



Eucalyptus Release Notes

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Overview and Help

Eucalyptus is open source software for building Amazon Web Services compatible private and hybrid clouds. The release notes for Eucalyptus are divided by release number, presented in order from current release to past releases. If you are already using Eucalyptus, you can check updates from your older release and compare it with a newer release to help determine if you want to upgrade.

Where to Get More Help

The following resources can help you to learn more, connect with other Eucalyptus users, or get actively involved with Eucalyptus development.

- The Eucalyptus IRC channel is [#eucalyptus](#) on Freenode. This channel is used for real-time communication among users and developers. Information on how to use the network is available from [Freenode](#).
- Subscribe to one or more of the [Eucalyptus mailing lists](#), which provide ways to ask questions and get assistance from the community.
- Search for technical articles in the [Knowledge Base](#) to find answers to your questions and learn about best practices.
- Check out the [Eucalyptus Support](#) pages for more ideas.

How to Upgrade

If you want to upgrade to the current release, you can find upgrade information in the [Eucalyptus Installation Guide](#).

Compatibility

For information compatibilities with your version of Eucalyptus, including:

- Euca2ools
- OS
- Guest OS
- Networking
- Storage
- Hardware

... navigate to the Eucalyptus Release Notes version for your release, and review the Compatibility Matrix for that version.

Comments

For corrections and suggestions about this document, send an email to euca-users@eucalyptus.com. We look forward to your communication and thank you in advance for helping us improve our documentation and our product.

4.4.6

This section contains release notes for Eucalyptus version 4.4.6.

What's New?

This topic lists new features in Eucalyptus 4.4.6.

Eucalyptus 4.4.6 is a maintenance release and contains no new features.

New in 4.4.6

The following is new for Eucalyptus 4.4.6.

Item	Description
CentOS / RHEL 7.9 support	The 4.4.6 release adds support for the CentOS and RHEL 7.9 operating systems.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.4.6.

Issue	Description
#231	ELB service vm instances can be marked failed while pending
#232	ELB creating listener with non-capitalized instance protocol fails
#233	EC2 instance metadata v2 / ubuntu focal cannot access metadata
#234	EC2 VPC nat gateway private ip reservation expires
#235	EC2 node controller crash when running windows instance
#236	S3 close http connection when testing backend provider
#237	ELB servo VPC networking setup

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.4.6.

There are no security bulletins for the 4.4.6 release.

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.4.6 and its dependencies.

Outstanding known issues from previous releases:

Issue	Description
esi - * tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked issue for procedure.
ImportInstance failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked issue for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Failed migration due to space limitations leave instance's artifacts on destination host (EUCA-12468)	See linked issue for more information.
S3 signature v4 error creating bucket using aws cli (EUCA-13098)	When creating a bucket using the aws cli signature, v4 request signing will be used by default. Due to a bug in the AWS cli, the request is invalid. Workaround: To explicitly configure use of signature v4: <pre># aws configure set s3.signature_version s3v4</pre> See the aws cli issue
eucanetd fails to provision network artifacts for new VMs when < 100% of gateways are available (EUCA-13217)	See linked issue for more information.
CloudFormation: Stack fails when using NetworkInterfaceId property in AWS::EC2::EIPAssociation resource (EUCA-13230)	Workaround: Add an explicit dependency to order the resource creation. See linked issue for more information.
Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state (EUCA-13233)	When the ELB has one out of three back-end instances registered with an InService state, any query against the ELB returns a 503. Eventually, a 200 code is returned. See linked issue for more information.
S3 signature v4 form post is unsupported (EUCA-13238)	See linked issue for more information.
CloudFormation nested stacks: Outputs from stack resources cannot be used as parameter values for other stacks (EUCA-13258)	Outputs used from one CloudFormation stack cannot be passed as parameter values using Fn::GetAtt. See linked issue for more information.
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.

Issue	Description
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked issue for more information.
Memcache is not cleared when user adds a new image or makes image public. (GUI-2669)	When a user adds an image or changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Authorize ports for ELB created in VPC. (GUI-2673)	See linked issue for more information.
Cloud formation stack supplied via URL in the console throws "Can not read from URL provided" error. (GUI-2912)	See linked issue for more information.
Graph in "Create Alarm" dialog does not change when the trigger type is changed. (GUI-2929)	Workaround: Change threshold to something else (and then change it back if necessary); this will cause the graph to update to the correct one.

Deprecated Features

This topic lists features that are deprecated or removed by Eucalyptus 4.4.6.

What Does "Deprecated" Mean?

Deprecated features continue to work and are supported until the feature is removed in a future major release. Documentation and security fixes are provided, but training is not. Customers should begin to plan now for the future removal of the feature and its support.

What Does "Removed" Mean?

Removed features are no longer available nor supported.

Deprecated and Removed Features

The following features / components were deprecated or removed by the Eucalyptus 4.4.6 release.

Feature	Status	Description
Reporting and data warehousing	Deprecated	Reporting and data warehousing were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Storage SANs	Deprecated	Storage SANs were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.

Feature	Status	Description
Managed network modes	Removed	Managed and Managed (No VLAN) networking modes were deprecated in Eucalyptus 4.3.0 and removed from the product in Eucalyptus 4.4.0.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.4.6.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- EBS snapshot delta support

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- Ceph RGW object storage
- OpenID Connect (OIDC) support

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.4 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9	x86_64	Eucalyptus 4.3 was the last release series where RHEL / CentOS 6 was a supported OS. The Eucalyptus 4.3 series provided the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7.
RHEL+KVM	7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
EDGE	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	

Networking Mode	Description	Version	Notes
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. Midokura Enterprise MidoNet (MEM) is a commercial version with 24/7 support - 30 day evaluation available.	MEM v5 series	Eucalyptus tested and validated using MEM 5.2.1. Also tested with: • Cassandra22 (dsc22) ver. 2.2.8 • ZooKeeper ver. 3.4.8 We will support the use of MidoNet Community Edition (MCE) with Eucalyptus on a "community best effort support" level.

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features.
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.
Walrus	N/A	4.4.6	

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RBD	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.

Storage Array	Type/Series	Version	Notes
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.4.

Eucalyptus Management Console

Management Console 4.4 operates with the above compatibilities.

Supported browsers

As of this writing, the Eucalyptus Management Console has been tested to support the latest stable releases of:

- Google Chrome
- Apple Safari
- Mozilla Firefox
- Microsoft Internet Explorer 10 or later (IE 11 and Edge)

Other browsers that are not listed here may work; the list above only represents browsers that have been tested and confirmed to work with the Eucalyptus Management Console.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.4 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus CloudFormation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.

- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster. Configurable via <code>MAX_INSTANCES_PER_CC</code> in <code>eucalyptus.conf</code> . Note: Once a cloud is in use and has started operating based on this variable, it is not safe to change it at runtime. If the value needs to be changed, stop the CC process, remove the files in <code>/var/lib/eucalyptus/CC/*</code> , change the variable in the config file, and start the CC process again.	2048	4096
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None
Name restrictions on the values that can be used with IAM.	Same as AWS. The AWS restrictions on names are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.4.5

This section contains release notes for Eucalyptus version 4.4.5.

What's New?

This topic lists new features in Eucalyptus 4.4.5.

Eucalyptus 4.4.5 is a maintenance release and contains no new features.

New in 4.4.5

The following is new for Eucalyptus 4.4.5.

Item	Description
CentOS / RHEL 7.6 support	The 4.4.5 release adds support for the CentOS and RHEL 7.6 operating systems.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.4.5.

Issue	Description
#5	EC2 simultaneous RebootInstance calls can cause an instance to be terminated
#116	S3 list objects v2 api support
#117	EC2 instance terminated on reboot
#127	EC2 Fedora 29 hvm machine image does not complete cloud-init

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.4.5.

There are no security bulletins for the 4.4.5 release.

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.4.5 and its dependencies.

Outstanding known issues from previous releases:

Issue	Description
esi - * tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked issue for procedure.

Issue	Description
ImportInstance failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked issue for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Failed migration due to space limitations leave instance's artifacts on destination host (EUCA-12468)	See linked issue for more information.
S3 signature v4 error creating bucket using aws cli (EUCA-13098)	When creating a bucket using the aws cli signature, v4 request signing will be used by default. Due to a bug in the AWS cli, the request is invalid. Workaround: To explicitly configure use of signature v4: <pre># aws configure set s3.signature_version s3v4</pre> See the aws cli issue
eucanetd fails to provision network artifacts for new VMs when < 100% of gateways are available (EUCA-13217)	See linked issue for more information.
CloudFormation: Stack fails when using NetworkInterfaceId property in AWS::EC2::EIPAssociation resource (EUCA-13230)	Workaround: Add an explicit dependency to order the resource creation. See linked issue for more information.
Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state (EUCA-13233)	When the ELB has one out of three back-end instances registered with an InService state, any query against the ELB returns a 503. Eventually, a 200 code is returned. See linked issue for more information.
S3 signature v4 form post is unsupported (EUCA-13238)	See linked issue for more information.
CloudFormation nested stacks: Outputs from stack resources cannot be used as parameter values for other stacks (EUCA-13258)	Outputs used from one CloudFormation stack cannot be passed as parameter values using Fn::GetAtt. See linked issue for more information.
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.

Issue	Description
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked issue for more information.
Memcache is not cleared when user adds a new image or makes image public. (GUI-2669)	When a user adds an image or changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Authorize ports for ELB created in VPC.(GUI-2673)	See linked issue for more information.
Cloud formation stack supplied via URL in the console throws "Can not read from URL provided" error.(GUI-2912)	See linked issue for more information.
Graph in "Create Alarm" dialog does not change when the trigger type is changed. (GUI-2929)	Workaround: Change threshold to something else (and then change it back if necessary); this will cause the graph to update to the correct one.

Deprecated Features

This topic lists features that are deprecated or removed by Eucalyptus 4.4.5.

What Does "Deprecated" Mean?

Deprecated features continue to work and are supported until the feature is removed in a future major release. Documentation and security fixes are provided, but training is not. Customers should begin to plan now for the future removal of the feature and its support.

What Does "Removed" Mean?

Removed features are no longer available nor supported.

Deprecated and Removed Features

The following features / components were deprecated or removed by the Eucalyptus 4.4.5 release.

Feature	Status	Description
Reporting and data warehousing	Deprecated	Reporting and data warehousing were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Storage SANs	Deprecated	Storage SANs were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Managed network modes	Removed	Managed and Managed (No VLAN) networking modes were deprecated in Eucalyptus 4.3.0 and removed from the product in Eucalyptus 4.4.0.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.4.5.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- [EBS snapshot delta support](#)

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- [Ceph RGW object storage](#)
- [OpenID Connect \(OIDC\) support](#)

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.4 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	7.3, 7.4, 7.5, 7.6	x86_64	Eucalyptus 4.3 was the last release series where RHEL / CentOS 6 was a supported OS. The Eucalyptus 4.3 series provided the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7.

OS and Hypervisors	Version	Architecture	Notes
RHEL+KVM	7.3, 7.4, 7.5, 7.6	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
EDGE	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. <u>Midokura Enterprise MidoNet (MEM)</u> is a commercial version with 24/7 support - 30 day evaluation available.	MEM v5 series	Eucalyptus tested and validated using MEM 5.2.1. Also tested with: - Cassandra22 (dsc22) ver. 2.2.8 - ZooKeeper ver. 3.4.8 We will support the use of <u>MidoNet Community Edition (MCE)</u> with Eucalyptus on a "community best effort support" level.

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features .
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.
Walrus	N/A	4.4.5	

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.

Storage Array	Type/Series	Version	Notes
Ceph RBD	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.4.

Eucalyptus Management Console

Management Console 4.4 operates with the above compatibilities.

Supported browsers

As of this writing, the Eucalyptus Management Console has been tested to support the latest stable releases of:

- Google Chrome
- Apple Safari
- Mozilla Firefox
- Microsoft Internet Explorer 10 or later (IE 11 and Edge)

Other browsers that are not listed here may work; the list above only represents browsers that have been tested and confirmed to work with the Eucalyptus Management Console.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.4 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus CloudFormation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster. Configurable via <code>MAX_INSTANCES_PER_CC</code> in <code>eucalyptus.conf</code> . Note: Once a cloud is in use and has started operating based on this variable, it is not safe to change it at runtime. If the value needs to be changed, stop the CC process, remove the files in <code>/var/lib/eucalyptus/CC/*</code> , change the variable in the config file, and start the CC process again.	2048	4096
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None
Name restrictions on the values that can be used with IAM.	Same as AWS. The AWS restrictions on names are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.4.4

This section contains release notes for Eucalyptus version 4.4.4.

What's New?

This topic lists new features in Eucalyptus 4.4.4.

Eucalyptus 4.4.4 is a maintenance release and contains no new features.

New in 4.4.4

The following is new for Eucalyptus 4.4.4.

Item	Description
CentOS / RHEL 7.5 support	The 4.4.4 release adds support for the CentOS and RHEL 7.5 operating systems.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.4.4.

Issue	Description
#10	Cloudwatch sometimes fails to persist system metrics with multiple ufs hosts
#14	Failed to move console log file error logged frequently
#22	ELB does not work for listener on load balancer port 6379
#49	S3 does not complete periodic work when there are 1000s of objects
#50	S3 usage metric causes high load with 100,000s of objects
#53	esi-install-image fails when region is not set
#55	Node controller should declare correct rpm requirements (append not supported)
#58	Node controller can terminate instances on reboot
#60	Error getting ec2 instance console output with libvirt 3.9.0 and selinux enforcing
#65	Node controller sometimes fails to clean up instance artifacts on termination
#67	Node controller stats should ignore instances in Teardown

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.4.4.

There are no security bulletins for the 4.4.4 release.

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.4.4 and its dependencies.

Outstanding known issues from previous releases:

Issue	Description
esi - * tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked issue for procedure.
ImportInstance failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked issue for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Failed migration due to space limitations leave instance's artifacts on destination host (EUCA-12468)	See linked issue for more information.
S3 signature v4 error creating bucket using aws cli (EUCA-13098)	When creating a bucket using the aws cli signature, v4 request signing will be used by default. Due to a bug in the AWS cli, the request is invalid. Workaround: To explicitly configure use of signature v4: <code># aws configure set s3.signature_version s3v4</code> See the aws cli issue
eucanetd fails to provision network artifacts for new VMs when < 100% of gateways are available (EUCA-13217)	See linked issue for more information.
CloudFormation: Stack fails when using NetworkInterfaceId property in AWS::EC2::EIPAssociation resource (EUCA-13230)	Workaround: Add an explicit dependency to order the resource creation. See linked issue for more information.
Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state (EUCA-13233)	When the ELB has one out of three back-end instances registered with an InService state, any query against the ELB returns a 503. Eventually, a 200 code is returned. See linked issue for more information.
S3 signature v4 form post is unsupported (EUCA-13238)	See linked issue for more information.
CloudFormation nested stacks: Outputs from stack resources cannot be used as parameter values for other stacks (EUCA-13258)	Outputs used from one CloudFormation stack cannot be passed as parameter values using Fn::GetAtt. See linked issue for more information.

Issue	Description
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked issue for more information.
Memcache is not cleared when user adds a new image or makes image public. (GUI-2669)	When a user adds an image or changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Authorize ports for ELB created in VPC.(GUI-2673)	See linked issue for more information.
Cloud formation stack supplied via URL in the console throws "Can not read from URL provided" error.(GUI-2912)	See linked issue for more information.
Graph in "Create Alarm" dialog does not change when the trigger type is changed. (GUI-2929)	Workaround: Change threshold to something else (and then change it back if necessary); this will cause the graph to update to the correct one.

Deprecated Features

This topic lists features that are deprecated or removed by Eucalyptus 4.4.4.

What Does "Deprecated" Mean?

Deprecated features continue to work and are supported until the feature is removed in a future major release. Documentation and security fixes are provided, but training is not. Customers should begin to plan now for the future removal of the feature and its support.

What Does "Removed" Mean?

Removed features are no longer available nor supported.

Deprecated and Removed Features

The following features / components were deprecated or removed by the Eucalyptus 4.4.4 release.

Feature	Status	Description
Reporting and data warehousing	Deprecated	Reporting and data warehousing were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.

Feature	Status	Description
Storage SANs	Deprecated	Storage SANs were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Managed network modes	Removed	Managed and Managed (No VLAN) networking modes were deprecated in Eucalyptus 4.3.0 and removed from the product in Eucalyptus 4.4.0.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.4.4.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- EBS snapshot delta support

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- Ceph RGW object storage
- OpenID Connect (OIDC) support

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.4 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	7.3, 7.4, 7.5	x86_64	Eucalyptus 4.3 was the last release series where RHEL / CentOS 6 was a supported OS. The Eucalyptus 4.3 series provided the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7.
RHEL+KVM	7.3, 7.4, 7.5	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
EDGE	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	

Networking Mode	Description	Version	Notes
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. Midokura Enterprise MidoNet (MEM) is a commercial version with 24/7 support - 30 day evaluation available.	MEM v5 series	Eucalyptus tested and validated using MEM 5.2.1. Also tested with: • Cassandra22 (dsc22) ver. 2.2.8 • ZooKeeper ver. 3.4.8 We will support the use of MidoNet Community Edition (MCE) with Eucalyptus on a "community best effort support" level.

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features.
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.
Walrus	N/A	4.4.4	

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.

Storage Array	Type/Series	Version	Notes
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
Ceph RBD	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.4.

Eucalyptus Management Console

Management Console 4.4 operates with the above compatibilities.

Supported browsers

As of this writing, the Eucalyptus Management Console has been tested to support the latest stable releases of:

- Google Chrome
- Apple Safari

- Mozilla Firefox
- Microsoft Internet Explorer 10 or later (IE 11 and Edge)

Other browsers that are not listed here may work; the list above only represents browsers that have been tested and confirmed to work with the Eucalyptus Management Console.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.4 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus CloudFormation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster. Configurable via <code>MAX_INSTANCES_PER_CC</code> in <code>eucalyptus.conf</code> . Note: Once a cloud is in use and has started operating based on this variable, it is not safe to change it at runtime. If the value needs to be changed, stop the CC process, remove the files in <code>/var/lib/eucalyptus/CC/*</code> , change the variable in the config file, and start the CC process again.	2048	4096
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None

Description	Default	Maximum
Name restrictions on the values that can be used with IAM.	Same as AWS. The <u>AWS restrictions on names</u> are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.4.3

This section contains release notes for Eucalyptus version 4.4.3.

What's New?

This topic lists new features in Eucalyptus 4.4.3.

Eucalyptus 4.4.3 is a maintenance release and contains no new features.

New in 4.4.3

The following is new for Eucalyptus 4.4.3.

Item	Description
Licence now 2-Clause/ Simplified BSD	The 4.4.3 release uses a BSD license, this replaces the GPL license used by previous releases.
RPM repository changed	Updated Eucalyptus and Euca2ools release RPMs should be installed as detailed in the install guide so the new downloads.eucalyptus.cloud location is used.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.4.3.

Issue	Description
#2 EUCA-13331	EC2 vm instance identification
#3 EUCA-13442	Node controller unsafely uses fork with posix threads
#6 EUCA-13446	Node controller libvirt connection error : timed out on libvirt refreshing thread
#7 EUCA-13447	SELinux denies libvirt necessary permissions to run instances on RHEL 7.4
#8 EUCA-13448	Seeing EESTERROR: deadlock detected errors in postgresql post cloud upgrade
#9 EUCA-13449	Token encoding for simple workflow and tokens services "leaks" native memory
#11 EUCA-13452	S3 put object fails with concurrency > 10
#12 EUCA-13454	ELB timeout setting worker keyname property
#13	NC littered with terminated instances files
#15	Polled notifications service requests should not be logged
#16	Recursive DNS lookups fail for some deployments
#17	S3 connection closed after GET requests without connection close header
#18	S3 performs blocking activities on netty io threads
#19	Storage controller eucalyptus-cloud service crashes when using ceph storage
#20	Node controller should not change umask
#21	tools/config-no-polkit has a runtime error if there are duplicate configuration entries

Issue	Description
#23	Auto scaling launch activities do not backoff when there are running instances in the group
#24	ELB instance does not update state
#26	Eucalyptus cloud service should not attempt to resolve eucalyptus.com on start

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.4.3.

There are no security bulletins for the 4.4.3 release.

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.4.3 and its dependencies.

Outstanding known issues from previous releases:

Issue	Description
<code>esi - *</code> tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked issue for procedure.
<code>ImportInstance</code> failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked issue for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Failed migration due to space limitations leave instance's artifacts on destination host (EUCA-12468)	See linked issue for more information.
S3 signature v4 error creating bucket using aws cli (EUCA-13098)	When creating a bucket using the aws cli signature, v4 request signing will be used by default. Due to a bug in the AWS cli, the request is invalid. Workaround: To explicitly configure use of signature v4: <code># aws configure set s3.signature_version s3v4</code> See the aws cli issue
eucanetd fails to provision network artifacts for new VMs when < 100% of gateways are available (EUCA-13217)	See linked issue for more information.
CloudFormation: Stack fails when using <code>NetworkInterfaceId</code> property in <code>AWS::EC2::EIPAssociation</code> resource (EUCA-13230)	Workaround: Add an explicit dependency to order the resource creation. See linked issue for more information.

Issue	Description
Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state (EUCA-13233)	When the ELB has one out of three back-end instances registered with an InService state, any query against the ELB returns a 503. Eventually, a 200 code is returned. See linked issue for more information.
S3 signature v4 form post is unsupported (EUCA-13238)	See linked issue for more information.
CloudFormation nested stacks: Outputs from stack resources cannot be used as parameter values for other stacks (EUCA-13258)	Outputs used from one CloudFormation stack cannot be passed as parameter values using Fn::GetAtt. See linked issue for more information.
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked issue for more information.
Memcache is not cleared when user adds a new image or makes image public. (GUI-2669)	When a user adds an image or changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Authorize ports for ELB created in VPC. (GUI-2673)	See linked issue for more information.
Cloud formation stack supplied via URL in the console throws "Can not read from URL provided" error. (GUI-2912)	See linked issue for more information.
Graph in "Create Alarm" dialog does not change when the trigger type is changed. (GUI-2929)	Workaround: Change threshold to something else (and then change it back if necessary); this will cause the graph to update to the correct one.

Deprecated Features

This topic lists features that are deprecated or removed by Eucalyptus 4.4.3.

What Does "Deprecated" Mean?

Deprecated features continue to work and are supported until the feature is removed in a future major release. Documentation and security fixes are provided, but training is not. Customers should begin to plan now for the future removal of the feature and its support.

What Does "Removed" Mean?

Removed features are no longer available nor supported.

Deprecated and Removed Features

The following features / components were deprecated or removed by the Eucalyptus 4.4.3 release.

Feature	Status	Description
Reporting and data warehousing	Deprecated	Reporting and data warehousing were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Storage SANs	Deprecated	Storage SANs were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Managed network modes	Removed	Managed and Managed (No VLAN) networking modes were deprecated in Eucalyptus 4.3.0 and removed from the product in Eucalyptus 4.4.0.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.4.3.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- [EBS snapshot delta support](#)

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- [Ceph RGW object storage](#)
- [OpenID Connect \(OIDC\) support](#)

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.4 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	7.3, 7.4	x86_64	Eucalyptus 4.3 was the last release series where RHEL / CentOS 6 was a supported OS. The Eucalyptus 4.3 series provided the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7.
RHEL+KVM	7.3, 7.4	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
EDGE	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	

Networking Mode	Description	Version	Notes
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. Midokura Enterprise MidoNet (MEM) is a commercial version with 24/7 support - 30 day evaluation available.	MEM v5 series	Eucalyptus tested and validated using MEM 5.2.1. Also tested with: - Cassandra22 (dsc22) ver. 2.2.8 - ZooKeeper ver. 3.4.8 We will support the use of MidoNet Community Edition (MCE) with Eucalyptus on a "community best effort support" level.

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features.
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.
Walrus	N/A	4.4.3	

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.

Storage Array	Type/Series	Version	Notes
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
Ceph RBD	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.4.

Eucalyptus Management Console

Management Console 4.4 operates with the above compatibilities.

Supported browsers

As of this writing, the Eucalyptus Management Console has been tested to support the latest stable releases of:

- Google Chrome
- Apple Safari

- Mozilla Firefox
- Microsoft Internet Explorer 10 or later (IE 11 and Edge)

Other browsers that are not listed here may work; the list above only represents browsers that have been tested and confirmed to work with the Eucalyptus Management Console.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.4 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus CloudFormation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster. Configurable via <code>MAX_INSTANCES_PER_CC</code> in <code>eucalyptus.conf</code> . Note: Once a cloud is in use and has started operating based on this variable, it is not safe to change it at runtime. If the value needs to be changed, stop the CC process, remove the files in <code>/var/lib/eucalyptus/CC/*</code> , change the variable in the config file, and start the CC process again.	2048	4096
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None

Description	Default	Maximum
Name restrictions on the values that can be used with IAM.	Same as AWS. The <u>AWS restrictions on names</u> are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.4.2

This section contains release notes for Eucalyptus version 4.4.2.

What's New?

This topic lists new features in Eucalyptus 4.4.2.

Eucalyptus 4.4.2 is a maintenance release and contains no new features.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.4.2.

Issue	Description
EUCA-12788	Remove NS record when DNS service is stopped
EUCA-13359	libvirtd hangs and requires a restart.
EUCA-13391	Cannot ping secondary ENIs after VM migration
EUCA-13393	Under high IO load, a failed instance launch can result in a zombie instance
EUCA-13395	Version in admin tool User-Agent is broken
EUCA-13397	Eucanetd doesn't check ref_sgsgs as a condition to cause a network refresh
EUCA-13401	Listing child volumes of snapshots during Ceph cleanup kills SC thread or eucalyptus-cloud process
EUCA-13409	Download manifests for instance-store images ignore key prefixes
EUCA-13417	Web services properties mismatched defaults for server_pool_max_threads listener_address_match
EUCA-13419	DNS nameserver reverse lookup nameservers off by one
EUCA-13420	Imaging service should not log stack trace when compute service unavailable
EUCA-13421	Binding compiler does some work twice for each binding
EUCA-13422	Pipeline contains no upstream handlers logged in cloud-exhaust.log
EUCA-13423	NPE handling host view change
EUCA-13424	NPE in ReplyQueue error handling
EUCA-13425	authorize-migration-keys has a runtime syntax error
EUCA-13426	EC2/CloudWatch should close ScrollableResults
EUCA-13427	HTTP responses on persistent connection missing date/server headers
EUCA-13428	cloudformation stack fails to add tags to launched instances
EUCA-13429	ELB stack trace logged on ufs host : group cannot be deleted because it is in use
EUCA-13431	S3 database bucket foreign key index missing for parts and objects
EUCA-13432	S3 listing objects using delimiter slow when there is a small number of common prefixes

Issue	Description
EUCA-13433	S3 cleaning object histories for bucket with many objects times out
EUCA-13440	Node controller crash on instance churn with high load
EUCA-13441	Node controller incorrect umask handling causes failure to run instances
GUI-2913	Create Alarm dialog is missing chart with alarm threshold preview

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.4.2.

Issue	Description
EUCA-13394	Empty SG causes eucanetd DOS
EUCA-13410	S3 authenticated users group applies to anonymous users

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.4.2 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

Outstanding known issues from previous releases:

Issue	Description
<code>esi - *</code> tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked issue for procedure.
<code>ImportInstance</code> failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked issue for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Failed migration due to space limitations leave instance's artifacts on destination host (EUCA-12468)	See linked issue for more information.
S3 signature v4 error creating bucket using aws cli (EUCA-13098)	When creating a bucket using the aws cli signature, v4 request signing will be used by default. Due to a bug in the AWS cli, the request is invalid. Workaround: To explicitly configure use of signature v4: <code># aws configure set s3.signature_version s3v4</code> See the aws cli issue

Issue	Description
eucanetd fails to provision network artifacts for new VMs when < 100% of gateways are available (EUCA-13217)	See linked issue for more information.
CloudFormation: Stack fails when using NetworkInterfaceId property in AWS::EC2::EIPAssociation resource (EUCA-13230)	Workaround: Add an explicit dependency to order the resource creation. See linked issue for more information.
Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state (EUCA-13233)	When the ELB has one out of three back-end instances registered with an InService state, any query against the ELB returns a 503. Eventually, a 200 code is returned. See linked issue for more information.
S3 signature v4 form post is unsupported (EUCA-13238)	See linked issue for more information.
CloudFormation nested stacks: Outputs from stack resources cannot be used as parameter values for other stacks (EUCA-13258)	Outputs used from one CloudFormation stack cannot be passed as parameter values using Fn::GetAtt. See linked issue for more information.
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked issue for more information.
Memcache is not cleared when user adds a new image or makes image public. (GUI-2669)	When a user adds an image or changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Authorize ports for ELB created in VPC. (GUI-2673)	See linked issue for more information.
Cloud formation stack supplied via URL in the console throws "Can not read from URL provided" error. (GUI-2912)	See linked issue for more information.
Graph in "Create Alarm" dialog does not change when the trigger type is changed. (GUI-2929)	Workaround: Change threshold to something else (and then change it back if necessary); this will cause the graph to update to the correct one.

Deprecated Features

This topic lists features that are deprecated or removed by Eucalyptus 4.4.2.

What Does "Deprecated" Mean?

Deprecated features continue to work and are supported until the feature is removed in a future major release. Documentation and security fixes are provided, but training is not. Customers should begin to plan now for the future removal of the feature and its support.

What Does "Removed" Mean?

Removed features are no longer available nor supported.

Deprecated and Removed Features

The following features / components were deprecated or removed by the Eucalyptus 4.4.2 release.

Feature	Status	Description
Reporting and data warehousing	Deprecated	Reporting and data warehousing were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Storage SANs	Deprecated	Storage SANs were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Managed network modes	Removed	Managed and Managed (No VLAN) networking modes were deprecated in Eucalyptus 4.3.0 and removed from the product in Eucalyptus 4.4.0.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.4.2.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes

Attribute	Technology Preview	Controlled Availability	General Availability
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

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Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- EBS snapshot delta support

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.

- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- [Ceph RGW object storage](#)
- [OpenID Connect \(OIDC\) support](#)

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.4 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	7.3	x86_64	Eucalyptus 4.3 was the last release series where RHEL / CentOS 6 was a supported OS. The Eucalyptus 4.3 series provided the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7.
RHEL+KVM	7.3	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
EDGE	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. Midokura Enterprise MidoNet (MEM) is a commercial version with 24/7 support - 30 day evaluation available.	MEM v5 series	Eucalyptus tested and validated using MEM 5.2.1. Also tested with: • Cassandra22 (dsc22) ver. 2.2.8 • ZooKeeper ver. 3.4.8 We will support the use of MidoNet Community Edition (MCE) with Eucalyptus on a "community best effort support" level.

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features.
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.
Walrus	N/A	4.4.2	

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
Ceph RBD	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements**Front end components**

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.4.

Eucalyptus Management Console

Management Console 4.4 operates with the above compatibilities.

Supported browsers

As of this writing, the Eucalyptus Management Console has been tested to support the latest stable releases of:

- Google Chrome
- Apple Safari
- Mozilla Firefox
- Microsoft Internet Explorer 10 or later (IE 11 and Edge)

Other browsers that are not listed here may work; the list above only represents browsers that have been tested and confirmed to work with the Eucalyptus Management Console.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.4 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus CloudFormation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster. Configurable via <code>MAX_INSTANCES_PER_CC</code> in <code>eucalyptus.conf</code> . Note: Once a cloud is in use and has started operating based on this variable, it is not safe to change it at runtime. If the value needs to be changed, stop the CC process, remove the files in <code>/var/lib/eucalyptus/CC/*</code> , change the variable in the config file, and start the CC process again.	2048	4096

Description	Default	Maximum
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None
Name restrictions on the values that can be used with IAM.	Same as AWS. The <u>AWS restrictions on names</u> are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.4.1

This section contains release notes for Eucalyptus version 4.4.1.

What's New?

This topic lists new features in Eucalyptus 4.4.1.

Eucalyptus 4.4.1 is a maintenance release and contains no new features.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.4.1.

Issue	Description
<u>EUCA-12495</u>	/var/log/messages has too many lines of axis2c messages
<u>EUCA-13063</u>	S3 signature v2 presigned url validation fails GET when content-type header present
<u>EUCA-13066</u>	S3 signature v4 SignatureDoesNotMatch error response content
<u>EUCA-13077</u>	Public IP is not assigned to an instance when its elastic IP is moved to another instance
<u>EUCA-13085</u>	Snapshot delta base download from s3 ignores actual snapshot size
<u>EUCA-13086</u>	NatGateways in 'failed' state do not transition to 'deleted' upon request to delete them
<u>EUCA-13109</u>	Snapshot delta temporary files leaked on s3 upload/download failure
<u>EUCA-13116</u>	Snapshot deletion from s3 attempts should be limited
<u>EUCA-13117</u>	Snapshot delta deletion should be ordered for dependencies
<u>EUCA-13157</u>	CFN: stack creation failures can have too much info at INFO log level
<u>EUCA-13164</u>	S3 some actions have wrong error response for bucket not found
<u>EUCA-13166</u>	Detaching subnet from loadbalancer succeed when there is only one subnet
<u>EUCA-13168</u>	UpdateStack stays in UPDATE_IN_PROGRESS due to SWF workflow timeout
<u>EUCA-13180</u>	Stack on multi-cluster VPC fails to deploy due to route table not being able to be updated
<u>EUCA-13187</u>	Incorrect accounting for cluster availability per vmtype when using PV images
<u>EUCA-13188</u>	S3 hmac signature SignatureDoesNotMatch error response content
<u>EUCA-13194</u>	S3 errors when using aws-sdk-go and multipart upload
<u>EUCA-13206</u>	CloudFormation Fn::GetAZs should prefer zones with default subnets for vpc
<u>EUCA-13218</u>	InfrastructureAdministrator Role cannot use euserv-describe-node-controllers
<u>EUCA-13232</u>	Access Log File format doesn't contain IP address of load balancer node that handled the requests
<u>EUCA-13233</u>	Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state
<u>EUCA-13254</u>	Ceph cleanUpImages may throw misleading error

Issue	Description
EUCA-13284	OSG decrypts access key too frequently
EUCA-13285	List Server Certificates missing Expiration
EUCA-13297	Incorrect BgpPeerIp range validation
EUCA-13318	s3 multi-part upload fails when using signature v4
EUCA-13319	Instances can boot before network is ready
EUCA-13320	nc-hook scripts will fail to run if SELINUX is enforcing.
EUCA-13323	SimpleWorkflow: InternalError when canceling workflow execution
EUCA-13329	EC2 DescribeVolumes should allow for pagination parameters
EUCA-13334	CFN UpdateStack: Disable API Termination update triggers SG change
EUCA-13339	AWS4Signer logs too many messages in DEBUG mode.
EUCA-13340	EC2 instance identity dynamic data should be cached
EUCA-13341	Trying to delete Ceph snapshot on Ceph mis-named image fails
EUCA-13349	ServiceImage3 build should depend on lb-servo-1.4
EUCA-13373	DNS service will return results for services that are in the disabled state.
EUCA-13389	intra-group SG traffic is sometimes denied until eucanetd restarted
GUI-2859	Running instances should be shown as green
GUI-2879	When OIDC config file is empty or misconfigured, console should fail gracefully
GUI-2894	Delete CORS configuration request should not include CSRF token in URL
GUI-2907	id of the drop-down menu on instance landing page is not recognized by selenium

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.4.1.

Security Bulletin ID	CVSS v3 Base Score	Affected Products
ESA-33	7.7	Eucalyptus - versions 4.2.0 through 4.4.0

See the [Eucalyptus Security Advisories \(ESAs\) page](#) for more information.

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.4.1 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

Outstanding known issues from previous releases:

Issue	Description
<code>esi</code> - * tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked bug for procedure.
<code>ImportInstance</code> failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked bug for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Failed migration due to space limitations leave instance's artifacts on destination host (EUCA-12468)	See linked bug for more information.
JVM crash after creating numerous Ceph volumes (EUCA-12953)	See linked bug for more information.
S3 signature v4 error creating bucket using aws cli (EUCA-13098)	When creating a bucket using the aws cli signature, v4 request signing will be used by default. Due to a bug in the AWS cli, the request is invalid. Workaround: To explicitly configure use of signature v4: <pre># aws configure set s3.signature_version s3v4</pre> See the aws cli issue
Ceph null context assertion crashes eucalyptus-cloud (EUCA-13199)	See linked bug for more information.
eucanetd fails to provision network artifacts for new VMs when < 100% of gateways are available (EUCA-13217)	See linked bug for more information.
CloudFormation: Stack fails when using <code>NetworkInterfaceId</code> property in <code>AWS::EC2::EIPAssociation</code> resource (EUCA-13230)	Workaround: Add an explicit dependency to order the resource creation. See linked bug for more information.
Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state (EUCA-13233)	When the ELB has one out of three back-end instances registered with an InService state, any query against the ELB returns a 503. Eventually, a 200 code is returned. See linked bug for more information.
S3 signature v4 form post is unsupported (EUCA-13238)	See linked bug for more information.
CloudFormation nested stacks: Outputs from stack resources cannot be used as parameter values for other stacks (EUCA-13258)	Outputs used from one CloudFormation stack cannot be passed as parameter values using <code>Fn::GetAtt</code> . See linked bug for more information.

Issue	Description
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked bug for more information.
Memcache is not cleared when user adds a new image or makes image public. (GUI-2669)	When a user adds an image or changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Authorize ports for ELB created in VPC.(GUI-2673)	See linked bug for more information.
Cloud formation stack supplied via URL in the console throws "Can not read from URL provided" error.(GUI-2912)	See linked bug for more information.

Deprecated Features

This topic lists features that are deprecated or removed by Eucalyptus 4.4.1.

What Does "Deprecated" Mean?

Deprecated features continue to work and are supported until the feature is removed in a future major release. Documentation and security fixes are provided, but training is not. Customers should begin to plan now for the future removal of the feature and its support.

What Does "Removed" Mean?

Removed features are no longer available nor supported.

Deprecated and Removed Features

The following features / components were deprecated or removed by the Eucalyptus 4.4.1 release.

Feature	Status	Description
Reporting and data warehousing	Deprecated	Reporting and data warehousing were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Storage SANs	Deprecated	Storage SANs were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.

Feature	Status	Description
Managed network modes	Removed	Managed and Managed (No VLAN) networking modes were deprecated in Eucalyptus 4.3.0 and removed from the product in Eucalyptus 4.4.0.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.4.1.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- EBS snapshot delta support

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- Ceph RGW object storage
- OpenID Connect (OIDC) support

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.4 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	7.3	x86_64	Eucalyptus 4.3 was the last release series where RHEL / CentOS 6 was a supported OS. The Eucalyptus 4.3 series provided the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7.
RHEL+KVM	7.3	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
EDGE	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	

Networking Mode	Description	Version	Notes
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. Midokura Enterprise MidoNet (MEM) is a commercial version with 24/7 support - 30 day evaluation available.	MEM v5 series	Eucalyptus tested and validated using MEM 5.2.1. Also tested with: • Cassandra22 (dsc22) ver. 2.2.8 • ZooKeeper ver. 3.4.8 We will support the use of MidoNet Community Edition (MCE) with Eucalyptus on a "community best effort support" level.

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features.
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.
Walrus	N/A	4.4.1	

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.

Storage Array	Type/Series	Version	Notes
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
Ceph RBD	Open source enterprise. CentOS machine with disk, compute, and network resources.	>= 10.2.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph installed on dedicated CentOS 7.3 hosts.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.4.

Eucalyptus Management Console

Management Console 4.4 operates with the above compatibilities.

Supported browsers

As of this writing, the Eucalyptus Management Console has been tested to support the latest stable releases of:

- Google Chrome
- Apple Safari

- Mozilla Firefox
- Microsoft Internet Explorer 10 or later (IE 11 and Edge)

Other browsers that are not listed here may work; the list above only represents browsers that have been tested and confirmed to work with the Eucalyptus Management Console.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.4 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

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This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

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- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
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The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None

Description	Default	Maximum
Name restrictions on the values that can be used with IAM.	Same as AWS. The <u>AWS restrictions on names</u> are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.4.0

This section contains release notes for Eucalyptus version 4.4.0.

What's New?

This topic lists new features in Eucalyptus 4.4.0.

New Features

Eucalyptus 4.4.0 introduces the following new features.

Feature	Description
EBS snapshot delta support.	Eucalyptus snapshots now can be stored as a delta to a previous checkpoint (delta or a full snapshot). Volume restore occurs from the first snapshot, plus the deltas. This feature is supported only when Ceph-RBD is used as the block storage backend provider for the Storage Controller (SC). The cloud administrator can set the maximum number of snapshot deltas between full volume checkpoints. EBS snapshot delta support is a Technical Preview feature. For information about Technical Preview features in Eucalyptus, see Special Status Release Features .
Cross-origin resource sharing (CORS) configuration for S3 buckets support.	CORS defines a way for client web applications that are loaded in one domain to interact with resources in a different domain. With CORS support in Eucalyptus S3, you can build rich client-side web applications with S3 and selectively allow cross-origin access to your Eucalyptus S3 resources.
Mido 5.2 support.	In Eucalyptus 4.4.0, VPCMIDO mode relies on MEM version 5.2.x.
OpenID Connect (OIDC) support	You can now log into the Eucalyptus Management Console using InCommon identities, via Globus OAuth 2.0 authentication. OpenID Connect (OIDC) is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features .
Signature Version 4 (SigV4) for S3 support.	Eucalyptus S3 now supports the SigV4 signing process for all previously supported operations.
ELB using SWF support.	The ELB service now uses the Eucalyptus Simple Workflow service (SWF) to coordinate distributed tasks. This enhancement improves scalability and troubleshooting for the ELB service.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.4.0.

Issue	Description
EUCA-508	Create /var/lib/eucalyptus/* at make install time
EUCA-1196	Remove NC_SERVICE from default eucalyptus.conf
EUCA-2414	Move iscsidev.sh out of /etc
EUCA-7862	Stack trace logged when accessing role policy that does not exist

Issue	Description
<u>EUCA-9482</u>	Invert cloudwatch.disable_cloudwatch_service
<u>EUCA-9955</u>	Clean out unused/barely-used bundled jars
<u>EUCA-10359</u>	Cloudformation: AWS::EC2::SubnetNetworkAclAssociation Property Error Not Returned When Stack Fails
<u>EUCA-10543</u>	getObject returns access denied
<u>EUCA-11341</u>	Eucanetd unable to load more than 256 security groups
<u>EUCA-11376</u>	SCALE TESTING: when ipset limit is reached, eucanetd cannot remove ipsets even if they are no longer mapped to existing SGs
<u>EUCA-11422</u>	Use another means to configure admin tools with CLC service endpoints
<u>EUCA-11470</u>	Error logged on concurrent volume export
<u>EUCA-11780</u>	clcadm-in-assume-system-credentials should not assumes that cloud isn't running if no active key is found
<u>EUCA-11815</u>	clcadm-in-grant-admin-access doesn't work with non-native federated accounts
<u>EUCA-11830</u>	PROPERTY MGMT - CLOUD.NETWORK properties cleanup
<u>EUCA-11924</u>	Failed to marshall response
<u>EUCA-12174</u>	S3 erroneously denies anonymous PUT object with wide-open bucket ACL
<u>EUCA-12261</u>	AZ field no longer required on ASG for CF and Rolling updates should not kick off on just AZ change
<u>EUCA-12357</u>	Provide appropriate naming for all threads, including pooled threads
<u>EUCA-12391</u>	eucalyptus-cloud tries to create /etc/eucalyptus/faults on startup
<u>EUCA-12414</u>	DescribeNatGateways is missing tags for failed NAT gateway
<u>EUCA-12441</u>	CC might send volume attach request to wrong host
<u>EUCA-12502</u>	CloudFormation has scalability issue with multiple UFS
<u>EUCA-12543</u>	Origin of default VPC Internet gateway routes should be CreateRoute
<u>EUCA-12552</u>	VPCMIDO: limited connectivity with more than 500 instances/interfaces in a VPC subnet
<u>EUCA-12554</u>	Follow up for "SSLV3_ALERT_HANDSHAKE_FAILURE"
<u>EUCA-12589</u>	NC, CC needs to report when sysctl settings are not correct
<u>EUCA-12593</u>	Failure to unset policies from loadbalancer listeners
<u>EUCA-12607</u>	Ansible v2.1 ec2_ami module image creation fails due to no image attribute "CreationDate"
<u>EUCA-12613</u>	VPCMIDO: Multiple Gateways: support multiple router peers
<u>EUCA-12622</u>	Better error logging for incorrect metadata URL
<u>EUCA-12635</u>	esi tools should allow minimum parameters also be provided as CLI args
<u>EUCA-12644</u>	Remove 01_pg_kernel_params script
<u>EUCA-12645</u>	Move udev rules to /usr/lib/udev/rules.d
<u>EUCA-12646</u>	Move iscsidev.sh to \$libexedir/eucalyptus
<u>EUCA-12647</u>	Remove conntrack_kernel_params script

Issue	Description
<u>EUCA-12682</u>	Deprecate automatic swap partition formatting
<u>EUCA-12689</u>	SWF's long polling causes unpredictably long delay
<u>EUCA-12691</u>	AsyncRequest's LOCAL_THREADS should be configurable
<u>EUCA-12696</u>	Request parameters do not bind properly if part of a field name is repeated
<u>EUCA-12698</u>	Overlay export volume workflow needs to be fixed
<u>EUCA-12699</u>	Dependencies : spock unit testing library should not be packaged
<u>EUCA-12700</u>	Dependencies : ant library should not be packaged
<u>EUCA-12713</u>	ELB's access log role policy is too permissive
<u>EUCA-12721</u>	EIP routes are lost if toggled between VMs
<u>EUCA-12740</u>	ChannelBufferStreamingInputStream has issues
<u>EUCA-12741</u>	Object storage hostname parsing error logged
<u>EUCA-12745</u>	ant junit target fails with default settings
<u>EUCA-12747</u>	STS assume role should validate role session name
<u>EUCA-12751</u>	Fix potential memory leak with netty ChannelLocal instances.
<u>EUCA-12753</u>	Creating cloudformation stack from template in S3 using role credentials fails
<u>EUCA-12765</u>	IAM upload of policy with single statement fails
<u>EUCA-12781</u>	Unable to remove cloudformation stack due to null pointer exception
<u>EUCA-12790</u>	CFN: 'associatePublicIPAddress' error not returned when Instance resource contains multiple network interfaces
<u>EUCA-12795</u>	Cloudformation IAM does not support wildcards
<u>EUCA-12802</u>	IAM aws:user:policy variable for assumed role should include session name
<u>EUCA-12809</u>	Remove webui-iconic-icons.LICENSE
<u>EUCA-12812</u>	UpdateStack: No Error for AWS::EC2::VolumeAttachment
<u>EUCA-12820</u>	Time out of an ncRunInstance() invocation may result in duplicate instances
<u>EUCA-12827</u>	Remove references to engage.eucalyptus.com from fault files
<u>EUCA-12828</u>	ELB should support 2016-08 predefined SSL security policy
<u>EUCA-12829</u>	IAM should reject policies with invalid json syntax
<u>EUCA-12833</u>	DNS service should not depend on EC2 service implementation
<u>EUCA-12845</u>	No error returned when deleting a Nat Gateway which does not exist
<u>EUCA-12846</u>	ASG fails to distribute instances across AZ in some cases
<u>EUCA-12850</u>	ENIs attached to NATGWs are missing EIP association info, etc
<u>EUCA-12855</u>	PartialMetricsTest reports false failures
<u>EUCA-12856</u>	low level eucalyptus-node logs are showing up in the system journal
<u>EUCA-12857</u>	Clean up rbd snapshots on EBS snapshot deletion
<u>EUCA-12858</u>	OSG binding warning should be fixed

Issue	Description
<u>EUCA-12859</u>	CLC test classpath includes module jars
<u>EUCA-12862</u>	Resource policies should support "*" for principal
<u>EUCA-12865</u>	The metrics returned in the ELB logs do not match the intention of AWS
<u>EUCA-12867</u>	Setting bucket tags returns 200, should be 204
<u>EUCA-12883</u>	Die, Perl, Die - Part I - authorize-migration-keys.pl
<u>EUCA-12894</u>	CloudFormation should reject trailing content in template json
<u>EUCA-12905</u>	CloudFormation simpleworkflow poll rate limiting is incorrect
<u>EUCA-12909</u>	Update all use of jackson json parser from 1.x to 2.x
<u>EUCA-12913</u>	add option for bypassing NC cache for ephemeral disks
<u>EUCA-12914</u>	Specify dhcpd file paths using dhcpd.conf
<u>EUCA-12919</u>	CloudFormation should not log stack trace when required services not available
<u>EUCA-12921</u>	EC2 instance becomes system owned after owning iam user deleted
<u>EUCA-12930</u>	Core oversubscription warning should be a notice, not a warning
<u>EUCA-12933</u>	euca-run-workflow shouldn't call 'ls -l' to check for a file
<u>EUCA-12936</u>	DNS response missing CNAME entries if the TTL has expired.
<u>EUCA-12946</u>	EC2 add support for 2016-04-01 2016-09-15 API versions
<u>EUCA-12948</u>	CC and NC will fail to start when 'faults' directory cannot be scanned
<u>EUCA-12952</u>	Useless IAM DEBUG messages displayed on federated setups
<u>EUCA-12962</u>	Trying to delete entries from a nonexistent routing table results in 500s
<u>EUCA-12987</u>	ELB should support 2015-03 predefined SSL security policy
<u>EUCA-12991</u>	SC throws error with misleading file name: "connect_iscitarget_sc.pl not found"
<u>EUCA-13003</u>	ELB responses omit trailing zeros in timestamps
<u>EUCA-13005</u>	Setting objectstorage.s3provider.s3usebackenddns property fails
<u>EUCA-13014</u>	Suppress no such file or directory message for non-custom faults configurations
<u>EUCA-13022</u>	Error logged for fault file not found : /etc/eucalyptus/faults/en_US/common.xml
<u>EUCA-13029</u>	Attaching EBS volume in DAS or Overlay mode sometimes fails, works on retry
<u>EUCA-13031</u>	NC logs "trimming off invalid prefix '/dev/' from guestDeviceName '/dev/sda' at WARN loglevel
<u>EUCA-13035</u>	Auto scaling incorrect response and error logged for missing required parameters
<u>EUCA-13067</u>	Date header in HTTP responses uses the wrong time zone
<u>EUCA-13072</u>	S3 out of memory on multipart upload of large object using signature v4
<u>EUCA-13081</u>	ZONE.storage.maxsnaptransferretries not used
<u>EUCA-13097</u>	euctl tries to set nameless variables
<u>EUCA-13102</u>	SELinux blocks eucalyptus-cloud access to LDAP
<u>EUCA-13107</u>	eucanetd checks for dhcpd even when it doesn't use it

Issue	Description
EUCA-13121	Snapshotting of a >10MB volume triggers errors
EUCA-13126	qemu-kvm: CPU feature arat not found
EUCA-13138	SELinux prevents virtlogd from writing console.log
EUCA-13139	eucalyptus-cloud-upgrade.service tries to run euca-upgrade when it isn't there
EUCA-13148	CloudFormation fails to delete stack resource : Not exactly one stack returned for stack null
EUCA-13156	CloudFormation ListStacks : Failed to build a valid message: Missing required object
EUCA-13163	Unable to run instances of types with more than 1 CPU
EUCA-13244	Ceph activity too verbose in INFO mode
GUI-2682	When a public image is made private, other users can still list it and try launching instance with it resulting in Internal Error
GUI-2743	Move default console.crt and console.key locations
GUI-2745	Disable EC2 image caching in the console by default for Eucalyptus clouds
GUI-2767	Fix target="_blank" vulnerability
GUI-2773	Action menu hover shows box outline
GUI-2788	Policy editor doesn't support CF actions
GUI-2839	Hard coded regions preventing access to US GovCloud and US Ohio regions
GUI-2844	Move non-configurable and developer-only config settings out of console.ini
GUI-2845	Console should co-exist with python-nss
GUI-2847	Add support for ca-central-1 (Montreal) and eu-west-2 (London) regions
GUI-2875	Policy Editor jumps to top row after each selection

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.4.0.

There are no security bulletins for the 4.4.0 release.

See the [Support Center](#) for further details.

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.4.0 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

New known issues for this release:

Issue	Description
esi - * tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked bug for procedure.

Issue	Description
ImportInstance failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked bug for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Failed migration due to space limitations leave instance's artifacts on destination host (EUCA-12468)	See linked bug for more information.
JVM crash after creating numerous Ceph volumes (EUCA-12953)	See linked bug for more information.
S3 signature v4 error creating bucket using aws cli (EUCA-13098)	When creating a bucket using the aws cli signature, v4 request signing will be used by default. Due to a bug in the AWS cli, the request is invalid. Workaround: To explicitly configure use of signature v4: <pre># aws configure set s3.signature_version s3v4</pre> See the aws cli issue
Ceph null context assertion crashes eucalyptus-cloud (EUCA-13199)	See linked bug for more information.
eucanetd fails to provision network artifacts for new VMs when < 100% of gateways are available (EUCA-13217)	See linked bug for more information.
CloudFormation: Stack fails when using NetworkInterfaceId property in AWS::EC2::EIPAssociation resource (EUCA-13230)	Workaround: Add an explicit dependency to order the resource creation. See linked bug for more information.
Multi-AZ ELB returns 503 when one out of three backend instances are in 'InService' state (EUCA-13233)	When the ELB has one out of three back-end instances registered with an InService state, any query against the ELB returns a 503. Eventually, a 200 code is returned. See linked bug for more information.
S3 signature v4 form post is unsupported (EUCA-13238)	See linked bug for more information.
CloudFormation nested stacks: Outputs from stack resources cannot be used as parameter values for other stacks (EUCA-13258)	Outputs used from one CloudFormation stack cannot be passed as parameter values using Fn::GetAtt. See linked bug for more information.
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.

Issue	Description
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked bug for more information.
Memcache is not cleared when user adds a new image or makes image public. (GUI-2669)	When a user adds an image or changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Authorize ports for ELB created in VPC. (GUI-2673)	See linked bug for more information.

Deprecated Features

This topic lists features that are deprecated or removed by Eucalyptus 4.4.0.

What Does "Deprecated" Mean?

Deprecated features continue to work and are supported until the feature is removed in a future major release. Documentation and security fixes are provided, but training is not. Customers should begin to plan now for the future removal of the feature and its support.

What Does "Removed" Mean?

Removed features are no longer available nor supported.

Deprecated and Removed Features

The following features / components were deprecated or removed by the Eucalyptus 4.4.0 release.

Feature	Status	Description
Reporting and data warehousing	Deprecated	Reporting and data warehousing were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Storage SANs	Deprecated	Storage SANs were deprecated in Eucalyptus 4.4.0 and will be removed in a future release.
Managed network modes	Removed	Managed and Managed (No VLAN) networking modes were deprecated in Eucalyptus 4.3.0 and removed from the product in Eucalyptus 4.4.0.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.4.0.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- [EBS snapshot delta support](#)

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- [Ceph RGW object storage](#)
- [OpenID Connect \(OIDC\) support](#)

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.4 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	7.3	x86_64	Eucalyptus 4.3 was the last release series where RHEL / CentOS 6 was a supported OS. The Eucalyptus 4.3 series provided the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7.

OS and Hypervisors	Version	Architecture	Notes
RHEL+KVM	7.3	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
EDGE	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. <u>Midokura Enterprise MidoNet (MEM)</u> is a commercial version with 24/7 support - 30 day evaluation available.	MEM v5 series	Eucalyptus tested and validated using MEM 5.2.1. Also tested with: - Cassandra22 (dsc22) ver. 2.2.8 - ZooKeeper ver. 3.4.8 We will support the use of <u>MidoNet Community Edition (MCE)</u> with Eucalyptus on a "community best effort support" level.

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise	>= 0.94.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features.
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional. Storage SANs are deprecated as of Eucalyptus 4.4; to be removed in a future release.

Storage Array	Type/Series	Version	Notes
Ceph RBD	CentOS/RHEL machine with disk, compute, and network resources	>= 0.94.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph. The OS for the Ceph deployment host machine must be CentOS/RHEL 7.2.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.4.

Eucalyptus Management Console

Management Console 4.4 operates with the above compatibilities. See [Browser Support](#) for a list of supported browsers in this release.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.4 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus CloudFormation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.

- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster. Configurable via <code>MAX_INSTANCES_PER_CC</code> in <code>eucalyptus.conf</code> . Note: Once a cloud is in use and has started operating based on this variable, it is not safe to change it at runtime. If the value needs to be changed, stop the CC process, remove the files in <code>/var/lib/eucalyptus/CC/*</code> , change the variable in the config file, and start the CC process again.	2048	4096
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None
Name restrictions on the values that can be used with IAM.	Same as AWS. The AWS restrictions on names are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.3.1

This section contains release notes for Eucalyptus version 4.3.1 and 4.3.1.1.

What's New?

This topic lists new features in Eucalyptus 4.3.1.

Eucalyptus 4.3.1 is a maintenance release and contains no new features.

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.3.1 and 4.3.1.1.

Issue	Description
EUCA-10666	Make builds work with dependency jars in another directory
EUCA-10979	ELB access log entries missing user_agent
EUCA-11809	S3 IAM permissions check incorrect for some *Version* actions
EUCA-11810	S3 location constraint ignored when creating bucket
EUCA-11823	Unable to getObject error HeadObject operation: Forbidden
EUCA-11854	create a property to be able to toggle thin provisioning on/off (Equallogic)
EUCA-11926	package cloud libs as RPM
EUCA-11928	eucanetd - refactor internal data structures to improve ENI handling
EUCA-11950	ENI: warm/hot attach
EUCA-12105	eucanetd out of memory
EUCA-12151	CloudFormation does not return ResourceTypes in the GetTemplateSummaryResponse
EUCA-12255	Terminating instance causes BundleInstance to hang
EUCA-12283	OSG fails multi-part upload to Walrus when client uploads concurrently
EUCA-12308	EC2 metrics processing error logged
EUCA-12432	Do not write ceph secrets to disk when adding them with virsh
EUCA-12436	EC2 include non-enabled clusters in network information
EUCA-12447	Bundled httpclient 4.2.3 is vulnerable to TLS name validation bypass
EUCA-12464	CLC should not block future migrations when migration fails immediately
EUCA-12481	IAM spurious errors logged for federated regions
EUCA-12510	EC2 VPC route state is invalid for Internet gateway
EUCA-12540	CC runs in wrong configuration mode
EUCA-12542	VPCs can have multiple Internet gateways
EUCA-12548	DNS responses for OSG buckets not consistent under load

Issue	Description
<u>EUCA-12556</u>	Modifying EQL specific property <CLUSTER>.storage.eqlthinminreserve throws java.lang.ClassCastException
<u>EUCA-12581</u>	Stacks Deleted In Non-System Accounts by Cloud Admin Leave Behind Resources
<u>EUCA-12594</u>	Destination node does not clean all artifacts after instance is migrated out
<u>EUCA-12596</u>	DNS responses for objectstorage buckets should use ips appropriate for the request
<u>EUCA-12614</u>	VPCMIDO: MidoNet version is not checked
<u>EUCA-12619</u>	nodeadmin-pack-instance fails with error with invalid libvirt connection using --all
<u>EUCA-12642</u>	EBS volume detached from EBS-backed instance says attached
<u>EUCA-12648</u>	Move selinux policies to /usr/share/selinux/packages
<u>EUCA-12675</u>	Bump Eucalyptus version to 4.3.1
<u>EUCA-12688</u>	VPC - User can create VPCs outside the CIDR ranges /16 to /28
<u>EUCA-12690</u>	nc.log flooded with hairpin errors in el6
<u>EUCA-12707</u>	VPCMIDO: route table entry with destination CIDR over 15 characters is truncated
<u>EUCA-12738</u>	VPC- Security Group Config can cause ENIs to remain in detaching state
<u>EUCA-12763</u>	Update .gitignore to exclude a generated __init__.py
<u>EUCA-12780</u>	Delay in network information processing when running instance
<u>EUCA-12789</u>	Cloudformation IAM does not work with specific resources
<u>EUCA-12794</u>	eucanetd: VPCMIDO: add euca version signature in MN
<u>EUCA-12796</u>	eucanetd: EDGE: add euca version signature in network artifacts
<u>EUCA-12797</u>	eucanetd: VPCMIDO: cleanup eucanetd 4.2 MN constructs on eucanetd 4.3 startup
<u>EUCA-12799</u>	Bootimg errors associated with EBS-backed EMI launched with ephemeral BDM
<u>EUCA-12800</u>	CLC returns bad DNS response to instance only when TTL has expired
<u>EUCA-12813</u>	euca_exec_wait() results in defunct processes if the process takes longer than timeout_sec
<u>EUCA-12818</u>	EBS Failures - Volumes fail to attach
<u>EUCA-12819</u>	rpmbuild complains about bogus date in %changelog
<u>EUCA-12835</u>	Race condition in ELB VM causes ELB not functional
<u>EUCA-12865</u>	The metrics returned in the ELB logs do not match the intention of AWS
<u>EUCA-12874</u>	volume attachment failure with ceph-rbd, virsh fails to open file /dev/stdin
<u>EUCA-12881</u>	authorize-migration-keys.pl can cause the node controller to fail to start.
<u>EUCA-12885</u>	Packaging for bundled httpclient 4.2.3 is vulnerable to TLS name validation bypass
<u>EUCA-12929</u>	SELinux + CC and NC colocated = failure to start CC
<u>EUCA-12931</u>	NC continually reruns init when CC libs are installed, spamming logs
<u>EUCA-12932</u>	euca-disassociate-address incorrectly returns InvalidIPAddress.InUse error
<u>EUCA-12943</u>	Instances fail to launch - Permission denied libvirt error on NCs
<u>EUCA-12949</u>	SELinux policy for CC does not allow scanning of faults directory

Issue	Description
EUCA-12950	euca-run-workflow _check_pv() method fails, even when /usr/bin/pv exists.
EUCA-12983	On NC use modules-load.d to load br_netfilter on RHEL/CentOS 7.3
EUCA-12996	Describe Sensor Callback with null Resource UUID for one instance causes CLC to skip data for others
EUCA-13034	Global subnets section in GNI is not properly handled [4.3.1.1]
GUI-2650	Scaling group wizard allows "membership" tab to be clicked when next not enabled
GUI-2660	Refresh icon doesn't refresh CloudWatch charts on scaling group monitoring page
GUI-2691	No drop-down with zone options when running cloudformation template on multi-zone cloud
GUI-2693	ELB in VPC requires security group selection
GUI-2711	ELB tags running out of detail page
GUI-2719	Empty error message when trying to change security policy for ELB
GUI-2720	ELB is always assigned the latest security policy, even when an older one is specified
GUI-2744	Package license tag should include CC-BY-SA
GUI-2746	The "bundling" tag is not removed from the instance if the bucket is deleted before bundle is completed.
GUI-2749	about yr cloud not showing correct version, shows devel

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.3.1 and 4.3.1.1.

Security Bulletin ID	CVSS v3 Base Score	Affected Products
HPSBGN03687	4.8	Eucalyptus - all versions prior to 4.3.1
HPSBGN03687	4.3	Eucalyptus - all versions prior to 4.3.1
HPESBGN03696 [4.3.1.1]	8.7	Eucalyptus - versions 3.3.0 through 4.3.1

See the [Support Center](#) for further details.

Note: Eucalyptus security bulletins are published approximately 2 business weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.3.1 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

New known issues for this release:

Issue	Description
No other means to configure CLC service endpoints supported (EUCA-11422)	See linked bug for more information.
esi - * tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked bug for procedure.
ImportInstance failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked bug for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Possible modification or rebuilding Windows images needed to run properly. (EUCA-12493)	Windows 2003 no longer supported and images will require modification. Workaround: Manually recreate VMs.
nodeadmin-unpack-instance fails in MANAGED mode. (EUCA-12501)	See linked bug for more information.
euserv-migrate-instances (formerly euca-migrate-instance) fails in MANAGED mode. (EUCA-12509)	See linked bug for more information.
VPCMIDO: limited connectivity with more than 500 instances/interfaces in a VPC subnet. (EUCA-12552)	Known issue with MidoNet 1.9, which has difficulty handling bridges with high number of ports (> 500). Workaround: Midokura recommendation is to limit bridges (each VPC subnet is mapped to a MidoNet bridge in Eucalyptus) to have less than 500 ports (each ENI takes 1 port).
Failure to unset policies from load balancer listeners. (EUCA-12593)	Clearing a policy before unsetting them causes this failure. Workaround: When changing policies, set the policies to the new value directly rather than clearing them first. See linked bug for specific commands to use.
nodeadmin-pack-instance fails to pack instance after live migration because of missing files (EUCA-12641)	See linked bug for more information.
Bucket object URLs not displayed properly in IE11 (GUI-2215)	Workaround: Use another Internet browser if necessary.
Metrics landing page display issues (GUI-2503)	In FireFox, if the browser is displayed widely, the Actions menu displays too far right and becomes partially cut off. Workaround: Narrow the width of the browser or use another Internet browser.

Issue	Description
ELB Instances page doesn't always automatically select instances in the ELB. (GUI-2567)	Issue appears intermittent. See linked bug for more information.
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Authorize ports for ELB created in VPC.(GUI-2673)	See linked bug for more information.
When a public image is made private, other users can still list it and try launching instance with it resulting in an error. (GUI-2682)	When a user changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Internal server error on fresh install of eucaconsole. (GUI-2700)	It has been determined that python-nss cannot be installed on the same system with eucaconsole. Workaround: See Knowledge Base article 210311806 .

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.3.1.

Feature Release Types

There are 3 feature release types, of which 2 have special status:

- Technology Preview - see below for the definition, policies, and current features in this special status.
- Controlled Availability - see below for the definition, policies, and current features in this special status.
- General Availability - fully supported features.

Feature Release Type Summary Comparison

Attribute	Technology Preview	Controlled Availability	General Availability
Feature complete	~	~	Yes
Supported	~	~ *	Yes
Feedback welcome	Yes	Yes	Yes
Upgradeable	~	~ *	Yes
Production ready	No	~ *	Yes
Future guaranteed	~	~ *	Yes
What's it like?	Nightly / Alpha	Beta	Production
Performance standards	~	No *	Yes
May be deprecated	Yes	Yes	Yes; defined process

Table legend

* Per agreement – special cases and conditions to define support, upgrade / future path, production-ready status, level of performance to expect.

~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- There are no features in technology preview in this release.

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- Ceph RGW object storage

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.3 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	6.7	x86_64	For new installations, Eucalyptus 4.3 requires RHEL / CentOS 7 as the underlying OS. If you are upgrading your existing cloud to Eucalyptus 4.3: • Eucalyptus 4.3 is the <i>last release series</i> where RHEL / CentOS 6 is a supported OS. • The Eucalyptus 4.3 series provides the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7. • If you expect to upgrade to future releases of Eucalyptus, beyond the 4.3 series, then RHEL / CentOS 7 will be required.
CentOS+KVM	7.3	x86_64	See above note.
RHEL+KVM	6.7	x86_64	See above note.
RHEL+KVM	7.3	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Deprecated	n/a
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.	N/A	Managed and Managed (No VLAN) networking modes are deprecated as of Eucalyptus 4.3.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.	N/A	Managed and Managed (No VLAN) networking modes are deprecated as of Eucalyptus 4.3.
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. Midokura Enterprise MidoNet (MEM) is a commercial version with 24/7 support - 30 day evaluation available.	1.9	Eucalyptus tested and validated using MEM v1.9 series. (Other versions are not supported.) Incompatible with MEM v5 series. Cassandra22 (dsc22) ver. 2.2.7-1 ZooKeeper ver. 3.4.5-1

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise	>= 0.94.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features .
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional.
Ceph RBD	CentOS/RHEL machine with disk, compute, and network resources	>= 0.94.6	We qualify Ceph using the latest public Long Term Support (LTS) release from Ceph. The OS for the Ceph deployment host machine must be CentOS/RHEL 7.2.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.

Storage Array	Type/Series	Version	Notes
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.4](#) with Eucalyptus version 4.3.

Eucalyptus Management Console

Management Console 4.3 operates with the above compatibilities. See [Browser Support](#) for a list of supported browsers in this release.

Eucalyptus Limitations and Restrictions

This topic provides defaults used for known limitations and restrictions associated with Eucalyptus 4.3 features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus CloudFormation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus CloudFormation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. See [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster. Configurable via <code>MAX_INSTANCES_PER_CC</code> in <code>eucalyptus.conf</code> . Note: Once a cloud is in use and has started operating based on this variable, it is not safe to change it at runtime. If the value needs to be changed, stop the CC process, remove the files in <code>/var/lib/eucalyptus/CC/*</code> , change the variable in the config file, and start the CC process again.	2048	4096
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None
Name restrictions on the values that can be used with IAM.	Same as AWS. The <u>AWS restrictions on names</u> are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.3.0

This section contains release notes for Eucalyptus version 4.3.0 and 4.3.0.1.

What's New?

This topic lists new features in Eucalyptus 4.3.0.

New Features

Feature	Description
Red Hat Enterprise Linux 7 (RHEL 7) support.	RHEL7 is the supported deployment OS. - Libraries repackaged for use with RHEL 7 that alleviate certain dependencies on obsoleted java libraries. - Eucalyptus can now run confined by SELinux on RHEL 7. For more information, see Upgrading Eucalyptus and the OS
Security improvements.	Notable security hardening measures have been implemented in 4.3.0: - Eucalyptus can now run in confined mode on UFS and other eucalyptus-cloud-based processes. - Usage of Jetty is removed along with the Jetty libraries and associated credential download functionality. - Eucalyptus can now run confined by SELinux on RHEL 7
Removed reverse DNS dependency of eucanetd in VPCMIDO mode.	Allows administrators to register NCs to a back-end network instead of a routable front-end network. This only affects VPCMIDO mode.
EC2 API Compatibility: Instance termination protection.	Instance termination protection is now supported; allowing you to prevent accidental termination of your EC2 instances via Euca2ools, or API.
Switch multicast from globally scoped to locally scoped address range.	The multicast addresses that the CLC uses for jgroups membership changed from a globally-scoped multicast address range, to a configurable option and the default be addresses that are in the administratively-scoped range.
Support for IAM policy variables.	The use of policy variables simplifies the writing of policies when exact names of resources are unknown.
Virtual Private Cloud (VPC) improvements.	Notable improvements in VPC include: - Internal ELB in VPC - NAT Gateway - Custom route table - Multiple ENIs
CloudFormation improvements.	Update stack supported both in euca2ools and the Management Console.
CloudWatch in the Management Console.	The Management Console has improved alarms, metrics, and monitoring management.

Feature	Description
View scaling history added to Management Console.	Added the ability to view scaling activity (history) to scaling group details page.
Usability improvements.	Notable improvements in the Management Console include: • Left navigation bar • Multi-select check boxes on resource landing pages • Support for sortable tables on landing pages • Tabbed pages display single help relevant to tab contents

Resolved Issues

This topic lists previous issues resolved by Eucalyptus 4.3.0 and 4.3.0.1.

Issue	Description
<u>EUCA-2171</u>	Unified Logging request... was:jetty-request-2012_05_21.log found in /var/log/eucalyptus What is it for?
<u>EUCA-2220</u>	Some Euare NotAuthorized error messages are incorrect
<u>EUCA-4526</u>	Upgrade hardcodes eucalyptus (database) user
<u>EUCA-6126</u>	Jetty service appears in the list of public services
<u>EUCA-7340</u>	S3 IAM ARN wildcard causes ACL issues for bucket objects
<u>EUCA-7971</u>	After Syncing Large Number of LDAP Users, Timeout Occurs When Attempting to Delete Account
<u>EUCA-8805</u>	500 error that probably should be flagged as server error (5xx)
<u>EUCA-8971</u>	Role names should not be allowed to be longer than 64 characters
<u>EUCA-9047</u>	euca-describe-services with invalid service name hangs
<u>EUCA-10356</u>	physical core/memory overriding logic produces an incorrect warning
<u>EUCA-10503</u>	Remove Jetty / credential download
<u>EUCA-10522</u>	SignalResource support in cloudformation
<u>EUCA-10551</u>	eucanetd -f can spin forever in certain states
<u>EUCA-10754</u>	Running instance in non-existing SG throws InternalFailure
<u>EUCA-10821</u>	CreateRoute requires a mandatory internet gateway ID
<u>EUCA-10890</u>	Trying to delete a nonexistent access key results in 500s
<u>EUCA-11044</u>	Raise a clear error why actions cannot be performed due to migration in progress.
<u>EUCA-11223</u>	Wildcard value for 'account' resources in ARNs Are Not Supported
<u>EUCA-11260</u>	Use of region configuration file with only 'Regions' or misspelled 'Region' element returns vague error
<u>EUCA-11265</u>	Malformed 'CertificateFingerprintDigest' should return more descriptive error
<u>EUCA-11306</u>	EC2 response incorrect when Version parameter not present in request
<u>EUCA-11381</u>	VPC instances require access to user-api machines for DNS service

Issue	Description
<u>EUCA-11412</u>	VPC - Max subnet cidr netmask should be limited to 16-28 bits.
<u>EUCA-11423</u>	Cloudformation: AWS::EC2::Image::Id not allowed as parameter type
<u>EUCA-11506</u>	MANAGED* Network Modes: NC Gate of instance run on network readiness
<u>EUCA-11523</u>	enhance error message: "Migrating instance i-ce0e95fd failed because of: ERROR"
<u>EUCA-11524</u>	ELB access logs collection fails when logs prefix contains an uppercase letter
<u>EUCA-11535</u>	clcadm-initalize-cloud should print positive message on success
<u>EUCA-11668</u>	selinux check in eucalyptus-nc startup script is too strict
<u>EUCA-11727</u>	Instance manifest was changed after registration
<u>EUCA-11741</u>	DeleteKey Returns Odd Message When Deleting from Non-Native Region
<u>EUCA-11793</u>	Create default VPC if it does not exist before imaging stack creation
<u>EUCA-11804</u>	"snapshot creating" Logged messages need more context.
<u>EUCA-11821</u>	Authentication for users fails when password contains a semicolon
<u>EUCA-11837</u>	PROPERTY MGMT - www properties cleanup
<u>EUCA-11934</u>	eucanetd VPCMIDO - security group rules with ICMP type:code not implemented correctly
<u>EUCA-11960</u>	euca-authorize -t 1:65535 should not be permitted
<u>EUCA-12033</u>	NC fails to adopt instance in case of connect iscsi failure
<u>EUCA-12061</u>	VPC - eucanetd can use incorrect host-port when configuring router with multiple gateways
<u>EUCA-12110</u>	Admin tools that previously emitted deprecation warnings, including euca_conf and those beginning with "euca," have been removed
<u>EUCA-12113</u>	euca-authorize for ICMP/TCP/UDP protocol should throw exception about missing portRange
<u>EUCA-12135</u>	Metadata returns 404 for http://169.254.169.254/ on VPC
<u>EUCA-12143</u>	Cannot detach volume from migrated instance
<u>EUCA-12177</u>	Setting account address quota causes extra addresses to be allocated.
<u>EUCA-12205</u>	Availability Zones have a hard coded maximum of 2048 instances.
<u>EUCA-12206</u>	Updating ELB properties (keyname, emi, ..) does not update the autoscaling groups for existing ELBs
<u>EUCA-12221</u>	The deprecation warnings from commands beginning with "eureport" have been removed.
<u>EUCA-12247</u>	BundleInstance Fails From Remote Client on Federated HTTPS-enabled Setup
<u>EUCA-12269</u>	sensor memory allocation is incorrect in /util/sensor.c
<u>EUCA-12352</u>	elb dns name does not resolve
<u>EUCA-12396</u>	AWS Signature Version 4 url getting "Invalid credential (missing part)" error when using "query strings"
<u>EUCA-12416</u>	EC2 unknown instance not terminated
<u>EUCA-12419</u>	A server error occurred when calling the CopyObject operation
<u>EUCA-12483</u>	IAM region federation cannot administer accounts between regions

Issue	Description
<u>EUCA-12608</u>	Instance cannot ping its own public IP address
<u>EUCA-12681</u>	EDGE process descriptor leak [4.3.0.1]
<u>EUCA-12694</u>	error unpacking uncompressed instances [4.3.0.1]
<u>GUI-1521</u>	add ability to view scaling activity (history) to scaling group details page
<u>GUI-1680</u>	Change of password for admin@eucalyptus results in internal server error when new password is less than 6 characters long
<u>GUI-1692</u>	Bucket icons on buckets landing page are misplaced on IE
<u>GUI-1782</u>	Start memcached to listen only on unix domain socket, not network
<u>GUI-2158</u>	ELB security policy dialog doesn't reflect current policy
<u>GUI-2170</u>	Include some page information in title for better browser history.
<u>GUI-2176</u>	No error if Instance Name tag is used when Name field is blank
<u>GUI-2210</u>	Check boxes on Create New User should be checked by default
<u>GUI-2220</u>	Security groups not aligned when creating launch configuration from instance
<u>GUI-2225</u>	JS Error in Launch Instance Wizard
<u>GUI-2226</u>	"Select or type to enter account/user" on Bucket Details page does not inform user that ID is required for sharing with single account
<u>GUI-2249</u>	ELB Wizard 'Next' button always appears enabled.
<u>GUI-2256</u>	"!" in Error icon out of bounds in Windows/IE
<u>GUI-2274</u>	CF invalid link after AWS template import
<u>GUI-2276</u>	Console attempts to create ELB twice using IE11
<u>GUI-2329</u>	Check mark and exclamation point are off centered on alert messages using IE11
<u>GUI-2348</u>	In GUI, wrong message displayed for windows instance under connect to instance option.
<u>GUI-2362</u>	Console throws 500 error when stopping an EBS-backed instance
<u>GUI-2384</u>	Cannot find instance_id from the Elastic IP Detail page dialog box when instance is named
<u>GUI-2400</u>	Duplicate 'Instance type' items shown on instance detail page when using EBS images
<u>GUI-2402</u>	Stack description out of bounds in tile view on Stacks landing page
<u>GUI-2449</u>	Missing field in Capacity area of Scaling Group Wizard General Tab
<u>GUI-2687</u>	In "create stack" wizard cloud formation template does not activate the "next" button
<u>GUI-2697</u>	Create Snapshot page shows detail page help as well as create help.

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.3.0.

There are no security bulletins for the 4.3.0 release.

See the [Support Center](#) for further details.

Note: Eucalyptus security bulletins are usually published 2 weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.3.0 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

New known issues for this release:

Issue	Description
No other means to configure CLC service endpoints supported (EUCA-11422)	See linked bug for more information.
<code>esi - *</code> tools have issues with HTTPS endpoints (EUCA-11682)	Workaround: Use non-HTTPS endpoints, for example, use localhost region. See linked bug for procedure.
<code>ImportInstance</code> failed to create booting instance on HTTPS-enabled Eucalyptus Cloud (EUCA-12253)	See linked bug for more information.
Unable to replace copied object (EUCA-12439)	Copied objects are added as a duplicate object. Workaround: Manually delete the unwanted duplicate entry.
Possible modification or rebuilding Windows images needed to run properly. (EUCA-12493)	Windows 2003 no longer supported and images will require modification. Workaround: Manually recreate VMs.
<code>nodeadmin-unpack-instance</code> fails in MANAGED mode. (EUCA-12501)	See linked bug for more information.
<code>euser-v-migrate-instances</code> (formerly <code>euca-migrate-instance</code>) fails in MANAGED mode. (EUCA-12509)	See linked bug for more information.
EC2 VPC route status is invalid for Internet gateway. (EUCA-12510)	Route's status for Internet gateway doesn't update when the gateway is detached from VPC.
VPCMIDO: limited connectivity with more than 500 instances/interfaces in a VPC subnet. (EUCA-12552)	Known issue with MidoNet 1.9, which has difficulty handling bridges with high number of ports (> 500). Workaround: Midokura recommendation is to limit bridges (each VPC subnet is mapped to a MidoNet bridge in Eucalyptus) to have less than 500 ports (each ENI takes 1 port).
Failure to unset policies from load balancer listeners. (EUCA-12593)	Clearing a policy before unsetting them causes this failure. Workaround: When changing policies, set the policies to the new value directly rather than clearing them first. See linked bug for specific commands to use.

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Authorize ports for ELB created in VPC.(GUI-2673)	See linked bug for more information.
When a public image is made private, other users can still list it and try launching instance with it resulting in an error. (GUI-2682)	When a user changes permissions on image, it does not take effect immediately. The refresh time is considerable. Workaround: To make images available sooner, restart the console by running <code>servicectl restart eucaconsole</code> .
Internal server error on fresh install of eucaconsole. (GUI-2700)	It has been determined that python-nss cannot be installed on the same system with eucaconsole. Workaround: See Knowledge Base article 210311806 .
Empty error message when trying to change security policy for ELB (GUI-2719)	Empty error message appears when changing a security policy for an ELB.
Unable to change security policy on a load balancer. (GUI-2720)	ELB is always assigned the latest security policy, even when an older one is specified Workaround: When changing policies, set the policies to the new value directly rather than clearing them first.

Special Status Release Features

This topic describes special status release features and their support scope. It also provides a list of features in special status release for Eucalyptus 4.3.0.

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~ Possible - but **not** guaranteed.

Upgrade Compatibility and Support Scope

During the development of a special status feature, additional components may become available to the public for testing. Because special status features are still under development, we cannot guarantee the stability of such features. As a result, if you are using special status features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Special status features are included in a release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some special status features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- are not fully supported under Eucalyptus subscription level agreements.
- may not be functionally complete.
- are not intended for production use.

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- There are no features in technology preview in this release.

Controlled Availability Definition

A controlled availability release is a conditional release of a product (or products) that does not meet a published standard, or for which we are unable to provide support under published policy.

Customers and users should be aware that controlled availability features:

- are used to limit the shipment of a product or a release to a set of customers who agree to specific use conditions, which include migrating to a General Availability (GA) release when it is ready.
- are generally used to deliver early releases of new products or new features of existing products to satisfy customer commitments.
- might not include all time-critical fixes, although some defect repair might be rolled in as necessary.
- can be ordered only with proper approval and for a specified length of time. (The approval process and order start/stop time frame are documented prior to the release in the controlled availability agreement.)

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in controlled availability. As we consider making future iterations of these features generally available, we will attempt to resolve any issues that customers experience when using these features.

Current Controlled Availability Features

The following features are in controlled availability for this Eucalyptus release:

- Ceph RGW object storage

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.3 software.

Compute compatibility

OS and Hypervisors	Version	Architecture	Notes
CentOS+KVM	6.7	x86_64	For new installations, Eucalyptus 4.3 requires RHEL / CentOS 7 as the underlying OS. If you are upgrading your existing cloud to Eucalyptus 4.3: - Eucalyptus 4.3 is the last release series where RHEL / CentOS 6 is a supported OS. - The Eucalyptus 4.3 series provides the opportunity, through instance migration tools, to migrate your existing Eucalyptus clouds to RHEL / CentOS 7. - If you expect to upgrade to future releases of Eucalyptus, beyond the 4.3 series, then RHEL / CentOS 7 will be required.
CentOS+KVM	7.2	x86_64	See above note.
RHEL+KVM	6.7	x86_64	See above note.
RHEL+KVM	7.2	x86_64	See above note.

Java

Component	Version	Notes
JVM	1.8.0	Java 8 supported as of the Eucalyptus 4.3 release.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Deprecated	n/a
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64

OS Type	Version/Edition	Architecture
All modern Linux distributions	RedHat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description	Version	Notes
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.	N/A	
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.	N/A	Managed and Managed (No VLAN) networking modes are deprecated as of Eucalyptus 4.3.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.	N/A	Managed and Managed (No VLAN) networking modes are deprecated as of Eucalyptus 4.3.
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura. Midokura Enterprise MidoNet (MEM) is a commercial version with 24/7 support - 30 day evaluation available.	1.9	Eucalyptus tested and validated using MEM v1.9 series. (Other versions are not supported.) Incompatible with MEM v5 series. Cassandra22 (dsc22) ver. 2.2.7-1 ZooKeeper ver. 3.4.5-1

Object Storage Compatibility

Storage Array	Type/Series	Version	Notes
Ceph RGW	Open source enterprise	>= 0.94.6	We qualify Ceph using the latest public LTS release from Ceph. Ceph RGW is a Controlled Availability feature. For information about Controlled Availability features in Eucalyptus, see Special Status Release Features .
RiakCS	Open source enterprise	RiakCS 2.1.1 Stanchion 2.1.1 Riak 2.1.3	The OS for the RiakCS host machine must be CentOS/RHEL 7.2.

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional.
Ceph RDB	CentOS/RHEL machine with disk, compute, and network resources	>= 0.94.6	We qualify Ceph using the latest public LTS release from Ceph. The OS for the Ceph deployment host machine must be CentOS/RHEL 7.2.
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.3](#) with Eucalyptus version 4.3.

Eucalyptus Management Console

Management Console 4.3 operates with the above compatibilities. See [Browser Support](#) for a list of supported browsers in this release.

Eucalyptus Limitations and Restrictions

This section provides defaults used for known limitations and restrictions associated with Eucalyptus features, services, and accounts as tested and supported by the Eucalyptus Quality Team. Some of these limitations may reflect the supported differences between AWS and Eucalyptus.

Functional Limitations

This section describes features and operations that are not supported by Eucalyptus, and therefore, considered a functional limitation or difference from that of AWS.

- Eucalyptus Cloudformation Update Stack does not support Notification Configurations for given resources since Eucalyptus has not implemented Simple Notification Service (SNS) or Simple Queue Service (SQS).
- Eucalyptus Cloudformation Update Stack supports the `UpdatePolicy` attribute on the `AWS::AutoScaling::AutoScalingGroup` type but only the `AutoScalingRollingUpdate` condition is supported since Eucalyptus Auto Scaling does not support Scheduled Actions.
- Full access to the Management Console requires a minimum IAM policy. See [Add Access Policy](#) for the recommended minimal IAM policy to apply when creating a group.
- Auto scaling limits are aligned with the AWS limits, except for SNS topics, as SNS is currently not supported in Eucalyptus. The [AWS Auto Scaling Limits](#) are also generally applicable to Eucalyptus.
- API support for object lifecycle in S3 is the same as for AWS S3 except for:
 - **Glacier support.** There is no "transition" operation type to transition objects to Glacier.
 - **Transitions between storage classes.** Eucalyptus allows multiple storage classes but they have no real meaning and do not differentiate either cost or durability of the data. Refer to [AWS Object Lifecycle Management](#) for more information.

Configurable Limitations

This section lists the limitations that are present for configuring certain resources, as tested by Eucalyptus, and may differ from those imposed by AWS.

Description	Default	Maximum
The number of instances that can be started in one cluster.	2048	4096

Description	Default	Maximum
The number of volumes that can be attached to a VM. Eucalyptus can attach up to 24-25 volumes per VM.	None	Unknown because EBS/HVM/PV instances would have different limits.
The number of access keys a user can have. Configurable in <code>property authentication.access_keys_limit</code> .	2	None
Name restrictions on the values that can be used with IAM.	Same as AWS. The <u>AWS restrictions on names</u> are also generally applicable to Eucalyptus.	n/a
Most default limits are defined via cloud properties.	varies	varies

4.2.2

This section contains release notes for Eucalyptus version 4.2.2.

What's New?

This topic lists new features in Eucalyptus 4.2.2.

New Features

Feature	Description
New object storage provider support	You can now use Ceph-RGW for object storage. For more information, see Configure Object Storage .

Resolved Issues

This section lists previous issues resolved by Eucalyptus 4.2.2.

Issue	Description
EUCA-7886	better error messaging for incorrect metadata URL
EUCA-11517	clusteradmin-copy-keys and clcadmin-copy-keys needs better help message
EUCA-11527	Java components - hung pids during 'stop' if clc is stopped first.
EUCA-11545	HTTPS endpoints for 'identity' cause federated IAM behavior to not work correctly
EUCA-11671	DNS Spoofing Returns Errors for AWS FQDN endpoints when using HTTPS
EUCA-11752	cfn-init fails with validation error saying stack does not exist
EUCA-11778	Migration fails for instance with floppy disk (ELB, imaging worker)
EUCA-11801	EC2 VPC network interface security groups incorrect for ENI created on launch
EUCA-11803	Instance Migration Fails when SELinux is enabled and is in Permissive mode.
EUCA-11813	DEBUG logging causes cloud instability
EUCA-11821	Authentication for users fails when password contains a semicolon
EUCA-11840	ELB not working if webservices port has been changed to something different from 8773
EUCA-11847	Euca ELB does not fire BackendInstanceChecker
EUCA-11850	DeleteStack errors out due to EIP deletion failure
EUCA-12012	Merge fix for EUCA-9765 into later branches
EUCA-12014	Allocated EIP addresses can be duplicated after upgrade to 4.2.x
EUCA-12027	update glibc on service image
EUCA-12038	esi-install-image doesn't support bootstrap URL
EUCA-12068	ELB access logging fails when DNS server is set to non UFS
EUCA-12086	loadbalancer servo leaks file descriptors

Issue	Description
<u>EUCA-12093</u>	Error creating group after assuming AccountAdministrator role
<u>EUCA-12098</u>	When deleting a listener in elb, all listeners with that policy will be deleted
<u>EUCA-12136</u>	Enable service dns name resolution on upgrade
<u>GUI-1821</u>	Unable to view roles from management console
<u>GUI-1839</u>	Precisely-pinned boto version causing new installs to fail to start
<u>GUI-1856</u>	Unable to view Instance or Role details after deleting role from CLI
<u>GUI-2154</u>	User data not pre-populating when creating instance or launch config from existing instance.
<u>GUI-2213</u>	302 response in case of errors
<u>GUI-2222</u>	Extraneous error message when stopping eucacore with Nginx disabled
<u>GUI-2223</u>	Unable to view some CloudFormation Stacks in Console
<u>GUI-2239</u>	working spinner bounces on CF stacks landing page cells when delete stack is in progress
<u>GUI-2246</u>	CloudFormation template is reformatted from original when displayed in GUI
<u>GUI-2250</u>	No warning message when modifying ELB without adding listener.
<u>GUI-2257</u>	Create new Alarm does not work for any AWS/Autoscaling options
<u>GUI-2334</u>	Instance Type for Instance in Console Disappears if Image is Deregistered
<u>GUI-2346</u>	console keep logging out on launch config section
<u>GUI-2428</u>	Cannot create new user from eucalyptus account
<u>GUI-2490</u>	Response to _getfile is cacheable
<u>GUI-2510</u>	add commas to the seven items in the CF unsupported list that aren't being flagged

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.2.2.

Security Bulletin ID	CVSS Base Score	Affected Products
<u>HPSBGN03547</u>	6.1	EMIs for Load Balancing and Imaging services package "eucalyptus-service-image-1.48-0.87.99" and earlier

See the [Support Center](#) for further details.

Note: Eucalyptus security bulletins are usually published 2 weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.2.2 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Cannot login to UI when console.ini setting 'session.cookie_expires' set at or below 28800 (GUI-1592)	Please see linked bug for more information.

Technology Preview

This topic describes technology preview and its support scope. It also provides a list of features currently in technology preview.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- **are not fully supported under Eucalyptus subscription level agreements.**
- **may not be functionally complete.**
- **are not intended for production use.**

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Upgrade Compatibility and Support Scope

During the development of a technology preview feature, additional components may become available to the public for testing. Because technology preview features are still under development, we cannot guarantee the stability of such features. As a result, if you are using technology preview features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Some preview features are included in this release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some technology preview features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- There are no features in technology preview in this release.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.2 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.7	x86_64

OS and Hypervisors	Version	Architecture
RHEL+KVM	6.7	x86_64

Java

Component	Version	Notes
JVM	7	For the CLOUD_OPTS setting in the /etc/eucalyptus/eucalyptus.conf file: either do not set --java-home, or --java-home must point to a version 7 JVM.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Deprecated	n/a
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura.

Object Storage Compatibility

Storage Array	Type/Series	Version
Ceph RGW	Open source enterprise	0.94.6
Riak CS	Open source enterprise	1.5.1

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional.
Ceph RDB	Any CentOS/RHEL machine with disk, compute and network resources	0.94.6	
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.3.1](#) with Eucalyptus version 4.2.

Eucalyptus Management Console

Management Console 4.2 operates with the above compatibilities. See [Browser Support](#) for a list of supported browsers in this release.

4.2.1

This section contains release notes for Eucalyptus version 4.2.1.

What's New?

This topic lists new features in Eucalyptus 4.2.1.

New Features

Eucalyptus 4.2.1 is a maintenance release and contains no new features.

Resolved Issues

This section lists previous issues resolved by Eucalyptus 4.2.1.

Issue	Description
<u>EUCA-4115</u>	Concurrent address allocations can fail (euca-allocate-address)
<u>EUCA-10892</u>	CloudFormation JSON response messages include internal properties
<u>EUCA-11262</u>	Failed finding service account for service: one-cc-1 error seen in log repeatedly
<u>EUCA-11398</u>	ELB fails to create instance per availability zone
<u>EUCA-11444</u>	Odd Error Returned from ModifyLoadBalancerAttributes
<u>EUCA-11487</u>	Warning logged when starting eucalyptus-nc
<u>EUCA-11498</u>	In a multi-cluster cloud, PV images can not be launched using EKI and ERI options in one AZ
<u>EUCA-11511</u>	PV instance migration doesn't work
<u>EUCA-11513</u>	Failure to multi-delete objects by non-bucket-owning accounts
<u>EUCA-11533</u>	Do not allow upper-case letters in bucket name and prefix in ELB access logs
<u>EUCA-11555</u>	Accounts can delete each others' access keys given the keys' IDs - 4.2.x
<u>EUCA-11623</u>	4.2 upgrade fails with error "duplicate key value violates unique constraint "uk_r165nl545vks5p0miwvks5yb9"
<u>EUCA-11624</u>	4.2 upgrade should handle cloud.identifier_canonicalizer property
<u>EUCA-11628</u>	GNI file does not add ingressRules during 4.1.x to 4.2.0 upgrade
<u>EUCA-11634</u>	Enable instance dns name resolution on upgrade
<u>GUI-1695</u>	Entering password into "Create Image" dialog does not work on Windows/ IE11
<u>GUI-1749</u>	Eucaconsole early output not captured to logfile
<u>GUI-1754</u>	cloudformation.samples.bucket config can break stack wizard
<u>GUI-1843</u>	Update aws instance types based on current EC2 list
<u>GUI-1853</u>	Multi-object delete fails to return errors (if there are any)
<u>GUI-1923</u>	Internal ELB groups not listed in rule widget

Issue	Description
GUI-1925	Large number of volumes breaks volumes landing page
GUI-1926	Upload button should be hidden when uploads are disabled in console.ini
GUI-1993	GUI can't deal with objects that are stored with // in paths
GUI-2137	Notification has text cut off
GUI-2148	Console error thrown after modifying attribute of stopped instance
GUI-2154	User data not pre-populating when creating instance or launch config from existing instance.
GUI-2159	Create Load Balancer button available without selecting required bucket
GUI-2162	Create Bucket link in Create Load Balancer can lose user's entered parameters when uppercase letters are entered for bucket name
GUI-2164	bundling progress should be updated from bundle task progress
GUI-2166	Status bar looks like button on scaling group details "Instances" tab
GUI-2168	Creating an account with 'admin' user entered prevents download of credentials
GUI-2171	Eucaconsole does not always load the latest IE mode
GUI-2173	ELB access logs collection fails when logs prefix contains an uppercase letter
GUI-2174	Console does not allow an empty prefix to be entered for ELB access logs
GUI-2177	bucket landing page: icon in tile header is too big
GUI-2190	Credentials should not be automatically created at account creation

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.2.1.

Security Bulletin ID	CVSS Base Score	Affected Products
HPSBGN03526	4.6	Eucalyptus 4.1.1 and earlier, Eucalyptus 4.2.0
HPSBGN03527	4.6	Eucalyptus 3.4.0 to 4.2.0

See the [Support Center](#) for further details.

Note: Eucalyptus security bulletins are usually published 2 weeks after the GA date.

Known Issues

This topic lists known issues in Eucalyptus 4.2.1 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Security group rules using instances Public IP are not enforced in MANAGED mode (EUCA-11476)	Security group rules are enforced in the FORWARD chain, which is processed before POSTROUTING (where SNAT happens). Thus, security group rules that use instances public IP addresses will not match in FORWARD chain (packets will have instances' private IP address in the FORWARD chain). See linked bug for more information.
Instance Migration Fails when SELinux is enabled and is in Permissive mode (EUCA-11803)	Instance migration fails when SELinux is enabled and is in permissive mode. Workaround: Disable SELinux and reboot the system. For example: <pre># vi /etc/selinux/config SELINUX=disabled # reboot</pre>

Outstanding known issues from previous releases:

Issue	Description
Cloud restart necessary when removing public IPs (EUCA-9326)	While running TEST-1905 for edge mode, it was discovered that removing a public IP requires a cloud service restart while adding public/private IPs, removing private IPs and changing the subnet does not require a cloud service restart.
Internal loadbalancer is not functional (EUCA-11324)	In VPC, an internal load balancer has ELB instances that is in a private subnet without a public IP. That instance cannot reach ELB service to retrieve information on the ELB, update its status, etc., without configuring a NAT instance in the VPC. Workaround: None at this time.
Non-default security group for ELB/VPC blocks ports for ELBs (EUCA-11374)	In VPC, all egress ports for non-default security groups are blocked. When the non-default security group is used with the ELB, the ELB will not be functional until the required ports are opened. Workaround: Use Eucalyptus tools to run the following commands to authorize each of the egress ports (TCP:8773 (Web service), UDP:53 (DNS), and UDP:123) for the non-default security group: <pre>euca-authorize --egress -P tcp -p 8773 -s 0.0.0.0/0 sg-f3a511c4 euca-authorize --egress -P udp -p 53 -s 0.0.0.0/0 sg-f3a511c4 euca-authorize --egress -P udp -p 123 -s 0.0.0.0/0 sg-f3a511c4</pre>
euserv-describe-services with secure http endpoint results in python2.6 InsecureRequestWarning. (EUCA-11519)	When an administrator uses HTTPS and doesn't enable certificate verification, running any command thereafter, will display the InsecureRequestWarning message. Workaround: Use a valid certificate and set <code>verify-ssl = true</code> in the region's configuration, or use plain HTTP.

Issue	Description
ELB access logs collection fails when logs prefix contains an uppercase letter (EUCA-11524)	Uppercase characters in a path is invalid, resulting in an error. Workaround: Specify the prefix with lowercase characters.
Unable to launch EBS instance or delete volume when launched in different zone than created. (EUCA-10697)	See linked bug for more information.
Failed EMIs from CreateImage might leave behind orphaned snapshots (EUCA-11184)	1. Use <code>euca-describe-images</code> to see if the EMI associated with CreateImage has a <code>failed</code> status. If any failed, then: 2. Use <code>euca-describe-snapshots</code> to find any snapshot IDs associated with the failed CreateImage EMI ID. The snapshot description includes the EMI ID and Instance ID. Note that the snapshot state can be <code>failed</code> or <code>completed</code>. Workaround: The cloud administrator and/or cloud user (with proper IAM access to the account's snapshots) can simply delete any orphaned snapshots.

Technology Preview

This topic describes technology preview and its support scope. It also provides a list of features currently in technology preview.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- **are not fully supported under Eucalyptus subscription level agreements.**
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In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Upgrade Compatibility and Support Scope

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The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- There are no features in technology preview in this release.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.2 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.7	x86_64
RHEL+KVM	6.7	x86_64

Java

Component	Version	Notes
JVM	7	For the CLOUD_OPTS setting in the /etc/eucalyptus/eucalyptus.conf file: either do not set --java-home, or --java-home must point to a version 7 JVM.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Deprecated	n/a
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.

Networking Mode	Description
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura.

Object Storage Compatibility

Storage Array	Type/Series	Version
Ceph RGW	Open source enterprise	0.94.6
Riak CS	Open source enterprise	1.5.1

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional.
Ceph RDB	Any CentOS/RHEL machine with disk, compute and network resources	0.94.6	
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.3.1](#) with Eucalyptus version 4.2.

Eucalyptus Management Console

Management Console 4.2 operates with the above compatibilities. See [Browser Support](#) for a list of supported browsers in this release.

4.2.0

This section contains release notes for Eucalyptus version 4.2.0.

What's New?

This topic lists new features in Eucalyptus 4.2.0.

New Features

Feature	Description
HP 3PAR SAN support.	This feature enables support for an additional backend SAN storage provider, which can be configured for the Storage Controller. For more information, see Configure Block Storage and Use an HP 3PAR SAN .
Updated Management Console design.	The Management Console has an updated look-n-feel. Look for refreshed branding, new navigation, and enhanced search capability. For more information, see Navigate the Dashboard .
ELB, CloudFormation, and VPC support in the Management Console.	Elastic Load Balancing (ELB) can now be configured through the console. Create and manage stacks for CloudFormation is available. Virtual Private Cloud (VPC) options for network configurations throughout various applications are supported. For more information, see: • Work with Load Balancers • Work with Stacks
Management Console pre-configured for secured connections.	Installing nginx separately is no longer necessary to enable secured connections. By default, the console is configured to use HTTPS to allow secure connections from a web server to a browser. For more information, see Run the Management Console on nginx .
Additional ELB features.	ELB now has configurable HTTPS/SSL protocols and ciphers, support for backend server authentication, and cross-zone load balancing enabled.
VPC support.	Eucalyptus Virtual Private Cloud (VPC) allows you to run instances inside an isolated virtual network that you define. For more information, see Using Virtual Private Cloud .
Ceph-RBD support.	With this release, Ceph-RBD is now a fully supported backend storage provider; it can be configured for the Storage Controller. For more information, see Configure Block Storage and Use Ceph-RBD .
Identity Federation.	Cloud administrators can create a federation of Eucalyptus clouds where a cloud user using their existing credentials can access any of the federated Eucalyptus cloud regions. For more information, see Manage Regions .
IAM quotas.	Added new IAM quota variables. For more information, see Quotas .
Improvements added to Image Management.	User certificates and private keys are longer required for image bundling.

Resolved Issues

This section lists previous issues resolved by Eucalyptus 4.2.0.

Issue	Description
<u>EUCA-2008</u>	euca_conf: excessive credentials warnings should be optional
<u>EUCA-2346</u>	DescribeInstances api call result difference between AWS and Eucalyptus
<u>EUCA-2428</u>	Race condition when adding users
<u>EUCA-3100</u>	DescribeProperties fails to escape right angle braces
<u>EUCA-3856</u>	Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted.
<u>EUCA-4032</u>	euca_conf behaves differently from equivalent euca-__ commands
<u>EUCA-4045</u>	Handling of credentials given at the command line is broken
<u>EUCA-4083</u>	Registration commands duplicate some debug output
<u>EUCA-4341</u>	Stop using M2Crypto for euca-get-credentials
<u>EUCA-4587</u>	Deprecate signature v1
<u>EUCA-4630</u>	euca_conf displays python error when using --debug option
<u>EUCA-4963</u>	boto - conn.get_image incompatibility with EC2
<u>EUCA-5296</u>	Use of boto.utils.find_class buries useful exceptions
<u>EUCA-5339</u>	Unable to download creds with euca_conf after changing https_port parameter
<u>EUCA-5627</u>	Clock skew errors should mention the server's current time
<u>EUCA-5750</u>	ELB: Vague error message when trying to add an instance that is in an AZ that the LB is not listening on
<u>EUCA-5964</u>	No error message when invalid DNS name is ignored
<u>EUCA-6303</u>	Sending multiple filters with same name is rejected
<u>EUCA-6578</u>	Admin tool commands does not behaves in the same way
<u>EUCA-6589</u>	S3 DeleteObjects fails with HTTP 400 error
<u>EUCA-7315</u>	uploading blank policy file throws "failed to marshall type com.eucalyptus.auth.euare.PutUserPolicyType" exception
<u>EUCA-7657</u>	ANY queries for zone apex return SERVFAIL results
<u>EUCA-8089</u>	Deleting Load Balancer That Spans Multiple AZs (clusters) Fails to Delete the Associated Autoscaling Group
<u>EUCA-8135</u>	Multi-AZ ELB deploys autoscaling group on one AZ
<u>EUCA-8366</u>	Security group rules with CIDR source ip ranges should also apply between security groups
<u>EUCA-8508</u>	registering nodes succeeds with throwing error 8777 port
<u>EUCA-8756</u>	Enforce the required minimum heap size when parsing the eucalyptus-cloud options
<u>EUCA-8808</u>	euca-get-console-output fails if cc is not available
<u>EUCA-8951</u>	Error Message When Registration Fails for OSG is a bit verbose

Issue	Description
<u>EUCA-9005</u>	OSG S3 quota can be exceeded by concurrent PUTs
<u>EUCA-9079</u>	AWS Error Code InvalidVolume.NotFound Not Supported
<u>EUCA-9460</u>	clean Stuck Volumes error
<u>EUCA-9481</u>	Simultaneous existence of registered/approved/confirmed and enabled/disabled for users is confusing
<u>EUCA-9491</u>	CLC DBs are getting out of sync
<u>EUCA-9673</u>	DescribeInstanceTypes and DescribeAvailabilityZones expose cloud resource information to regular users
<u>EUCA-9744</u>	Investigate changing refresh intervals for Node states
<u>EUCA-9789</u>	Cannot stop source node controller from running new instances on it
<u>EUCA-9806</u>	S3 GET from browser that includes If-None-Match header fails
<u>EUCA-9959</u>	"MalformedPolicyDocument: Policy document should not specify a principal." Should Be Returned When Using Incorrect Access Policy File During IAM Role Creation
<u>EUCA-10023</u>	NoSuchTagSet exception is not returned properly
<u>EUCA-10028</u>	Remove www.httpproxy cloud properties
<u>EUCA-10040</u>	Possible Resource Leak
<u>EUCA-10041</u>	Possible Resource Leak
<u>EUCA-10125</u>	Imaging VM can't communicate with Imaging service
<u>EUCA-10138</u>	Cloudformation templates do not work with boolean/number fields
<u>EUCA-10157</u>	Log files should be readable by group 'eucalyptus'.
<u>EUCA-10158</u>	Cannot update DNS server once set for a VPC
<u>EUCA-10159</u>	VPC: DNS Search path is not being added to resolv.conf
<u>EUCA-10225</u>	Re-creating an ELB with the same name fails with 'InternalFailure' error
<u>EUCA-10288</u>	VMs lose connectivity to public IPs
<u>EUCA-10296</u>	VPC: Internal ELB assigns itself a public IP, DNS resolves to that IP
<u>EUCA-10323</u>	eucanetd fails to apply network isolation rules
<u>EUCA-10490</u>	Super ugly stack traces on imaging worker launch
<u>EUCA-10505</u>	VPC- Security group src group cidr value not being applied to rules
<u>EUCA-10611</u>	Disable reporting by default
<u>EUCA-10612</u>	GetCertURL is hard coded in getcredentials
<u>EUCA-10614</u>	Cleanup SC async task execution threads/pools
<u>EUCA-10625</u>	CloudFormation JSON incorrectly wraps response
<u>EUCA-10627</u>	DescribeAvailabilityZones should honor the requested zone name when "verbose" is present in the request
<u>EUCA-10630</u>	User API Service registration should be idempotent
<u>EUCA-10643</u>	Condition Function does not work in CloudFormation "Outputs"

Issue	Description
<u>EUCA-10645</u>	Metadata fails when running multiple instances at once
<u>EUCA-10649</u>	Block device mapping 'NoDevice' param should not require boolean value
<u>EUCA-10680</u>	In VPC instances can become available before metadata is setup
<u>EUCA-10689</u>	CLC should exclude VPC resources from the global network view when not used
<u>EUCA-10691</u>	cloud admin cannot delete other account's vpc after the account is deleted
<u>EUCA-10706</u>	Volume from ImportVolume Shown 'Available' Before Importing Task Has Been Completed
<u>EUCA-10708</u>	If Incorrect AZ Used With ImportVolume, Imaging Worker Instances Launch Regardless
<u>EUCA-10722</u>	Property '.cluster.networkmode' needs input validation
<u>EUCA-10731</u>	eucadmin tools fail if HTTP proxy is setup, also ignores no_proxy variable
<u>EUCA-10748</u>	Can not createimage from an instance who's EMI is deregistered.
<u>EUCA-10764</u>	Imaging service should relay failures from lack of VM disk space to the user
<u>EUCA-10777</u>	DescribeProperties should return Default values
<u>EUCA-10779</u>	Stop shipping unused jars in eucalyptus-enterprise
<u>EUCA-10782</u>	Cloud admin services respond to v4-signed requests with 404s
<u>EUCA-10787</u>	Paravirt images are no longer converted by the imaging worker.
<u>EUCA-10792</u>	Reduce default cloud.vmstate.terminated_time to 2
<u>EUCA-10794</u>	Java bootstrapper should set a reasonable heap size by default when starting up
<u>EUCA-10799</u>	Default PermGen should be larger
<u>EUCA-10803</u>	SC clean up of failed volumes/snapshots should not be in CLC->SC describe resources path
<u>EUCA-10813</u>	DescribeProperties should return read/write attributes
<u>EUCA-10822</u>	cloud.vmstate.mac_prefix and 'Cluster:MacPrefix' in the cloud.network.network_configuration JSON must match in order to get instance connectivity.
<u>EUCA-10824</u>	Eucaconsole Package Dependencies
<u>EUCA-10837</u>	DNS server returns SERVFAIL instead of NXDOMAIN
<u>EUCA-10848</u>	DNS names are treated as case sensitive in HTTP Host headers
<u>EUCA-10882</u>	Accounts can delete each others' access keys given the keys' IDs
<u>EUCA-10913</u>	multiple requests to imaging services makes it dysfunctional
<u>EUCA-10917</u>	CLONE - Default PermGen should be larger foe 4.2
<u>EUCA-10977</u>	Midonet chains should be cleaned after instance is terminated
<u>EUCA-11001</u>	ELB VM fails to restart haproxy process if there are no listeners configured
<u>EUCA-11023</u>	CLONE - eucanetd can not start dhcpd due to udp port binding conflict from dnsmasq
<u>EUCA-11046</u>	Running 40 ELBs make CLC very slow
<u>EUCA-11047</u>	ELB fails to put cloudwatch data
<u>EUCA-11057</u>	euscale-update-auto-scaling-group accepts invalid zone and makes ASG malfunction
<u>EUCA-11083</u>	Security group rules using an Instance's Public IP will fail if the instances are on the same NC

Issue	Description
<u>EUCA-11137</u>	CloudFormation stack creation fails after simple workflow timer error
<u>EUCA-11142</u>	Request log does not log Query API parameters
<u>EUCA-11155</u>	SetLBListenerSSLCert can delete certificates in use
<u>EUCA-11172</u>	Auto scaling should not replace unhealthy instances when over desired capacity
<u>EUCA-11185</u>	Deleting multiple listeners from ELB can cause failure to restart haproxy
<u>EUCA-11201</u>	Threads from LoadBalancingBackend.##### consuming substantial amounts of CPU
<u>EUCA-11235</u>	EDGE: setting DISABLE_L2_ISOLATION option currently will block all VM traffic
<u>EUCA-11236</u>	EDGE: race between VMs starting and eucanetd applying L2 isolation rules causing no net to VMs4
<u>EUCA-11241</u>	EDGE: race between global network view broadcast, VM run, and eucanetd network implementation causing VMs to come up without net
<u>EUCA-11242</u>	Eucalyptus stats directory has wrong perms on creation
<u>EUCA-11247</u>	Ephemeral space formatting does not match AWS
<u>EUCA-11248</u>	Coordinate health checks when multiple ELB VMs run for an LB
<u>EUCA-11296</u>	ELB dns resolution should be in round-robin basis
<u>EUCA-11309</u>	500 Internal Server Error for S3 GET requests with If-None-Match and If-Modified-Since headers
<u>EUCA-11409</u>	EBS snapshots and volumes from snapshots fail against NetApp Data ONTAP 8.3.1
<u>GUI-1127</u>	Required fields should not be checked if a user clicks the Cancel button
<u>GUI-1146</u>	If logon page is left idle, next initial logon attempt fails
<u>GUI-1169</u>	Upgrade Foundation to latest stable version
<u>GUI-1340</u>	Error for Unauthorized Cloud User Can Be More Accurate
<u>GUI-1457</u>	refactor policy gen tool to lazy load and be zippy
<u>GUI-1524</u>	Forward-slash characters are not allowed in key pairs and trigger HTTP 500
<u>GUI-1545</u>	Action menu is cut off, leaving some options in-accessible
<u>GUI-1549</u>	Issue with the launch instance wizard image loading when CLC is changed
<u>GUI-1565</u>	Invalid/misleading error message when console.ini setting 'session.secure' is set to 'false'.
<u>GUI-1577</u>	monitoring selection in instance and launch config wizards needs to be more specific w/r/t monitoring settings for euca vs AWS
<u>GUI-1587</u>	Allow a user to browse a shared bucket and download shared objects
<u>GUI-1591</u>	revise bubble help on sharing panel for warning re: all users grantee
<u>GUI-1623</u>	Removing a tag in the launch instance wizard's tag editor doesn't update tags list in the summary
<u>GUI-1624</u>	IAM Policy Editor generates a 404 in the JS console when switching to the Custom Policy tab
<u>GUI-1629</u>	About the Team dialog returns a CSP violation in the JS console
<u>GUI-1639</u>	Invalid security group rule warning

Issue	Description
GUI-1640	Connect to Instance dialog: conditionally display keypair-related instructions only when instance has key pair
GUI-1641	Switching console locale does not work
GUI-1656	In console.ini we should explain that "clchost" must be assigned the IP or DNS name of machine running User Facing Services and not the CLC
GUI-1670	When user enters incorrect current password (after expiry), internal error
GUI-1694	Non-latin characters in scaling policy name trigger Internal error
GUI-1696	"Create Image" throws internal error for instances launched from BFEB image if that image is no longer in the cloud
GUI-1700	When a file is uploaded to an AWS bucket using euca-create-volume the file details can not be viewed with eucaconsole
GUI-1722	Console doesn't support DNS service endpoints
GUI-1795	change clchost to ufshost in console.ini
GUI-1802	Going to IAM user "Add Access Policy" dialog throws javascript error
GUI-1819	add custom protocol for security groups to support sctp
GUI-1869	Field labels on attach volume dialog do not align quite right
GUI-1921	Deleted and failed volumes don't display proper links and action menu items on volumes landing page

Resolved Security Issues

This topic describes security issues related to Eucalyptus 4.2.0.

There are no security bulletins for the 4.2.0 release.

Known Issues

This topic lists known issues in Eucalyptus 4.2.0 and its dependencies.

Please contact Eucalyptus Support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Internal loadbalancer is not functional (EUCA-11324)	In VPC, an internal load balancer has ELB instances that is in a private subnet without a public IP. That instance cannot reach ELB service to retrieve information on the ELB, update its status, etc., without configuring a NAT instance in the VPC. Workaround: None at this time.

Issue	Description
Non-default security group for ELB/VPC blocks ports for ELBs (EUCA-11374)	In VPC, all egress ports for non-default security groups are blocked. When the non-default security group is used with the ELB, the ELB will not be functional until the required ports are opened. Workaround: Use Euca2ools to run the following commands to authorize each of the egress ports (TCP:8773 (Web service), UDP:53 (DNS), and UDP:123) for the non-default security group: <pre>euca-authorize --egress -P tcp -p 8773 -s 0.0.0.0/0 sg-f3a511c4 euca-authorize --egress -P udp -p 53 -s 0.0.0.0/0 sg-f3a511c4 euca-authorize --egress -P udp -p 123 -s 0.0.0.0/0 sg-f3a511c4</pre>
PV instance migration doesn't work (EUCA-11511)	Paravirtual instances cannot be migrated using <code>euserv-migrate-instance</code>. There are no workarounds at this time.
Failure to multi-delete objects by non-bucket-owning accounts (EUCA-11513)	Workaround: You may be able to complete this operation by means of another S3 tool, like Cloudberry Explorer, S3-curl, or S3Organizer, for example.

Issue	Description
clcadmin-assume-system-credentials produces unusable output when eucalyptus/admin has more than one active access key (EUCA-11516)	The clcadmin-assume-system-credentials command doesn't handle database queries that return more than one result properly. Workaround: - When you first run clcadmin-assume-system-credentials, the resulting output shows: <pre>export AWS_IAM_URL=http://127.0.0.1:8773/services/Euare; export EMPYREAN_URL=http://127.0.0.1:8773/services/Empyrean; export PROPERTIES_URL=http://127.0.0.1:8773/services/Properties; export AWS_ACCESS_KEY_ID="AKIAANXD4CQD3EXAMPLE"; export AWS_ACCESS_KEY="AKIAANXD4CQD3EXAMPLE"; export EC2_ACCESS_KEY="AKIAANXD4CQD3EXAMPLE"; export AWS_SECRET_ACCESS_KEY="sfywrHlsRJ4joukXCEfymsdEbaNEZHl17EXAMPLE AKIABBNYD5CRE4EXAMPLE"; export AWS_SECRET_KEY="sfywrHlsRJ4joukXCEfymsdEbaNEZHl17EXAMPLE AKIABBNYD5CRE4EXAMPLE"; export EC2_SECRET_KEY="sfywrHlsRJ4joukXCEfymsdEbaNEZHl17EXAMPLE AKIABBNYD5CRE4EXAMPLE"; unset AWS_CREDENTIAL_FILE; unset AWS_SESSION_TOKEN; unset AWS_SECURITY_TOKEN; unset EC2_USER_ID;</pre> Note: Notice the environment variable, AWS_SECRET_ACCESS_KEY returns two words instead of the usual one, as shown in the bolded text. - Copy that line without the second word, then paste it in the shell: <pre>export AWS_SECRET_ACCESS_KEY="sfywrHlsRJ4joukXCEfymsdEbaNEZHl17EXAMPLE</pre> The following corrected output displays: <pre>export AWS_IAM_URL=http://127.0.0.1:8773/services/Euare; export EMPYREAN_URL=http://127.0.0.1:8773/services/Empyrean; export PROPERTIES_URL=http://127.0.0.1:8773/services/Properties; export AWS_ACCESS_KEY_ID="AKIAANXD4CQD3EXAMPLE"; export AWS_ACCESS_KEY="AKIAANXD4CQD3EXAMPLE"; export EC2_ACCESS_KEY="AKIAANXD4CQD3EXAMPLE"; export AWS_SECRET_ACCESS_KEY="sfywrHlsRJ4joukXCEfymsdEbaNEZHl17EXAMPLE"; export AWS_SECRET_KEY="sfywrHlsRJ4joukXCEfymsdEbaNEZHl17EXAMPLE"; export EC2_SECRET_KEY="sfywrHlsRJ4joukXCEfymsdEbaNEZHl17EXAMPLE"; unset AWS_CREDENTIAL_FILE; unset AWS_SESSION_TOKEN; unset AWS_SECURITY_TOKEN; unset EC2_USER_ID;</pre> - Paste the corrected output into the terminal.

Issue	Description
euserv-describe-services with secure http endpoint results in python2.6 InsecureRequestWarning (EUCA-11519)	When an administrator uses HTTPS and doesn't enable certificate verification, running any command thereafter, will display the InsecureRequestWarning message. Workaround: Use a valid certificate and set <code>verify-ssl = true</code> in the region's configuration, or use plain HTTP.
ELB access logs collection fails when logs prefix contains an uppercase letter (EUCA-11524)	Uppercase characters in a path is invalid, resulting in an error. Workaround: Specify the prefix with lowercase characters.
Large number of volumes breaks volumes landing page (GUI-1925)	There is a limit of 5,000 volumes and 10,000 snapshots per account. The filter list limit is 200 items, which is the maximum number of filter values specified in a single call. Workaround: Have less volumes per account, or avoid using the console for viewing them.
Creating an account with 'admin' user entered prevents download of credentials (GUI-2168)	Workaround: Do not create an 'admin' user as it is created automatically for every account.
Eucaconsole does not always load the latest IE mode (GUI-2171)	In some cases, where console users are running Internet Explorer 11 in an intranet setting, IE will force the console into IE7 Compatibility mode. This affects the page layout, making the console more difficult to use. Workaround #1 - Disable the automatic configuration script in IE11: 1. Go to Internet Options > Connections > LAN settings. 2. De-select the checkbox for Use automatic configuration script to disable it. 3. Exit and restart IE. 4. Log back into the Console. Workaround #2 - The console administrator may add a line to the nginx.conf file under the SSL configured server: <pre>server { listen 443 ssl; server_name ~^(?<domain>.+)\$; # SSL configuration ssl_protocols TLSv1 TLSv1.1 TLSv1.2; ssl_certificate /Users/ashamblin/keys/server.crt; ssl_certificate_key /Users/ashamblin/keys/server.key; add_header "X-UA-Compatible" "IE=Edge"; add_header Strict-Transport-Security "max-age=31536000; includeSubDomains"; # end of SSL configuration.</pre>
Console does not allow an empty prefix to be entered for ELB access logs (GUI-2173)	The Prefix field is optional. However, when the field is left blank and saved, the console auto-generates a prefix with uppercase characters, which is invalid, resulting in an error. Workaround: Using all lowercase characters, enter a path in the Prefix text field to specify the path within the bucket to store your log files.

Issue	Description
ELB access logs aren't collected when the logs prefix is left blank (and console auto-generates prefix) (GUI-2174)	The Prefix field is optional. However, when the field is left blank and saved, the console auto-generates a prefix with uppercase characters, which is invalid, resulting in an error. Workaround: Using all lowercase characters, enter a path in the Prefix text field to specify the path within the bucket to store your log files.

Outstanding known issues from previous releases:

Issue	Description
Unable to launch EBS instance or delete volume when launched in different zone than created. (EUCA-10697)	See linked bug for more information.
Failed EMIs from CreateImage might leave behind orphaned snapshots (EUCA-11184)	1. Use <code>euca-describe-images</code> to see if the EMI associated with CreateImage has a <code>failed</code> status. If any failed, then: 2. Use <code>euca-describe-snapshots</code> to find any snapshot IDs associated with the failed CreateImage EMI ID. The snapshot description includes the EMI ID and Instance ID. Note that the snapshot state can be <code>failed</code> or <code>completed</code>. Workaround: The cloud administrator and/or cloud user (with proper IAM access to the account's snapshots) can simply delete any orphaned snapshots.

Technology Preview

This topic describes technology preview and its support scope. It also provides a list of features currently in technology preview.

Technology Preview Definition

Technology preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process.

Customers and users should be aware that technology preview features:

- **are not fully supported under Eucalyptus subscription level agreements.**
- **may not be functionally complete.**
- **are not intended for production use.**

In some cases, this may be applicable to the entire cloud deployment depending on the subsystems affected by the feature in technology preview. As we consider making future iterations of technology preview features generally available, we will attempt to resolve any issues that customers experience when using these features.

Upgrade Compatibility and Support Scope

During the development of a technology preview feature, additional components may become available to the public for testing. Because technology preview features are still under development, we cannot guarantee the stability of such features. As a result, if you are using technology preview features, you may not be able to seamlessly upgrade to subsequent Eucalyptus releases.

Some preview features are included in this release to provide early access to features that we may support fully in future releases, but we cannot guarantee that support will be provided or issues resolved in a future release. Some technology preview features may only be available for specific hardware architectures.

The Eucalyptus customer success team may create bug reports on behalf of support cases filed by subscribed customers. These bug reports will then be forwarded to Eucalyptus engineering as proposed for inclusion in a future release.

Current Technology Preview Features

The following features are in technology preview for this Eucalyptus release:

- There are no features in technology preview in this release.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.2 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.7	x86_64
RHEL+KVM	6.7	x86_64

Java

Component	Version	Notes
JVM	7	For the CLOUD_OPTS setting in the /etc/eucalyptus/eucalyptus.conf file: either do not set --java-home, or --java-home must point to a version 7 JVM.

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Deprecated	n/a
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.
VPCMIDO	AWS VPC on-premise equivalent; in partnership with Midokura.

Object Storage Compatibility

Storage Array	Type/Series	Version
Ceph RGW	Open source enterprise	0.94.6
Riak CS	Open source enterprise	1.5.1

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	
HP 3PAR SAN	7000 StoreServ Storage systems	3PAR Release Version 3.2.1 3PAR Web Services API 1.4.2	Virtual copy and thin provisioning features required. Virtual domains feature optional.
Ceph RDB	Any CentOS/RHEL machine with disk, compute and network resources	0.94.6	
Direct attached storage	Any DAS-JBOD	N/A	Linux SCSI target framework is required.

Storage Array	Type/Series	Version	Notes
Local disks	Local overlay filesystem	N/A	Linux SCSI target framework is required.
Remote disk	N/A	N/A	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space (multiple disks in a RAID 5/10 recommended).

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.3.1](#) with Eucalyptus version 4.2.

Eucalyptus Management Console

Management Console 4.2 operates with the above compatibilities. See [Browser Support](#) for a list of supported browsers in this release.

4.1.2

This section contains release notes for Eucalyptus version 4.1.2.

What's New?

New Features

Eucalyptus 4.1.2 introduces the following new feature.

Feature	Description
Adds the ability to pass SCTP traffic between instances.	This feature enables SCTP traffic passing between instances when using EDGE network mode. 1. SCTP requires the conn track modules to be installed on each NC running in EDGE mode: <pre>modprobe nf_conntrack_proto_sctp</pre> 2. Check the underlying network to verify it is configured and capable of passing new types of IP traffic. Perform the test outside the Eucalyptus cloud. 3. Modify the <code>cloud.network.ec2_classic_additional_protocols</code> property: <pre>euca-modify-property -p cloud.network.ec2_classic_additional_protocols=132</pre> 4. Set the <code>euca-authorize</code> option to <code>--protocol 132</code> (the IANA-assigned protocol number for SCTP) to enable SCTP for a security group: <pre>euca-authorize mygroup --protocol 132</pre> Note: • If you need to remove the rule from a security group, use <code>euca-revoke</code>. • If you want to remove the protocol from the cloud property, all the related security group rules should be revoked first. • All ports are available to SCTP. (Port ranges are ignored.)

Resolved Issues

Eucalyptus 4.1.2 resolves issues listed in the following table.

Issue	Description
<u>DOC-1430</u>	Account Creation page doesn't say how to create an account.
<u>DOC-1566</u>	Remove VMware from the docs (deprecated in 4.1.0).
<u>DOC-1608</u>	Change list for euca2ools 3.2.1, 3.1.3.
<u>DOC-1610</u>	Add OSG documentation defaults.
<u>EUCA-5984</u>	Load Balancer emi property not validated.
<u>EUCA-6947</u>	EBS-backed instances fail to attach non-root EBS volumes when restarting the instance.
<u>EUCA-9239</u>	The cloud request log records the full contents for POST requests (SOAP messages, etc.).
<u>EUCA-9409</u>	Add better message in cases where import-volumes tries to import volumes that are larger than max allowed volume size.
<u>EUCA-10031</u>	Add the ability to pass SCTP traffic between instances. (New functionality)
<u>EUCA-10121</u>	WaitCondition timeout not honored.
<u>EUCA-10166</u>	eucanetd cannot start dhcpd due to udp port binding conflict from dnsmasq.
<u>EUCA-10281</u>	Cannot reset value for scpath/ncpath.
<u>EUCA-10433</u>	Cannot migrate EBS backed instance.
<u>EUCA-10559</u>	Null checks in Equallogic provider command parsing.
<u>EUCA-10695</u>	Generic EDGE Networking Deployment Improvements.
<u>EUCA-10778</u>	Large image fails to run due to 403 Client Error: Forbidden.
<u>EUCA-10799</u>	Default PermGen should be larger.
<u>EUCA-10882</u>	See <u>Eucalyptus Security Advisory ESA-32</u> .
<u>EUCA-10929</u>	Update the service image for 4.1.2.
<u>EUCA-11001</u>	ELB VM fails to restart haproxy process if there are no listeners configured.
<u>EUCA-11034</u>	Instance ran from PV image fails to get migrated.
<u>EUCA-11047</u>	ELB fails to put CloudWatch data.
<u>EUCA-11062</u>	Unable to resolve CNAME referencing load balancer instance from within an instance.
<u>EUCA-11069</u>	Elastic IP association lost when CLC is restarted.
<u>EUCA-11185</u>	Deleting multiple listeners from ELB can cause a failure to restart haproxy.
<u>GUI-1821</u>	Unable to view roles from management console.
<u>GUI-1839</u>	Precisely-pinned boto version causing new installs to fail to start.

Resolved Security Issues

See the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 4.1.2 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Failed EMIs from CreateImage might leave behind orphaned snapshots (EUCA-11184)	1. Use <code>euca-describe-images</code> to see if the EMI associated with CreateImage has a <code>failed</code> status. If any failed, then: 2. Use <code>euca-describe-snapshots</code> to find any snapshot IDs associated with the failed CreateImage EMI ID. The snapshot description includes the EMI ID and Instance ID. Note that the snapshot state can be <code>failed</code> or <code>completed</code>. Workaround: The cloud administrator and/or cloud user (with proper IAM access to the account's snapshots) can simply delete any orphaned snapshots.

Outstanding known issues from previous releases:

Issue	Description
Unable to launch EBS instance or delete volume when launched in different zone than created. (EUCA-10697)	See linked bug for more information.
Older imaging worker fails to convert paravirt on 4.1.1 (EUCA-10787)	After upgrading from 4.0.2 to 4.1.1 without updating the image worker. Paravirt image conversion fails. Workaround: See linked bug for more information.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.1 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.6	x86_64
RHEL+KVM	6.6	x86_64

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Enterprise	i386/x86_64
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.

Object Storage Compatibility

Storage Array	Type/Series	Version	HA Support
Riak CS	Open source enterprise	1.5.1	Yes

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	HA Support	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	Yes	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Yes	
Ceph RDB	Any CentOS/RHEL machine with disk, compute and network resources	0.80.5-9	Yes	

Storage Array	Type/Series	Version	HA Support	Notes
EMC	VNX series	FLARE v5.32	Yes	Navisphere CLI 7.32.0.5.54 or higher required.
Direct attached storage	Any DAS-JBOD	N/A	No	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	No	Linux SCSI target framework is required.
Remote disk	N/A	N/A	No	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space. (multiple disks in a RAID 5/10 recommended).

High availability (HA) configurations must be equal in capacity.

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.2](#) with Eucalyptus version 4.1.

4.1.1

This section contains release notes for Eucalyptus version 4.1.1.

What's New?

New Features

Eucalyptus 4.1.1 is a maintenance release and contains no new features.

Resolved Issues

Eucalyptus 4.1.1 resolves issues listed in the following table.

Issue	Description
<u>EUCA-1976</u>	euca-describe-availability-zone allows invalid misspell of verbose
<u>EUCA-4878</u>	euca-create-volume against an invalid availability zone returns bogus error
<u>EUCA-5437</u>	Instance passwordData attribute is broken in Eucalyptus
<u>EUCA-5979</u>	BundleInstance on KVM always produces x86_64 images
<u>EUCA-6367</u>	plea for a nice error message for euca-migrate-instances
<u>EUCA-6570</u>	Deleting a non-existent ELB should succeed
<u>EUCA-7337</u>	EBS image registration ignores user-supplied architecture argument
<u>EUCA-8356</u>	Broker should handle situation where getConfig call return null
<u>EUCA-8578</u>	Allow 0 value in IAM Quota Policy
<u>EUCA-9488</u>	SC/UFS is broken when vmwarebroker lib is installed on the same host
<u>EUCA-9532</u>	Create Image : improve usability of log error messages by offering corrective path and putting main message first
<u>EUCA-9602</u>	UDP handler is not working
<u>EUCA-9762</u>	On address deallocation, instance publicIP can be missing from network XML
<u>EUCA-9795</u>	create-image does not add description to created snapshots
<u>EUCA-9979</u>	Implement import instance in VMDK format

Issue	Description
<u>EUCA-10058</u>	Eucalyptus instance's empty user data attribute returns a different value than AWS
<u>EUCA-10092</u>	Vague Error Message from CreateLoadBalancer when using incorrect load balancer port
<u>EUCA-10155</u>	no error message on invalid keypair name
<u>EUCA-10226</u>	Exception gets thrown when LifecycleReaperJob attempts to update the last_processing_start field
<u>EUCA-10229</u>	Associate address should throw error when instance is terminated or in shutting-down state
<u>EUCA-10278</u>	Stopped Windows EBS instances do not start correctly as DHCP clients request server to respond using L2 Broadcast
<u>EUCA-10297</u>	Don't log 'Volume Size Limit Exceeded' and 'Total Volume Size Limit Exceeded' errors into logs
<u>EUCA-10300</u>	Eucalyptus allows an instance to be launched with multiple security groups from different VPC networks
<u>EUCA-10309</u>	Cloudformation: DeletionPolicy Snapshot for Volume Resource Causing Stack Deletion Failure
<u>EUCA-10310</u>	VPC: Public IP confusion when Cloudformation template with VPC is Used.
<u>EUCA-10325</u>	CreateVolume/AttachVolume results InternalFailure when not authorized
<u>EUCA-10326</u>	Delete snapshot fails with InternalFailure while associated with an image
<u>EUCA-10369</u>	euca-service-image should not be in 4.1 release repo
<u>EUCA-10381</u>	VPC allows AssociateAddress call to succeed with no target (under certain circumstances)
<u>EUCA-10427</u>	euca-describe-snapshots does not support verbose parameter
<u>EUCA-10435</u>	Cloudformation: When resource completes, consistently show CREATE_COMPLETE in stack events - even if stack fails to deploy
<u>EUCA-10447</u>	Cloudformation with VPC: Duplicate Egress/Ingress Rules Not Handled the Same Way As AWS
<u>EUCA-10454</u>	OSG copy object response is incorrect
<u>EUCA-10501</u>	Retrieving creds for (eucalyptus)cloudformation invalidates the current token
<u>EUCA-10511</u>	OSG: grants in headers are not honored
<u>EUCA-10512</u>	Format block storage and object storage java code as per Google style guide
<u>EUCA-10516</u>	in VPC mode, Eucalyptus assigns private IP to 'ip_address' attribute when no public ip is assigned.

Issue	Description
<u>EUCA-10520</u>	euca-get-credentials zip file eucarc should always define EC2_PRIVAT_KEY and EC2_CERT
<u>EUCA-10525</u>	Cannot specify stack name and resource name together
<u>EUCA-10538</u>	eulb-describe-lb-policies doesn't support verbose parameter
<u>EUCA-10554</u>	Inability to view other accounts' snapshot attributes as Cloud Administrator
<u>EUCA-10565</u>	Init scripts enable services unnecessarily
<u>EUCA-10616</u>	LastUpdatedTimestamp not in line with AWS
<u>EUCA-10621</u>	Disabling reporting also disables cloudwatch
<u>EUCA-10623</u>	Cloud becomes unresponsive after a few days of regular use
<u>EUCA-10624</u>	Change in UDP handler thread # doesn't take effect immediately
<u>EUCA-10626</u>	UDP Handler's thread pool is filled up
<u>EUCA-10630</u>	User API Service registration should be idempotent
<u>EUCA-10644</u>	CloudFormation VPC stack creation fails on NetworkAclEntry with empty Icmp/Code property
<u>EUCA-10656</u>	NPE from DownloadManifestFactory.java
<u>EUCA-10690</u>	VPC: Network view can take 10ish seconds to update
<u>EUCA-10692</u>	DescribeVolumes response time is proportional to # of instances running, can be up to 3m
<u>EUCA-10694</u>	VPC: New accounts not getting their default VPC
<u>EUCA-10705</u>	Eucanetd reverse DNS lookup can cause a flood of UDP/DNS traffic
<u>EUCA-10742</u>	Eucanetd doesn't check return value of file2str() which leads to a segfault
<u>EUCA-10774</u>	EDGE mode instances can fail to get an IP because the MAC address is missing in GNI broadcast
<u>EUCA-10755</u>	Post upgrade EBS issues - running EBS instance won't start after upgrade due to invalid connection string
<u>EUCA-10762</u>	No space left on device error on CLC box due to eucanetd
<u>GUI-129</u>	user console proxy should have an option to verify CLC's ssl cert
<u>GUI-800</u>	console needs feature warning for filereader API
<u>GUI-1286</u>	Versioning text is not displaying correctly in Update Versioning modal for a bucket
<u>GUI-1494</u>	empty alert displays when navigating away from page that is waiting for XHR call

Issue	Description
<u>GUI-1518</u>	Attach volume failing from landing page when only one instance is available to attach to
<u>GUI-1533</u>	Default termination policy always displays first on scaling group detail page
<u>GUI-1536</u>	Console can't deal with directories that has // in the path
<u>GUI-1543</u>	Private IP address is show in the PUBLIC ADDR column
<u>GUI-1563</u>	'Create security group' modal window gets stuck when duplicate group is entered during launch instance wizard
<u>GUI-1566</u>	Delete snapshot with non-Latin name/description triggers HTTP 500
<u>GUI-1567</u>	Non-Latin name for security group triggers HTTP 500
<u>GUI-1568</u>	Non-Latin name in the keypair triggers HTTP 500
<u>GUI-1569</u>	Filtering by non-Latin tag name triggers HTTP 500
<u>GUI-1570</u>	Non-Latin names of launch configuration triggers HTTP 500
<u>GUI-1571</u>	Creating auto-scaling group with non-Latin name triggers HTTP 500
<u>GUI-1575</u>	Selecting an autoscaling group results in "Internal Server Error"
<u>GUI-1580</u>	Do not display the private addressing only option on the launch more like this wizard for VPC systems
<u>GUI-1581</u>	"Internal Server Error" is thrown if invalid AutoScaling group is requested via URL
<u>GUI-1583</u>	Console lets user add ephemeral with the same block device mapping as root volume
<u>GUI-1588</u>	Policy Generator has display issues when adding a policy for an account
<u>GUI-1589</u>	User presented with Session Timeout window if denied S3 ListBucket access
<u>GUI-1594</u>	dashboard "instances in scaling groups" shows too many
<u>GUI-1595</u>	server error when viewing volumes tab if volume name has unicode chars
<u>GUI-1601</u>	need to obfuscate memcached keys
<u>GUI-1602</u>	Incorrect ternary operator (?:) in security group rules widget causes JavaScript error
<u>GUI-1605</u>	Unable to create security group in launch instance and launch config wizards when security groups field is emptied
<u>GUI-1608</u>	Instructions on how to connect to an instance via SSH are inaccurate

Issue	Description
GUI-1614	RPM spec file should depend on python-boto
GUI-1638	eucaconsole_session cookie should have httponly flag set
GUI-1642	Create new keypair modal throws empty error when non-latin characters are entered for keypair name
GUI-1643	Non-latin characters in security group description trigger internal server error
GUI-1647	Adding a folder with non-latin characters in name breaks bucket content page
GUI-1658	Instance Type disablement in launch wizard is fault. remove it
GUI-1661	Update tests after navigation change

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 4.1.1 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Generic EDGE Networking Deployment Improvements (EUCA-10695)	See linked bug for more information.
Unable to launch EBS instance or delete volume when launched in different zone than created. (EUCA-10697)	See linked bug for more information.
Older imaging worker fails to convert paravirt on 4.1.1 (EUCA-10787)	After upgrading from 4.0.2 to 4.1.1 without updating the image worker, Paravirt image conversion fails. Workaround: See linked bug for more information.
Reduce default cloud.vmstate.terminated_time to 2 (EUCA-10792)	The <code>cloud.vmstate.terminated_time</code> property default value was previously 60 minutes. This time has been reduced to 2 minutes.
IAM policy settings/modifications with multiple Resource items are not showing up after save (GUI-1710)	After modifying and saving a policy, the modified settings do not show up when viewing the updated policy. Workaround: see linked bug.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.1 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.6	x86_64
RHEL+KVM	6.6	x86_64

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Enterprise	i386/x86_64
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.

Object Storage Compatibility

Storage Array	Type/Series	Version	HA Support
Riak CS	Open source enterprise	1.5.1	Yes

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	HA Support	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	Yes	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Yes	
Ceph RDB	Any CentOS/RHEL machine with disk, compute and network resources	0.80.5-9	Yes	
EMC	VNX series	FLARE v5.32	Yes	Navisphere CLI 7.32.0.5.54 or higher required.
Direct attached storage	Any DAS-JBOD	N/A	No	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	No	Linux SCSI target framework is required.
Remote disk	N/A	N/A	No	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space. (multiple disks in a RAID 5/10 recommended).

High availability (HA) configurations must be equal in capacity.

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.2](#) with Eucalyptus version 4.1.

4.1.0

This section contains release notes for Eucalyptus version 4.1.0.

What's New?

New Features

Eucalyptus 4.1.0 introduces the following new features.

Feature	Description
Tech preview support for Virtual Private Cloud (VPC)	This release adds limited technical preview support for Virtual Private Clouds (VPC). For more information, see Using Virtual Private Cloud (VPC) .
Support for CloudFormation	This release adds support for CloudFormation. For more information, see Using CloudFormation .
New Management Console features	We've added or enhanced support for image management, S3 storage management and account administration to the Eucalyptus Management Console. For more information, see Management Console Overview .
Preliminary support for client request log tracking	Client request log tracking makes it easier to troubleshoot issues in your cloud by assigning a unique identifier to each client request. This identifier can be traced throughout the system to help debug problems. For more information, see the Tracking Eucalyptus Requests , Using LogTracker for Troubleshooting , and Using Rsyslog to Aggregate Logs .
Tech preview for Ceph-RBD Integration	This version of Eucalyptus adds limited tech preview support for Ceph-RBD integration. This will provide block-storage services for the Eucalyptus EBS service, which exposes block devices to VM instances for persistent block-level storage. For more information, see Configure the Storage Controller .
New instance status checks	You can now query Eucalyptus for EC2 status information. We also modified the behavior for instance restoration. Cloud users can now find out operational status information on their instances for themselves, and administrators have better visibility of system status. For more information, see the euca-describe-instance-status reference topic in the Euca2ools Guide.

Deprecated Features

The following table lists deprecated Eucalyptus features.

Feature	Description
VMware support	Support for VMWare features in Eucalyptus has been deprecated and will be removed in a future release.

Resolved Issues

Eucalyptus 4.1.0 resolves issues listed in the following table.

Issue	Description
EUCA-23	Support for sharing snapshots
EUCA-2405	Switch from EntityWrapper to Entities class for DB interaction in Walrus & SC
EUCA-2411	Cannot detach EBS volume from stopped instance
EUCA-5033	Cannot detach "root" EBS volume from stopped instance
EUCA-5980	BundleInstance on vmware always produces x86_64 images
EUCA-7860	Block Device Mapping metadata incorrect in HVM image
EUCA-7910	suppress BDM does not work for create image
EUCA-8370	DNS property reset results in broken euca admin commands.
EUCA-8622	'ec2:InstanceType' Not Enforced in IAM Policy
EUCA-8636	Extra block device mapping in meta-data service doesn't match AWS
EUCA-8637	EBS-backed instance shows full device path for ephemeral0 which doesn't match AWS behavior
EUCA-8650	Instance Migration Fails on CentOS/RHEL 6.6
EUCA-8767	Update postgresql from 9.1.9
EUCA-8809	euca-modify-property should give useful error message
EUCA-8837	CID-10303 Resource Leak: The system resource will not be reclaimed and reused, reducing the future availability of the resource
EUCA-9103	need euca_conf command for registering cloudformation service
EUCA-9130	Request to Improve DoRunInstances Error Message on CC
EUCA-9193	TagLimitExceeded Not Returned When Maximum Number of Tags Are Exceeded
EUCA-9194	Error Message For Maximum Key and Value Lengths for Tags Don't Match AWS Behavior
EUCA-9201	Ramdisk registration is requiring machine disk params to be provided.

Issue	Description
<u>EUCA-9271</u>	Separated services performance issue
<u>EUCA-9301</u>	Resource admin persona should not be able to manage resources owned by system accounts
<u>EUCA-9344</u>	Update eucarc variables to current convention
<u>EUCA-9371</u>	Port not updated in eucarc credentials when bootstrap.webservices.port is set
<u>EUCA-9421</u>	Upgrading to Eucalyptus 4.0, objectstorage.providerclient should be set to 'walrus'
<u>EUCA-9444</u>	user-api host shows OutOfMemoryError during S3 load testing
<u>EUCA-9452</u>	EBS backend Instance shouldn't allocate the resource of disk in NCs
<u>EUCA-9459</u>	euca-bundle-instance does not allow you to use existing buckets
<u>EUCA-9467</u>	Create user path differences between Euca and AWS
<u>EUCA-9479</u>	Cannot create resource with Retain for DeletionPolicy
<u>EUCA-9508</u>	Cloudformation shows events of deleted stacks
<u>EUCA-9509</u>	Cloudformation resource status not finalized on errors during delete
<u>EUCA-9510</u>	Need to propagate error messages better in cloudformation
<u>EUCA-9599</u>	EBS backed instances disappear if backing volume fails during creation
<u>EUCA-9602</u>	UDP handler is not working
<u>EUCA-9603</u>	Pending multipart uploads take up disk space even after bucket is deleted
<u>EUCA-9628</u>	unable to attach volume to stopped instance, but success is reported
<u>EUCA-9676</u>	policy denial for IAM call gives different results on AWS vs Eucalyptus
<u>EUCA-9680</u>	Provide OS information via euca-get-console-output
<u>EUCA-9691</u>	Auto Scaling - DescribeMetricCollectionTypes repeats 1Minute granularity
<u>EUCA-9692</u>	iam-instance-profile.arn filter not supported in DescribeInstances
<u>EUCA-9697</u>	ELB uses deprecated HAProxy config options
<u>EUCA-9716</u>	imaging.imaging_worker_enabled property is misleading
<u>EUCA-9732</u>	VNET_MODE should default to the same, non-system mode for all services

Issue	Description
<u>EUCA-9745</u>	Bundle Instance returns incorrect error, claims bucket exists when it does not
<u>EUCA-9749</u>	Instance Reservation min-max failing when max is not available
<u>EUCA-9771</u>	Instance stuck shutting down after AZ has gone down (and has come back)
<u>EUCA-9773</u>	Elastic Load Balancing Connection Timeout Management
<u>EUCA-9782</u>	CNAME resolution behavior does not match AWS behavior for instances running on Eucalyptus DNS-enabled Cloud
<u>EUCA-9788</u>	ValidateTemplate doesn't confirm proper resource mapping
<u>EUCA-9792</u>	Upgrade log messages need timestamps.
<u>EUCA-9793</u>	startup.log file needs timestamps.
<u>EUCA-9886</u>	Add support for S3 Bucket tagging
<u>EUCA-9911</u>	BundleInstance is broken when using session credentials
<u>EUCA-9919</u>	ELB should remove registered instances that have been terminated
<u>EUCA-9938</u>	Parameter Property Type "CommaDelimitedList" Causes InternalFailure Error
<u>EUCA-9943</u>	on NC reboot, eucanetd is unable to manipulate NAT table
<u>EUCA-9947</u>	Snapshots remain exported to SC when upload to OSG is turned off
<u>EUCA-9948</u>	HTTP metadata (Content-Encoding, etc) dropped in object PUT/copy to backend
<u>EUCA-9965</u>	Eucalyptus ELB backend failover performance doesn't match AWS ELB
<u>EUCA-9970</u>	"MalformedPolicyDocument: AssumeRole policy must contain principals." Should Be Returned When Using Incorrect Trust Policy File During IAM Role Creation
<u>EUCA-9977</u>	Discrepancy in error response for invalid canonical ID in PUT acl operation
<u>EUCA-9983</u>	Delete object should always return a unique delete marker if the bucket versioning is enabled
<u>EUCA-9984</u>	Eucalyptus ELB Response in 'Cache-control' field is set to 'private'
<u>EUCA-9985</u>	During upgrade of DB, it should not allow external connections
<u>EUCA-9995</u>	"eucalyptus" and "walrus" DNS results contain cache-poisoning authority records

Issue	Description
<u>EUCA-9996</u>	Eucalyptus ELB Doesn't Honor HTTP/1.0 Persistent Connections
<u>EUCA-10024</u>	Eucalyptus ELB Doesn't Add X-Forwarded-Proto and X-Forwarded-Port
<u>EUCA-10047</u>	imaging autoscale group did not launch vm when 1 of 2 clusters had 0 availability
<u>EUCA-10049</u>	Failing to migrate error msg - 'failed to write instance XML to'
<u>EUCA-10056</u>	Node's state while in Edge networking mode should include eucanetd status
<u>EUCA-10072</u>	Error thrown when binding factory is empty
<u>EUCA-10126</u>	Storage property "storage.lunmigrationtimeout" using minutes not hours with EMC backend
<u>EUCA-10136</u>	Node state is not accurately represented by describe nodes
<u>EUCA-10148</u>	EMC volume from snap creation times out during check for mount point
<u>EUCA-10221</u>	OSG - acl related ops trigger JSON errors in cloud logs
<u>EUCA-10240</u>	No mechanism to adjust default password expiry in eucaconsole
<u>GUI-25</u>	console should allow admin to specify account as part of url, and pre-fill the login page accordingly
<u>GUI-106</u>	A few issue of Eucalyptus-console UI functions
<u>GUI-120</u>	mis-set values in console.ini are hard to diagnose
<u>GUI-395</u>	Tries to associate IP to stopped instances and fails
<u>GUI-436</u>	instance landing page's tiles only display the image ID, could also display image name
<u>GUI-491</u>	Create Launch config and launch instance wizards won't allow adding more than one security group
<u>GUI-495</u>	Instance landing page's table view is missing many menu options
<u>GUI-602</u>	DOC - Image detail page
<u>GUI-695</u>	Launch instance wizard should only show instance types that image can run on
<u>GUI-700</u>	forced clearing of password field is also clearing username field on login screen
<u>GUI-718</u>	inbound rules extend outside their container when security group name in rule is super long
<u>GUI-727</u>	When console is used to log in to AWS and to Euca, AWS log in page gets pre-populated with Euca creds

Issue	Description
<u>GUI-734</u>	when an IAM user is created with the name {{1+4}}, no error message shows up.
<u>GUI-736</u>	There is no input validation for negative numbers for volume size in "Advanced options" of Launch instance wizard
<u>GUI-778</u>	2nd attempt to view console output shows blank
<u>GUI-781</u>	Create security group panel does not check for the duplicated rule when the protocol is changed in the middle of flow
<u>GUI-783</u>	On the instance detail page, there is no link to the currently using elastic IP detail page
<u>GUI-790</u>	On the instance volume page, while a volume is detaching, the detach dialog is still accessible.
<u>GUI-792</u>	The register snapshot dialog is missing the loading icon when the submit is clicked
<u>GUI-799</u>	on the resource detail pages, the 'add tag' button should react to the pressing enter key, not the 'save changes' button
<u>GUI-804</u>	Cannot access the scaling group/launch config's detail page when "/" is used in the name
<u>GUI-810</u>	On the create launch config wizard, after using the image filter, some images get lost
<u>GUI-811</u>	Launchconfig and instance landing pages' keypair filters are missing the option for "None"
<u>GUI-813</u>	Launch config detail page does not display the advanced options
<u>GUI-824</u>	Instance detail page is missing a link to the keypair
<u>GUI-826</u>	In case of a long scaling group name, the landing page table stretches and cannot reach the dropdown menu
<u>GUI-827</u>	on AWS, cannot remove the terminated instances
<u>GUI-828</u>	When a new security group with empty rules is created using the create security group dialog, the warning display is missing the link
<u>GUI-844</u>	Able to create a security group with the name abc`~!@#\$%^&*()_+0-+{ }[]\ :;<>?><.,
<u>GUI-890</u>	Disassociate IP dialog on the instance detail page does not pick up the latest IP value if updated
<u>GUI-891</u>	Instance volume page does not update its available volume list when detached on the page
<u>GUI-893</u>	IAM group detail page does not perform live validation on the group's name

Issue	Description
<u>GUI-901</u>	revoke_all_rules could leave group without rules if error interrupts
<u>GUI-905</u>	"/" is not escaped in create new key pairs dialog.
<u>GUI-909</u>	in the launch instance wizard, clicking the create key pair button does not open the create key pair dialog the first time, but causes the key pair field to throw a validation error
<u>GUI-916</u>	When new key pair contains "\" in the name it throws a "keypair already exists" error
<u>GUI-919</u>	On AWS, you cannot launch instance with 'private address only' option
<u>GUI-920</u>	On the create alarm dialog, the instance list displays all instances including the terminated
<u>GUI-932</u>	The instance detail page does not show the correct kernel and ramdisk IDs.
<u>GUI-935</u>	Create Alarm dialog doesn't come up empty if it was already used
<u>GUI-936</u>	Create Alarm may overwrite existing alarm without warning
<u>GUI-978</u>	create scaling group checkbox is not present on step 4 of the launch config wizard
<u>GUI-980</u>	Create key pair operations on launch wizards display unnecessary copy-paste key pair dialog
<u>GUI-996</u>	"add policy" needs to be more specific about the fact that these are scaling policies
<u>GUI-997</u>	browser is not notifying me if I try to move focus away from a page or tab that has unsaved changes
<u>GUI-1001</u>	support sharing images (public and with specific users)
<u>GUI-1006</u>	On IAM user detail page, cannot open the dropdown menu on the group tiles if the group name contains special chars.
<u>GUI-1014</u>	After scaling group is deleted and instances in scaling group were terminated they show in dashboard count for a long while
<u>GUI-1018</u>	On the instance launch wizard, ephemeral device index doesn't get incremented properly
<u>GUI-1022</u>	On IAM policy generator, a validation error message shows up immediately after a template is selected.
<u>GUI-1026</u>	search value not honored when smart refresh in effect
<u>GUI-1029</u>	On IAM user detail page, when a quota value is entered 0, it shows a long error notification, but the value stays 0.

Issue	Description
<u>GUI-1030</u>	If username contains + char, add policy page results in "BeakerException: Cookie value is too long to store" error
<u>GUI-1031</u>	scaling group wizard flags error on launch config field when value already seems selected on Firefox
<u>GUI-1039</u>	remove "delete on terminate" flag in launch config wizard bdm editor
<u>GUI-1040</u>	Display user data for instances and launch configs. Support modifying user data for stopped instances.
<u>GUI-1041</u>	Quota policy does not show up until exit and re-enter user detail view
<u>GUI-1042</u>	policy wizard doesn't handle refresh when session times out
<u>GUI-1050</u>	need an at-a-glance way to indicate in the relevant places that a security group has no rules
<u>GUI-1074</u>	Can't edit ports after selecting protocol for security group rules
<u>GUI-1098</u>	When security group is created, confirmation message does not show s. group name.
<u>GUI-1111</u>	"add user to group" on user detail page button should be disabled until a group is selected in the widget
<u>GUI-1121</u>	smart refresh interferes with actions menu selection
<u>GUI-1123</u>	launch wizard and create launch configuration: security tab create key pair and create security group missing "OR:" text
<u>GUI-1130</u>	Deleted key pair still clickable on instance landing page
<u>GUI-1134</u>	Exceeding quota error takes too long to trigger
<u>GUI-1137</u>	Unable to paste public key into Public SSH Key Contents field using IE 11
<u>GUI-1141</u>	In AWS, Instances, 'Remove from view' doesn't work.
<u>GUI-1142</u>	IAM Policy Generator page loads too slowly
<u>GUI-1148</u>	Cancel links are missing and/or broken in the launch config and launch instance wizards
<u>GUI-1150</u>	Attach volume from instance should provide link to create volume if no volumes in the same AZ exist
<u>GUI-1151</u>	sg rules and IAM users, when added, do not have correct styling applied
<u>GUI-1152</u>	validation error when spaces are not allowed should include the phrase "cannot contain spaces"
<u>GUI-1153</u>	allocate IPs dialog should have "1" as default value

Issue	Description
<u>GUI-1154</u>	access policy name in policy gen tool changes when custom tab is selected, even before any change to a templated policy is made
<u>GUI-1179</u>	Internal server error when deleting security group named {,} from landing page
<u>GUI-1182</u>	Unable to enter admin password needed to change user password in IE
<u>GUI-1183</u>	Attempting to add an instance tag longer than allowed removes instance name
<u>GUI-1184</u>	Create Launch Configuration button still enabled after deselecting Key name in LC wizard.
<u>GUI-1191</u>	Delayed error when adding invalid path to IAM User
<u>GUI-1305</u>	emphasize the SSL warning
<u>GUI-1339</u>	package latest gevent to fix dns lookup issue
<u>GUI-1375</u>	Management Console should log the remote user's IP address in the console log
<u>GUI-1434</u>	labels for password change on manage credentials page do not have correct styling
<u>GUI-1456</u>	IAM User maximum scaling policy quota does not work
<u>TOOLS-294</u>	Bundles generated by euca-bundle-image don't work with EC2
<u>TOOLS-487</u>	euca-describe-groups displays security groups ingressed for a particular security group different than ec2-authorize/aws ec2 describe-security-groups
<u>TOOLS-504</u>	euform-describe-stacks doesn't show parameter values
<u>TOOLS-515</u>	Add euca-modify-subnet-attribute command
<u>TOOLS-516</u>	euform-describe-stack-resources doesn't display resource_status_reason
<u>TOOLS-526</u>	euca-describe-vpcs should output whether vpc is the default
<u>TOOLS-528</u>	euform-validate-template --template-url option looks for a file
<u>TOOLS-529</u>	VPC euca-describe-instances displays poorly
<u>TOOLS-530</u>	euca-run-instances uses inconsistent layout for subnet and security group options
<u>TOOLS-533</u>	euare-servercertupload doesn't upload certificate chain files
<u>TOOLS-534</u>	Using euare-usercreate to add user to a non-existing group fails to show Access/Secret Keys
<u>TOOLS-535</u>	euform-validate-template chokes on responses with capability info

Issue	Description
TOOLS-536	euform-create-stack doesn't support '--capabilities' option to create nested Cloudformation stack
TOOLS-538	Add "non-vpc" qualifier to --private option of euca-run-instances
TOOLS-539	euca-create-vpc does not work with --tenancy dedicated
TOOLS-541	euca-create-network-interface does not take security group
TOOLS-542	euare-userlistcerts should print certificate owner

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 4.1.0 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Non-latin characters are not validated in keypair name and triggers HTTP 500 (GUI-1524)	Using non-Latin characters in some object names can trigger an HTTP 500 error. Workaround: avoid using non-Latin characters in resource names.
Ensure unicode strings are used in str.format() calls to avoid HTTP 500 errors with non-Latin characters (GUI-1559)	Non-latin characters in resource names can trigger HTTP 500 errors on various pages. Affected resources include snapshots, key pairs, security groups, scaling groups, and launch configurations". Workaround: avoid using non-Latin characters in resource names.
Cannot login to UI when console.ini setting 'session.cookie_expires' set at or below 28800 (GUI-1592)	See linked bug for more information.
euare-userlistcerts --as-account XXX does not print certificates for this account (EUCA-10401)	Specifying the --as-account parameter with the euare-userlistcerts command only outputs certificates for the user who runs the command (euca-admin). Workaround: use the -u option instead.

Issue	Description
Load Balancer Doesn't Register Instances from AutoScaling Group.(EUCA-9419)	If an autoscaling group is created and associated to an ELB, the Load Balancer doesn't register the instances that are part of the autoscaling group.. Workaround: Instances can be added to a Load Balancer by using the <code>eulb-register-instances-with-lb</code> command-line utility.
eucanetd can not start dhcpd due to udp port binding conflict from dnsmasq.(EUCA-10166)	In some instances the dhcpd process for the hypervisor's default network is conflicting with eucanetd's ability to run dhcpd, possibly due to a port conflict. This appears to be a recent change in dhcpd which will not allow the two servers to bind to the same UDP port. Suggested workaround: the default network for the hypervisor should be destroyed and/or the hypervisor's dnsmasq process killed. Please see the attached bug for an example.

Outstanding known issues from previous releases:

Issue	Description
Instances with BDM don't start with direct ESXi connection (EUCA-9724)	The bfEBS instance with BDM does not work in direct ESXi connection configuration. The same command works correctly with connections via vCenter.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.1 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.6	x86_64
RHEL+KVM	6.6	x86_64

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Enterprise	i386/x86_64
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.

Object Storage Compatibility

Storage Array	Type/Series	Version	HA Support
Riak CS	Open source enterprise	1.5.1	Yes

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	HA Support	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	Yes	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Yes	
Ceph RDB	Any CentOS/RHEL machine with disk, compute and network resources	0.80.5-9	Yes	
EMC	VNX series	FLARE v5.32	Yes	Navisphere CLI 7.32.0.5.54 or higher required.
Direct attached storage	Any DAS-JBOD	N/A	No	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	No	Linux SCSI target framework is required.
Remote disk	N/A	N/A	No	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space. (multiple disks in a RAID 5/10 recommended).

High availability (HA) configurations must be equal in capacity.

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.2](#) with Eucalyptus version 4.1.

4.0.2

This section contains release notes for Eucalyptus version 4.0.2.

What's New?

New Features

Eucalyptus 4.0.2 is a maintenance release and contains no new features.

Resolved Issues

Eucalyptus 4.0.2 resolves issues listed in the following table.

Issue	Description
GUI-411	Landing page tile's gear button shows up over the dropdown menu
GUI-1185	EBS snapshot not deleted when image is removed from cloud
GUI-1197	Unchecking 'Delete on terminate' when launching an EBS instance does not work
GUI-1258	Admin password not accepted when changing IAM user password
GUI-1272	Internal error when console is set up with SSL enabled.
GUI-1309	Unable to change password using multi-cluster config
GUI-1353	Please see Eucalyptus Security Advisory ESA-27
GUI-1371	Please see Eucalyptus Security Advisory ESA-28
EUCA-8482	Windows guest limited to 2 cores
EUCA-9165	Using 7 User Facing Services causes slowness on bootstrap
EUCA-9256	Please see Eucalyptus Security Advisory ESA-25
EUCA-9435	Imaging Worker does not work when registration network is isolated from public network
EUCA-9694	Consistent DescribeSensors error in cc.log
EUCA-9707	Instance restore logs ERRORS and failures yet restore succeeds
EUCA-9713	Registering large images taking over 30 seconds to respond
EUCA-9729	euscale-create-auto-scaling-group does not always honor ec2:quota-vminstancenumber

Issue	Description
EUCA-9761	"No such role" logged constantly at DEBUG level
EUCA-9776	Eucalyptus DNS returns SERVFAIL too frequently
EUCA-9779	Ephemeral disk not initialized for Windows 2012
EUCA-9807	iptables rule ""-A PREROUTING -d 169.254.169.254/32 -p..."may be not applied, when NC restarts
EUCA-9883	A user in the AccountAdministrator privileged role can create IAM resources in the eucalyptus account
EUCA-9887	HVM instance migration fails several hours after instance started
EUCA-9942	eucanetd will fail to remove IPs if total number of public IPs configured is > 1024.
EUCA-9966	last_modified property is missing when fetching objects from Eucalyptus via Boto bucket.get_key()
EUCA-9978	Session tokens in S3 pre-signed URLs should be x-amz-security-token not SecurityToken
EUCA-9980	PUT object acl should return x-amz-version-id header if versioning is enabled/suspended on the bucket
EUCA-9982	Missing headers, x-amz-version-id and x-amz-delete-marker, in delete object/version response
EUCA-9987	Please see Eucalyptus Security Advisory ESA-25
EUCA-10022	Please see Eucalyptus Security Advisory ESA-26 .
EUCA-10080	Please see Eucalyptus Security Advisory ESA-28 .

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 4.0.2 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
When a keypair name is longer than 76 characters, nginx throws 502 Bad Gateway error.(GUI-1364)	When a keypair name is longer than 76 characters, nginx throws a 502 Bad Gateway error. Workaround is to not enter keypair names longer than 76 characters.
Instances with BDM don't start with direct ESXi connection (EUCA-9724)	The bfEBS instance with BDM does not work in direct ESXi connection configuration. The same command works correctly with connections via vCenter.

Outstanding known issues from previous releases:

Issue	Description
The <code>delete on terminate</code> checkbox on the Launch Configuration Wizard of the Eucalyptus Management Console is always enabled. (GUI-1039)	The <code>delete on terminate</code> value is always be set to <code>True</code> despite the checkbox value set in the Device Mapping editor for EBS-backed images.
Setting any quota to 0 for an IAM user causes errors. (GUI-1029)	When setting quotas for a particular IAM user, entering a value of 0 causes errors. Workaround: Some users find it more useful to define a quota limit with the value 0 instead of using a 'Deny' action. Since we currently do not support using 0 as a value, use the CLI commands <code>ec2-deny-vmtypes</code> or <code>ec2-vmquota</code>) instead to enforce the policy at the account level.
The Node Controller (NC) does not support the <code>cancel-bundle-task</code> operation. (EUCA-9351)	The <code>cancel-bundle-task</code> operation has no effect on bundle tasks already under way (on both KVM and VMware), allowing the bundling process to complete and then marking it as failed/canceled.
The Broker does not support the <code>cancel-bundle-task</code> operation. (EUCA-9350)	The <code>cancel-bundle-task</code> operation has no effect on bundle tasks already under way (on both KVM and VMware), allowing the bundling process to complete and then marking it as failed/canceled.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.0 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.5	x86_64
RHEL+KVM	6.5	x86_64
VMware ESXi	5.1	x86_64
VMware vCenter	5.1	x86_64

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Enterprise	i386/x86_64
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64

OS Type	Version/Edition	Architecture
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.

Object Storage Compatibility

Storage Array	Type/Series	Version	HA Support
Riak CS	Open source enterprise	1.4.5	Yes

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	HA Support	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	Yes	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Yes	
EMC	VNX series	FLARE v5.32	Yes	Navisphere CLI 7.32.0.5.54 or higher required.
Direct attached storage	Any DAS-JBOD	N/A	No	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	No	Linux SCSI target framework is required.
Remote disk	N/A	N/A	No	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space. (multiple disks in a RAID 5/10 recommended).

High availability (HA) configurations must be equal in capacity.

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.1](#) against Eucalyptus version 4.0.

4.0.1

This section contains release notes for Eucalyptus version 4.0.1.

What's New?

New Features

Eucalyptus 4.0.1 is a maintenance release and contains no new features.

Resolved Issues

Eucalyptus 4.0.1 resolves issues listed in the following table.

Issue	Description
EUCA-9595	after upgrade unable to enable cloudwatch service
EUCA-9578	CLONE - for 4.0.1 - Volume deletion on storage controller should be idempotent
EUCA-9574	CLONE - for 4.0.1 - volumes leftover in SC database as "available" after multiple instances fail to run
GUI-966	CLONE - load balancer cannot be added to autoscaling group
EUCA-8906	De-register/Re-register of Cluster with Different Name Doesn't Work
EUCA-8901	CC and NC need to log *something* when they start
EUCA-9443	<KeyMarker/> and <UploadIdMarker/> is not present in ListMultipartUploadsResult
EUCA-8706	WS-Security policies should not be located in /var/lib/eucalyptus/keys
EUCA-9576	CLONE - for 4.0.1 - Storage controller can queue multiple delete tasks for each volume
EUCA-9582	CLONE - for 4.0.1 - Node export volume requests can timeout when load is high
EUCA-9580	CLONE - for 4.0.1 - EqualLogic SAN provider performance poor
DOC-1115	Documentation on instance type is misleading
GUI-933	From the volume page, volumes cannot be attached to stopped instances
GUI-1084	Wireframe de-register image UI
GUI-1082	Console is displaying "Https not detected message" on login page when ssl is configured.

Issue	Description
GUI-1052	Invalid id for Create Security Group button is causing automation to fail
EUCA-9679	Version Bump 4.0.1
EUCA-9334	euca-bundle-instance does not work on vmware
EUCA-9561	Vague Error Message when using euca-import-instance with unsupported file format (VMDK)
SEC-113	Firewall changes in 4.0
EUCA-7877	euca-modify-instance-type can make vmware based cloud non-functional

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 4.0.1 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
The delete on terminate checkbox on the Launch Configuration Wizard of the Eucalyptus Management Console is always enabled. (GUI-1039)	The delete on terminate value is always be set to True despite the checkbox value set in the Device Mapping editor for EBS-backed images.
Creating an IAM policy for a user or group whose name contains a + character causes errors. (GUI-1030)	When adding an IAM policy, and the user or group name contains a + character, a 502 Bad Gateway error results. Upon returning to the previous page using the browser's back button, another error message displays on the top of the Management Console. Workaround: Use the CLI commands (e.g. <code>euare-useraddpolicy</code> or <code>euare-groupaddpolicy</code>) instead.
Setting any quota to 0 for an IAM user causes errors. (GUI-1029)	When setting quotas for a particular IAM user, entering a value of 0 causes errors. Workaround: Some users find it more useful to define a quota limit with the value 0 instead of using a 'Deny' action. Since we currently do not support using 0 as a value, use the CLI commands <code>ec2-deny-vmtypes</code> or <code>ec2-vmquota</code>) instead to enforce the policy at the account level.

Issue	Description
No Session Timeout notification displays after the Eucalyptus Management Console times out. (GUI-263)	The default timeout for the admin user is one hour, while the timeout for non-admin users is 12 hours (assuming the 30-minute idle timeout has not already been reached first). However, when either timeout is reached, clicking the dashboard or the screens in the Management Console appears to do nothing. Reloading the page or visiting another page in the application causes the page to be redirected to the login screen without notification that they have timed out.
The Node Controller (NC) does not support the <code>cancel-bundle-task</code> operation. (EUCA-9351)	The <code>cancel-bundle-task</code> operation has no effect on bundle tasks already under way (on both KVM and VMware), allowing the bundling process to complete and then marking it as failed/canceled.
The Broker does not support the <code>cancel-bundle-task</code> operation. (EUCA-9350)	The <code>cancel-bundle-task</code> operation has no effect on bundle tasks already under way (on both KVM and VMware), allowing the bundling process to complete and then marking it as failed/canceled.
Multiple user-facing services nodes cause slowness on bootstrap (EUCA-9165)	If you install multiple user-facing services nodes, you must wait for them to become enabled (during bootstrap or restart), which can take 15-20 minutes.
The default password has been removed from Eucalyptus installs to enhance security. (EUCA-8497)	The default password for the the eucalyptus/admin user has been removed from Eucalyptus installs. To set a password allowing access to the admin/user consoles, run the following commands using your Eucalyptus account credentials: <pre>euare-useraddloginprofile -u admin -p \$PASSWORD euare-userupdateinfo -u admin -k email -i \$EMAIL</pre> Setting the email is not required, but doing so prevents the user from being prompted to change the password upon first log in.
Manual cleanup of cached EMI images are required when upgrading VMWare Broker. (DOC-1220)	After shutting down the VMware Broker, remove all the cached VM images with the name, <code>emi-XXXX-YYYY</code> before starting the upgraded Broker. For details on how to access these images and remove them, see Eucalyptus Upgrade or Migration in the Eucalyptus Installation Guide.

Outstanding known issues from previous releases:

Issue	Description
Instance Migration Fails on CentOS/RHEL 6.5 (EUCA-8650)	Instance live migration does not work with the default qemu-kvm version. Workaround: after installing the eucalyptus-nc package (for a fresh install) or immediately after upgrading the cloud and the base OS to CentOS 6.5, downgrade the qemu-kvm and qemu-img packages by running the following commands on the node controllers: <pre>yum downgrade http://vault.centos.org/6.4/os/x86_64/Packages/qemu-kvm-0.12.1.2-2.355.el6.x86_64.rpm \ http://vault.centos.org/6.4/os/x86_64/Packages/qemu-img-0.12.1.2-2.355.el6.x86_64.rpm service libvirtd restart</pre>
On Security groups landing page "More actions" button sometimes fails to activate in Windows7 / IE10 (EUCA-8166)	Workaround: refresh the page.
Cannot change launch config of autoscaling group from the user console while running Internet Explorer 10 and Windows 7 (EUCA-7952)	Attempting to change a launch configuration with the user console while running Internet Explorer 10 on Windows 7 results in the error "Failed to update scaling group. Please try again.". Workaround: use the Firefox or Google Chrome browser, or use the command line tools.
EBS image registration ignores user-supplied architecture argument (EUCA-7337)	EBS image registration defaults to x86_64. The default should be i386. In addition, if you attempt to change the architecture explicitly, it's ignored and stays x86_64. This is cosmetic, as the backend ignores the architecture argument.
euca-describe-nodes does not return output in certain distributed topologies (EUCA-7039)	When the CLC, CC, and NCs are distributed components, euca-describe-nodes returns nothing. This is an issue with the CLC. Workaround: see linked bug. Note: This workaround just allows you to figure out how many nodes are attached to running instances as an administrator.
Misleading error from euca_conf --configure-vmware (EUCA-378)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: see linked bug.
Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted. (EUCA-3856)	Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted.

Issue	Description
Registering image after euca-bundle-instance differs for vmware. (EUCA-7847)	Name of the manifest file on vmware differs from other virtualization types. Please check content of the bucket used for bundling to find out correct manifest name. Generally it should be bucket/prefix.manifest.xml for instances started from linux paravirtualized images and bucket/prefix.raw.manifest.xml for instances started from all other images. For example: • <bundle_name>/<prefix>.manifest.xml for paravirtualized instances • <bundle_name>/<prefix>.raw.manifest.xml for all other instances
Volume attachments fail with EBS backed guests using ephemeral disks post stop/start (EUCA-7460)	Workaround: see linked bug.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb property does not work on VMware even after adding it to the config and euca_imager left cache directory with all files after image creation.
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result connectivity issues with the Broker.
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the <code>eucalyptus-cloud</code> service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to CLOUD_OPTS in <code>eucalyptus.conf</code> to disable hotspot. However, please note that this workaround might have some performance impact.

Issue	Description
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre>euare-useraddloginprofile -- delegate account1 -u user03 -p test</pre> 2. Check to see that the user's login profile has been created: <pre>euare-usergetloginprofile -- delegate account1 -u user03 user03</pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a <code>409 BucketNotEmpty</code> . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <pre>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message) In spite of this error the migration has started and should successfully complete.</pre>

Issue	Description
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eu-report-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code> , then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: <code>storage.maxtotalvolumesizeingb</code> <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.

Issue	Description
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages iSCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the eucalyptus-cloud process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.0 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.5	x86_64
RHEL+KVM	6.5	x86_64
VMware ESXi	5.1	x86_64
VMware vCenter	5.1	x86_64

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Enterprise	i386/x86_64
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64

OS Type	Version/Edition	Architecture
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.

Object Storage Compatibility

Storage Array	Type/Series	Version	HA Support
Riak CS	Open source enterprise	1.4.5	Yes

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	HA Support	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	Yes	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Yes	
EMC	VNX series	FLARE v5.32	Yes	Navisphere CLI 7.32.0.5.54 or higher required.
Direct attached storage	Any DAS-JBOD	N/A	No	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	No	Linux SCSI target framework is required.
Remote disk	N/A	N/A	No	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space. (multiple disks in a RAID 5/10 recommended).

High availability (HA) configurations must be equal in capacity.

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.1](#) against Eucalyptus version 4.0.

4.0.0

This section contains release notes for Eucalyptus version 4.0.0.

What's New?

New Features

Eucalyptus 4.0.0 introduces the following new features.

Feature	Description
New architecture	We made changes to the way the Eucalyptus components are installed and registered. We separated the user-facing services from the database host (the CLC). This makes for better security and for better availability of the user-facing services. For more information, see Plan Your Installation .
New storage architecture	We added an object storage system that provides a S3 API interface. This interface is designed to scale out horizontally. For more information, see Object Storage .
New networking mode	We added support for the new Edge networking mode. For more information, see the Installation Guide..
New default administrator roles	We added support for three default administrator roles. For more information, see Administration Roles .
New ELB features	We added support in elastic load balancing (ELB) to support session stickiness and SSL certificates. For more information about sticky sessions, see Creating Elastic Load Balancing Sticky Sessions . For more information about SSL certificates, see Uploading SSL Certificates for Elastic Load Balancing .
Deprecated console	We deprecated the Administration Console. The IAM functionality was moved to the User Console. The following tasks must now be done using the CLI: change VM types, create accounts, delete accounts, download certificates, and generate reports.
Stock DHCP server package	Previous versions of Eucalyptus applied a private DHCP entry to VNET_DHCPDAEMON for the Cluster Controller (CC) and the Node Controller (NC). In 4.0.0, we recommend that the VNET_DHCPDAEMON file be edited to use the dhcpinstead of the dhcp41 file. For more information, see "Switch to the Stock DHCP Package" in the 4.0.0 Eucalyptus Installation Guide.
New schemas	We created new schemas for the backend services that correspond to the user-facing services. For more information, see the Internal APIs section in Schema Documentation .

Feature	Description
New technical preview feature	We are offering CloudFormation templates in technical preview. For more information about this feature, go to the draft specification. For more information about AWS CloudFormation go to Working with AWS CloudFormation Templates .

Resolved Issues

Eucalyptus 4.0.0 resolves issues listed in the following table.

Issue	Description
INST-131	Increase length of default demo user password
GUI-35	attach volume from instance landing when no volumes exist shows wrong message
GUI-19	eucalyptus-console error on the CLI
EUCA-9413	Improve message logging for user console regarding the wrong version of openssl
EUCA-9070	better error message for euca-create-snapshot is required
EUCA-8999	Walrus Becomes Unresponsive After 50 Simultaneous Connections
EUCA-8917	GroovyScriptEngineImpl usage can lead to PermGen leak
EUCA-8834	ELB health-check issues after NTP sync
EUCA-8812	images bundled without kernel and ramdisk fails
EUCA-8758	AWS Compatibility: euca-describe-keypairs does not throw UnauthorizedOperation when applicable
EUCA-8755	No public IP displayed for instance after an IP address is associated and then disassociated from an instance on AWS
EUCA-8739	CLC reports ENABLED nodes as INITIALIZED
EUCA-8737	Fail to launch EBS-backed instance based on an instance registered with /dev/vda
EUCA-8734	Volume creation status not updated by CLC in timely fashion
EUCA-8732	High concurrency in requests to metadata service causes cloud to become unresponsive
EUCA-8709	cannot delete security group if the associated account is deleted
EUCA-8693	Why is sdb not a valid device name?
EUCA-8692	Unclear error message when attempting to create a volume larger than permitted

Issue	Description
<u>EUCA-8640</u>	Recursive option in Eucalyptus DNS Doesn't Support Separate Views (Split-Horizon)
<u>EUCA-8626</u>	Vague Error When Users Associates Resources Cross-Accounts
<u>EUCA-8614</u>	Log messages in CC in HA config
<u>EUCA-8605</u>	Volume failed to attach on EBS backed run instance
<u>EUCA-8591</u>	Get rid of legacy NetApp provider code and dependency jar
<u>EUCA-8589</u>	Unable to delete snapshots where the original AZ has been removed from the system
<u>EUCA-8569</u>	euca-validator python module dependencies missing
<u>EUCA-8560</u>	Source and destination overlap in strncpy (read_instance_xml)
<u>EUCA-8551</u>	NetApp: Better handling and cleanup of slow flex-clone operations
<u>EUCA-8513</u>	User with no IAM policy is able to access some Service APIs
<u>EUCA-8448</u>	Metadata Service Doesn't Handle Multiple URL Requests Per HTTP Connection
<u>EUCA-8417</u>	euca-run-instances breaks with --instance-count and --client-token
<u>EUCA-8415</u>	Make log messages in NetappCMode differentiate between timeout and clone failure
<u>EUCA-8413</u>	There is no input validation for desired size of AutoScaling group
<u>EUCA-8406</u>	CC restart causes DHCP to offer CLC instead of system.dns.nameserveraddress
<u>EUCA-8402</u>	Windows password changes after migrating
<u>EUCA-8389</u>	IAM service XML namespace is incorrect
<u>EUCA-8346</u>	S3 spoofing enabled by default
<u>EUCA-8165</u>	STS GetSessionToken should support same limits as AWS
<u>EUCA-8097</u>	CMode: LUN Name needs to be configurable
<u>EUCA-8095</u>	CMode: Volume Name on NetApp needs to be configurable (prefix and suffix).
<u>EUCA-7905</u>	After failover of CLC, ELB DNS names are no longer resolvable
<u>EUCA-7870</u>	Instance Profiles Don't Work with IAM Roles that have an IAM Identity and Management Policy

Issue	Description
<u>EUCA-7814</u>	VNET_DNS in eucalyptus.conf on CC Has No Meaning in Managed/Managed (NO VLAN) Modes
<u>EUCA-7758</u>	Eucalyptus DNS binds to a specific interface which causes issues in certain topologies
<u>EUCA-7752</u>	Account policy is seen as user policy for admin user of an account
<u>EUCA-7748</u>	Walrus does not fully comply with "Expect: Continue" headers in PUT requests
<u>EUCA-7686</u>	Cloud controller binds port 443
<u>EUCA-7670</u>	Restarting DNS service causes high CPU usage
<u>EUCA-7655</u>	SOA queries for zone apex result in SERVFAIL errors
<u>EUCA-7642</u>	NetApp Storage leaves eucalyptus snapshots (netapp volumes) in filer
<u>EUCA-7524</u>	Failed to find valid attachment token (SC)
<u>EUCA-7417</u>	Admin UI Can't Handle Large Account/User/Group Entries in Eucalyptus IAM
<u>EUCA-7349</u>	DNS search path in CC does not update with CLC property
<u>EUCA-7228</u>	API support for volume_type in create_volume calls.
<u>EUCA-7182</u>	aws-exec-read ACL is identical to the private ACL
<u>EUCA-7151</u>	euca-describe-nodes shows all instances/nodes that were ever in the cloud
<u>EUCA-6427</u>	DNS TCP handler logs maximum size error
<u>EUCA-6421</u>	Stopped EBS backed instance still reports with euca:node tag
<u>EUCA-6411</u>	Improve error for invalid instance profile when running instance
<u>EUCA-5951</u>	Terminated instances retain their private IP addresses
<u>EUCA-5915</u>	DescribeVMTypes needs to be integrated with IAM
<u>EUCA-5563</u>	Password type input with autocomplete enabled
<u>EUCA-5529</u>	DescribeInstances without instance-ID does not give any output
<u>EUCA-5054</u>	Eucalyptus (EC2) responses omit required requestId element
<u>EUCA-4908</u>	euca-describe-keypairs does not return error message when using non-existent keypair name
<u>EUCA-4879</u>	euca-delete-volume with invalid format for volume ID does not return an error
<u>EUCA-4709</u>	Resource IDs are case-sensitive

Issue	Description
EUCA-4528	Reporting user and account caches are not HA safe
EUCA-3206	Walrus Scalability Questions
EUCA-3069	NC: possible FD leak in getConsoleOutput
EUCA-2915	Display inconsistencies with euca-describe-instances when instance times out v. manually terminated
EUCA-2198	Walrus should not appear in DescribeRegionsResponses
EUCA-2197	cloud user can run euca-describe-regions euca-describe-availability-zones verbose
EUCA-2182	Walrus xml responses lack XML header in response body, S3 includes <?xml> in response bodies
EUCA-1803	Running consecutive unique images eventually fails, possibly a Walrus caching issue?
EUCA-1018	EUARE: Using account id in resource ARN is ignored

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 4.0.0 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
The <code>delete on terminate</code> checkbox on the Launch Configuration Wizard of the Eucalyptus Management Console is always enabled. (GUI-1039)	The <code>delete on terminate</code> value is always be set to <code>True</code> despite the checkbox value set in the Device Mapping editor for EBS-backed images.
Creating an IAM policy for a user or group whose name contains a <code>+</code> character causes errors. (GUI-1030)	When adding an IAM policy, and the user or group name contains a <code>+</code> character, a 502 Bad Gateway error results. Upon returning to the previous page using the browser's back button, another error message displays on the top of the Management Console. Workaround: Use the CLI commands (e.g. <code>euare-useraddpolicy</code> or <code>euare-groupaddpolicy</code>) instead.

Issue	Description
Setting any quota to 0 for an IAM user causes errors. (GUI-1029)	When setting quotas for a particular IAM user, entering a value of 0 causes errors. Workaround: Some users find it more useful to define a quota limit with the value 0 instead of using a 'Deny' action. Since we currently do not support using 0 as a value, use the CLI commands <code>ec2-deny-vmtypes</code> or <code>ec2-vmquota</code> instead to enforce the policy at the account level.
No Session Timeout notification displays after the Eucalyptus Management Console times out. (GUI-263)	The default timeout for the admin user is one hour, while the timeout for non-admin users is 12 hours (assuming the 30-minute idle timeout has not already been reached first). However, when either timeout is reached, clicking the dashboard or the screens in the Management Console appears to do nothing. Reloading the page or visiting another page in the application causes the page to be redirected to the login screen without notification that they have timed out.
The Node Controller (NC) does not support the <code>cancel-bundle-task</code> operation. (EUCA-9351)	The <code>cancel-bundle-task</code> operation has no effect on bundle tasks already under way (on both KVM and VMware), allowing the bundling process to complete and then marking it as failed/canceled.
The Broker does not support the <code>cancel-bundle-task</code> operation. (EUCA-9350)	The <code>cancel-bundle-task</code> operation has no effect on bundle tasks already under way (on both KVM and VMware), allowing the bundling process to complete and then marking it as failed/canceled.
Multiple user-facing services nodes cause slowness on bootstrap (EUCA-9165)	If you install multiple user-facing services nodes, you must wait for them to become enabled (during bootstrap or restart), which can take 15-20 minutes.
The default password has been removed from Eucalyptus installs to enhance security. (EUCA-8497)	The default password for the the eucalyptus/admin user has been removed from Eucalyptus installs. To set a password allowing access to the admin/user consoles, run the following commands using your Eucalyptus account credentials: <pre>euare-useraddloginprofile -u admin -p \$PASSWORD euare-userupdateinfo -u admin -k email -i \$EMAIL</pre> Setting the email is not required, but doing so prevents the user from being prompted to change the password upon first log in.
Manual cleanup of cached EMI images are required when upgrading VMWare Broker. (DOC-1220)	After shutting down the VMware Broker, remove all the cached VM images with the name, <code>emi-XXXX-YYYY</code> before starting the upgraded Broker. For details on how to access these images and remove them, see Eucalyptus Upgrade or Migration in the Eucalyptus Installation Guide.

Outstanding known issues from previous releases:

Issue	Description
Instance Migration Fails on CentOS/RHEL 6.5 (EUCA-8650)	Instance live migration does not work with the default qemu-kvm version. Workaround: after installing the eucalyptus-nc package (for a fresh install) or immediately after upgrading the cloud and the base OS to CentOS 6.5, downgrade the qemu-kvm and qemu-img packages by running the following commands on the node controllers: <pre>yum downgrade http://vault.centos.org/6.4/os/x86_64/Packages/qemu-kvm-0.12.1.2-2.355.el6.x86_64.rpm \ http://vault.centos.org/6.4/os/x86_64/Packages/qemu-img-0.12.1.2-2.355.el6.x86_64.rpm service libvirtd restart</pre>
On Security groups landing page "More actions" button sometimes fails to activate in Windows7 / IE10 (EUCA-8166)	Workaround: refresh the page.
Cannot change launch config of autoscaling group from the user console while running Internet Explorer 10 and Windows 7 (EUCA-7952)	Attempting to change a launch configuration with the user console while running Internet Explorer 10 on Windows 7 results in the error "Failed to update scaling group. Please try again.". Workaround: use the Firefox or Google Chrome browser, or use the command line tools.
EBS image registration ignores user-supplied architecture argument (EUCA-7337)	EBS image registration defaults to x86_64. The default should be i386. In addition, if you attempt to change the architecture explicitly, it's ignored and stays x86_64. This is cosmetic, as the backend ignores the architecture argument.
euca-describe-nodes does not return output in certain distributed topologies (EUCA-7039)	When the CLC, CC, and NCs are distributed components, euca-describe-nodes returns nothing. This is an issue with the CLC. Workaround: see linked bug. Note: This workaround just allows you to figure out how many nodes are attached to running instances as an administrator.
Misleading error from euca_conf --configure-vmware (EUCA-378)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: see linked bug.
Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted. (EUCA-3856)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: restart the cloud controller.

Issue	Description
Registering image after euca-bundle-instance differs for vmware. (EUCA-7847)	Name of the manifest file on vmware differs from other virtualization types. Please check content of the bucket used for bundling to find out correct manifest name. Generally it should be bucket/prefix.manifest.xml for instances started from linux paravirtualized images and bucket/prefix.raw.manifest.xml for instances started from all other images. For example: • <bundle_name>/<prefix>.manifest.xml for paravirtualized instances • <bundle_name>/<prefix>.raw.manifest.xml for all other instances
Volume attachments fail with EBS backed guests using ephemeral disks post stop/start (EUCA-7460)	Workaround: see linked bug.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb property does not work on VMware even after adding it to the config and euca_imager left cache directory with all files after image creation.
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result connectivity issues with the Broker.
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the eucalyptus-cloud service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to CLOUD_OPTS in eucalyptus.conf to disable hotspot. However, please note that this workaround might have some performance impact.

Issue	Description
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre>euare-useraddloginprofile -- delegate account1 -u user03 -p test</pre> 2. Check to see that the user's login profile has been created: <pre>euare-usergetloginprofile -- delegate account1 -u user03 user03</pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a <code>409 BucketNotEmpty</code> . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <pre>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message) In spite of this error the migration has started and should successfully complete.</pre>

Issue	Description
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eu-report-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code> , then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: <code>storage.maxtotalvolumesizeingb</code> <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.

Issue	Description
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages iSCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographic keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the eucalyptus-cloud process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.

Eucalyptus Compatibility Matrix

This compatibility matrix details supported platforms in Eucalyptus 4.0 software.

Compute compatibility

OS and Hypervisors	Version	Architecture
Centos+KVM	6.5	x86_64
RHEL+KVM	6.5	x86_64
VMware ESXi	5.1	x86_64
VMware vCenter	5.1	x86_64

Guest operating systems

OS Type	Version/Edition	Architecture
Microsoft Windows Server 2003 R2	Enterprise	i386/x86_64
Microsoft Windows Server 2008	Datacenter	i386/x86_64
Microsoft Windows Server 2008 R2	Datacenter	i386/x86_64
Microsoft Windows Server 2012	Datacenter	x86_64
Microsoft Windows 7	Professional	x86_64

OS Type	Version/Edition	Architecture
All modern Linux distributions	Redhat, CentOS, Ubuntu, Fedora, Debian, SLES, OpenSUSE, etc.	i386/x86_64

Network modes

Networking Mode	Description
Edge	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires that any external DHCP service be isolated from guest VMs.
Managed	Layer 2 and 3 VM isolation; uses built-in DHCP service. Requires a cloud switch to forward a configurable range of VLAN-tagged packets, and requires that any external DHCP service be isolated from guest VMs.
Managed (No VLAN)	Layer 3 VM isolation; uses built-in DHCP service and requires that any external DHCP service be isolated from guest VMs.

Object Storage Compatibility

Storage Array	Type/Series	Version	HA Support
Riak CS	Open source enterprise	1.4.5	Yes

Elastic Block Storage Compatibility

Storage Array	Type/Series	Version	HA Support	Notes
NetApp SAN	FAS 2000 series FAS 3000 series FAS 6000 series	8.1.2 Clustered Data ONTAP or 7-mode	Yes	FlexClone and iSCSI licenses required.
Dell EqualLogic SAN	PS 4000 series PS 6000 series	Compatible CLI versions	Yes	
EMC	VNX series	FLARE v5.32	Yes	Navisphere CLI 7.32.0.5.54 or higher required.
Direct attached storage	Any DAS-JBOD	N/A	No	Linux SCSI target framework is required.
Local disks	Local overlay filesystem	N/A	No	Linux SCSI target framework is required.
Remote disk	N/A	N/A	No	Linux SCSI target framework is required.

Minimum Hardware Requirements

Front end components

Cloud Controller, Walrus, Storage Controller, Cluster Controller:

8 Cores, 2.4GHz, 8GB RAM, 500GB Disk space. (multiple disks in a RAID 5/10 recommended).

High availability (HA) configurations must be equal in capacity.

Node controllers

4 Cores, 2.4GHz, 8GB RAM, 160GB Disks (multiple disks recommended).

Note: Hardware virtualization must be enabled in the BIOS.

Euca2ools

We recommend using [Euca2ools 3.1](#) against Eucalyptus version 4.0.

3.4.3

This section contains release notes for Eucalyptus version 3.4.3.

What's New?

New Features

Eucalyptus 3.4.3 is a maintenance release and contains no new features.

Resolved Issues

Eucalyptus 3.4.3 resolves issues listed in the following table.

Issue	Description
EUCA-9568	Bump Version in maint/3.4/testing from 3.4.2 to 3.4.3
EUCA-9498	GroovyScriptEngineImpl usage can lead to PermGen leak
EUCA-9497	CC gets killed by OOMkiller when 100+ instances are running
EUCA-9462	DNS TTL is Too Long for ELB
EUCA-9417	canonical ID replaced by NULL value after upgrade from 3.3.2 to 3.4.2
EUCA-9415	invalid SSL packages creates havoc
EUCA-9362	User Console Unable To Display Tags Associated With Large Number of Instances
EUCA-9297	volumes leftover in SC/CLC database as "available" after instance fail to run due to low space on SAN
EUCA-9296	volumes leftover in SC database as "available" after multiple instances fail to run

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.4.3 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Instance Migration Fails on CentOS/RHEL 6.5 (EUCA-8650)	Instance live migration does not work with the default qemu-kvm version. Workaround: after installing the eucalyptus-nc package (for a fresh install) or immediately after upgrading the cloud and the base OS to CentOS 6.5, downgrade the qemu-kvm and qemu-img packages by running the following commands on the node controllers: <pre>yum downgrade http://vault.centos.org/6.4/os/x86_64/ \ Packages/qemu-kvm-0.12.1.2-2.355.el6.x86_64.rpm \ http://vault.centos.org/6.4/os/x86_64/ \ Packages/ \ qemu-img-0.12.1.2-2.355.el6.x86_64.rpm service libvirtd restart</pre>

Outstanding known issues from previous releases:

Issue	Description
Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component (EUCA-7845)	When running ELB in EDGE networking mode the Servo VM is trying to contact the CLC via the 169.254.169.254 address. For some reason this works in the other networking modes although the only NAT rule that is setup is specifically for port 80. Workaround: Change the default port to 80 in servo/ws/_init_.py.
On Security groups landing page "More actions" button sometimes fails to activate in Windows7 / IE10 (EUCA-8166)	Workaround: refresh the page.
An IAM policy that allows all IAM actions does not work in Eucalyptus 3.4 (EUCA-7870)	Workaround: see linked bug.
Post-upgrade steps for upgrading Load Balancer may be confusing (DOC-1071)	If you already have load balancing enabled on 3.3.x, then there is nothing you "must" do post upgrade for load balancing support. However, the 3.4 release of Eucalyptus includes an updated load balancer image that contains many bugfixes. If you are coming from 3.3.x and already had ELB enabled, you need to run <code>euca-install-loadbalancer --install-default</code> after the upgrade. The command will install the current image and set it as the default load balancer image, and all new load balancers will use the new image. The old image is still registered and in S3, and any existing load balancer that may be running at the time of upgrade will still use the old image. If you are coming from a version of Eucalyptus that did not have the load balancing feature, or did not have load balancing enabled on 3.3.x, then after installing the load balancer image you should get new credentials so the load balancer endpoint is defined.

Issue	Description
If a configuration file with the extension .rpmnew already exists when an upgrade is performed, then the user's config file will be overwritten instead of it being copied to a .rpmnew file.(DOC-1081)	Workaround: save contents of the files before upgrade. See attached bug for more information.
Cannot change launch config of autoscaling group from the user console while running Internet Explorer 10 and Windows 7 (EUCA-7952)	Attempting to change a launch configuration with the user console while running Internet Explorer 10 on Windows 7 results in the error " "Failed to update sclaing group. Please try again.". Workaround: use the Firefox or Google Chrome browser, or use the command line tools.
EBS image registration ignores user-supplied architecture argument (EUCA-7337)	EBS image registration defaults to x86_64. The default should be i386. In addition, if you attempt to change the architecture explicitly, it's ignored and stays x86_64. This is cosmetic, as the backend ignores the architecture argument.
Cannot stop primary CLC/Walrus (EUCA-7634)	When attempting to stop the primary CLC/W, it goes into NOTREADY state and it cannot stop the eucalyptus-cloud process. Workaround: You can use kill -9 on the Eucalyptus Cloud process if the following is true: On the CLC machine: 1. Verify that "ps aux grep postgres" returns only "grep postgres" This verifies that the Database has shut down and there will be no loss of data 2. Kill -9 <pid-of eucalyptus-cloud-service>
Cannot unbundle image which was bundled with euca-bundle-instance (EUCA-7148)	Even when using the same identity and keys that are used for both the bundle-instance, register and unbundle attempt, the unbundle will fail with a decryption error. Workaround: EMIs created with euca-bundle-instance operation cannot be unbundled with the user's credentials. The workaround for Linux images is to launch an instance from the EMI and perform euca-bundle-volume in it.
euca-describe-nodes does not return output in certain distributed topologies (EUCA-7039)	When the CLC, CC, and NCs are distributed components, euca-describe-nodes returns nothing. This is an issue with the CLC. Workaround: see linked bug. Note: This workaround just allows you to figure out how many nodes are attached to running instances as an administrator.
Misleading error from euca_conf --configure-vmware (EUCA-378)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: see linked bug.
Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted. (EUCA-3856)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: restart the cloud controller.

Issue	Description
Adding nodes to vmware config requires service restart, cluster to become unavailable. (EUCA-1806)	When uploading a new vmware config to the CLC, the update is not pulled by the Broker until it is restarted. As a consequence of the Broker restart the Cluster Controller becomes unavailable. Adding or removing nodes from the config should not cause a service interruption.
Registering image after euca-bundle-instance differs for vmware. (EUCA-7847)	Name of the manifest file on vmware differs from other virtualization types. Please check content of the bucket used for bundling to find out correct manifest name. Generally it should be bucket/prefix.manifest.xml for instances started from linux paravirtualized images and bucket/prefix.raw.manifest.xml for instances started from all other images. For example: • <bundle_name>/<prefix>.manifest.xml for paravirtualized instances • <bundle_name>/<prefix>.raw.manifest.xml for all other instances
Cannot add unit in create custom metric dialog in user console (EUCA-7919)	Workaround: use the euwatch command line tools to add a custom metric.
Volume attachments fail with EBS backed guests using ephemeral disks post stop/start (EUCA-7640)	Workaround: see linked bug.
Instance profiles don't work with IAM roles that have an IAM auto scaling policy (EUCA-7847)	Workaround: see linked bug.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb property does not work on VMWare even after adding it to the config and euca_imager left cache directory with all files after image creation.
Maximum image size for euca-register has been increased from 10GB to 30GB (DOC-1011)	The maximum size for an image has been increased from 10GB to 30GB by default. Administrators who want to change this default (for example, to enforce the same 10GB limitation as EC2) can change this value by using the following command: <pre>euca-modify-property -p cloud.images.maximagesizegb=<max size in gigabytes></pre> The value must be an integer; a value of 0 disables the size check and means that there is no limit on the size of images that may be registered by users. Changing the value will not invalidate previously registered images. For upgraded installations, the maximum size is set to '0' if the previous version of Eucalyptus did not include this property (pre-3.4.0) so the admin must explicitly set a limit if one is desired.

Issue	Description
Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade (EUCA-7935)	If the <code>/etc/resolv.conf</code> on the CLC has been configured to use itself (i.e. IP of CLC) in a Eucalyptus 3.3.x cloud as a nameserver, after upgrading to Eucalyptus 3.4.0, users will have to define recursive DNS servers in <code>CLOUD_OPTS</code> in the <code>eucalyptus.conf</code> on the CLC. For the workaround, please see Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade .
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result connectivity issues with the Broker.
VMware Broker requires eucalyptus user to have write access to the <code>/etc/eucalyptus</code> directory (BROKER-9)	If the <code>eucalyptus</code> user does not have write access to the <code>/etc/eucalyptus</code> directory, the VMware Broker will stay in a <code>BROKEN</code> state, and <code>euca-configure-vmware</code> will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the <code>eucalyptus</code> user owns the necessary files.
ELBs fail because of lack of internet connection due to NTP (EUCA-7305)	ELB's won't work properly when they don't have internet connectivity. As part of the ELB image, we setup public NTP servers for time sync. In enterprise environments there is no guarantee that instances can reach the internet.
Euca-bundle-instance does not restart instance with VMware (EUCA-7291)	Instances stay in the powered off state on the ESX hosts after the bundle task completes. Eucalyptus reports the state as "running". There are two workarounds: • If the user has access to vSphere, the user can power on the VM through a vSphere client • If the user does not have access to vSphere, the user can terminate the instance through Eucalyptus (to get it out of "running" state) and then start a new one using the newly available EMI.
VMware Broker only reporting half of the cores per NC (EUCA-7205)	Eucalyptus uses the physical number of cores on an ESX host as the number of virtual cores. To change the value of your virtual cores, open the configuration file and set <code>maxCores</code> to the desired number of cores. For information about how to set this value, see "Configure VMware Support" in the 3.4.3 Eucalyptus Installation Guide.
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the <code>eucalyptus-cloud</code> service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to <code>CLOUD_OPTS</code> in <code>eucalyptus.conf</code> to disable hotspot. However, please note that this workaround might have some performance impact.

Issue	Description
Cannot log in to User Console with either user or admin account (EUCA-6968)	To access the Eucalyptus User Console in 3.3.1, a user must have a policy that allows access to the services supported by the console. For example: <pre> { "Version": "2012-10-17", "Statement": [{ "Action": ["autoscaling:Describe*", "cloudwatch:Describe*", "cloudwatch:Get*", "cloudwatch:List*", "ec2:Describe*", "elasticloadbalancing:Describe*"], "Effect": "Allow", "Resource": "*" }] }</pre>
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre> euare-useraddloginprofile -- delegate account1 -u user03 -p test</pre> 2. Check to see that the user's login profile has been created: <pre> euare-usergetloginprofile -- delegate account1 -u user03 user03</pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —
LDAP: error code 4 - Sizelimit Exceeded when using LDAP/AD Integration (EUCA-6756)	The LDAP/AD integration can't configure the number of items that the Directory search can't return during the synchronization process. So, the synchronization process uses the default. However, if a search responds with more entries than the client is configured to accept, the error displays. The workaround is to use the filter sub-element under the selection element for accounting-groups, groups, and users configuration variables in the LIC file.

Issue	Description
Requests to create volume fail on startup or initial restart of components (EUCA-6479)	In some cases, a Failed to marshall response error occurs on create volume requests. Restarting the components again solves this issue.
Issue adding secondary CLC after upgrade (EUCA-6462)	It is not possible to move a non-HA CLC to HA after an upgrade to 3.3.0. A fresh install is recommended in this situation. See linked issue for workaround.
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a 409 BucketNotEmpty . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <code>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message)</code> In spite of this error the migration has started and should successfully complete.
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
A user in non-eucalyptus account does not see a public image (EUCA-5901)	A user in an account that is not the <code>eucalyptus</code> account must use the <code>-a</code> option with <code>euca-describe-images</code> in order to display public images.
Eucalyptus 3.3 now requires JVM version 7 (EUCA-5807)	Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your <code>CLOUD_OPTS</code> settings in the <code>/etc/eucalyptus/eucalyptus.conf</code> file either do not set <code>--java-home</code> , or that <code>--java-home</code> points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.

Issue	Description
Instance running time instance types in report not consistent with UI and CLI (EUCA-4847)	As of Eucalyptus 3.3.0, the instance summary report will no longer be available from the command line tools nor the User Console
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
iptables-preload is not honored when CC are in HA mode and failover happens (EUCA-4253)	When Eucalyptus is in HA mode, the <code>iptables-preload</code> file is not reloaded on failover. To load this file, do the following: 1. Clean restart the active CC. 2. Verify that both CCs report the rules when they are going back online. 3. Disable the active CC and verify that the standby CC becomes active with the <code>iptables-preload</code> rules.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.

Issue	Description
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code>, then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: <code>storage.maxtotalvolumesizeingb</code> <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages iSCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
<code>httpd-cc_error_log</code> Grows without bound (EUCA-3909)	The <code>httpd-cc_error_log</code> is not rotated and can grow quite large. To reduce this file size, do <code>cp /dev/null \$EUCALYPTUS/var/log/eucalyptus/httpd-cc_error_log</code> . This will truncate the file. Removing the file is not recommended.
Vague error message: Failed to find corresponding class mapping for element: <code>RegisterVMwareBroker</code> in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if <code>eucalyptus-cloud</code> process is forcibly killed on primary (EUCA-3202)	If the <code>eucalyptus-cloud</code> process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.

Issue	Description
euca-create-image from ebs backed instance fails, returns 0 (EUCA-1333)	euca-create-image is currently unsupported.
Must use user-friendly names for mulitpathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in /etc/multipath.conf.
Netapp SAN: admin will have to set chapuser explicitly after upgrade (DOC-791)	If you are a subscriber and use NetApp as the storage SAN backend, you must onfigure the CHAP username to be used by the Eucalyptus on the CLC (the primary CLC in an HA setup) using euca-modify-property -p <partition>.storage.chapuser=<Chap_username>. The CHAP username can be any value, however it should be unique when sharing a NetApp Filer across multiple Eucalyptus clusters. The SC will not transition to ENABLED state until the CHAP username is configured.
Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component (EUCA-7845)	The CC should be located with at least on Java component (preferably, the SC) when using ELB. Otherwise, the ELB VM will be unable to contact the CLC.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb does not currently work when using VMware as the hypervisor.

3.4.2

This section contains release notes for Eucalyptus version 3.4.2.

What's New?

New Features

Eucalyptus 3.4.2 is a maintenance release and contains no new features.

Resolved Issues

Eucalyptus 3.4.2 resolves issues listed in the following table.

Issue	Description
<u>GUI-256</u>	Need the ability to dump stack frames
<u>EUCA-8715</u>	Eucalyptus/vSphere do not agree where my instance is
<u>EUCA-8707</u>	CLC & CC abnormal interactions lead to a steadfastly unfulfilling Future
<u>EUCA-8671</u>	Walrus ListAllMyBuckets (GET / on service) is really slow for non-Eucalyptus/Admin users
<u>EUCA-8657</u>	Getting "unsupported browser version" message in IE 11
<u>EUCA-8633</u>	DNS server runs in single-thread
<u>EUCA-8621</u>	Unable to run instances after running stress test
<u>EUCA-8604</u>	VMware: Failure to start stopped instance
<u>EUCA-8602</u>	AWS and Euca differ in response to run-instances and describe-instances, when no keypair is specified for instance
<u>EUCA-8568</u>	Users not able to view certain available images
<u>EUCA-8565</u>	3.4 testing branch needs version bump to 3.4.2
<u>EUCA-8557</u>	Summary Pane does not update instance type when a new one is selected
<u>EUCA-8548</u>	failure to show "manage instances" dialog from scaling groups landing page
<u>EUCA-8534</u>	User can not change password via UI after it becomes expired
<u>EUCA-8529</u>	Failure to reset instance-types using euca-modify-instance-type tool
<u>EUCA-8521</u>	User Console Conflicts with Euca2ools With Regards to Displaying Images

Issue	Description
<u>EUCA-8519</u>	DNS Performance issue with recursive lookup requests
<u>EUCA-8518</u>	Eucalyptus User Console Doesn't Provide Private Addressing Option in 'Launch More Like This' Window
<u>EUCA-8511</u>	Cannot change "VNET_ADDRSPERNET" configuration
<u>EUCA-8510</u>	Starting multiple instances results in public IP assignment failure
<u>EUCA-8509</u>	SC failure to start in rare cases
<u>EUCA-8476</u>	CLC responses become slower gradually
<u>EUCA-8473</u>	euca-run-instances breaks with --instance-count and --client-token
<u>EUCA-8424</u>	"Manage Instances" dialog is not called from "More actions" menu on Windows 7/ IE 10
<u>EUCA-8382</u>	Windows Migrate failing in Vmware
<u>EUCA-8320</u>	EDGE: CC served files will not be available if /tmp and /var/lib/eucalyptus/dynserv/data are on different mountpoints
<u>EUCA-8206</u>	Cancelling bundle task is not reliable on vmware
<u>EUCA-8162</u>	After running for 5 hours, the proxy's memory usage goes near 4 GB.
<u>EUCA-8057</u>	NPE attempting to detach an available volume
<u>EUCA-7994</u>	Cloud Administrator Can't Control ELB, AS, Cloudwatch Resources of non-eucalyptus account Users
<u>EUCA-7938</u>	CC partitioned and drops into NOTREADY state
<u>EUCA-7917</u>	Recursive option in Eucalyptus DNS Doesn't Support Separate Views (Split-Horizon)
<u>EUCA-7863</u>	Instance Profiles Don't Support Tools/Scripts That Use S3 API Calls
<u>EUCA-7528</u>	Associate IP dialog creates copies of itself.
<u>EUCA-7430</u>	eucalyptus-cloud service hangs on shutdown
<u>EUCA-5722</u>	euca-register returns odd error when registering kernel and ramdisk as non-admin, non-eucalyptus (i.e. cloud admin account) user
<u>EUCA-5721</u>	euca-register returns the same error when registering a ramdisk and kernel with a non-eucalyptus account (i.e. non cloud admin account)

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.4.2 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Instance Migration Fails on CentOS/RHEL 6.5 (EUCA-8650)	Instance live migration does not work with the default qemu-kvm version. Workaround: after installing the eucalyptus-nc package (for a fresh install) or immediately after upgrading the cloud and the base OS to CentOS 6.5, downgrade the qemu-kvm and qemu-img packages by running the following commands on the node controllers: <pre>yum downgrade http://vault.centos.org/6.4/os/x86_64/Packages/qemu-kvm-0.12.1.2-2.355.el6.x86_64.rpm \ http://vault.centos.org/6.4/os/x86_64/Packages/qemu-img-0.12.1.2-2.355.el6.x86_64.rpm service libvirtd restart</pre>

Outstanding known issues from previous releases:

Issue	Description
Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component (EUCA-7845)	When running ELB in EDGE networking mode the Servo VM is trying to contact the CLC via the 169.254.169.254 address. For some reason this works in the other networking modes although the only NAT rule that is setup is specifically for port 80. Workaround: Change the default port to 80 in servo/ws/_init_.py.
On Security groups landing page "More actions" button sometimes fails to activate in Windows7 / IE10 (EUCA-8166)	Workaround: refresh the page.
An IAM policy that allows all IAM actions does not work in Eucalyptus 3.4 (EUCA-7870)	Workaround: see linked bug.

Issue	Description
Post-upgrade steps for upgrading Load Balancer may be confusing (DOC-1071)	If you already have load balancing enabled on 3.3.x, then there is nothing you "must" do post upgrade for load balancing support. However, the 3.4 release of Eucalyptus includes an updated load balancer image that contains many bugfixes. If you are coming from 3.3.x and already had ELB enabled, you need to run <code>euca-install-loadbalancer --install-default</code> after the upgrade. The command will install the current image and set it as the default load balancer image, and all new load balancers will use the new image. The old image is still registered and in S3, and any existing load balancer that may be running at the time of upgrade will still use the old image. If you are coming from a version of Eucalyptus that did not have the load balancing feature, or did not have load balancing enabled on 3.3.x, then after installing the load balancer image you should get new credentials so the load balancer endpoint is defined.
If a configuration file with the extension .rpmnew already exists when an upgrade is performed, then the user's config file will be overwritten instead of it being copied to a .rpmnew file.(DOC-1081)	Workaround: save contents of the files before upgrade. See attached bug for more information.
Cannot change launch config of autoscaling group from the user console while running Internet Explorer 10 and Windows 7 (EUCA-7952)	Attempting to change a launch configuration with the user console while running Internet Explorer 10 on Windows 7 results in the error "Failed to update scaling group. Please try again.". Workaround: use the Firefox or Google Chrome browser, or use the command line tools.
EBS image registration ignores user-supplied architecture argument (EUCA-7337)	EBS image registration defaults to x86_64. The default should be i386. In addition, if you attempt to change the architecture explicitly, it's ignored and stays x86_64. This is cosmetic, as the backend ignores the architecture argument.
Cannot stop primary CLC/Walrus (EUCA-7634)	When attempting to stop the primary CLC/W, it goes into NOTREADY state and it cannot stop the eucalyptus-cloud process. Workaround: You can use kill -9 on the Eucalyptus Cloud process if the following is true: On the CLC machine: 1. Verify that "ps aux grep postgres" returns only "grep postgres" This verifies that the Database has shut down and there will be no loss of data 2. Kill -9 <pid-of eucalyptus-cloud-service>

Issue	Description
Cannot unbundle image which was bundled with euca-bundle-instance (EUCA-7148)	Even when using the same identity and keys that are used for both the bundle-instance, register and unbundle attempt, the unbundle will fail with a decryption error. Workaround: EMIs created with euca-bundle-instance operation cannot be unbundled with the user's credentials. The workaround for Linux images is to launch an instance from the EMI and perform euca-bundle-volume in it.
euca-describe-nodes does not return output in certain distributed topologies (EUCA-7039)	When the CLC, CC, and NCs are distributed components, euca-describe-nodes returns nothing. This is an issue with the CLC. Workaround: see linked bug. Note: This workaround just allows you to figure out how many nodes are attached to running instances as an administrator.
Misleading error from euca_conf --configure-vmware (EUCA-378)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: see linked bug.
Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted. (EUCA-3856)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: restart the cloud controller.
Adding nodes to vmware config requires service restart, cluster to become unavailable. (EUCA-1806)	When uploading a new vmware config to the CLC, the update is not pulled by the Broker until it is restarted. As a consequence of the Broker restart the Cluster Controller becomes unavailable. Adding or removing nodes from the config should not cause a service interruption.
Registering image after euca-bundle-instance differs for vmware. (EUCA-7847)	Name of the manifest file on vmware differs from other virtualization types. Please check content of the bucket used for bundling to find out correct manifest name. Generally it should be bucket/prefix.manifest.xml for instances started from linux paravirtualized images and bucket/prefix.raw.manifest.xml for instances started from all other images. For example: • <bundle_name>/<prefix>.manifest.xml for paravirtualized instances • <bundle_name>/<prefix>.raw.manifest.xml for all other instances
Cannot add unit in create custom metric dialog in user console (EUCA-7919)	Workaround: use the euwatch command line tools to add a custom metric.
Volume attachments fail with EBS backed guests using ephemeral disks post stop/start (EUCA-7640)	Workaround: see linked bug.
Instance profiles don't work with IAM roles that have an IAM auto scaling policy (EUCA-7847)	Workaround: see linked bug.

Issue	Description
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb property does not work on VMware even after adding it to the config and euca_imager left cache directory with all files after image creation.
Maximum image size for euca-register has been increased from 10GB to 30GB (DOC-1011)	The maximum size for an image has been increased from 10GB to 30GB by default. Administrators who want to change this default (for example, to enforce the same 10GB limitation as EC2) can change this value by using the following command: <pre>euca-modify-property -p cloud.images.maximagesizegb=<max size in gigabytes></pre> The value must be an integer; a value of 0 disables the size check and means that there is no limit on the size of images that may be registered by users. Changing the value will not invalidate previously registered images. For upgraded installations, the maximum size is set to '0' if the previous version of Eucalyptus did not include this property (pre-3.4.0) so the admin must explicitly set a limit if one is desired.
Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade (EUCA-7935)	If the /etc/resolv.conf on the CLC has been configured to use itself (i.e. IP of CLC) in a Eucalyptus 3.3.x cloud as a nameserver, after upgrading to Eucalyptus 3.4.0, users will have to define recursive DNS servers in CLOUD_OPTS in the eucalyptus.conf on the CLC. For the workaround, please see Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade .
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result connectivity issues with the Broker.
VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory (BROKER-9)	If the eucalyptus user does not have write access to the /etc/eucalyptus directory, the VMware Broker will stay in a BROKEN state, and euca-configure-vmware will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the eucalyptus user owns the necessary files.
ELBs fail because of lack of internet connection due to NTP (EUCA-7305)	ELB's won't work properly when they don't have internet connectivity. As part of the ELB image, we setup public NTP servers for time sync. In enterprise environments there is no guarantee that instances can reach the internet.

Issue	Description
Euca-bundle-instance does not restart instance with VMware (EUCA-7291)	Instances stay in the powered off state on the ESX hosts after the bundle task completes. Eucalyptus reports the state as "running". There are two workarounds: • If the user has access to vSphere, the user can power on the VM through a vSphere client • If the user does not have access to vSphere, the user can terminate the instance through Eucalyptus (to get it out of "running" state) and then start a new one using the newly available EMI.
VMware Broker only reporting half of the cores per NC (EUCA-7205)	Eucalyptus uses the physical number of cores on an ESX host as the number of virtual cores. To change the value of your virtual cores, open the configuration file and set <code>maxCores</code> to the desired number of cores. For information about how to set this value, see "Configure VMware Support" in the 3.4.2 Eucalyptus Installation Guide.
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the <code>eucalyptus-cloud</code> service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to <code>CLOUD_OPTS</code> in <code>eucalyptus.conf</code> to disable hotspot. However, please note that this workaround might have some performance impact.
Cannot log in to User Console with either user or admin account (EUCA-6968)	To access the Eucalyptus User Console in 3.3.1, a user must have a policy that allows access to the services supported by the console. For example: <pre> { "Version": "2012-10-17", "Statement": [{ "Action": ["autoscaling:Describe*", "cloudwatch:Describe*", "cloudwatch:Get*", "cloudwatch:List*", "ec2:Describe*", "elasticloadbalancing:Describe*"], "Effect": "Allow", "Resource": "*" }] }</pre>

Issue	Description
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre>euare-useraddloginprofile -- delegate account1 -u user03 -p test</pre> 2. Check to see that the user's login profile has been created: <pre>euare-usergetloginprofile -- delegate account1 -u user03 user03</pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —
LDAP: error code 4 - Sizelimit Exceeded when using LDAP/AD Integration (EUCA-6756)	The LDAP/AD integration can't configure the number of items that the Directory search can't return during the synchronization process. So, the synchronization process uses the default. However, if a search responds with more entries than the client is configured to accept, the error displays. The workaround is to use the filter sub-element under the selection element for accounting-groups, groups, and users configuration variables in the LIC file.
Requests to create volume fail on startup or initial restart of components (EUCA-6479)	In some cases, a <code>Failed to marshall response</code> error occurs on create volume requests. Restarting the components again solves this issue.
Issue adding secondary CLC after upgrade (EUCA-6462)	It is not possible to move a non-HA CLC to HA after an upgrade to 3.3.0. A fresh install is recommended in this situation. See linked issue for workaround.
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.

Issue	Description
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a <code>409 BucketNotEmpty</code> . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <code>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message)</code> In spite of this error the migration has started and should successfully complete.
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
A user in non-eucalyptus account does not see a public image (EUCA-5901)	A user in an account that is not the <code>eucalyptus</code> account must use the <code>-a</code> option with <code>euca-describe-images</code> in order to display public images.
Eucalyptus 3.3 now requires JVM version 7 (EUCA-5807)	Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your <code>CLOUD_OPTS</code> settings in the <code>/etc/eucalyptus/eucalyptus.conf</code> file either do not set <code>--java-home</code> , or that <code>--java-home</code> points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.
Instance running time instance types in report not consistent with UI and CLI (EUCA-4847)	As of Eucalyptus 3.3.0, the instance summary report will no longer be available from the command line tools nor the User Console
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.

Issue	Description
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
iptables-preload is not honored when CC are in HA mode and failover happens (EUCA-4253)	When Eucalyptus is in HA mode, the <code>iptables-preload</code> file is not reloaded on failover. To load this file, do the following: 1. Clean restart the active CC. 2. Verify that both CCs report the rules when they are going back online. 3. Disable the active CC and verify that the standby CC becomes active with the <code>iptables-preload</code> rules.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport -generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code> , then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: • <code>storage.maxtotalvolumesizeingb</code> • <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.

Issue	Description
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages ISCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
<code>httpd-cc_error_log</code> Grows without bound (EUCA-3909)	The <code>httpd-cc_error_log</code> is not rotated and can grow quite large. To reduce this file size, do <code>cp /dev/null \$EUCALYPTUS/var/log/eucalyptus/httpd-cc_error_log</code> . This will truncate the file. Removing the file is not recommended.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the <code>eucalyptus-cloud</code> process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.
<code>euca-create-image</code> from ebs backed instance fails, returns 0 (EUCA-1333)	<code>euca-create-image</code> is currently unsupported.
Must use user-friendly names for mulitpathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in <code>/etc/multipath.conf</code> .

Issue	Description
Netapp SAN: admin will have to set chapuser explicitly after upgrade (DOC-791)	If you are a subscriber and use NetApp as the storage SAN backend, you must onfigure the CHAP username to be used by the Eucalyptus on the CLC (the primary CLC in an HA setup) using <code>euca-modify-property -p <partition>.storage.chapuser=<Chap_username></code> . The CHAP username can be any value, however it should be unique when sharing a NetApp Filer across multiple Eucalyptus clusters. The SC will not transition to ENABLED state until the CHAP username is configured.
Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component (EUCA-7845)	The CC should be located with at least on Java component (preferably, the SC) when using ELB. Otherwise, the ELB VM will be unable to contact the CLC.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb does not currently work when using VMware as the hypervisor.

3.4.1

This section contains release notes for Eucalyptus version 3.4.1.

What's New?

New Features

Eucalyptus 3.4.1 is a maintenance release and contains no new features.

Resolved Issues

Eucalyptus 3.4.1 resolves issues listed in the following table.

Issue	Description
EUCA-8367	Walrus DNS does not resolve for all subdomains, only existing buckets
EUCA-8357	Instance Launcher freezes in case of a large image set and security groups on Eucalyptus
EUCA-8349	Windows instances failing to migrate with KVM
EUCA-8318	Scaling group count not resolving part deux
EUCA-8310	The proxy gets flooded with error messages related to load balancers
EUCA-8188	Bundle task can block all other operations
EUCA-8187	Security group description is parsed incorrectly by console
EUCA-8177	S3 Compatibility: Delete bucket should fail if the bucket contains one or more DeleteMarker(s)
EUCA-8175	S3 Compatibility: Cannot delete versions when versioning is suspended
EUCA-8172	NC cannot read /nc/cloudIp from nc_state.xml
EUCA-8171	NC does not find nc_state.xml on startup if the state directory isn't /var/lib/eucalyptus
EUCA-8168	Navigating away from the launch instance wizard causes memory leak
EUCA-8163	Deleted Scaling Group lingers on the landing page for 30+ seconds
EUCA-8161	Console error messages lack helpful info from CLC
EUCA-8154	Walrus: Delete object fails with 404 if a DeleteMarker is present

Issue	Description
<u>EUCA-8126</u>	Security Group's detail does not get displayed when it has traffic allowed by another group.
<u>EUCA-8121</u>	Instance restoration fails for instances w/o kernel and/or ramdisk and/or in SYSTEM mode networking
<u>EUCA-8120</u>	S3 Compatibility: List objects does not throw error for negative max-keys
<u>EUCA-8119</u>	S3 Compatibility: List objects response contains MetaData elements
<u>EUCA-8117</u>	Instance names don't show up on Instances landing page after first log in
<u>EUCA-8115</u>	"Launch more like this" always launches instance in default s.group
<u>EUCA-8113</u>	S3 Compatibility: List objects should be exclusive of the object that matches marker
<u>EUCA-8112</u>	S3 compatibility: Common prefixes are not computed and rendered correctly in list objects response
<u>EUCA-8111</u>	S3 Compatibility: Last modified date format in copy object response breaks AWS SDK
<u>EUCA-8110</u>	Images and properties may be lost during HA failover
<u>EUCA-8108</u>	Cannot open the expanded row on the instance landing page on AWS due to missing image.platform attribute
<u>EUCA-8088</u>	S3 compatibility: PUT object removes a previous DeleteMarker
<u>EUCA-8085</u>	S3 compatibility: List object versions does not return the correct values for next-key-marker and next-version-id-marker
<u>EUCA-8083</u>	NC hangs inside get_blkid (e.g., during launch or migration)
<u>EUCA-8079</u>	Instances launched by the scaling group do not inherit the tags
<u>EUCA-8076</u>	AutoScaling Resources Can't Be Controlled by Cloud Admin
<u>EUCA-8075</u>	httpd-cc_error_log filled with troubleshooting messages causing the log to grow out of control
<u>EUCA-8074</u>	Cloudwatch Alarms Unable to be Viewed by Cloud Admin
<u>EUCA-8072</u>	region menu shows when clicking around dashboard
<u>EUCA-8070</u>	Selecting AZ inputbox is broken in the launch instance wizard
<u>EUCA-8063</u>	Sort broken when only 1 page of results
<u>EUCA-7995</u>	Instance public IPs revoked before running.

Issue	Description
<u>EUCA-7991</u>	S3 compatibility: List object versions with prefix and delimiter represents common prefixes differently
<u>EUCA-7989</u>	NC init script fails to start on Xen
<u>EUCA-7986</u>	S3 compatibility: List object versions response is missing VersionIdMarker element
<u>EUCA-7985</u>	S3 compatibility: List object versions should be exclusive of the object that matches key-marker and version-id-marker specified in the request
<u>EUCA-7982</u>	Proxy should not load all image sets for regions
<u>EUCA-7970</u>	NC check for virtualization flag is inverted
<u>EUCA-7947</u>	Sorting instance table by Availability Zone doesn't work
<u>EUCA-7946</u>	Create instance wizard number validation error if number contains zero
<u>EUCA-7944</u>	Search for a non-existing image shows "random" results in instance launch and launch config creation dialogs
<u>EUCA-7943</u>	NC loglevel is set to DEBUG by default
<u>EUCA-7940</u>	volume auto-fill not working in "create snapshot"
<u>EUCA-7939</u>	Cannot view sec group expando when group access granted
<u>EUCA-7937</u>	Firefox gobbles memory when doing normal console tasks
<u>EUCA-7933</u>	Create volume button does not always work on create new volume dialog
<u>EUCA-7931</u>	IPs continue to be displayed after release
<u>EUCA-7930</u>	Displaying help on landing pages resets UI elements
<u>EUCA-7924</u>	Remove add/remove load balancer feature using the dialog "edit properties" on the scale group landing page
<u>EUCA-7921</u>	Launch more like this dialog moves every 10 seconds
<u>EUCA-7919</u>	cannot add unit in create custom metric dialog
<u>EUCA-7915</u>	Deleted keypairs still shown
<u>EUCA-7911</u>	Editing Auto Scaling Group Policy in Web UI removes --unit parameter from Alarms
<u>EUCA-7908</u>	enumerating all images lock up the browser
<u>EUCA-7894</u>	launch times not displaying correctly
<u>EUCA-7893</u>	User does not get logged out after leaving console idle for long period of time.
<u>EUCA-7879</u>	On Launch Config Landing Page, Image Name doesn't get displayed in the expanded row

Issue	Description
<u>EUCA-7876</u>	Register As Image Dialog on the Snapshot Landing Page Does Not Validate Image Name
<u>EUCA-7875</u>	can't enumerate aws 'all' images
<u>EUCA-7855</u>	S3 Compatibility: ListBucketResult does not returns canonical ID
<u>EUCA-7845</u>	Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component
<u>EUCA-7833</u>	console does not work for Eucalyptus users in "aws" account
<u>EUCA-7832</u>	console-in dashboard doesn't pick up zone changes
<u>EUCA-7827</u>	when you click "add another tag" in the manage tags box, the cursor should be placed.
<u>EUCA-7826</u>	The 'create from snapshot' inputbox in the dialog 'Create volume' is not defaulting to select "None"
<u>EUCA-7825</u>	Warning text in Launch instance wizard when security group has no rules in missing
<u>EUCA-7818</u>	DeleteMarker not included in version output of bucket
<u>EUCA-7790</u>	Tests Cannot attach volume in console (multi-cluster)
<u>EUCA-7777</u>	white container showing behind instance landing page when help is flipped (on chrome)
<u>EUCA-7770</u>	Launching instance with name fails to name instance
<u>EUCA-7759</u>	if i add a name to an instance, i have to click the next button twice in the launch wizard to go to the next section
<u>EUCA-7724</u>	S3 compatibility: Canned ACL bucket-owner-read results in an incorrect set of grants in the object ACL
<u>EUCA-7712</u>	S3 compatibility: Canned ACL bucket-owner-full-control results in an incorrect set of grants in the object ACL
<u>EUCA-7708</u>	Walrus BucketLocation constraint should be empty for default location
<u>EUCA-7625</u>	S3 compatibility: Objects and buckets with canned ACL (bucket-owner-read) return incorrect ACL
<u>EUCA-7537</u>	no feedback that the refresh button is doing anything on landing pages
<u>EUCA-7492</u>	Remove code that uses non-stdlib libs from eucaconsole/__init__.py
<u>EUCA-7364</u>	account menu and region menu (all menus in the branding bar not collapsing when the user clicks outside of it
<u>EUCA-7352</u>	resource loading pages all need to display "loading" animation when loading resources

Issue	Description
EUCA-7336	Security group is not displayed on Launch Configuration landing page.
EUCA-7312	euca-create-keypair show JDBC batch error with a 406 exception
EUCA-7299	scaling groups landing page needs initial sort set
EUCA-6579	Required Fields marked for some not required fields in User Console
EUCA-6513	when no data is available for a table in the expandos a "This <x> has no <y>" message should be displayed instead of an empty table
EUCA-6442	In SYSTEM mode the metadata is not accessible
EUCA-6321	Disable button is still clickable on the Attach Volume dialog
EUCA-6266	tag editing focus traversal not ideal for UX
EUCA-6144	Associate IP dialog from instance landing page displays the ID of the instance in autocomplete
EUCA-6069	eucalyptus-cloud fails to start
EUCA-5959	stopped instances show invalid value for public private DNS names
EUCA-5646	grep code to look for/remove aliases and test w/ QA
EUCA-5301	User Console should fail to start if incorrect ssl settings are given
EUCA-4041	security group description should only be allowed to contain a limited set of characters
EUCA-3909	httpd-cc_error_log Grows without bound
EUCA-3704	add CSRF token to login pages
EUCA-3383	euca-describe-instances doesn't seem to be reporting platform
EUCA-3320	bucket.create_bucket has strange behaviour when using Walrus

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.4.1 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component (EUCA-7845)	When running ELB in EDGE networking mode the Servo VM is trying to contact the CLC via the 169.254.169.254 address. For some reason this works in the other networking modes although the only NAT rule that is setup is specifically for port 80. Workaround: Change the default port to 80 in servo/ws/_init_.py.
"Manage Instances" dialog is not called from "More actions" menu on Windows 7/ IE 10 (EUCA-8424)	When the Auto Scaling group is check-marked and the "Manage instances" button is clicked in the "More Actions" menu, no dialog appears.
On Security groups landing page "More actions" button sometimes fails to activate in Windows7 / IE10 (EUCA-8166)	Workaround: refresh the page.
An IAM policy that allows all IAM actions does not work in Eucalyptus 3.4 (EUCA-7870)	Workaround: see linked bug.
Post-upgrade steps for upgrading Load Balancer may be confusing (DOC-1071)	If you already have load balancing enabled on 3.3.x, then there is nothing you "must" do post upgrade for load balancing support. However, the 3.4 release of Eucalyptus includes an updated load balancer image that contains many bugfixes. If you are coming from 3.3.x and already had ELB enabled, you need to run <code>euca-install-loadbalancer --install-default</code> after the upgrade. The command will install the current image and set it as the default load balancer image, and all new load balancers will use the new image. The old image is still registered and in S3, and any existing load balancer that may be running at the time of upgrade will still use the old image. If you are coming from a version of Eucalyptus that did not have the load balancing feature, or did not have load balancing enabled on 3.3.x, then after installing the load balancer image you should get new credentials so the load balancer endpoint is defined.

Outstanding known issues from previous releases:

Issue	Description
If a configuration file with the extension .rpmnew already exists when an upgrade is performed, then the user's config file will be overwritten instead of it being copied to a .rpmnew file. (DOC-1081)	Workaround: save contents of the files before upgrade. See attached bug for more information.
Cannot change launch config of autoscaling group from the user console while running Internet Explorer 10 and Windows 7 (EUCA-7952)	Attempting to change a launch configuration with the user console while running Internet Explorer 10 on Windows 7 results in the error "Failed to update scaling group. Please try again.". Workaround: use the Firefox or Google Chrome browser, or use the command line tools.

Issue	Description
EBS image registration ignores user-supplied architecture argument (EUCA-7337)	EBS image registration defaults to x86_64. The default should be i386. In addition, if you attempt to change the architecture explicitly, it's ignored and stays x86_64. This is cosmetic, as the backend ignores the architecture argument.
Cannot stop primary CLC/Walrus (EUCA-7634)	When attempting to stop the primary CLC/W, it goes into NOTREADY state and it cannot stop the eucalyptus-cloud process. Workaround: You can use kill -9 on the Eucalyptus Cloud process if the following is true: On the CLC machine: 1. Verify that "ps aux grep postgres" returns only "grep postgres" This verifies that the Database has shut down and there will be no loss of data 2. Kill -9 <pid-of eucalyptus-cloud-service>
Cannot unbundle image which was bundled with euca-bundle-instance (EUCA-7148)	Even when using the same identity and keys that are used for both the bundle-instance, register and unbundle attempt, the unbundle will fail with a decryption error. Workaround: EMIs created with euca-bundle-instance operation cannot be unbundled with the user's credentials. The workaround for Linux images is to launch an instance from the EMI and perform euca-bundle-volume in it.
euca-describe-nodes does not return output in certain distributed topologies (EUCA-7039)	When the CLC, CC, and NCs are distributed components, euca-describe-nodes returns nothing. This is an issue with the CLC. Workaround: see linked bug. Note: This workaround just allows you to figure out how many nodes are attached to running instances as an administrator.
Misleading error from euca_conf --configure-vmware (EUCA-378)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: see linked bug.
Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted. (EUCA-3856)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: restart the cloud controller.
Adding nodes to vmware config requires service restart, cluster to become unavailable. (EUCA-1806)	When uploading a new vmware config to the CLC, the update is not pulled by the Broker until it is restarted. As a consequence of the Broker restart the Cluster Controller becomes unavailable. Adding or removing nodes from the config should not cause a service interruption.

Issue	Description
Registering image after euca-bundle-instance differs for vmware. (EUCA-7847)	Name of the manifest file on vmware differs from other virtualization types. Please check content of the bucket used for bundling to find out correct manifest name. Generally it should be bucket/prefix.manifest.xml for instances started from linux paravirtualized images and bucket/prefix.raw.manifest.xml for instances started from all other images. For example: • <bundle_name>/<prefix>.manifest.xml for paravirtualized instances • <bundle_name>/<prefix>.raw.manifest.xml for all other instances
Cannot add unit in create custom metric dialog in user console (EUCA-7919)	Workaround: use the euwatch command line tools to add a custom metric.
Volume attachments fail with EBS backed guests using ephemeral disks post stop/start (EUCA-7640)	Workaround: see linked bug.
Instance profiles don't work with IAM roles that have an IAM auto scaling policy (EUCA-7847)	Workaround: see linked bug.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb property does not work on VMware even after adding it to the config and euca_imager left cache directory with all files after image creation.
Instance profiles don't support roles with IAM S3 policies (EUCA-7863)	See linked bug for details.
Maximum image size for euca-register has been increased from 10GB to 30GB (DOC-1011)	The maximum size for an image has been increased from 10GB to 30GB by default. Administrators who want to change this default (for example, to enforce the same 10GB limitation as EC2) can change this value by using the following command: <pre>euca-modify-property -p cloud.images.maximagesizegb=<max size in gigabytes></pre> The value must be an integer; a value of 0 disables the size check and means that there is no limit on the size of images that may be registered by users. Changing the value will not invalidate previously registered images. For upgraded installations, the maximum size is set to '0' if the previous version of Eucalyptus did not include this property (pre-3.4.0) so the admin must explicitly set a limit if one is desired.
Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade (EUCA-7935)	If the /etc/resolv.conf on the CLC has been configured to use itself (i.e. IP of CLC) in a Eucalyptus 3.3.x cloud as a nameserver, after upgrading to Eucalyptus 3.4.0, users will have to define recursive DNS servers in CLOUD_OPTS in the eucalyptus.conf on the CLC. For the workaround, please see Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade.

Issue	Description
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result in connectivity issues with the Broker.
VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory (BROKER-9)	If the eucalyptus user does not have write access to the /etc/eucalyptus directory, the VMware Broker will stay in a BROKEN state, and euca-configure-vmware will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the eucalyptus user owns the necessary files.
ELBs fail because of lack of internet connection due to NTP (EUCA-7305)	ELB's won't work properly when they don't have internet connectivity. As part of the ELB image, we setup public NTP servers for time sync. In enterprise environments there is no guarantee that instances can reach the internet.
Euca-bundle-instance does not restart instance with VMware (EUCA-7291)	Instances stay in the powered off state on the ESX hosts after the bundle task completes. Eucalyptus reports the state as "running". There are two workarounds: • If the user has access to vSphere, the user can power on the VM through a vSphere client • If the user does not have access to vSphere, the user can terminate the instance through Eucalyptus (to get it out of "running" state) and then start a new one using the newly available EMI.
VMware Broker only reporting half of the cores per NC (EUCA-7205)	Eucalyptus uses the physical number of cores on an ESX host as the number of virtual cores. To change the value of your virtual cores, open the configuration file and set <code>maxCores</code> to the desired number of cores. For information about how to set this value, see "Configure VMware Support" in the 3.4.1 Eucalyptus Installation Guide.
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the <code>eucalyptus-cloud</code> service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to <code>CLOUD_OPTS</code> in <code>eucalyptus.conf</code> to disable hotspot. However, please note that this workaround might have some performance impact.

Issue	Description
Cannot log in to User Console with either user or admin account (EUCA-6968)	To access the Eucalyptus User Console in 3.3.1, a user must have a policy that allows access to the services supported by the console. For example: <pre> { "Version": "2012-10-17", "Statement": [{ "Action": ["autoscaling:Describe*", "cloudwatch:Describe*", "cloudwatch:Get*", "cloudwatch:List*", "ec2:Describe*", "elasticloadbalancing:Describe*"], "Effect": "Allow", "Resource": "*" }] }</pre>
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre> euare-useraddloginprofile -- delegate account1 -u user03 -p test</pre> 2. Check to see that the user's login profile has been created: <pre> euare-usergetloginprofile -- delegate account1 -u user03 user03</pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —
LDAP: error code 4 - Sizelimit Exceeded when using LDAP/AD Integration (EUCA-6756)	The LDAP/AD integration can't configure the number of items that the Directory search can't return during the synchronization process. So, the synchronization process uses the default. However, if a search responds with more entries than the client is configured to accept, the error displays. The workaround is to use the filter sub-element under the selection element for accounting-groups, groups, and users configuration variables in the LIC file.

Issue	Description
Requests to create volume fail on startup or initial restart of components (EUCA-6479)	In some cases, a Failed to marshall response error occurs on create volume requests. Restarting the components again solves this issue.
Issue adding secondary CLC after upgrade (EUCA-6462)	It is not possible to move a non-HA CLC to HA after an upgrade to 3.3.0. A fresh install is recommended in this situation. See linked issue for workaround.
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a 409 BucketNotEmpty . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <code>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message)</code> In spite of this error the migration has started and should successfully complete.
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
A user in non-eucalyptus account does not see a public image (EUCA-5901)	A user in an account that is not the <code>eucalyptus</code> account must use the <code>-a</code> option with <code>euca-describe-images</code> in order to display public images.
Eucalyptus 3.3 now requires JVM version 7 (EUCA-5807)	Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your <code>CLOUD_OPTS</code> settings in the <code>/etc/eucalyptus/eucalyptus.conf</code> file either do not set <code>--java-home</code> , or that <code>--java-home</code> points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.

Issue	Description
Instance running time instance types in report not consistent with UI and CLI (EUCA-4847)	As of Eucalyptus 3.3.0, the instance summary report will no longer be available from the command line tools nor the User Console
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
iptables-preload is not honored when CC are in HA mode and failover happens (EUCA-4253)	When Eucalyptus is in HA mode, the <code>iptables-preload</code> file is not reloaded on failover. To load this file, do the following: 1. Clean restart the active CC. 2. Verify that both CCs report the rules when they are going back online. 3. Disable the active CC and verify that the standby CC becomes active with the <code>iptables-preload</code> rules.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.

Issue	Description
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code>, then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: <code>storage.maxtotalvolumesizeingb</code> <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages iSCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
<code>httpd-cc_error_log</code> Grows without bound (EUCA-3909)	The <code>httpd-cc_error_log</code> is not rotated and can grow quite large. To reduce this file size, do <code>cp /dev/null \$EUCALYPTUS/var/log/eucalyptus/httpd-cc_error_log</code> . This will truncate the file. Removing the file is not recommended.
Vague error message: Failed to find corresponding class mapping for element: <code>RegisterVMwareBroker</code> in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if <code>eucalyptus-cloud</code> process is forcibly killed on primary (EUCA-3202)	If the <code>eucalyptus-cloud</code> process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.

Issue	Description
euca-create-image from ebs backed instance fails, returns 0 (EUCA-1333)	euca-create-image is currently unsupported.
Must use user-friendly names for mulitpathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in /etc/multipath.conf.
Netapp SAN: admin will have to set chapuser explicitly after upgrade (DOC-791)	If you are a subscriber and use NetApp as the storage SAN backend, you must onfigure the CHAP username to be used by the Eucalyptus on the CLC (the primary CLC in an HA setup) using <code>euca-modify-property -p <partition>.storage.chapuser=<Chap_username></code> . The CHAP username can be any value, however it should be unique when sharing a NetApp Filer across multiple Eucalyptus clusters. The SC will not transition to ENABLED state until the CHAP username is configured.
Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component (EUCA-7845)	The CC should be located with at least on Java component (preferably, the SC) when using ELB. Otherwise, the ELB VM will be unable to contact the CLC.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb does not currently work when using VMware as the hypervisor.

3.4.0

This section contains release notes for Eucalyptus version 3.4.0.

What's New?

New Features

Eucalyptus 3.4.0 introduces the following new features.

Feature	Description
Multi-cluster, Multi-hypervisor support	Eucalyptus now supports VMware and KVM in the same cloud. For more information, see
Security Token Service (STS) compatability	Eucalyptus now has limited support for STS. For STS schema documentation, see Schema Documentation .
Support for warm upgrades	Eucalyptus no longer requires that you shut down instances when you upgrade. For information about upgrading Eucalyptus, see Eucalyptus Upgrade .
Deregistered images now automatically cleaned up	Users no longer have to run the <code>euca-deregister</code> command twice. Deregistered images will be automatically cleaned up in the background with an interval configured by a new property in <code>euca.conf</code>: <pre>cloud.images.cleanupperiod = 10m</pre> The default value is 10 minutes. An image can only be cleaned up once it is no longer in use by any instances. The cloud administrator can pass <code>verbose</code> to <code>euca-describe-images</code> to see the deregistered images, they will not otherwise be shown. The cloud administrator can also run the <code>deregister</code> command twice to force an immediate attempt at image cleanup.
New configuration property	We added a new configuration property that allows unknown parameters to be ignored for all services or treated as an error for all services. For more information, see the <code>bootstrap.webservices.unknown_parameter_handling</code> property in Eucalyptus Configuration Variables .
New documentation	We added new content to our documentation: Image Management Guide, Hybrid Guide, a new Security section in the Administration Guide, and schema documentation. For more information, see Documentation History .

Technology Preview Features

Technology Preview features provide early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process. However, these features are not fully supported under

Eucalyptus Subscription Level Agreements, may not be functionally complete, and are not intended for production use.

Eucalyptus 3.4.0 introduces the following technology preview feature.

Feature	Description
New Edge networking mode	For more information, go to the wiki page for Edge Networking .

Resolved Issues

Eucalyptus 3.4.0 resolves issues listed in the following table.

Issue	Description
EUCA-7950	UI is churning error messages into terminal when no session is open
EUCA-8060	Windows "Connect to Instance" issue
EUCA-7775	Test code should be removed from packages (VolumeEntitiesTest)
EUCA-7707	Remove "experimental" from DNS property settings as they were validated from 3.3.1 on
EUCA-7643	NetApp Fails To Delete Snapshots During Churn Test
EUCA-7642	NetApp Storage leaves eucalyptus snapshots (netapp volumes) in filer
EUCA-7548	edit scaling group properties does not seem to work
EUCA-7532	Manage Instances Landing page shows incorrect selection of number of instances on page
EUCA-7483	edit scaling group dialog has content for policies and membership tabs reversed
EUCA-7481	created alarm, did not display by default in the alarm dropdown in the policy creator fields
EUCA-7480	Unable to create policies for scaling groups.
EUCA-7474	Snapshot size can sometimes be recorded as 0
EUCA-7421	Odd Component Name Registration Behavior
EUCA-7415	Ephemeral disks not present with Vmware+BFEBs when requested in block device map
EUCA-7358	Valid AWS IAM Policy Document Not Accepted by Eucalyptus
EUCA-7356	create alarm dialog div uses "selected resource" class which messes up body font for validation error display
EUCA-7355	User with Launch Config containing a block device mapping can not log in to UI
EUCA-7338	Can not edit tag in tab of "Create new Security Group" dialog.

Issue	Description
<u>EUCA-7330</u>	List of Launch Configurations should display name of security group instead of id in the table
<u>EUCA-7321</u>	ELB fails to update after registered instance address change
<u>EUCA-7317</u>	TagManager.java:171: unreachable catch clause
<u>EUCA-7313</u>	typo - regaular should be regular in ui Login dialog
<u>EUCA-7305</u>	ELBs fail because of lack of internet connection due to NTP
<u>EUCA-7291</u>	Euca-bundle-instance does not restart instance with vmware
<u>EUCA-7287</u>	Reduce logging level for monitoring enabled message
<u>EUCA-7284</u>	When an Auto Scaling Group is deleted it disappears from the list, then shows up again, then disappears again
<u>EUCA-7283</u>	Help page for Edit Scaling Group dialog has Save and Cancel buttons.
<u>EUCA-7281</u>	No input validation for max and min in Auto Scaling Group edit properties
<u>EUCA-7278</u>	Error message is cut in two parts by image
<u>EUCA-7274</u>	euca-create-keypair allows non-ascii characters
<u>EUCA-7267</u>	Only the edited tag shows up in Create New S. Group dialog called during instance launch, tags from previous launches inherited by new security group
<u>EUCA-7259</u>	iscsi session is left behind after terminating EBS backed instance
<u>EUCA-7256</u>	Remove any unnecessary Jetty dependencies
<u>EUCA-7231</u>	create security group dialog, add another rule button remains disabled even though all rule fields contain data
<u>EUCA-7219</u>	when you open a dialog it creates a horizontal scrollbar and that when you scroll down you get white instead of grey
<u>EUCA-7207</u>	authorize_security_group_deprecated returns 200 from port -1 to -1 on TCP and UDP
<u>EUCA-7205</u>	VMware Broker only reporting half of the cores per NC
<u>EUCA-7184</u>	Cleaning failed volume message printed every 10s per volume
<u>EUCA-7174</u>	Error/stacktrace logged when describing instance types
<u>EUCA-7167</u>	EBS volumes can't be mapped to partitions
<u>EUCA-7150</u>	euca-bundle-instance operations don't persist volume attachments correctly

Issue	Description
<u>EUCA-7135</u>	EBS volumes are not found on guest after bundle instance
<u>EUCA-7108</u>	Displaying help wipes out user data on user console dialogs
<u>EUCA-7107</u>	euca-stop-instances returns nothing when instance type is instance-store
<u>EUCA-7102</u>	Remote SC initiates LDAP Sync Upon Start Up
<u>EUCA-7101</u>	axis2c.log contains spurious errors for x509 certificate
<u>EUCA-7082</u>	Eucalyptus allows euca-register to use the same name for image registration
<u>EUCA-7067</u>	Attach volume dialog does not validate zone
<u>EUCA-7063</u>	Walrus returns different result for authenticated-read ACL
<u>EUCA-7059</u>	Creating a bucket with an empty name does not cause a failure
<u>EUCA-7058</u>	Manage instances widget cannot delete multiple instances
<u>EUCA-7020</u>	User Console login page slow to render
<u>EUCA-7019</u>	Console kicks out the user in when he is in actively doing operations.
<u>EUCA-7003</u>	In Import Keypair dialog the "Name" input field can not be accessed by its id
<u>EUCA-6969</u>	creating volume with negative size results failed volume
<u>EUCA-6968</u>	cannot login to user console with account admin or user
<u>EUCA-6870</u>	GetObjectRequest withRange errors when invalid range is given
<u>EUCA-6866</u>	resource collection updates take too long to show up in console
<u>EUCA-6851</u>	Block devices specified at start up time reported twice in DescribeInstances
<u>EUCA-6782</u>	Instance meta-data service should serve JSON for role security credentials
<u>EUCA-6771</u>	CreateRole api call gives bad request
<u>EUCA-6756</u>	LDAP: error code 4 - Sizelimit Exceeded when using LDAP/AD Integration
<u>EUCA-6668</u>	Elements from "More actions" drop-down don't trigger dialog, when clicked by id from Selenium IDE
<u>EUCA-6667</u>	Volume count on dashboard updates slowly

Issue	Description
<u>EUCA-6666</u>	Dashboard count shows "0" resources incorrectly and then correct resource count when there are many resources created
<u>EUCA-6665</u>	System Mode run instance frequently error
<u>EUCA-6664</u>	Elements in tool bar (on top of every page) have no ui-id assigned to them.
<u>EUCA-6663</u>	Filters, keywords in search bar have dynamically assigned id that keeps incrementing with each call
<u>EUCA-6587</u>	When tag edit is canceled, the "before cancel" state of tags shows up briefly on resource
<u>EUCA-6585</u>	In Import Keypairs dialog has a duplicate in the background
<u>EUCA-6584</u>	Some elements on Dashboard can not be accessed via ID
<u>EUCA-6583</u>	Multiple copies of "help" created in the background in all dialogs
<u>EUCA-6582</u>	In the Manage Tag dialog the id of "General" and "Tag" tabs is of form ui-id-<some number> and <some number> is incremented with each call
<u>EUCA-6574</u>	CreateBucket invoked via REST returns a response in the body when it shouldn't
<u>EUCA-6573</u>	Error moving enabled eucalyptus service in HA using disable/enable
<u>EUCA-6572</u>	Eucalyptus service does not stay in the STOPPED state
<u>EUCA-6568</u>	When tags are added/deleted, expando shows new state, then old state, then new state again
<u>EUCA-6566</u>	Long ELB name results in invalid DNS name
<u>EUCA-6565</u>	Tags and security group rules should be displayed each time in the same order
<u>EUCA-6564</u>	the landing page update refreshes the clicked button on the table while opening a dialog
<u>EUCA-6559</u>	euca-deregister needs to be ran twice to de-register an image (doesn't match AWS behavior)
<u>EUCA-6552</u>	In "Manage Tags" dialog may be creating an extra copy of dialog in the background. Input fields need to be assigned ids.
<u>EUCA-6551</u>	Checkboxes on all pages that list resources have to be given ids.
<u>EUCA-6520</u>	User Console session.idle.timeout not honored
<u>EUCA-6505</u>	Cannot reach LB vm after changing listener
<u>EUCA-6482</u>	Rivets-base dialogs assign the same ID to all the big green buttons

Issue	Description
<u>EUCA-6479</u>	Failed to marshall response to create volumes request
<u>EUCA-6467</u>	Make Install fails in eucalyptus/clc/eucadmin
<u>EUCA-6462</u>	Issue adding secondary CLC after upgrade
<u>EUCA-6405</u>	Click to sort on a pagnated table causes the table to return to the first page
<u>EUCA-6375</u>	CLC starts also when another postgresl process is running on the same port
<u>EUCA-6319</u>	You can add tags for non-existent groups:
<u>EUCA-6318</u>	Using group name with tagging, does not throw an error
<u>EUCA-6218</u>	vmware- Multiple devices in block device map only root device appears on guest
<u>EUCA-6208</u>	If Eucalyptus DNS is not enabled, AWS compatibility regarding bucket URLs is broken with Walrus
<u>EUCA-6200</u>	low on heap space memory after few hours of operation
<u>EUCA-6100</u>	Eucalyptus User Console Doesn't Show All Images When There Are a Large Number of Images (over 300)
<u>EUCA-6075</u>	Can't bundle the same instance twice
<u>EUCA-5948</u>	Changing LB VM emi in properties should update ASG launch configs
<u>EUCA-5931</u>	Load balancing module should not depend on cluster-manager or autoscaling modules
<u>EUCA-5930</u>	Auto scaling module should not depend on cluster-manager
<u>EUCA-5845</u>	CLC accepts invalid characters for resource names
<u>EUCA-5818</u>	Remove Guava multiple version hack from BindingCache
<u>EUCA-5514</u>	Walrus Response With Extra GetBucketAccessControlPolicyResponse Elements
<u>EUCA-5513</u>	Bucket ACLs Do Not Use Canonical User IDs
<u>EUCA-5512</u>	Walrus Doesn't Display Canonical User IDs and Display Name Correctly for Bucket ACLs when creating buckets, bucket ACLs with eucalyptus/admin user
<u>EUCA-4710</u>	StartInstances returns incorrect previousStates
<u>EUCA-4399</u>	Exceptions List in CLC references EC2 API Namespace 2008-08-08; Needs to be Updated to Reference the Latest Namespace Supported
<u>EUCA-4269</u>	euca-delete-group against an invalid group doesn't provide AWS compatible error
<u>EUCA-4253</u>	iptables-preload is not honored when CC are in HA mode and failover happens

Issue	Description
EUCA-4247	clc takes a long time to respond to non-cloud-admin request vs cloud-admin
EUCA-4224	Errors logged when resources described by user
EUCA-4177	DB resource check exceptions in the log
EUCA-3854	Default kernel and ramdisk associated to BFEBS instances
EUCA-3464	DeregisterImage doesn't work when an instance of the image still exists
EUCA-3326	euca-bundle-instance does not work if the bucket already exists on Walrus
EUCA-3113	Spurious error logged repeatedly - Creating UUID for message which did not have it set correctly
EUCA-2274	Error logged when starting CLC/SC
EUCA-2048	Errors logged on startup for invalid TypeMappers
EUCA-1800	Remove images error message should be improved

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.4.0 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

New known issues for this release:

Issue	Description
If a configuration file with the extension .rpmnew already exists when an upgrade is performed, then the user's config file will be overwritten instead of it being copied to a .rpmnew file.(DOC-1081)	Workaround: save contents of the files before upgrade. See attached bug for more information.
Cannot change launch config of autoscaling group from the user console while running Internet Explorer 10 and Windows 7 (EUCA-7952)	Attempting to change a launch configuration with the user console while running Internet Explorer 10 on Windows 7 results in the error " "Failed to update sclaing group. Please try again.". Workaround: use the Firefox or Google Chrome browser, or use the command line tools.
EBS image registration ignores user-supplied architecture argument (EUCA-7337)	EBS image registration defaults to x86_64. The default should be i386. In addition, if you attempt to change the architecture explicitly, it's ignored and stays x86_64. This is cosmetic, as the backend ignores the architecture argument.

Issue	Description
Cannot stop primary CLC/Walrus (EUCA-7634)	When attemptin to stop the primary CLC/W, it goes into NOTREADY state and it cannot stop the eucalyptus-cloud process. Workaround: You can use kill -9 on the Eucalyptus Cloud process if the following is true: On the CLC machine: 1. Verify that "ps aux grep postgres" returns only "grep postgres" This verifies that the Database has shut down and there will be no loss of data 2. Kill -9 <pid-of eucalyptus-cloud-service>
Cannot unbundle image which was bundled with euca-bundle-instance (EUCA-7148)	Even when using the same identity and keys that are used for both the bundle-instance, register and unbundle attempt, the unbundle will fail with a decryption error. Workaround: EMIs created with euca-bundle-instance operation cannot be unbundled with the user's credentials. The workaround for Linux images is to launch an instance from the EMI and perform euca-bundle-volume in it.
euca-describe-nodes does not return output in certain distributed topologies (EUCA-7039)	When the CLC, CC, and NCs are distributed components, euca-describe-nodes returns nothing. This is an issue with the CLC. Workaround: see linked bug. Note: This workaround just allows you to figure out how many nodes are attached to running instances as an administrator.
Misleading error from euca_conf --configure-vmware (EUCA-378)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: see linked bug.
Eucalyptus keeps the previous IPs in VNET_PUBLICIPS even after the field is modified and CC cleanrestarted. (EUCA-3856)	When using VMware Broker with direct connection to ESXi machine - if there is no virtual network created, "euca_conf --configure-vmware" will error out. Workaround: restart the cloud controller.
Adding nodes to vmware config requires service restart, cluster to become unavailable. (EUCA-1806)	When uploading a new vmware config to the CLC, the update is not pulled by the Broker until it is restarted. As a consequence of the Broker restart the Cluster Controller becomes unavailable. Adding or removing nodes from the config should not cause a service interruption.

Issue	Description
Registering image after euca-bundle-instance differs for vmware. (EUCA-7847)	Name of the manifest file on vmware differs from other virtualization types. Please check content of the bucket used for bundling to find out correct manifest name. Generally it should be bucket/prefix.manifest.xml for instances started from linux paravirtualized images and bucket/prefix.raw.manifest.xml for instances started from all other images. For example: • <bundle_name>/<prefix>.manifest.xml for paravirtualized instances • <bundle_name>/<prefix>.raw.manifest.xml for all other instances
Cannot add unit in create custom metric dialog in user console (EUCA-7919)	Workaround: use the euwatch command line tools to add a custom metric.
Volume attachments fail with EBS backed guests using ephemeral disks post stop/start (EUCA-7640)	Workaround: see linked bug.
Instance profiles don't work with IAM roles that have an IAM auto scaling policy (EUCA-7847)	Workaround: see linked bug.
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb property does not work on VMware even after adding it to the config and euca_imager left cache directory with all files after image creation.
Instance profiles don't support roles with IAM S3 policies (EUCA-7863)	See linked bug for details.
Maximum image size for euca-register has been increased from 10GB to 30GB (DOC-1011)	The maximum size for an image has been increased from 10GB to 30GB by default. Administrators who want to change this default (for example, to enforce the same 10GB limitation as EC2) can change this value by using the following command: <pre>euca-modify-property -p cloud.images.maximagesizegb=<max size in gigabytes></pre> The value must be an integer; a value of 0 disables the size check and means that there is no limit on the size of images that may be registered by users. Changing the value will not invalidate previously registered images. For upgraded installations, the maximum size is set to '0' if the previous version of Eucalyptus did not include this property (pre-3.4.0) so the admin must explicitly set a limit if one is desired.
Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade (EUCA-7935)	If the /etc/resolv.conf on the CLC has been configured to use itself (i.e. IP of CLC) in a Eucalyptus 3.3.x cloud as a nameserver, after upgrading to Eucalyptus 3.4.0, users will have to define recursive DNS servers in CLOUD_OPTS in the eucalyptus.conf on the CLC. For the workaround, please see Recursive DNS Server Behavior Change After 3.3.x to 3.4.0 Upgrade.

Outstanding known issues from previous releases:

Issue	Description
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result in connectivity issues with the Broker.
VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory (BROKER-9)	If the eucalyptus user does not have write access to the /etc/eucalyptus directory, the VMware Broker will stay in a BROKEN state, and euca-configure-vmware will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the eucalyptus user owns the necessary files.
ELBs fail because of lack of internet connection due to NTP (EUCA-7305)	ELB's won't work properly when they don't have internet connectivity. As part of the ELB image, we setup public NTP servers for time sync. In enterprise environments there is no guarantee that instances can reach the internet.
Euca-bundle-instance does not restart instance with VMware (EUCA-7291)	Instances stay in the powered off state on the ESX hosts after the bundle task completes. Eucalyptus reports the state as "running". There are two workarounds: • If the user has access to vSphere, the user can power on the VM through a vSphere client • If the user does not have access to vSphere, the user can terminate the instance through Eucalyptus (to get it out of "running" state) and then start a new one using the newly available EMI.
VMware Broker only reporting half of the cores per NC (EUCA-7205)	Eucalyptus uses the physical number of cores on an ESX host as the number of virtual cores. To change the value of your virtual cores, open the configuration file and set <code>maxCores</code> to the desired number of cores. For information about how to set this value, see "Configure VMware Support" in the 3.4.0 Eucalyptus Installation Guide.
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the <code>eucalyptus-cloud</code> service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to <code>CLOUD_OPTS</code> in <code>eucalyptus.conf</code> to disable hotspot. However, please note that this workaround might have some performance impact.

Issue	Description
Cannot log in to User Console with either user or admin account (EUCA-6968)	To access the Eucalyptus User Console in 3.3.1, a user must have a policy that allows access to the services supported by the console. For example: <pre> { "Version": "2012-10-17", "Statement": [{ "Action": ["autoscaling:Describe*", "cloudwatch:Describe*", "cloudwatch:Get*", "cloudwatch:List*", "ec2:Describe*", "elasticloadbalancing:Describe*"], "Effect": "Allow", "Resource": "*" }] }</pre>
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre> euare-useraddloginprofile -- delegate account1 -u user03 -p test</pre> 2. Check to see that the user's login profile has been created: <pre> euare-usergetloginprofile -- delegate account1 -u user03 user03</pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —
LDAP: error code 4 - Sizelimit Exceeded when using LDAP/AD Integration (EUCA-6756)	The LDAP/AD integration can't configure the number of items that the Directory search can't return during the synchronization process. So, the synchronization process uses the default. However, if a search responds with more entries than the client is configured to accept, the error displays. The workaround is to use the filter sub-element under the selection element for accounting-groups, groups, and users configuration variables in the LIC file.

Issue	Description
Requests to create volume fail on startup or initial restart of components (EUCA-6479)	In some cases, a Failed to marshall response error occurs on create volume requests. Restarting the components again solves this issue.
Issue adding secondary CLC after upgrade (EUCA-6462)	It is not possible to move a non-HA CLC to HA after an upgrade to 3.3.0. A fresh install is recommended in this situation. See linked issue for workaround.
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.
Can't bundle the same instance twice (EUCA-6075)	The first attempt to run <code>euca-bundle-instance</code> on an instance will succeed. Subsequent attempts to run this on the same instance will fail. The workaround is to terminate the instance then try again with another instance.
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a <code>409 BucketNotEmpty</code> . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <code>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message)</code> In spite of this error the migration has started and should successfully complete.
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
A user in non-eucalyptus account does not see a public image (EUCA-5901)	A user in an account that is not the <code>eucalyptus</code> account must use the <code>-a</code> option with <code>euca-describe-images</code> in order to display public images.

Issue	Description
Eucalyptus 3.3 now requires JVM version 7 (EUCA-5807)	Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your CLOUD_OPTS settings in the /etc/eucalyptus/eucalyptus.conf file either do not set <code>--java-home</code> , or that <code>--java-home</code> points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.
Instance running time instance types in report not consistent with UI and CLI (EUCA-4847)	As of Eucalyptus 3.3.0, the instance summary report will no longer be available from the command line tools nor the User Console
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
iptables-preload is not honored when CC are in HA mode and failover happens (EUCA-4253)	When Eucalyptus is in HA mode, the <code>iptables-preload</code> file is not reloaded on failover. To load this file, do the following: 1. Clean restart the active CC. 2. Verify that both CCs report the rules when they are going back online. 3. Disable the active CC and verify that the standby CC becomes active with the <code>iptables-preload</code> rules.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.

Issue	Description
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport -generate -report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
The <code>euca-describe-bundle-tasks</code> command does not keep task status after task completes (EUCA-4140)	When bundling a Windows instance, the task is removed from the task list as soon as the bundle completes, so <code>euca-describe-bundle-tasks</code> never shows a 'complete' status.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code> , then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: <code>storage.maxtotalvolumesizeingb</code> <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages iSCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographic keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
<code>httpd-cc_error_log</code> Grows without bound (EUCA-3909)	The <code>httpd-cc_error_log</code> is not rotated and can grow quite large. To reduce this file size, do <code>cp /dev/null \$EUCALYPTUS/var/log/eucalyptus/httpd-cc_error_log</code> . This will truncate the file. Removing the file is not recommended.

Issue	Description
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the eucalyptus-enterprise-vmware-broker-libs on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the eucalyptus-cloud process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.
euca-create-image from ebs backed instance fails, returns 0 (EUCA-1333)	euca-create-image is currently unsupported.
Must use user-friendly names for mulitpathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in /etc/multipath.conf.
Netapp SAN: admin will have to set chapuser explicitly after upgrade (DOC-791)	If you are a subscriber and use NetApp as the storage SAN backend, you must onfigure the CHAP username to be used by the Eucalyptus on the CLC (the primary CLC in an HA setup) using <code>euca-modify-property -p <partition>.storage.chapuser=<Chap_username></code> . The CHAP username can be any value, however it should be unique when sharing a NetApp Filer across multiple Eucalyptus clusters. The SC will not transition to ENABLED state until the CHAP username is configured.
Load Balancer VM not able to contact CLC when CC is not collocated with at least 1 Java component (EUCA-7845)	The CC should be located with at least on Java component (preferably, the SC) when using ELB. Otherwise, the ELB VM will be unable to contact the CLC.
user console does not gracefully prevent you from doing things your permissions don't allow you to do (DOC-1062)	If a user tries to perform operations that they are not allowed to, the user console dialog box may show an empty field, instead of not allowing you to launch the dialog in the first place. For instance, if you cannot describe tags, the user console should not let you try to run instances, because you can't actually see instance types. Currently, it will let you launch the dialog and not show any tags.

Issue	Description
euca_imager does not honour cacheDirectoryLimitMb property (EUCA-6531)	The cacheDirectoryLimitMb does not currently work when using VMware as the hypervisor.

3.3.2

This section contains release notes for Eucalyptus version 3.3.2.

What's New?

Eucalyptus 3.3.2 is a maintenance release and contains no new features.

Resolved Issues

Eucalyptus 3.3.2 resolves issues listed in the following table.

Issue	Description
EUCA-7586	Fixed an issue where the DNS server in the CLC stopped answering after a few days of operation.
EUCA-7566	Fixed a problem in Faststart in which volumes did not attach to an instance.

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.3.2 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

Issue	Description
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result connectivity issues with the Broker.
VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory (BROKER-9)	If the eucalyptus user does not have write access to the /etc/eucalyptus directory, the VMware Broker will stay in a BROKEN state, and euca - configure - vmware will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the eucalyptus user owns the necessary files.
ELBs fail because of lack of internet connection due to NTP (EUCA-7305)	ELB's won't work properly when they don't have internet connectivity. As part of the ELB image, we setup public NTP servers for time sync. In enterprise environments there is no guarantee that instances can reach the internet.

Issue	Description
Euca-bundle-instance does not restart instance with VMware (EUCA-7291)	Instances stay in the powered off state on the ESX hosts after the bundle task completes. Eucalyptus reports the state as "running". There are two workarounds: • If the user has access to vSphere, the user can power on the VM through a vSphere client • If the user does not have access to vSphere, the user can terminate the instance through Eucalyptus (to get it out of "running" state) and then start a new one using the newly available EMI.
VMware Broker only reporting half of the cores per NC (EUCA-7205)	Eucalyptus uses the physical number of cores on an ESX host as the number of virtual cores. To change the value of your virtual cores, open the configuration file and set <code>maxCores</code> to the desired number of cores. For information about how to set this value, see Configure VMware Support in the Eucalyptus Installation Guide.
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the <code>eucalyptus-cloud</code> service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to <code>CLOUD_OPTS</code> in <code>eucalyptus.conf</code> to disable hotspot. However, please note that this workaround might have some performance impact.
Cannot log in to User Console with either user or admin account (EUCA-6968)	To access the Eucalyptus User Console in 3.3.1, a user must have a policy that allows access to the services supported by the console. For example: <pre> { "Version": "2012-10-17", "Statement": [{ "Action": ["autoscaling:Describe*", "cloudwatch:Describe*", "cloudwatch:Get*", "cloudwatch:List*", "ec2:Describe*", "elasticloadbalancing:Describe*"], "Effect": "Allow", "Resource": "*" }] }</pre>

Issue	Description
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre>euare-useraddloginprofile -- delegate account1 -u user03 -p test</pre> 2. Check to see that the user's login profile has been created: <pre>euare-usergetloginprofile -- delegate account1 -u user03 user03</pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —
LDAP: error code 4 - Sizelimit Exceeded when using LDAP/AD Integration (EUCA-6756)	The LDAP/AD integration can't configure the number of items that the Directory search can't return during the synchronization process. So, the synchronization process uses the default. However, if a search responds with more entries than the client is configured to accept, the error displays. The workaround is to use the filter sub-element under the selection element for <code>accounting-groups</code> , <code>groups</code> , and <code>users</code> configuration variables in the LIC file.
Requests to create volume fail on startup or initial restart of components (EUCA-6479)	In some cases, a <code>Failed to marshall response</code> error occurs on create volume requests. Restarting the components again solves this issue.
Issue adding secondary CLC after upgrade (EUCA-6462)	It is not possible to move a non-HA CLC to HA after an upgrade to 3.3.0. A fresh install is recommended in this situation. See linked issue for workaround.
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.

Issue	Description
Can't bundle the same instance twice (EUCA-6075)	The first attempt to run <code>euca-bundle-instance</code> on an instance will succeed. Subsequent attempts to run this on the same instance will fail. The workaround is to terminate the instance then try again with another instance.
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a <code>409 BucketNotEmpty</code> . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <code>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message)</code> In spite of this error the migration has started and should successfully complete.
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
A user in non-eucalyptus account does not see a public image (EUCA-5901)	A user in an account that is not the <code>eucalyptus</code> account must use the <code>-a</code> option with <code>euca-describe-images</code> in order to display public images.
Eucalyptus 3.3 now requires JVM version 7 (EUCA-5807)	Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your <code>CLOUD_OPTS</code> settings in the <code>/etc/eucalyptus/eucalyptus.conf</code> file either do not set <code>--java-home</code> , or that <code>--java-home</code> points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.
Instance running time instance types in report not consistent with UI and CLI (EUCA-4847)	As of Eucalyptus 3.3.0, the instance summary report will no longer be available from the command line tools nor the User Console
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.

Issue	Description
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
iptables-preload is not honored when CC are in HA mode and failover happens (EUCA-4253)	When Eucalyptus is in HA mode, the <code>iptables-preload</code> file is not reloaded on failover. To load this file, do the following: 1. Clean restart the active CC. 2. Verify that both CCs report the rules when they are going back online. 3. Disable the active CC and verify that the standby CC becomes active with the <code>iptables-preload</code> rules.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>euereport-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
The <code>euca-describe-bundle-tasks</code> command does not keep task status after task completes (EUCA-4140)	When bundling a Windows instance, the task is removed from the task list as soon as the bundle completes, so <code>euca-describe-bundle-tasks</code> never shows a 'complete' status.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.

Issue	Description
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code>, then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: <code>storage.maxtotalvolumesizeingb</code> <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages iSCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
<code>httpd-cc_error_log</code> Grows without bound (EUCA-3909)	The <code>httpd-cc_error_log</code> is not rotated and can grow quite large. To reduce this file size, do <code>cp /dev/null \$EUCALYPTUS/var/log/eucalyptus/httpd-cc_error_log</code> . This will truncate the file. Removing the file is not recommended.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the <code>eucalyptus-cloud</code> process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.

Issue	Description
euca-create-image from ebs backed instance fails, returns 0 (EUCA-1333)	euca-create-image is currently unsupported.
Must use user-friendly names for multipathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in /etc/multipath.conf.
Netapp SAN: admin will have to set chapuser explicitly after upgrade (DOC-791)	If you are a subscriber and use NetApp as the storage SAN backend, you must onfigure the CHAP username to be used by the Eucalyptus on the CLC (the primary CLC in an HA setup) using <code>euca-modify-property -p <partition>.storage.chapuser=<Chap_username></code> . The CHAP username can be any value, however it should be unique when sharing a NetApp Filer across multiple Eucalyptus clusters. The SC will not transition to ENABLED state until the CHAP username is configured.

3.3.1

This section contains release notes for Eucalyptus version 3.3.1.

What's New?

Eucalyptus 3.3.1 is a maintenance release and contains the following new feature:

- We now support Auto Scaling in the Eucalyptus User Console. For more information, go to the section, **Working with Auto Scaling Groups** in the Eucalyptus Console Guide or in the online help for the Eucalyptus User Console.

Resolved Issues

Eucalyptus 3.3.1 resolves issues listed in the following table.

Issue	Description
SAN-66	NetApp Cluster Mode - Volume creation fails when aggregates are configured in Eucalyptus
EUCA-7220	models/zone(s) duplicates functionality of models/availabilityzone(s)
EUCA-7137	ListVersions for Bucket returns NPE from WalrusManager line 3461
EUCA-7069	Missing brackets cause vnetAddDev to always return EUCA_INVALID_ERROR
EUCA-7035	UI can't authorize user with @ in a password.
EUCA-7034	Typo in cache refresh causes stale data for users
EUCA-6946	unconfigured ELB responds to some calls properly, but not all
EUCA-6938	NC gives out internal error when trying to terminate a non-existing instance
EUCA-6933	Add support for EC2 2013-06-15 API version
EUCA-6915	After delete operation on Volumes Landing page in Firefox, the volume disappears from landing page, when its state is, in fact "Pending"
EUCA-6907	Equallogic - Volumes fail to attach after CHAP user is modified
EUCA-6865	create snapshot volume field should accept only valid volumes from the drop down list or volume IDs that match something in the drop down list
EUCA-6818	After Upgrading from 3.2.2 to 3.3, RightAWS API call to start EBS-backed instances returned an error

Issue	Description
<u>EUCA-6779</u>	Console shows "0 images" while loading
<u>EUCA-6754</u>	non-windows OS not displaying in image expando data
<u>EUCA-6753</u>	If desired capacity set to zero, once all instances are terminated the > AS group no longer appears in the Scaling Groups tab
<u>EUCA-6697</u>	running and clearing search facets extremely slow on ECC
<u>EUCA-6588</u>	Terminating EBS backed instance during volume creation causes volume to stay in deleting
<u>EUCA-6571</u>	Error modifying service state in HA
<u>EUCA-6550</u>	Installed licences/Jars not consistent
<u>EUCA-6549</u>	Unable to register Walrus - 'NoneType' object is not callable
<u>EUCA-6543</u>	The admin console does not provide the correct error message when a password has expired.
<u>EUCA-6530</u>	Tooltip text incorrect for "Instance name(s)" field on Launch Instance wizard
<u>EUCA-6510</u>	create volume fails on Chrome when "none" set as snapshot Id
<u>EUCA-6504</u>	Hosts.entrySet(): Logging every 2 seconds at INFO
<u>EUCA-6500</u>	instance landing expando: volumes should show name if available
<u>EUCA-6499</u>	should not have to ESC after using magic search bar
<u>EUCA-6492</u>	Authorization fails when using security token with Signature V4
<u>EUCA-6484</u>	the attach volume dialog displays all the volumes regardless of the availability zones
<u>EUCA-6480</u>	Replace dataholder with app.data in launch instance wizard
<u>EUCA-6475</u>	User console dashboard doesn't pick up zones change
<u>EUCA-6456</u>	User should be able to set the limit for request timeouts
<u>EUCA-6400</u>	In multi-cluster configuration, migrations using --source broken for all clusters but first registered.
<u>EUCA-6300</u>	Tag edit does not get canceled when delete/undelete is performed on other tags
<u>EUCA-6242</u>	After Upgrading from 3.2.2 to 3.3.0, Eucalyptus DNS fails to resolve
<u>EUCA-6226</u>	User Console: In Images tab, the "Name" column should be renamed Image to match other screens

Issue	Description
<u>EUCA-6215</u>	Get Console Output Dialog breaks on instance's long name
<u>EUCA-6214</u>	Long names in snapshot landing page breaks the table
<u>EUCA-6177</u>	Volume ID validation error message is not aligned with the input box
<u>EUCA-6173</u>	Manage tag dialog's validation error message should be displayed directly under the errored tag
<u>EUCA-6160</u>	FindBugs: CloudWatch unsafely shares SimpleDateFormat between threads
<u>EUCA-5969</u>	Autocomplete sets "Attach as device" to "/dev/sdf" even when device is in use
<u>EUCA-5863</u>	Attaching volume shows up as available in the drop-down
<u>EUCA-5772</u>	delete_on_terminate fails when instance is stopped before termination
<u>EUCA-5584</u>	instance metadata gives 404 for http://169.254.169.254/1.0
<u>EUCA-5547</u>	launch instance wizard does not validate input for number of instances to launch
<u>EUCA-5430</u>	Bogus Error Message when creating security group that already exists
<u>EUCA-5320</u>	Attach volume to instance: "Attach" button not clickable after volume-id have been pasted in
<u>EUCA-5256</u>	ec2-metadata not grabbing all data
<u>EUCA-4964</u>	instance creation fails on blobstore.c
<u>EUCA-4815</u>	user console should validate size of user data against max allowable size for euca
<u>EUCA-4541</u>	create security group button text should say Create group
<u>EUCA-4504</u>	USER-CONSOLE: When importing keypair, no error message gets displayed to inform that it's not allowed to click "import" button when using ' as part of its name.
<u>EUCA-4338</u>	More Actions button does not pick up on hover styling
<u>EUCA-4337</u>	attach volume from instance landing should filter volumes to those in same AZ as selected instance
<u>EUCA-4329</u>	Metadata Service - hostname should match local-hostname
<u>EUCA-4222</u>	Incorrect error creating volume with large size
<u>EUCA-3110</u>	Cloud controller listen ports should be predictable
<u>EUCA-2770</u>	if eucalyptus controls DNS, there should be an A record for instance-data.<subdomain>.internal and PTR record for 169.254.169.254

Issue	Description
EUCA-1556	metadata: null point exception when accessing http://169.254.169.254/
EUCA-1555	metadata: 'mac' category is not supported
BROKER-17	VB: do not assume that VM has a non-empty annotation

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.3.1 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

Issue	Description
Broker does not support some host configurations (BROKER-36)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result connectivity issues with the Broker.
VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory (BROKER-9)	If the eucalyptus user does not have write access to the /etc/eucalyptus directory, the VMware Broker will stay in a BROKEN state, and euca-configure-vmware will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the eucalyptus user owns the necessary files.
ELBs fail because of lack of internet connection due to NTP (EUCA-7305)	ELB's won't work properly when they don't have internet connectivity. As part of the ELB image, we setup public NTP servers for time sync. In enterprise environments there is no guarantee that instances can reach the internet.
Euca-bundle-instance does not restart instance with VMware (EUCA-7291)	Instances stay in the powered off state on the ESX hosts after the bundle task completes. Eucalyptus reports the state as "running". There are two workarounds: • If the user has access to vSphere, the user can power on the VM through a vSphere client • If the user does not have access to vSphere, the user can terminate the instance through Eucalyptus (to get it out of "running" state) and then start a new one using the newly available EMI.
VMware Broker only reporting half of the cores per NC (EUCA-7205)	Eucalyptus uses the physical number of cores on an ESX host as the number of virtual cores. To change the value of your virtual cores, open the configuration file and set <code>maxCores</code> to the desired number of cores. For information about how to set this value, see Configure VMware Support in the Eucalyptus Installation Guide.

Issue	Description
Eucalyptus cloud service JVM SIGSEGV in HA configuration (EUCA-7030)	In an HA configuration, the <code>eucalyptus-cloud</code> service exits with a SIGSEGV fatal error after a fairly short period. When this occurs the current thread is always "C2 CompilerThread0" and the method under compilation is "java.sql.DriverManager::getDriver". A workaround for this issue is to add "-Xint" to <code>CLOUD_OPTS</code> in <code>eucalyptus.conf</code> to disable hotspot. However, please note that this workaround might have some performance impact.
Cannot log in to User Console with either user or admin account (EUCA-6968)	To access the Eucalyptus User Console in 3.3.1, a user must have a policy that allows access to the services supported by the console. For example: <pre> { "Version": "2012-10-17", "Statement": [{ "Action": ["autoscaling:Describe*", "cloudwatch:Describe*", "cloudwatch:Get*", "cloudwatch:List*", "ec2:Describe*", "elasticloadbalancing:Describe*"], "Effect": "Allow", "Resource": "*" }] } </pre>
When LDAP/AD integration is enabled, login profiles are not enabled (EUCA-6760)	When LDAP/AD integration is enabled, <code>euare-userloginprofiles</code> are not created. To make sure that users can log into the Administration Console, do the following: 1. Create a login profile using a "dummy" password: <pre> euare-useraddloginprofile -- delegate account1 -u user03 -p test </pre> 2. Check to see that the user's login profile has been created: <pre> euare-usergetloginprofile -- delegate account1 -u user03 user03 </pre> The user can now log into the Administration Console using their user ID and LDAP/AD password. Important: This only applies to the Administration Console. You do not need to create login profiles for the User Console. —

Issue	Description
LDAP: error code 4 - Sizelimit Exceeded when using LDAP/AD Integration (EUCA-6756)	The LDAP/AD integration can't configure the number of items that the Directory search can't return during the synchronization process. So, the synchronization process uses the default. However, if a search responds with more entries than the client is configured to accept, the error displays. The workaround is to use the filter sub-element under the selection element for <code>accounting-groups</code> , <code>groups</code> , and <code>users</code> configuration variables in the LIC file.
Requests to create volume fail on startup or initial restart of components (EUCA-6479)	In some cases, a <code>Failed to marshall response</code> error occurs on create volume requests. Restarting the components again solves this issue.
Issue adding secondary CLC after upgrade (EUCA-6462)	It is not possible to move a non-HA CLC to HA after an upgrade to 3.3.0. A fresh install is recommended in this situation. See linked issue for workaround.
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.
Can't bundle the same instance twice (EUCA-6075)	The first attempt to run <code>euca-bundle-instance</code> on an instance will succeed. Subsequent attempts to run this on the same instance will fail. The workaround is to terminate the instance then try again with another instance.
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a <code>409 BucketNotEmpty</code> . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <pre>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message) In spite of this error the migration has started and should successfully complete.</pre>

Issue	Description
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
A user in non-eucalyptus account does not see a public image (EUCA-5901)	A user in an account that is not the <code>eucalyptus</code> account must use the <code>-a</code> option with <code>euca-describe-images</code> in order to display public images.
Eucalyptus 3.3 now requires JVM version 7 (EUCA-5807)	Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your <code>CLOUD_OPTS</code> settings in the <code>/etc/eucalyptus/eucalyptus.conf</code> file either do not set <code>--java-home</code> , or that <code>--java-home</code> points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.
Instance running time instance types in report not consistent with UI and CLI (EUCA-4847)	As of Eucalyptus 3.3.0, the instance summary report will no longer be available from the command line tools nor the User Console
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
iptables-preload is not honored when CC are in HA mode and failover happens (EUCA-4253)	When Eucalyptus is in HA mode, the <code>iptables-preload</code> file is not reloaded on failover. To load this file, do the following: 1. Clean restart the active CC. 2. Verify that both CCs report the rules when they are going back online. 3. Disable the active CC and verify that the standby CC becomes active with the <code>iptables-preload</code> rules.

Issue	Description
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
The <code>euca-describe-bundle-tasks</code> command does not keep task status after task completes (EUCA-4140)	When bundling a Windows instance, the task is removed from the task list as soon as the bundle completes, so <code>euca-describe-bundle-tasks</code> never shows a 'complete' status.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.
No client side reporting on exceeding <code>maxtotalvolumesizeingb</code> (EUCA-4030)	If an EBS-backed instance is launched that is larger than the cloud property <code>maxtotalvolumesizeingb</code> , then there is no error reported back to the client. The instance is terminated. The workaround is to increase the following cloud properties: <code>storage.maxtotalvolumesizeingb</code> <code>storage.maxvolumesizeingb</code> Once these values are increased, the instances will launch.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages ISCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
<code>httpd-cc_error_log</code> Grows without bound (EUCA-3909)	The <code>httpd-cc_error_log</code> is not rotated and can grow quite large. To reduce this file size, do <code>cp /dev/null \$EUCALYPTUS/var/log/eucalyptus/httpd-cc_error_log</code> . This will truncate the file. Removing the file is not recommended.

Issue	Description
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the eucalyptus-enterprise-vmware-broker-libs on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the eucalyptus-cloud process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.
euca-create-image from ebs backed instance fails, returns 0 (EUCA-1333)	euca-create-image is currently unsupported.
Must use user-friendly names for mulitpathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in /etc/multipath.conf.
Netapp SAN: admin will have to set chapuser explicitly after upgrade (DOC-791)	If you are a subscriber and use NetApp as the storage SAN backend, you must onfigure the CHAP username to be used by the Eucalyptus on the CLC (the primary CLC in an HA setup) using <code>euca-modify-property -p <partition>.storage.chapuser=<Chap_username></code> . The CHAP username can be any value, however it should be unique when sharing a NetApp Filer across multiple Eucalyptus clusters. The SC will not transition to ENABLED state until the CHAP username is configured.

3.3.0

This section contains the release notes for Eucalyptus version 3.3.0.

What's New?

Eucalyptus 3.3.0 introduces the following new features.

Feature	Description
Tagging and Filtering	Eucalyptus allows you to create metadata for your cloud resources using tags. You can then filter resources based on the tags you created. For information about tagging and filtering, see the Using Tags and Filters in the User Guide.
Scaling	Eucalyptus allows you to automatically add or delete instances based on demand. For information about scaling, see the Using Auto Scaling in the User Guide.
Monitoring	Eucalyptus provides monitoring to manage and publish various metrics, as well as to configure alarm actions based on those metrics. For information about monitoring, see the Using CloudWatch in the User Guide.
Load Balancing	Eucalyptus provides load balancing to distribute incoming traffic across your cloud. For information about load balancing, see the Using Elastic Load Balancing in the User Guide.
New VM Types	Eucalyptus adds support for more VM types. For information about VM types, see the Virtual Machine Types in the User Guide.
EBS-Backed Images and Instances	Eucalyptus introduces improvements in Elastic block store (EBS) backed image registration and instances. For details, please go to Boot from EBS Changes in Eucalyptus 3.3 .

Resolved Issues

Eucalyptus 3.3.0 resolves issues listed in the following table.

Issue	Description
EUCA-5822	Upgrades startup does not initially create new component databases for newly added components
EUCA-5772	delete_on_terminate fails when instance is stopped before termination
EUCA-5737	Console UI has issues with IE 8/9/10

Issue	Description
<u>EUCA-5686</u>	RunInstances should enforce minimum boot from EBS snapshot sizes
<u>EUCA-5603</u>	CLC and CC default DNS domains are incompatible
<u>EUCA-5429</u>	Enable CHAP for NetApp
<u>EUCA-5418</u>	User Console: Unable to assign elastic IP assigned to another instance
<u>EUCA-5368</u>	IAM Policy Uses Account Name Instead of Account ID
<u>EUCA-5340</u>	Paste-in is not working for "Associate IP" from instance landing page
<u>EUCA-5338</u>	Eucalyptus Reporting: Usage information incorrect
<u>EUCA-5337</u>	NC: race for hypervisor connection leads to non-deterministic failures
<u>EUCA-5270</u>	When Instance Fails to Launch it stays in pending indefinitely
<u>EUCA-5132</u>	user console login page not displaying page-level help
<u>EUCA-5130</u>	Volume remains in DELETING state after euca-create-volume/euca-delete-volume test
<u>EUCA-4943</u>	Add support for EC2 2012-12-01 version
<u>EUCA-4932</u>	Failed to launch instance after deleting snapshot associated with an image as non-root ebs mapping
<u>EUCA-4874</u>	remove access key requirement from tokens for user console authentication
<u>EUCA-4845</u>	Link the user console's version to /VERSION in the source tree
<u>EUCA-4750</u>	Cloud property being unset causes euca-describe-properties display to be broken
<u>EUCA-4724</u>	Remove walrus and sc stats log files
<u>EUCA-4542</u>	register snapshot as instance has no help
<u>EUCA-4276</u>	igroup Mis-management Regarding NetApp SAN Adapter
<u>EUCA-4272</u>	walrus_request_timeout may hang and impact unrelated instances
<u>EUCA-4244</u>	Should support images with multiple device mappings
<u>EUCA-4243</u>	User input lost when registering image with multiple device mappings
<u>EUCA-4229</u>	After hitting maximum snapshot limit the cloud still sees snapshots
<u>EUCA-4211</u>	Private network index allocation is not thread safe
<u>EUCA-4136</u>	Remove cluster00.storage.storageinterface because it is vestigial

Issue	Description
<u>EUCA-4105</u>	Binding namespace substitution substitutes message content instead of namespace.
<u>EUCA-4081</u>	metadata service incorrect for BFEBS instance
<u>EUCA-3958</u>	NC starts when an invalid VNET_MODE is specified
<u>EUCA-3703</u>	Reporting subsystem hardcodes lists of VM types
<u>EUCA-3659</u>	Walrus REST API does not canonicalize x-amz-headers properly
<u>EUCA-3405</u>	AuthorizeSecurityGroupIngress doesn't support newer parameter scheme
<u>EUCA-3373</u>	Adding additional keys to eucalyptus admin user, breaks ability to use admin commands with new keys
<u>EUCA-3271</u>	EBS Backed instance always have an ephemeral disk
<u>EUCA-3254</u>	RunInstances api call needs to support multiple block device mappings
<u>EUCA-2402</u>	Remove test code from packages
<u>EUCA-2329</u>	CLC always return A response for AAAA or TXT DNS query
<u>EUCA-1756</u>	Kernel, ramdisk images are not owned by the accounts who register them

Resolved Security Issues

No security vulnerabilities have been fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.3 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

Issue	Description
Broker does not support some host configurations (<u>BROKER-36</u>)	When using VMware, all hosts must either be managed by VCenter or the Eucalyptus VMware Broker. Mixed management of the hosts is not supported and will result connectivity issues with the Broker.
VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory (<u>BROKER-9</u>)	If the eucalyptus user does not have write access to the /etc/eucalyptus directory, the VMware Broker will stay in a BROKEN state, and euca-configure-vmware will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the eucalyptus user owns the necessary files.

Issue	Description
Requests to create volume fail on startup or initial restart of components (EUCA-6479)	In some cases, a <code>Failed to marshall response</code> error occurs on create volume requests. Restarting the components again solves this issue.
Issue adding secondary CLC after upgrade (EUCA-6462)	It is not possible to move a non-HA CLC to HA after an upgrade to 3.3.0. A fresh install is recommended in this situation. See linked issue for workaround.
User should be able to set the limit for request timeouts (EUCA-6456)	The User Console may time out when displaying resource pages. This occurs when a user has many resources, such as volumes.
In multi-cluster configuration, migrations using <code>--source</code> broken for all clusters but first registered (EUCA-6400)	In a multi-cluster cloud migrations using <code>--source</code> are broken for all clusters but the first one registered. Use <code>--instance</code> to work around this issue.
Modify service does not work always (EUCA-6389)	In some cases the <code>euca-modify-service</code> command does not work. A subsequent retry of this command should succeed.
NC often goes to NOTREADY state during multiple instance migration (EUCA-6366)	During a multiple instance migration the user may see the source NC transition into NOTREADY state. There is no explicit action required. The NC will transition back to ENABLED and the migration will succeed.
Failure to create backing for instance migration (EUCA-6228)	In some cases the user may see a failure when attempting multiple instance migration. The workaround is to run the migration a second time, which should succeed.
Instances become inaccessible if CC is clean restarted during migration (EUCA-6232)	Performing a clean-restart operation during a migration may cause instances to become inaccessible. It is best to avoid a clean-restart operation during migration.
Can't bundle the same instance twice (EUCA-6075)	The first attempt to run <code>euca-bundle-instance</code> on an instance will succeed. Subsequent attempts to run this on the same instance will fail. The workaround is to terminate the instance then try again with <code>anotherinstance</code> .
Walrus image cache is hidden to the user (EUCA-6068)	When a registered image is deleted from Walrus the cache files stay behind, but they are not shown when listing bucket contents. An attempt to delete the bucket will return a <code>409 BucketNotEmpty</code> . To workaround this issue de-register the deleted images and then delete the bucket.
Successfully started migration can be reported as failed (EUCA-6043)	The user may see an error message when attempting to migrate an instance: <code>Error(MigrateInstancesType): Migrating instance i-820A3F02 failed because of: com.eucalyptus.ws.WebServicesException: com.eucalyptus.ws.WebServicesException: Error parsing document (line -1, col -1, in SOAP-message)</code> In spite of this error the migration has started and should successfully complete.

Issue	Description
BundleInstance always produces x86_64 images (EUCA-5979 , EUCA-5980)	The <code>euca-bundle-instance</code> command defaults to the x86_64 architecture for both the NC and VMWare Broker. In order to ensure the appropriate architecture the user must always supply the <code>--arch</code> option to <code>euca-register</code> .
A user in non-eucalyptus account does not see a public image (EUCA-5901)	A user in an account that is not the <code>eucalyptus</code> account must use the <code>-a</code> option with <code>euca-describe-images</code> in order to display public images.
Instance running time instance types in report not consistent with UI and CLI (EUCA-4847)	As of Eucalyptus 3.3.0, the instance summary report will no longer be available from the command line tools nor the User Console
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
The <code>euca-describe-bundle-tasks</code> command does not keep task status after task completes (EUCA-4140)	When bundling a Windows instance, the task is removed from the task list as soon as the bundle completes, so <code>euca-describe-bundle-tasks</code> never shows a 'complete' status.

Issue	Description
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages iSCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
<code>httpd-cc_error_log</code> Grows without bound (EUCA-3909)	The <code>httpd-cc_error_log</code> is not rotated and can grow quite large. To reduce this file size, do <code>cp /dev/null \$EUCALYPTUS/var/log/eucalyptus/httpd-cc_error_log</code> . This will truncate the file. Removing the file is not recommended.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the <code>eucalyptus-cloud</code> process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.
Cloud controller listen ports should be predictable (EUCA-3110)	It is possible to make configuration changes such that CLC port usage is predictable. Detailed changes are required in order to ensure this. Please contact Eucalyptus support for details
<code>euca-create-image</code> from ebs backed instance fails, returns 0 (EUCA-1333)	<code>euca-create-image</code> is currently unsupported.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
Must use user-friendly names for multipathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in <code>/etc/multipath.conf</code> .
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.

Issue	Description
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.
Eucalyptus 3.3 now requires JVM version 7 (EUCA-5807)	Eucalyptus 3.3 requires version 7 of the Java Virtual Machine. Make sure that your CLOUD_OPTS settings in the /etc/eucalyptus/eucalyptus.conf file either do not set --java-home, or that --java-home points to a version 7 JVM. This needs to happen before services are started but after the upgraded packages are installed.
Netapp SAN: admin will have to set chapuser explicitly after upgrade (DOC-791)	If you are a subscriber and use NetApp as the storage SAN backend, you must onfigure the CHAP username to be used by the Eucalyptus on the CLC (the primary CLC in an HA setup) using <code>euca-modify-property -p <partition>.storage.chapuser=<Chap_username></code> . The CHAP username can be any value, however it should be unique when sharing a NetApp Filer across multiple Eucalyptus clusters. The SC will not transition to ENABLED state until the CHAP username is configured.
The admin console does not provide the correct error message when a password has expired. (EUCA-6543)	When attempting a login to the admin console with an expired password, the error message does not provide the correct prescriptive information advising the user reset their password.

3.2.2

This section contains release notes for Eucalyptus version 3.2.2.

Caution: By default, the node controller uses the filesystem to perform key injection. This is potentially an unsafe practice. To disable key injection, set `DISABLE_KEY_INJECTION=1` in `eucalyptus.conf`.

What's New?

Eucalyptus 3.2.2 is a maintenance release and has no new features. However, we would like to point out two changes in 3.2.x that have not been explicitly noted before:

- DRBD needs an explicit mount point in `/etc/fstab` on each Walrus in your cloud. This is covered in the Installation Guide's section, Configure DRBD.
- Images uploaded to Walrus are private by default. To make images public, enter the following:

```
euca-modify-image-attribute -l -a all [emi-identifier]
```

- The `[partition].storage.lunmigrationtimeout` property for EMC VNX SANs now uses hours instead of seconds. The default value is 12 hours.

Resolved Issues

The following tables lists issues that have been resolved since the last release of Eucalyptus.

Issue	Description
EUCA-5463	iSCSI Perl scripts fail to work if hostname is used instead of IP address for the SAN.
EUCA-5324	Allocating an address against quota message is off by one.
EUCA-5306	DataTables warning (table id = 'instances'): Requested unknown parameter 'placement' from the data source for row 0.
EUCA-5040	Reload of iSCSI targets on OverlayManager SC reboot does not occur.
EUCA-4967	Multicast unreliability cripples system; dependence on multicast contra-indicated in some deployments.
EUCA-4924	Uncaught exception in <code>AbstractConfigurableProperty</code> causes <code>euca-describe-properties</code> to return a <code>RuntimeException</code> .
EUCA-4872	Attaching volumes to EBS instance can cause filesystem mounted on backing volume to err or lockup.
EUCA-4696	User Console logins fail after upgrade from 3.2.0 to 3.2.1.
EUCA-4640	Launching an instance failed due to error: failed to allocate artifact prt-159232ext3-09be6495 (8 blobstore.c:2211 no space left) on try 1.

Issue	Description
EUCA-4627	Calling "udevadm trigger" is not safe in iSCSI connect scripts.
EUCA-4128	<code>euca-describe-volumes</code> (verbose) takes a long time to return with results.
EUCA-3456	<code>euca-describe-nodes</code> does not return consistent results
EUCA-3119	Volumes created from a snapshot for EBS have incorrect filesystem permissions.
BROKER-20	VMware imager still fails to install grub.

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release

Known Issues

The following known issues exist in Eucalyptus 3.2.2 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues. You can use the support portal <https://support.eucalyptus.com> or email us directly at support@eucalyptus.com.

Issue	Description
Cannot attach a volume to a VMware host over iSCSI when the datastore uses NFS (DOC-735)	VMware does not support this configuration. For more information, see VMware KB 1001856 .
Launching multiple EBS-backed instances using <code>-n</code> fails (EUCA-2452)	When launching EBS-backed instances using the <code>-n</code> option, instances never go into running state. Use <code>euca-start-instance</code> to start each stopped instance.
<code>clusterXX.storage.storageinterface</code> has no effect (EUCA-4136)	Setting <code>clusterXX.storage.storageinterface</code> will not redirect iSCSI traffic onto a different interface. To redirect traffic, register the Storage Controller with a different IP address.
"Task is already running" dialog appears when repairing Eucalyptus Windows Integration Tool installation on Windows 2008 Datacenter x86_64 (EUCA-4367)	When you run a repair installation operation on the Eucalyptus Windows Integration Tool on Windows 2008 Datacenter x86_64 (without Hyper-V), an error pops up with the message "The specified service already exists". Select "OK" to continue and the installation repair will proceed normally.
Cannot detach <code>root</code> EBS volume from stopped instance (EUCA-5033)	The <code>root</code> EBS volume cannot be detached from an instance that was launched from that volume.
Large SOAP error messages can fill up logs when using Hybridfox or the Eucalyptus User Console (EUCA-5333)	When using Hybridfox or the Eucalyptus 3.2.1 User Console, large SOAP error messages can quickly fill the cloud-output log file.

Issue	Description
Raw data reported by VMware Broker does not include meaningful volume names (BROKER-22)	Data reported in the console displays meaningful volume names. Data exported in raw format labels each volume or ephemeral storage unit as <code>scsi0:[N]</code> , and must be translated into meaningful names by another reporting framework.
Reporting values seem to be in error at first (DOC-707)	Network traffic numbers in columns Total and External might appear to be incorrect. The external numbers can be greater than total numbers. This is because the two types of measurements come from different hosts (external is from the CC and totals from the NC). These hosts sample and deliver numbers to the reporting subsystem at different times. If the report is requested after the external counter is updated but before the total counter is updated, the numbers could appear out of their natural order. In a stable state without network traffic, the numbers will become correct eventually, usually within a few minutes, depending on the polling frequency value specified in the <code>reporting.default_poll_interval_mins</code> and <code>reporting.default_write_interval_mins</code> parameters.
Race condition can cause secondary Walrus to appear ENABLED to the secondary CLC in HA setup (EUCA-4846)	After repeated state changes of various components in a HA setup, the secondary Walrus may not be visible to the primary CLC. Running <code>euca-modify-service -s DISABLED WS-[N]</code> will resolve this issue.
Default cloud properties must have a value (EUCA-4750)	If any of the cloud properties are set with no value, you might experience issues with the output of the <code>euca-describe-properties</code> command.
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.

Issue	Description
User console hangs when launching an instance with large user data file (EUCA-4223)	Launching an instance through the console may hang if the user data file is too big. Launch instances on the command line if the user data file is larger than 16KB.
A snapshot registered as an image must be deregistered twice to be fully removed (EUCA-4207)	Running <code>deregister -image</code> does not initially delete the image record for a snapshot that was registered as an image. You must run <code>deregister -image</code> twice to ensure the image is deleted.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport -generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
The <code>euca-describe-bundle-tasks</code> command does not keep task status after task completes (EUCA-4140)	When bundling a Windows instance, the task is removed from the task list as soon as the bundle completes, so <code>euca-describe-bundle-tasks</code> never shows a 'complete' status.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages ISCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.

Issue	Description
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the eucalyptus-cloud process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.
euca-create-image from ebs backed instance fails, returns 0 (EUCA-1333)	euca-create-image is currently unsupported.
Snapshots sometimes fail when using VNX (VNX-38)	This only happens when the Storage Controller sends commands to the storage processor (as specified in the <code>sanhost</code> property) that is not the owner of the volume's LUN.

3.2.1

This section contains release notes for Eucalyptus version 3.2.1.

Caution: There is an issue with the current Eucalyptus EMC SAN adapter in both 3.2.0 and 3.2.1. The EMC SAN adapter, when used in a cluster with two or more Node Controllers, has issues with EBS instances that have EBS volumes attached. These deployments are likely to incur data losses. You can test the EMC adapter with 3.2.x if there is only one NC in the cluster OR there are no EBS instances with attached EBS volumes. For more information, see the entry for EUCA-4872 in [Known Issues](#).

What's New?

Eucalyptus 3.2.1 has the following new feature:

- We added the ability to generate instance usage reports for VMware hypervisor. This feature is supported for vCenter 5.0 and up. For more information, see [EUCA-4616](#).

Eucalyptus 3.2.1 has the following changes:

- The location of the iptables-preload file has changed in 3.2.1 from `/var/run/eucalyptus/net / iptables-preload` to `/etc/eucalyptus/iptables-preload`. If iptables-preload exists in the old location during the upgrade to 3.2.1, it will be moved from `/var/run/` to `/etc`. For more information, see [EUCA-3693](#) and [EUCA-4702](#).
- The Cluster Controller now broadcasts a gratuitous ARP message in situations where an IP address is reassigned from one machine to another (for example, after a high availability Cluster Controller failure). We added a new dependency, `arping`, to the Cluster Controller package to support this functionality. For more information, see [EUCA-2973](#) and [EUCA-3540](#).
- We added the following EMC VNX EBS driver enhancements: the ability to set snapshot consistency point immediately at snapshot creation time; support for clone as well as lun migration for snapshots; and hardening of the multipathing functionality.
- We added the ability to configure advanced options for NetApp filers (`snap sched`, `vol autosize`, `no_atime_update`, `create_ucose`, `convert_ucose`, `guarantee`, `try_first`, `fractional_reserve`).

Important: At release 3.2.1, the Node Controller requires that users have Euca2ools 2.1.3 or higher. To download the latest version of Euca2ools, go to <https://www.eucalyptus.com/download/euca2ools>.

Tip: Eucalyptus no longer provides commercial support for installations on CentOS 5, RHEL 5, or Ubuntu. We test and commercially support CentOS 6 or RHEL 6 as host operating systems. Because Eucalyptus is open source software, it is possible that someone in the user community will prepare Eucalyptus for other operating systems.

Resolved Issues

Eucalyptus 3.2.1 resolves issues listed in the following table.

Issue	Description
EUCA-4728	partitioned.lock may be created when there is only one CLC
EUCA-4692	User console: Footer copyright text needs updating for 2013
EUCA-4634	Need to fix compilation warnings for c code

Issue	Description
<u>EUCA-4603</u>	console.ini should be packaged as %config(noreplace)
<u>EUCA-4571</u>	User Console hard-codes 8443 for admin GUI link
<u>EUCA-4544</u>	fault 1006.xml is missing
<u>EUCA-4538</u>	text on allocate IP button (IP Addresses landing page) is incorrect
<u>EUCA-4536</u>	associate address dialog missing "**Required fields" text
<u>EUCA-4403</u>	BFEBs instances losing public ips after entering running state
<u>EUCA-4366</u>	Hard failure in an HA setup w/ a shared frontend can lead to interminable failover times
<u>EUCA-4348</u>	Attaching EBS volumes does not work if NCs are registered using hostnames
<u>EUCA-4339</u>	Instance Landing column header for IPs ambiguous after change to support hostnames
<u>EUCA-4271</u>	BFEBs run instance failure. RollbackException: Error while committing the transaction
<u>EUCA-4268</u>	RebootInstances does not work on multiple instances
<u>EUCA-4253</u>	iptables-preload is not honored when CC are in HA mode and failover happens
<u>EUCA-4112</u>	Eternal pending when CC image cache set to Zero
<u>EUCA-3693</u>	Eucalyptus should not use /var/run to save iptables-preload
<u>EUCA-3621</u>	storage.snapperpercent property => description of purpose and how can it be used
<u>EUCA-3540</u>	ARP request should be sent when elastic IP is mapped from one cluster to another
<u>EUCA-2973</u>	new enabled CC in HA does not do ARP announcement after a failure
<u>EUCA-2281</u>	VNET_DNS value is not the only DNS IP in resolv.conf
<u>EUCA-2184</u>	EBS backed stopped instances still reports IPs
<u>EUCA-1970</u>	"error=12" cache problems occur with new blobstore engine
<u>EUCA-1057</u>	second euca-deregister doesn't deregister the image completely

Resolved Security Issues

Please refer to the [Eucalyptus Security Advisories](#) page for security vulnerabilities fixed in this release

Known Issues

The following known issues exist in Eucalyptus 3.2.1 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues. You can use the support portal <https://support.eucalyptus.com> or email us directly at support@eucalyptus.com.

Issue	Description
Raw data reported by VMware Broker does not include meaningful volume names (BROKER-22)	Data reported in the console displays meaningful volume names. Data exported in raw format labels each volume or ephemeral storage unit as <code>scsi0:[N]</code> , and must be translated into meaningful names by another reporting framework.
Must use user-friendly names for multipathing (DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in <code>/etc/multipath.conf</code> .
Reporting values seem to be in error at first (DOC-707)	Network traffic numbers in columns Total and External might appear to be incorrect. The external numbers can be greater than total numbers. This is because the two types of measurements come from different hosts (external is from the CC and totals from the NC). These hosts sample and deliver numbers to the reporting subsystem at different times. If the report is requested after the external counter is updated but before the total counter is updated, the numbers could appear out of their natural order. In a stable state without network traffic, the numbers will become correct eventually, usually within a few minutes, depending on the polling frequency value specified in the <code>reporting.default_poll_interval_mins</code> and <code>reporting.default_write_interval_mins</code> parameters.
Problem using EMC, EBS, and multiple NCs in 3.2.1 (EUCA-4872)	When using EMC and multiple NCs within a cluster, connections to the EBS-backed volume are lost if a second volume is attached to any instance on the NC hosting the EBS instance. The result is the EBS instance will eventually fail to operate.
Race condition can cause secondary Walrus to appear ENABLED to the secondary CLC in HA setup (EUCA-4846)	After repeated state changes of various components in a HA setup, the secondary Walrus may not be visible to the primary CLC. Running <code>euca-modify-service -s DISABLED WS-[N]</code> will resolve this issue.
<code>walrus.storagemaxtotalsnapshotsizingb</code> is not honored (EUCA-4838)	As of Eucalyptus 3.2.1, the maximum storage used for snapshots, as set in <code>walrus.storagemaxtotalsnapshotsizingb</code> , is not honored. You should use your existing infrastructure monitoring to ensure that snapshot storage does not exceed an appropriate level for your system. It is recommended that you monitor the total snapshot size and the number of snapshots.

Issue	Description
Default cloud properties must have a value (EUCA-4750)	If any of the cloud properties are set with no value, you might experience issues with the output of the <code>euca-describe-properties</code> command.
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
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The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
The <code>euca-describe-bundle-tasks</code> command does not keep task status after task completes (EUCA-4140)	When bundling a Windows instance, the task is removed from the task list as soon as the bundle completes, so <code>euca-describe-bundle-tasks</code> never shows a 'complete' status.

Issue	Description
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2 manages ISCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
ERR-1009 "Mismatched cryptographical keys" gets written too many times in <code>cc-fault.log</code> (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
<code>euca-describe-nodes</code> does not return consistent results (EUCA-3456)	The output of <code>euca-describe-nodes</code> is not consistent.
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the <code>eucalyptus-cloud</code> process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.
<code>euca-create-image</code> from ebs backed instance fails, returns 0 (EUCA-1333)	<code>euca-create-image</code> is currently unsupported.
Command to reset default values for Netapp storage properties doesn't work (SAN-57)	The <code>-r</code> option for resetting Eucalyptus properties using the <code>euca-modify-property</code> does not reset the new Netapp storage properties to a default value.

Issue	Description
Property conflicts during volume creation cause creation to fail on cloud but the volume still created on Netapp (<u>SAN-58</u>)	This is not a problem if you use the defaults set by Eucalyptus. However, if you change these defaults, we recommend that you confirm that any volumes that failed to create during this configuration phase do not exist on the SAN.

3.2.0

This section contains release notes for Eucalyptus 3.2.0.

What's New?

Eucalyptus 3.2.0 introduces the following new features.

Feature	Description
Eucalyptus Cloud User Console	The Eucalyptus Cloud User Console is a web-based graphical user interface, which enables self-service provisioning of compute, network, and storage resources for cloud users.
Troubleshooting and Logging	Eucalyptus 3.2.0 simplifies cloud administration by providing Cloud Administrators with improved logging capabilities for faster troubleshooting and issue resolution.
Enhanced Cloud Usage Reporting	Eucalyptus 3.2.0 provides enhanced cloud usage reporting which enables Cloud Administrators to easily understand usage of cloud resources, provide chargeback for resources consumed, and facilitate capacity planning.
EMC VNX SAN Storage Adaptor	Eucalyptus 3.2.0 provides expanded SAN support for EMC VNX Series SANs for Elastic Block Store (EBS) storage.
JBOD Storage Adaptor	Eucalyptus 3.2.0 provides the ability to overlay Elastic Block Store (EBS) functionality on raw block devices, while exposing EBS API for Cloud Users to provision block storage.

Important: At version 3.2.0, Eucalyptus no longer supports installations on CentOS 5, RHEL 5, or Ubuntu. Eucalyptus has only tested and will only support CentOS 6 or RHEL 6.

Resolved Issues

Eucalyptus 3.2.0 resolves issues listed in the following table.

Issue	Description
<u>SAN-1</u>	Make clone timeout for NetApp configurable
<u>EUCA-4330</u>	3.1.X message binding cache causes upgrade operations to fail.
<u>EUCA-4275</u>	A sensor resource (instance) can disappear before recording a sensor timestamp, preventing cache expiration.
<u>EUCA-4257</u>	Usage data reset after instance reboot

Issue	Description
<u>EUCA-4251</u>	Sensor cache can erroneously time out a cache entry
<u>EUCA-4242</u>	NC: node controller locks up with one thread in libvirt
<u>EUCA-4230</u>	After launching Windows image (BFEB and Walrus-backed), eucalyptus-nc process locks up
<u>EUCA-4203</u>	Shipped eucalyptus.conf describes incorrect default LOGLEVEL
<u>EUCA-4172</u>	Address state updated outside of any transaction
<u>EUCA-4171</u>	Restored instances are missing expiry time
<u>EUCA-4163</u>	reporting: backend logs show sensor data aggregation errors
<u>EUCA-4134</u>	When log level is changed on java components, it gets picked up only on CLC and is not broadcasted to SC, Walrus
<u>EUCA-4129</u>	style progress bar for user console
<u>EUCA-4122</u>	USER-CONSOLE (AFTER MULTI-THREAD FIX) Cannot create security group
<u>EUCA-4118</u>	New fault for the disabled.lock file is missing variables
<u>EUCA-4116</u>	IP address field in security group rules validates my input as wrong before I've even entered it.
<u>EUCA-4099</u>	console - Windows password not showing
<u>EUCA-4097</u>	console - StopInstance hangs
<u>EUCA-4090</u>	User Console: User can request 999 IP allocation on the UI, which can flood the CLC.
<u>EUCA-4089</u>	Recent change in euare policy causing failures when users try to launch instances
<u>EUCA-4087</u>	Troubleshooting "out of memory" ratios allow values greater than 1
<u>EUCA-4085</u>	Instance sensor not gathering usage (due to double free in CC marshaling)
<u>EUCA-4072</u>	After changing cloud.vmmstate.instance_subdomain, instances are not able to resolve private instance DNS name
<u>EUCA-4060</u>	creating new key pair in launch instance wizard does not update selection in summary area automatically
<u>EUCA-4059</u>	Long key name makes giant dropdown on the launch dialog page
<u>EUCA-4058</u>	Remove test logging messages (including FATAL, ERROR) from log level change listener
<u>EUCA-4034</u>	Default bucket limit is too low

Issue	Description
<u>EUCA-4031</u>	created security group with open port ssh via launch wizard but still getting warning that no rules are defined
<u>EUCA-4022</u>	USER-CONSOLE: When attaching volume to instance, the list of volumes is hard to read due to its transparent background.
<u>EUCA-4021</u>	volumes fail to attach due to libvirt err
<u>EUCA-4020</u>	Libvirt attachment failures leave iscsi connection behind
<u>EUCA-4019</u>	USER-CONSOLE: In the create new security group box, "Add Another Rule" and "Create" buttons do not get lit when IP is typed.
<u>EUCA-4006</u>	please remove GUI functions that support volume creation at instance launch time (and launch more like this)
<u>EUCA-4000</u>	USER-CONSOLE: Cannot copy-and-paste the error message when failed to delete security group
<u>EUCA-3999</u>	USER-CONSOLE: Failed to delete security groups
<u>EUCA-3998</u>	euca-describe-services --partition doesn't work
<u>EUCA-3988</u>	Cannot delete some inbound rules when managing rules for security group -- It depends on the order of delete operations.
<u>EUCA-3982</u>	"out of memory" fault written a large number of times in cloud-fault.log
<u>EUCA-3951</u>	Copy multipath example into doc dir
<u>EUCA-3947</u>	Fault message for lack of iscsi module in the kernel is incorrect
<u>EUCA-3941</u>	Authentication method for User Console does not support full latin char set
<u>EUCA-3936</u>	when AZ is not specified on run, but existing instances within group are running, clc does not choose AZ with free resources
<u>EUCA-3933</u>	euca-modify-image-attribute allows invalid userId without error.
<u>EUCA-3932</u>	euca-describe-image-attribute does not list all permissions
<u>EUCA-3924</u>	failed to delete security group but doesn't tell me why
<u>EUCA-3916</u>	cloud-fault.log records wrong time when writing fault messages
<u>EUCA-3915</u>	unexpected error adding rules to security group
<u>EUCA-3905</u>	New notifications impl. for multi-ops
<u>EUCA-3879</u>	Instance address restoration fails for "inactive" address

Issue	Description
<u>EUCA-3875</u>	Having 58 running instances causes the console proxy server to crash
<u>EUCA-3870</u>	On the instance page, Image IDs should also be hyperlinked to display information on which image is being used by the running instance
<u>EUCA-3869</u>	Timeout or single threading issue in Tornado: Deleting 100 security groups at once causes the delete call to time-out and kicks user out of the console
<u>EUCA-3868</u>	When there exists 200+ security group, creating a new security group causes the user to be forced to log off.
<u>EUCA-3866</u>	Instance restore does not update state for restored public ip
<u>EUCA-3864</u>	By default, when the button "create volume from snapshot" is selected, the menu should allow user to click the button "create volume" immediately.
<u>EUCA-3862</u>	Cannot delete a snapshot that is in "failed" state
<u>EUCA-3861</u>	Change in log level does not execute correctly on C components
<u>EUCA-3855</u>	Allocating 200+ IPs on a single user crashes the proxy.
<u>EUCA-3852</u>	IPs in the IP Address table are sorted in a lexical order
<u>EUCA-3850</u>	When ntpd is not running no fault message is generated in cc-fault.log and cloud-fault.log
<u>EUCA-3848</u>	cloud-fault log reports the same "Not enough memory" fault many times when actually not running out of memory
<u>EUCA-3834</u>	Instances not restored when image deregistered/no longer present
<u>EUCA-3833</u>	Instances not restored when in terminated state
<u>EUCA-3831</u>	photo should not scroll in easter egg
<u>EUCA-3824</u>	Modifying log level for clc breaks the cloud
<u>EUCA-3822</u>	dimension names for disk-based sensors are wrong
<u>EUCA-3815</u>	When allocating IP addresses, you are allowed to enter a negative number.
<u>EUCA-3813</u>	Security Group is created even when faulty input was used
<u>EUCA-3806</u>	Default log level in cc. log and nc.log is DEBUG instead of INFO
<u>EUCA-3799</u>	launch more like this dialog, advanced section is displaying Select advanced options label multiple times
<u>EUCA-3795</u>	Instance restore fails to complete DB transaction for some errors

Issue	Description
<u>EUCA-3779</u>	two different "data loading" messages display on landing pages when data is loading
<u>EUCA-3762</u>	changing security group rules via Manage Rules dialog does not render a success message in the notifications area when I change something and say Save Changes.
<u>EUCA-3757</u>	Admin UI failed to lookup images for non-admin user when non-public images are present
<u>EUCA-3750</u>	launch instance wizard security group rules display shows entity instead of being rendered properly
<u>EUCA-3748</u>	sorting instances by launch time is not working
<u>EUCA-3709</u>	VMware Broker reporting instances as "pending" state; euca-describe-instances reports instances in "shutting down" state
<u>EUCA-3690</u>	Signature problem with pre-signed URLs
<u>EUCA-3650</u>	Unable to delete user volumes and snapshots
<u>EUCA-3645</u>	NC/VB: blobstore may not clean up after failed downloads
<u>EUCA-3622</u>	CLC does not assign a public IP, DB inconsistency
<u>EUCA-3613</u>	Quota limiting against vmtype doesn't work
<u>EUCA-3549</u>	NC provides false booting report for windows instance due to insufficient cache size
<u>EUCA-3538</u>	Failing to delete volumes on Dell Equallogic using SAN adapter
<u>EUCA-3517</u>	Incorrect image name in describe image response
<u>EUCA-3465</u>	Inconsistence EBS <-> Instance
<u>EUCA-3453</u>	File names with % embedded fail to upload to walrus.
<u>EUCA-3444</u>	duplicate public IP for instances in eucalyptus 3.1.0
<u>EUCA-3398</u>	HashMap never be removed in walrus,cause a Memory overflow problem.
<u>EUCA-3308</u>	Debian Pre-Depend causes issues in Lucid
<u>EUCA-3294</u>	L2TP tunnel does not get established in multi-cluster
<u>EUCA-3288</u>	Eucalyptus repeatedly connects tgtd to non-existent loopback devices.
<u>EUCA-3007</u>	Order of account/user fields is inconsistent in admin UI
<u>EUCA-2982</u>	CC registration: cloud-pk.pem is not transferred to remote cluster, and CC shutdown will not tear down network rules
<u>EUCA-2427</u>	CLC remebers only first allocations of Elastic IPs after restarting CLC.
<u>EUCA-2411</u>	Cannot detach EBS volume from stopped instance

Issue	Description
<u>EUCA-2350</u>	Reporting counts a walrus object removed when it has its delete marker removed during a PUT operation
<u>EUCA-2342</u>	Walrus lists object versions in reverse order
<u>EUCA-2329</u>	CLC always return A response for AAAA or TXT DNS query
<u>EUCA-2322</u>	CLC has incorrect default encoding
<u>EUCA-2295</u>	Addrs remain on CC if instances are terminated while service is down
<u>EUCA-2275</u>	Hitting walrus.storage.maxbucketsizeinmb limit creates orphan files on the WS file system
<u>EUCA-2264</u>	Binding error when registering image with multiple device mappings
<u>EUCA-2251</u>	Canned ACLs do not permit access to buckets/keys as expected and invalid canned ACL names are permitted
<u>EUCA-2211</u>	C-APP Logs rolling does not care for the configured LOGROLLNUMBER value in eucalyptus.conf
<u>EUCA-2208</u>	euca-bundle-instance terminates existing instance
<u>EUCA-2199</u>	After using over 127 groups no longer able to launch instances due to no remaining network tags
<u>EUCA-2185</u>	DescribeInstances api call does not return ip addresses
<u>EUCA-2049</u>	eucalyptus-cloud binary does not honor --bind-addr argument
<u>BROKER-9</u>	VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory

Resolved Security Issues

No security vulnerabilities have been fixed in this release.

Known Issues

The following known issues exist in Eucalyptus 3.2.0 and its dependencies. Please contact Eucalyptus support for known workarounds to these issues.

Issue	Description
VMware Broker requires eucalyptus user to have write access to the /etc/eucalyptus directory (<u>BROKER-9</u>)	If the eucalyptus user does not have write access to the /etc/eucalyptus directory, the VMware Broker will stay in a BROKEN state, and euca-configure-vmware will fail. Run <code>chown -R eucalyptus:eucalyptus /etc/eucalyptus/</code> on the VMware Broker machine to ensure that the eucalyptus user owns the necessary files.

Issue	Description
The User Console exhibits odd behavior (EUCA-4530)	The User Console is intended to work with normal user accounts. If you log in with the <code>eucalyptus</code> account, the User Console will not work correctly on some pages, such as Elastic IPs.
Some components are initialized rather than disabled after an unexpected reboot (EUCA-4354)	This only occurs when CLC, Walrus, and SC are located on the same machine in an HA setting. In an unexpected reboot within that setting, when the redundant components switch roles, some secondary components can become initialized rather than disabled. For a workaround, restart the initialized components. We strongly recommend that you use one machine for each Eucalyptus component in HA mode.
User console requires upload of private key to access a Windows instance password (EUCA-4293)	Passwords for Windows instances are encrypted for a specified key pair. The user console requires that you upload the appropriate private key to access an instance password. We strongly recommend against using this feature without HTTPS! To access the instance password without uploading your private key, use <code>euca-get-password [instance id] -k [keyfile]</code> on the command line.
User console cannot generate new Windows password on restarting a stopped instance (EUCA-4291)	The user console continues to display an old password after a Windows instance is stopped and restarted. You must log out of the user console, log in again, and then generate a password, in order to log in to a Windows instance that has been stopped and restarted.
BFEBS fails in some cases when running new instances, with error <code>RollbackException: Error while committing the transaction</code> (EUCA-4271)	If a new instance is constructed in a group concurrently with network resources being freed in that group, a <code>RollbackException: Error while committing the transaction</code> error is thrown. This also results in an orphaned volume that cannot be deleted until the VM metadata has timed out and the volume is recognised as unused. Running the new instance a second time should succeed.
<code>euca-reboot-instances</code> only reboots one instance, even if multiple instances are specified (EUCA-4268)	<code>euca-reboot-instances</code> reboots the first instance specified. To reboot multiple instances, run <code>euca-reboot-instances</code> once per instance.
Changing LOCALE does not change the language of the fault message in fault logs (EUCA-4233)	Changing the system LOCALE does not change the language of the fault message logged in <code>[component]-fault.log</code> . Create customized fault messages in the <code>/etc/eucalyptus/faults/en_US</code> directory if you do not wish to use the provided messages.
User console hangs when launching an instance with large user data file (EUCA-4223)	Launching an instance through the console may hang if the user data file is too big. Launch instances on the command line if the user data file is larger than 16KB.
A snapshot registered as an image must be deregistered twice to be fully removed (EUCA-4207)	Running <code>deregister-image</code> does not initially delete the image record for a snapshot that was registered as an image. You must run <code>deregister-image</code> twice to ensure the image is deleted.

Issue	Description
CC image caching does not work with some symlinks (EUCA-4181)	If <code>CC_IMAGE_PROXY_PATH</code> in <code>eucalyptus.conf</code> is set to a symlink, CC image caching may not work. Ensure the symlink is placed in a path that is readable by the 'eucalyptus' user.
DBResourceCheck exceptions logged at ERROR log level (EUCA-4177)	The DBResourceCheck class frequently polls to determine the number of active database connections for a given alias. This can result in a DBResourceCheck exception. This exception is expected, and is not fatal.
The reporting feature in the Eucalyptus Administrator Console show no metrics. (EUCA-4168)	This occurs only if you run a report that includes the current date. The metrics that show no data are: CpuUsage% , Net Total In/Out , Disk R/W , Disk IOPS R/W , and DiskTime . For a workaround, use the CLI command, <code>eureport-generate-report</code> , to run reports from the Cloud Controller for a time period that includes the current date. You can also use the Eucalyptus Administrator Console and move the end date up the previous day.
The <code>euca-describe-bundle-tasks</code> command does not keep task status after task completes (EUCA-4140)	When bundling a Windows instance, the task is removed from the task list as soon as the bundle completes, so <code>euca-describe-bundle-tasks</code> never shows a 'complete' status.
Attempts to create an instance from an uncached image stay pending indefinitely (EUCA-4112)	If the cluster controller image cache is set to zero, attempts to create an instance from an uncached image will remain pending indefinitely. To prevent images being cached, remove the <code>CC_IMAGE_PROXY</code> line from <code>eucalyptus.conf</code> .
[error:0290] message printed on upgrade (EUCA-4027)	The Eucalyptus upgrade process requires a large number of file descriptors, and an error may occur if <code>ulimit</code> is not set to an appropriate value. To avoid this error, set <code>ulimit -n 5000</code> before upgrading Eucalyptus. This error is not an indication of a failed upgrade.
Unable to start stopped instances after upgrade (EUCA-4026)	Eucalyptus 3.2.0 manages ISCSI targets in a different way to previous versions. The first attempt to start any stopped instances relying on <code>iscsiadm</code> will fail, but the issue is resolved during cleanup so subsequent requests for that instance will work.
Vague error message: Failed to find corresponding class mapping for element: RegisterVMwareBroker in namespace. (EUCA-3808)	If you get this error message, you need to install the <code>eucalyptus-enterprise-vmware-broker-libs</code> on the CLC. Run <code>yum install eucalyptus-enterprise-vmware-broker-libs</code> on each CLC in your cloud.
Capacity report shows unordered list of VM types (EUCA-3707)	When running a capacity report, the VM types are not ordered from smallest to largest instance type when displayed at the cloud or AZ property level.
Quota limiting run instances against availabilityzone resource does not work (EUCA-3614)	A policy which limits the number of instances which can be run within an availability zone has no effect.
<code>euca-describe-nodes</code> does not return consistent results (EUCA-3456)	The output of <code>euca-describe-nodes</code> is not consistent.

Issue	Description
ENABLED CC have two NAT rules about 169.254.169.254 (EUCA-3440)	In HA Mode, ENABLED CC can get into a state where it reports both ENABLED and DISABLED CLC in iptables for the metadata service.
euca-start-instances does not return correct information (EUCA-3311)	euca-start-instances only returns the instance identifier and does not return the previous or the current state of the instance.
Walrus does not failover in HA if eucalyptus-cloud process is forcibly killed on primary (EUCA-3202)	If the eucalyptus-cloud process is forcibly terminated (kill -9) on the primary Walrus, failover to the secondary Walrus is not automatically triggered.
euca-create-image from ebs backed instance fails, returns 0 (EUCA-1333)	euca-create-image is currently unsupported.
IP pages do not work properly for admin user in Eucalyptus User Console (EUCA-3548)	All user IP addresses are shown, rather than just the admin user's IP addresses.
Must use user-friendly names for multipathing(DOC-504)	Eucalyptus connect scripts assume multipathing uses user friendly names instead of WWID for the multipath device names, so the "user_friendly_names" option must be enabled in /etc/multipath.conf.
RollbackException error while committing transaction failure when attempting to run a BFEB instance(EUCA-4271)	In some cases, network resources (primarily vlan tags for the network group) are freed concurrently while a new instance is being constructed in that same group. If the network group is seen to have no more instances, then the CC can timeout the vlan tag and then inform the CLC, which frees the vlan tag resource. If there is a concurrent instance being constructed, however, an attempt may be made to use that vlan tag, and upon volume attach the database update fails because the vlan/network tag record doesn't exist. When this happens, the instance will stay in a 'pending' state with an IP address of 0.0.0.0 for a very long time. There is no long-term negative effect of this condition. To resolve this issue, you should proceed with terminating the instance, deleting its resulting volume if necessary, and then re-running the instance.
ERR-1009 "Mismatched cryptographic keys" gets written too many times in cc-fault.log (EUCA-3986)	Currently, CC may log this fault once for each process in the pool. This is because the logic that suppresses duplicate faults relies on process-local memory rather than memory regions shared across CC processes.
Eucalyptus Console https redirect doesn't work (EUCA-4104)	When SSL is enabled for the user console, http requests do not automatically redirect to the proper https address, which can result in a blank page.