

# How is data transferred when performing...

---



[Tony Dunn](#) 261 posts since

Sep 10, 2007

How is data transferred when performing a replication?



[Doug Hazelman](#) 10 posts since

Mar 13, 2008 1. **Re: How is data transferred when performing a replication?** Sep 21, 2008 8:57 AM

When Performing a replication using Veeam Backup, the data is transferred over SCP. Veeam utilizes it's FastSCP functionality to transfer the data directly from the VCB Proxy to the Target Host, or if not using VCB, directly from Source to Target Host.

After the initial full replication, only changes are sent across the wire for all subsequent replications. Using Veeam's synthetic technology, the target VMDK(s) is updated with these changes so the replica on the target is in a ready to start state.



[Michael Pozar](#) 1 posts since

Sep 20, 2007 2. **Re: How is data transferred when performing a replication?** Sep 21, 2008 7:50 PM

👤 in response to: [Doug Hazelman](#)

How does Veeam determine what changes have occurred? Is it done on the VMware ESX Server or on the Server running the Veeam Backup? If done on the Veeam Server then does that mean that Veeam Backup will scan the WHOLE .vmdk on the ESX Server and compare against the BACKUP copy on the Veeam Server to determine the changes? If this is the case, what is the speed? I've read somewhere that Veeam Backup scans 1GB/min so that a 300GB .VMDK will take at least 5 hours just to determine the changes and then there is the time it takes to copy the data. Is the 1GB/min speed on a Veeam VCB based configuration or a Veeam and no VCB configuration?

How is data transferred when performing...


Have FUN!

Michael Pozar



[Doug Hazelman](#) *10 posts since*

*Mar 13, 2008* 3. **Re: How is data transferred when performing a replication?** Sep 22, 2008 4:00 AM

 in response to: [Michael Pozar](#)

Michael,

How is data transferred when performing...

The "scan" is actually much faster than that, it's based on hashing algorithms at the block level, not a direct block by block comparison of the previous backup. The "scan" is done either by the VCB proxy or on the ESX host and does not have to come back through the Veeam Backup server. Any empty blocks (0 bytes) are not transferred but will be included in the target VM. For instance, if you have 100 GB pre-allocated VMDK but are only using 30GB then only 30 GB will be transferred.

We have customers replicating multi-gigabyte VM's every 30 minutes. Of course, there are many factors involved, especially network speed if you're replicating off-site so performance may vary.

Thanks,

-doug