

Unable to use VeeamZip with VMware Free Hypervisor: Understanding Why

✘ This week a question was posed to me from a fellow VMUG community member. The question asked was whether it was possible to use VeeamZip (aka Veeam Backup Free Edition) with the VMware ESXi Free Hypervisor. Great question.

Let's start with the unfortunate answer, which is...no. Not the answer we would like to see, but the real meat of the situation is in why the answer is no.

To confirm, you can check the Veeam Forums (<http://forums.veeam.com/viewtopic.php?f=21&t=9329&start=0#p39896>) and read the Q&A which shows the following for supported editions:



Because I'm a little stubborn, I wanted to dive a little deeper than just accepting the situation and I wanted to be sure that this was truly the case and that there was no way to dodge the issue with some light hacking.

NOTE: This is being done just for test purposes and is only being done in a lab environment. Do not make these changes to your production machines.

If you don't already have your copy of Veeam Backup Free Edition, follow this link (opens in a new page) and download away!



Understanding Veeam Backup for VMware

Veeam Backup takes advantage of the Change Block Tracking (CBT) technology which is baked into the VMware Hypervisor. CBT is used by vSphere to manage VM changes for its incremental backups. This is required to give the full features in the VMware Data Recovery (VDR) product.

VMware explains this in the following KB article:

http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalid=1020128

As the article explains, VMware exposes the abilities of CBT for backup vendors to also take advantage of this cool technology. Share and share alike ☐

CBT and the vSphere ESXi Free Hypervisor

Let's take a look at a sample system to show what the settings are using the vSphere ESXi Hypervisor which is the free version which can be used as a standalone host with some stripped back functionality.

This is my vSphere server, which you can see is running the unlimited license of the free hypervisor:



So just to show what our configuration is out of the box, we can run a quick PowerCLI script to show whether the ChangeTrackingStatus property is enabled on our VM.



So we have confirmed that the option is False on our SRV01 virtual machine. Next, let's look at the configuration properties inside the vSphere Client to confirm what PowerCLI has shown us. We are going to look for a property named **ctkEnabled** and **scsi:x:x.ctkEnabled** for the VMDK file.



So as you can see, there is no **ctkEnabled** option at all. To confirm that the property is required, I will run the VeeamZip process to be sure.



Here is the result of running the **VeeamZip to C:Backup** option inside the Veeam Backup Free Edition:



No surprises. The backup failed, and as clearly noted in the job details you can see the message:

```
11/17/2012 7:40:28 AM :: SetVmChangeTracking failed, vmRef '1',  
changeTrackingEnabled 'True'  
Current license or ESXi version prohibits execution of the requested operation.
```

Using some PowerCLI magic, I want to try to set the ctkEnabled property as TRUE for my virtual machine. There is a great little function script posted by Arne Fokkema over at ict-freak.nl which you can find here: <http://ict-freak.nl/2009/12/14/powercli-enable-changed-block-tracking/>



The PowerCLI process clearly shows us that it is the ESXi licensing that is preventing us from setting up the properties to leverage the CBT for what we want to do.

I like to push the limits of my software wherever possible. So what do you think would happen if we were to fool with nature a little, and add the **ctkEnabled** property to my VM? This is clearly diving deep into the unsupported realm.



Next I create the **scsi0:0.ctkEnabled** property since we only have one volume to manage. By doing this, I'm simulating the CBT properties being enabled which should be the technical feature required to use this process provided licensing isn't really the issue.



I'll use my PowerCLI script to check the settings and show whether the machine recognizes the change tracking properties.



According to the VM properties, it looks like we could be good to go. Time to test the waters by re-running my VeeamZip to see if the changes made have bypassed the limitation because of my choice in hypervisor.



We've done all that we can do to try to get around the supportable features of the VMware hypervisor but the end result is the same.

So the moral of the story here is that you will need to have at least **Essentials** edition licensing enabled on your vSphere server to be able to use the Veeam Backup & Replication Free Edition, and now we can fully understand the background as to why.