



Axcient Virtual Appliance Troubleshooting Guide

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Problem: You cannot perform an image backup because virtualization is not enabled.

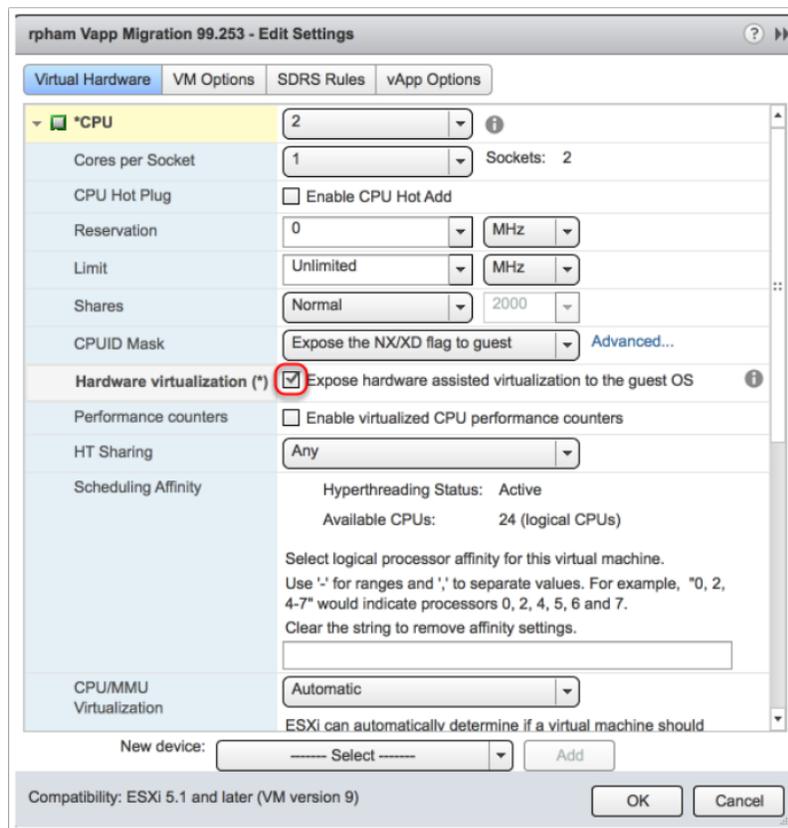
Probable Cause: It is likely that virtualization is not enabled on the Axcient vApp. The way to enable virtualization depends on the VMware client being used. If using the vSphere Web Client, follow the steps listed in Solution 1. If using the Windows vSphere Client, follow the steps listed in Solution 2.

Solution 1: Enable Virtualization vSphere Web Client

To enable virtualization, do the following:

1. Power off the vApp.
2. Edit the vApp appliance settings using the vSphere Web Client.
3. Expand the CPU configuration and check the box next to *Hardware Virtualization*.
4. Power on the vApp.

Figure 1 - Enable hardware virtualization using vSphere Web Client



Solution 2: Enable Virtualization on a Windows vSphere Client

To enable virtualization through the Windows vSphere Client, power off the vApp and following the installation steps in the [Windows vSphere Client Installation Guide](#) starting from the *Next Steps - Enabling Nested Virtualization*.

Problem: You have downloaded multiple vApps for installation. How can you distinguish among them?

Probable Cause: N/A

Solution: vApps can be identified based on the serial number in the filename. The format will be as follows:

- Axcient-Vapp_SN-<serialnumber>.ova
- Axcient_Vapp_SN-<serialnumber>.zip

Example: Axcient_Vapp_SN-VA9999A1121609999.ova

Problem: You never got the initial email informing you about the location of the Axcient vApp download.

Probable Cause: The email may have been caught by your corporate or desktop client spam filter.

Solution: Verify those settings and add Axcient to your *safe-senders* list.

Problem: You lost the original download and need a new Axcient vApp download.

Probable Cause: N/A

Solution: Contact [Axcient Support](#) to request a new Axcient vApp download.

Problem: It is taking a long to deploy a 20TB Axcient vApp on top of your storage.

Probable Cause: The time required to deploy a vApp is entirely dependent on VMware and the speed of the VM Datastore.

Solution: You may want to deploy the Axcient vApp on top of a faster VM Datastore.

Problem: the Axcient vApp does not deploy on top of Microsoft Hyper-V/Xen/VMware 4.x.

Probable Cause: The Axcient vApp is designed solely for VMware 5.1 or above. Other hypervisors are not supported.

Solution: Deploy the Axcient vApp on either of the following:

- ESXi Server 5.1 with Update 1 (1065491) and later.
- VMware vSphere Server 5.1

Note: While deployment of the vApp on top of Hyper-V is not supported, the vApp **can backup** servers running on Microsoft Hyper-V.

Problem: While running your vApp on an ESX host, you are unable to edit the vApp's settings.

Probable Cause: it is likely that you are using the free VMware Hypervisor without deploying the VMware vSphere Server. The virtual hardware version may need to be changed to allow functionality.

Solution: Please follow the following [instructions](#) to modify the virtual hardware version. Please note that the vApp supports virtual hardware version 9 or higher.

Problem: You lack the recommended number of vCPU, vRAM and/or storage (20TB) for deploying the Axcient vApp.

Probable Cause: For good performance, Axcient recommends that the Axcient vApp be deployed with the compute, storage and network specs documented in the Axcient Virtual Appliance Deployment Guide.

Solution: The user is free to tweak those resources using the procedure documented elsewhere in this guide with the risk that the backup experience may be poor. At that point, the only other option would be to give the Axcient vApp adequate resources.

Problem: You don't have the vSphere web management console handy for deploying the vApp and prefer to do so from the Windows based console.

Probable Cause: N/A

Solution: Please follow the [instructions](#) to deploy the Axcient vApp through the vSphere Windows Client.

Problem: You have deployed the Axcient vApp successfully but it does not seem to start up when using the VMware vSphere/vCenter Management console.

Probable Cause: There is not enough compute/storage resources made available to the Axcient vApp through VMware.

Solution: Ensure that there is adequate compute/storage resources to allow the Axcient vApp to start up.

Problem: You don't have DHCP available to configure to configure the Axcient vApp for the first time, and need an alternate way to specify a static IP address so that the registration process can complete.

Probable Cause: N/A

Solution:

1. Boot up the Axcient vApp using a vSphere client.
 2. Follow the steps [listed here](#) to configure a static IP address for the Axcient vApp.
-

Problem: You have tried to move the Axcient vApp to a different datastore and ran in to issues doing so (move failed, vApp started up but claimed that you could not "copy/clone" the vApp). The vApp console message would look something like this:

Figure 2 - AxBoot error when moving a vApp

```

AxBoot system panic!

Entering phone home mode, please ensure an ethernet interface is connected
to a network routed to the internet.

Contact Axcient by telephone for assistance @ 1.800.715.2339

*****
You can only run one instance of the Axcient Virtual Appliance at a time. This
instance appears to be a duplicate of the original you purchased from Axcient.

If you need multiple Virtual Axcient Appliances, please contact Axcient Sales
at:

WWW.AXCIENT.COM/CONTACT

Please power down this instance from your Hypervisor Management console and
restart the original Virtual Appliance.
*****

Attempting phone home on interface "eth0" :: "192.168.77.173"
    
```

Probable Cause: Virtual Machine cloning is not permitted by the Axcient vApp design for two reasons:

1. Any vApp needs to be associated with a specific Service ID so as to permit successful Cloud backups and management using the Axcient Web Application. Cloning the vApp results in a situation where more than one vApp is associated with the same Service ID.
2. Customers are expected to request/purchase multiple vApps instead of cloning an existing vApp.

Solution: The main reason to clone an Axcient vApp is to deploy multiple instances of the Axcient vApp without reordering a new one from Axcient each time. Currently, this is not possible, and a new Axcient vApp must be ordered each time.

Problem: The Axcient vApp came up successfully but it was unable to registered with the Axcient Cloud (Web App).

Probable Cause 1: You may have previously deployed another copy of the vApp with successfully registered with the Axcient Cloud. Upon doing this a second time, the registration will fail since there is already a prior appliance registered.

Solution 1: If there is a need for a second Axcient vApp, contact Axcient to order a second vApp. Axcient restricts using the same vApp multiple times.

Probable Cause 2: There may be no internet connectivity between the vApp and the Axcient Cloud.

Solution 2: Ensure that the vApp is able to receive an outbound internet connection.

Problem: You notice that backups take a very long time to complete with the Axcient vApp.

Probable Cause 1: The Axcient vApp may not have enough compute/memory/storage/networking resources that it needs to ensure good performance. This usually happens when the Virtual Host the vApp is overloaded with too many VMs.

Solution 1: Migrate VMs off the Virtual Host running the vApp, until the problem is relieved.

Probable Cause 2: The VM storage subsystem is too slow (as measured in IOPS) to ensure adequate performance. The most common scenario where this occurs is if you use a NAS as a datastore, since NAS is often slower than local storage or SANs, especially over a Gigabit Ethernet connection.

Solution 2: Move the Axcient vApp from slower storage to a faster one.

Probable Cause 3: You took too many VMware snapshots of the vApp. Allowing snapshots to balloon in size over time has been implicated by VMware to be a leading cause of VMware performance degradation.

Solution 3: Delete VM snapshots periodically as discussed in the following VMware KB Articles:

- http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1008885
 - http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1025279
-

Problem: Recovery operations seem to take a very long time with the Axcient vApp.

Probable Cause: See the following [known problem](#).

Solution: See the following [known problem](#).

Problem: BMR operations seem to take a very long time with the Axcient vApp.

Probable Cause: See the following [known problem](#).

Solution: See the following [known problem](#).

Problem: Starting up a Failover VM seem to take a very long time, and once the VM boots up performance isn't great.

Probable Cause: See the following [known problem](#).

Solution: See the following [known problem](#).

Problem: You don't know how to offsite an initial large backup job (DAS).

Probable Cause: M/A

Solution: Make sure that you follow the procedure outlined in the Virtual Appliance Deployment Guide.

Problem: You have tried to go through the DAS process but somehow the Axcient vApp does not recognize the USB Drive provided by Axcient.

Probable Cause: You did not configure the USB passthrough as outlined in the Virtual Appliance Deployment Guide.

Solution: Make sure that you follow the procedure outlined in the Virtual Appliance Deployment Guide.

Problem: Same two scenarios as above occurred when attempting to restore an Axcient vApp from Cloud replication (Reverse DAS).

Probable Cause: See DAS related problems mentioned above.

Solution: See DAS related problems mentioned above.

Problem: You want to know how to migrate data from an existing physical Axcient appliance to a vApp, from a vApp to another vApp or from a vApp to a physical appliance.

Probable Cause: N/A

Solution: Follow the procedure outlined in the Virtual Appliance Deployment Guide.

Problem: You want to know what happens if your entire Axcient vApp gets wiped out, and you want to recover backups from the Axcient Cloud.

Probable Cause: While this is a rare scenario, it usually implies a catastrophic failure of the datacenter/rack in which the Axcient vApp is running.

Solution: Contact [Axcient Support](#) and describe the situation at hand. Axcient will ship you a USB drive with all your data in the Axcient Cloud. Configure the USB Passthrough using VMware to the VM that is running the vApp, plug in the USB drive and then call Axcient Support to complete the process. The Axcient Virtual Appliance Deployment Guide outlines the configuration process under the DAS section.

Problem: You have suffered a temporary power outage on-premises (where the Axcient vApp was running) and decided to spin up a Virtual Office in the Axcient Cloud (Cloud Continuity). After power has been restored, the vApp is up and running. How do you sync the data back from the Axcient Cloud to the Axcient vApp?

Probable Cause: N/A

Solution: Follow the steps outlined in the [Axcient Virtual Appliance Deployment Guide](#).

Problem: You observe that the storage migration of the Axcient vApp is extremely slow when the vApp is powered on.

Probable Cause: There are too many writes happening from replication jobs.

Solution: Power Off the vApp before performing a storage migration.

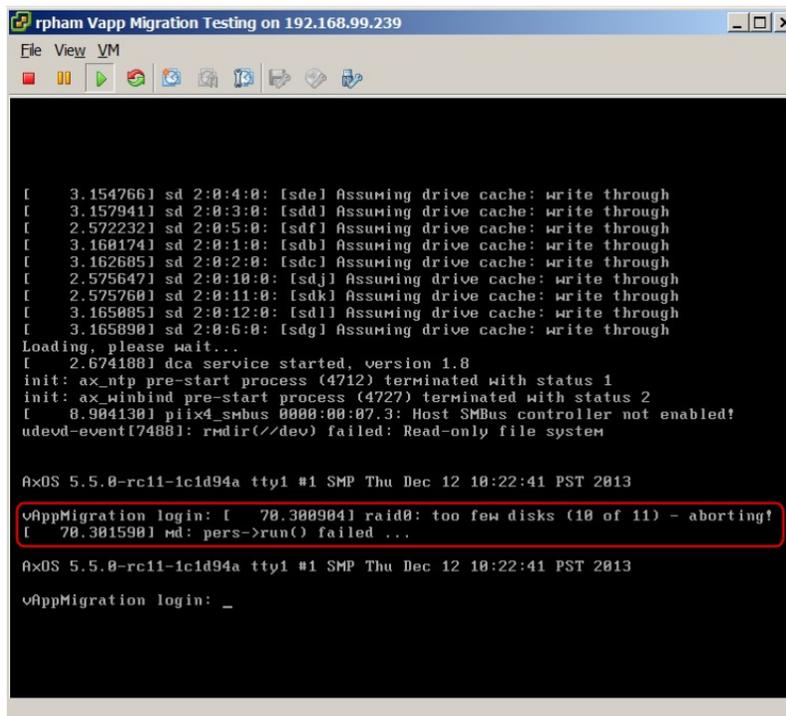
Problem: The Axcient vApp will not register with Axcient Cloud and is currently running in trial-mode.

Probable Cause: You may have already registered the vApp with the Axcient Cloud.

Solution: Contact [Axcient Support](#).

Problem: The Axcient vApp fails to boot successfully. The console displays something like the following:

Figure 3 - vApp IOPS error



Probable Cause: The IOPS on the datastore are too low for the vApp. This frequently happens when the vApp is moved to a datastore with lower IOPS. Two examples where this may happen:

1. The vApp is moved to a new host with its own datastore.
2. The vApp is moved to a different datastore on the same host.

Solution: Relocate the vApp to a datastore with sufficient available IOPS.

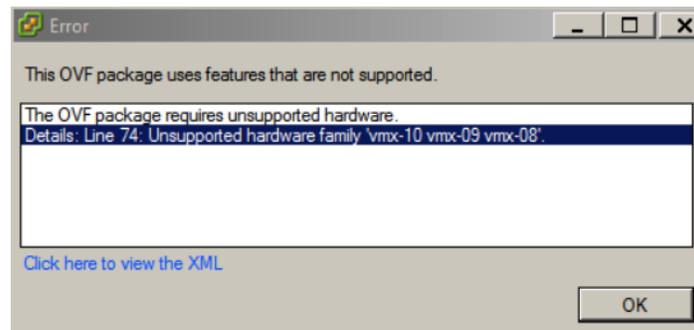
Problem: The Axcient vApp pauses all operations and all other virtual machines on the same datastore are also paused.

Probable Cause: The underlying datastore for the vApp ran out of space. This may due to the vApp's usage of thin provisioning and the datastore running out of physical space.

Solution: Move the vApp to another datastore with adequate free space.

Problem: While deploying the OVF template, you see an `unsupported hardware family vmx` error. An example of what the error may look like is as follows:

Figure 4 - Unsupported Hardware Family VMX error



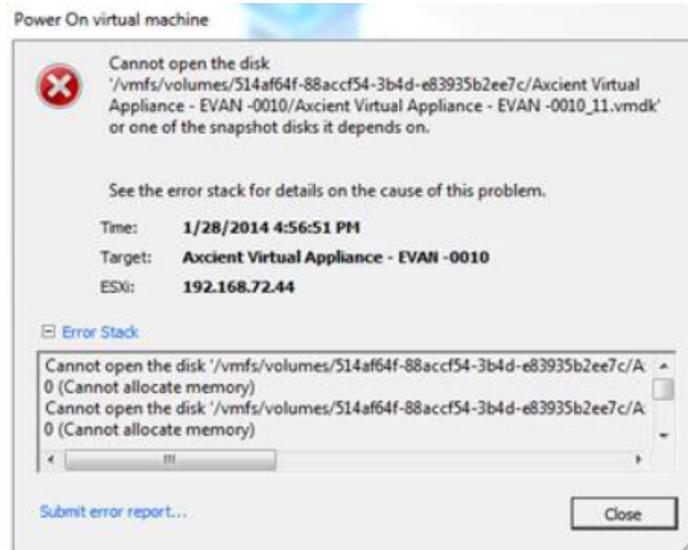
Probable Cause: You are attempting to deploy the vApp against an unsupported ESX host such as ESX 4.1.

Solution: Please verify that your ESX host version conforms to the host prerequisites stated in the Axcient Virtual Appliance Deployment Guide (under Host Requirements). Currently, the Axcient vApp is supported by either of the following:

1. ESXi Server 5.1 with Update 1 (1065491) and later.
2. VMware vSphere 5.1.

Problem: When starting the Axcient vApp you see a Cannot open the disk error and the vApp cannot be powered up. An example of what the error may look like is as follows:

Figure 5 - Cannot Open the Disk error

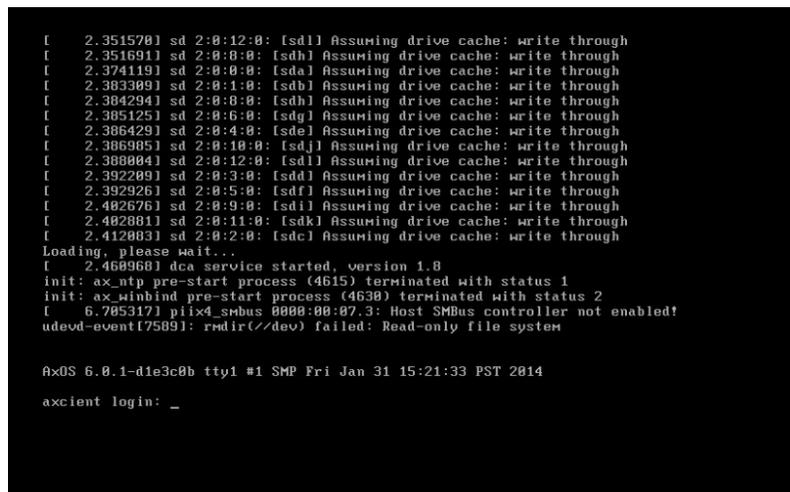


Probable Cause: The vApp fails to power on due to the VMFS heap size being too low.

Solution: Modify the heap size to the maximum specified heap size for your ESX version that is described in the following [VMware document](#).

Problem: When booting the Axcient vApp for the first time, you see a series of write through messages like the following:

Figure 6 - Write Through messages example



Probable Cause: Information internal boot messages

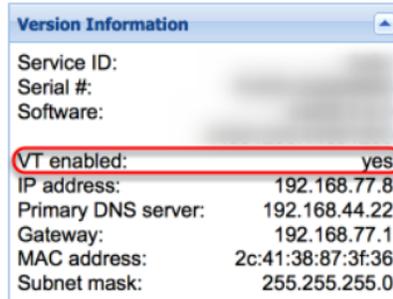
Solution: Ignore these messages and proceed with the normal usage of the vApp.

Problem: You see a Virtualized intel VT-x/EPT is not supported on this platform VMware error message during deployment.

Probable Cause: VMware presents this warning message because the Axcient vApp needs VT-x and EPT to be present in the processors running the Virtual Host and you may in fact be deploying the vApp on a server that lacks either capability.

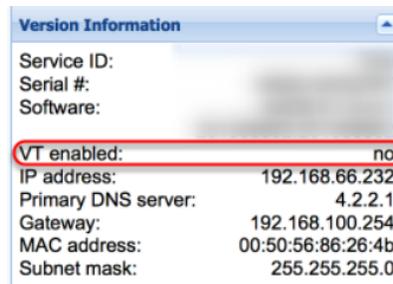
Solution: You may choose to ignore this message and continue with the deployment. Upon powering up the vApp, you may want to see if VT-x with EPT is present on the Axcient UMC Dashboard. You should see the following:

Figure 7 - VT enabled in UMC Dashboard



Problem: You power up the vApp and when you log in to the UMC, you notice that in the *Version Information* section of the Dashboard, the **VT enabled** option says **no**. It looks as follows:

Figure 8 - VT enabled displaying no



You check your CPU's specification and discover that it has VT-x with EPT capability.

Probable Cause: Some servers do not have VT-x with EPT enabled by default. You will need to enable VT-x with EPT on your hardware's processor.

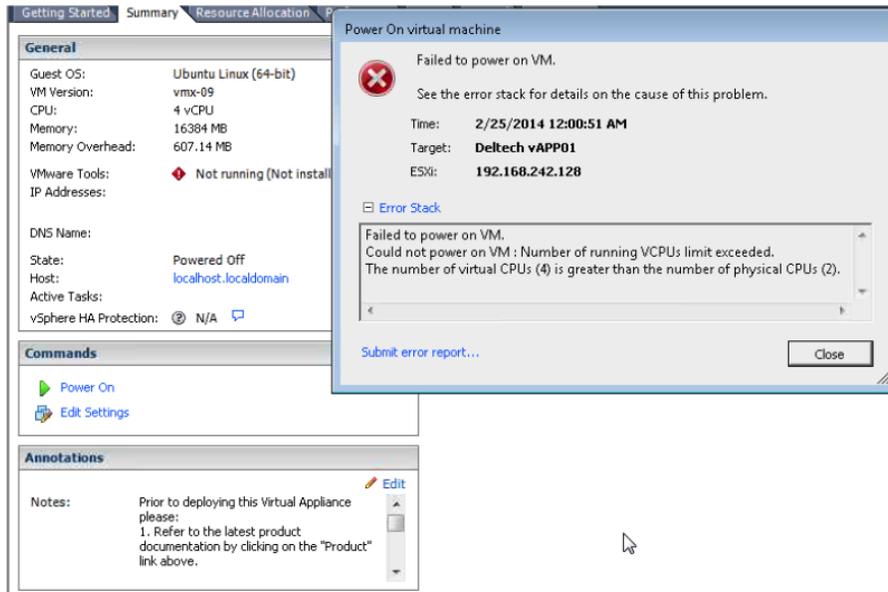
Solution: Each server hardware is different in terms of process of enabling VT-x with EPT. Some servers may have VT-x capability but no EPT. In order for the vApp to operate properly, VT-x and EPT must be enabled. The typical steps are as follows:

1. Boot into the BIOS of the Virtual Host.
2. From the CPU Options menu, enable Virtualization.
3. You will likely have to power down and restart the Virtual Host.
4. Note that in my cases, you may need to update the BIOS on the Virtual Host to the latest version for the virtualization settings to register.

The above are general steps for enabling Virtualization. For specific steps, please consult the documentation for your specific hardware.

Problem: When attempting to power on the vApp, you see a Failed to power on VM error message even though your process has VT-x with EPT enabled. The error message looks like the following:

Figure 9 - Failed to Power VM error



Probable Cause: You do not have sufficient vCPUs allocated to the vApp.

Solution: Increase the number of vCPUs allocated to the vapp per the vApp Requirements section within the Axcient Virtual Appliance Deployment Guide.

Problem: You see a Service Temporarily Unavailable message in the Web Application after deploying the vApp:

Figure 10 - Service Temporarily Unavailable error message



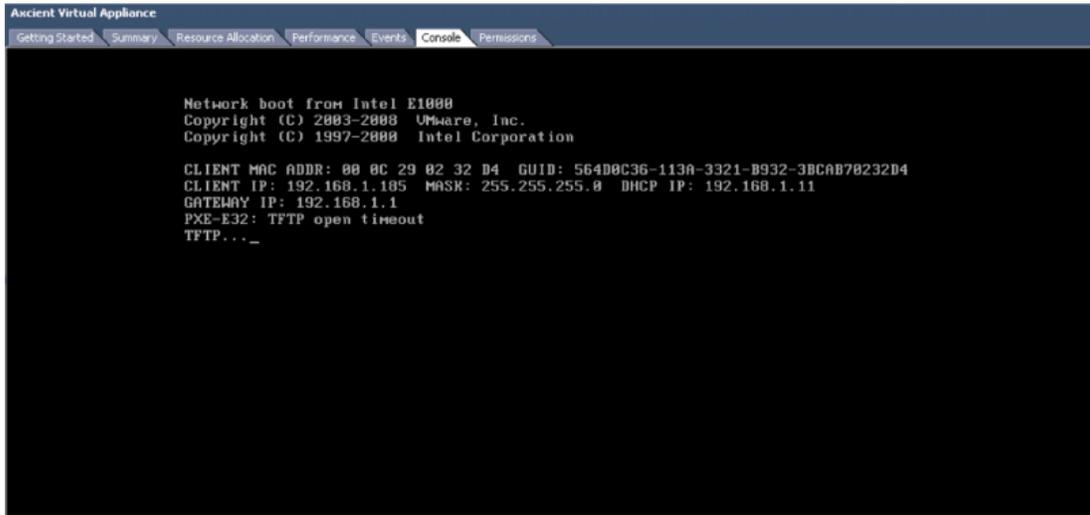
Probable Cause: This error message occurs when the vApp is unable to connect to the Axcient Cloud and establish a tunnel. The user will see this message on the Web Application side when attempting to log in to the vApp for the first time.

The cause for the vApp to Axcient Cloud connection problem is typically due to a vApp networking configuration issue resulting in the vApp being unable to communicate with the Axcient Cloud. If the vApp is powered on with no DHCP service or static IP address, then the vApp will default to an IP address of 192.168.100.1. This is an internal address to the vApp and cannot be bridged with an external network via the VMware host. As a direct consequence, the vApp cannot connect to the Axcient Cloud and establish a secure tunnel.

Solution: You need to restart the vApp using the VMware host and then follow the [steps to configure a static IP address](#) on the vApp so that it can be successfully routed to the internet.

Problem: When booting the vApp, you see the following screen and the vApp is unable to boot:

Figure 11 - vApp lost its boot loader error message



Probable Cause: The vApp lost its boot loader. This can occur if you powered down the VM Host while the vApp was still running, preventing the vApp from gracefully shutting down.

Solution: Please contact [Axcient Support](#) to resolve the issue.

Problem: You start a failover VM on a vApp and on the network comes up as Unidentified. Both the failover VM and vApp are able to ping one another, but the VM itself cannot ping the gateway or ping out anywhere else.

Probable Cause: The SX VM Host's network has promiscuous mode set to reject connections.

Solution. Please verify the VM host's network settings by reviewing the [Configure VM Host Network](#) instructions.

Problem: When running a vApp you get a capacity error from the ESX server indicating that the VMS datastore is full. Then VMware suspends all virtual machines on the ESX server.

Probable Cause: The vApp size was the same as the datastore size. This is one common cause. There are other causes that are discussed in this [VMware knowledgebase article](#).

Solution: Ensure that your VMFS datastore has a little more reserve capacity than that needed by the vApp. As a guideline - 1GB should be sufficient for the housekeeping ESX needs.

Problem: I am unable to reclaim space on the vApp (otherwise known as appliance bloating).

Probable Cause: The particular storage hardware does not support the SCSI UNMAP command set. This command set is used by VM's *vStorage APIs for Array Integrations (VAAI)* plugins and introduced in ESXi/ESX4 to provide hardware acceleration functionality and additional support for the SCSI UNMAP command set.

Solution: Check the hardware compatibility with the VAAI plugins to ensure optimum performance and space utilization. Please check with your VMware vendor for details. Please consult the following relevant VMware articles

- [Growing, thinning and shrinking virtual disks for VMware ESX and ESXi](#)
- [Using vmkfstools to reclaim VMFS deleted blocks on thin-provisioned LUNs](#)
- [Thin Provisioning Block Space Reclamation \(VAAI UNMAP\) does not work](#)

For more information on SCSI UNMAP, see the VMware vSphere Blog post, [VAAI Thin Provisioning Block Reclaim/UNMAP in Action](#).

Problem: I created a vApp using the free VMware vSphere Windows Client available for download on the VMware website. Once my vApp reached 2TB, it began experiencing system issues such as automatically powering off.

Probable Cause: The free vSphere Windows Client available for download on the VMware website is a limited client which limits VMDK sizes to 2TB. You will not be able to have a virtual device that exceeds 2TB of data using this client.

Solution: Use the vSphere Web Client to deploy vApps larger than 2TB. The vSphere Web Client is required in order to deploy vApps larger than 2TB. Please consult the [vApp System Requirements Guide](#) for more information about the host requirements before deploying a vApp.
