

Granular Recovery Technology

PowerVault DL Backup to Disk Appliance



Executive Summary

Backup Exec Granular Recovery Technology (GRT) lets you restore individual objects image level backups of Microsoft Exchange, Active Directory, and SharePoint Servers in your environment. In addition, GRT enables the individual file and folder recovery as well as recovery of individual objects from virtualized applications (Exchange, SQL and Active Directory) from image level backups of virtual machines in Microsoft Hyper-V and VMware ESX or VSphere virtual environments. GRT enables the recovery for the following individual items for each support database/application:

- Active Directory – Restore Objects and Attributes.
- Active Directory Application Mode and Active Directory Lightweight Directory Services – Restore objects and attributes
- Microsoft Exchange – Restore entire mailboxes, individual mailbox contents, mail messages, attachments, and public folders
- Microsoft SharePoint – Restore portal sites and their associated databases, Windows SharePoint Services sites and their associated databases, Document library stores, Individual documents, Lists, sites, and sub-sites
- Microsoft Hyper-V – Restore drives, folder and files from virtual machines. In addition perform granular recovery of virtualized instances of Exchange, SQL, and Active Directory
- VMware - Restore drives, folder and files from virtual machines. In addition perform granular recovery of virtual instances of Exchange, SQL, and Active Directory

This paper outlines the process of configuring GRT based backups with the PowerVault DL Backup to Disk Appliance.

Active Directory

Perform the following steps to configure GRT based backups of Active Directory:

1. License the Active Directory Agent on the PowerVault DL Backup to Disk Appliance
2. Install the Remote Agent for Windows System on the system where Active Directory resides. See the Backup Exec Administrator's Guide for detailed steps on installing the remote agent.
3. On the navigation bar, click Job Setup.
4. Expand the Backup Tasks menu by selecting the arrows.
5. Click New Job
6. In the selection tree, select the Windows System State of the system running Active Directory (the system state backup includes Active Directory).
7. Under the Properties pane, select Active Directory to confirm the job settings for this backup. Make sure



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the selection “User Backup Exec Granular Recovery Technology (GRT) to enable the restore of individual objects from Active Directory backups (not supported for Read-Only Domain Controllers)” is enabled.

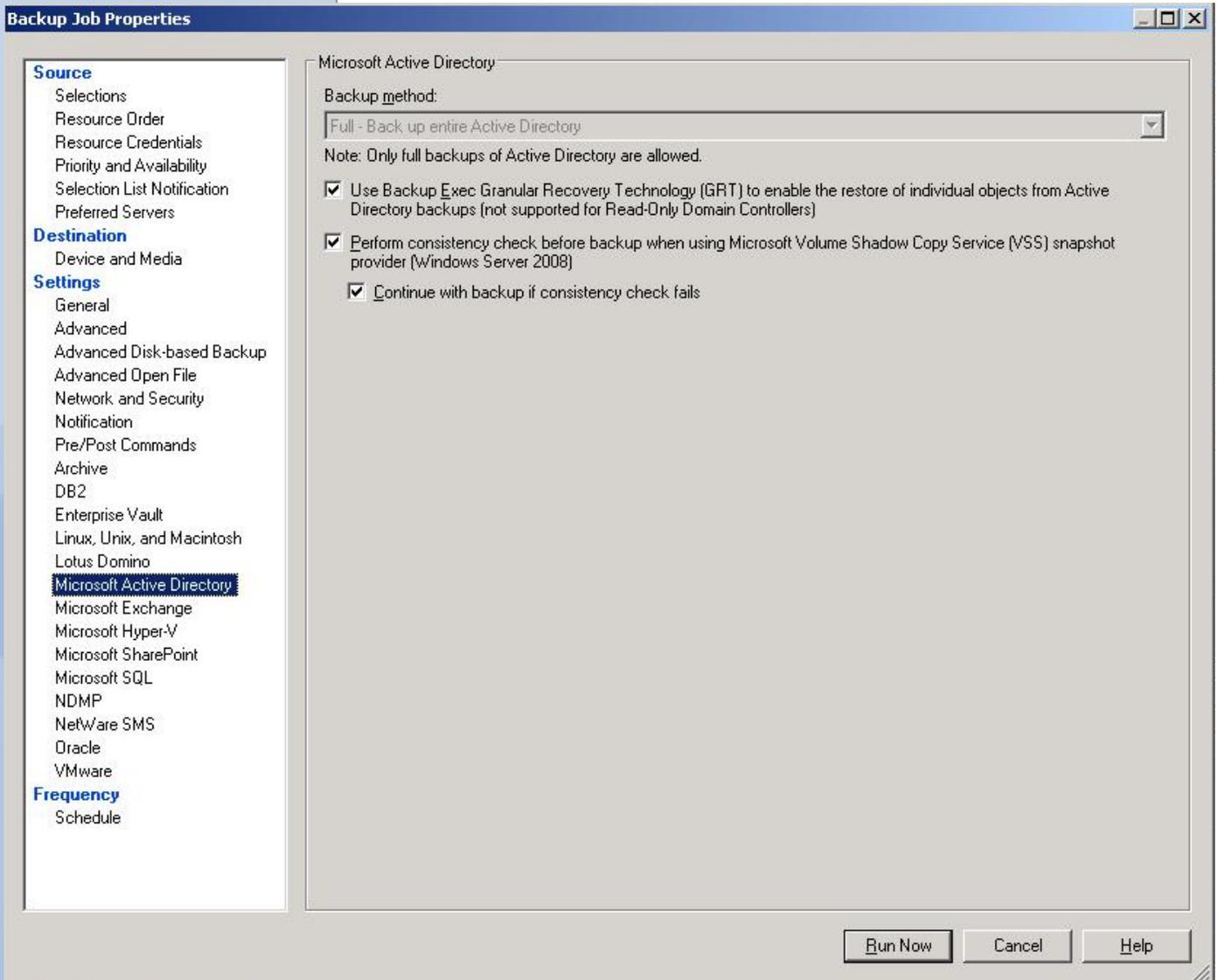


Figure: Active Directory backup settings

8. Choose a schedule for the backup job by selecting Schedule under the Properties pane. Select Run Now when finished.

Active Directory Agent Requirements

- The Active Directory Agent must be licensed on the PowerVault DL Backup to Disk Appliance



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- The Remote Agent for Windows Systems must be installed on the system where Active Directory resides
- One of the following Operating Systems must be used on the system where Active Directory resides:
 - Windows Xp Profession x64 Edition
 - Windows Server 2000 with SP4 or later
 - Windows Server 2003 with SP1 or later
 - Windows Server 2003 R2
 - Windows Server 2008
 - Windows Server 2008 R2

SharePoint

Perform the following steps to configure GRT based backups of SharePoint:

1. License the SharePoint Agent on the PowerVault DL Backup to Disk Appliance
1. Install the Remote Agent for Windows System on each SharePoint server in the farm that is being protected. In addition, for SharePoint 2003 and 2007, the Remote Agent must be installed on each SQL server in the farm. See the Backup Exec Administrator's Guide for detailed steps on installing the remote agent.
2. Create a new backup job that protects the SharePoint server farm.
3. On the navigation bar, click Job Setup.
4. Expand the Backup Tasks menu by selecting the arrows.
5. Click New Job
6. In the selection tree, right-click Microsoft SharePoint Server Farms and then click Add Server Farm.
7. In the Web server name field, type the name of a Web server that belongs to the SharePoint farm that is to be protected.
8. In the Server farm name field, type a name for the farm or use the default name.
9. Click Ok.
10. Under the Properties pane, select Microsoft SharePoint to confirm the job settings for this backup. Make sure the selection "User Backup Exec Granular Recovery Technology (GRT) to enable the restore of individual documents from the database backup (available for full backups only)" is enabled.



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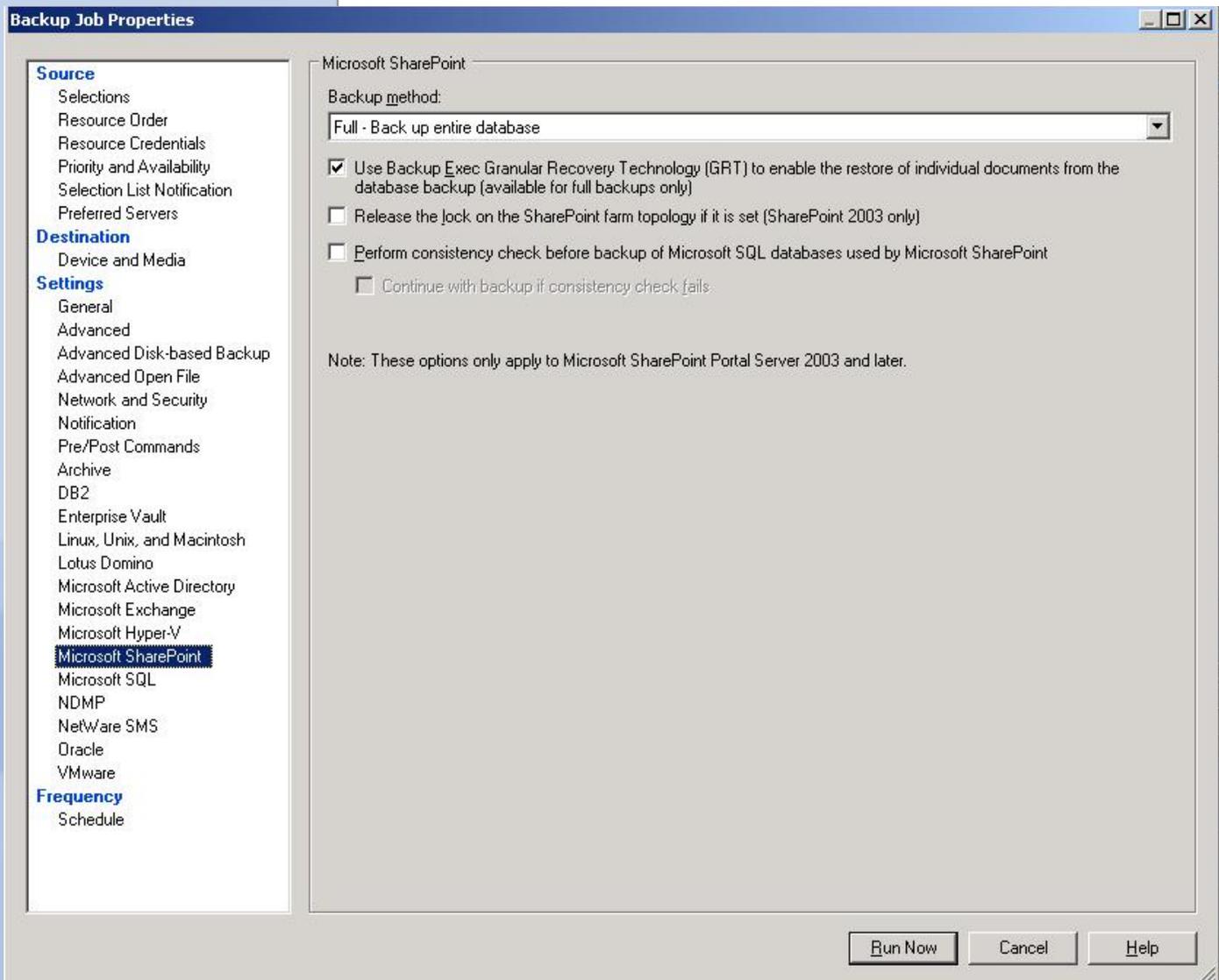


Figure: SharePoint backup job settings

11. Choose a schedule for the backup job by selecting Schedule under the Properties pane. Select Run Now when finished.

SharePoint Agent Requirements

- The SharePoint Agent must be licensed on the PowerVault DL Backup to Disk Appliance
- The Remote Agent for Windows Systems must be installed on each SharePoint server in the farm that will be protected. In addition, for SharePoint 2003 and 2007, the Remote Agent must be installed on each SQL



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server in the farm.

Exchange

Perform the following steps to configure GRT based backups of Microsoft Exchange:

1. License the Exchange Agent on the PowerVault DL Backup to Disk Appliance
2. Install the Remote Agent for Windows System on the system where Exchange resides (see Exchange Agent requirements below to see installation requirements). See the Backup Exec Administrator's Guide for detailed steps on installing the remote agent.
3. On the navigation bar, click Job Setup.
4. Expand the Backup Tasks menu by selecting the arrows.
5. Click New Job
6. On the Properties pane, under Source, click Selections
7. Find the Exchange resources that are to be protected:
 - a. Exchange data that resides on local or remote computers:
 - i. Click the domain name icon or icons that contain the Exchange installations
 - ii. Expand the actual Windows computer icon that contains the Exchange installation
 - b. Exchange data that resides on a cluster:
 - i. On the virtual cluster server name, click the domain name icon or icons that contain the Exchange installations
 - ii. Expand the actual Windows computer icon that contains the Exchange installation
 - c. Exchange 2010 Database Availability Group:
 - i. Expand the Microsoft Exchange Database Availability Groups (DAG) resource
 - ii. Expand the forest that contains the DAG
 - iii. Expand the DAG that contains the Exchange installations
8. Select the Exchange components for backup by doing one of the following:
 - a. To Select All Exchange databases for backup, check Microsoft Information Store
 - b. To select specific Exchange 2003/2007 storage groups or Exchange 2010 databases, expand the Microsoft Information Store icon and then select individual storage groups or databases
9. If prompted, select a logon account that you can use to connect to the Exchange server.
10. Under the Properties pane, select Microsoft Exchange to confirm the job settings for this backup. Make sure the selection "User Backup Exec Granular Recovery Technology (GRT) to enable the restore of individual mailboxes, mail messages, and public folders from Information Store backups. (Incremental backups supported with policy-based jobs only)" is enabled.



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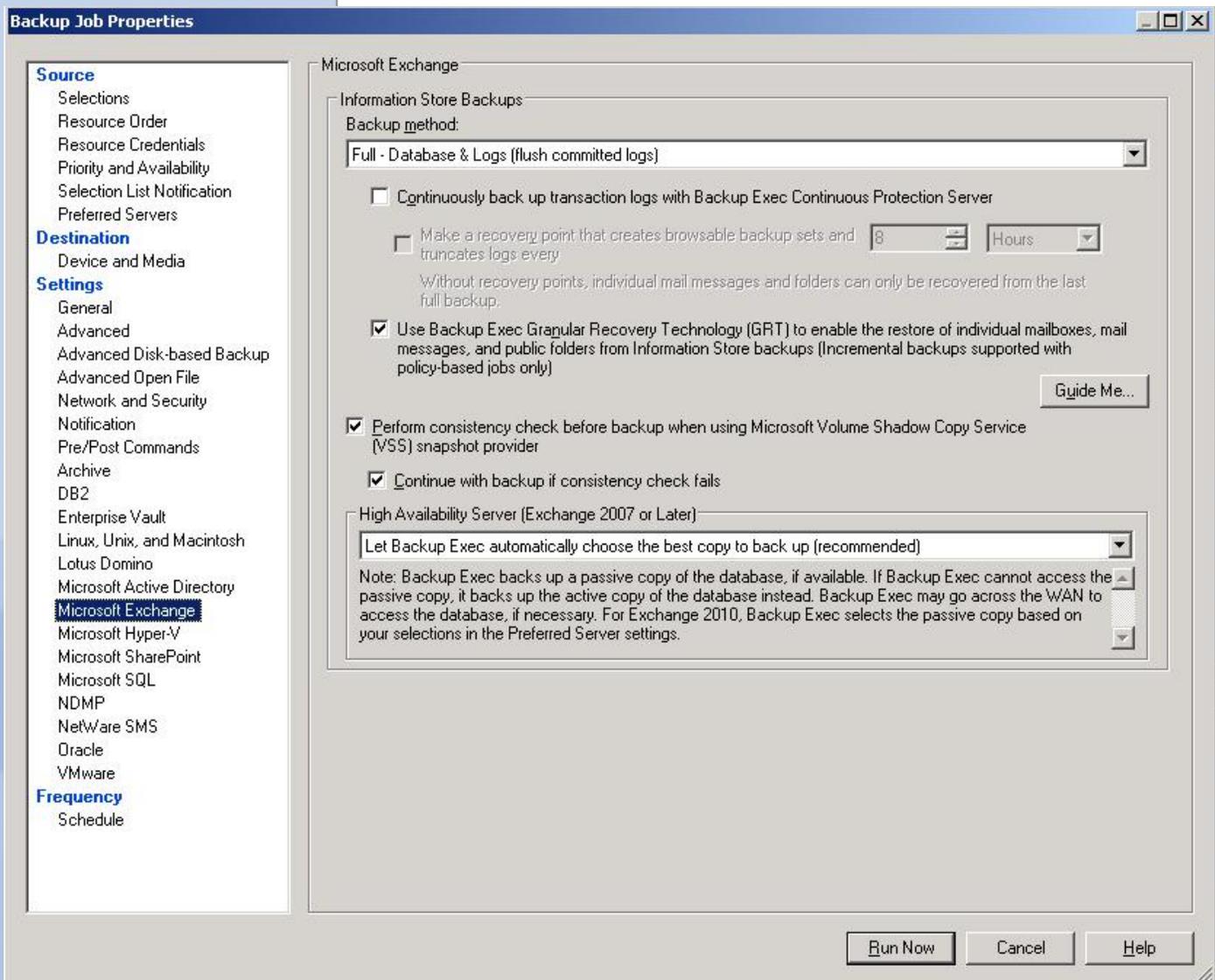


Figure: Exchange backup job settings

12. Choose a schedule for the backup job by selecting Schedule under the Properties pane. Select Run Now when finished.

Exchange Agent Requirements

- The Exchange Agent must be licensed on the PowerVault DL Backup to Disk Appliance
- The Remote Agent for Windows Systems must be installed on the system where Exchange resides
- The Exchange Management Tools for Microsoft Exchange Server 2007 and 2010 must be installed on PowerVault DL Backup to Disk Appliance if Exchange Server 2007 or 2010 is being protected. The Exchange



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management tools on the media server must be the same version or later as the Exchange management tools that are on the Exchange 2007 or 2010 server.

- For Exchange Server 2007 – the Microsoft Exchange Server MAPI Client and Collaboration Data Objects package must be installed on the Exchange server
- For Exchange Server 2007 and 2010 GRT – the Backup Exec User Account must be assigned to the Exchange Organization Administrators role (Exchange 2007) or the Exchange Organization Management role (Exchange 2010).
- For Exchange Server 2010 – The Remote Agent for Windows Systems must be installed on all servers in the Database Availability Group. The Remote Agent for Windows Systems must be installed on all Client Access Servers in the site to support Granular Recovery Technology.
- Granular Recovery Technology is not supported when Microsoft Outlook is installed on the same computer with Exchange Server 2003 or Exchange Server 2007 running on a version of Windows earlier than 2003.

Microsoft Hyper-V

Perform the following steps to configure GRT based backups of Microsoft Hyper-V:

1. License the Hyper-V Agent on the PowerVault DL Backup to Disk Appliance
2. Install the Remote Agent for Windows System on the system where Hyper-V resides (see Hyper-V Agent requirements below to see installation requirements). See the Backup Exec Administrator's Guide for detailed steps on installing the remote agent.
3. On the navigation bar, click Job Setup.
4. Expand the Backup Tasks menu by selecting the arrows.
5. Click New Job
6. On the Properties pane, under Source, click Selections. Select the Hyper-V resources that are to be backed up.
7. In the Properties pane, under Settings, click Microsoft Hyper-V. Make sure the selection "Use Backup Exec Granular Recovery Technology (GRT) to enable the restore of individual files and folders from virtual machines" is enabled. Also verify that the Application Granular Recovery Technology Settings are set appropriately if the backups contains virtual machines running Exchange, Active Directory, or SQL.



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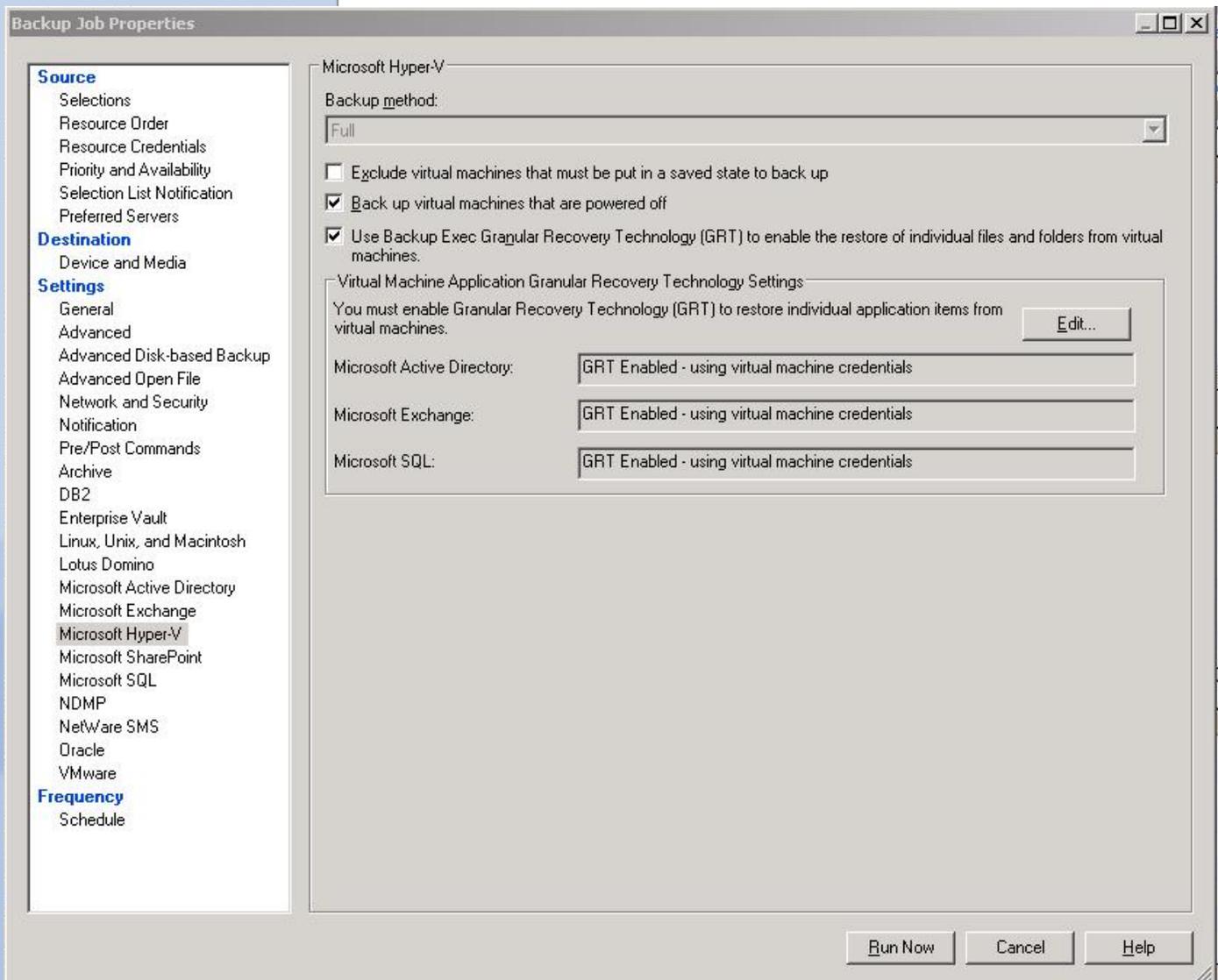


Figure: Hyper-V backup job settings

1. Choose a schedule for the backup job by selecting Schedule under the Properties pane. Select Run Now when finished.

Hyper-V Agent Requirements

- The Hyper-V Agent must be licensed on the PowerVault DL Backup to Disk Appliance
- The Remote Agent for Windows Systems must be installed on the Hyper-V system
- VHDMount must be installed on the PowerVault DL Backup to Disk Appliance if the Hyper-V role is not installed on the PowerVault DL Backup to Disk Appliance.



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- Online backups of virtual machines are supported in the following configurations:
 - Virtual Machines running Windows Server 2008/2003 SP2/Vista SP1/XP SP3 or later
 - Hyper-V Integration Services with Backup (Volume snapshot) must be installed on the virtual machine
 - The virtual machine is in a running state
- To use Granular Recovery Technology with the following virtualized applications:
 - Exchange – A licensed version of the Backup Exec Agent for Exchange must be installed in each Exchange virtual machine
 - SQL - A licensed version of the Backup Exec Agent for SQL must be installed in each SQL virtual machine
 - Active Directory – A licensed version of the Backup Exec Agent for Active Directory must be installed on each virtual machine running Active Directory

VMware

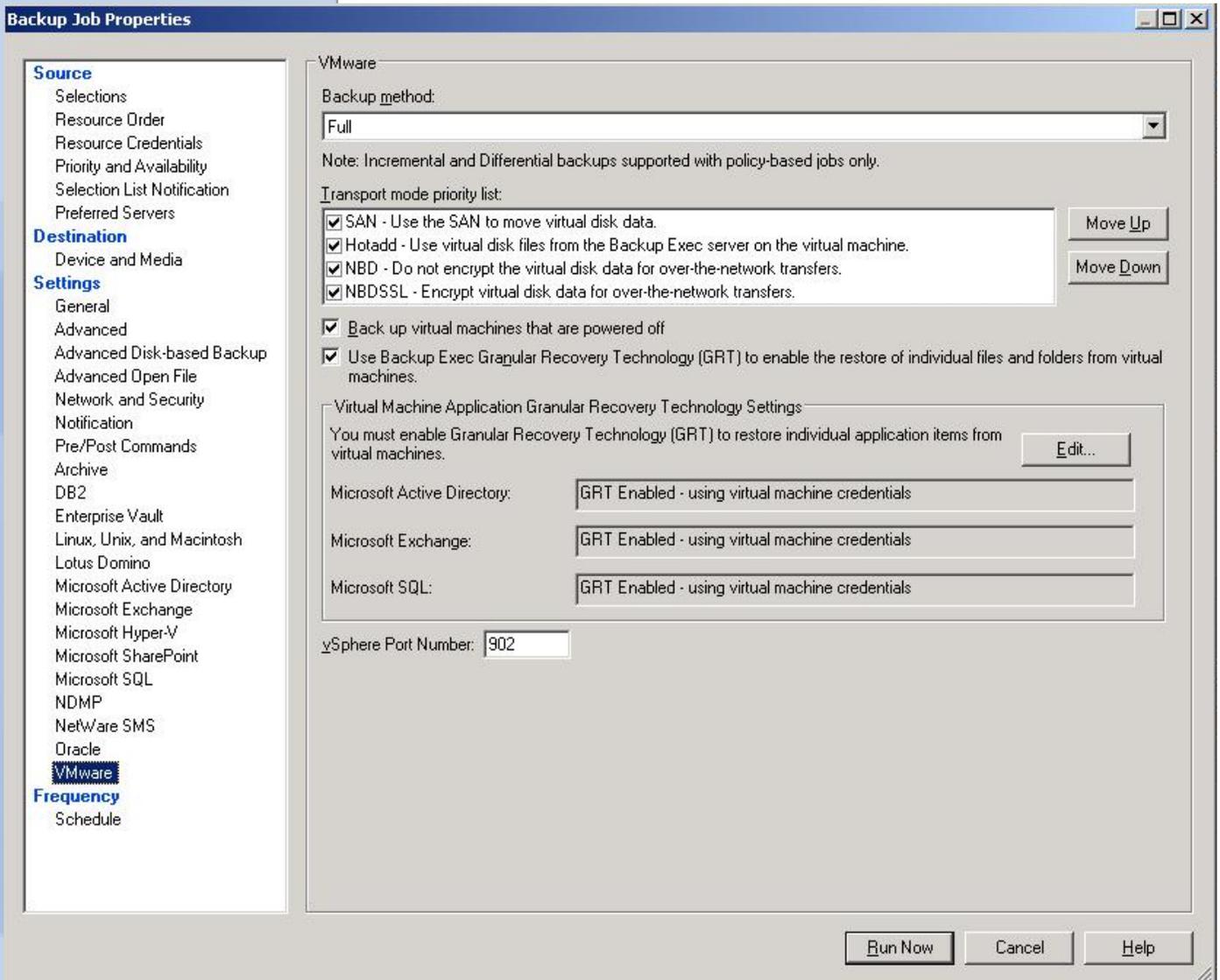
Perform the following steps to configure GRT based backups of VMware:

1. License the VMware Agent on the PowerVault DL Backup to Disk Appliance. The Agent resides locally on the appliance and there is nothing to install on the VMware ESX or VSphere server.
2. Add VMware vCenter, ESX, or VSphere servers to the Backup Exec selection list using the following steps:
 - a. On the navigation bar, click Job Setup.
 - b. Expand the Backup Tasks menu by selecting the arrows.
 - c. Click New Job
 - d. Right click one of the following items:
 - i. All Resources
 - ii. VMware vCenter and ESX Servers
 - e. Click Manage VMware vCenter and ESX Servers
 - f. In the Name field, type the name of the vCenter or ESX server that you want to add
 - g. Click Add
 - h. Click Close
3. Create a Backup job using the following steps:
 - a. On the navigation bar, click Job Setup.
 - b. Expand the Backup Tasks menu by selecting the arrows.
 - c. Click New Job
 - d. On the Properties pane, under Source, click Selections. Expand VMware vCenter and ESX Servers.
 - e. Select one of the following:
 - i. A VMware vCenter or ESX server



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- ii. One or more of the virtual machines that appear under the name of a VMware vCenter or ESX Server
- f. In the Properties pane, under settings, click VMware. Make sure the selection “Use Backup Exec Granular Recovery Technology (GRT) to enable the restore of individual files and folders from virtual machines” is enabled. Also verify that the Application Granular Recovery Technology Settings are set appropriately if the backups contains virtual machines running Exchange, Active Directory, or SQL.
- g. Specify additional VMware settings for the backup job



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Figure: VMware backup job properties

4. Choose a schedule for the backup job by selecting Schedule under the Properties pane. Select Run Now when finished

VMware Agent Requirements

- The VMware Agent must be licensed on the PowerVault DL Backup to Disk Appliance
- VMware vCenter Server – This component is optional and -used to manage ESX or VSphere servers. Backup Exec Agent for Windows Systems can be installed on the vCenter Server. If installed, the Backup Exec agent will publish information about the virtual environment configuration found in the vCenter Server to the PowerVault DL Backup to Disk appliance so that virtual machine groupings and information are displayed in Backup Exec in the same manner they are displayed in vCenter.
- To use Granular Recovery Technology with the following virtualized applications:
 - Exchange – A licensed version of the Backup Exec Agent for Exchange must be installed in each Exchange virtual machine
 - SQL - A licensed version of the Backup Exec Agent for SQL must be installed in each SQL virtual machine
 - Active Directory – A licensed version of the Backup Exec Agent for Active Directory must be installed on each virtual machine running Active Directory



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