

VMware vSphere 5.1 Feature Spotlight: vSphere Replication

✖ In this Feature Spotlight we are going to look at the VMware vSphere Replication capability. While vSphere has already dipped their toes into the replication waters, the change with vSphere 5.1 is that the feature is bundled with the core and available to all editions.

Replication is the backbone of so many functions in IT today that adding it to the vSphere arsenal of tools is like putting another cannon in already well armed tank; or as many in the community call it: +1.

There are many products out there today which do replication; this is a reality. In fact, you have such a selection that it is often hard to isolate which is the “best” for your situation. For this reason, you should remember that there may not be a single solution across the board, but a hybrid selection of tools can open up to much better possibilities. Making vSphere Replication a part of the core from Essentials Plus upwards just expanded your suite of options out of the box.



The vSphere Replication comes out of the gate with great features:

- VSS integrated replication - This means that your Microsoft SQL Server and Microsoft Exchange Servers are replicated with application awareness which can ensure a consistent copy is available
- Hypervisor level replication - The I/O layer lies at the hypervisor so that the overhead is not left to the OS. There is a vSphere Replication Appliance (vRA) which handles the I/O management and transfers the data to the target virtual machine
- Block level replication - Another key part of a successful replication product is granular data transmission. Block level transmission allows minimal data transfer size while maintaining integrity

Isn't This Just Site Recovery Manager?

That is a great question, which has been answered by VMware quite well. The vSphere Replication feature is meant for specific VM recovery which gives you a more granular and targeted recovery strategy for your VM environment.

VMware SRM was originally presented to be just what its name says: Site Recovery. The design was for a total host or cluster recovery from one site to another. The interesting component that wasn't baked into early editions of SRM was native replication. There was still a reliance on a SAN based or volume based replication product getting your data from one location to another and SRM was the vehicle to get the VM presence to the recovery site. SRM 5 added vSphere Replication in Q4 of 2011 which was a massive gain for the product and a strong lean towards the cloud services direction.

SRM also came with a price tag. That was another strong notch in the cons column for smaller organizations. What VMware has done for us here is that they've now added the replication tool into the architecture for you which you can then use to seed your content for SRM. How cool is that? Ultimately, vSphere Replication is not SRM, and SRM is not vSphere Replication. Each has its own specific use cases which may cross paths but are not requirements for each other.

Replication. Check. Management. Check

Getting your data into the target VM is one thing. Managing the recovery and seeing the status during protection and recovery is another. The management component of the vSphere Replication is neatly baked into the new vSphere 5.1 Web Client.



The recovery process is “a few clicks”. Of course, there is much more to it underneath the covers, and there are a lot of factors that are involved in the fail-over process. The great thing about this being a native product feature is that you have the information available to you in the vSphere Web Client where you will be doing all of your other day-to-day administration.

So What's Missing?

To quote the Viper played by Tom Skerritt in Top Gun: “I’m not here to blow sunshine up your...” well, you know where that one goes. The real key to understanding a new feature is also understanding where it may have shortcomings based on your requirements.

I’m a big fan of this new feature, but I also have to recognize some key points:

- Physical machines are not protected – Hey, I’m as virtualized as the best of them but the reality is that many of us still have, and will continue to have physical servers to support and protect in our environments. You will still need to augment your vSphere Replication with an additional product that can extend protection to your physical servers.
- This is not a test – There is no -WhatIf option here. In order to recover a virtual machine, the source machine needs to be completely unavailable. This is a unfortunate as it limits some of the use cases for BCP testing and for certain instances where you need to have the recovery machine online for a purpose but not initiate a true fail-over.
- Proof is in the pudding – This is an awesome feature, but the true test of any product is the real-life usage and testing the limits of both the product as a feature and for the application as well. While the VMware component is great, we may have some challenges specific to the application/server source that could add limits.

Every product will have its amazing features and some potential loopholes in its application within your environment. The focus of BCP and protection in general is as much a business process and a business application function as it is a vendor suite feature. As always, the onus is on us as Systems Architects and Application Architects to design with the infrastructure in mind.

VMware provided a great Introduction to VMware vSphere Replication paper here: <http://www.vmware.com/files/pdf/techpaper/Introduction-to-vSphere-Replication.pdf>

Read up and take a look at your environment to see where vSphere 5.1 and vSphere Replication may come in handy. This little line item in the overall feature list could turn out to be a massive win for VMware and most importantly for their customers.

I’ll be sure to put this feature through some tough tests and share my results.