

CDS and Sky Tech Brief

Most Common Error and Warning Events in Actifio CDS and Sky 8.0.x

The number of errors and warnings encountered by an Actifio appliance are displayed in the upper right-hand corner of the Actifio Desktop Dashboard. Click on the number to display a list of the events in the System Monitor service.

This is a list of the most common Event IDs that you may see. You can find detailed solutions for these error codes are in ActifioNOW at: https://actifio.force.com/community/articles/Top_Solution/EventID-TopSolution

Job failures can be caused by many errors. Each 43901 event message includes an error code and an error message. See the corresponding Error Code in [Most Common Errors that Cause Events, CDS and Sky 8.0.x](#) on page 7.

Most Common Error and Warning Events, Actifio CDS & Sky 8.0.x

Event ID	Event Message	What To Do
10019	System resource low	The target Actifio pool (snapshot or dedup) is running out of space. See <i>Configuring Resources and Settings With the Domain Manager</i> for a wealth of information on optimizing your storage pool usage. <i>Planning and Developing Service Level Agreements</i> has information on optimizing image capture and dedup.
10034	snapshot memory low	Snapshots consume pool capacity and bitmap space memory. This issue relates to bitmap space memory. The Snapshot Pool requires 1MB of bitmap space memory for every 2TB of source VDisk in snapshot relationships. You can review the usage and set the limit in the Domain Manager: <ul style="list-style-type: none"> • Bitmap space memory at System > Configuration > Resources • Storage pool usage at System > Configuration > Storage Pools For example, a 2TB VDisk with one snapshot needs 1MB snapshot bitmap space; the same VDisk with three snapshots needs 3MB snapshot bitmap space, and a 4TB VDisk with three snapshots needs 6MB snapshot bitmap space. The maximum bitmap memory is 512MB for Snapshot Pool. For an example, see Event 10034 Example Problem and Resolution on page 12.

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Event ID	Event Message	What To Do
10038	about to exceed VDisk warning limit	<p>To immediately reduce VDisk consumption:</p> <ul style="list-style-type: none"> Ensure expirations are enabled, both at the global and individual application level. Group databases from a single host together into a Consistency Group. For example, if a single host has 9 SQL databases, create one Consistency Group for that host and include all 9 databases, then protect that consistency group rather than the individual databases. Reduce the number of snapshots kept for an application by changing the policy template used by an SLA. This action does not necessarily lead to a different RPO, as deduplicated images of each snap can be created before they are expired. Delete unneeded mounts, clones, and live-clones Move VMware VMs from a snapshot SLA to a Direct-to-Dedup SLA. You will need to expire all snapshots to release the VDIs used by the staging disks. This will only lower the VDisk count for VMware VMs, as other application types, including Hyper-V VMs, still use VDIs when protected by a direct-to-dedup policy. Change VMware VMDKs that do not need to be protected to Independent mode as these cannot be protected by VMware snapshots <p>If this alert repeats daily but the appliance does not reach the maximum VDIs, modify the policies as above to reduce the number of VDIs used, or increase the alert threshold. During a daily snapshot window the VDisk count can fluctuate while new VDIs are created for snapshots before the old VDIs are removed as a part of snapshot expirations. The daily fluctuations will vary depending on the number of applications protected.</p> <p>For further details to assist with VDisk management, see <i>Configuring Resources and Settings With the Domain Manager</i>.</p>
10039	network error reaching storage device	<p>A heartbeat ping to monitored storage has failed due to hardware failure or network issue.</p> <p>Action: Check the storage controller and array for issues, and check the network for issues.</p>

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Event ID	Event Message	What To Do
10043	An SLA violation has been detected	<p>Review the best practices in <i>Planning and Developing Service Level Agreements</i> and optimize your policies.</p> <p>The following are common causes for SLA Violations.</p> <ol style="list-style-type: none"> 1. Job Scheduler is not enabled: The Job Scheduler may have been disabled for maintenance. Action: Enable it within the Domain Manager appliance settings. 2. The first jobs for new applications can often take a long time: Long job times can occur during the first snapshot or dedup job for an application. On-ramp settings can be used to prevent ingest jobs from locking up slots and locking out ingested applications. Action: See <i>Setting Priorities for First Ingestion of New Applications</i> in <i>Configuring Resources & Settings With the Domain Manager</i>. 3. Applications are inaccessible due to network issues Action: Ensure that all applications and hosts are accessible. 4. Protecting VMware ESXi 5.5.x or older: There are known issues with VMware ESXi 5.5 and earlier versions, where unusually high change rates result in unexpected high growth rates in both the Snapshot and Dedup Pools. Action: This is a VMware issue that cannot be resolved within Actifio. Please refer to these two VMware KB articles: VM KB# 2090639 and VM KB# 2052144 5. Policy windows are too small or job run times are too long: While you cannot control how long each job takes to run, you can control the schedule time for applications that are running. Jobs that run for many hours occupy job slots that could be used by other applications. Action: Review SLAs and adjust policies according to the best practices in <i>Planning and Developing Service Level Agreements</i>. 6. Replication process sending data to a remote CDS Action: Ensure that the bandwidth & utilization of your replication link is not saturated.

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Event ID	Event Message	What To Do
10045	<p>The following alert message is received:</p> <p>1203 - Dedup Pool Usage is Over the Warning Threshold</p> <p>10031 - Dedup Pool exceeded warning level</p> <p>10045 - Dedup Pool exceeded safe threshold</p>	<p>The Actifio Appliance is configured with the default value of 88% for the warning threshold. When the dedup pool's utilization crosses this threshold, one of the above alerts is generated. When the warning threshold is exceeded, a warning message is generated; whereas, when the safe threshold is reached, 100%, no additional dedup jobs will be scheduled. There are many causes for dedup to exceed utilization thresholds, the most common are:</p> <p>No GC or Sweeps run recently</p> <p>Confirm GC and Sweep jobs have been running on a regular basis. By default each job should occur at least once per month when over 65% dedup pool utilization. While under 65% GC will be skipped.</p> <p>If GC and Sweep have not been running on a regular basis, determine why. Confirm that the GC schedule is enabled and configured as expected. This can be viewed in the Actifio Desktop under Domain Manager > System > Configuration > Dedup Settings > Garbage Collection.</p> <p>Note that two GC's will be needed if no GC has been run before or if a GC been canceled or failed.</p> <p>Newly discovered and ingested applications</p> <p>If new applications were recently added to protection, this alert may be triggered while ingesting the additional data. After confirming that GC and Sweep have been running as expected, add additional mdisks as needed. How to View, Add, Remove, and Rename mdisks From Disk Pools via CLI on CDS</p> <p>Expirations disabled for applications</p> <p>Review the applications currently configured not to expire images via reportdisables.</p> <pre># reportdisables SLAID Function Date Time AppID HostName AppName 37439 expirationoff 2016-08-18 13:03:26 37412 win7 win7</pre> <p>If possible re-enable expiration from the UI under Application Manager for the specific application/applications and then run GC and sweep.</p> <p>Normal dedup pool growth</p> <p>The dedup pool will continue to grow according to the retention set within the SLAs. If a new set of applications are added with a 6 month retention, it is expected that the dedup pool will grow for 6 months into the future and then should taper off into a more stable pattern. If the dedup pool is growing faster or longer than is expected, consult an Actifio Customer Success engineer for further evaluation.</p>

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Event ID	Event Message	What To Do
10055	Unable to check remote protection	<p>CDS/Sky checks the remote appliance hourly for possible remote protection issues. A trap is raised when CDS/Sky cannot communicate with the remote appliance.</p> <p>The platform server communication could fail due to:</p> <ul style="list-style-type: none"> • network error (temporary or permanent), temporarily network error does not mean job will fail, as jobs are retried, but the hourly check is not • adhd is down • certificate error <p>Examine the adhd.log to find the reason for the failure.</p> <p>To fix the issue that caused the failure:</p> <ul style="list-style-type: none"> • If the network error is temporary, you can ignore it. • To resolve an adhd issue, look for the “open for business” message in adhd log. • For a certificate error, you may need to re-exchange certificates.
10070	udppm scheduler is off for more than 30 minutes	<p>The scheduler is off. This may have been set for maintenance. If the maintenance is complete, you can re-enable the scheduler:</p> <ol style="list-style-type: none"> 1. From the Actifio Desktop, open the Domain Manager to System > Configuration > Appliance Settings. 2. Click the Control Panel tab. 3. The Appliance Control Panel page shows the status of the scheduler under the Policy Manager/Enable Schedules.
43901	Job Failure	<p>Job failures can be caused by many errors. Each 43901 event message includes an error code and an error message. See Most Common Errors that Cause Events, CDS and Sky 8.0.x on page 7.</p>
43902	Failed local dedup job	<p>A new dedup job with change data will create a new dedup object and resolve this error. If more immediate resolution is required, contact Actifio Customer Success.</p>
43903	Failed expire job	<p>An expiration may fail because an image is in use at the time of the expiration. This could be due to this image being in use by another Actifio process or operation, such as a mount, clone, restore, or even an in-progress dedup job referencing this image.</p> <p>The expiration job will likely complete successfully on the second attempt. Actifio does not report the successful completion of this second attempt. If you get only one error for an image, it is safe to conclude that a second attempt to expire this image was successful.</p> <p>If there is a legitimate reason why this image cannot be expired, you will get multiple errors related to this image. If you receive more than one error, contact Actifio Customer Success.</p>

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Event ID	Event Message	What To Do
43912	Failed remote-copy job	<p>Review the network configuration and Appliance configuration to confirm that the source Appliance can reach the target Appliance. Check the following:</p> <ul style="list-style-type: none"> • Target appliance IP is correct • Remote appliance is online and available • Local and remote dedup pools are online and visible in Actifio Desktop • Remote dedup pool has available space <p>If after confirming that all of the above are in order, and the capture jobs still fail, open a case with Actifio Customer Success.</p>
43918	Failed dedup-async job	
43928	Failed direct-dedup job	
43940	Disk space usage on datastore has grown beyond the warning threshold	<p>The datastore storage space is above the warning threshold, which default is 80 percent. If datastore space requirements become higher than the <i>critical</i> threshold, jobs will fail. This alert is created to help you take action to prevent ESX datastores from filling with snapshot data.</p> <p>Increase available space by expanding the datastore, migrating some VMs, or deleting old data on the datastore.</p> <p>Note: Snapshots grow as more change data is added. If a datastore fills up due to a growing snapshot, VMs can be taken offline automatically by VMware to protect the data.</p>
43941	Disk space usage on datastore has grown beyond the critical threshold	<p>This message appears when the remaining space on the datastore is less than the critical threshold. If more storage is not made available soon, then jobs will start to fail when the remaining space is inadequate to store them.</p>
43944	Failed to delete snapshot	<p>This happens when a snapshot is not removed from a vCenter within 1 hour. This can normally be ignored, because leftover images are removed during the next backup.</p>
43948		<p>This is generated when an application begins halting expirations as a part of Actifio Image Preservation. Image Preservation preserves snapshot and local dedup images beyond their expiration dates to ensure that those images are processed by the Actifio appliance.</p> <p>Refer to the Actifio CLI Reference section "Configuring Image Preservation", for full information on how these messages occur.</p>

Errors That Cause Events

Some events, particularly the 43900 series, can be caused by many errors. Each 43900 event message includes an error code and an error message. See the corresponding Error Code below:

Most Common Errors that Cause Events, CDS and Sky 8.0.x

Error Code	Error Message	What to Do
29	snapshot creation of VM failed. Error: VM task failed An error occurred while saving the snapshot: Failed to quiesce the virtual machine	<p>VM snapshot might fail because the ESX server is unable to quiesce the virtual machine - either because of too much I/O, or because VMware tools cannot quiesce the application using VSS in time. Check the event logs on the host and check the VM's ESX log (vmware.log).</p> <p>Crash-consistent snapshots and connector-based backups show this behavior less often. For more information, see these VMware knowledge base articles:</p> <ul style="list-style-type: none"> http://vmw.re/1z3XDKS http://vmw.re/1C9L86Q
151	couldn't add RawDeviceMappings to Virtual machine. Error: VM task failed A general system error occurred: The system returned an error.	<p>Adding a raw device mapping to a VM "stuns" the VM until ESX has had a chance to add the new resource. To find out why the raw device mapping could not be added, look at the ESX logs for the VM in question (vmware.log).</p> <p>Make sure VMware tools are updated, and the ESX has been patched up to the latest available service pack.</p> <p>For more information, see this VMware knowledgebase article on collecting VMware logs: http://vmw.re/WhWq6E</p>
175	UDSAgent socket connection got terminated abnormally; while waiting for the response from agent	<p>The Actifio Connector stops responding between the appliance and a host with Actifio Connector installed.</p> <ol style="list-style-type: none"> Restart the UDSAgent service on the specified host. Telnet to tcp port 5106 (UDSAgent communication port) <pre># telnet <Host IP> 5106</pre> <p>Expected output:</p> <pre>Trying 10.50.100.67... Connected to dresx2.accu.local. Escape character is '^]'. Connection closed by foreign host.</pre> <ol style="list-style-type: none"> Verify network connectivity between appliance and host doesn't drop. If the problem persists, network analysis will be required.

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Error Code	Error Message	What to Do
374	Error 374 - Failed to find Actifio mapped LUN on ESX server	<p>The ESX server has failed to find any Actifio Mapped LUN. In order of probability, this error is usually caused by:</p> <ul style="list-style-type: none"> • An issue with SAN connectivity between ESX and CDS • ESX reaching its maximum Fibre Channel paths (1024). <p>Address potential connectivity issue:</p> <ol style="list-style-type: none"> 1. Check for connectivity problems between ESX and CDS. The steps vary depending on whether the connectivity is Fibre Channel or iSCSI. The steps for each type are explained below. <ul style="list-style-type: none"> Check the Fibre Channel zoning or iSCSI connection • For Fibre Channel connections ensure the zoning is configured between the Actifio Appliance and ESX host. • For iSCSI connections verify the ESX host has discovered the Actifio Appliance. For configuring iSCSI on an ESX host, refer to the VMware KB article https://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1008083 • For both Fibre Channel and iSCSI connections, ensure Actifio has the correct target port configured. Refer to: Configuring the Ports of a Host. <ul style="list-style-type: none"> o After configuring the ports, an iSCSI test can also be run, (refer to the link above, Configuring the Ports of a Host), which will map a test disk and rescan the ESX host to find it. o You can also manually map a VDisk from the Actifio CDS to the ESX host and rescan to see if it visible. For help in manually mapping a VDisk, refer to the article Mapping a VDisk to a Host 2. Once the disk is displayed as available on the ESX host, unmap it and proceed with the backup. If this does not address the issue, continue to step 3. 3. Check the number of FC paths on the ESX server: <ul style="list-style-type: none"> • On the ESX host execute: <code>~ # esxcfg-mpath -b grep -i target wc -l</code> • If the result is 1024, then the maximum connections for the ESX host has been reached. This number will have to be reduced. See VMware Article: http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1020654
693	No host SAN ports are provided on Actifio	<p>The Actifio Connector is unable to discover iSCSI or Fibre Channel host ports.</p> <p>Check if the backup host or mounted host has iSCSI or Fibre Channel connectivity and that Fibre Channel ports are properly zoned with Actifio CDS.</p>

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Error Code	Error Message	What to Do
698	ESX host is not accessible for NBD mode data movement	<p>The Actifio appliance is unable to reach the ESX host over the network or resolve the ESX host name using DNS.</p> <p>There may be a mismatch between the vCenter ESX name and its name as known by the CDS appliance, and it might not be resolved by the DNS server.</p> <p>DNS Issues</p> <p>Make sure DNS on the appliance is correctly set. On the CDS appliance, run: <code># cat /etc/resolv.conf</code> and edit it to have the correct DNS server IP address.</p> <p>TCP Port Issues</p> <p>Make sure tcp port 902 is open between the CDS appliance and the ESX host: <code># telnet <esx hostname> 902</code></p> <p>Expected output:</p> <pre>Trying 10.50.100.67... Connected to dresx2.accu.local. Escape character is '^]'. Connection closed by foreign host.</pre> <p>Name Mismatches</p> <p>Read about Name Mismatches at Error 698 About Name Mismatches on page 13.</p>
827	Actifio iSCSI target session limit exceeded	<p>Jobs fail when the number of active iSCSI sessions on the appliance exceeds the configured value of max iSCSI sessions.</p> <p>To fix the issue with iSCSI target session limit, we need to increase the parameter <code>maxiscsisessionspertarget</code>.</p> <p>The parameter <code>maxiscsisessionspertarget</code> governs the maximum number of sessions that can be active at any point of time. The default value is 15.</p> <p>The maximum value that can be configured for this parameter is 100, but use a value around 50 to get optimal performance.</p> <p>Steps to verify and increase the parameter <code>maxiscsisessionspertarget</code></p> <pre># udsinfo getparameter grep iscsi maxiscsisessionspertarget 15 [15..100] # udstask setparameter -param maxiscsisessionspertarget -value 100 # udsinfo getparameter grep iscsi maxiscsisessionspertarget 100 [15..100]</pre>
844	Invalid size vmdk detected for the VM	<p>There are two possible solutions for this situation:</p> <ul style="list-style-type: none"> • If consolidation is required for some disks on VM, size is reported as zero. Creating and deleting a snapshot of the VM should fix this behavior in this case. • See if the VMDK can be restored from a backup image.

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Error Code	Error Message	What to Do
873	Disk space usage on datastore has grown beyond the critical threshold	This message appears when the remaining space on the datastore is less than the critical threshold. If more storage is not made available soon, then jobs will start to fail when the remaining space is inadequate to store them.
5022	UDSAgent: Failed preparing VSS snapshotset	<p>Windows could not create a VSS snapshot.</p> <p>This can have several causes. To learn more:</p> <ul style="list-style-type: none"> Check the UDSAgent.log for more detailed messages. Check disk space on the protected volumes. 300MB may not be enough. Check Windows Event Logs for VSS related errors. vssadmin list writers may show writers in a bad state. <p>Usually these errors are accompanied by VSS errors reported in the logs such as:</p> <p>VSS_E_VOLUME_NOT_SUPPORTED_BY_PROVIDER VSS_E_UNEXPECTED_PROVIDER_ERROR</p> <p>First check if all the VSS writers are in a stable state by going to the command line and issuing the command as below</p> <pre># vssadmin list writers</pre> <p>Check output to confirm that all the writers are in a stable state.</p> <p>Restart VSS service and check if the writers are stable. If not you may have to reboot the machine.</p> <p>For more information, see this Microsoft article: http://bit.ly/13kPcIM</p>
5049	UDSAgent failed identifying logical volume on the backup staging lun	<p>The Actifio Connector could not see the staging LUN. This can be caused by a bad connection or by trouble on the LUN.</p> <p>Verify that FC/iSCSI connectivity is good, then make sure it works by mapping the VDisk, partitioning it, formatting it, copying files to it, etc. The steps for partitioning and formatting are OS specific.</p>
5056	UDSAgent failed mounting the logical volumes present on LUN mapped from Actifio	<p>During backup, mounting a staging disk could fail if it:</p> <ul style="list-style-type: none"> is unable to import volume group is using raw device instead of multipath device failed to create lv on pv, etc. <p>During mount, it could fail due to stale LUNs on the host. Look at the connector logs and identify the possible root cause.</p> <ul style="list-style-type: none"> If failure is due to stale LUNs, then reboot the host. If failure is due to unable to create pv due to lvm filtering rules, then modify lvm.conf to accept all devices.

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Error Code	Error Message	What to Do
5078	UDSAgent: The staging disk is full	<p>Jobs fail if a file that was modified in the source disk is copied to the staging disk, but the file is larger than the free space available in the staging disk.</p> <p>To fix the issue with full staging disk, increase the staging disk. Specify the size of the staging disk in the Advanced Settings for the application. Set the value for staging disk size such that it is greater than the sum of size of the source disk and the size of the largest file. CDS also uses some space (few MB) in the staging disk for metadata regarding the contents of the staging disk.</p> <p>Note: Changing the staging disk in Advanced Settings provokes a full backup.</p>
5132	UDSAgent: The VSS snapshot was deleted during backup	<p>Disk pressure on the volume caused the VSS snapshot to be deleted. Either more space is needed on the disk or the VSS shadow copy space is limited.</p> <p>The VSS Snapshot could be deleted due to various reasons like the VSS Shadowstorage running out of space or any third part applications like Anti-virus or other 3rd party tools like Diskeeper causing the snapshot to be deleted.</p> <p>Usually this error is accompanied by a reason why the snapshot was deleted like:</p> <p>The VSS snapshot was deleted during backup. SetFileSize(0) failed for \\?\C:\Windows\act\Staging_692615\RecoveryBin\InProgress\Network folders(01CFEC4D37A72B2D).docx</p> <ol style="list-style-type: none"> 1. Make sure that you have sufficient space on the shadowstorage and it is set to unbounded using these commands: <pre>vssadmin list shadowstorage vssadmin resize shadowstorage</pre> 2. Ensure that the connector is at latest version. 3. Check if any Anti-virus is causing the file to be locked during backup. (You can define UDSAgent.exe as a safe process in the AV settings.) 4. Check if any third party software like Diskeeper is causing the issues. <p>More information may be available in Microsoft KB articles</p>
5136	UDSAgent: The staging volume is not readable	<p>Check /act/logs/UDSAgent.log for more details.</p> <p>If the UDSAgent.log indicates a corrupted filesystem, run chkdsk on the staging volume.</p>

Most Common Errors that Cause Events, CDS and Sky 8.0.x

Error Code	Error Message	What to Do
9450	Failed to delete snapshot	This happens when a snapshot is not removed from a vCenter within 1 hour. This can normally be ignored, because leftover images are removed during the next backup. For more information, see this VMware knowledgebase article: http://vmw.re/1AB3tpj
71602	Disk space usage on datastore has grown beyond the warning threshold	This message appears when the remaining space on the datastore is less than the warning threshold. This is a signal to make some space available on the datastore or to add more space to it. If more storage is not made available, then jobs will start to fail when the remaining space is inadequate to store them.

Event 10034 Example Problem and Resolution

A single CDS dedicated to a single major database with this snapshot SLA:

- Oracle DB: capacity 8870GB, daily every 4hr, retain 1 month.
- Archive log: capacity 1500GB, daily every 30min, retain 7 days.

This rapidly runs out of snapshot memory.

Snapshot Memory and Bitmap Space Memory Accounting: Too Much

Size	Snaps Per Day	Days Retained	Total Snaps	Snapshot TB	Snapshot Bitmap Space Needed (MB)
8870	6	30	180	1559	780
1500	48	7	336	492	246

This setup requires total snapshot memory of 780+246=1026MB, but max snapshot memory is 512 MB. So we cannot keep so many snaps of such a large database.

One solution is to deduplicate some of the older snapshots. We could instead keep 10 days of snapshots and 20 days of dedups. This comes to 506MB, just under the 512MB limit.

Snapshot Memory and Bitmap Space Memory Accounting: Just Right

Size	Snaps Per Day	Days Retained	Total Snaps	Snapshot TB	Snapshot Bitmap Space Needed (MB)
8870	6	10	60	520	260
1500	48	7	336	492	246

Error 698 About Name Mismatches

Name Mismatches

Any ESX/ESXi host can have three different names. Mismatches in these names can cause backups or restores or clones to not work correctly.

- The name of the ESX host as known to itself (call this the **ESX-ESX-name**). This is the name that will show up if you were to run a hostname command on the ESX server itself. This hostname follows IETF host naming standards and can be all numeric or contain dashes and dots. Recommendation: This name should be something unique, begin with a letter, and be in the DNS table for the site.
- The name of the ESX host known to the vCenter Server (**ESX-vCenter-name**). This is the name that was used in the vCenter GUI to connect to the ESX host. The vCenter GUI allows any name and uses DNS to resolve the IP address. This means that the name can be just an IP address, can begin with a digit, or be a fully qualified host name. If it begins with a digit, that is bad news - RDM mounting cannot be made to work. vCenter does not allow an ESX name to be changed after it has been connected. The ESX host must be disconnected and reconnected with another name. Recommendation: This should be the same as the ESX-ESX-name. The vCenter will need to be able to ping the ESX-ESX-name.
- The name assigned to the ESX host by the Actifio CDS system to export storage to it (**ESX-CDS-name**). If the ESX host has to have VDisks exposed to it, we will need to create a generic (or HPUX or TPGS) host. The ESX host can have FC ports or see the CDS system's iSCSI initiator. Either way, an entry is created in the CDS database. This hostname has to follow CDS naming conventions and so it cannot begin with a digit. In CDS older versions (prior to 5.0), it could not contain dashes or periods either.

The name assigned to the ESX host by the Actifio CDS system to export storage to it (ESX-CDS-name). If the ESX host has to have VDisks exposed to it, we will need to create a generic (or HPUX or TPGS) host. The ESX host can have FC ports or see the CDS system's iSCSI initiator. Either way, an entry is created in the CDS database. This hostname has to follow CDS naming conventions and so it cannot begin with a digit. In CDS older versions (prior to 5.0), it could not contain dashes or periods either.

Recommendations

- Create a CDS host for every ESX host - even out-of-band hosts through iSCSI.
- The ESX-CDS-name should be the same as the ESX-vCenter-name.

When you use the Actifio Desktop to discover VMs, the virtual machine names are added to the database, and so is the ESX host name for those VMs.

- **Good:** If the ESX name that is added is the ESX-vCenter-name is already present in the CDS system as the ESX-CDS-name, the host will be updated in the database with the "isesxhost" set to true.
- **Bad:** If the ESX-vCenter-name and ESX-CDS-name don't match, a new database entry for the ESX-vCenter-name is created, and mount failures become much more likely.

After the discovery of VMs is done, go into the Actifio Desktop and enter the username and password for the ESX-vCenter-name. This enables the CDS system to bypass the vCenter on certain operations, resulting in better performance and fewer "clear-lazy-zero" errors.

If you follow the recommendation that even out-of-band ESX hosts have a ESX-CDS-name (using iSCSI) and you login to the CDS's iSCSI target from the ESX host, then you can perform RDM based mounting even on these out-of-band ESX servers.

As a last resort to address this issue, you can restart management services in ESX server.

Note: A restart of the ESX server management services may be required. For more information, refer to the following KB from VMware: *Restarting the Management agents on an ESXi or ESX host (1003490)*
