

## Backup Network Architecture: Best Practices

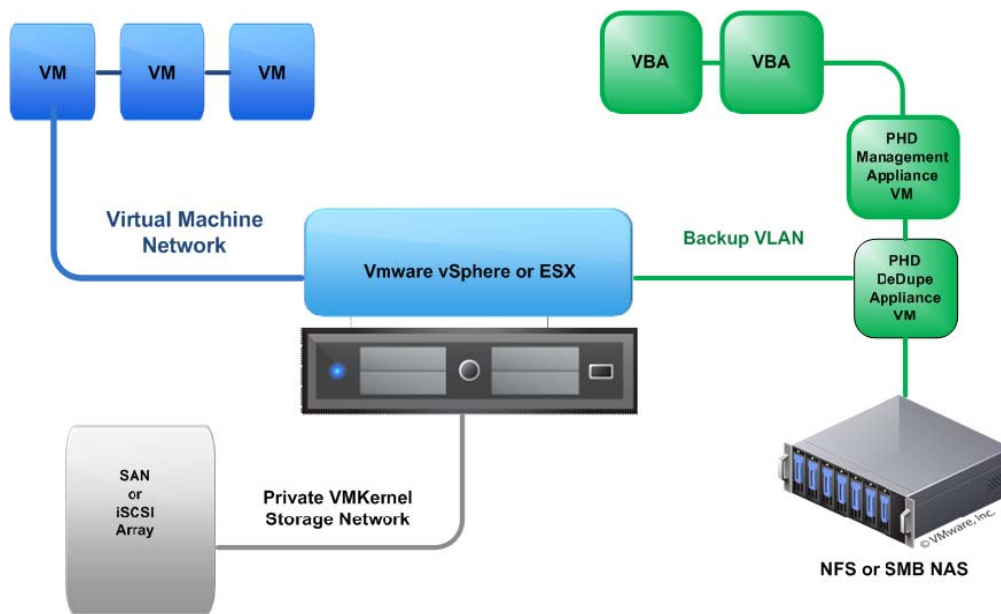
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For optimal performance and network efficiency, PHD Virtual recommends a separate network or VLAN be established strictly for backup purposes. This network must be defined on the physical switching architecture as well as within VMware's virtual switching environment. This network will contain all traffic related to backups and should contain:

- PHD Virtual VBAs (Virtual Backup appliances)
- PHD Virtual DeDupe Appliance VM
- PHD Virtual Management Appliance VM
- NAS storage.



It is important for this network to be routable, as you will need to be able to get to your archives for restoration purposes. In order for the Management and DeDupe Appliance VMs to download updates, they should be allowed Internet access. The NAS storage should also be included in this VLAN to eliminate Layer 3 routing as much as possible during backup.

1. Define Network or VLAN and port trunking on physical switches according to the manufacturer's instructions for your equipment.

2. Create a new Virtual Machine port group on ESX called Backup and assign the VLAN ID you created in step 1. This step must be done on all vSphere hosts being backed up by PHD Virtual. For more information on VMware networking see the following: [http://www.vmware.com/files/pdf/virtual\\_networking\\_concepts.pdf](http://www.vmware.com/files/pdf/virtual_networking_concepts.pdf)
3. Configure PHD Virtual Backup to spawn the VBAs on the backup VLAN. This can be done from the web interface of the PHD Management Appliance VM. On the Hosts grid, choose the Quick Config tab and then choose the new backup VLAN in the Network dropdown box. Click "Save" then publish the configuration changes.

### Notes on NFS:

The VBA appliances require direct write access to the NFS export. During backup, the VBA will directly mount and copy files to the NAS share. It is important to configure the export to allow this behavior. The following is an example export line. /export/share \*  
(no\_root\_squash,insecure,rw,async)

### Notes on VMware Distributed Virtual Switches:

PHD Virtual Backup for VMware ESX includes limited experimental support for VMware Distributed Virtual Switches. The only configuration tested is ephemeral ports or non-binding. This behavior resembles the behavior in the standard vSwitch. If you select this option, the number of ports are automatically set to 0 and the Portgroup allocates one port for each connected virtual machine, up to the maximum number of ports available in the Switch. This configuration has resulted in limited success and is not recommend it at this time.

For additional information on distributed switches, see:

<http://www.vmware.com/files/pdf/vsphere-vnetwork-ds-migration-configuration-wp.pdf>

## About PHD Virtual

As the pioneer of virtual backup appliances (VBAs), PHD Virtual Technologies has been transforming data protection in virtual IT environments since 2006. Its award-winning data protection solution for virtual infrastructures, PHD Virtual Backup (formerly, esXpress), is used today by more than 2000 enterprises worldwide to achieve unlimited dynamic growth, high availability, no single point of failure and scalable performance. PHD Virtual is committed to helping our customers and provides free, easy-to-use virtualization utilities to assist with the administration and management of virtualized environments.

For more information contact a PHD Representative today!

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