

# Eucalyptus Troubleshooting Guide

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## **Problem: Switching a cluster from one cloud to another**

### **Solution: Follow these steps**

1. Deregister the cluster from the cloud and the nodes from the cluster using `euca_conf --deregister-cluster` and `euca_conf --deregister-nodes`
2. Delete all the files in `/var/lib/eucalyptus/keys` and the nodes
3. Copy `/var/lib/eucalyptus/keys/nc-client-policy.xml` from an existing cluster to the cluster you just deregistered at `/var/lib/eucalyptus/keys/nc-client-policy.xml`
4. Register the cluster from the cloud and the nodes from the cluster using `euca_conf`

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## Problem: VM fails to start at all

### Symptom: Cannot mark address as allocating

When you attempt to start an instance with `euca-run-instances <emi>` and you get the following error message.

```
FinishedVerify: Cannot mark address as allocating[unallocated.false->allocated.true]
when it is allocated.true: [Address id=5 name=136.159.79.108 cluster=ceswp-uc
userId=nobody instanceId=available instanceAddress=0.0.0.0
state=AtomicMarkableReference QUIESCENT= transition=[SplitTransition
previous=allocated, transition=allocating, next=allocated, pending=true]]
```

### Solution: Clean restart of the CLC

```
service eucalyptus-cloud restart
```

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## Problem: VM goes from pending state to terminated state almost immediately

### Diagnostic: Check to see if your processor supports virtualization

```
Run modprobe kvm_intel
If you get FATAL: Error inserting kvm_intel
(/lib/modules/2.6.18-164.15.1.el5/weak-updates/kmod-kvm/kvm-intel.ko):
Operation not supported
Your processor doesn't support virtualization or it isn't enabled.
```

You can also check the flags in `/proc/cpuinfo`. The flags you want to look for are `vmx` (Intel) or `svm` (AMD). See this brief [guide](#).

You can also check the Specifications tab on the product pages of [newegg.com](http://newegg.com) and look for Virtualization Technology Support.

### Symptom: "libvirt: unknown OS type hvm" errors in nc.log

```
In /var/log/eucalyptus/nc.log on a node controller you see messages with
libvirt: unknown OS type hvm
```

### Solution: Enable virtualization or use Xen

Enable virtualization in the BIOS. If your processor doesn't support virtualization you'll have to use Xen as your hypervisor.

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## **Problem: VM is stuck in pending state**

### **Symptom: euca-run-instances returns an error**

When you try to do a `euca-run-instances` you get the error

```
Warning: failed to parse error message from AWS: <unknown>:1:0:
syntax error
EC2ResponseError: 403 Forbidden
Failure: 403 Forbidden
```

### **Solution: Sync your system clock on the CLC with ntp**

1. `yum install ntp # install ntp`
2. `chkconfig ntpd on # set ntp to start as a service`
3. `ntpdate pool.ntp.org # sync system clock with ntp`

## **Symptom: nc.log reports 'walrus\_request(): couldn't connect to host'**

Something is blocking access to port 8773 of the Walrus host machine

Test with `tcptraceroute -p 8773 <walrus ip>`

Another diagnostic test is to install a http server, such as `lighttpd`, and configure it to listen on the port in question. You can then point a web browser to the address/port and see how the web server responds

### **Solution:**

Work with network administrators of the cluster to open the necessary ports.

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## **Problem: VM gets to a running state but cannot be accessed via SSH**

### **Symptom: key injection errors in nc.log**

If you see error messages in `/var/log/eucalyptus/nc.log` related to SSH key injection then Eucalyptus may not have been able to inject the SSH keys into the instance.

### **Solution: Try injecting the key manually or don't use ext4**

Using the commands in the error messages from nc.log try to inject the keys in the instance manually. You may get better error messages and find out a way to work around the problem.

If the instance you're trying to run uses ext4 as it's file system, Eucalyptus won't be able to inject the keys. Create an image that uses an ext3 file system.

### **Symptom: euca-get-console-output shows a kernel crash**

Run `euca-get-console-output <instance>` and if you see a kernel crash, the kernel/ramdisk your image is using may not be compatible with the host.

### **Solution: Create a kernel/ramdisk compatible with the host**

Pending an answer from Eucalyptus

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## **Problem: Mounted EBS volumes do not report correct size**

### **Symptom: You don't have as much ephemeral storage as you should have**

```
create 5 GB EBS volume
attach to linux device
create file system
mount
checking disk size reports much less than 5 GB
```

### **Solution: Mount other devices**

When Eucalyptus attaches the volume to a device, a 2nd device seems to be created. It is this 2nd device that should be used when creating and mounting the file system.

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## **Problem: Attached volumes do not appear as devices in Ubuntu**

### **Symptom: You attach a volume and no new devices appear in /dev**

Check to see if the `acpihp` module is installed with:

```
sudo lsmod | grep acpihp
```

### **Solution: Make sure the kernel module `acpihp` is installed and the application `udev` is installed**

It's best to follow these steps before you've bundled your image:

```
sudo nano /etc/modules # add acpihp to the bottom of the list
sudo apt-get install udev
```

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## **Problem: Cannot attach nodes to a cluster**

### **Symptom: euca\_conf --list-nodes does not list expected nodes**

#### Background:

A message is sent from the cloud controller to the cluster controllers requesting available resources. If this message is blocked, Eucalyptus cannot be aware of the new node.

#### Check:

make sure the necessary ports are open

CC: ports 8443, 8773, 8774, and 9001

NC: port 8775

### **Solution: Open the necessary ports**

Work with network administrators of the cluster to open the necessary ports.

Traceroute and similar ICMP-based tools are almost useless these days for debugging network connections, because everyone blocks ICMP, but tcptraceroute is much more useful

```
tcptraceroute <destination address> <port>
```

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