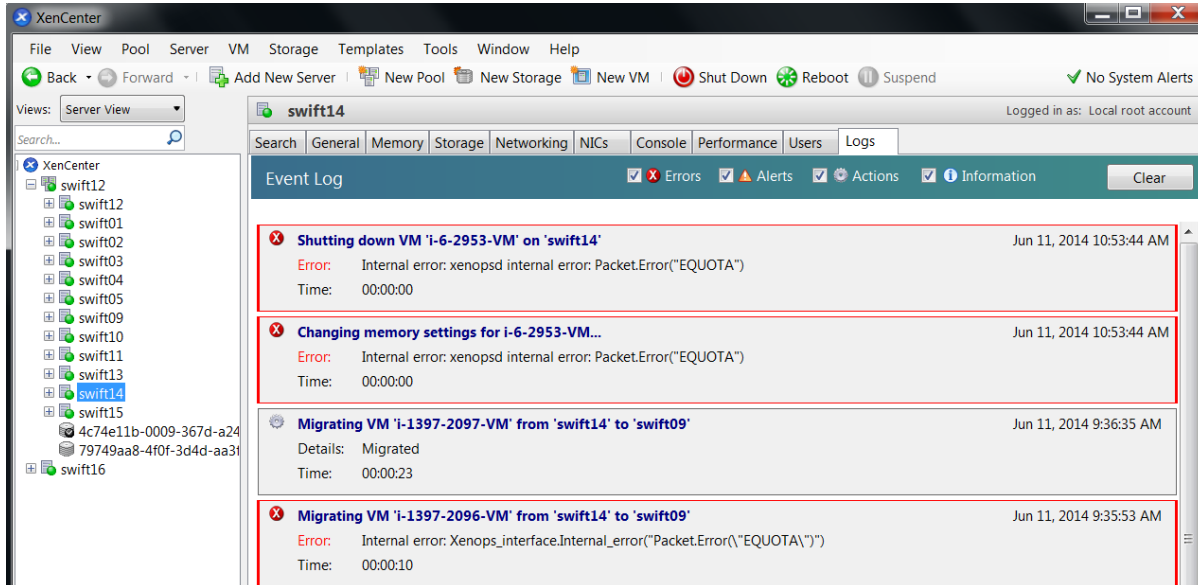


xenopsd internal error: Packet.Error("EQUOTA"))} – Resolved in v6.2

When this happens the virtual machine cannot be moved to a different XenServer host. The VM must be restarted to fix this problem, however the VM itself is running just fine so one could leave it alone. It just can't be moved around anymore.



```
[root@swift14 ~]# xe vm-list | grep -A2 -B3 2096
uuid ( RO)      : 42eb83b6-257b-ab7c-3111-05bd7c765d25
name-label ( RW): i-1397-2096-VM
power-state ( RO): running
```

```
[root@swift14 ~]# list_domains | grep 42eb83b6-257b-ab7c-3111-05bd7c765d25
19 | 42eb83b6-257b-ab7c-3111-05bd7c765d25 | B H
```

To check the quotas for a VM use the following command:

```
[root@swift14 ~]# /opt/xensource/debug/xs debug quota 19
dom19 quota: 1000/1000
```

The parameter <dom-id> is the id of the virtual machine which can be listed using:

```
[root@swift14 ~]# xl list
```

Name	ID	Mem	VCPUs	State	Time(s)
Domain-0	0	1733	4	r-----	245246.3
i-6-2953-VM	2	1023	1	-b----	1151.4
i-234-3001-VM	3	2047	4	-b----	32686.2
i-234-3009-VM	4	2047	4	-b----	6374.9
i-879-2973-VM	5	5891	8	-b----	3479.9
i-1012-2247-VM	7	5891	8	-b----	2547.5
i-1030-2558-VM	8	5891	8	r-----	34581.0
i-1012-2276-VM	9	5891	8	-b----	1910.0
i-1030-2871-VM	12	5891	8	-b----	34936.0

i-1347-719-VM	14	6144	8	-b----	7886.5
i-1347-720-VM	15	6144	8	-b----	63703.6
i-1407-2175-VM	16	1023	1	-b----	5108.8
i-1422-2510-VM	17	2047	4	-b----	1758.2
i-1422-2530-VM	18	2047	4	-b----	1711.9
i-1397-2096-VM	19	2047	4	-b----	5541.3
i-929-2206-VM	24	5891	8	-b----	8905.6
i-1022-2198-VM	25	2047	4	-b----	1762.1
r-2079-VM	26	128	1	-b----	2027.6
i-1422-2509-VM	27	2047	4	-b----	2879.9
i-1422-2524-VM	28	2047	4	-b----	1679.2
i-2-2882-VM	29	2047	4	-b----	2649.7
i-402-3074-VM	31	6143	8	-b----	639.3

These two commands can be combined by the following complex shell command ☺:

```
[root@swift14 ~]# for h in `xl list | sed 's/\{44\}/' | tail -n +2 | awk '{print $1}'`; do
i=`/opt/xensource/debug/xs debug quota $h`; j=`xl list $h | tail -1`; printf "%25s %s\n" "$i" "$j"; done
```

dom0 quota: 4321/1000 Domain-0	0	1733	4	r-----	245306.7
dom2 quota: 1000/1000 i-6-2953-VM	2	1023	1	-b----	1151.7
dom3 quota: 92/1000 i-234-3001-VM	3	2047	4	-b----	32690.6
dom4 quota: 102/1000 i-234-3009-VM	4	2047	4	-b----	6376.2
dom5 quota: 187/1000 i-879-2973-VM	5	5891	8	-b----	3481.9
dom7 quota: 82/1000 i-1012-2247-VM	7	5891	8	-b----	2548.2
dom8 quota: 767/1000 i-1030-2558-VM	8	5891	8	-b----	34591.3
dom9 quota: 97/1000 i-1012-2276-VM	9	5891	8	-b----	1910.6
dom12 quota: 87/1000 i-1030-2871-VM	12	5891	8	r-----	34945.4
dom14 quota: 35/1000 i-1347-719-VM	14	6144	8	-b----	7888.7
dom15 quota: 35/1000 i-1347-720-VM	15	6144	8	-b----	63721.7
dom16 quota: 617/1000 i-1407-2175-VM	16	1023	1	-b----	5110.3
dom17 quota: 82/1000 i-1422-2510-VM	17	2047	4	-b----	1758.7
dom18 quota: 97/1000 i-1422-2530-VM	18	2047	4	-b----	1712.3
dom19 quota: 1000/1000 i-1397-2096-VM	19	2047	4	-b----	5542.7
dom24 quota: 97/1000 i-929-2206-VM	24	5891	8	-b----	8906.9
dom25 quota: 87/1000 i-1022-2198-VM	25	2047	4	-b----	1762.6
dom26 quota: 68/1000 r-2079-VM	26	128	1	-b----	2027.8
dom27 quota: 111/1000 i-1422-2509-VM	27	2047	4	-b----	2880.5
dom28 quota: 106/1000 i-1422-2524-VM	28	2047	4	-b----	1679.7
dom29 quota: 106/1000 i-2-2882-VM	29	2047	4	-b----	2650.4
dom31 quota: 66/1000 i-402-3074-VM	31	6143	8	-b----	639.7

Workaround: If the quota is not yet reached, move the VM to a different host. The quota will then reset to a low value.

It is also possible to increase the quota or deactivate it in the file `/etc/xen/oxenstored.conf` and restart the XenServer host:

```
[root@swift14 ~]# cat /etc/xen/oxenstored.conf
```

```
# default xenstored config
```

```
# Where the pid file is stored
```

```
pid-file = /var/run/xenstored.pid
```

```
# Randomly failed a transaction with EAGAIN. Used for testing Xs user
test-eagain = false
```

```
# Activate transaction merge support
merge-activate = true
```

```
# Activate node permission system
perms-activate = true
```

```
# Activate quota
quota-activate = true
quota-maxentity = 1000
quota-maxsize = 2048
quota-maxwatch = 100
quota-transaction = 10
```

```
# Activate filed base backend
persistant = false
```

```
# Xenstored logs
# xenstored-log-file = /var/log/xenstored.log
# xenstored-log-level = null
# xenstored-log-nb-files = 10
```

```
# Xenstored access logs
# access-log-file = /var/log/xenstored-access.log
# access-log-nb-lines = 13215
# access-log-nb-chars = 180
access-log-special-ops = true
access-log-file = syslog:local3
```

From 19th July 2014 EQUOTA would be disabled on all the hypervisors.

Reference: <http://www.schirmacher.de/pages/viewpage.action?pageId=50397193>

Zombie VMs

Reference URL: <http://www.ingmarverheij.com/damn-you-c-states-unexpected-xenserver-reboot/>

Mode	Name	What it does
C0	Operating State	CPU fully turned on
C1	Halt	Stops CPU main internal clocks via software; bus interface unit via APIC are kept running at full speed
C1E	Enhanced Halt	Stops CPU main internal clocks via software and reduces CPU voltage; but interface unit and APIC are kept running at full speed.
C1E	-	Stops all CPU internal clocks.
C2	Stop Grant	Stops CPU main internal clocks via hardware; bus interface unit

		and APIC are kept running at full speed.
C2	Stop Clock	Stops CPU internal and external clocks via hardware
C2E	Extended Stop Grant	Stops CPU main internal clocks via hardware and reduces CPU voltage; bus interface unit and APIC are kept running at full speed.
C3	Sleep	Stops all CPU internal clocks
C3	Deep Sleep	Stops all CPU internal and external clocks
C3	AltVID	Stops all CPU internal clocks and reduces CPU voltage
C4	Deeper Sleep	Reduces CPU voltage
C4E/C5	Enhanced Deeper Sleep	Reduces CPU voltage even more and turns off the memory cache
C6	Deep Power Down	Reduces the CPU internal voltage to any value, including 0 V

```
[root@swift15 ~]# xenpm get-cpuidle-states
```

Max C-state: C0

```
cpu id      : 0
total C-states : 4
idle time(ms) : 335498610
C0 [ACPI C0] : transition [00000000000010467320]
               residency [0000000000039464008 ms]
C1 [ACPI C1] : transition [00000000000010416192]
               residency [00000000000294700000 ms]
C2 [ACPI C2] : transition [00000000000000000000]
               residency [00000000000000000000 ms]
C3 [ACPI C2] : transition [00000000000000051128]
               residency [0000000000001335588 ms]
pc2          : [0000000000000202037 ms]
pc3          : [000000000000029234 ms]
pc6          : [0000000000000594743 ms]
pc7          : [00000000000000000000 ms]
cc3          : [0000000000000048594 ms]
cc6          : [00000000000000000000 ms]
cc7          : [00000000000000983438 ms]
```

```
[root@swift15 ~]# xenpm get-cpuidle-states | grep total | uniq
```

total C-states : 4

Run the command :

```
[root@swift15 ~]# /opt/xensource/libexec/xen-cmdline --set-xen cpufreq=xen:performance
```

And reboot the host.

```
[root@swift15 ~]# xenpm get-cpuidle-states | head -1  
Max C-state: C7
```

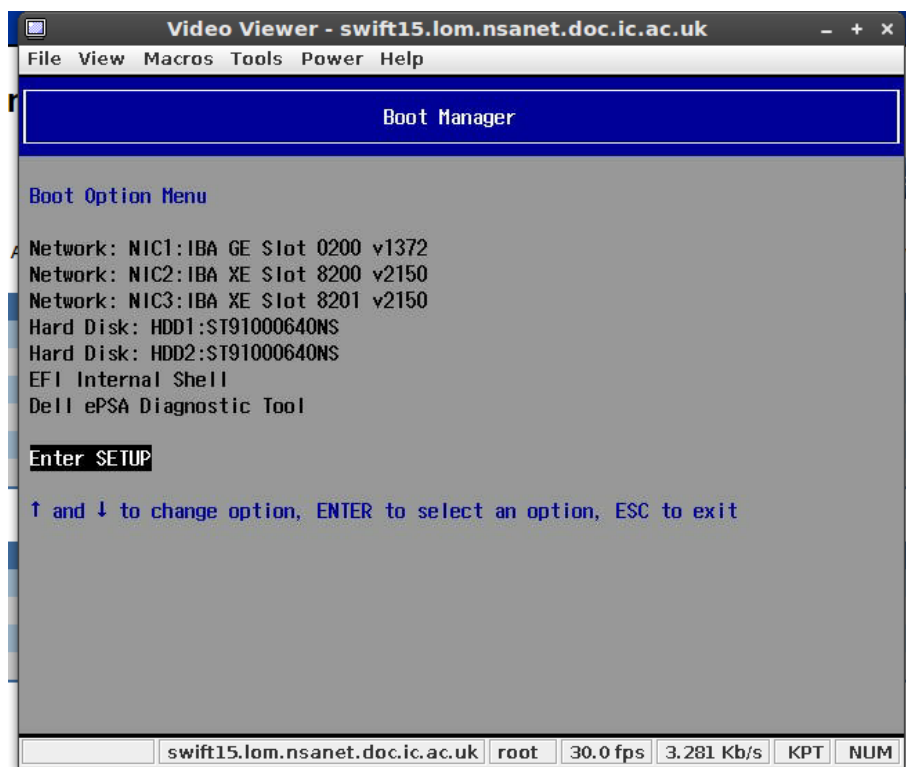
```
[root@swift15 ~]# xenpm set-max-cstate 1
```

```
[root@swift15 ~]# xenpm get-cpuidle-states | head -1  
Max C-state: C1
```

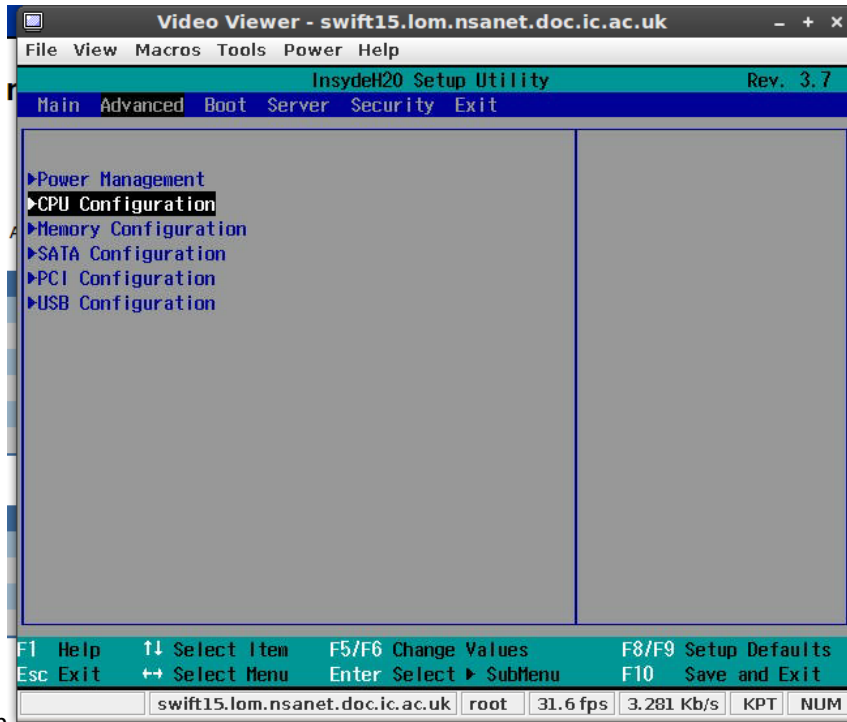
Disable CPU Turbo and CSTATE settings in BIOS:

Process on Dell PowerEdge C6220 & C6220 II

Enter BIOS – F11 -> Setup

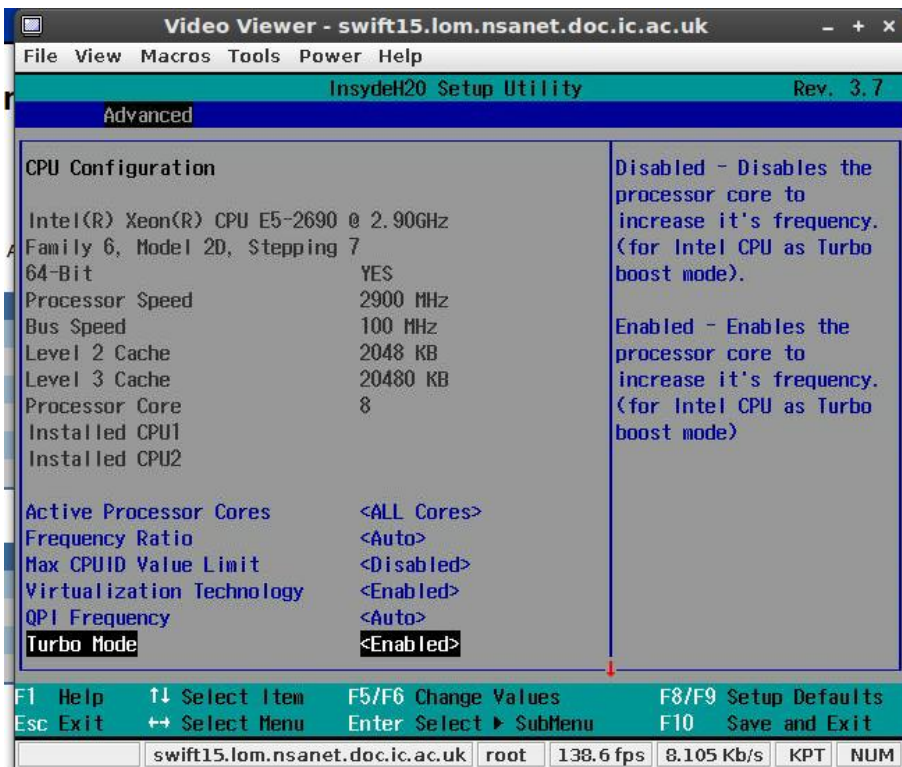


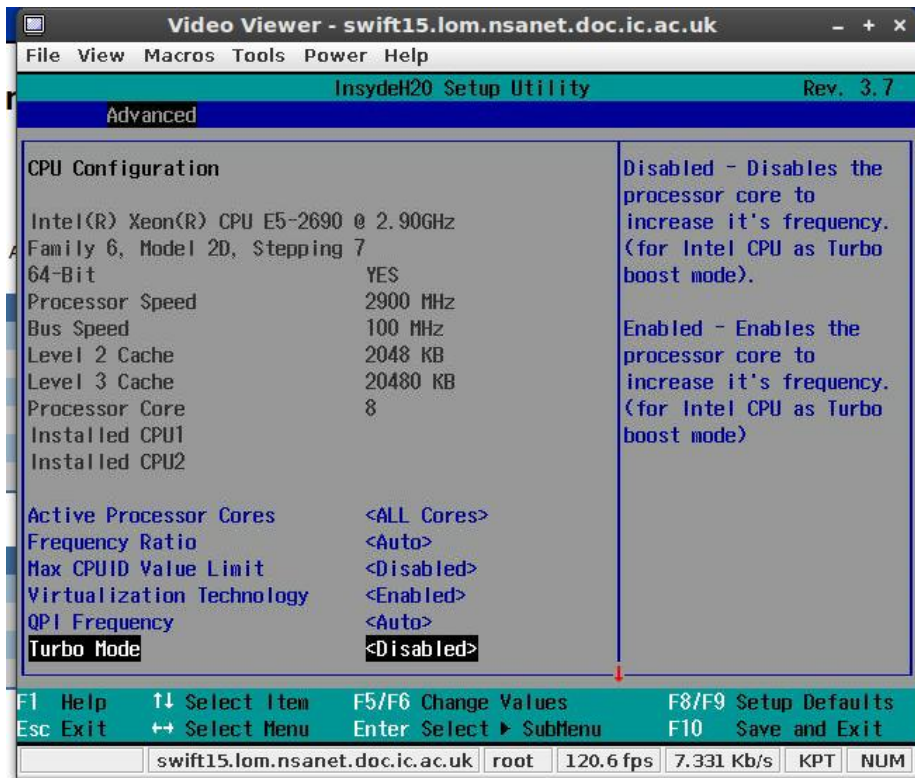
Enter Setup -> Advanced -> CPU



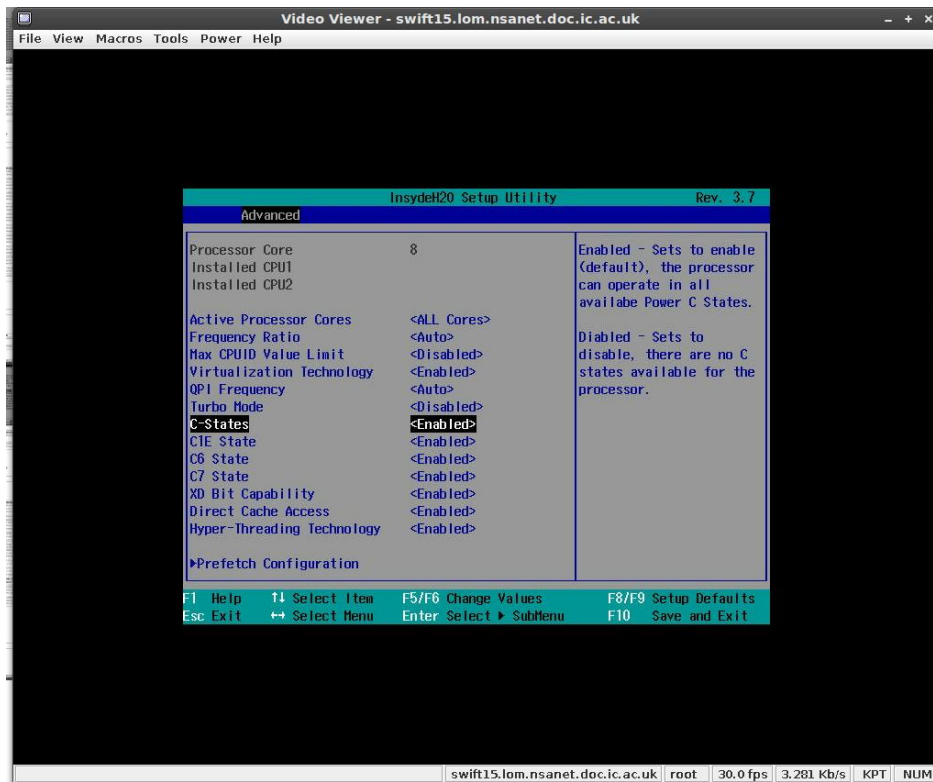
Configuration

Disable Turbo mode:





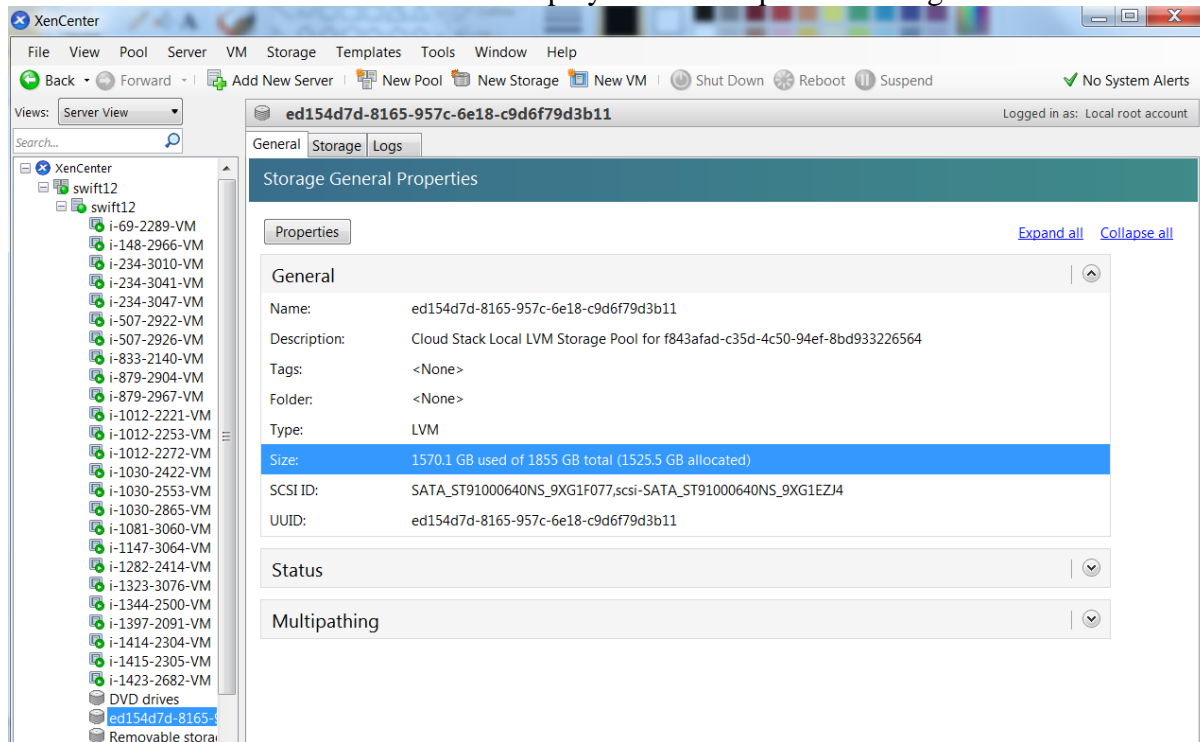
Disable C-States:



From 19th July 2014, cstates on all the hypervisors would be disabled.

Storage Issue: Used space > allocated space.

When XenCenter and CloudStack API displays that used space on storage is less than allocated space



```
[root@cumulus01 ~]# cloudmonkey
```

```
☛ Apache CloudStack ☐ cloudmonkey 4.1.0-1. Type help or ? to list commands.
```

```
mycloudmonkey > listStoragePools → to list all the pools
```

```
mycloudmonkey > listStoragePools id=ed154d7d-8165-957c-6e18-c9d6f79d3b11
```

```
count = 1
```

```
storagepool:
```

```
name = swift12 Local Storage
```

```
id = ed154d7d-8165-957c-6e18-c9d6f79d3b11
```

```
clusterid = 7bc0ecf3-1f7d-44e7-a7fa-dc27d305e236
```

```
clustername = XCP-Swift-44sub
```

```
created = 2014-01-20T12:12:09+0000
```

```
disksizeallocated = 0 → for local storage API doesn't show the exact value.
```

```
disksizetotal = 1991749140480
```

```
disksizeused = 1685913075712
```

```
ipaddress = 146.169.44.8
```

```
path = lvm
```

```
podid = bf90b841-8e68-4903-9c94-4ae1c08f4580
```

```
podname = XCP-44subnet
```

```
state = Up
```

```
type = LVM
```

```
zoneid = ec3bf9da-f510-49a0-b21d-fb7ecdd5ab67
```

```
zonename = DoC-44subnet
```

```
mycloudmonkey > listStoragePools id=4c74e11b-0009-367d-a249-e3a5d301d74e
```

```
count = 1
```

```
storagepool:
```

```
name = cumulus04-vol1
```

```
id = 4c74e11b-0009-367d-a249-e3a5d301d74e
```

```
clusterid = 7bc0ecf3-1f7d-44e7-a7fa-dc27d305e236
```



```
clustername = XCP-Swift-44sub
created = 2014-06-02T12:12:55+0100
disksizeallocated = 4477444685824 → for shared storage
disksizetotal = 10995103694848
disksizeused = 4490442833920
ipaddress = cumulus04
path = /iqn.2013-17.com.cumulus04:zfs-vol1/0
podid = bf90b841-8e68-4903-9c94-4ae1c08f4580
podname = XCP-44subnet
state = Up
type = IscsiLUN
zoneid = ec3bf9da-f510-49a0-b21d-fb7ecdd5ab67
zonename = DoC-44subnet
```

Search for hidden vols, these LVs are not visible when listed using commands “lvs” or “lvdisplay”.

```
[root@swift12 ~]# vhd-util scan -f -m "VHD-*" -l "VG_XenStorage-ed154d7d-8165-957c-6e18-
c9d6f79d3b11" -p | grep "hidden=1"
vhd=VHD-09c0a82f-cfbc-4147-b7eb-d48dfdc7405a capacity=21474836480 size=5163188224 hidden=1 parent=none
vhd=VHD-3aa70a3c-b01e-4317-80c2-3eecb7aecb2c capacity=21474836480 size=1098907648 hidden=1 parent=none
vhd=VHD-49b0d4a0-9b4a-4f80-b4de-a3f9a2563002 capacity=21474836480 size=1937768448 hidden=1 parent=none
  vhd=VHD-f284a470-7d55-4bcb-9894-2bb4da8f7059 capacity=21474836480 size=482344960 hidden=1 parent=VHD-
49b0d4a0-9b4a-4f80-b4de-a3f9a2563002
    vhd=VHD-ecd8c28c-874e-46bf-9f38-cd9129662b0c capacity=21474836480 size=1606418432 hidden=1 parent=VHD-
f284a470-7d55-4bcb-9894-2bb4da8f7059
vhd=VHD-4a3c17ca-df2c-4596-bdbe-fcd697a3a681 capacity=21474836480 size=1941962752 hidden=1 parent=none
vhd=VHD-693ef0c9-a75e-42df-9e03-fc132f493eb9 capacity=21474836480 size=2726297600 hidden=1 parent=none
vhd=VHD-6a3cc9e1-3dd7-4eb6-a2c0-49a1f60f491d capacity=21474836480 size=3569352704 hidden=1 parent=none
vhd=VHD-98b8949d-f12b-4bed-beb2-5bbf9a4c1378 capacity=21474836480 size=2944401408 hidden=1 parent=none
vhd=VHD-c924bd08-f30f-4980-8d00-ddba5415c902 capacity=21474836480 size=9344909312 hidden=1 parent=none
vhd=VHD-c9728186-10e6-42f0-9f86-170082094cfe capacity=21474836480 size=5595201536 hidden=1 parent=none
vhd=VHD-d1f24867-82b0-4dfa-a265-f98b707141da capacity=21474836480 size=1983905792 hidden=1 parent=none
vhd=VHD-e6a34141-80fe-4b97-8629-5dd911e019d7 capacity=21474836480 size=9550430208 hidden=1 parent=none
```

For all the hidden LVs listed above search for it's VDI and delete it if it's not assigned to a VM.

```
[root@swift12 ~]# xe vdi-list | grep -A7 d1f24867-82b0-4dfa-a265-f98b707141da
uuid ( RO)          : d1f24867-82b0-4dfa-a265-f98b707141da
  name-label ( RW): base copy
  name-description ( RW):
    sr-uuid ( RO): ed154d7d-8165-957c-6e18-c9d6f79d3b11
    virtual-size ( RO): 21474836480
    sharable ( RO): false
    read-only ( RO): true
```

For shared volumes run the delete command provided from the pool master while for local volume it needs to run from the individual host to which it's connected.

```
[root@swift12 ~]# for i in `vhd-util scan -f -m "VHD-*" -l "VG_XenStorage-ed154d7d-8165-957c-6e18-
c9d6f79d3b11" -p | grep "hidden=1" | awk '{print $1}' | sed 's/vhd=VHD-//g'; do xe vdi-list | grep -s $i; if [ $? -eq 1
]; then echo "/dev/VG_XenStorage-ed154d7d-8165-957c-6e18-c9d6f79d3b11/VHD-$i" ; fi; done
[root@swift12 ~]# for i in `cat file_lv`; do lvremove $i; done ; rm file_lv
```

Reference URL: <http://discussions.citrix.com/topic/303965-issue-with-reclaiming-disk-space-in-xenserver-60/>

Restart a VM in hung state

If we are unable to restart a VM via CloudStack UI or XenCenter and if it's an issue with only a single VM on a specific hypervisor.

Logon on to the hypervisor/host on which the VM is running on:

Find the uuid of the VM

```
[root@swift12 ~]# xe vm-list | grep -A1 -B1 2221
uuid ( RO)          : 157d5982-5fce-7c3d-8ec2-408a6f921912
  name-label ( RW)  : i-1012-2221-VM
  power-state ( RO) : running
```

Get dom-id number from list_domains command.

```
[root@swift12 ~]# list_domains | grep 157d5982-5fce-7c3d-8ec2-408a6f921912
63 | 157d5982-5fce-7c3d-8ec2-408a6f921912 |      B H
```

Force shutdown that VM through destroy_domain command (this command act like unplug the VM)

```
[root@swift12 ~]# /opt/xensource/debug/destroy_domain -domid 63
```

or

```
[root@swift12 ~]# /opt/xensource/debug/xenops destroy_domain -domid 63
```

Start the VM

```
[root@swift12 ~]# xe vm-start uuid=157d5982-5fce-7c3d-8ec2-408a6f921912 -force
```

In the below provided references they have requested a reboot for the VM, which has never worked.

```
[root@swift12 ~]# xe vm-reboot uuid=157d5982-5fce-7c3d-8ec2-408a6f921912 -force
```

You attempted an operation on a VM that was not in an appropriate power state at the time; for example, you attempted to start a VM that was already running. The parameters returned are the VM's handle, and the expected and actual VM state at the time of the call.

```
vm: 157d5982-5fce-7c3d-8ec2-408a6f921912 (i-1012-221-VM)
expected: running
actual: halted
```

Script to start Hung VMs is available on all the hypervisors : /root/hung_vm.sh

```
# cat hung_vm.sh
#!/bin/bash
echo -e "Enter the name of the VM in format (i-4-3231): \c"
read NAME
UUID=`xe vm-list | grep -B1 $NAME | grep uuid | awk '{print $NF}'`
DOMID=`list_domains | grep $UUID | awk '{print $1}'`
/opt/xensource/debug/destroy_domain -domid $DOMID
sleep 10
xe vm-start uuid=$UUID
```

Ref:

<http://gimpland.org/now/2013/01/citrix-xenserver-how-to-force-shutdown-virtual-machines/>
<http://vikashkumarroy.blogspot.co.uk/2012/02/how-to-shut-down-arrogant-vm-on.html>
http://shibaboy.wordpress.com/tag/list_domains-state/
<http://support.citrix.com/article/CTX127896>

Hypervisor Hosts unable to connect to master/out of sync/VMs not responding to restart requests.

On the master

```
[root@swift12 ~]# ls -l /var/xapi/state.db
-rw-r--r-- 1 root root 4520859 Jun 11 16:17 /var/xapi/state.db

[root@swift12 ~]# cat /etc/xensource/pool.conf

master
```

on the slaves:

```
[root@swift05 ~]# ls -l /var/xapi/state.db
-rw-r--r-- 1 root root 4519024 Jun 11 15:59 /var/xapi/state.db

[root@swift05 ~]# cat /etc/xensource/pool.conf

slave:146.169.44.8
```

If inconsistencies arise in pool.conf or state.db restart xapi

```
[root@swift05 ~]# xe-toolstack-restart
```

Change Virtual machine account ownership

1. Shutdown the VM
2. From cumulus01, run the following API command as this task cannot be done via the GUI (available in CS v4.3), running the command seems to fail.
3. From the CloudStack GUI, the task was completed successfully and we can confirm that the new user is able to view the Virtual Machine under his/her list of VMs.

Command history:

```
[root@cumulus01 ]# cloudmonkey
```

```
🍌 Apache CloudStack [?] cloudmonkey 4.1.0-1. Type help or ? to list commands.
```

```
mycloudmonkey > assignVirtualMachine account=tjoseph1 domainid=fd3d1da1-d443-4597-a240-aa81e444c705
virtualmachineid=98634b0d-2e32-42f9-989a-151d14671bd88
```

```
HTTP Error 530:
```

CloudStack Management Server log:

2014-07-17 12:14:33,555 DEBUG [cloud.api.ApiServlet] (http-8443-19:null) ===START=== 0:0:0:0:0:0:1 -- GET account=mjw03&apiKey=oy_oKoXjR2MQzhxbZPqu4HOfufpkilwMjppzpjvzQyE4DY5RnLhArxOb-YhyG0koLyldOGniusYImRapG4YB0w&command=assignVirtualMachine&domainid=fd3d1da1-d443-4597-a240-aa81e444c705&response=json&virtualmachineid=98634b0d-2e32-42f9-989a-151d1421bd88&signature=BIQd06S%2BNE5yyRsEDJzyT1igLnl%3D

2014-07-17 12:14:33,579 DEBUG [cloud.user.AccountManagerImpl] (http-8443-19:null) Access granted to Acct[66-mjw03] to Domain:2/imperial/ by DomainChecker_EnhancerByCloudStack_1ce89242

2014-07-17 12:14:33,599 DEBUG [cloud.network.NetworkManagerImpl] (http-8443-19:null) Cleaning network for vm: 3064

2014-07-17 12:14:33,604 DEBUG [cloud.network.NetworkModelImpl] (http-8443-19:null) Service SecurityGroup is not supported in the network id=247

2014-07-17 12:14:33,606 DEBUG [network.guru.DirectNetworkGuru] (http-8443-19:null) Deallocate network: networkId: 247, ip: 146.169.45.94

2014-07-17 12:14:33,627 DEBUG [cloud.network.NetworkManagerImpl] (http-8443-19:null) Removed nic id=2520

2014-07-17 12:14:33,633 DEBUG [cloud.network.NetworkModelImpl] (http-8443-19:null) Service SecurityGroup is not supported in the network id=247

2014-07-17 12:14:33,635 DEBUG [cloud.network.NetworkManagerImpl] (http-8443-19:null) Allocating nic for vm VM[User|eics] in network Ntwk[247|Guest|7] with requested profile NicProfile[0-0-null-null-null

2014-07-17 12:14:33,639 DEBUG [cloud.network.NetworkModelImpl] (http-8443-19:null) Service SecurityGroup is not supported in the network id=247

2014-07-17 12:14:33,648 DEBUG [cloud.network.NetworkModelImpl] (http-8443-19:null) Service SecurityGroup is not supported in the network id=247

2014-07-17 12:14:33,650 DEBUG [cloud.network.NetworkModelImpl] (http-8443-19:null) Service SecurityGroup is not supported in the network id=247

2014-07-17 12:14:33,655 INFO [cloud.api.ApiServer] (http-8443-19:null) **Failed to move vm null**