


Advanced CloudStack Troubleshooting using Log Analysis

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Agenda

- Introduction
 - Log files and locations
 - What to look for?
 - What to do?
 - Examples
 - Q&A
- 

Management Server

- `/var/log/cloud/management/`
- `management-server.log`
 - Most important log
- `api-server.log`
 - Occasionally useful (who sent that API command that broke everything?)
- `catalina.out`, `host-manager.log`, `manager.log`, `access_log`, etc.
 - Rarely useful for troubleshooting, if ever

Hypervisor hosts

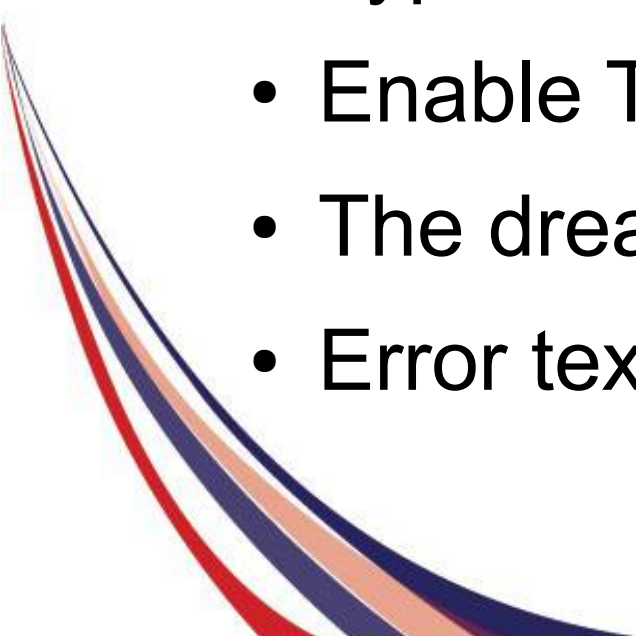
- XenServer / XCP
 - /var/log/SMlog, xensource.log
- KVM
 - /var/log/cloud/agent/agent.log
 - /var/log/libvirt/libvirtd.log
- vSphere
 - vCenter logs
 - Host logs rarely useful

Other logs

- SAN, firewalls, switches, routers
 - Helpful to narrow down permissions errors, blocked ports, etc.
 - Check vendor docs since CloudStack doesn't touch these

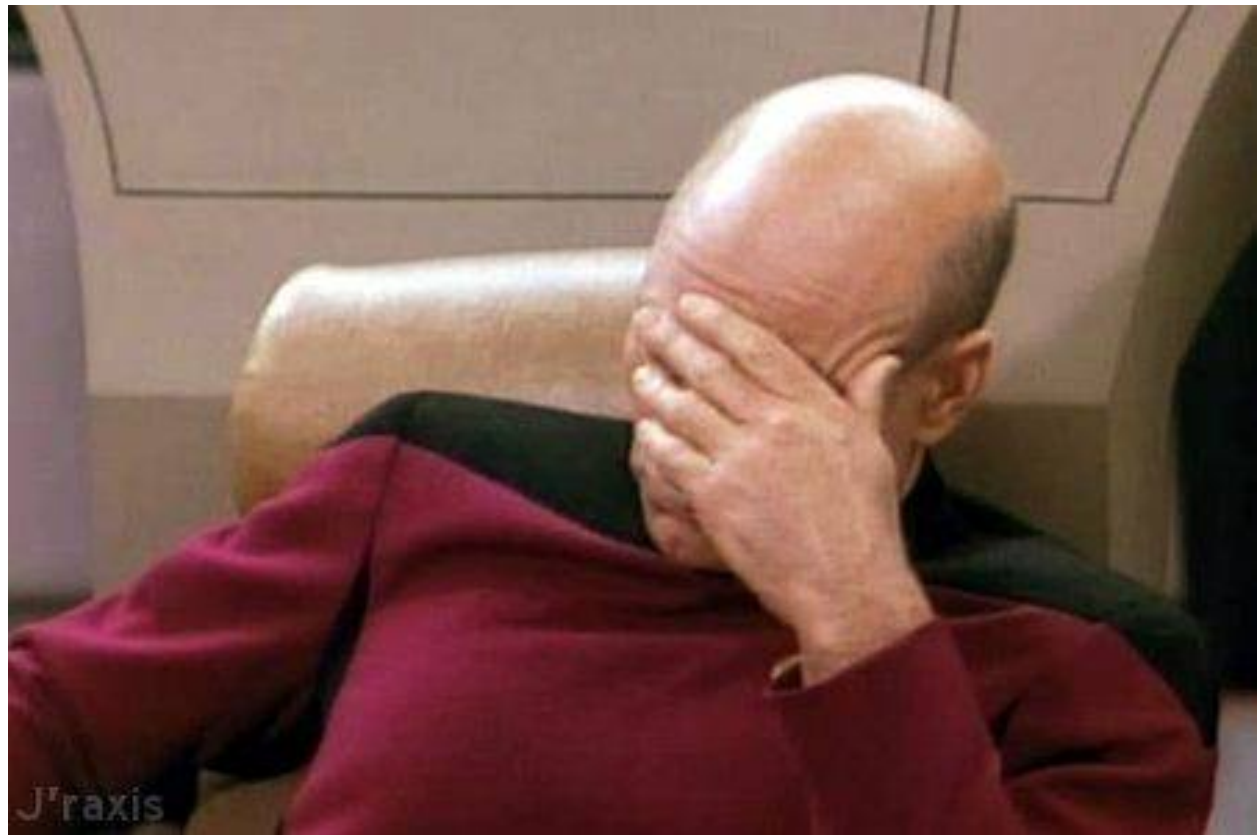


What to look for?

- Warnings and errors and exceptions, oh my!
 - WARN, ERROR, Exception, Unable, Failed
 - VM name
 - Type of task that failed
 - Enable TRACE if necessary
 - The dreaded “avoid set”
 - Error text from UI/API
- 

Job ID

- Can be sent to other management servers
- Very useful, but NOT currently logged
- Get it from database
- Figure it out



Sequences

- Also useful
- A job can contain multiple sequences
- Only shown in logs
- Can be sent to hosts
 - Look for “Executing request” and “Response received”
- Can be sent to other management servers
 - Look for “Forwarding Seq <id>”

What to do?

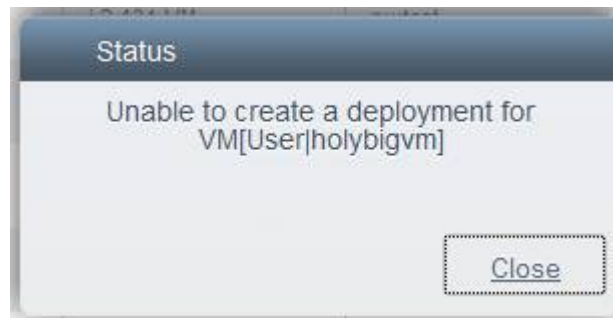
- Depends on the errors
- Check capacity
- Check network
- Keep waiting
- Hack database and try again
 - Bzzt! Wrong answer... usually.

Examples



UI Error

- Start with an error from the UI



Find the related log entry (at the end of the job).

```
2013-02-25 16:39:40,567 DEBUG [cloud.async.AsyncJobManagerImpl] (Job-
Executor-1:job-318) Complete async job-318, jobStatus: 2, resultCode:
530, result: Error Code: 533 Error text: Unable to create a deployment
for VM[User|holybigvm]
```

The actual error.

```
2013-02-25 16:39:40,459 DEBUG [cloud.deploy.FirstFitPlanner] (Job-
Executor-1:job-318) No clusters found having a host with enough
capacity, returning.
```

The avoid set...

Hey guys, why is my host in the avoid set, and how do I remove it?

```
2012-05-14 16:04:54,772 DEBUG [allocator.impl.FirstFitAllocator] (Job-  
Executor-4:job-17638 FirstFitRoutingAllocator) Host name: val-  
rk00008.example.local, hostId: 5 is in avoid set, skipping this and  
trying other available hosts
```



...means SCROLL UP

The real error will always be earlier in the job.

```
2012-05-14 16:04:54,735 ERROR  
[network.router.VirtualNetworkApplianceManagerImpl] (Job-Executor-4:job-  
17638) Unable to set dhcp entry for VM[User|i-2-1607-VM] on domR: r-16-  
VM due to  
2012-05-14 16:04:54,735 INFO [cloud.vm.VirtualMachineManagerImpl] (Job-  
Executor-4:job-17638) Unable to contact resource.
```



Hypervisor Errors

```
2012-07-13 08:08:05,149 WARN [xen.resource.CitrixResourceBase]
(DirectAgent-73:null) Task failed! Task record:
uuid: 95e36660-702f-8e07-5025-3bcf1
573e18c
```

```
    nameLabel: Async.VM.start_on
  nameDescription:
allowedOperations: []
currentOperations: {}
    created: Fri Jul 13 08:08:04 PDT 2012
    finished: Fri Jul 13 08:08:04 PDT 2012
    status: FAILURE
residentOn: com.xensource.xenapi.Host@fed4b193
  progress: 1.0
    type: <none/>
    result:
  errorInfo: [SR_BACKEND_FAILURE_46, , The VDI is not
available [opterr=VDI e7f5571b-44b1-48b7-ba84-34d9c3ee879b
already attached RW]]
  otherConfig: {}
  subtaskOf: com.xensource.xenapi.Task@aaf13f6f
  subtasks: []
```

More Hypervisor Errors

management-server.log

```
2013-01-08 13:47:17,256 WARN [cloud.vm.VirtualMachineManagerImpl]
(AgentManager-Handler-32:null) Cleanup failed due to Exception:
org.libvirt.LibvirtException
Message: internal error '/bin/umount /mnt/dd7d684f-255f-3a24-87ab-
512168a207b5' exited with non-zero status 16 and signal 0:
umount.nfs: /mnt/dd7d684f-255f-3a24-8
7ab-512168a207b5: device is busy
umount.nfs: /mnt/dd7d684f-255f-3a24-87ab-512168a207b5: device is busy
```

/var/log/messages

```
2012-09-19 12:14:37,002 WARN
[resource.computing.LibvirtComputingResource] (Agent-Handler-5:null)
Exception
org.libvirt.LibvirtException: internal error '/bin/umount /mnt/513d2d1f-
38a7-3e3b-b2c5-ea3f4e0db6ba' exited with non-zero status 16 and signal
0: umount.nfs: /mnt/513d2d1f-38a7-3e3b-b2c5-ea3f4e0db6ba: device is busy
umount.nfs: /mnt/513d2d1f-38a7-3e3b-b2c5-ea3f4e0db6ba: device is busy
```

Yet Another Hypervisor Error

```
2013-01-16 10:12:28,313 ERROR [vmware.resource.VmwareResource]
(DirectAgent-161:esx102.example.com) CreateCommand failed due to
Exception: java.io.FileNotFoundException
```

Message:

```
https://stor1.example.com/folder/39b7d77f7dd547f695172b07882daec9/ff7d2b4
6103e4595a1b422990a0799e2.vmdk?dcPath=Petaluma&dsName=aaf29b8e-b548-3fad-
8c59-0dad849b2704
```

```
java.io.FileNotFoundException:
```

```
https://stor1.example.com/folder/39b7d77f7dd547f695172b07882daec9/ff7d2b4
6103e4595a1b422990a0799e2.vmdk?dcPath=Petaluma&dsName=aaf29b8e-b548-3fad-
8c59-0dad849b2704
```

```
at
```

```
sun.net.www.protocol.http.HttpURLConnection.getInputStream(URLConnection.java:1401)
```

```
at
```

```
sun.net.www.protocol.https.HttpURLConnectionImpl.getInputStream(HttpsURLConnectionImpl.java:254)
```

```
<snip>
```


Exceptions

```
2013-02-06 15:36:45,023 ERROR [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-112:job-56957) Failed to start instance VM[User|a9167fdc-7d43-49f1-93cb-6c6902a666fa]
com.cloud.utils.exception.CloudRuntimeException: Unable to acquire lock on
VMTemplateStoragePool: 2570
    at
com.cloud.template.TemplateManagerImpl.prepareTemplateForCreate (TemplateManagerImpl.java:638)
    at com.cloud.utils.db.DatabaseCallback.intercept (DatabaseCallback.java:30)
    at com.cloud.storage.StorageManagerImpl.createVolume (StorageManagerImpl.java:3418)
    at com.cloud.storage.StorageManagerImpl.prepare (StorageManagerImpl.java:3327)
    at
com.cloud.vm.VirtualMachineManagerImpl.advanceStart (VirtualMachineManagerImpl.java:749)
    at com.cloud.vm.VirtualMachineManagerImpl.start (VirtualMachineManagerImpl.java:467)
    at com.cloud.vm.UserVmManagerImpl.startVirtualMachine (UserVmManagerImpl.java:2944)
    at com.cloud.vm.UserVmManagerImpl.startVirtualMachine (UserVmManagerImpl.java:2616)
    at com.cloud.vm.UserVmManagerImpl.startVirtualMachine (UserVmManagerImpl.java:2604)
    at com.cloud.event.ActionEventCallback.intercept (ActionEventCallback.java:32)
    at com.cloud.api.commands.DeployVMCmd.execute (DeployVMCmd.java:328)
    at com.cloud.api.ApiDispatcher.dispatch (ApiDispatcher.java:235)
    at com.cloud.async.AsyncJobManagerImpl$1.run (AsyncJobManagerImpl.java:427)
    at java.util.concurrent.Executors$RunnableAdapter.call (Executors.java:471)
    at java.util.concurrent.FutureTask$Sync.innerRun (FutureTask.java:334)
    at java.util.concurrent.FutureTask.run (FutureTask.java:166)
    at java.util.concurrent.ThreadPoolExecutor.runWorker (ThreadPoolExecutor.java:1110)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run (ThreadPoolExecutor.java:603)
    at java.lang.Thread.run (Thread.java:636)
```

Forwarding Sequences

```
2013-01-24 14:09:28,063 DEBUG [agent.manager.ClusteredAgentAttache]
(AgentManager-Handler-13:null) Seq 6-1372586715: Forwarding Seq 6-
1372586715: { Cmd , MgmtId: 83533443070, via: 6, Ver: v1, Flags: 100111,
[{"StopCommand":{"isProxy":false,"vmName":"i-7-121-VM","wait":0}}] } to
83533443165
```



TRACE example

- Cannot snapshot volume 4500

The error shown in the UI wasn't logged at DEBUG level. It was still possible to find the job (from job type and volume ID).

```
2013-01-15 13:01:43,249 DEBUG [cloud.async.AsyncJobManagerImpl]
(catalina-exec-9:null) submit async job-36626, details: AsyncJobVO
{id:36626, userId: 215, accountId: 180, sessionKey: null, instanceType:
Snapshot, instanceId: 19951, cmd:
com.cloud.api.commands.CreateSnapshotCmd, cmdOriginator: null, cmdInfo:
{"id":"19951","response":"json","sessionkey":"asdf","ctxUserId":"215","te
nant":"be04d916-a916-483e-a96c-
925e0cb89575","volumeid":"4500","ctxAccountId":"180","ctxStartEventId":"1
36303","signature":"asdf","apikey":"asdf"}, cmdVersion: 0, callbackType:
0, callbackAddress: null, status: 0, processStatus: 0, resultCode: 0,
result: null, initMsid: 172136269028748, completeMsid: null, lastUpdated:
null, lastPolled: null, created: null}
```

Could have found UI error with TRACE enabled.

```
2013-01-15 13:01:48,346 TRACE [cloud.async.AsyncJobManagerImpl]
(catalina-exec-14:null) Job status: AsyncJobResult {jobId:36626,
jobStatus: 2, processStatus: 0, resultCode: 530, result:
com.cloud.api.response.ExceptionResponse/null/
{"errorCode":530,"errortext":"Internal error executing command, please
contact your system administrator"}}
```



The actual error didn't require TRACE.

```
2013-01-15 13:01:43,314 ERROR [cloud.api.ApiDispatcher] (Job-Executor-41:job-36626) Exception while executing CreateSnapshotCmd:
com.cloud.utils.exception.CloudRuntimeException: There is other active
snapshot tasks on the instance to which the volume is attached, please
try again later
    at
com.cloud.storage.snapshot.SnapshotManagerImpl.createSnapshot (SnapshotMa
nagerImpl.java:384)
    at
com.cloud.utils.component.ComponentLocator$InterceptorDispatcher.interce
pt (ComponentLocator.java:1128)
    at
com.cloud.storage.snapshot.SnapshotManagerImpl.createSnapshot (SnapshotMa
nagerImpl.java:118)
<snip>
```

Patience level over 9000!

Deployment of a VM initiated.

```
2012-08-31 11:31:59,772 DEBUG [cloud.async.AsyncJobManagerImpl]
(catalina-exec-3:null) submit async job-5461, details: AsyncJobVO
{id:5461, userId: 188, accountId: 35, sessionKey: null, instanceType:
VirtualMachine, instanceId: 4157, cmd:
com.cloud.api.commands.DeployVMCmd, cmdOriginator: null, cmdInfo:
{"id":"4157","templateId":"210","ctxUserId":"188","hypervisor":"VMWare",
"serviceOfferingId":"14","ctxAccountId":"35","ctxStartEventId":"22391","ap
iKey":"asdf","signature":"asdf","displayname":"TESTVM","zoneId":"4"},
cmdVersion: 0, callbackType: 0, callbackAddress: null, status: 0,
processStatus: 0, resultCode: 0, result: null, initMsid: 345052684411,
completeMsid: null, lastUpdated: null, lastPolled: null, created: null}
```

Template 210 starts being transferred to primary storage.

```
2012-08-31 11:32:10,144 DEBUG [agent.transport.Request] (Job-Executor-112:job-5461) Seq 16-1415446801: Sending { Cmd , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 100111, [{"storage.PrimaryStorageDownloadCommand":{"localPath":"/mnt/5a3dad9f-4c1a-3304-99e7-4975a6943605","poolUuid":"a08b0cef-d377-3d84-82c1-bf04e40bd6e2","poolId":237,"secondaryStorageUrl":"nfs://10.255.104.3/NFS_FS1","primaryStorageUrl":"nfs://VMFS datastore: /cmsma-cs-dc002/010_0117_0019_SATA_R5_DATA_LUN/cmsma-cs-dc002/010_0117_0019_SATA_R5_DATA_LUN","url":"nfs://10.255.104.3/NFS_FS1/template/tmp1/2/210//1ae89570-60e5-3872-9ecb-60d90da295c3.ova","format":"OVA","accountId":2,"name":"210-2-ce858db7-4f87-39f8-bf3b-d46dc378f1","wait":10800}}] }
```

Reboot of virtual router initiated.

```
2012-08-31 12:13:06,333 DEBUG [cloud.async.AsyncJobManagerImpl]
(catalina-exec-14:null) submit async job-5473, details: AsyncJobVO
{id:5473, userId: 161, accountId: 2, sessionKey: null, instanceType:
DomainRouter, instanceId: 4054, cmd:
com.cloud.api.commands.RebootRouterCmd, cmdOriginator: null, cmdInfo:
{"response":"json","id":"4054","sessionkey":"84uOYXRynfqNDk7QTVYO4Nek238\
u003d","ctxUserId":"161","_":"1346411586256","ctxAccountId":"2","ctxStart
EventId":"22455"}, cmdVersion: 0, callbackType: 0, callbackAddress: null,
status: 0, processStatus: 0, resultCode: 0, result: null, initMsid:
345052684411, completeMsid: null, lastUpdated: null, lastPolled: null,
created: null}
```


But it has to wait for Seq 1415446801.

```
2012-08-31 12:13:06,377 DEBUG [agent.transport.Request] (Job-Executor-131:job-5473) Seq 16-1415446919: Waiting for Seq 1415446801 Scheduling: { Cmd , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 100111, [{"StopCommand": {"isProxy":false,"privateRouterIpAddress":"10.255.105.3","vmName":"r-4054-VM","wait":0}}] }
```



Template 210 successfully transferred to primary storage.

```
2012-08-31 12:41:14,749 DEBUG [agent.transport.Request] (DirectAgent-238:null) Seq 16-1415446801: Processing: { Ans: , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 110, [{"storage.PrimaryStorageDownloadAnswer":{"installPath":"d40cb5b0-14c9-3ca3-a19b-8d6bbea1aeb4"},"templateSize":0,"result":true,"wait":0}]} }
```

So the virtual router reboot can finally proceed.

```
2012-08-31 12:41:14,749 DEBUG [agent.transport.Request] (DirectAgent-238:null) Seq 16-1415446919: Executing: { Cmd , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 100111, [{"StopCommand": {"isProxy":false,"privateRouterIpAddress":"10.255.105.3","vmName":"r-4054-VM","wait":0}}] }
```

Virtual router finally finishes rebooting (it took about 30 minutes).

```
2012-08-31 12:45:54,197 DEBUG [cloud.async.AsyncJobManagerImpl] (Job-Executor-131:job-5473) Complete async job-5473, jobStatus: 1, resultCode: 0, re...
```

Less patience :-)

destroyRouter received by the management server.

```
2012-06-13 09:05:36,321 DEBUG [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-88:job-135158) Destroying vm VM[DomainRouter|r-9218-VM]
```

Host 57 instructed to destroy the volume.

```
2012-06-13 09:05:36,387 DEBUG [agent.transport.Request] (Job-Executor-88:job-135158) Seq 57-57802800: Sending { Cmd , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 100111, [{"storage.DestroyCommand":{"vmName":"r-9218-VM","volume":{"id":10062,"name":"ROOT-9218","mountPoint":"/pools/HKPool/kvm-primary","path":"/mnt/25a4ee3a-7463-3bca-9e0e-cb0418f91557/09284c44-a940-4ec8-bec4-a44bf63f3576","size":2097152000,"type":"ROOT","storagePoolType":"NetworkFilesystem","storagePoolUuid":"25a4ee3a-7463-3bca-9e0e-cb0418f91557","deviceId":0},"wait":0}]} }
```

Completed 40 minutes later.

```
2012-06-13 09:44:20,863 DEBUG [agent.transport.Request] (Job-Executor-88:job-135158) Seq 57-57802800: Received: { Ans: , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 110, { Answer } }
2012-06-13 09:44:20,863 DEBUG [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-88:job-135158) Cleanup succeeded. Details Success
2012-06-13 09:44:20,883 DEBUG [cloud.storage.StorageManagerImpl] (Job-Executor-88:job-135158) Volume successfully expunged from 208
2012-06-13 09:44:20,883 DEBUG [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-88:job-135158) Expunged VM[DomainRouter|r-9218-VM]
```

Check agent.log on host 57...

```
2012-06-13 09:00:43,501 INFO [cloud.agent.Agent] (Agent-Handler-1:null)
Lost connection to the server. Dealing with the remaining commands...
2012-06-13 09:00:48,502 INFO [cloud.agent.Agent] (Agent-Handler-1:null)
Reconnecting...
2012-06-13 09:00:48,520 INFO [utils.nio.NioClient] (Agent-Selector:null)
Connecting to 192.168.114.102:8250
2012-06-13 09:00:48,799 ERROR [utils.nio.NioConnection] (Agent-
Selector:null) Unable to connect to remote
...
2012-06-13 09:14:43,275 ERROR [utils.nio.NioConnection] (Agent-
Selector:null) Unable to connect to remote
2012-06-13 09:14:48,275 INFO [cloud.agent.Agent] (Agent-Handler-1:null)
Reconnecting...
2012-06-13 09:14:48,276 INFO [utils.nio.NioClient] (Agent-Selector:null)
Connecting to 192.168.114.102:8250
2012-06-13 09:14:50,936 INFO [utils.nio.NioClient] (Agent-Selector:null)
SSL: Handshake done
```

It did not make it to the host until 40 minutes later (also agent.log).

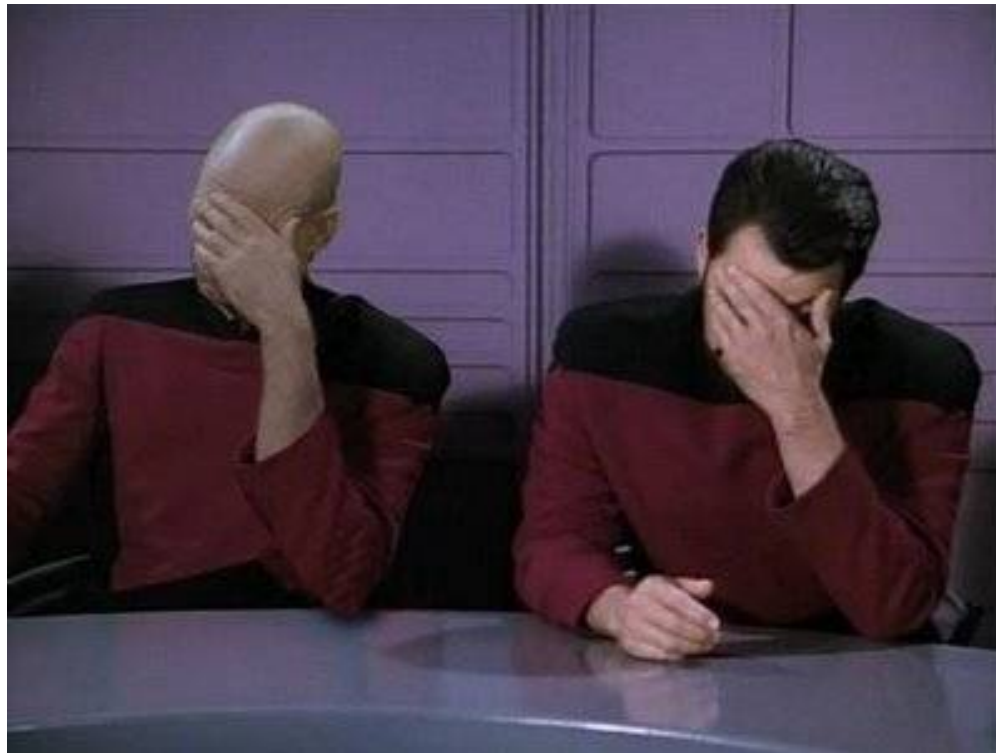
```
2012-06-13 21:44:20,660 DEBUG [cloud.agent.Agent] (agentRequest-Handler-4:null) Request:Seq 57-57802800: { Cmd , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 100111, [{"storage.DestroyCommand":{"vmName":"r-9218-VM", "volume":{"id":10062, "name":"ROOT-9218", "mountPoint":"/pools/HKPool/kvm-primary", "path":"/mnt/25a4ee3a-7463-3bca-9e0e-cb0418f91557/09284c44-a940-4ec8-bec4-a44bf63f3576", "size":2097152000, "type":"ROOT", "storagePoolType":"Network Filesystem", "storagePoolUuid":"25a4ee3a-7463-3bca-9e0e-cb0418f91557", "deviceId":0}, "wait":0}]}] }
```

It did succeed, though.

```
2012-06-13 21:44:20,672 DEBUG [cloud.agent.Agent] (agentRequest-Handler-4:null) Seq 57-57802800: { Ans: , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 110, [{"Answer": {"result":true, "details":"Success", "wait":0}]}] }
```

20 minutes after the first destroyRouter, the administrator hacked the database and ran destroyRouter again.

```
2012-06-13 09:26:27,038 DEBUG [cloud.vm.VirtualMachineManagerImpl]
(Job-Executor-100:job-135208) Destroying vm VM[DomainRouter|r-9218-VM]
```



It got stuck waiting for Seq 57802800 (remember, from job-135158).

```
2012-06-13 09:26:27,050 DEBUG [agent.transport.Request] (Job-Executor-100:job-135208) Seq 57-57802807: Waiting for Seq 57802800 Scheduling:
{ Cmd , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 100111,
[{"storage.DestroyCommand":{"vmName":"r-9218-VM","volume":
{"id":10062,"name":"ROOT-9218","mountPoint":"/pools/HKPool/kvm-
primary","path":"/mnt/25a4ee3a-7463-3bca-9e0e-cb0418f91557/09284c44-
a940-4ec8-bec4-
a44bf63f3576","size":2097152000,"type":"ROOT","storagePoolType":"Network
Filesystem","storagePoolUuid":"25a4ee3a-7463-3bca-9e0e-
cb0418f91557","deviceId":0},"wait":0}}] }
```

Sequence for second destroyRouter finally unstuck after the host connectivity was restored and the previous sequence completed.

```
2012-06-13 09:44:29,004 DEBUG [agent.manager.AgentAttache]
(AgentManager-Handler-9:null) Seq 57-57802807: Sending now. is current
sequence.
```

It failed since the volume was long gone (seconds earlier).

```
2012-06-13 09:44:31,788 DEBUG [agent.transport.Request] (AgentManager-
Handler-16:null) Seq 57-57802807: Processing: { Ans: , MgmtId:
345050807280, via: 57, Ver: v1, Flags: 110, [{"Answer":
{"result":false,"details":"org.libvirt.LibvirtException: Storage volume
not found: no storage vol with matching key","wait":0}]} }
```

Log entry anomalies

- Lost time
 - No known cases of aliens abducting CloudStack servers
- Out of order
 - CloudStack does not normally travel backwards in time
- 0 byte management-server.log
 - lol no, that's not normal.



Nearby entries

- Usually not relevant
- Still can take a look anyway

HA triggered on a few randomly dispersed Vms immediately after restart CloudStack.

```
2013-02-07 00:56:09,999 INFO [cloud.ha.HighAvailabilityManagerImpl]
(main:null) Schedule vm for HA: VM[User|i-2-12423-VM]
```

No sign of problems that might cause HA. But check nearby entries that like even slightly related.

```
2013-02-07 00:56:09,985 INFO [cloud.vm.VirtualMachineManagerImpl]
(main:null) Handling unfinished work item:ItWork[7d8a11b4-3c72-476b-
9b79-d9ce4171e131-Starting-12423-Release]
```

Q&A

- Any questions?






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Agenda

- Introduction
 - Log files and locations
 - What to look for?
 - What to do?
 - Examples
 - Q&A
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Management Server

- `/var/log/cloud/management/`
- `management-server.log`
 - Most important log
- `api-server.log`
 - Occasionally useful (who sent that API command that broke everything?)
- `catalina.out`, `host-manager.log`, `manager.log`, `access_log`, etc.
 - Rarely useful for troubleshooting, if ever

Mgmt server logs - `/var/log/cloud/management/management-server.log` – almost always useful
Rest – rarely useful

Hypervisor hosts

- XenServer / XCP
 - /var/log/SMlog, xensource.log
- KVM
 - /var/log/cloud/agent/agent.log
 - /var/log/libvirt/libvirtd.log
- vSphere
 - vCenter logs
 - Host logs rarely useful

XS – CS logs mainly to SMlog – Storage Manager log. Errors encountered by hypervisor often go to xensource.log

KVM – agent.log for CloudStack errors – note: not DEBUG by default; libvirtd.log for libvirt errors

vSphere – mainly need to check vCenter logs

XS/KVM - /var/log/messages can be useful – libvirt and qemu errors – host problems (power failure)

Other logs

- SAN, firewalls, switches, routers
 - Helpful to narrow down permissions errors, blocked ports, etc.
 - Check vendor docs since CloudStack doesn't touch these



What to look for?

- Warnings and errors and exceptions, oh my!
- WARN, ERROR, Exception, Unable, Failed
- VM name
- Type of task that failed
- Enable TRACE if necessary
- The dreaded “avoid set”
- Error text from UI/API

CS problems usually have something error-related to grep for – WARN, ERROR, etc.

Often too many false positives to grep for errors in general

Also, grep can remove useful entries

I normally use “less”

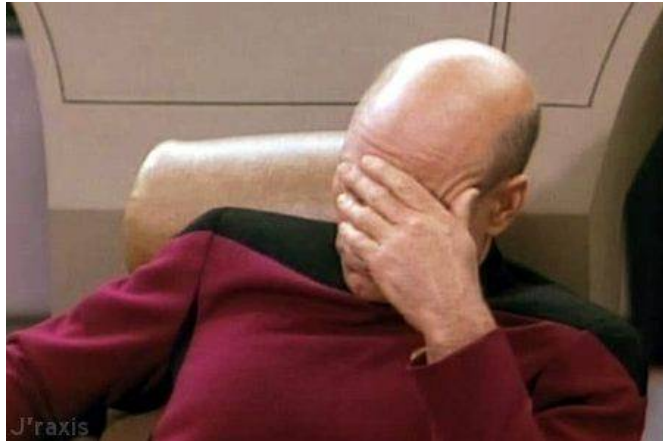
If there is a specific problem, grep for things specific to it. VM name, task type, etc.

Hosts, storage, etc. in “avoid set”? **THIS IS NOT THE PROBLEM. SCROLL UP IN THE LOG TO FIND THE REAL PROBLEM.**

UI/API errors can be useful to grep for – Quote the exact text for best results

Job ID

- Can be sent to other management servers
- Very useful, but NOT currently logged
- Get it from database
- Figure it out



Job ID from API not shown in UI – too complicated?
Job ID not useful by itself since it's not logged!
In log, there is numeric job ID... “id” in database
(versus “uuid” from db in API response) – “job-
<id#>” in log
select id from async_job where uuid = 'job ID from
API';

Sequences

- Also useful
- A job can contain multiple sequences
- Only shown in logs
- Can be sent to hosts
 - Look for “Executing request” and “Response received”
- Can be sent to other management servers
 - Look for “Forwarding Seq <id>”

Jobs can contain sequences

Sequences can depend on each other, even across jobs – this can make a job get “stuck”

What to do?

- Depends on the errors
- Check capacity
- Check network
- Keep waiting
- Hack database and try again
 - Bzzt! Wrong answer... usually.

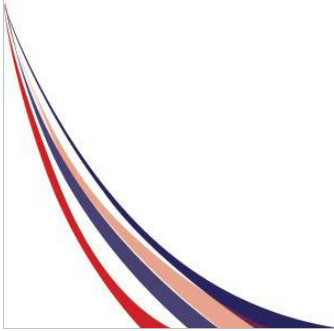
Capacity – beware, there may be errors about capacity that are not the real error. Look at the job from beginning to end before making a conclusion.

Network – “no route to host”; “connection refused” - “it's the network” (usually)

Patience – they don't say it's a virtue for nothing

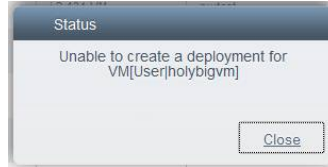
Don't hack the database please.

Examples



UI Error

- Start with an error from the UI



Find the related log entry (at the end of the job).

```
2013-02-25 16:39:40,567 DEBUG [cloud.async.AsyncJobManagerImpl] (Job-
Executor-1:job-318) Complete async job-318, jobStatus: 2, resultCode:
530, result: Error Code: 533 Error text: Unable to create a deployment
for VM[User|holybigvm]
```

The actual error.

```
2013-02-25 16:39:40,459 DEBUG [cloud.deploy.FirstFitPlanner] (Job-
Executor-1:job-318) No clusters found having a host with enough
capacity, returning.
```

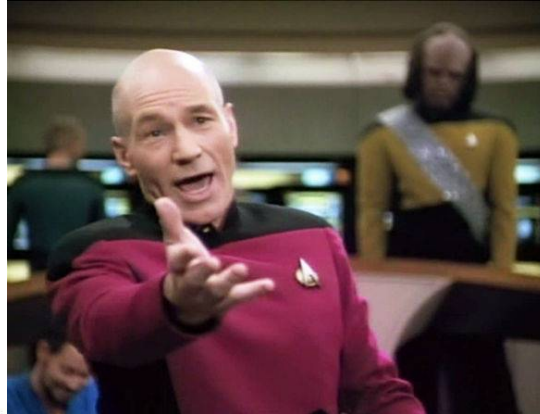
You can usually find the error shown in the UI in the log.

Once you find the job (job-318 here), it's normally best to start from the beginning of the job and work your way down

The avoid set...

Hey guys, why is my host in the avoid set, and how do I remove it?

```
2012-05-14 16:04:54,772 DEBUG [allocator.impl.FirstFitAllocator] (Job-
Executor-4:job-17638 FirstFitRoutingAllocator) Host name: val-
rk00008.example.local, hostId: 5 is in avoid set, skipping this and
trying other available hosts
```



If you only remember one thing from this session, make it this.

...means SCROLL UP

The real error will always be earlier in the job.

```
2012-05-14 16:04:54,735 ERROR  
[network.router.VirtualNetworkApplianceManagerImpl] (Job-Executor-4:job-  
17638) Unable to set dhcp entry for VM[User|i-2-1607-VM] on domR: r-16-  
VM due to  
2012-05-14 16:04:54,735 INFO [cloud.vm.VirtualMachineManagerImpl] (Job-  
Executor-4:job-17638) Unable to contact resource.
```

Shortly before the “avoid set” message is the “real” error.

Note, in this example, the log was processed by `grep`. So the resulting entries are useless anyway.

Hypervisor Errors

```
2012-07-13 08:08:05,149 WARN [xen.resource.CitrixResourceBase]
(DirectAgent-73:null) Task failed! Task record:
uuid: 95e36660-702f-8e07-5025-3bcf1
573e18c
    nameLabel: Async.VM.start_on
    nameDescription:
    allowedOperations: []
    currentOperations: {}
        created: Fri Jul 13 08:08:04 PDT 2012
        finished: Fri Jul 13 08:08:04 PDT 2012
        status: FAILURE
    residentOn: com.xensource.xenapi.Host@fed4b193
    progress: 1.0
    type: <none/>
    result:
    errorInfo: [SR_BACKEND_FAILURE 46, , The VDI is not
available [opterr=VDI e7f5571b-44b1-48b7-ba84-34d9c3ee879b
already attached RW]]
    otherConfig: {}
    subtaskOf: com.xensource.xenapi.Task@aaf13f6f
    subtasks: []
```

Errors from hypervisor may show up

Example from XenServer

Typical solution for this:

1. Get the SR UUID and name-label for the affected VDI (UUID is shown in the error in management-server.log, and also in volumes table of database):

```
xe vdi-list uuid=<UUID of affected VDI>
```

2. Forget the affected VDI:

```
xe vdi-forget uuid=<UUID of affected VDI>
```

3. Rescan the SR:

```
xe sr-scan uuid=<SR UUID from step 1>
```

4. Give the VDI the correct name-label:

```
xe vdi-param-set uuid=< UUID of affected VDI>
name-label=<name-label from step 1>
```

More Hypervisor Errors

management-server.log

```
2013-01-08 13:47:17,256 WARN [cloud.vm.VirtualMachineManagerImpl]
(AgentManager-Handler-32:null) Cleanup failed due to Exception:
org.libvirt.LibvirtException
Message: internal error '/bin/umount /mnt/dd7d684f-255f-3a24-87ab-
512168a207b5' exited with non-zero status 16 and signal 0:
umount.nfs: /mnt/dd7d684f-255f-3a24-8
7ab-512168a207b5: device is busy
umount.nfs: /mnt/dd7d684f-255f-3a24-87ab-512168a207b5: device is busy
```

/var/log/messages

```
2012-09-19 12:14:37,002 WARN
(resource.computing.LibvirtComputingResource] (Agent-Handler-5:null)
Exception
org.libvirt.LibvirtException: internal error '/bin/umount /mnt/513d2d1f-
38a7-3e3b-b2c5-ea3f4e0db6ba' exited with non-zero status 16 and signal
0: umount.nfs: /mnt/513d2d1f-38a7-3e3b-b2c5-ea3f4e0db6ba: device is busy
umount.nfs: /mnt/513d2d1f-38a7-3e3b-b2c5-ea3f4e0db6ba: device is busy
```

This is caused by a bug in versions of libvirt prior to 0.9.4:

<http://www.redhat.com/archives/libvir-list/2011-February/msg00637.html>

So upgrade your libvirt packages... on all KVM hosts

Yet Another Hypervisor Error

```
2013-01-16 10:12:28,313 ERROR [vmware.resource.VmwareResource]
(DirectAgent-161:esx102.example.com) CreateCommand failed due to
Exception: java.io.FileNotFoundException
Message:
https://stor1.example.com/folder/39b7d77f7dd547f695172b07882daec9/ff7d2b4
6103e4595alb422990a0799e2.vmdk?dcPath=Petaluma&dsName=aaf29b8e-b548-3fad-
8c59-0dad849b2704

java.io.FileNotFoundException:
https://stor1.example.com/folder/39b7d77f7dd547f695172b07882daec9/ff7d2b4
6103e4595alb422990a0799e2.vmdk?dcPath=Petaluma&dsName=aaf29b8e-b548-3fad-
8c59-0dad849b2704
    at
    sun.net.www.protocol.http.HttpURLConnection.getInputStream(HttpURLConnection
ion.java:1401)
    at
    sun.net.www.protocol.https.HttpURLConnectionImpl.getInputStream(httpsURL
ConnectionImpl.java:254)
<snip>
```

“Sometimes” vCenter doesn't like paths that are “too long”. So in this case, rename the datastore to not include hyphens

Exceptions

```
2013-02-06 15:36:45,023 ERROR [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-112:job-56957) Failed to start instance VM[User|a9167fdc-7d43-49f1-93cb-6c6902a666fa]
com.cloud.utils.exception.CloudRuntimeException: Unable to acquire lock on
VMTemplateStoragePool: 2570
    at
    com.cloud.template.TemplateManagerImpl.prepareTemplateForCreate(TemplateManagerImpl.java:638)
    at com.cloud.utils.db.DatabaseCallback.intercept(DatabaseCallback.java:30)
    at com.cloud.storage.StorageManagerImpl.createVolume(StorageManagerImpl.java:3418)
    at com.cloud.storage.StorageManagerImpl.prepare(StorageManagerImpl.java:3327)
    at
    com.cloud.vm.VirtualMachineManagerImpl.advanceStart(VirtualMachineManagerImpl.java:749)
    at com.cloud.vm.VirtualMachineManagerImpl.start(VirtualMachineManagerImpl.java:467)
    at com.cloud.vm.UserVmManagerImpl.startVirtualMachine(UserVmManagerImpl.java:2944)
    at com.cloud.vm.UserVmManagerImpl.startVirtualMachine(UserVmManagerImpl.java:2616)
    at com.cloud.vm.UserVmManagerImpl.startVirtualMachine(UserVmManagerImpl.java:2604)
    at com.cloud.event.ActionEventCallback.intercept(ActionEventCallback.java:32)
    at com.cloud.api.commands.DeployVMCmd.execute(DeployVMCmd.java:328)
    at com.cloud.api.ApiDispatcher.dispatch(ApiDispatcher.java:235)
    at com.cloud.async.AsyncJobManagerImpl$1.run(AsyncJobManagerImpl.java:427)
    at java.util.concurrent.Executors$RunnableAdapter.call(Executors.java:471)
    at java.util.concurrent.FutureTask$Sync.innerRun(FutureTask.java:334)
    at java.util.concurrent.FutureTask.run(FutureTask.java:166)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1110)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:603)
    at java.lang.Thread.run(Thread.java:636)
```

Often some hint in the first few lines

Here there is a problem in

TemplateManagerImpl.java – something template related

In this case they were trying to deploy a lot of VMs from a new template within a short time

Forwarding Sequences

```
2013-01-24 14:09:28,063 DEBUG [agent.manager.ClusteredAgentAttache]
(AgentManager-Handler-13:null) Seq 6-1372586715: Forwarding Seq 6-
1372586715: { Cmd , MgmtId: 83533443070, via: 6, Ver: v1, Flags: 100111,
[{"StopCommand":{"isProxy":false,"vmName":"i-7-121-VM","wait":0}}] } to
83533443165
```



In this case, the admin said one particular task was failing

After investigating, I noticed “everything” was getting “stuck” - only one mgmt server, so mgmt server endlessly forwarded everything to itself – bad situation – duplicate management servers in mshost table – “should never happen”

TRACE example

- Cannot snapshot volume 4500

The error shown in the UI wasn't logged at DEBUG level. It was still possible to find the job (from job type and volume ID).

```
2013-01-15 13:01:43,249 DEBUG [cloud.async.AsyncJobManagerImpl]
(catalina-exec-9:null) submit async job-36626, details: AsyncJobVO
{id:36626, userId: 215, accountId: 180, sessionId: null, instanceType:
Snapshot, instanceId: 19951, cmd:
com.cloud.api.commands.CreateSnapshotCmd, cmdOriginator: null, cmdInfo:
{"id":"19951","response":"json","sessionkey":"asdf","ctxUserId":"215","te
nant":"be04d916-a916-483e-a96c-
925e0cb89575","volumeid":"4500","ctxAccountId":"180","ctxStartEventId":"1
36303","signature":"asdf","apikey":"asdf"}, cmdVersion: 0, callbackType:
0, callbackAddress: null, status: 0, processStatus: 0, resultCode: 0,
result: null, initMsid: 172136269028748, completeMsid: null, lastUpdated:
null, lastPolled: null, created: null}
```

Need to find the job – Couldn't find the error from the UI with default DEBUG log
Found it here from “CreateSnapshot” and volume ID (4500)

Could have found UI error with TRACE enabled.

```
2013-01-15 13:01:48,346 TRACE [cloud.async.AsyncJobManagerImpl]
(catalina-exec-14:null) Job status: AsyncJobResult {jobId:36626,
jobStatus: 2, processStatus: 0, resultCode: 530, result:
com.cloud.api.response.ExceptionResponse/null/
{"errorcode":530,"errortext":"Internal error executing command, please
contact your system administrator"}}
```

The error in the UI was logged at TRACE level instead of DEBUG for some reason (bug?)

To enable TRACE logging, edit `/etc/cloud/management/log4j-xml.conf` and set the `com.cloud` category to TRACE as shown below. There is no need to restart CloudStack.

```
<category name="com.cloud">
<priority value="TRACE"/>
</category>
```

The actual error didn't require TRACE.

```
2013-01-15 13:01:43,314 ERROR [cloud.api.ApiDispatcher] (Job-Executor-41:job-36626) Exception while executing CreateSnapshotCmd:
com.cloud.utils.exception.CloudRuntimeException: There is other active
snapshot tasks on the instance to which the volume is attached, please
try again later
    at
com.cloud.storage.snapshot.SnapshotManagerImpl.createSnapshot (SnapshotMa
nagerImpl.java:384)
    at
com.cloud.utils.component.ComponentLocator$InterceptorDispatcher.interce
pt (ComponentLocator.java:1128)
    at
com.cloud.storage.snapshot.SnapshotManagerImpl.createSnapshot (SnapshotMa
nagerImpl.java:118)
<snip>
```

Issue was another snapshot in progress on the VM... or at least that is what CloudStack thought – there was a snapshot “stuck” in “BackingUp” status for some reason (bug?)

Patience level over 9000!

Deployment of a VM initiated.

```
2012-08-31 11:31:59,772 DEBUG [cloud.async.AsyncJobManagerImpl]
(catalina-exec-3:null) submit async job-5461, details: AsyncJobVO
{id:5461, userId: 188, accountId: 35, sessionKey: null, instanceType:
VirtualMachine, instanceId: 4157, cmd:
com.cloud.api.commands.DeployVMCmd, cmdOriginator: null, cmdInfo:
{"id":"4157","templateId":"210","ctxUserId":"188","hypervisor":"VMWare",
"serviceOfferingId":"14","ctxAccountId":"35","ctxStartEventId":"22391","ap
iKey":"asdf","signature":"asdf","displayname":"TESTVM","zoneId":"4"},
cmdVersion: 0, callbackType: 0, callbackAddress: null, status: 0,
processStatus: 0, resultCode: 0, result: null, initMsid: 345052684411,
completeMsid: null, lastUpdated: null, lastPolled: null, created: null}
```

In some cases, just need to be patient
Administrator complained that a virtual router took a
long time to reboot.
Note: job-5461

Template 210 starts being transferred to primary storage.

```
2012-08-31 11:32:10,144 DEBUG [agent.transport.Request] (Job-Executor-112:job-5461) Seq 16-1415446801: Sending { Cmd , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 100111, [{"storage.PrimaryStorageDownloadCommand":{"localPath":"/mnt/5a3dad9f-4c1a-3304-99e7-4975a6943605","poolUuid":"a08b0cef-d377-3d84-82c1-bf04e40bd6e2","poolId":237,"secondaryStorageUrl":"nfs://10.255.104.3/NFS_FS1","primaryStorageUrl":"nfs://VMFS datastore: /cmsma-cs-dc002/010_0117_0019_SATA_R5_DATA_LUN/cmsma-cs-dc002/010_0117_0019_SATA_R5_DATA_LUN","url":"nfs://10.255.104.3/NFS_FS1/template/tmpl/27210/71ae89570-60e5-3872-9ecb-60d90da295c3.ova","format":"OVA","accountId":2,"name":"210-2-ce858db7-4f87-39f8-bf3b-d46dcdf378f1","wait":10800}}] }
```

Reboot of virtual router initiated.

```
2012-08-31 12:13:06,333 DEBUG [cloud.async.AsyncJobManagerImpl]
(catalina-exec-14:null) submit async job-5473, details: AsyncJobVO
{id:5473, userId: 161, accountId: 2, sessionKey: null, instanceType:
DomainRouter, instanceId: 4054, cmd:
com.cloud.api.commands.RebootRouterCmd, cmdOriginator: null, cmdInfo:
{"response":"json","id":"4054","sessionkey":"84uOYXRynfqNDk7QTVyO4Nek238\
u003d","ctxUserId":"161","_":"1346411586256","ctxAccountId":"2","ctxStart
EventId":"22455"}, cmdVersion: 0, callbackType: 0, callbackAddress: null,
status: 0, processStatus: 0, resultCode: 0, result: null, initMsid:
345052684411, completeMsid: null, lastUpdated: null, lastPolled: null,
created: null}
```

Note: job-5473

But it has to wait for Seq 1415446801.

```
2012-08-31 12:13:06,377 DEBUG [agent.transport.Request] (Job-Executor-131:job-5473) Seq 16-1415446919: Waiting for Seq 1415446801 Scheduling: { Cmd , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 100111, [{"StopCommand": {"isProxy":false,"privateRouterIpAddress":"10.255.105.3","vmName":"r-4054-VM","wait":0}}] }
```



Template 210 successfully transferred to primary storage.

```
2012-08-31 12:41:14,749 DEBUG [agent.transport.Request] (DirectAgent-238:null) Seq 16-1415446801: Processing: { Ans: , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 110, [{"storage.PrimaryStorageDownloadAnswer":{"installPath":"d40cb5b0-14c9-3ca3-a19b-8d6bbea1aeb4","templateSize":0,"result":true,"wait":0}}] }
```



So the virtual router reboot can finally proceed.

```
2012-08-31 12:41:14,749 DEBUG [agent.transport.Request] (DirectAgent-238:null) Seq 16-1415446919: Executing: { Cmd , MgmtId: 345052684411, via: 16, Ver: v1, Flags: 100111, [{"StopCommand": {"isProxy":false,"privateRouterIpAddress":"10.255.105.3","vmName":"r-4054-VM","wait":0}}] }
```

Virtual router finally finishes rebooting (it took about 30 minutes).

```
2012-08-31 12:45:54,197 DEBUG [cloud.async.AsyncJobManagerImpl] (Job-Executor-131:job-5473) Complete async job-5473, jobStatus: 1, resultCode: 0, re...
```

Maybe still a bug?

Less patience :-)

destroyRouter received by the management server.

```
2012-06-13 09:05:36,321 DEBUG [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-88:job-135158) Destroying vm VM[DomainRouter|r-9218-VM]
```

Host 57 instructed to destroy the volume.

```
2012-06-13 09:05:36,387 DEBUG [agent.transport.Request] (Job-Executor-88:job-135158) Seq 57-57802800: Sending { Cmd , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 100111, [{"storage.DestroyCommand":{"vmName":"r-9218-VM", "volume":{"id":10062, "name":"ROOT-9218", "mountPoint":"/pools/HKPool/kvm-primary", "path":"/mnt/25a4ee3a-7463-3bca-9e0e-cb0418f91557/09284c44-a940-4ec8-bec4-a44bf63f3576", "size":2097152000, "type":"ROOT", "storagePoolType":"NetworkFilesystem", "storagePoolUuid":"25a4ee3a-7463-3bca-9e0e-cb0418f91557", "deviceId":0}, "wait":0}}] }
```

Attempt to destroy a router
Note: job-135158

Completed 40 minutes later.

```
2012-06-13 09:44:20,863 DEBUG [agent.transport.Request] (Job-Executor-88:job-135158) Seq 57-57802800: Received: { Ans: , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 110, { Answer } }
2012-06-13 09:44:20,863 DEBUG [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-88:job-135158) Cleanup succeeded. Details Success
2012-06-13 09:44:20,883 DEBUG [cloud.storage.StorageManagerImpl] (Job-Executor-88:job-135158) Volume successfully expunged from 208
2012-06-13 09:44:20,883 DEBUG [cloud.vm.VirtualMachineManagerImpl] (Job-Executor-88:job-135158) Expunged VM[DomainRouter|r-9218-VM]
```

- The job eventually succeeded. But two problem:
1. Contradicts administrator's description of events.
 2. Why did it take 40 minutes to destroy a router?

Check agent.log on host 57...

```
2012-06-13 09:00:43,501 INFO [cloud.agent.Agent] (Agent-Handler-1:null)
Lost connection to the server. Dealing with the remaining commands...
2012-06-13 09:00:48,502 INFO [cloud.agent.Agent] (Agent-Handler-1:null)
Reconnecting...
2012-06-13 09:00:48,520 INFO [utils.nio.NioClient] (Agent-Selector:null)
Connecting to 192.168.114.102:8250
2012-06-13 09:00:48,799 ERROR [utils.nio.NioConnection] (Agent-
Selector:null) Unable to connect to remote
...
2012-06-13 09:14:43,275 ERROR [utils.nio.NioConnection] (Agent-
Selector:null) Unable to connect to remote
2012-06-13 09:14:48,275 INFO [cloud.agent.Agent] (Agent-Handler-1:null)
Reconnecting...
2012-06-13 09:14:48,276 INFO [utils.nio.NioClient] (Agent-Selector:null)
Connecting to 192.168.114.102:8250
2012-06-13 09:14:50,936 INFO [utils.nio.NioClient] (Agent-Selector:null)
SSL: Handshake done
```

Host 57 could not reach the management server

Note: normally DEBUG messages in agent.log

It did not make it to the host until 40 minutes later (also agent.log).

```
2012-06-13 21:44:20,660 DEBUG [cloud.agent.Agent] (agentRequest-Handler-4:null) Request:Seq 57-57802800: { Cmd , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 100111, [{"storage.DestroyCommand":{"vmName":"r-9218-VM","volume":{"id":10062,"name":"ROOT-9218","mountPoint":"/pools/HKPool/kvm-primary","path":"/mnt/25a4ee3a-7463-3bca-9e0e-cb0418f91557/09284c44-a940-4ec8-bec4-a44bf63f3576","size":2097152000,"type":"ROOT","storagePoolType":"Network Filesystem","storagePoolUuid":"25a4ee3a-7463-3bca-9e0e-cb0418f91557","deviceId":0},"wait":0}}] }
```

It did succeed, though.

```
2012-06-13 21:44:20,672 DEBUG [cloud.agent.Agent] (agentRequest-Handler-4:null) Seq 57-57802800: { Ans: , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 110, [{"Answer":{"result":true,"details":"Success","wait":0}}] }
```

Connectivity errors finally cleared up and host 57 received and processed the job the job

20 minutes after the first destroyRouter, the administrator hacked the database and ran destroyRouter again.

```
2012-06-13 09:26:27,038 DEBUG [cloud.vm.VirtualMachineManagerImpl]
(Job-Executor-100:job-135208) Destroying vm VM[DomainRouter|r-9218-VM]
```



It got stuck waiting for Seq 57802800 (remember, from job-135158).

```
2012-06-13 09:26:27,050 DEBUG [agent.transport.Request] (Job-Executor-100:job-135208) Seq 57-57802807: Waiting for Seq 57802800 Scheduling: { Cmd , MgmtId: 345050807280, via: 57, Ver: v1, Flags: 100111, [{"storage.DestroyCommand":{"vmName":"r-9218-VM", "volume": {"id":10062, "name":"ROOT-9218", "mountPoint":"/pools/HKPool/kvm-primary", "path":"/mnt/25a4ee3a-7463-3bca-9e0e-cb0418f91557/09284c44-a940-4ec8-bec4-a44bf63f3576", "size":2097152000, "type":"ROOT", "storagePoolType":"Network Filesystem", "storagePoolUuid":"25a4ee3a-7463-3bca-9e0e-cb0418f91557", "deviceId":0}, "wait":0}}] }
```

Sequence for second destroyRouter finally unstuck after the host connectivity was restored and the previous sequence completed.

```
2012-06-13 09:44:29,004 DEBUG [agent.manager.AgentAttache]
(Manager-Handler-9:null) Seq 57-57802807: Sending now. is current
sequence.
```

It failed since the volume was long gone (seconds earlier).

```
2012-06-13 09:44:31,788 DEBUG [agent.transport.Request] (Manager-
Handler-16:null) Seq 57-57802807: Processing: { Ans: , MgmtId:
345050807280, via: 57, Ver: v1, Flags: 110, [{"Answer":
{"result":false,"details":"org.libvirt.LibvirtException: Storage volume
not found: no storage vol with matching key","wait":0}}] }
```

Log entry anomalies

- Lost time
 - No known cases of aliens abducting CloudStack servers
- Out of order
 - CloudStack does not normally travel backwards in time
- 0 byte management-server.log
 - lol no, that's not normal.

Indicative of crazy problems

Nearby entries

- Usually not relevant
- Still can take a look anyway

HA triggered on a few randomly dispersed Vms immediately after restart CloudStack.

```
2013-02-07 00:56:09,999 INFO [cloud.ha.HighAvailabilityManagerImpl]
(main:null) Schedule vm for HA: VM[User|i-2-12423-VM]
```

No sign of problems that might cause HA. But check nearby entries that like even slightly related.

```
2013-02-07 00:56:09,985 INFO [cloud.vm.VirtualMachineManagerImpl]
(main:null) Handling unfinished work item:ItWork[7d8a11b4-3c72-476b-
9b79-d9ce4171e131-Starting-12423-Release]
```

Often too much going on to find related entries nearby, so need to filter by job, Seq, etc.

But sometimes you don't have a job or Seq to look for. So can look for stuff like VM ID (that is the "id" from database, not the "uuid" from db that is reported as ID in UI)

In this example there are stale entries in op_it_work and/or op_ha_work due to some bug

Q&A

- Any questions?

