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

January 24, 2010...8:41 am

VMware vSphere vCenter Storage Alarms

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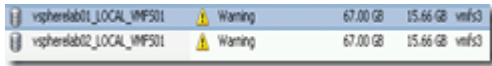
One of the complaints of vCenter 2.x was the limited number of alarms that could be configured. With vCenter 4.x VMware addressed this by giving admins the ability to create alarms for just about any event on any object.

There are several alarms that are configured out of box and defined at the topmost vCenter server level.

View: Triggered Alarms Definitions		
Name	Defined In	Description
 Datastore usage on disk	 This object	Default alarm to monitor datastore disk usage
 Host storage status	 This object	Default alarm to monitor storage
 Host hardware fan status	 This object	Default alarm to monitor fans
 Virtual Machine Fault Tolerance vLockStep interval Status Changed	 This object	Default Alarm to monitor changes in the Fault Tolerance Secondary vLockStep interval
 Host memory status	 This object	Default alarm to monitor memory
 Virtual machine error	 This object	Default alarm to monitor virtual machine error and warning events
 Host cpu usage	 This object	Default alarm to monitor host CPU usage
 Virtual machine Fault Tolerance state changed	 This object	Default alarm to monitor changes in the Fault Tolerance state of a virtual machine
 Host hardware temperature status	 This object	Default alarm to monitor temperature
 Host connection failure	 This object	Default alarm to monitor host connection failure
 Health status changed alarm	 This object	Default alarm to monitor changes to service and extension health status
 Host memory usage	 This object	Default alarm to monitor host memory usage
 Host hardware voltage	 This object	Default alarm to monitor voltage
 License error	 This object	Default alarm to monitor license errors
 Network uplink redundancy degraded	 This object	Default alarm to monitor network uplink redundancy degradation on a virtual switch
 Host service console swap rates	 This object	Default alarm to monitor host service console memory swap rates
 Timed out starting Secondary VM	 This object	Default alarm to monitor time-outs when starting a Secondary VM
 Host hardware system board status	 This object	Default alarm to monitor system boards
 Cannot connect to storage	 This object	Default alarm to monitor host connectivity to storage device
 Cluster high availability error	 This object	Default alarm to monitor high availability errors on a cluster
 VMkernel NIC not configured correctly	 This object	Default alarm for incorrectly configured VMkernel NIC
 Virtual machine cpu usage	 This object	Default alarm to monitor virtual machine cpu usage
 License inventory monitoring	 This object	Default alarm to monitor if license inventory is not compliant
 Host hardware power status	 This object	Default alarm to monitor power
 Host battery status	 This object	Default alarm to monitor batteries
 Migration error	 This object	Default alarm to monitor if a virtual machine cannot migrate, relocate, or is orphaned
 Virtual machine high availability error	 This object	Default alarm to monitor high availability errors on a virtual machine
 Network connectivity lost	 This object	Default alarm to monitor network connectivity on a virtual switch
 Virtual machine memory usage	 This object	Default alarm to monitor virtual machine memory usage
 Host processor status	 This object	Default alarm to monitor processors
 Status of other host hardware objects	 This object	Default alarm to monitor objects
 Exit standby error	 This object	Default alarm to monitor if a host cannot exit standby mode
 Network uplink redundancy lost	 This object	Default alarm to monitor loss of network uplink redundancy on a virtual switch
 Virtual machine total disk latency	 This object	Default alarm to monitor virtual machine total disk latency
 Host connection and power state	 This object	Default alarm to monitor host connection and power state
 No compatible host for Secondary VM	 This object	Default alarm to monitor if no compatible hosts are available to place Secondary VM
 Host error	 This object	Default alarm to monitor host error and warning events
 Virtual machine cpu usage	 This object	Default alarm to monitor virtual machine cpu usage

One of the pre-configured alarms that seems to always be in a warnings state is the “Datastore usage on disk”

alarm. 95% of the time this alarm is in a warning state because of the local VMFS data store that is required in ESX 4 for the Service Console OS to live in.



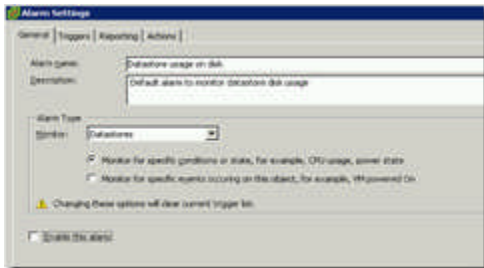
vspherelab01_LOCAL_VMF501	Warning	67.00 GB	15.66 GB	vmfs3
vspherelab02_LOCAL_VMF501	Warning	67.00 GB	15.66 GB	vmfs3

I still have yet to understand why VMware decided to put the COS in a VMDK. If anyone knows why this is beneficial I would love to hear from you.

Anyway, back to the “Datastore usage on disk” alarm issue.

I have found that the following procedure is the best way to prevent this alarm on the local VMFS datastores.

1. Go to the Home →Inventory→Datastores view in the vSphere Client
2. Right-click on your datacenter and create two new folders, one named LOCAL-COS-DATASTORES and one named SAN-DATASTORES.
3. Drag and drop the local VMFS datastores into the LOCAL-COS-DATASTORES folder and the SAN datastores into the SAN-DATASTORES folder.
4. Go to the alarm definition for “Datastore usage on disk” and disable it by clearing the Enable this alarm

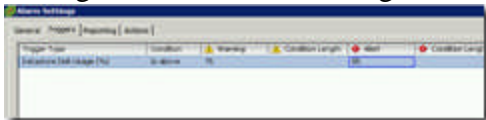


box.

5. Create a new alarm at the LOCAL-COS-DATASTORES level named “Datastore usage on LOCAL Disks”.
6. Configure the “Datastore usage on LOCAL Disks” trigger to alarm a warning at 90% and alert at 95%.



7. Create a new alarm at the SAN-DATASTORES level named “Datastore usage on SAN Disks”.
8. Configure the “Datastore usage on SAN Disks” trigger to alarm a warning at 70% and alert at 85%.



Now you should have a lot fewer datastore warning alarms.

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[...] integrated EMC's storage expertise yet. My case in point is how you have to go through and configure different alerts for the different types of VMDKs. This seems a little tedious, non-descriptive, and almost [...]

- [Virtualization Short Take #35 - blog.scottlowe.org](http://blog.scottlowe.org) - The weblog of an IT pro specializing in virtualization, storage, and servers
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[...] Waldrop of Varrow has a good "getting started" post on using vCenter Server's storage alarms. If you're looking for an introductory piece, this is a good place to [...]

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