PROMISE TECHNOLOGY

Application Note

VTrak D5000 & Vess R3000 with
Veritas NetBackup 8.2 and **Veritas Backupexec 20**
Application Overview

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1. Scope

This document provides an overview of how you can use two popular Veritas backup solutions, NetBackup™ and Backup Exec™, paired with PROMISE VTrak D5000 and Vess R3000 storage systems, operating on iSCSI and FC storage protocols in a virtual environment. In this document, we focus on both Veritas solutions, and use VMware as the virtual environment.

The content of this document uses the popular environment as a template, without detailed explanation of the various architectures. Please refer to appropriate Veritas documents if you need more detailed explanation of the architectures used; or if you need information on a different architecture.

2. Executive Summary

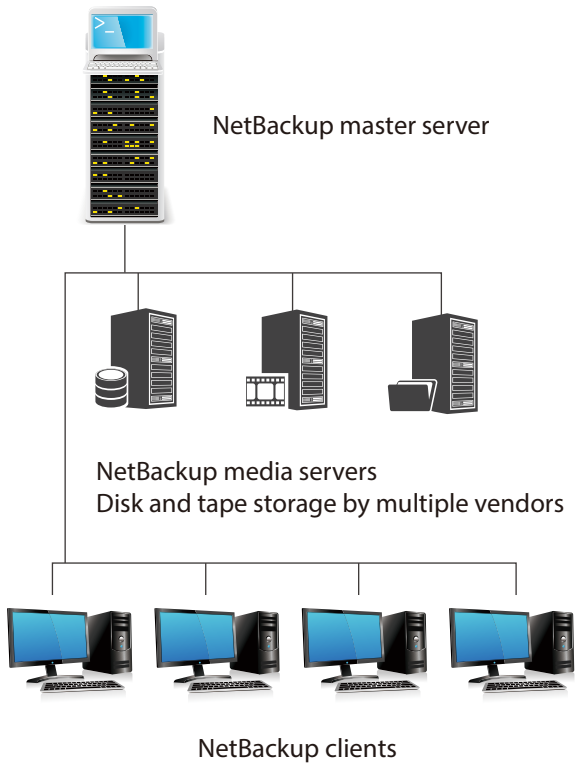
Veritas NetBackup™ provides a complete, flexible data protection solution for a various platforms including Microsoft Windows, UNIX, and Linux systems. With NetBackup you can back up, archive, and restore files, folders, directories, volumes or partitions on client computers.

NetBackup includes the following server and the client software:

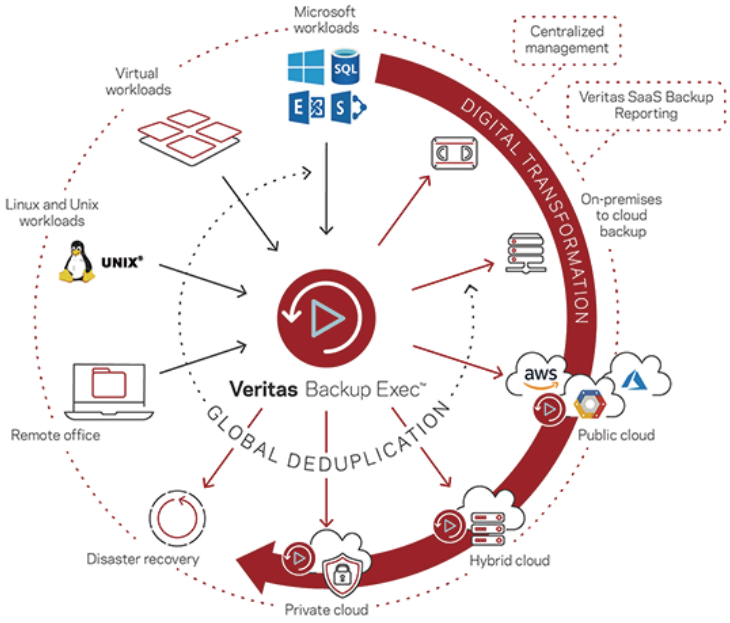
Server software on the system used to manage storage devices.The master server manages backups, archives, and restores. Configure backup policies on the master server to choose which client computers participate and which files to back up. The master server is also responsible for media and device selection for NetBackup. The master server contains the NetBackup catalog, which contains the internal databases that record information about NetBackup backups and configuration.
Media servers (also referred to as device hosts) provide additional storage, allowing NetBackup to utilize the storage devices that are attached to them. Media servers can also increase performance by distributing the network load.

Client software installed on the client computers that contain data to back up. Servers likewise contain client software for the purpose of back up. NetBackup can accommodate multiple servers working together under the administrative control of one NetBackup master server (see Figure).

Example of a NetBackup environment



Veritas Backup Exec™ focuses on keeping data protection simple, secure and unified. Choose what to back up, where to store it and how to pay for it. Your data remains secure and available at every stage-whether backing up on-premises to the cloud, protecting workloads within the cloud, recovering from the cloud or just connecting to on-premises storage. (See Figure)



Backup Exec is available for purchase in either perpetual or term subscription licensing at three levels of functionality —Bronze, Silver or Gold. Bronze edition offers basic coverage for simple environments. Silver edition offers the most used features. Gold edition includes all features and functionality available in Backup Exec. Your purchase is based on the amount of front-end data or the number of instances you need to back up. Your chosen license-set is available in whatever quantities you require.

3. Configuration

For simplicity, it is assumed the reader has the basic knowledge of the software, devices and platforms used in the examples presented in this document, including the following:

- VMware 6.5
- Windows Server and Services
- Veritas NetBackup8.2
- Veritas Backupexec 20
- Network Devices

Setup procedure on Vess R3000 and VTrak D5000

- Use Console or SSH to connect to the controller and use CLI to setup.
- Use PROMISE Web-GUI to setup the following:
  - Create a disk pool (default settings).
  - Create a volume (default settings).
  - Create an SSD cache.
  - Enable LUN Mapping.
  - Create an iSCSI or FC Initiator.
- For best performance:
  - Use six iSCSI sessions on each controller on VTrak D5000 SCSI session on each controller and three iSCSI sessions on the Vess R3000.
  - Setup the client iSCSI session using MPIO to the same port in storage (cannot use a trunk port).

4. Hardware

Function	Device
Source TCP/IP Storage	**PROMISE VTrak D5605 Subsystem with dual controllers** - Firmware Version: 12.05.9999.63 - MZILT1T9HAJQ/007 SAS SSD *8 - XS960SE70004 SAS SSD *4
Source FC/SAN Storage	**PROMISE VTrak D5800 Subsystem with dual controllers** - Firmware Version:12.05.9999.63 - HUS724040ALS640 SAS HDD*24 - S630DC-400 SAS SSD*4
Target TCP/IP Storage	**PROMISE VTrak D5800 Subsystem with dual controllers** - Firmware Version: 12.05.9999.63 - HUS724040ALS640 SAS HDD*24 - S630DC-400 SAS SSD*4
	PROMISE Vess R3600xi Subsystem with dual controllers - Firmware Version: 13.04.0000.16 - ST4000NM0135 SAS HDD*5 - HUS724040ALS640 SAS HDD*19 -ST8000VE0004-2K111G SAS HDD*8
Target FC/SAN Storage	**PROMISE VTrak D5800 Subsystem with dual controllers** - Firmware Version: 12.05.9999.63 - MG04SCA500E SAS HDD*7 - WD4001FYYG-01SL3 SAS HDD*4 - ST32000444SS*4 - HUS724020ALS640 SAS HDD*1 - ST2000NM0001*8 - S610DC-1920*4
	PROMISE Vess R3606fi Subsystem with dual controllers - Firmware Version:12.05.9999.63 - Firmware Build Date: Apr 3, 2020 22:42 - HUS724040ALS640 SAS HDD*9 - ST4000NM0135 SAS HDD*7

5. Software

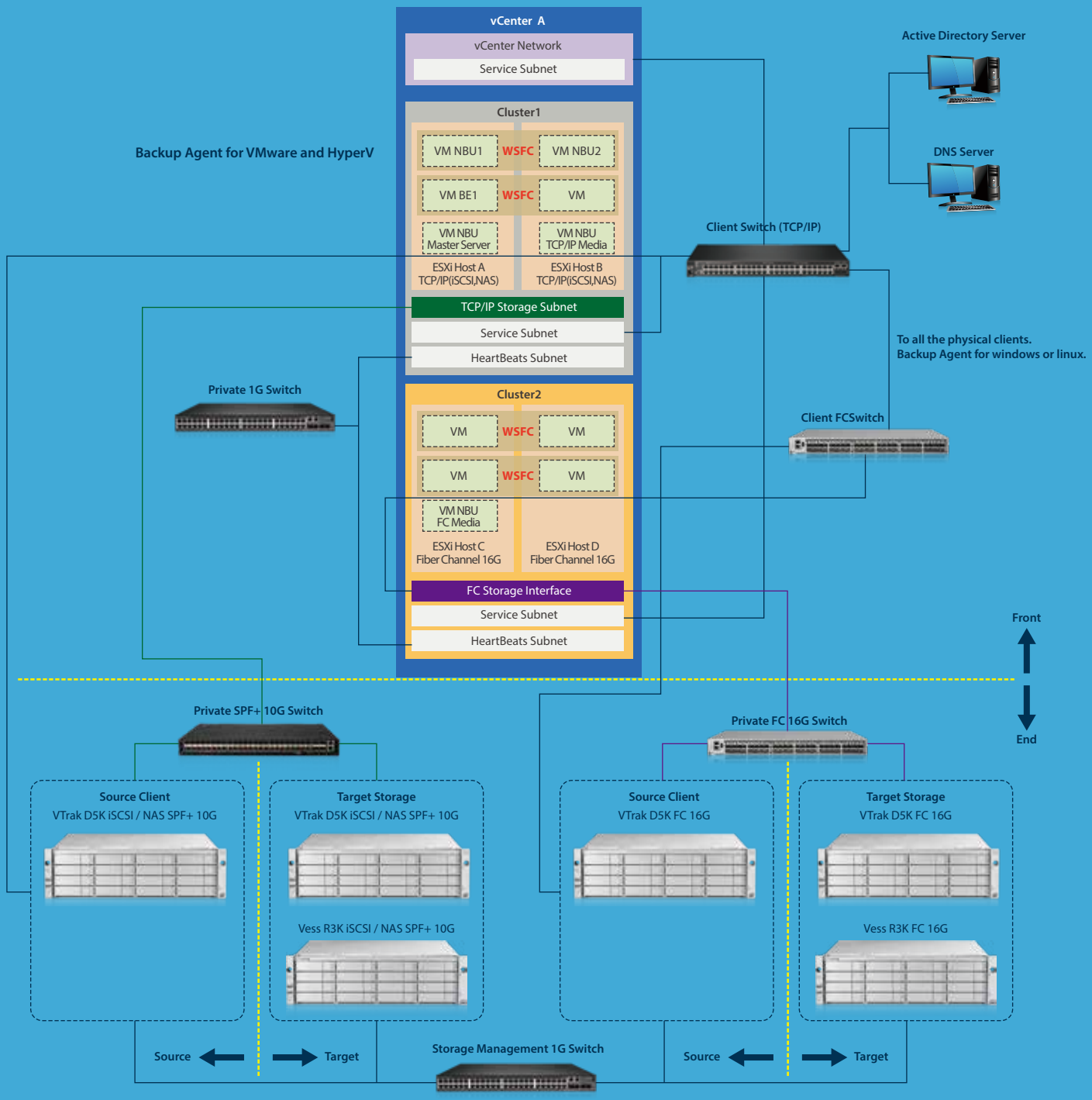
VMware	- VMware ESXi Hosts*4 with cluster - VMware vCenter Server Appliance*1 - HBA Protocol with TCP/IP and Fiber Channel
Network Device	- Cisco9396PX SPF+ Switch*1 - Cisco9148s 16G SAN Switch*1 - L2/L3 1G Switch*3
Software	- VAAI is the general module in D5K and R3K.(options) - VMware ESXi 6.5.0 (Build 4564106) - VMware vCenter Server Appliance (Build version 6.5.0.13000) VMware Datastore VMFS5, VMFS6. - VMware ESXi VAAI supported.(options) Windows 2016 Server. - Windows clients (win7…….,) - Windows 2016 Active Directory Server. DNS Server. - WSFC Server. SQL Server. Oracle Server. - Linux server/ clients. Exchange Server - Veritas NetBackup 8.2 Master Server Veritas NetBackup 8.2 Media Server Veritas NetBackup 8.2 Client - Veritas Backupexec 20 - Veritas Backupexec 20 agent to windows and linux. Veritas Backupexec 20 agent to VMware and Hyper-V

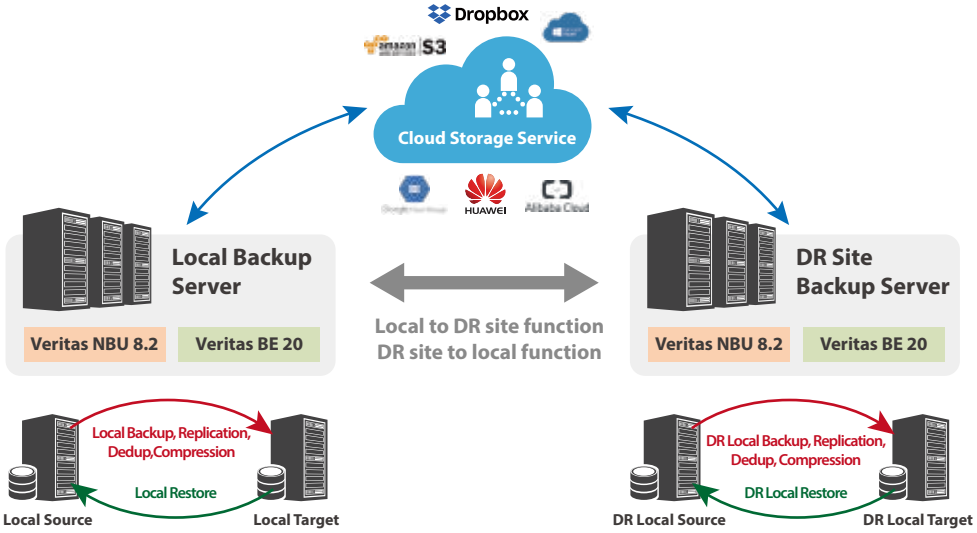
6. Topology

Main Topology



Topology of Backup Systems





7. Conclusion

Veritas NetBackup™ and Backup Exec™ and PROMISE VTrak D5000 and Vess R3000 are ideally well-suited, complimentary systems that amplify the capabilities of the Veritas backup solutions. The Veritas certified PROMISE storage systems include local, remote and cloud based backup options, providing more management flexibility and another layer of redundancy.

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