05IOPS						
sa-east-1a m1 small: i-f95b13e6														
sa-east-1a SA-Samba - aether: t1.micro: i-b1d7c	4%													
sa-east-1a SA-Samba - demeter: t1.micro: i-b107c								0.025IOPS						
sa-east-1a SA-Samba - demeter: 11.micro: 1-boo sa-east-1a SA-Samba - hemera: 11.micro: 1-b767														
sa-east-1a SA-Samba - hermes: 11 micro: i-b5d7	3%													
sa-east-1a SA-Samba - hermes: t1.micro: 1-0507 - sa-east-1a SA-Samba - kronos: t1.micro: i-22d8								0IOPS 1						
sa-east-1a SA-Samba - nyx: t1.micro: i-b6d7d2a sa-east-1a SA-Samba - oceanus: t1 micro: i-b4d	2%							1						
								-0.03IOPS						
sa-east-1a SA-Samba - ouranos: t1.micro: i-bbd	1%													
sa-east-1a SA-Samba - themis: t1.micro: i-21d8	176													
sa-east-1a SA-Samba - zephyrus: t1.micro: i-98			۸					-0.05IOPS						
sa-east-1a ScienceLogic-Proxy: t1.micro: i-5afdt	0%	~~~~~~												
sa-east-1a ScienceLogic-Proxy: t1.micro: i-5c06		08:00	10:00	12:00	14:00	16:00	18:00		08:00	10:00	12:00	14:00	16:00	18:00
sa-east-1a ScienceLogic-Proxy: t1.micro: i-5f1dc			- enumerit off	micro: i-43464e0c: CP	LLL Bilization (%)				- answeet 1911	micro: i-43464e0c: Disk F	ead One allowed	1.19.11 micro: i.43484	effic: Diek Write One	
sa-east-1a ScienceLogic-Proxy: t1.micro: i-609d			cu west furt.	111010-140404000-01	o outcation (14)				Comest forth		cau opo - ca nea	101111000140404	eve blox mile opo	
sa-east-1a ScienceLogic-Proxy: t1.micro: i-620ff	Network In & N	letwork Out (Last 12 hor	urs)					Disk Read	& Write Bytes (Last 12 ho	iurs)				
sa-east-1a ScienceLogic-Proxy: t1.micro: i-621a														
sa-east-1a ScienceLogic-Proxy: t1.micro: i-76f3e	6088						-							
sa-east-1a ScienceLogic-Proxy: t1.micro: i-7da6	OUND													
sa-east-1a ScienceLogic-Proxy: t1.micro: i-b6a8								50m8						
sa-east-1a ScienceLogic-Proxy: t1 micro: i-c467	50kB						_							
sa-east-1a ScienceLogic-Proxy: t1.micro: i-c667														
sa-east-1a ScienceLogic-Proxy: t1.micro: i-e014	4018							25mB						
sa-east-1a ScienceLogic-Proxy: t1.micro: i-e42a	408D													
us-east-1a AWS EM7 GNMSOE: t1.micro: i-dd														
us-east-1a AWS EM7 Rox: t1.micro: i-a2da69c	3048							0m8 -						
us-east-1a AWS Kizuna: t1.micro: i-1d495d7d								umo -						
us-east-1a AWS Nombe: t1.micro: i-1c7/5777	2088													
us-east-1a AWS not empty: t1.micro: i-527f573	2010													
us-east-1a AWS_Tokidoki: t1.micro: i-f5376b98								-25mB						
us-east-1a East 1a Instance: t1.micro: i-b6/03ed	10kB													
us-east-1a m1 small: i-59a86821														
us-east-1a m1.small: i-59a66823	048							-50mB						
	440													
us-east-1a m1.small: i-736e1a14		08:00	10:00	12:00	14:00	16:00	18:00		08:00	10:00	12:00	14:00	16:00	18.00
us-east-1a m1.small: i-99a868e1 us-east-1a m1.small: i-9fa868e7			icro: i-43464e0c: Netwo	skie (0) — en meet	4 a 14 minute i 40.484 a 0	a Maharati Out (D)				o: i-43464e0c: Disk Read	Dates (0) evilone	I de la misser i 43484	after Disk Weile Dutes (D)	

- A traffic light widget that shows the status of all instances for the service.
- Four performance graphs that show applicable metrics when you select an instance from the traffic light widget.
- A time span selector that controls the amount of data shown in the performance graphs.
- An organization selector and device group selector that control which instances are shown in the traffic light widget.

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