

reduxio

Reduxio Tech Note

Dell NetVault Backup v10/11

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Overview

Introduction

Dell NetVault™ Backup is a comprehensive data protection software for enterprises with diverse IT environments. NetVault is a scalable backup and recovery solution that lets users protect their data from one intuitive console. It unifies backup, replication and recovery in one, easy-to-use software solution. NetVault Backup supports multiple server and application platforms in both physical and virtual environments. It also allows you to back up to tape or disk, as well as leverage data deduplication to minimize your storage footprint.

This tech note describes testing performed with Dell NetVault Backup and the Reduxio HX550 storage system.

Use Cases

NetVault Protection for Reduxio

Dell NetVault can be used to protect Reduxio volumes. Reduxio BackDating™ provides out-of-the-box VM and application recovery to any second, and NetVault provides data protection to disk or tape devices.

Reduxio as NetVault Virtual Disk Device

Reduxio volumes can be configured as NetVault virtual disk devices. The Reduxio system provides high throughput for the NetVault application. In addition, backup data is automatically deduped and compressed with Reduxio's NoDup™, reducing the required physical capacity. NetVault SmartDisk does offer a deduplication and compression option for NetVault backup, however it requires additional space for post-processing the backup data, and involves an additional installation and configuration.

Solution Architecture

Hardware Configuration

The following hardware components were used in the testing:

No.	Hardware component	Description
1	Reduxio HX550 storage system	Reduxio HX550 dual-controller, 256GB RAM, 8x 800GB MLC SSDs, 16x 1TB 7.2k RPM SATA disks
1	VMware ESXi server	Dell R620, dual-socket Intel Xeon E5-2650 v2 @ 2.60GHz (total 32 virtual cores), 256GB RAM
1	Mellanox 10GbE switch	Interconnect between ESXi hosts and Reduxio HX550
1	Apple MacBook Pro 15"	Administration host

Software Configuration

The following software components were used in the testing:

No.	Software component	Description
1	VMware vSphere 6.0U1	ESXi hypervisor – 2 for virtual servers, 1 for infrastructure and management VMs.
2	Windows Server 2012 R2	Running on the NetVault server and the agent.
1	Dell NetVault v11.0.0.51	Dell enterprise data protection application.

Best Practices

Network Configuration

It is recommended to configure the Dell NetVault Backup server with 10 gigabit connectivity or multiple 1 gigabit ports, to enable high throughput backup and restore jobs to and from the Reduxio system.

To enforce the use of 10 gigabit, when adding a machine to protect, use the host name or IP address that refers to the relevant high performance network adapter or teaming group on that machine.

Virtual Disk Configuration

To configure a Reduxio as a NetVault virtual disk:

1. Configure a host and volume for the virtual disk device.	To configure storage from the Reduxio Storage Manager: <ol style="list-style-type: none">1. Create a host for the netvault server: NAME: netvault ISCSI NAME: IQN of the Windows Server2. Create a volume for the virtual disk device: <table border="1" data-bbox="711 1397 1297 1592"><tbody><tr><td>NAME</td><td>netvault_vol1</td></tr><tr><td>SIZE</td><td>Desired size</td></tr><tr><td>BLOCKSIZE</td><td>4096</td></tr></tbody></table>3. Assign the volume to the host.	NAME	netvault_vol1	SIZE	Desired size	BLOCKSIZE	4096
NAME	netvault_vol1						
SIZE	Desired size						
BLOCKSIZE	4096						
2. Configure the new Windows disk.	In the NetVault server: <ol style="list-style-type: none">1. Rescan devices.2. Online and initialize the disk.3. Format the disk.						
3. Add a virtual disk device.	From the NetVault Console: <ol style="list-style-type: none">1. Select Configuration, Manage Devices.2. Click the +Add Device button.						

3. Select Single virtual disk device. Click Next.

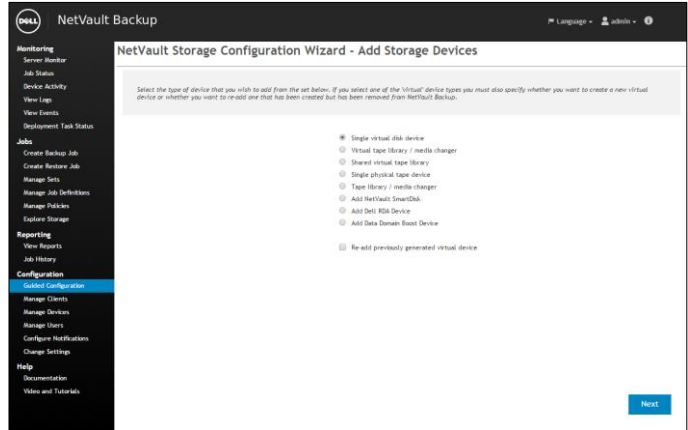


Figure 1 - Add Storage Devices

4. Select the NetVault backup server. Click **Next**.
5. In the *Add Virtual Disk Device* screen, enter the following parameters:

Location on disk	Drive letter of the disk created earlier, for example: F:\
Device name	Name, for example: ReduxioVault1
Device display name	Display name, for example: ReduxioVault1
Barcode prefix	Any 5-character combination. Leave the default.
Media capacity	Enter the size of the created disk in GB, for example: 4096.

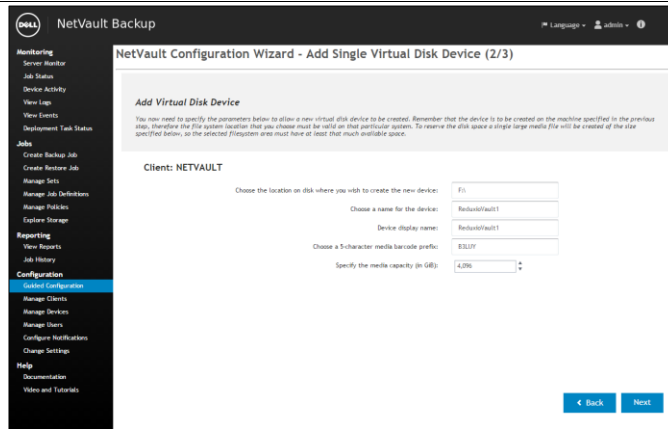


Figure 2 - Add Single Virtual Disk Device

- Click Next. The virtual disk image is created in the selected Windows disk.

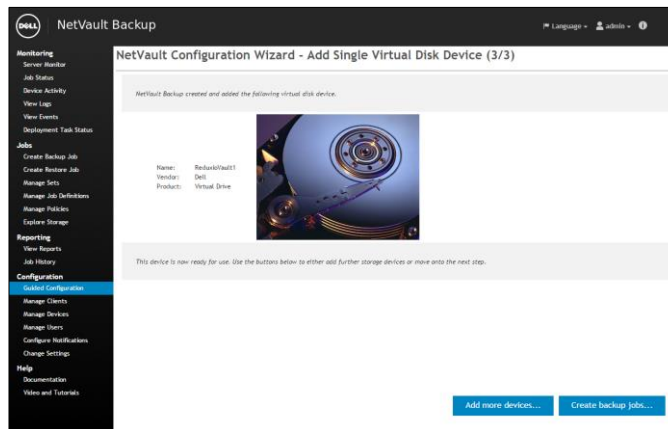


Figure 3 - Virtual Disk Device added successfully

- Verify the contents of the new virtual disk device.

The Windows disk now contains the virtual disk device image file.

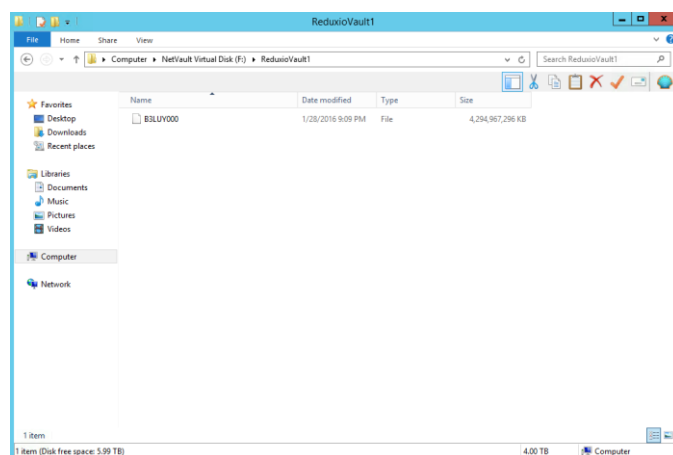


Figure 4 - Virtual Disk Device image file

Increase Parallelism

To reach the highest throughput for snapshot and restore tasks, it is recommended to run as many concurrent backup/restore jobs as possible.

Test Results

During backup tests capacity savings of 2:1 (50% savings) were observed (when configured as a single virtual disk device).

Conclusion

Reduxio storage systems can be integrated with Dell NetVault Backup either as backup sources or as a high performance virtual disk device. It provides high throughput for backup and restore jobs. Reduxio BackDating is complemented by the external protection provided by NetVault Backup.

References

Reduxio Documentation

- *Reduxio Administration Guide*

Dell Documentation

- [Dell NetVault Backup website](#)
- *Dell™ NetVault™ 11.0 Administrator's Guide*
- *Dell™ NetVault™ SmartDisk 10.0.0 Administrator's Guide*