HP D2D NAS Integration with Symantec[™] Backup Exec[™] 2010

Abstract

This guide provides step by step instructions on how to configure and optimize Symantec Backup Exec 2010 in order to back up to HP D2D Backup Systems using a CIFS backup target.



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1 Configure the D2D CIFS server

The first step in configuring the D2D device as a target for backups from Symantec Backup Exec is to configure the CIFS server on the D2D Backup System

On the D2D Web Management Interface navigate to the NAS - CIFS Server page and select Edit.

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The available Authentication options for the CIFS server are:

- None All shares created are accessible to any user from any client (this is the least secure option)
- User Local (D2D) User account authentication
- AD Active Directory User account authentication

More about authentication modes

None: This authentication mode requires no username or password authentication and is the simplest configuration. Backup Exec will always be able to use shares configured in this mode with no changes to either server or Backup Exec configuration. However, this mode provides no data security because anyone can access the shares and add or delete data.

User: In this mode it is possible to create "local D2D users" from the D2D Web Management Interface. This mode requires the configuration of a respective local user on the Backup Exec media server and configuration changes to the Backup Exec services. Individual users can then be assigned access to individual shares on the D2D Backup System. This authentication mode is ONLY recommended when the Backup Exec media server is not a member of an AD Domain.

AD: In this mode the D2D CIFS server becomes a member of an Active Directory Domain. In order to join an AD domain the user needs to provide credentials of a user who has permission to add computers and users to the AD domain. After joining an AD Domain access to each share is controlled by Domain Management tools and domain users or groups can be given access to individual shares on the D2D Backup System. This is the recommended authentication mode, if the Backup Exec Media server is a member of an AD domain.

Configuring User Authentication mode

 Select the User authentication mode on the D2D Web Management Interface and click Update to create a local user account on the D2D Backup System. Provide a User Name and Password for the new user.

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2. Use Server Manager to create a correspondingly named user on the Windows server that hosts the Backup Exec Media server.

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3. It is then necessary to configure Backup Exec to use this Local user account as the credentials used to run its services. Do this from the Backup Exec interface by selecting **Tools** — **Backup Exec Services**

Then click the **Services Credentials** button and provide the new User Name, Domain name (local server name) and password.

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4. Restart the Backup Exec services before continuing with configuration. Note, however, that this is the ONLY user account that the Backup Exec Media server will be able to use to connect to remote storage that requires authentication, so this account must be the same for any other disk storage devices.

Configuring AD Authentication Mode

These are the steps required in order to configure backups in AD authentication mode:

- Join the D2D CIFS server to the AD Domain and configure DNS.
- Create or specify a user to be used for backups.
- Apply user permissions to D2D shares.
- Configure Backup Exec services to use the correct Domain account.

To join a domain

 Connect to the D2D Web Management Interface, navigate to the NAS — CIFS Server page, click Edit and choose AD from the drop-down menu. Provide the name of the domain that you wish to join, e.g "mydomain.local"

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2. Click **Update**. If the domain controller is found, a pop-up box will request credentials of a user with permission to join the domain. (Note that joining or leaving the domain will result in failure of any backup or restore operations that are currently running.) Provide credentials (username and password) of a domain user that has permission to add computers to the domain and click **Register**.

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Domain Administration	

3. After joining the domain, the DNS server should be automatically updated (if a DHCP server is used) with Forward and Reverse Lookup zone entries, however, some DNS configurations do not allow this. In this case, or if a DHCP is not used on the network, the user must also configure the domain's DNS server to be able to correctly manage the D2D shares, as described in the next section.

To configure entries manually if the DNS server does not update automatically

From a Windows client server that has domain and DNS management tools installed launch the DNS Management Tool. (From the command line type dnsmgmt.msc or launch DNS from the Administrative Tools menu).

Create a new Host(A) record in the forward lookup zone for the domain to which the D2D Backup System belongs with the hostname and IP address of the D2D Backup System.

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Also create a Pointer(PTR) in the reverse lookup zone for the domain for the D2D Backup System by providing the hostname and IP address.

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To create shares and grant access permission

Now that the D2D Backup System is part of a domain and can be managed, it is possible to create shares and grant access permission to them for domain account users or groups.

 Create a share on the D2D Backup System that is going to be used as a backup target, by selecting NAS — Shares from the D2D Web Management Interface and clicking Create.
 Provide a share Name and Description, select the CIFS protocol and click Create.

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2. Now that the D2D Backup System is a member of the domain its shares can be managed from any computer on the domain by configuring a customized Microsoft Management Console (MMC) with the Shared Folders snap-in. To do this first open a new MMC window by typing mmc at the command prompt or from the Start Search box. This will launch a new empty MMC window.



3. To this empty MMC window add the Shared Folders snap-in. Select **File** — **Add/Remove Snap-in** ..., then select **Shared Folders** from the left-hand pane.

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4. Click **Add** > and in the dialog box choose the computer to be managed and select **Shares** from the View options.

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5. Click **Finish** and **OK** to complete the snap-in set up.

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Note that the Folder Path field contains an internal path on the D2D Backup System.

- 6. Save this customized snap-in for future use.
- 7. Select the **Share Permissions** tab and **Add** a user or group of users from the domain. Specify the level of permission that the users will receive and click **Apply**.

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8. Now, from any Windows server on the domain, it is possible to access the newly created share using the credentials of anyone who had been given permission to access the share. If a permitted user is logged into Windows, access to the share will be granted automatically with those permissions.

NOTE: In some cases, when switching the D2D Backup System from No Authentication or User Authentication mode to AD mode, it may be necessary to log out and back into a Windows client before it is possible to access the D2D shares.

It may also be necessary to configure Backup Exec to use this AD Domain user account as the credentials used to run its services. Do this from the Backup Exec interface by selecting Tools

 Backup Exec Services

Select the **Services Credentials** button and provide the new User Name, Domain name and password.

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10. Restart the Backup Exec services before continuing with configuration. Note, however, that this is the ONLY user account that the Backup Exec Media server will be able to use to connect to remote storage that requires authentication, so this account must be the same for any other disk storage devices.

2 Configure Backup Exec to use D2D CIFS Share

Create a D2D CIFS target for backup

If a new D2D CIFS share has not already been created as part of the authentication configuration process in the previous section, it is now necessary to create a new CIFS NAS share.

The available options for share creation are:

- Name This is the name of the CIFS share to be created
- **Description** A "friendly" description of the share and its use, this will be presented to the Windows host for easy identification.
- Access Protocol CIFS is the only option provided
- **Network Path** This is a non-configurable field which shows the share name appended to the IP address upon creation of the share
- Write Protection Global write protect for the share, to be used if no further writing is to be permitted to the share.
- 1. Click Create, the share is configured and starts after a few seconds.

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After the share has started it will report as "Online". If required, configure User or AD authentication mode, as already described, so that the share is accessible to the appropriate users. After that it is possible to access the share from the Windows server, for example by clicking the Network Path link from the Shares page which will open a Windows Explorer window.

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Create a Backup Exec Backup-to-disk folder

Backup Exec refers to NAS backup targets as "Backup-To-Disk" folders, which may be one of three types of folder:

- Backup-To-Disk folder This is used for CIFS shares or local disk devices
- Removable Backup-To-Disk folder Used for removable media devices, such as HP RDX
- Shared Backup-To-Disk folder Used with the CASO or SAN Shared Storage options to share a NAS backup target across multiple Backup Exec Media servers.

When using an HP D2D CIFS share the "Backup-To-Disk" folder type should be used.

1. From the Backup Exec, Devices page select the Media server and right click, then select **New Backup-To-Disk Folder...**

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Eject media	Restore data		Version:	Add NDMP Storage				Intel(R) Xeon(R) CPU	
Inventory Time zone: Add Remote Media Agent Storage Inv: 2.00 GB	Eject media Inventory		License ke Time zone:	Add Remote Media Ag	ent Storage		irs: iry:	2.00 GB	
Scan Start date Configure Storage Array 1.89 GB	Scan Erase media, quick		Start date Current da	Configure Storage Am	ay		remaining:	1.89 GB 4.00 KB	

2. This will launch a Backup-To-Disk Wizard to step through the creation and configuration of a Backup-To-Disk folder.

Enter a name for this folder that Backup Exec will use to identify it. A best practice is to use the name of the D2D Backup System and share name in order to easily identify where this backup-to-disk folder resides.



3. The next step is to provide the path to the backup-to-disk folder, this is the path to the CIFS share on the D2D Backup System. There is no need to mount the D2D CIFS share as a Windows drive letter because the full path including domain extension or IP address with share name will allow direct access to the D2D share.

		-
ckup-to-Disk Folder Path		
Enter the path where the folder is	s to reside.	
Enter a path for the backup-to-dis	ik folder:	
\\ <cifs and="" domain<="" name="" server="" td=""><td>in or IP Address>\BackupExecShare1</td><td>200</td></cifs>	in or IP Address>\BackupExecShare1	200
Example: C:\Folder name		
and part of providence		

4. If more than one Backup-To-Disk folder is required per D2D CIFS share, it is necessary to create multiple folders within the D2D NAS share because each Backup-to-disk folder must be in a different folder on disk.

Use Windows Explorer to create a new folder on the D2D CIFS share.

5. The next step in the wizard provides the user with the option to pre-allocate the maximum size of each Backup-To-Disk file as it is created, this option MUST be set to "No".

Pre-allocating disk space for each backup to disk file will result in incorrectly reported deduplication ratio, and also poor performance or failures because the D2D Backup System will need to "pad" the data file when created.

ated at the maximum file size, disk fragmentation is
comes overwritable again.
um size when creating backup-to-disk files?

6. Configure the maximum size that each Backup-To-Disk file may reach before spanning to a new file.

The default size is 4GB; however this should be set to a larger size in order to improve performance. It is suggested that this maximum file size is set to at least the size of the full backup with enough headroom for future data growth. (If in doubt about the amount of growth expected, setting this to the maximum value of 4TB (4096GB) will have no detrimental effect.) This means a single file can hold the entire backup and prevents the houskeeping process, which starts whenever a file is closed, from interfering with the remainder of the backup job.



An exception to this rule is when D2D replication is being used when it may be beneficial to use a smaller file size in order to start replicating backup files before the whole backup completes. However this may reduce backup performance, if the D2D Backup System is heavily loaded with other backups or housekeeping processes.

7. Configure the **Maximum number of backup sets** that can be held in each backup to disk file.

This setting should be set to 1; this prevents backups from appending to backup-to-disk files. No space is lost in this configuration because no space is allocated per file. Appending of backups to Backup-to-disk files is undesirable because it prevents that file being overwritten until all sets have expired. It also causes additional D2D replication overhead because replicating an appended file requires the replication target file to be "cloned" before new data can be added to it, which reduces performance.

I OF DOULD SELS DEF DOUL		
	up-to-dak ne:	
the data selected from a Files selected from multiple	single resource is placed to e resources create multiple i	pether backup
llows the backup-to-disk s disk space to be reclaim	file overwrite protection per ed faster.	iod to
F	the data selected from a Files selected from multipl allows the backup-to-disk is disk space to be reclaim	the data selected from a single resource is placed to Files selected from multiple resources create multiple allows the backup-to-disk file overwrite protection per is disk space to be reclaimed faster.

An exception is if a large Backup-to-disk file size is configured but backups are quite small. These backups could be appended to the Backup-to-disk file (if appending is enabled in the backup job) and, in this case, the maximum number of backups per file can be configured

8. Configure the Maximum Number of Concurrent jobs.

This is an important selection for D2D due to the limitation on the number of concurrently open files that are permitted. The default setting for this variable is 1, which means that only one backup job is permitted to that Backup-To-Disk file at any one time.



When Backup Exec is backing up flat file data (rather than database or any other media agent) it will have four files open concurrently during the backup. One is the backup data file (B2DXXXXX.bkf) which is deduplicated; the other three files are smaller than the 24KB pre-deduplication limit and consist of a file lock (B2DXXXXX.lck), a changer configuration file (Changer.cfg) and a Backup-To-Disk folder configuration file (Folder.cfg).

However, it is possible that a second backup file may be temporarily open on the D2D Backup System during transitional periods when the backup spans to a new *.bkf file. This is because the Windows operating system will report that the previous file is closed before the D2D Backup System actually closes the file.

It is recommended that no more than four backup jobs run concurrently to a D2D share - the maximum number of concurrent jobs setting is used to prevent more than four concurrently open files. Depending on the number of Backup-To-Disk folders configured within a single NAS share this value should be set in the range between 1 and 4.

When Backup Exec is using media agents to back up other types of data, e.g. Exchange or Oracle Database, it is possible that a much larger number of small (pre-deduplication) files are held open concurrently. Thus it is recommended that only a single job runs to a D2D NAS share when backing up these data types.

See the D2D Best Practices for VTL, NAS and Replication implementations for more information on the maximum number of concurrently open deduplicated and pre-deduplicated files per D2D Share and per D2D Backup System appliance for different D2D Backup System models.

9. Configure the Low Disk Space Threshold setting.

This is a number of GB of remaining disk space at which point backups to the Backup-To-Disk folder are suspended. The default for this setting is OGB, i.e. there is no low space threshold set, and it is the recommended setting.

With deduplication a physical disk space remaining figure is meaningless, because a backup may use a fraction of the physical disk space compared to the amount of data backed up.

up-to-Disk V	Vizard		2
ow Disk Space Set the low	e Threshold disk space threshold a	at which backup operations are suspe	nded.
Enter the si	ze for the low disk spa	ce threshold:	
The low disk operations to When the lo disk space's	space threshold is the to the backup-to-disk f w disk space threshold status. No more backu	e amount of free space on the drive a folder are suspended. d is reached, the backup-to-disk folde p jobs are submitted and current bac	it which backup ir goes to a 'low dup tobs are
queued unt	I more free disk space	p joos are submitted and current bas becomes available.	sup joos are

10. Finally Backup Exec will present a summary of the Backup-To-Disk folder configuration before creating the folder.

Once complete the Backup-To-Disk device will be created and presented on the **Devices** page in Backup Exec. At creation time two small configuration files will be created on the D2D CIFS share (Changer.cfg and Folder.cfg).



3 Configure a backup rotation scheme

When backing up to CIFS shares on the D2D Backup System it is recommended that a similar retention and rotation scheme to that of virtual tape is used. There is some simplification over virtual tape in that no account needs to be taken of the number of cartridges within the virtual library, only the total number of files that can be supported on a D2D CIFS share (25000), which should be more than adequate.

It is, however, important to ensure that the amount of data in the share does not grow in an uncontrolled fashion due to keeping all backups forever. The default media set in Backup Exec is the **Keep Data Indefinitely** set, this should not be used for CIFS backups.

The following is an example of a "Best Practice" backup rotation and retention scheme configuration with Backup Exec. This scheme observes the following best practices:

- Backup-To-Disk files are never appended to; appended backups reduce replication performance, prevent files from being overwritten until all sessions have expired and have no disk space benefit for NAS targets.
- Different media pools are used to set retention periods for different types of backup (Daily, Weekly, Monthly).
- Only one type of data is backed up in this Backup-To-Disk folder, in this case it is flat file data, other types would be Exchange, SQL, Oracle etc.
- This backup will create only one concurrent backup stream; up to three other flat file backups (of other client servers perhaps) could use the same Backup-To-Disk folder concurrently.
- Most backups will not include a Verify pass because this impacts overall performance.
- Software compression is disabled because this will slow the backup job and result in a worse deduplication ratio.

The rotation and retention scheme for this backup rotation scheme employs GFS as follows:

- 1. Daily (Monday Friday) Incremental backups, overwritten every week.
- 2. Weekly (Saturday) Full backups, overwritten every 4 weeks.
- 3. Monthly (1st Day Month) Full backups, overwritten every 12 months.
- 4. Yearly (Jan 1st) Full backups, never overwritten.

Monthly full backups will replace the last weekly full backup.

To create a media set

The first step in creating this scheme is to create new Backup Exec Media sets that employ the correct protection. Once this protection period expires media (in this case Backup-To-Disk Files) will be overwritten by the next backup job that uses the media set.

In this example we need four new media sets as follows:

Media Set Name	Overwrite Protection Period	Append Period
Daily Incremental Backup	5 Days	Infinite (though not used)
Weekly Full Backup	4 Weeks	Infinite (though not used)
Monthly Full Backup	1 Year	Infinite (though not used)
Yearly Full Backup	Infinite – Do not overwrite	Infinite (though not used)

 To create these media sets, go to the Media page of the Backup Exec interface and select New Media Set from the Tasks panel. An example of a media set configuration for the Daily Incremental Backup is shown.

vaue nu	ies
yame:	Daly Incremental Backup
Creation date:	01/04/2010 13:19:39
Media set perio	da
Qverwrite prote	action period:
	5 Days
Agpend period	-
Nor	infinite - Allow Append
WARNING: Ar Level is set to Partial with use	ty media can be overwritten if the overwrite Protection None. The overwrite protection level is currently set to r prompt . Click Help for more information.

2. It is also useful to change the Media overwrite options.

From the **Tools** — **Options** menu select **Media Management** and change the Media overwrite option to **Overwrite recyclable media contained in the targeted media set before overwriting scratch media**. This will ensure that the retention period of the media is not exceeded by creating new Backup-To-Disk files rather than overwriting expired ones.

	personal sectory a	1100
+ shaled de	Media Management	
evice and Media	 Media overweite contection level 	
hiority and Availability	C Full - revient allocated and imported media	
lackup	G. Ratiol. and and a she she start and a	
lectore	 Pana - protect only alocated meda 	
letwork and Security	Prompt before overwriting imported media	
est Run	C None	
he/Post Commands	Pionpt before overwriting allocated or imported media	
ob Logs	M. F. surger de calence	
dvanced Open File	Media oververe options	
dvanced Disk-based Backup	C Overwrite scratch media before overwriting recyclable media contained in the targeted media s	tet
echive	G Duranelle recursible media contained in the targeted media set before compating squark med	áa -
82		~
nterprise Vault		
nux, Unix, and Macintosh	Media label configuration	
otus Domino	Media type:	
icrosoft Active Directory	4MM	*
icrosoft Exchange	Pueller Next using Disky	
ficrosoft Hyper-V		
icrosoft SharePoint	leave li lo	
ficrosoft SQL		
DMP	Default media vault	
iefWare SMS	Dation .	
hacle	Unive	-
EA-initiated Job Settings		
Mivare		
chedule		
ettings		
reverses (D		
to status and necovery		
araiog		
inter the Disk		
Cate Date		
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To create backup policy

1. Once media sets have been created, a new backup policy can be created from the **Job Setup** page on the Backup Exec User interface. There is a default backup policy that is similar to the required scheme in this example, so copying this provides a start point for modification.

Home J	ob Set	up Job Monitor Alerts	Repo	orts Devic	es Media	- Desize -			
General Tasks	*-	Jobs - U tierns	Denie	- Bloose	Marcha di st	Filter: A	jobs	Benetice	<u> </u>
Delete Properties Run now Test run Copy Increase Priority Decrease Priority View Gemery		Joo rume / Joo rype None	Devic	e ruanie	Precise Set	200 PRETOD	Overwinde	Necuring	Priority
a Backup Tasks		•	_						
New job New job using wizard New job to verify backup data New job to duplicate backup sets	*	Policies - 3 tems Policy Name Duplicate Bedup Sets 00001 Media Rotation 00001 Verify 00001		Policy Descr A ready-to-u New Jobs U Delete Jobs	pton se policy that you sing Policy Created By Policy.	an custonize for a	multi-stage b Grandfather, I a verify ope	adup strate; Father, Son ration separa	2¥ 8 1
New job New job using wizard	_			Vew History Vew Summ	r Fy	og romog til			
Policy Tasks	*	Backup Selection Lists - 0 Items	- In	Copy			backup selec	ction lists	
New policy using wizard New jobs using policy		Selection List Name None		Delete Copy Text Properties					

2. Once copied the new template can be renamed and edited to match the rotation scheme in the example, the policy already consists of three individual job templates for Daily, Weekly and Monthly backups.

icy name:	Backu	p to D2D CIFS GFS Policy				
icy description:	Modifie	d GFS Policy for use with CIFS	shares on D/2	D Device		
b templates						
Template Name	,	Schedule Type	Job Type	Job Method	Device	Media Set
Daily Increment	al Backup	Run according to schedule	Backup	Incremental	All Devices (LOUGHTO	Keep Data
Monthly Full Bar	ckup	Run according to schedule	Backup	Full	All Devices (LOUGHTO	Keep Data
Weekly Full Bac	skup	Run according to schedule	Backup	Full	Al Devices (LOUGHTO	Keep Data
New Template.	Ede	Template _ Delete Templat	te		1	mport Template
New Template.	. Edit	TemplateDelete Templat	te		1	mport Template.
New Template. mplate rules (opi If start times cor	ional)	TemplateDelete Templat Ny Full Backup supersedes We	te	up.	1	mport Template.
New Template mplate rules jopt If start times cor If start times cor	tional) flict, Week	Template. Delete Templat hty Full Backup supervedes With Full Backup supervedes Dat	eekly Full Back	up. Backup.	1	mport Template

Note that the individual Job templates for Daily, Weekly and Monthly backups need to be modified.

Device and Media

Firstly adjust the Device and Media options to:

- Select the new Backup-To-Disk folder
- Change the media set to the newly created sets
- Set the job to always overwrite

The daily incremental backup template changes are shown here

	- Device and Maria	
Destination		
Device and Media	Device	
Settings	D2D-C2C83018NY_BackupExecShare1	-
Advanced	May this ish to have direct access to the desire.	
Pre/Post Commands	Not set	
Network and Security	Meda tet	
Advanced Open File	Daly Incremental Backup	<u> </u>
Advanced Disk-based Backup		
Microsoft SQL	r When this job begins	
Microsoft Exchange	Ø Overwite media	
Microsoft SharePoint	C descend to made assessible if an anomalable made is available	
Microsoft Active Directory	· Spend to recut, originate into approace recut a statute	
Oracle	Append to media, terminate job if no appendable media is available	
082	-	
NetWare SMS	Eject media after job completes	
Linux, Unix, and Macintosh	F Retension media before backup	
NOMP	Use Write more read naw (WCRM) media	
Enterprise Vault	Easthe Direct Core to taxe	
VMware	 chable precisiopy to tape 	
Microsoft Hyper-V	Multiple data streams (Dracle and DB2 only)	
Notification	Maximum number of devices to use for resources that support multiple data streams:	
Excusions	Main an author of devices ferminate inh if forces devices are available.	
Schedule	vinituri numbei o devices, lenintate juo i reviel devices are available.	

General settings

Then change the General settings to:

- Rename and re-describe the template
- Select the backup method (Incremental, full, etc)
- Disable verify
- Set compression to either **Hardware if available**" or **None**. (The D2D Backup System will always deduplicate and compress the data; enabling software compression will slow the backup job and result in a worse deduplication ratio so should NOT be selected.)

Incremental Backup Prop	erties	_10
estination	General	
Device and Media	Templete same Date Incompeted Backup	
ottings	restant tant. In advictmenta part of	
ieneral	Backup sgt description: Daily Incremental Backup	
dvanced	- Bashan method	
he/Post Commands	backup memod	
letwork and Security	Bacgup method for nes:	
dvanced Open File	Incremental - Using archive bit (reset archive bit)	-
dvanced Disk-based Backup		
fictoredt SQL	Eles accessed in 30 days	
fictosoft Exchange	F Has the Microsoft Charges Journal & available	
fictosoft Sharemont		
ather Destrict	E Beserve tree on back up and delete	
inania	Collect additional information for synthetic backup and for true image restore	
92		
lefulare SMS		
inux. Unix. and Macintosh	1 (verily area packup Combined	
OMP	Compression type:	
relerprise Vault	Hardware II available, otherwise none]	*
Mware		
ficrosoft Hyper V		
lotification		
eclusions		
equency		
chedule		
·		
		a []

3. Lastly modify the schedule to meet the requirements of the template type.

For example, for the daily incremental backups disable the "**Day Interval** setting and enable the **Recurring Week Days** setting, then select the days of the week to run the job. Also set the **Time** interval to meet the backup window requirements.

	r Schedule	
Destination Device and Media Settings	Current date and time 01/04/2010 16:40:47	
General Advanced PavPort Consands Network and Seculty Advanced Dat-based Backup Microsoft SUL Microsoft Sub-America Microsoft SharePoint Microsoft ScharePoint Microsoft Advanced Nacota Advanced Data Data Data Data Microsoft Sub- Microsoft Advanced Nacional ScharePoint Microsoft Advanced Nacional ScharePoint Microsoft Advanced	Schedule C C Run according to rules for this template C Run according to gchedule and run according to rules for this template Latit Schedule Details Effective date: 18/01/2010 The relation State or date: than 23 00:00 d Schedule Details X	1
Temperatural Calendar NOMP Creption Vaul Vitware Notocolt Hyper V Notocolt Hyper V Notocolt Hyper V Notocolt Hyper V Notocolt Hyper V Schedule Edit Cal	Schedule Discussion Dates Image: Schedule Dates Hory 2010 June 2010 Image: Schedule Dates Hory 2010 June 2010 June 2010 Image: Schedule Dates Hory 2010 June 2010 June 2010 June 2010 Image: Schedule Dates Hory 2010 June 2010 June 2010 June 2010 June 2010 Image: Schedule Dates Hory 2010 June 2010 June 2010 June 2010 June 2010 Image: Schedule Dates Hory 2010 June 2010 June 2010 June 2010 June 2010 Image: Schedule Dates June 2010 June 2010 June 2010 June 2010 June 2010 Image: Schedule Dates June 2010 June 2010 June 2010 June 2010 June 2010 June 2010 Image: Schedule Dates June 2010 June 2010	
11 Di 12 Di	ey Interval Fective Date me Window Select All Deselect All 46 P P P P P P T T	

4. Once the three existing templates have been modified, a new Yearly template needs to be created using the same principles.

The default template rules ensure that Weekly backups supersede Daily Backups and Monthly backups supersede Weekly backups, if start times conflict, and can remain. Three further rules can be created to ensure that Yearly backups supersede the other three backup types.

ay mane.	Backup	to D2D CIFS GFS Policy				
cy description:	Modified	d GFS Policy for use with CIFS	shares on D2	D Device		
b templates						
Template Name		Schedule Type	Job Type	Job Method	Device	Media Set
Daily Incremental	Backup	Run according to schedule	Backup	Incremental	D2D-C2C83018NY_Ba	Daily Incre
Monthly Full Back	up	Run according to schedule	Backup	Full	D2D-C2C83018NY_Ba	Keep Data
Weekly Full Backs	ap .	Run according to schedule	Backup	Full	D2D-C2C83018NY_Ba	Weekly Ful.
Yearly Full Backup	p	Run according to schedule	Backup	Full	D2D-C2C83018NY_Ba	Yealy Full
New Template	Edit	emplate Delete Templat	*		1	nport Tenplate
New Template .	Edit T	Template Delete Templat	*		1	nport Template
New Template	Edit T nal)	Template Delete Templat	e j	Backup.	1	nport Template
New Template emplate sules (option Il start times confil Il start times confil	nal) ct, Week ct, Yearly	emplate Delete Templat ly Full Backup supersedes Daily Full Backup supersedes Daily	e ly Incremental Incremental I	Backup. Iackup	2	nport Template
New Template emplate rules (option II start times confil II start times confil II start times confil	Edit T nal) ct, Week ct, Yearly ct, Yearly	emplate Delete Templat Iv Full Backup supersedes Daly Full Backup supersedes Daly Full Backup supersedes Daly	e ly Incremental Incremental B Hy Full Backs	Backup. Lackup. p	1	nport Template
New Template Implate rules (option If start times confil If start times confil If start times confil If start times confil	Edit T nal) ct, Week ct, Yearly ct, Yearly	Template Delete Templat by Full Backup supersedes Dail Full Backup supersedes Dail Full Backup supersedes Merri Full Backup supersedes Weel	e ly Incremental Incremental E bly Full Backu	Backup. Jackup. p.	2	nport Template

5. The last configuration step before actually creating the backup jobs is to create a Backup **Selection** list; this is the list of resources to be backed up.

In this example the Selection list is just going to contain the local media server backup.

If multiple servers are configured for backup, they will be queued to run sequentially in the backup job. In order to ensure that multiple backup streams run concurrently to the Backup-To-Disk folder (assuming the concurrency value for the folder is greater than 1) more backup selection lists can be created

Selections	Selection list name:					
Resource Order Resource Credentials Priority and Availability	Local Media server	Load selections from existing list Include *Exclude			subdirectories	
	Selection list description:				ile details	
Preferred Servers	View by Resource View Selection Details	1				
	E - R L Al Resources		Name A		Comment	
	B-2 T LOUGHTON-VM-BE2		Domains			
	IT M And CI		Enterpri	se Vault		
	R A Morosoft SQL Server 1	KUPENEC"	C Bucund	Resources		
	🗈 🛃 📆 Shadow Copy Compone	ents	Microsoft	t Furba		
	Favorite Resources Unux/Unix Servers		E # Mcrosoft ShareP			
			E MOMP S	ervers		
	R Windows Systems		🔲 🔒 Oracle R	nal Appl		
	E B Domains		User-de	fined Sel		
	🗷 🔠 😝 Oracle Real Application Clus	iters	EI GP VMware	vCenter		
	B B NDMP Servers					
	Morosoft Sharehold Selections	rems				
	E - Enterprise Vault					
	B III 2 VMware vCenter and ESX 5	ervers				
	🛞 🔠 🔠 Microsoft Exchange Databa	ese Availability Grou				
			4			
						-

6. The last step in the process is to create backup jobs based on the Policy and Selection Lists. Select the **New Jobs Using this policy** option from the tasks panel, then select the **Selection lists** for which jobs will be generated.

🛞 New Jo	obs Using Policy	
To create check box	; jobs using the selected policies and selection lists, clic c.	k the
Selected	policies:	
Backup	to D2D CIFS GFS Policy	×
Selection	lists:	
Back Up	Name A	
D	File Server 1 Local Media server	
	OK Cancel	Help

7. The jobs will be created and will run according to the schedule and rotation scheme defined.

	0 50	6 80	0.00				Buchura		
Home Job Setu	p Job Monitor Alerts	Reports Device	in Media			2	Bestore	Search Knowled	tpe Base
Decrease Priority	Jobs - 8 Items						Filters	All jobs	-
View Summary	Job Name / Job Type	Device Name	Media Set	Job Method	Overwrite	Recurring	Priority	Policy	Selection List
Backup Tasks 0	File Server 1-8a Backup	D2D-C2C83018NY	Daily Incremental	Incremental	Yes	Yes	Medium	Backup to D2D C	File Server 1
New York	File Server 1-Ba Backup	D2D-C2C83018NY	Keep Data Infinitel	Full	Yes	Yes	Medium	Backup to D2D C	File Server 1
New job	File Server 1-8a Badup	D2D-C2C83018NY	Weekly Full Backup	Full	No	Yes	Medum	Backup to D2D C	File Server 1
New job using wizard	File Server 1-8a Backup	D2D-C2C83018NY	Yearly Full Backup	Ful	Yes	Yes	Medium	Backup to D3D C	File Server 1
data	Local Media serv Backup	D2D-C2C83018NY	Daily Incremental	Incremental	Yes	Yes	Medum	Badrup to D2D C	Local Media serv
New job to duplicate	Local Media serv Backup	D2D-C2C83018NY	Keep Data Infinitel	Ful	Yes	Yes	Medium	Backup to D2D C	Local Media serv
backup sets	Local Media serv Backup	D2D-C2C83018NY	Weekly Full Backup	Full	No	Yes	Medum	Backup to D2D C	Local Media serv
	Local Media serv Backup	D2D-C2C83018NY	Yearly Full Backup	Ful	Yes	Tes	Medium	Backup to D2D C	Local Media serv
Restore Tasks 🏾 🎗									
New job	Policies - 4 Items						-		
New yoo using waters	Delay Name	/ Ballou Descrip	line .						
Policy Tasks 2	Policy name	Modified CES	National Rest and with CITE	E abarar on IV	D Device		_		
Name of Street	Deduate Back of Fate (2001)	A conductor or o	roncy for use mini car	s shares on Us	ar Device	adam strates			
New policy spins winned	Mada Datation (2001)	A ready to se	a policy that you can a	sustanias for a	Canodiation	Eather Con	····		
New John union collect	1000 H00001 00001	A ready to us	e pointy that you can i	customize for a	oranularie,	rever, son	2		
Palata jobs coasted by	verry 00001	A ready-to-ut	e poscy mac you can a	customate to ru	n a venny ope	racon separa	l5		
policy									
View policy protected									
resources report									
Selection List Tasks A									
New backup selection list	Paulo of Calculate Lints - 2 hos	-						[
New restore selection list	backup belection Lists - 2 ten	•					Filter:	All backup selection list	8 💌
New jobs using policy	Selection List Name	/ Description							
Delete jobs created by	File Server 1								
policy	Local Media server								
Search backup selection									
1803									
Backup Strategy Tasks									
the second									
then are the distantial									
percent organized									
recovery New tables automatically									

Housekeeping considerations

For the initial backups new Backup-To-Disk files will be created for every new backup, however, as soon as sessions reach their protection expiration, Backup Exec will overwrite each file in turn as a new job starts.

Because the backups are configured to use one Backup-To-Disk file per backup the housekeeping process will not start until the new backup has completed and thus will not interfere with the backup. However, if multiple jobs are running concurrently but do not finish at the same time there will be some housekeeping interaction with the other backups. In order to avoid this, some tuning of the backup start times can be made in order to better align the backup finish times. This, however, means that a new policy with different templates is needed for each backup job.

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The backups will now run according to the new schedule, for initial backups new backup files will be created. When backup protection expires, e.g. after 1 week of incremental backups, the previous backup files will be overwritten. Overwriting of the backup files will result in Housekeeping work being generated; this will run in parallel with the backup process and could cause a slight reduction in performance. During the backup, Backup Exec creates two files, one is the backup data file depot which grows throughout the backup, the other is a temporary file of 15MB which is removed when the backup completes.

About this guide

This guide provides information about:

- Provides step by step instructions on configuring a D2D NAS CIFS device on Symantec Backup Exec 2010
- Describes the Symantec Backup Exec 2010 backup folder configuration options and identifies what settings to use with HP D2D NAS CIFS shares.
- Describes how to implement a full end-to-end recovery solution from a target D2D Backup System with D2D NAS CIFS shares using Symantec Backup Exec 2010

Intended audience

This guide is intended for users who install, operate and maintain the HP StoreOnce D2D Backup System.

This guide assumes a basic working knowledge of Symantec Backup Exec 2010 and that it has been installed correctly by loading the appropriate Media Agents and licences.

Related documentation

In addition to this guide, the following document provides related information:

- HP StoreOnce Backup System Concepts Guide: If you are new to the HP StoreOnce Backup System, it is a good idea to read this guide before you configure your system. It describes the StoreOnce technology.
- *HP StoreOnce Backup System User Guide*: This guide contains detailed information on using the Web Management Interface. It also contains troubleshooting information, including details on replacing failed or failing hard disks.
- D2D Best Practices for VTL, NAS and Replication implementations: This white paper advises how to plan the workload being placed on the HP StoreOnce Backup System in order to optimize performance and minimize the impact of deduplication, replication and housekeeping operations competing for resources. It is regularly updated.

You can find these documents from the Manuals page of the HP Business Support Center website: http://www.hp.com/support/manuals

In the Storage section, click Storage Solutions and then select your product.

Document conventions and symbols

Table 1 Document conventions

Convention	Element
Blue text: Table 1 (page 25)	Cross-reference links and e-mail addresses
Blue, underlined text: <u>http://www.hp.com</u>	website addresses
Bold text	 Keys that are pressed Text typed into a GUI element, such as a box GUI elements that are clicked or selected, such as menu and list items, buttons, tabs, and check boxes
Italic text	Text emphasis

Table 1 Document conventions (continued)

Convention	Element
Monospace text	 File and directory names System output Code Commands, their arguments, and argument values
Monospace, italic text	Code variablesCommand variables
Monospace, bold text	Emphasized monospace text

Marning! Indicates that failure to follow directions could result in bodily harm or death.

- Δ CAUTION: Indicates that failure to follow directions could result in damage to equipment or data.
- IMPORTANT: Provides clarifying information or specific instructions.

NOTE: Provides additional information.

HP technical support

For worldwide technical support information, see the HP support website:

http://www.hp.com/support

Before contacting HP, collect the following information:

- Product model names and numbers
- Technical support registration number (if applicable)
- Product serial numbers
- Error messages
- Operating system type and revision level
- Detailed questions

HP websites

For additional information, see the following HP websites:

- <u>http://www.hp.com</u>
- <u>http://www.hp.com/go/ebs</u>
- <u>http://www.hp.com/go/connect</u>
- <u>http://www.hp.com/go/storage</u>
- <u>http://www.hp.com/service_locator</u>
- <u>http://www.hp.com/support/manuals</u>
- <u>http://www.hp.com/support/downloads</u>

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