User Guide

Version 2.6

STOREWAY DPA

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User Guide
Version 2.6

Software

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Chapter 1. Start and configure your StoreWay DPA

How to connect to the StoreWay DPA

How to connect to the StoreWay DPA

> Open an Internet browser on any workstation connected to the network and enter the name of your StoreWay DPA or its IP address in the address bar.

For example, the address can be either:

> **http://StoreWay_DPA_name** or **http://192.168.0.1**

or:

> **https://StoreWay_DPA_name** or **https://192.168.0.1**

The login window appears.

Shutdown and restart the StoreWay DPA

WARNING: It is always preferable to proceed as described to shutdown StoreWay DPA, in order to ensure that your files are properly backed up to disk. Switching off the device by cutting the sector power supply may result in a loss of data and backup errors.

Shutdown and restart the StoreWay DPA (1)

1 Click on the **settings/StoreWay DPA** menu.

2 In the left-hand menu, click on **Shutdown system**.

The **Shutdown system** window opens.

3 Click on the **Stop** or **Restart** button depending on what you want to do.

Shutdown and restart the StoreWay DPA (2)

1 Click on the Bull logo in the top left of the page to return to the home page.

2 Click on the option **Manage the** StoreWay DPA.

3 Select the option **Shutdown or restart the** StoreWay DPA in the central pane.

The **Shutdown system** window opens.

4 Click on the button **Shutdown** or **Restart** depending on what you want to do.

Shutdown and restart the StoreWay DPA using the console (3)

> From a command-line window, log onto the StoreWay DPA via telnet (or SSH), using the console login.

For example, for a StoreWay DPA called **myStoreWay DPA**:

```
telnet myStoreWay DPA
login as: console
console@myStoreWay DPA password: XXXXXXX
last login: Sun Sept 2 16:32:58 2007 from
172.16.10.125
You are connected to StoreWay DPA version
2.xx
0) Exit console
1) StoreWay DPA configuration
2) Maintenance
3) Tests
4) Infos/logs
Your choice ? 2
Maintenance
0) Exit console
1) Return to the main menu
2) Shutdown the StoreWay DPA
3) Restart the StoreWay DPA
4) Search for the sbk on tape
Your choice ? 3
Are you sure you want to restart the
StoreWay DPA ? (y/[n]) y
```

Understanding the StoreWay DPA interface

1   The **Event bar** contains action buttons (updates, deletes, etc.) which correspond to information displayed in the central pane.

2   The **Alarm button** displays alarms sent by the StoreWay DPA.

3   The **Logs** button displays the StoreWay DPA logs.

4   The **Log off** button close the interface and displays the StoreWay DPA log on window.

5   The **Shortcuts** on the home page give you direct access to the pages which correspond to the action you wish to perform. These shortcuts are not displayed on other pages in the StoreWay DPA **Navigation pane**.

6   The **General** menu comprises 4 items: "settings", "operations", "alarms" and "reports".

7   The **Home page** link accesses the home page from any window in the StoreWay DPA interface.

8   The **Online help** button opens a new window containing context-sensitive help with a full set of navigational tools (TOC, index, search, glossary).

9   The **Central zone** displays information accessible via the different menus.

Configure internal parameters

You are installing the backup system or you wish to update some specifications.

Configure internal parameters

1 Click on the menu **settings/**StoreWay DPA to consult or update internal StoreWay DPA parameters.

A list of parameter options opens in the left-hand part of the screen. Each folder corresponds to a page of internal StoreWay DPA parameters.

2 Click on the object you want to modify (date and time, network, StoreWay DPA updates etc.)

The contents of the page open.

3 Complete the zones or modify the parameters and click **update**.

See:

Centralization

In a StoreWay DPA solution, it is often useful to be able to remotely manage from a pool of StoreWay DPA (which can comprise several hundred - or thousands machines) in the same company. A Supervision StoreWay DPA allows you to see, for each StoreWay DPA in a designated pool:

> the systems and applications supervised by a StoreWay DPA,

> the defined profiles,

> the users,

> the backup reports,

> the state of the storage devices,

> alarms (you can acknowledge alarms from the Supervision StoreWay DPA).

Company network architecture

The centralized administration needs to be able to function on all types of network topology within an organization. There are two different network topologies in the context of the Supervision StoreWay DPA:

> The Supervision StoreWay DPA is on the same physical local network (intranet) or virtual (VPN) as the StoreWay DPA pool to be supervised.

> The Supervision StoreWay DPA is on a different network (remote or otherwise) and linked to the other StoreWay DPA via Internet (without a VPN).

The **Centralization** page allows you to:

> Set connection parameters and synchronization between two StoreWay DPA (local/remote).

> Start a synchronization (incremental or total) between the two StoreWay DPA.

> Test the connection between the two StoreWay DPA.

Configure centralisation parameters

Use the following parameters to enable a direct connection to a Supervision StoreWay DPA (on the same local network or VPN or via an ftp/proxy server):

Parameter	Description
Supervision StoreWay DPA	To use when the Supervision StoreWay DPA and the supervised StoreWay DPA are on the same local network local or within a VPN. Enter the Supervision StoreWay DPA IP address (for example **https:// 172.16.10.11**).
FTP Server	To use the Supervision StoreWay DPA is not in the same network or VPN. To connect via an FTP server, enter the IP the address, the user name and password.
Proxy Server	If you use a proxy server, choose the type of proxy (HTTP or FTP), the server name, its port and user names/password.

Configure synchronization parameters

1 Set the synchronization status to active (both StoreWay DPA synchronize at regular intervals) or inactive (no synchronization).

2 Set the synchronization frequency. You can opt for a daily frequency. If this is the case, put the same day in each field (Monday, by default) and a time at which the synchronization will occur. If you want a more frequent synchronization between two sites, select a frequency every n hours or n minutes.

Start a manual synchronization

You can start a manual synchronization with your Supervision StoreWay DPA at any time.

1 Click on the tab **Manual start**.

2 Select the type of synchronization (total or incremental) and click **start**.

Test the connection between two remote sites

1 For a summary of connection parameters, click the tab **Test Log On**.

You can see all the parameters concerning your connection with your StoreWay DPA and the Supervision StoreWay DPA.

2 Click **start** to test this connection. Check connection details in the event of failure.

Date & Time

This setting defines the date, time and time zone.

WARNING: In order to ensure that there is good level of consistency across the backed-up data, it is essential not to have too greater date and time difference between the StoreWay DPA and the backup clients. Manually modifying the system date and time on the workstations may result in serious inconsistencies when conducting file searches.

To modify the date or time, select the type of setting:

> manual,

> automatic via pool.ntp.org

> **by synchronization with a default Internet time server** (NTP: Network Time Protocol) internet **or with an internal or internet-based NTP server.**

Manual setting

> Select the new date and time and then click the **update** button at the bottom of the page.

> Select a time zone.

> Click the **update** button at the bottom of the page to save all changes on the page.

Automatic setting using pool.ntp.org

> Select this option to use the global synchronization option on a cluster of virtual servers. This option provides an NTP service which reduces time server load. Click on the button **update at the bottom of the page**.

Automatic synchronization with an NTP server

> Set either the default server or enter its IP address, then click **update at the bottom of the page**.

Setting the time zone

> To modify the time zone for your StoreWay DPA, select the required time zone from the drop down list and click **update at the bottom of the page**.

License

This page provides information concerning your StoreWay DPA and its license(s). Use this page to update your licenses. Click on the button **Update your license** to open the license activation page or follow the instructions on uploading and activating your licenses.

You can also open the license activation page on the extranet:

http://support.bull.com/ols/online/keys

This site enables you to request your permanent license keys.

Network

In order for the StoreWay DPA to be able to communicate with your other IT hardware and therefore be able to perform backups and send you e-mail reports, certain information about your network configuration is essential.

The network parameters are broken down into several sections:

See:

DNS

Domain name: This is the DNS domain name, if you have one.

This information allows the StoreWay DPA to identify itself on your network using your domain name, observing the specified identification rule.

> **Primary DNS**: This information allows identification of the DNS server, which has a directory of your network machines' addresses. If you complete this information, the StoreWay DPA will request the address of the systems that it should backup from your DNS server. Otherwise you will need to specify the addresses of these systems to the StoreWay DPA (see next paragraph).

> **Secondary DNS**: This information allows identification of a second DNS server, if you have one. This second DNS server will be interrogated by the StoreWay DPA if the primary DNS server does not respond.

> **NOTE:** You must not confuse the DNS domain name and the Windows domain name. These two types of information are different.

> If you do not have a DNS server, you must update the "Host" page.

> To confirm modifications, click update.

Host

If you do not have a DNS server, the addresses of client systems to be backed up must be specified for each .

The update button confirms modifications made to the page contents.

You might need to check the host configuration file is configured to accept requests from this machine. Edit the auth.cfg file in **<install_dir>\dpa\config**.

Interface settings

The Interface settings folder enables you to configure the StoreWay DPA IP address:

Either:

> By entering it **manually**.

Or:

> **Automatically**: The StoreWay DPA searches for a DHCP server (a server which automatically assigns IP addresses to machines that request one) on the network.

DHCP servers are increasingly used in companies. They automatically allocate IP network addresses. They are capable of providing the IP address of the machine and may also provide the address of the DNS servers (directory servers that contain the addresses of the machines on the network, which is used to obtain the address of the machine from its name).

When manually configuring the StoreWay DPA, these elements must be entered when the StoreWay DPA is first installed:

> **IP address**: The StoreWay DPA network address at which it can be contacted by other systems.

> **Subnet mask**: A filter that limits the list of addresses that the StoreWay DPA can contact to those of your network.

The other elements are optional and may be useful depending on the particularities of your configuration.

Mail server

This information allows to send you e-mails, to inform you of cartridge requirements or to provide you with reports about its overall activity.

You can add authentication details (SMTP activation, encryption, log on details).

There is also a button **Send test Email** which enables you to test the SMTP parameters you have added or modified.

Routing

> **Gateway**: This is the address of a gateway which allows you to leave the delimited network defined by the subnet mask, in order to perform backup of remote machines, for example

> **Routes**:
  - **Net/host** to request a routing to a system (host) or a network (net). Enter "net" or "host".
  - **Destination/mask**: IP address of the destination machine (host) or sub-network (net). In the case of the net, use the format XX.YY.ZZ.TT/MM where MM is the number of bytes of the mask. The bits exceeding the mask must be set to zero.

> **Gateway**: IP address of the gateway.

EXAMPLE: If you have entered the host destination/mask 192.168.1.1, Gateway 172.16.1.254 will route towards the system 192.168.1.1.

EXAMPLE: If you have entered the net Destination/mask 10.1.0.0/16, Gateway 172.16.1.253 will route towards the network 10.1.

> Backed up networks: enables you to back up only the systems which belong to certain networks. By default: when no network is configured, all networks are backed up.

EXAMPLE: The network is 172.16.0.0 with a mask 255.255.0.0. You only want to back up the systems on your local network:

network	mask
172.16.0.0	255.255.0.0

EXAMPLE: The network is 172.16.0.0 with a mask 255.255.0.0. You only want to back up the systems whose address is 172.16.10.*:

network	mask
172.16.0.0	255.255.255.0

The client has 2 networks: 172.16.0.0 (mask 255.255.0.0) for local systems and 192.168.1.0 (mask 255.255.0.0) for remote systems. Some machines (laptops…) can connect to the 2 networks and must be backed up when they are on the local network:

network	mask
172.16.0.0	255.255.255.0

If you modify routing parameters, you will have to restart the StoreWay DPA

SNMP

If you wish to use the SNMP agent to be able to monitor StoreWay DPA events with tools such as Nagios, you need to configure SNMP parameters here.

Configure SNMP parameters

1   Open the menu **settings/StoreWay DPA/Network/SNMP**.

2   Enter the following information:

- The name of the machine on which you want to receive the traps (machine name or IP address)

- The physical location of the StoreWay DPA (postal address). (Optional field.)

- The contact details for the StoreWay DPA administrator. (Optional field.)

NOTE: The physical address and contact details are optional and can be configured by other means - for example using the snmpset tool. However, when they are configured in the StoreWay DPA interface, they can no longer be configured by any other means without first emptying the fields in the SNMP page in the StoreWay DPA interface.

For more details on the SNMP agent, see the SNMP documentation on the "Documentation" CD.

Overview

This page presents the overall configuration of your StoreWay DPA for information purposes. For example, you can quickly find out how much disk space you have, or the type of tape drive you have integrated on your StoreWay DPA.

StoreWay DPA backup & restore

In order to limit the impact of potential major incidents (fires, theft, hardware crash, etc.), it is necessary to perform security backups of the StoreWay DPA. This backup exports all the StoreWay DPA internal data, which will allow you to restore this data when necessary and to get your StoreWay DPA back to its original state prior to the major incident.

NOTE: You are advised to carry out security backups of the StoreWay DPA to tape so you can externalize this vital information.

There are two ways to store the StoreWay DPA security backup:

>   **Storage on tape**: the security backup is then performed after client system backups on tapes already in use.

WARNING: In order for the StoreWay DPA to save its security backup to a tape, the tape must be write-accessible (not full, not write-protected, not sealed) and must have been assigned a virtual label by the StoreWay

DPA (blank cartridges are not suitable, backups must have already been performed on the tape).

> **Backup to a network disk**: the backup will then be stored on a Windows or Unix disk, which is mounted by CIFS or NFS.

> WARNING: With this option, the management of disk space on the specified network disk, and in particular the deletion of old StoreWay DPA backups, is the responsibility of the administrator. For security reasons, the StoreWay DPA will not delete any files on the network disk.

By default, the StoreWay DPA performs its security backup every morning at 8 am to tape.

After a successful backup to tape, the administrator receives a mail to which a reboot file (.sbo) is attached.

This file must be kept: it enables you to restore the StoreWay DPA in the event of a serious incident.

Backup your StoreWay DPA

1   Open the page **settings/StoreWay DPA/StoreWay DPA backup & restore**.

2   Click on the button **backup**.

The StoreWay DPA generates a backup file immediately.

3   Click on the link to retrieve it and save it to your disk.

NOTE: You can stop a security backup at any moment. Go to the home page of the StoreWay DPA and click on the button **Stop** in the section StoreWay DPA **Information**.

Configure automatic security backups

> Click on the button **plan** to modify how security backups are programmed.

The configuration screen opens with the following sections:

Security backup programmed

The first section, **Security backup programmed** displays your security backups which have already been scheduled. To delete one or more of these programmed back ups:

> Select **Delete** at the end of the line.

> Click **update**.

Plan a new security backup

The second part enables you to program new security backups.

> First select the frequency of these backups: daily, every week, at a given time.

> Then select the backup mode: **Backup on tape**, or **Backup on a network share**: in the latter case, choose the type of network share (Windows CIFS or Unix/Linux NFS). Enter the name of the system to which the disk share belongs, the network path, the domain, the user and password for access to the network share.

> Click **update**.

Options

> You can choose to eject the cartridge once the backup is finished. Check the option: **Eject the cartridge after backup**.

Test network share

You can test the network share parameters for each configured security backup by clicking the **Test the network share** button.

Restore your StoreWay DPA

Restore your StoreWay DPA

> Restore the StoreWay DPA from a reboot file (extension .sbo) or a backup file (extension .sbk)

For more information on these files and on restoring a StoreWay DPA, see:

"Restoration of the StoreWay DPA" page 22

StoreWay DPA update

Bull gives customers who have maintenance contracts, access to software updates. These updates improve the functionality of the StoreWay DPA and correct certain known problems.

An update will come in the form of a file with a .sbu extension. It will be made available from your technical support team. Connect to the following site:

http://support.bull.com/ols/online/keys

This site enables you, via an account (existing or to create), to record your StoreWay DPA products and receive your permanent license keys. It gives you access to updates.

WARNING: It is strongly recommended to always "Backup your StoreWay DPA" page 19 before updating.

How to know that a new update is available

You can be automatically informed by an alarm when a new update is available. All you have to do is:

1 In the **Automatic detection** tab, select the automatic update detection from the official update server. You can also use another update server, if your support team has given you another address.

2 Select verification frequency: this is the frequency with which the appliance will connect to the update server to check for new updates.

3 Click **update**.

Install an update

The update is installed in two stages: uploading and installation.

WARNING: Read the information which accompanies each update (patch, service pack). This information is provided with the .sbu file you upload from the extranet.

Install an update

1 Upload the update: this operation consists of transferring the update to the StoreWay DPA in question. Click **browse** to view the file tree structure in order to select the update file (with the extension ".sbu").

2 Once the file is selected, click on the **Upload file** button to execute the update.

NOTE: You can upload several updates before installing them.

3 Select in the list of available updates for installation all those you want to install then click **Install**.

The StoreWay DPA displays the list of updates which are already installed, their name, status and installation date.

System shutdown

This screen triggers an immediate system shutdown or restart of the StoreWay DPA.

Wherever possible, the StoreWay DPA must be shutdown or restarted via this interface menu. This method is infinitely preferable to cutting off the electrical power supply: all active system data is then saved before shutdown.

If power supply to the StoreWay DPA is cut off without going through this interface, it will perform a full check of its entire configuration when it is rebooted. The restart in this case is longer, and may cause the StoreWay DPA to delete elements that it considers to be uncertain: lost backups, media closed due to incident or unknown media.

These events do not have serious consequences for overall operation, but may require certain backups to be restarted.

See also:

Restoration of the StoreWay DPA

See:

Restore the StoreWay DPA in the event of a major incident

In the event of a major incident, it may be necessary to restore StoreWay DPA.

The restore procedure uses security backups that the StoreWay DPA has stored to tape.

This page offers you three restore options:

> **Restore from a boot file** (.sbo extension) with a security backup cartridge.

> **Restore from a backup file** (.sbk extension)

> **Restore from a previous security backup reference**. This function is rarely used but may be necessary to return to a previous configuration. In this case, subsequent backups will no longer be recognized by the StoreWay DPA (tapes not recognized).

Restore a StoreWay DPA from a boot file

In the event of a major incident, it is sometimes necessary to restore the StoreWay DPA. This procedure uses the security backups that StoreWay DPA has made to tape.

When the StoreWay DPA is backed up, a backup file of the StoreWay DPA settings and database is stored on the network disk and/or on tape. It has an .sbk extension and may be quite a large file.

The boot file (extension .sbo) contains the address of the file with an .sbk extension on tape.

Restoration from a boot file is a simple way of restoring StoreWay DPA. This requires two elements:

> The boot file that StoreWay DPA sends by e-mail to the administrator.

> The associated cartridge on which the security backup was performed, and which is mentioned in the e-mail.

If, as a result of the incident, you have received a new StoreWay DPA, you must start by installing it.

For more information about installing a StoreWay DPA, please refer to the Quick Start guide.

WARNING: The StoreWay DPA restore procedure requires the name of the backed-up StoreWay DPA and the name of the StoreWay DPA that you are going to restore, to be identical.

Restore the StoreWay DPA from a boot file

1 Click on the **settings/**StoreWay DPA menu.

2 Click on the **Backup & Restore** StoreWay DPA folder.

3 Click on the **Restore** button at the bottom of the page.

4 Check the option **Restore from a boot file (extension .sbo)**.

5 Click on the **Browse** button to select the boot file.

The access path is then indicated in the field provided for this purpose.

6 Open another StoreWay DPA window.

> **WARNING:** During the restore operation, the displayed message prevents any action from being performed in this window. It is therefore recommended that you open a 2nd browser window on the StoreWay DPA in order to see if alarms are generated and be able to view events if necessary.

7 Click on the **Restore** button at the bottom of the page.

- StoreWay DPA then begins its restoration cycle, starting by reading the cartridge on which the security backup was performed.

- During the restore phase, the StoreWay DPA may request that the cartridge containing the security backup be loaded if the correct cartridge is not in the drive.

- After a few minutes, the StoreWay DPA switches to disconnected mode: it then restores its internal parameters, before restarting. After restarting, the StoreWay DPA checks that its internal storage spaces are consistent with the newly restored data.

- This phase may take up to thirty minutes, during which the StoreWay DPA displays the restore alert:

- **The** StoreWay DPA **is not available: restore in progress**

- Once the restore is complete, StoreWay DPA tells you that it is operational again and invites you to reconnect.

8 Connect to the StoreWay DPA.

Once reconnected, the following alert:

StoreWay DPA **restore done: the restore process is complete**

Shows that the restore operation went smoothly and has been successfully completed.

The StoreWay DPA now returns to normal operation.

Restore the StoreWay DPA from a backup file

The procedure for restoring from a backup file is similar to the procedure for restoring with a boot file. The essential difference is that StoreWay DPA does not read the security backup data from tape, as this data is directly available in the file provided (extension .sbk).

Restore the StoreWay DPA from a backup file

1 Click on the menu **configurations/StoreWay DPA**.

2 Click on the **Backup & RestoreStoreWay DPA** folder.

3 Click on the **Restore** at the bottom of the page.

4 Select the choice **Restore from a backup file** (extension .sbk)

Although this method may appear more advantageous because it is quicker and does not require a cartridge, it nevertheless has some serious drawbacks:

> More disk space is required to store the backup files.

> **WARNING:** **In the event of total loss of a site as a result of a major incident, you will also have lost your backup files, most**

commonly saved to local network disks, on a machine close to the StoreWay DPA. You may then have to restore the StoreWay DPA from cartridges stored in an off-site safe deposit box.

The security backup allows you to make two backups (.sbk and .sbo) at the same time.

To do this, check both boxes: **tape backup** and **network share backup**.

As when performing any StoreWay DPA restore operation, you are strongly advised to open a second browser window on the StoreWay DPA to see any alarms that may be generated.

Define user access rights

You can define user access rights for the following:

Define read access to the backups

Define read access to the backups

1   Click on the menu **settings/Users**.

A list of user names opens in the left-hand part of the screen. Each folder corresponds to the description of a user.

By default, the user called admin has all administrator rights: configuration and consultation of the StoreWay DPA.

The other users you will define can only consult the backups, the systems and the StoreWay DPA activity reports.

Create new user access rights

Create new access rights

1   Click on the [icon] icon to create access rights for a new user.

The **Create user settings** page is displayed.

2   Fill in the fields and click on the **create** button.

Zone	Description
Name	Enter a name which will be easily recognizable within your organization (JohnR_IT_Manchester, for example).
Comment	You can explain the user rights to attribute to this user (for example, StoreWay DPA Administrator).
Permissions user	You can authorize, by checking the one or both boxes, access to the configuration menu (the user can create systems and applications himself) and/or the possibility of performing cross-system restorations (restore files on other systems). See "Define access rights for cross-restore operations" page 26.

Change or reset a password

1   Click on the user name in the tree structure.

The **Edit user page** opens.

2   Modify the parameters and click on the **update** button.

Delete access rights

> Click on the name of the user in the tree structure.

  The **Edit user page** opens.

> Click **delete**.

Define access rights for cross-restore operations

It is usually not possible to restore backed-up data to any system other than the backed-up system. However, in the event of a system crash or a change of machines, a procedure has been defined that enables this to be done, when necessary and only in exceptional circumstances.

Special access rights must be given to the user in order to do this: this type of restore is known as cross-system restoration. Cross-system restoration is an access right given to the user irrespective of the original system that s/he wishes to restore.

Define access rights for cross-restore operations

1   Click on the menu **settings/Users** to consult or update the list of StoreWay DPA users.

  A user name tree structure is displayed on the left-hand side of the screen. Each folder corresponds to a user description.

2   Click on the ![icon] icon to create a new set of user access rights.

  The **Edit user page** opens.

3   Define the user **name** respecting the following syntax: system/user ID for the user with access rights on the original system.

4   Enter the internal StoreWay DPA password and confirm it.

5   Check the **Allow cross systems restorations** checkbox.

6   Click **create**.

  NOTE: The user must have the StoreWay DPA client agent installed on his machine.

Understanding the StoreWay DPA interface

1   The **Event bar** contains action buttons (updates, deletes, etc.) which correspond to information displayed in the central pane.

2   The **Alarm button** displays alarms sent by the StoreWay DPA.

3   The **Logs** button displays the StoreWay DPA logs.

4   The **Log off** button close the interface and displays the StoreWay DPA log on window.

5   The **Shortcuts** on the home page give you direct access to the pages which correspond to the action you wish to perform. these shortcuts are not displayed on other pages in the StoreWay DPA **Navigation pane**.

6   The **General** menu comprises 4 items: "settings", "operations", "alarms" and "reports".

7   The **Home page** link accesses the home page from any window in the StoreWay DPA interface.

8   The **Online help** button opens a new window containing context-sensitive help with a full set of navigational tools (TOC, index, search, glossary).

9   The **Central zone** displays information accessible via the different menus.

System Creation

Introduction

Once a backup agent is installed, it can be detected by the StoreWay DPA. Users can opt to automatically create detected systems and associate them with one or several backup profiles.

This configuration page allows you to modify the way detected systems are processed. They can be automatically created, or just added to a list of known systems. You use a configuration file to define creation rules between detected systems and backup profiles. This configuration file may be uploaded through this page.

Syntax of the profile association configuration file

File type:

>   Text file only, UTF-8 encoded, one line per system. Case is ignored: no difference is made between lower or upper cases.

Syntax:

>   Spaces and tabs at the beginning of each line are ignored.

>   Lines beginning by « # » is considered as comment, and ignored.

>   Lines like this: « $number=profile name » define an alias for $number, which will refer to given profile name. Numbers must be integers.

>   Lines like this: «system-name profile name», where:

   • «system-name» is a valid system name, that may contain the following special chars: «*» and «?» (see below). Other authorized characters are: letters (without accent), numbers and « - » (minus).

>   System name and profile name must be separated by a space or tab.

>   «profile name» is a valid profile name, or an alias like $number.

Metacharacters:

> The following metacharacters are also recognized in system name: « * » and « ? ». They can be use anywhere in system name. « * » stands for anything, including empty string. «?» stands for any single character. For example, the following lines will associate profile «profile 1» to any system which name begins by a «s» and profile «profile 2» to any system which name begins by a «m»:

```
s* profile1
m* profile2
```

Configuration file example:

```
# Configuration file for automatic systems creation
# Following line will create an alias called '$1' for profile called 'Desktops profile'
$1=Desktops profile
# System 'chocolate' will be associated with 'Server' profile
chocolate server
# System 'strawberry' associated with 'Desktops profile'
strawberry $1
# All systems with names beginning by «a» will be associated with 'Laptops profile'
a* Laptops profile
```

NOTE: This configuration does not affect systems already created.

Creation method

Two creation methods are available.

In **auto-creation** mode, all detected systems are automatically created and associated with profiles as defined in configuration file. If no associated profile is defined is this configuration file for a given system, then the system will not be automatically created.

> In **auto-creation (confirmation required)** mode, systems are added to a list of detected systems. Appliance administrators can then see this list in the detected systems page (menu **settings/Systems/Declare detected systems** icon) to check the profile association and confirm the systems creation. It is also possible to manually create systems one by one, by accessing the menu **settings/Systems/Create a new system**.

To choose between the two declaration methods, select one and click the **update** button in the bottom of the page.

Profile association file

This part of the page shows a summary of the configuration file. Clicking **Preview** shows the file content.

Upload a new configuration file

To upload a new configuration file, click on **browse** to select the file, then on **Upload file** to upload it.

Chapter 2. Declare systems and applications

To backup systems and/or applications, you need to declare these systems in the StoreWay DPA.

Click on the menu **settings/System** to consult the list of systems and applications already backed up.

The left-hand part of the screen displays the icons which represent systems and applications already declared in the StoreWay DPA.

This part of the browser bar has three tabs which correspond to the different presentation formats for the systems and applications that StoreWay DPA is required to backup. Only the classification varies. They are simply different views of the same elements: Location, System, Application.

> The **Location** tab displays the systems and their applications sorted by location.

> The **Systems** tab displays the systems and their applications in alphabetical order.

> The **Applications** tab displays the list of applications only.

See:

Declare a system

See:

Create a new system

Create a new system

1   Click on the menu **settings/Systems**

2   Click on the button **createa new system**, to define a new system.

3   Fill in the fields in the **System: Edit** window (see "Description of a system" page 30).

4   Click **create** in the action bar.

The tree structure on the left-hand side of the page is updated.

NOTE: The warning light which shows that the network is reachable can take some time before it turns green (reachable system). To test the system availability, click the **browse** button and check that the folders in the system display correctly in the separate window.

FOR WINDOWS 2003 USERS

If you create a **Windows 2003** system, you can check or uncheck the VSS (Volume Shadow-Copy) service option.

Description of a system

The **Description** fields can be modified as follows:

Description

> **Name**: The name of the system (check using the hostname command: see "Host" page 16).

> **Type**: The operating system.

WARNING: An error when choosing the system may prevent the backup from functioning correctly. You need to choose the right operating system for the right target machine/application.

NOTE: The same machine can be defined twice. If there are two different systems on the same physical machine (for example Windows and Linux for a multi-boot machine), the same machine will need to have two different names for both systems

> **Status**: you can use this feature to activate or inactivate the system if you no longer wish to backup the machine for example. When inactive, no backup will be performed on the system, but restorations remain possible.

> **Network**: Should be green to show that the network is reachable. If not, check

the network settings (see "Network" page 15 for details).

> **Comment**: Use this comment field to give a more precise description of the system (location, user rights etc.). This comment is visible in a pop-up bubble when the cursor moves over the system in the left-hand tree structure.

Backup options

FOR UNIX SYSTEMS ONLY: Check the **File System** options to back up all files systems on the machine in question. You can still use the filters to exclude folders and files and file types -see below.

FOR WINDOWS 2003 USERS. If you create a **Windows 2003** system, you can check or uncheck the VSS (Volume Shadow-Copy) service option.

Data to backup

To select specific folders to back up, you can either:

> **Browse for folder(s)**
> **Enter the path of the folders to backup**

Browse for folders

1   Click the **browse** button to open a second window to enable you to select the folder(s) you wish to back up. You will probably need to have local user, domain, and password details to access this machine.

An image of the main file disk tree file structure opens.

2   Click on any folder to drill down through the successive levels in the tree file structure.

3   Click on the button **add to cart** to select the folder levels you require, then click **apply** to bring these folders back to the main StoreWay DPA page.

Enter the path of the folders to backup

Use the notation used by the system's operating system (example c:\ on Windows systems to save to the c: drive or "/home" on Unix/Linux systems), making sure not to make any typing errors on the directory names.

If you wish to enter several folders to back up, you need to update the system, which will make a new empty line appear.

NOTE: The slash " / is a generic notation which signifies everything. This notation is valid for Unix, Linux, Windows and NetWare.

Data to exclude

Indicates what should be excluded from the backup. You are advised not to exclude any file from the application backups. (for example: `\.avi$|\.mp3$`).

See also: "Syntax of data to be excluded" page 48

NOTE: Data to back up may be defined for the backup profile and for the application. It is preferable to define them in an application's backup profile, except in special circumstances.

Available profiles for this system

Indicate the profiles you want to associate with this system. For more details on profiles and how to associate systems with a profile, see:

"Connect a system or several systems to a backup profile" page 46

Possible actions:

Modify the description of a system

Modify the description of a system

1 Click on the menu **settings/Systems**.

2 Click on a system in the location tree structure on the left-hand side of the page.

or:

3 Click on a system which is in the location.

The **System: Edit** page opens and displays the location properties.

4 Modify the attached location.

5 Click on the **update** button.

The tree structure on the left-hand side of the page is updated.

Modify the attachment of a system to a location

Modify the attachment of a system to a location

1 Click on the menu **settings/Systems**.

2 Click on a system in the location tree structure on the left-hand side of the page.

or:

3 Click on a system which is in the location.

The **System: Edit** page opens and displays the location properties.

4 Modify the description or, where appropriate, the attachment of the system, data to be backed up or the backup profile.

5 Click on the **update** button.

The tree structure on the left-hand side of the page is updated.

Delete a system

Delete a system

1 Click on the menu **settings/Systems**.

2 Click on a system in the tree structure on the left-hand side of the page.

The **System: Edit** page opens and displays the location properties.

3 Click on the **delete** button.

The tree structure on the left-hand side of the page is updated.

WARNING: You can only delete a system if all the related applications have been deleted beforehand (see: "Delete an application" page 40).

Declaring detected systems

This page lists the systems detected by the StoreWay DPA (with an installed agent) and which have not yet been created in the appliance. You can create these systems globally without manually creating each system. In addition, if there is an association file for a system/profile association (see **settings/StoreWay DPA/System creation**), a profile can be created automatically (see also "System Creation" page 27).

How does it work?

To create several systems at once, check the systems to create check box (**Sel.** column), assign the profile chosen for each of the systems (**Profile** column) then click **create**. The systems created will therefore be created with the chosen profiles.

Creation methods

There are two creation methods.

> In **automatic mode**, all detected systems will be created with defined profiles in the association file. If no profile is found in this file, the system will not be created but added to the list of detected systems.

> In **semi-automatic mode**, the systems are added to the list of detected systems. The user can consult the page of detected systems (menu **settings/Systems** "**Declare detected systems**" button) to validate the profile association and create, in a single click, all detected systems. You can also create systems using the standard manual method (**settings/Systems** menu "**Create a new system**" button).

To select one or another of these methods, click **Automatic Creation** or **Semi-automatic Creation** then **update** at the bottom of the page.

How do I assign profiles to the systems?

Select the systems

This enables you to select several systems based on their type. Click on one of the items to select all the corresponding systems. The other systems will be unchecked.

WARNING: To select all Windows systems, select **All Windows Systems** in the list.

Assign the profile to the selection

Enables you to assign the same profile to all the selected systems. The non-selected systems will not be affected.

EXAMPLE: To assign the profile Workstation to all systems in the list, select **All systems** from the list **Select the systems**: all systems are selected. Then select **Work stations** in the list **Assign the profile to the selection**. This profile is associated with all systems in the list.

Create the systems

Once you have made your selection, click **create** to create these systems in the appliance and associate them with the chosen profile.

Profile association file

This section displays a summary of the loaded system/profile associations.

Load a new association file

To load a new association file, select a file with the **Browse** button. Click the **load the file** button.

See also: "System Creation" page 27

Entity auto-declaration

Entity auto-declaration applications can now be automatically created and associated with backup profiles using the system/profiles association file.

We can create any kind of applications, with required parameters. Applications and systems associations can be made using a system type.

EXAMPLE: You can associate all windows systems to a given profile, or create a system state application to all windows systems.

When naming an application, use '$$' to replace the associated system name.

EXAMPLE: "$$-System_state" for an application on host "saturn" will be replaced by "saturn-System_state". The profile type is checked and you will be unable to associate a system profile with an application, and vice-versa.

NOTE: This file does not make the difference between application profiles and Disaster Recovery application profiles.

On the auto-declaration file overview page, any errors found (such as irregular lines, unknown or invalid profiles, invalid system or application types) are displayed, and highlighted in red in the file overview.

An association line format can be either one of the following:

System-application-profile association:

> **hostname-pattern** is a pattern that can use '?' and '*' wildcards.

> **system-type-code** is a code for system type from $DMP_BCKTOOL_HOST_TYPES,

It can use regular expressions (case insensitive):

- 'Windows95' for Windows 95;
- 'Windows98' for Windows 98;
- 'WindowsXP' for Windows XP;
- 'Windows2000' for Windows 2000;
- 'Windows2003' for Windows 2003;
- 'Solaris' for Solaris;
- 'SCO' for SCO;
- 'Linux' for Linux;
- 'HP-UX' for HP-UX;
- 'AIX' for AIX;

And also:

- 'windows' for any kind of windows.
- 'windows|linux' for any windows or linux host.

appli-type-code is a code for application type:

- 'ORA7' for ORACLE7;
- 'ORA' for ORACLE;
- 'EXCH' for EXCHANGE;
- 'EXCH5' for EXCHANGE_5;
- 'NOTES' for NOTES;
- 'SQL' for SQLSERVER;
- 'SQL2000' for SQLSERVER_2000;

- 'SMS' for SMS;

- 'SYST' for ACTIVEDIRECTORY;

- 'SQL2000' for SQLSERVER_2000;

- 'DR' for DISASTER;

For parameters, "Name" is like 'ESAVE_TSAFS_MODULE_NAME'

> obj=application syst_name=hostname-pattern type=appli-type-code name="appli-name" param="Name=Value" param="Name=Value" profile="Profile name" profile="Other profile name"

> obj=application syst_type=system-type-code type=appli-type-code name="appli-name" param="Name=Value" param="Name=Value" profile="Profile name" profile="Other profile name"

system-application-profile association:

> obj=system syst_name=hostname-pattern profile="Profile name" profile="Other profile name"

> obj=system syst_type=system-type-code profile="Profile name" profile="Other profile name"

system-profile association (old format, kept for compatibility):

> system_name profile name

> system_name $alias

Creating an association file

Introduction

When client agents are installed on machines to be backed up, they can be detected by the appliance over the network. The user can choose to automatically create detected systems and associate backup profiles.

This page enables you to modify how detected systems are managed. They will be created automatically or added to a consultable list at any moment. The file which defines the association rules between the systems created automatically and the profiles can also be loaded from this page.

Association file syntax

Format : text file (UTF-8), one line per system. This file is not case sensitive.

Syntax:

> Spaces and tabulations at the start of the line are ignored.

> A line starting with "#" is ignored (comment).

> A line "**$number=profile name**" defines a **$number** alias for the profile "profile name ". Here, number represents any positive integer.

> A line "system_name profile name", where:

- "**system name**" is a valid system name, which may include special characters "*" and "?". Other valid characters are : letters (without accents), numbers and the hyphen "-" ;

- The character which separates the system from the profile is a space or a tabulation;

- "**profile name**" is a valid profile name, or **$number**. In the second case, the profile refers to the name specified in the line «$number=profile_name»,

which must be declared beforehand in the file.

When you name an application, use '$$' to replace the associated system name.

EXAMPLE: "$$-System_state" for an application on the host "saturne" will be replaced by "saturne-System_state". The profile type is checked and it will be impossible to associate a system profile to an application and vice versa.

Meta characters can be used anywhere in the name to replace any string (including empty strings) and "?" replaces any single character. The following lines will attribute the profile "profile 1" to all systems whose name begins with with "s" and "profile 2" to all systems whose name begins with an "m":

```
s* profile 1
m* profile 2
```

Example of valid files:

```
# Example of an association file
# The following line to replace the 'Office Machine' profile with $1
$1=Office Machine
# The system 'chocolate' is associated to the profile 'Server'
chocolate server
# The system 'strwberry' is associated with 'Office Machine'
strawberry $1
# All systems whose name starts with an "a" are associated with the
profile 'Laptop'
a* Laptop
```

NOTE: When a new file is loaded, profiles associated with the list of detected systems is updated, but the profiles are not modified on the created systems.

See:

"Declaring detected systems" page 33

Declare a location

See:

Create a new location

Create a new location

1   Click on the menu **settings/Systems**.

2   Click on the icon **(Create a new location)** to define a new location.

    The **Location: Create** page opens.

3   Fill in the description and where appropriate, the attached location (see "Description of a location" page 37).

4   Click on the **create** button.

    The tree structure on the left-hand side of the page is updated.

Description of a location

The **Description** fields can be modified as follows:

The locations allow you to sort systems according to geographical or thematic considerations. Each system may be then attached to a location.

Creating locations is optional, but is particularly useful if you manage a large number of systems.

It is possible to attach locations to one another: for example, place the machine room in the workshop location.

>   **Name**: The name of a location. This can be a geographical (machine room, building A), organizational (Accounts department) or another type of location.

>   **Location**: The name of the location to which it is attached: by default, / indicates the whole location.

>   **Status:** The status renders the location active or inactive for StoreWay DPA. This status applies to all the systems situated in this location and determines whether or not the backups are activated.

>   **Comments**: This is a description of the location. The comments are displayed in a help bubble when the mouse cursor moves over the location in the tree structure on the left-hand side of the screen.

>   **Systems in this location**: Displays the list of systems already attached to this location. The check mark indicates the references of the systems are attached to this location. Each system name is also a link to an **System: Edit** window where, if necessary, you can modify its attachment.

Possible actions:

Modify the organization of the locations

1 Click on the menu **settings/Systems**.

The **Location: Create** page opens.

2 Click on a location in the tree structure on the left-hand side of the page.

The **Location: Create** page opens and displays the location properties.

3 Modify the description and where appropriate, the attached location.

4 Click on the **update** button.

The tree structure on the left-hand side of the page is updated.

Delete a location

1 Click on the menu **settings/Systems**.

The **Location: Create** page opens.

2 Click on a location in the tree structure on the left-hand side of the page.

The **Location: Create** page opens and displays the location properties.

3 Click on the **Delete** button.

The tree structure on the left-hand side of the page is updated.

Declare an application

See:

Create an application

Create an application

1 Click on the menu **settings/Systems**.

2 Click on the button **create an application**.

3 Select the type of application from the list.

4 Complete the fields in the **Application: Edit** window (see "Description of an application" page 39).

Specific parameters for the creation of applications are described in the user guides dedicated to the applications.

5 Click on the button **create**.

The tree structure on the left-hand side of the page is updated.

Description of an application

The **Description** fields can be modified as follows:

> **Name**: the name of application.

> **Linked to**: indicates which system it is attached to.

> WARNING: In the event of an error when choosing the system, you cannot modify the system later: you will need to delete the application and recreate it.

> **Status**: the status renders the application active or inactive for the StoreWay DPA. No action will be performed on an inactive application (no backup, no supervision).

> **Comments**: This is a description of the application. The comments are displayed in a help bubble when the mouse cursor moves over the location in the tree structure on the left-hand side of the screen.

> **Settings**: these parameters depend on the type of application. They are described in the application-specific user guides.

> **Data to backup**: you can enter a specific folder to back up, using the **browse** button and choosing from a machine the folder(s) to back up, then by clicking on the button **Apply**.

> If you wish to manually enter several folders to back up, you need to update the system, which will make a new empty line appear.

> NOTE: The slash " / is a generic notation which signifies everything. This notation is valid for Unix, Linux, Windows and NetWare.

> **Files to exclude**: indicates which access paths or files must be excluded from the backup.

NOTE: It is recommended that you not exclude any file from application backups EXCEPT FOR NOVELL APPLICATIONS. See also "Syntax of data to be excluded" page 48.

> **Activated profile on this system**: indicates which backup profiles apply to this system.

WARNING: **The data to back up can be defined in the backup profile and at the application level**. It is recommended to define the data in the backup profile.

Delete an application

Delete an application

1   Click on the menu **settings/Systems**.

2   Click on an application on the left-hand side of the page.

The Application: Create page opens and displays the location properties.

3   Click on the button **Delete**.

The tree structure on the left-hand side of the page is updated.

Chapter 3. Configure and perform your backups

See:

Schedule backup processes

Preliminary measures

Steps to take prior to configuration:

> Identify the backup mode (full, incremental) and the required minimum cartridge retention period (retention period = the period of data protection - one period per cartridge), depending on the cartridge rotation management strategy.

> List the company's systems and applications and classify them by profile.

> For each system: attach the system to a profile.

Understand the backup profiles

A backup profile combines the following concepts:

> A set of systems (workstations or servers) to which the backup is applicable.

> Processing priorities.

> A backup type: full or incremental (everything that has changed since the last backup).

> A backup medium (cartridge name) and cartridge management mode (manual insertion or automatically managed by the library, retention period, recycling strategy).

StoreWay DPA offers three default system backup profiles: critical servers, workstations and laptops.

Attributing a backup profile to a machine automatically determines the backup schedules for all the systems and applications by applying the rules defined for the profile:

> **High / Normal / Low priority** defines the order of priority according to which backups are triggered

> **Frequency** (once a day, once every four hours)

> **Cartridge or disk retention** and protection of data during this period of time.

> Identification of cartridges according to their retention period (the name of the cartridge is linked to the retention period: prefixes beginning with "M" are normal, "L" are long and X are infinite).

> **NOTE:** The retention period affects the recycling of cartridge: when a cartridge is changed, StoreWay DPA seals the previous cartridge and prevents the cartridge from being reused for at least the duration of the data retention period. This ensures that errors are avoided.

> **WARNING:** Recycling cartridges will, of course, have an impact on what files you are able to restore. Data previously stored on recycled cartridges is lost for good!

Define the system backup profile

By default, the StoreWay DPA offers three system backup profiles which correspond to the main categories of company systems (machines) and to the organization of their backups.

For StoreWay DPA models equipped with tape libraries, there is an additional backup type: the Disaster Recovery Plan.

These profiles combine the main criteria in the following manner:

> **Priority**: high, normal, low in order to organize the backup queue.

> **Data to back up** and **Data to be excluded** (see "Description of a system" page 30 for details).

> **Possible processes to be applied before and/or after the backup**.

>> **WARNING:** In order to configure the execution of a process before or after the backup (pre or post-processing), indicate the full path of the program to be executed on the target system, using the same syntax used on this system (for example, Windows notation on Windows, Linux notation on Linux). The program will be executed in a neutral context, where no environment is set. It is therefore advisable to define all the variables for the environment: the users, etc. in this executable program (for example, define the variable PATH in order to find launched commands).

> **Backup type**: full or incremental.

> **Backup Frequency**: once or several times/day, all the time, once or several times/week.

> **Data Retention**: to protect data against accidental deletion from the backup cartridge for a certain period of time, specify long, normal or infinite.

NOTE: **MANAGING WEEKENDS**. If you configure your long or infinite backup profiles to include a backup once a month based on a weekend in that month you need to know that you must process weekends separately: Saturday and Sunday must remain together, and not be separated by end of the month. **The rule is: if Sunday is the first day of the month, the weekend belongs to previous month**.

The default profiles

Profile name	Description
Critical applications	The profile for essential applications. Backups must be reasonably frequent. In order to minimize the risk of data loss, it is advisable to perform backups during "off-peak" periods.
Critical servers	The profile for essential servers. Backups must be reasonably frequent. In order to minimize the risk of data loss, it is advisable to perform backups during "off-peak" periods. The list of files backed up can be found in the logs.
Disaster Recovery applications	The profile for all installed Disaster Recovery applications (DiskSafe).
Laptops	Mobile workstations (laptops) which are not always physically connected to the network. Backups should be performed as soon as the computer is connected to the network.
Normal applications	All other applications for which the backup is of lower priority, and often less frequent than that of the critical applications.
Workstations	Profiles for workstations or machines for which the backup is lower priority, and often less frequent than that of the critical machines.

NOTE: For more details on configuring each profile, see the relevant documentation (for example: StoreWay DPA for Oracle, or StoreWay DPA for DR Windows etc.).

WARNING: When you back up certain file systems, some open files are not backed up because they are locked by the operating system. A "warning" message is displayed in the logs, as well as an alarm, which states "Files not backed up".

See also:

Consult existing backup profiles

Consult existing backup profiles

1 Click on the menu **settings/Backups/Backup profiles**.

The tree structure on the left-hand side of the page displays the existing backup profiles.

2 Click on one of these profiles.

A **Backup profile** window opens.

3 Consult the contents of the two tabs: **Data** tab to indicate data to be backed up and to be excluded, and the **Backup** tab **systems** attached to this profile, the tab

to schedule the backup mode and frequency. For StoreWay DPA models equipped with tape libraries, you also have a **DRP** tab to schedule the DRP mode and frequency.

4   Click the following to display more information on the fields:

Data tab

You can modify the following fields:

> **Name**: The profile name.

> **Priority**: The priority of the profile is defined by selecting from the list (High, Normal and Low). When a backup is launched, the systems with highest priority profile will be backed up first.

> **Comments**: This is a full description of the profile. It is displayed in a help bubble when the mouse cursor moves over the profile in the tree structure on the left-hand side of the screen.

Data to back up

By default, data to back up corresponds to all disks, indicated by the symbol **/**, but you may restrict the list of directories to back up:

> On the blank line, you may indicate the path of the data to back up, using the operating system correct notation for the system (example **c:** on Windows systems to back up the C drive) or using Unix notation (example: **/home/** to back up the contents of the home directory). Both forms of syntax are possible.

> The interface always displays a blank line, allowing you to add several paths. If you wish to add several paths, add the first one and create or update the profile. The view will refresh with the data selected to be backed up and a new blank line.

> Once entered, the paths may not be modified. If you make a mistake, you need to delete them by checking the box at the end of the line and clicking on the **Update** button.

Processing to apply

> Programs may be executed before and after backup on the backed-up system. For example: shutting down a database located on the machine before backing it up and then re-opening it after the backup.

> You must indicate the full path for the program to be executed on the system using the syntax of the relevant operating system.

> EXAMPLE: **"c:\Program files\script.bat\" arg1 arg2** for Windows, **/home/script.sh** for Linux or Unix). Note: program names or arguments including spaces must be indicated between \".

> These programs will be executed on a target system. Default target system is the one running the backup. To indicate that program must be launched on another system (which must already be declared in the appliance), the command line must begin by: "system_hostname:".

> EXAMPLE: **prod3:\"c:\Program files\script.bat\" arg1 arg2** (where prod3 is the target system, declared in your administration interface, where the program must be launched).

Post-processing is still performed even if the backup fails.

Profile available for

A check in the **Activated** column, in front of the system name indicates the system to which the backup profile shall be applied.

The status indicates whether the system is active or inactive. The associated objects indicate which directories are backed up on these systems: specific objects (in italics) are defined in the system configuration (see: "Create a new system" page 30), generic objects (in normal characters) are defined in the profile.

Backup tab

> **Periodicity**: Defines the characteristics of the full and incremental backups. For each type of backup, you can define whether or not it is carried out (check Programmed), the frequency and retention period of the backed-up data.

> For each day of the week, you may define:

> **Backup type**: incremental or full

> **Time interval of the backup**: start and end time

> **Options**:

  • **Fixed start**: forces the backup to start at the beginning of the time interval, irrespective of the backup priority.

  • **Required stop**: the backup is stopped at the end of the time interval, even if it is not complete. By default, backups run until they are complete, even if this means they overrun the time interval.

Connect a system or several systems to a backup profile

Connect a system or several systems to a backup profile

1   Click on the menu **settings/Backups/Backup profiles**.

    The tree structure on the left-hand side of the page displays the existing backup profiles.

2   Click on one of the profiles.

    A Backup profile window opens.

3   Consult the bottom of the **Data** which shows the "Data to backup" page 31 or "Data to exclude" page 31, and the **systems** attached to this profile.

4   Select the system to attach to this profile.

    One system can be attached to several profiles. In this case it will be backed up by each of these profiles.

5   Click **update** in the action bar.

    The next backup will take these modifications into account.

Move one or more systems to another backup profile

Move one system or more systems to another backup profile

This operation has two steps: you need to remove the system from the first profile to attach it to the other.

1   Click on the menu **settings/Backups/Backup profiles**.

    The tree structure on the left-hand side of the page displays the existing backup profiles.

2   Click on one of the profiles.

A Backup profile window opens.

3   Consult the bottom of the **Data** which shows the "Data to backup" page 31 or "Data to exclude" page 31, and the **systems** attached to this profile.

The list of systems attached to this profile appears. Search for the required system.

4   **Uncheck the box that attaches the system to this profile**.

5   Click on the button **update** in the action bar.

The next backup will take into account modifications made to the backup profile.

6   Click on the profile you want to attach the system to.

The Backup profile window opens.

7   Consult the bottom of the **Data** which shows the "Data to backup" page 31 or "Data to exclude" page 31, and the **systems** attached to this profile.

8   Check the box of the system to be attached to this profile.

9   Click on the button **update** in the action bar.

The next backup will take into account modifications made to the backup profile.

Create a new backup profile

You may need to create other profiles which incorporate various combinations of these criteria.

Create a new backup profile

1   Click on the **settings/Backups** menu.

2   Click on the icon (**New Profile**),

The Backup profile window opens.

3   Select the type of profile from:

- **System**
- **Application**: Choose between **Standard** (for example: Oracle) or **Disaster Recovery Application**.

4   Complete the description fields for this profile.

For system backups, it is more logical to indicate the path using the system's own notation, (for example C:\ on Windows). But both syntaxes are understood by the StoreWay DPA (as well as c:/ or c: or just c on its own).

See "Define the system backup profile" page 43 for more details.

5   Click **create** in the action bar.

Modify a backup profile

Modify a backup profile

1   Click on the **settings/Backups** menu.

The tree structure on the left-hand side of the page displays the existing backup profiles.

2   Click on one of the profiles.

A Backup profile window opens.

3   Modify the fields in the **Data** tab to indicate the "Data to backup" page 31 or "Data to exclude" page 31 and the **Backup** tab to plan the backup mode and their frequency.

> **WARNING:**   All modifications to a profile will apply to all systems/applications that are attached to it.

4   Click **update** in the action bar.

The next backup will take these modifications into account.

Syntax of data to be excluded

The **Filter** text area displays the list of objects to be excluded from the backup.

By default, the list is empty and no file is excluded.

A filter consists of a list of expressions. Files for which the path conforms to one of the expression will be filtered out and ignored for the backups. Expressions must be separated in the filter text area using the character |.

The StoreWay DPA uses the regular expressions as the filter expressions syntax:

> **>**   *: **specifies a repetition from 0 to *n* of what is placed before. For instance, a* means from 0 to n times character a**.
>
> **EXAMPLE:**   a* means from 0 to n times character a.

> **>**   +: specifies a repetition from 1 to n of what is placed before (= at least 1).
>
> **EXAMPLE:**   a+ means from 1 to n times character a.

> **>**   . (a dot): any character.

> **>** $: indicates the end of the file path.

> **>**   ^: indicates the beginning of the file path.

> **>**   [ab]: specifies one character from the list of characters placed into brackets. The minus sign -' permits to declare a range of characters.
>
> **EXAMPLE:**   [abc] means exactly one character a, b or c.
>
> **EXAMPLE:**   [a-z] means any lowercase letter.
>
> **EXAMPLE:**   [a-zA-Z] means any letter (uppercase or lowercase).
>
> **EXAMPLE:**   [0-9a-zA-Z] means any alphanumeric character.
>
> **EXAMPLE:**   [0-9a-zA-Z]* means any repetition of alphanumeric characters (from 0 to n), such as WorD09.

> **>**   \: specifies that the following character should be interpreted literally, as is.
>
> **EXAMPLE:**   For instance, \. means the real dot character .' and \+ means the real plus character +'.

Examples of syntax used in the filters

Description	Syntax
Ignores files with certain extensions (.jpg, .png and .gif in this example)	`.*\.jpg$|.*\.png$|.*\.gif$`
Ignores the folder exclusion on **c:\test**.	`^c:\test\exclusion`
Ignores drives.	`^c|^d|^e`

NOTE: Use the «pipe» character if there are several types of files to ignore.

WARNING: Do not exceed 256 characters in the filter field.

WARNING: In order to configure the execution of a process before or after the backup (pre or post-processing), indicate the full path of the program to be executed on the target system, using the same syntax used on this system (for example, Windows notation on Windows, Linux notation on Linux). The program will be executed in a neutral context, where no environment is set. It is therefore advisable to define all the variables for the environment: the users, etc. in this executable program (for example, define the variable PATH in order to find launched commands)

Define the applications backup profile

By default, in the **settings/Backups** menu, the StoreWay DPA offers two system backup profiles which correspond to the main categories of applications in the company and to the organization of their backups.

NOTE: For StoreWay DPA models equipped with tape libraries, there is an additional backup type, the Disaster Recovery Plan (DRP).

These profiles combine the main criteria in the following manner:

> **Priority**: **high, normal, low in order to organize the backup queue**.

> **Data to backup or to be excluded**: **possible processes to apply.**

> **Backup type**: full or incremental.

> **Backup frequency**: once or several times/day, all the time, once or several times/week.

> **Data retention**: to protect data against accidental deletion from the backup cartridge or the disk for a certain period of time, specify long or normal.

Profiles by default

Profile name	Description
Critical applications	> The profile for essential applications. Backups must be reasonably frequent. In order to minimize the risk of data loss, it is advisable to perform backups during "off-peak" periods.
Disaster Recovery applications	> The profile for all installed Disaster Recovery applications (DiskSafe, FileSafe).
Normal applications	> All other applications for which the backup is of lower priority, and often less frequent than that of the critical applications.

WARNING: Application backups are "hot" backups. This means they are backed up with the application running. The StoreWay DPA connects to the application via the application module, and pilots the application to enable its backup.

See also:

Consult existing application backup profiles

Consult existing backup profiles

1   Click on the **settings/Backups** menu.

The tree structure on the left-hand side of the page displays the existing backup profiles.

2   Click on one of the profiles.

An Application backup profile window opens.

3 Open the **Data** tab to indicate data to back up or to be excluded, and the applications attached to this profile. The **Backup** tab to schedule the backup mode and their frequency, and on StoreWay DPA models equipped with tape libraries, the **DRP** tab to schedule backup modes and their frequency.

Attach one or several applications to a backup profile

Attach one or several applications to a backup profile

1 Click on the menu **settings/backups/Backup profiles**.

the tree structure on the left shows the existing backup profiles.

2 Click one of these profiles.

A profiles edit window opens.

3 Consult the bottom of the **Data** tab which indicates the data to back up or to be excluded plus the applications attached to this profile.

The list of applications is displayed.

4 Select the application to attach to this profile.

> **WARNING:** If the application is already attached to another profile, you will need to unattach it from this first profile, before attaching it to the new profile.

5 Click on the **update** button.

The next backup will take into account the modifications of the backup profile.

Create a new application backup profile

You may need to create other profiles which associate different combinations of these criteria.

Create a new application backup profile

1 Click on the menu **settings/Backups**.

2 Click on the button (**New Profile**) .

A profiles edit window opens.

3 Modify the fields in the **Data** tab to indicate the "Data to backup" page 31 or "Data to exclude" page 31 and the **Backup** tab to plan the backup mode and their frequency.

For applications, it is strongly recommended that you back up all data without defining path(s) or data to be excluded. To do this, you must indicate / to back up the entire application.

For certain applications, it is strongly recommended that you carry out processing before or after the backup operation (shutdown of the application, for example). In this case, to define the processing, indicate the full path of the program to be executed on the system, from the root.

4 Click **create** in the action bar.

The tree structure is updated.

Modify an application backup profile

Modify an application backup profile

1   Click on the **settings/Backups** menu.

The tree structure on the left-hand side of the page displays the existing backup profiles.

2   Click on one of the profiles.

An Application backup profile window opens.

3   Modify the fields in the **Data** tab to indicate the "Data to backup" page 31 or "Data to exclude" page 31 and the **Backup** tab to plan the backup mode and their frequency.

> **WARNING:**   Modifications to this profile apply to all attached applications.

4   Click **update** in the action bar.

The next backup will take the backup profile modifications into account.

Backup an application and system manually

For application date (Exchange, Oracle, SQL Server, Notes):

> Systematically back up any application by indicating the data to back up. The /
> means "all folders".

> For incremental application backups, the StoreWay DPA records modifications to
> data, files logs, new data.

NOTE: The backup of an application concerns the data managed by the
applications: the application programs and their updates must be backed
up elsewhere, in the event of a crash, you will need to have entirely
coherent data.

Perform a manual system or application backup

1 Click on the menu **operations/Backup**.

2 Click on a system in the file structure in the left of the page.

   The page displays information on 2 tabs: the first, **Backup activity** contains details
   of backup operations (classed by day, month, year).

   The second **Backup launching** enables you to start a backup manually for any
   given system/profile or application/profile entity.

3 Click on the second tab **Backup launching**.

4 Select one of the backup option types (Incremental of Full).

   NOTE: The StoreWay DPA automatically transforms the first backup into full
   backup, even if it was an incremental backup that was initially selected.

5 Click on the button **launch**.

Ensure that the backup is working

See:

Consult the home page

Consult the home page

> Log onto to the StoreWay DPA.

  Backup and restoration and alarm information are displayed on the homepage.

> Click on the Bull logo in the top left of the page, if you are already logged on.

  The home page is displayed.

> Check the color and the number of alarms by clicking the alarm button.

> Click on the tab **Inactivated alarms** if necessary to check that important alarms have not been inactivated.

See also:

Chapter 4. Restore data

See:

Restoration Interface

The files on your workstation or server are backed up regularly thanks to the StoreWay DPA.

You can search for these backed up files or directories and restore a prior version, even if they have been deleted or renamed since.

See:

Open a restoration session

You would like to restore files from a system backed up by the StoreWay DPA.

Open a restoration session

If you are already connected to theStoreWay DPA:

1   Open the menu **operations/Restoration**.

A page opens the latest system consulted in the list.

2   Click in the navigation bar on the left of the screen on the name of the system to restore.

The description gives the characteristics and the location of the system.

3   Click on the link **[Open a new restoration session]**.

The restoration browser opens.

Understand the restoration action buttons

> The **add to cart** button adds the checked files or directories to the restore list.

> The time navigation button opens a window in order to select the file restore dates or the **Display deleted objects** option. Files that have been deleted during the period of time that you specify are shown in the list with an icon with a white cross on a red background.

> **The restore button opens the list which allows you to consult the files already selected to be restored**.

Start a restoration session

Use the restoration interface

When you open a restoration session, you will see a list of directories and/or files displayed in a new window. Naturally, only the directories/files which have been backed up can be restored. The directories/files which can be restored have a box just in front of the name of the directory or file.

Consult the contents of a directory

Consult the contents of a directory

1   Open a restoration session (see: "Open a restoration session" page 56)

2   Click the name of the directory or the corresponding icon. The contents of this directory are displayed.

    A directory can contain other directories (for example a sub-directory or files).

3   Click on the name or the image of the directories to open them successively.

Select the contents of a directory or a file

Select the contents of a directory or a file

1   Check the box in front of the name of the directory or file.

2   Click on the add to cart button.

    The files are added to the list of elements to restore.

Consult the list of files to restore

Consult the list of files to restore

1   Click on the restore button.

    The list of files which are already selected opens.

2   Click on the **return to browsing** button.

    You return to the file navigation window and you can add other objects to restore.

Search for files in the past

If you want to find an object at a known date in the past or an object which has disappeared, you need to use the time navigation function to find this object.

Searching in the past and in the file tree structure"

**How does a restore work?**

Every time a file is backed up, the information relating to the file is saved to the catalog. When you choose to consult the Past, one of the backup versions of each file is displayed.

The diagram shown below describes the life cycle of a file: it is created at date c, backed up three times (**s1**, **s2**, **s3**) and deleted at date del. For the , after date s3, there are therefore three backup versions of the file, called versions or instances (i1, i2 and i3).
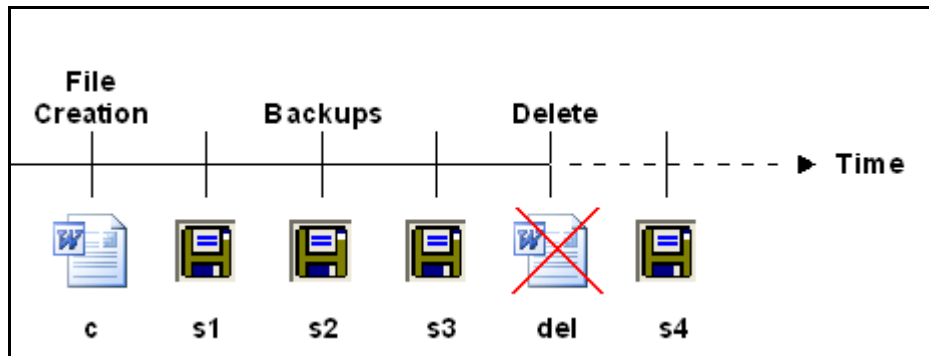
The StoreWay DPA only knows the life cycle of files in terms of the backups it has stored:

> When performing backup **s1**, detects the presence of a new file. In the catalog, it creates an object corresponding to this file and to its first instance. Even if the file has in reality existed since date **c**, **s1** is considered to be the date it appeared in the directory tree.

> When performing backup **s4**, detects that the file is no longer present. Even if the file was deleted at date **del**, **s4** is considered to be the date it disappeared from the directory tree.

Each instance also has an appearance date (date of first backup) and a disappearance date (date of following backup or the Present for the last instance).

The diagram below takes the same example, this time showing the file instances (**i1**, **i2** and **i3**) and their life cycle.
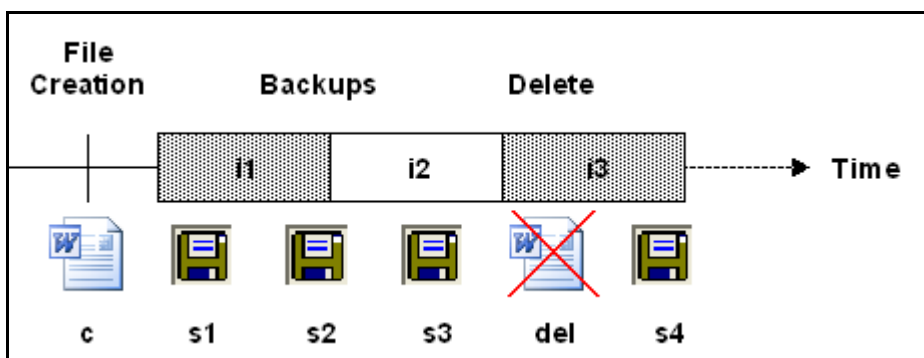
The version shown at a given date is the "real-world" situation on that date, if there was such a situation. If the directory tree is consulted for a date between **c** and **s1** no instance of this file is displayed. However, for a date between **s3** and **s4** (and even between **del** and **s4**), the version **i3** is displayed.

You can navigate through the past by clicking on the objects in the directory tree and selecting directories and files, just as you would in the present.

Search for a file that was backed up on a known date

If you know the date on which the file you are looking for was last present on the system, you can return to this date and consult the corresponding directory tree.

Search for a file that was backed up on a known date

1   Open a restoration session and click on the time navigation button.

In the Displayed date section, select the past and choose the date from which you wish to find your file.

2   Click on the **choose the date** button.

The StoreWay DPA automatically locates the latest backed up data on your chosen date.

Search for a missing file

Search for a missing file

1   Select the period of time to search for several backups.

2   Search for a lost file by requesting deleted objects to be displayed

3   Click on the time navigation button.

4   Under the **Display deleted objects** heading, select **Deleted for less than** and specify the time period for which you wish to display deleted objects.

5   Click on the **choose the date** button.

The files and directories that have been deleted from the current directory are shown with an icon with a white cross on a red background.

6   Select the checkbox next to the elements you want to restore and click on the **add to cart** button.

Consult the directory tree in the past

You can choose to browse a directory tree in the past. Choose your mode:

Choose a consultation date

Choose a consultation date

1 Click on the time navigation button in order to consult a previous version of the system.

   A page offers you different choices of **Display date** and **Display deleted objects**.

2 Check the box of the date you wish to select:

   • Select the present to view the current file tree of the system concerned.

   • Select the past to view the file tree as it was at a given date in the past. Select the required values from the various lists: year, month, day, hours, minutes.

   WARNING: The system tree displayed from the past is reconstituted on the basis of the backed up data recognized by the StoreWay DPA. Data that is not backed up, as well as backed up data whose retention period has been exceeded is not displayed and therefore cannot be restored.

3 Click on the **choose date** button to consult the system on the selected date.

4 Click on a directory to consult the file tree as it was on this date.

Return to a specific backup

Return to a specific backup

There are two methods of searching for a version of a file on a given backup date.

The examples below serve to show the differences between the two methods (even if, in actual fact, the result obtained is the same in both cases).

> With the first method, you select a backup version of the file.

> With the second method, you select the date at which you wish to find the file.

Select the backup version of a specific file

1 Select a backed-up file from a current or past directory tree.

2 Click on the name of the file.

   The page that opens displays a list of backups for the file selected.

3 Check the box of one of the file versions from the list of backups, then click on choose version.

   The file tree structure moves back to the backup date selected.

Select the backup version of a file by time navigation

1 Click on the time navigation button in the list of files.

   The Time Navigation window invites you to select the date on which you would like to see the state of the disk for the backed-up system: you need to have identified the date of the backup version required beforehand.

2 Select the past then the display date, and click on choose version.

   The file tree structure moves back to the date selected.

Restore files to a workstation

Here are the different possibilities to restore files:

Restore the contents of a directory

Restore the contents of a directory

1 Check the box of the directory you wish to restore.

2 Click on the **add to cart** button.

3 Click on the restore button to consult the list of files to restore.

   The window displays the list of files to restore.

4 Click on the restore button to select your restore options.

   In the section **Behavior if files present**, if the file is present, select or uncheck the option **Overwrite existing files**.

   In the section **Restoration destination**, choose another system on which to restore your data (choose in the list). **This system must be a system which has already been declared on your StoreWay DPA**. You must enter this path if you restore to another system or on the same system if the destination path is not the same as the original path. This directory does not necessarily need to exist. It will be created during the restoration.

5 Click **restore** again to begin restoring the directory.

   This action restores all the files in the selected directory.

See also:

Restore files with a known location

Restore files with a known location

1 Click on the directories and sub-directories containing the files you wish to restore.

2 Click the **add to cart** button.

3 Click the **restore** button to view the list of files to restore.

4 Click the **restore** button to select your restoration options.

5 Click the **restore** button again to start restoring files.

   After a short time required for the process to start up, the window displays the status of the restore job and continues to do so until the restore is complete. All the selected files are restored.

See also:

Restore the contents of a directory and files

1   In the directories file tree, select a directory.

All sub-directories and files included in this directory are selected.

Directories and files impossible to select will not be backed up.

2   Click on the **add to cart** button.

3   Consult the restoration list by clicking on the button **restore**.

All sub-directories and files included in this directory are listed.

4   Click on the **restore** button to start the restoration.

Restore files

1   Select one or more objects to restore.

2   Click on the **restore** button.

The window displays the list of files to restore.

3   Click on the **restore** button to launch restoration of the files selected, if you have no other files to add. Click on the **back to browsing** button if you have more files to add.

4   Specify the behavior to adopt when a duplicate file is present, in other words if the items to be restored are already on the disk: under the **Action if file exists** heading, check **Overwrite existing files** to force the StoreWay DPA to overwrite the existing data on the disk.

5   Click on the **restore** button to start the restoration.

After a short time required for the process to start up, the window displays the status of the restore job and continues to do so until the restore is complete.

Restore files to a different directory than the original directory

This function allows you to compare file versions.

1   Select a file or multiple files to restore.

2   Click on the **add to cart** button.

3   Click on the **restore** button to consult the list of files to restore.

The window displays the list of files to restore.

4   Click on the button **restore** to select the restoration options.

5   Enter the path of the directory in which you wish to restore, for example: C:\Temp.

You must enter this path if you restore to another system or on the same system if the destination path is not the same as the original path. This directory does not necessarily need to exist. It will be created during the restoration.

6   Click on the button **restore** to start the restoration of the directory.

Restore a file deleted by error

Restore a file deleted by error

1 Locate the file using the time navigation button.

2 Select a date on or near to the suspected deletion date.

3 Select the option **Display deleted object** indicating the period prior to the one you want to consult the missing files for.

The list of directories and files is displayed.

4 Click on the directories to open them successively.

The deleted files appear with a white cross on a red background.

5 Select the file(s) to restore in the directory tree.

6 Click on the **add to cart** button.

7 Click on the **restore** button.

The window displaying the files to restore opens.

8 Click on the **restore** button to select the restoration options.

9 Click on the **restore** button to start the restoration.

Restoration information is refreshed automatically.

10 Click **abandon** to interrupt the restoration in progress.

WARNING: You cannot return to the previous state once the file is restored.

When the restoration is complete, you can use the file restored.

Restore files after changing machine (cross-system restoration)

In the event of an incident occurring on a system backed up by StoreWay DPA, this exceptional procedure, also called cross-system restoration, restores data not to the original system but to another machine which has previously been declared in the StoreWay DPA.

The following conditions must all be met:

> The source and target operating systems must be compatible with one another: data may be restored from a Windows environment to a Unix or Linux environment, and vice-versa; it is however impossible to restore NetWare data to anything other than a Netware machine.

> The source and target file types must be identical (system to system restoration, application to application restoration).

> **The user performing a cross system restoration requires special access rights, defined in the** settings/Users module of the StoreWay DPA (see also "Define access rights for cross-restore operations" page 26).

In the following section, the term "source" relates to the system on which you have backed up data. The term "target" relates to the system to which you wish to restore data.

Perform a cross-system restoration

1 Open the restoration interface for the source system where the data has been backed up.

> **WARNING:** The connection to the system fails if this system is not accessible over the network. In this case, click on the **time navigation** button and choose a navigation date in the past.

The tree structure of backed up files and directories is displayed

2 Select the file(s) to restore in the directory tree.

3 Click on the **add to cart** button.

4 Click the **restore** button to select restoration options.

5 In the **Restoration target** section, select the system on where data will be restored: select the target system.

If this option is not displayed, or if the target system is not in the list, check that the conditions specified above have been respected.

6 If the target path to which data is to be restored is not the same as the original source path for the data, specify a **Target path** on the target system.

7 Click the **restore** button to start the restoration.

A window displays the status of the restore and any related events. The status is displayed as "Complete" when the operation has finished.

8 You can now reuse the restored files or directories on the target machine.

Restore an application

> To restore an application, see the documentation for the application in question. This documentation is provided on the documentation CD.

Implement a Disaster Recovery Plan

A **Disaster Recovery Plan** or **DRP** consists of establishing a checklist of what must be done in the event of a major incident (fire, flood, destruction of premises, hardware or networks).

The StoreWay DPA models equipped with tape libraries enable you to you structure your approach to IT data backup, making it easier to recover your data when necessary.

"Identify the main features of the DRP (Disaster Recovery Plan) methodology" page 66

"Familiarize yourself with the main stages of a DRP (Disaster Recovery Plan)" page 67

"Restore data in DRP mode" page 67

Identify the main features of the DRP (Disaster Recovery Plan) methodology

NOTE: These functions only apply to StoreWay DPA models equipped with tape libraries.

The methodology consists of the following steps:

> Identify the critical hardware and applications which must be backed up as part of the DRP. Identify and place a copy of the software licenses and versions installed on workstations in the same location.

> Identify the frequency of the backup, depending on what you consider to be an acceptable period of data loss on the servers, workstations and applications that are included in this plan.

> Select the data, systems and applications to be included in the DRP.

> Define the parameters of the DRP backup profiles (frequency, cartridge retention period),

> Link them to the existing backup profiles (**DRP** tab)

> **Back up the data and the DRP data**.

NOTE: Bull offers Disaster Recovery modules that allow you to save a mirror image of the disk on the StoreWay DPA. This module is available for certain operating systems.

WARNING: Back up the StoreWay DPA settings and databases and at regular intervals externalize the StoreWay DPA backups to a location which is off company premises as part of the DRP.

Familiarize yourself with the main stages of a DRP (Disaster Recovery Plan)

Details of the major stages of a Disaster Recovery Plan (DRP) for company data which has been stored in another location from the destroyed equipment.

Operations to be performed	Time required with other software	StoreWay DPA: action required	Time required with a StoreWay DPA
Acquire Data Recovery / Backup hardware		Guaranteed	
Reinstall backup software	30 min	Pre installed	0
Restore backup software	2 hours	Restore StoreWay DPA	30 min
Restore the backup software to meet the requirements of the native hardware and software.	x hours/ x days	Click on the **DRP** button	1 second
Restore data from the cartridges	Depending on volume	From DRP backup cartridges stored externally.	Depending on the volume

Ask Bull for information about performing DRP backup simulation exercises.

Restore data in DRP mode

Restore data in DRP mode

1   Click on the menu **settings/Users**.

2   Declare the user who will perform the DRP restoration. Create a new user code user, specifying its domain for Windows users (for example: **Bull\user1**).

3   Click on the **DPR** button to activate the restoration in DRP mode.

    The button becomes red and flashes (this operation must be performed after the user has been declared).

4   Run the restore operation: the restore operation then uses data recorded on the tapes only and no data from disk at all.

Chapter 5. StoreWay DPA Administration

See:

Technical Support

Technical support (Report for Technical support)

> In the **reports/Events logs/Technical support** menu, click on the button **Generate a new report**. A file (with the extension ".slf") is generated. You can transfer this file, once generated, to a Technique Support E-mail address.

Technical Support (Diagnostic)

> Click on the button **Start the diagnostic**. A report on the state of your StoreWay DPA is displayed and enables you to correct certain parameters if necessary.

Command Execution

It is sometimes necessary to apply command files to your StoreWay DPA to correct certain problems. You can upload these files directly from the StoreWay DPA.

In the section **Execute commands**, click on the browse button and select the file (with an extension .sbc).

> Click on the button **Load the file**. The command file executes automatically.

After executing this command file, a page displays the results.

You can consult the log files which correspond to the command file execution in the section **Latest commands** executed on the Technical Support page.

Consult and understanding the alarms

The color of the alarm button shows how serious the alert is. The number written on the button displays the total number of alarms (of all colors) which require your attention.

> **Green**: no alarm

> **Yellow**: minor alarm, does no stop the backup activity:

   "Data tape migration requires a blank or not full cartridge", means you will have to insert a particular type of cartridge in the StoreWay DPA but that not doing so will not stop your backup activity (to disk) for the time being.

> **Orange**: major alarm, can stop backup activity:

   "The system accounts_server2' is unreachable. This means that no backups will be performed on this machine until the connection is fixed (wrong IP address, network problems, system down etc.).

> **Red**: Means the presence of a critical alarm. This means no backup operations are possible.

   "Backup to tape replaced by a backup to disk", suggests that the tape backup is not working and that only disk backups are performed. Obvious future storage difficulties will occur if no action is taken.

Possible actions:

"Check the alarms" page 70

"Resolve the problem indicated by the alarm" page 70

"Inactivate an alarm" page 71.

"Reactivate an alarm" page 72.

Check the alarms

Check the alarms

1   Check the color and the number of alarms on the **alarms button**.

2   Click on the **alarms** button to see the detailed list of these alarms.

3   If necessary, click on the tab **deactivated alarms** to check that certain important alarms have not been deactivated.

Resolve the problem indicated by the alarm

Consult the list of the alarms, deal with the problem and confirm that the issue has been resolved.

Resolve the problem indicated by the alarm

1   Click on the **Alarm** button in the bottom left-hand corner of the screen

   The alarm consultation window opens at the active alarms page.

2   Check the box(es) next to the alarm(s) that you have reviewed and processed.

3   Click on the **Acknowledge** button.

The alarm moves to the day's alarms tab (or the week's alarms tab if it's an older alarm), accessible via the **Alarms history** tab. A tick indicates that you have processed the alarm. It is no longer included in the number of current alarms on the **alarms** button.

What to do in case of an alarm (some examples)

The following table explains the causes and possible actions to take if you receive one of these alarms:

Alarm	Course of action
The security backup to tape is replaced by a disk backup.	The tape is either full, closed or missing. See: > "Select a cartridge rotation method" page 80 > "Empty or erase the contents of a cartridge" page 80
Disk full, backups must be externalized.	Check that the tapes are correctly catalogued. Go to **operations/ Storage/Media** (see "The operation/Storage/Media menu" page 95) to check the status of the cartridges. See also: > "Empty or erase the contents of a cartridge" page 80
Drive needs cleaning.	Insert cleaning cartridge into autoloader's first slot. See: > "Clean a drive" page 79.
Sudden shutdown detected.	Restart the appliance in console mode or using the interface. See: > "Shutdown and restart the StoreWay DPA" page 11 > "System shutdown" page 21
No valid data to backup: backup impossible	In the **settings/Systems** menu, check that your file path is valid by clicking the **browse** button and navigating to the directory you wish to back up for this particular system. If you have entered the path manually, double check for accuracy or copy the path from an Explorer for example into the relevant field ("Description of a system" page 30). Ensure that the system is defined within a profile. See: > "Define the system backup profile" page 43.
System cannot be reached	Ensure that a StoreWay DPA agent is installed on the client machine you are trying to use a system to back up. Check that the service agent is started (see the **Administration Tools/Services** window). Check the host configuration file is configured to accept requests from this machine. Edit the **auth.cfg** file in **<StoreWay DPA_install_dir>\StoreWay DPA\config**. Use the interface or console to check or redefine your network settings (see"Network" page 15).
No backup planned	Check that the backup you wish to perform is part of a profile. See "Define the system backup profile" page 43 and "Consult existing backup profiles" page 44.

Inactivate an alarm

You consult the list of alarms and consider that issue is minor or has already been resolved, and do not wish to be warned each time the problem reoccurs.

Deactivate an alarm

1   Click on the **alarm** button in the bottom left of the screen.

The alarm consultation window opens displaying the alarms which are currently open.

2   Check the box next to the alarm you want to inactivate.

3   Click on the **inactivate** button.

The alarm moves to the pages accessible via the **Alarms history** and **Inactivated alarms** tabs. It is no longer included in the number of current alarms on the alarms button.

WARNING: An inactivated alarm is not displayed again if the cause of the error reoccurs.

Reactivate an alarm

An inactivated alarm is not displayed again if the cause of the error reoccurs.

The **Reactivate an alarm** command is used to enable alarm messages to be displayed again if the cause of the error reoccurs.

Reactivate an alarm

1   Click on the **alarm** button in the bottom left of the screen.

The alarm consultation window opens displaying the alarms which are currently open.

2   Click on the **Inactivated Alarms** tab.

3   Select the alarm(s) to reactivate

4   Click on the **reactivate** button.

The alarm moves back to the main page. It will be included again in the number of active alarms on the alarms button if the incident that caused it reoccurs.

Consult the Event logs

Consult the Event Logs

1   Open the menu **reports**/**Event Logs** to analyze a problem in more detail.

2   Open the menu **reports**/**Event Logs/Technical Support**: to produce a detailed report and send it by E-mail to Bull.

See also:

"Ensure that the backup is working" page 54

"Menu Report/Event Logs" page 101

Understand daily E-mail production

Notification e-mails about StoreWay DPA activities are sent to the administrator and to the scheduled recipients, according to the frequency defined in the **settings/backups/Reports**.

> E-mails indicate the current week's backups, sorted by date, for each system.

E-mails show the backup type, the processing date and time, the processing status, the system type, backup profile, the volume of data handled, the transfer duration and transfer speed.

> A paragraph summarizes the week's restore operations, sorted by date.

> A paragraph indicates the active alarms.

> A paragraph on the latest StoreWay DPA security backups.

See:

Familiarize yourself with the list of statuses in the E-mail

Color	Status	Description
Blue	Planned	Job planned; it will start depending on the time slot programmed and the necessary bandwidth for its realization.
Blue	Started	Job launched but not started, for example waiting for available drive resource or data.
Blue	Running	Job in progress.
Blue	Waiting	Operation waiting for available disk/cartridge resources.
Green	Completed	Job completed successfully.
Orange	Abandoned	Job abandoned manually or automatically (job stopped or timed out).
Red	Abandoned	Operation failed
Red	Not started	Job could not be started in the allotted timeslot.
Black	Lost	Job lost, for example, as a result of a regeneration of the backup database.
Yellow panel	Information	Specific information is for this job. This information gives details on a specific aspect of this job.
Gray cross	Recycled	Job recycled: the data for this job cannot be restored completely; At least some of the data was restored.

Define a new type of mailed backup report

1 Click on the menu **settings/backups/Report**.

The list of programmed backup reports is displayed.

2 Click on the button **New**, to schedule a report.

3 In the new report scheduling screen, first of all select the frequency of the reports: certain days of the week or once per week, at a given time.

4 Enter the recipients of the report: the StoreWay DPA administrator, or all StoreWay DPA users for whom an e-mail address has been declared or even one or more specific e-mail addresses that you may enter.

> **NOTE:** When entering several e-mail addresses, separate them with a comma.

5 Click **create** to create the new report.

Delete the recipient from a mailed report

1 Click on the menu **settings/backups/Report**.

2 Check the box next to the recipient to delete.

3 Click on the **delete** button.

Stop sending a report

1 Click on the menu **settings/backups/Report**.

The list of programmed reports appears.

2 Select the box at the end of the line and click **delete**.

Understanding logs

There are two types of log:

StoreWay DPA Logs

StoreWay DPA logs are intended to help you understand the problems you may encounter with your StoreWay DPA configuration. There are two types of display with more or less technical details (Standard Mode, Expert Mode).

The types of StoreWay DPA event:

> **StoreWay DPA global events**: concern the StoreWay DPA itself. You can find all the actions performed: for example: alarms acknowledged.

> **StoreWay DPA System Events**: concern hardware problems. This information deals with the operating system of the StoreWay DPA to know its Linux package.

> **StoreWay DPA Backup Events:** concern the problems linked to the backup and restoration tasks started on the StoreWay DPA. You can find out, thanks to this information, when a backup job fails and the reason for this failure.

> **StoreWay DPA ASM Events:** concern the problems linked to backup tasks to the Windows Disaster Recovery (ASM module). You can, thanks to this information, find out when a disk image, a Snapshot was performed. You can also know which server performed a synchronization.

The **Refresh** button takes into account the new choice in the list.

NOTE: The consultation window superposes the previous window. To close it, click the **X** in the top right of this new browser window.

Access the logs (1)

> In the StoreWay DPA interface, **open reports/Event logs/StoreWay DPA events.**

Access the logs (2)

> In the StoreWay DPA interface, click on this button at the bottom of the page where you can see the date and time displayed.

The client logs

The StoreWay DPA associates three file logs to the three internal services. The log files are in this directory:

<install_dir>\dpa\log

Service	Log file	Description
esavdeamon	**esavdaemon.lg1**	The log describes the service associated with the start up agent.
esavnavcli	**esavnavcli.lg1**	The log describes the service associated with the navigation agent.
esavcli	**esavcli.lg1**	The log describes the service associated with the backup.

Manage the tapes, drives and libraries

Click on the **operations/Storage** menu to consult or manage a drive, a cartridge, or a library.

See:

Define the media validation procedures

On the StoreWay DPA manual drives (StoreWay DPA models not equipped with tape libraries), Bull has prioritized the reduction of media management tasks.

To achieve this, the StoreWay DPA cartridge and DVD validation procedure structures the choice of media rotation mode.

Thanks to the cartridge validation procedure, StoreWay DPA alerts you by E-mail of the need to change the cartridge, according to your choice of tape rotation mode:

> every day,

> once or twice per week,

> only when the tape is full.

Depending on your choice of cartridge rotation mode, StoreWay DPA helps you to track this rotation. To do this, you must define the cartridge validation procedures.

These procedures, triggered by the StoreWay DPA, check that the cartridge inserted in the drive is indeed the correct cartridge, and then sends an E-mail to the relevant persons informing them of any potential anomalies and, where necessary, asking them to change the cartridge.

Access the media validation procedure

1 Click on the **settings/Backups/Backups and DRP/Cartridge validation** menu to access the cartridge or DVD validation procedures.

Possible actions:

2 Create a new media validation procedure.

3 Modify an existing procedure.

Create a new media validation procedure

> Click on the folder **New** just below **Cartridge Validation** in the left hand directory tree to program a new cartridge validation procedure.

You can configure:

> **A name**.

> **Planning**: time and day validation.

> **Retention**: by default: **Normal** (2 weeks), **Long** (2 months) and **Infinite** (30 years). You can modify these retention periods in the menu **settings/Backups/ Backups and DRP/Retention**.

> **Cartridge cycle**: either you decide to change a cartridge when it is full or you set a specific moment to change it: every *n* days or weeks or every *n* day of the week.

> **Notification**: define:

  • **The E-mail recipient**: by default to the StoreWay DPA admin, all StoreWay DPA users (**WARNING**: this can cause excessive and unnecessary E-mail load) or specify another E-mail address.

  • **The condition**: you can decide to send an E-mail for each media validation or simply notify when validation fails.

> **Profiles and retentions information**: For each profile and for each day of the week you can see a table summarizing your media validation details.

Modify an existing procedure

> Click on one of the procedures which is already defined in the menu on the left and modify the parameters.

Check the status of a drive

Check the status of a drive

1 Click on the **operations/Storage** menu.

2 Click on the reference for a **Drive** in the tree structure on the left-hand side of the screen.

   The status and general information for the drive are displayed.

3 Check the disk storage level and its status.

Deactivate a drive to perform maintenance

Deactivate a drive to perform maintenance

1 Click on the **operations/Storage** menu.

2 Click on the reference for a **Drive** in the tree structure on the left-hand side of the screen.

3 Select the status **Inactive**.

4 Click on the **Update** button.

   WARNING: if no active drive is available, StoreWay DPA cannot store data to the cartridge: an alarm is generated to flag the problem. This type of situation must only be temporary, because disk storage space on the StoreWay DPA is not unlimited, and backups will no longer be able to be performed.

   It is therefore advisable, when the drive is once again ready to be used for storing data, to move its status back to Active.

Eject, identify or erase a cartridge

If the **Drive** contains a cartridge, you may perform certain operations on the media.

Eject, identify or erase a cartridge

If the drive contains a cartridge, you can perform certain operations on this media in the information page of the drive:

1   Click on the **operations/Storage** menu.

2   Click on **Drive: Media** in the left-hand tree structure.

A page is displayed with the contents of the cartridge.

3   Click on one of the displayed buttons:

- **Eject**: the drive ejects the cartridge.
- **Identify**: the cartridge is read, in order to check its name.
- **Erase**: the contents of the cartridge are physically deleted, the cartridge loses its name and becomes blank again.

See also:

"Empty or erase the contents of a cartridge" page 80

Clean a drive

The cleaning is managed by the drive. It is up to you to clean the drive when it indicates that this is necessary (an alarm is displayed, a message is displayed on the Drive page and the drive flashes orange LEDs).

You are alerted as soon as cleaning is recommended.

> **Put a cleaning cartridge in the drive: the cartridge is ejected as soon as the cleaning is ended, and the alarm is automatically acknowledged**.

> Cleaning cartridges are cartridges that can be used for cleaning drives a certain number of times: they have a life span of *n* cleans (usually 20 cleans) and then must be replaced.

> Certain manufacturers indicate that their drives do not need regular cleaning: the drive should not be cleaned unless an LED flashes to indicate that cleaning is necessary.

Empty or erase the contents of a cartridge

The **Media/Tape** menu allows you to perform certain tasks on the cartridges. To modify these cartridges, you must first check them and click on one of the following actions:

Action	Description
empty	**This action empties (or recycles) a cartridge. The cartridge:** > **keeps its name and location in the catalogue,** > **is emptied of its contents.** **NOTE**: The next time you use a cartridge which has been emptied, and if this cartridge was not in the drive when the cartridge was emptied, the data on this cartridge will be deleted.
erase	**This action erases:** > **the label of the cartridge,** > **the cartridge from the catalogue,** > **the contents of this cartridge.** > **VXA cartridges are reformatted.** Typically, you use the erase function when you want to recover a completely blank cartridge with a view to changing its label (for example: change a cartridge M_001 to X_001). If the cartridge is in the drive or the library, the contents will be physically deleted (The cartridge loses its name (label), the data is deleted and the cartridge is considered to be blank. The reference to the cartridge is also deleted (the StoreWay DPA database will no longer recognize the cartridge). **NOTE**: If you erase a cartridge when it is not in the drive, the data on the cartridge cannot be used in a production environment by a StoreWay DPA. However, if a security backup (.sbk) is present on the cartridges, the data on the cartridge can be retrieved if necessary. In this case the data is effectively archived on this cartridge.

See also:

Select a cartridge rotation method

How to set parameters according to the choice of cartridge rotation mode, to suit your backup mode and cartridge validation procedures.

Separate certain types of data on specific cartridges

You can, for example, save total backup data to long retention cartridges, that you then store in a safe place once the total backups are completed, whereas you save incremental backup data to normal retention cartridges.

The data retention period, that you define in your backup profiles, indicates on which cartridges data is stored.

The default configuration of the StoreWay DPA records incremental backups on normal retention cartridges (name beginning with M_), and total backups on long retention cartridges (name beginning with L_). You define your backup profiles.

You may also wish to store all data on the same cartridges: this requires minimal cartridge changes.

To do this, all the backup profiles that you use must store the incremental and total backups with the same data retention period. This might be a long retention period.

Select the criteria for cartridge changes

For a single set of cartridges (Long conservation L_ cartridges, for example), you must decide what your criteria are for changing the cartridge.

For example, you may wish to change the cartridge every morning, so as to have a daily snapshot of your systems (this option makes particular sense if you perform total backups on a daily basis).

Nevertheless this option is very restrictive, since it forces you to change cartridges on a daily basis.

The StoreWay DPA offers you two alternative options for cartridge changes:

> Change the cartridge when it is full: this is the option requiring the least intervention on your part, but is not recommended by Bull: in the event of an accident, saved data from a certain period is lost. StoreWay DPA automatically warns you when the cartridge in the drive is full and asks you to change it. This is the default setting of the StoreWay DPA.

> Change the cartridge periodically, for example every three days, every two weeks, or even every fourth Monday, and do so even if the cartridge is not yet full. This provides you, for example, with a cartridge rotation cycle over x weeks, the cartridge being changed every Monday.

> Writing on a new cartridge with the same retention period "closes" the previous cartridge and StoreWay DPA prevents this cartridge from being used for at least the prescribed data retention period.

> Introducing the cartridge after the retention period has expired results in all previous data being deleted during the cartridge validation procedure.

WARNING: **Store the backup tapes in a location that is off company premises.** It is strongly recommended that, at regular intervals, you store backup tapes off-site, in a different location to the company premises: in a bank's safe deposit box or in another secure building, etc.

Manage cartridge externalizations for Disaster Recovery

When you launch a backup with a view to externalizing for a Disaster Recovery plan, you need to ensure that the cartridge in the drive is suitable for the scheduled job:

EXAMPLE: If you have programmed an externalization job for Disaster Recovery and the cartridge in the drive is type "M_" and the job is expecting to write to a type "L_", cartridge, then this cartridge will be ejected and the StoreWay DPA will request another one.

You therefore need to schedule externalizations to tape for DR at times when the drive contains the tape which corresponds to the job.

Check the storage of backed up data

1   Click on the **operations/Storage menu**.

    The left hand tree structure presents several choices for a media: **Data**, **Disk** and **Tape**

2   Click on the folder **Tape** to display the list of cartridges used and their location.

3   Click on the folder **Disk** to identify the volume of disk space used and free for each retention period.

4   Click on the folder **Data**. The page **operations**/**Storage/Media/Data** displays statistics on used and available storage space.

5   Check the storage state on the disk, using the relevant tabs: filling, age, server, profile.

    These pages present information on each media. For the data, the breakdown is in graphic form accessed by selecting the relevant tabs.

Perform an inventory of the contents of a library

When you access the library for the first time, or if you have manually modified the contents of the library, the displayed contents of the magazine may be inaccurate or include cartridges that have not yet been identified.

To update this information, you may force the cartridge contained in the library to be identified.

>   **Identify**: physically reads the tapes in order to recognize them.

>   **Scan**: When your library possesses a bar code scanner, it is able to read all the bar codes and can reconstitute the slots contents according to what it knows about the cartridges associated with these bar codes. Although quicker (no need to physically read the contents of the cartridges), this method is only effective for cartridges already known to the StoreWay DPA: cartridges that have never been previously read by the StoreWay DPA will remain identified as **?????**.

    WARNING: Cartridges known as spare are read by StoreWay DPA, but do not carry a StoreWay DPA label, as they do not yet contain any StoreWay DPA backup data. They are considered to be blank tapes and can be used for backups.

When an inventory operation is in progress for the library, the message **Operation in progress** is displayed above the contents of the magazine.

>   Click **[View operation in progress]** to consult the status of the operation:

    The StoreWay DPA waits for one minute after the end of the inventory operation before allowing another operation to be performed on the library.

Eject a cartridge: In/Out media

When your library has a cartridge in/out mailbox, StoreWay DPA offers an additional action: An **In/Out** button is displayed at the bottom of the slots contents page.

Eject a cartridge in the mailbox

1   Check the cartridges to select them and then click on the **In/Out** button to take into account the cartridges in the mailbox and store them in the magazine

2   Click on the **In/Out** button without selecting the cartridge in the magazine.

Repair a disk bay drive

Downgraded status indicates that a disk is out-of-order.

The bay continues to function as usual by deducing data for the missing disk from other copies of the same data (redundant data). The StoreWay DPA therefore works more slowly and the bay is said to be operating in downgraded mode.

When the bay is in downgraded mode, a mail is sent to the administrator to alert him.

Repair a disk bay drive

1   Replace the faulty disk with a working disk (with the aid of the support service).

2   Click on the **Repair** button at the bottom of the screen displaying the status of the bay.

The page displays a percentage of reconstruction in progress (the contents of the replaced disk are rebuilt from redundant data), until 100% of the contentsare rebuilt and the bay returns to active status.

Chapter 6. Understanding the StoreWay DPA interface

See:

Log on page

This page allows you to identify yourself as an accredited user to access the system.

> **User**: name of the user recognized as an administrator or as an authorized user authorized to consult the StoreWay DPA.

> **Password**: password chosen by the user.

> Click on the **connection** button to validate the information and log onto the StoreWay DPA.

> If the user name and the password are recognized, you access the main configuration interface.

The settings/Systems menu

The **settings/Systems** menu contains the description of the backed up machines (systems) and applications.

> Click on the menu **settings/Systems** menu to consult, create or modify declared systems.

The elements already created are displayed in three different views: click on the tab to display the element:

> **Locations**: the systems are displayed by location.

> **Systems**: systems are displayed directly.

> **Applications**: only applications are displayed.

Click on the tabs to change the view.

See:

"Declaring detected systems" page 33

The settings/Backups menu

This menu contains the functions used to describe backup rules and provides several types of information.

> Choice of Retention period for backup data. (See also: "Understand the backup profiles" page 42).

> Description of the Backup Profiles (backup schedules and backup type (total or incremental) and details of which machines and applications are assigned to these profiles. (See: "Understand the backup profiles" page 42).

> The E-mailing of Backup Reports. (See "New activity report" page 101).

> Cartridge validation. (See "Define the media validation procedures" page 77).

Each of these types of information is accessible via the navigation bar on the left-hand side of the screen.

See also:

"Configure and perform your backups" page 41

The settings/Users menu

This page defines the user IDs for users who consult the StoreWay DPA backup or activity reports.

It is unnecessary to define user IDs for system recovery, except in the case of cross-system restoration.

Description:

> **Name:** Identification of users, which bears no relation to the system name except for cross-system restorations where the syntax must be system_name\user (with a back slash to separate the system name from the user name).

> **Comments:** details displayed in the help bubble.

> **StoreWay DPA Password:** Independent of the local password defined by the administrator.

> Re-enter password

> Full name

> **E-mail Address:** to receive reports if necessary.

> **Backup rights:**

> The checkbox**: Allow cross system restorations** authorizes the user to install a backup on a different system to the original system (see "Restore files after changing machine (cross-system restoration)" page 63).

See also:

"Define user access rights" page 25

The settings/StoreWay DPA menu

This page enables you to set internal StoreWay DPA parameters.

A tree structure of parameters is displayed in the left-hand part of the screen. Each folder corresponds to a page of parameters.

> Click on the object you wish to modify (date and time, network, update the StoreWay DPA… etc.).

The contents of the page are displayed.

> Complete the zones or modify the parameters and click on the **update** button at the bottom of the page.

See:

The operations/Restoration menu

The **operations/Restoration** menu allows you to gain access to the restoration functions for a given system. Click on the **[Open a new restoration session]** to open the restoration page and start restoring files.

Restoration page

When you click on the **[Open a new restoration session]**, the restoration page opens containing the following information:

Information zone

> This **information zone** shows the system name, the date and the object display options (display deleted objects). It also specifies the name of the current directory.

> When the page first opens, the date is set in the present and deleted objects are not displayed.

> **After selecting the time navigation option, the navigation date in the past is shown, as well as the period of time over which the deleted objects are displayed**.

System contents

> The first column contains the check boxes to select the line before performing the operation using the button **add to cart**. Only objects that can be restored can be selected.

> An icon enables you to display the type of object presented: a directory, a sheet for a file, a blue circle for a special object. An object with a white cross on a red background is an object which has disappeared.

> **Name**: Name of the directory or the file

> **Size**: the size of the file on the navigation date.

> **Modified**: the date of the latest file modification on the navigation date.

> **Backed up**: the date of the latest backup of the file on the navigation date.

See also

"Restoration Interface" page 56

Action buttons

The action buttons are at the bottom of the page.

> **add to cart**

> **time navigation**

> **restore**

These buttons perform actions and open new pages.

See also:

Add to cart window

This page displays the objects (files, directories, etc.) selected in the previous step.

Information is shown in 2 columns:

> The first column contains the boxes to be checked in order to select the desired lines, before removing the selected objects by clicking on **remove from cart**.

> The name of the selected object is displayed in the other column.

> The **restore** button restores those files already selected, if you have no other files to add.

The remove from cart button removes those files that are already checked from the restore list.

The back to browsing button takes you back to the previous stage

Actions:

> The **restore** button restores the list of files already selected, if there are none to add.

> The **remove from cart** button deletes from the list the files which are checked to remove them from the selection.

> The **return to navigation** button returns to the previous step.

See also:

List of versions window

This page presents the list of previously backed up versions.

The information is contained in these columns:

> The first column contains check boxes to select before performing the operation started with the **choose the version** button.

> An icon enables you to display the type of object presented: a directory, a sheet for a file, a blue circle for a special object. An object with a white cross on a red background is an object which has disappeared.

> **Name**: name of the directory or the file.

> **Size**: the size of the file on the navigation date.

> **Modified**: the date of the latest file modification on the navigation date.

> **Backed up**: the date of the latest backup of the file on the navigation date.

Actions:

> The **choose the version** button replaces the navigation at the date of the version selected, and adds the selected object to the cart.

> The **return** button returns to the previous step.

See also:

Restoration option window

Action if file exists

> If you check the option to overwrite existing files, the StoreWay DPA will replace the existing files on the disk by the restored files.

> If you do not check the option to overwrite existing files, the StoreWay DPA will not restore the files that are already on the disk, and they will remain unchanged even if they were selected in the restore cart.

Destination directory

> This zone is optional. It can be used to change the target machine for the data to be restored. It is especially useful when the source machine for the data is no longer accessible (failure, period of maintenance, etc.) and you need to retrieve the data and restore it to another machine.

> This option is only displayed if a compatible machine has been declared on the StoreWay DPA, and the current user has the necessary permissions to perform cross-system restorations (see the **settings/Users** menu).

> If the data can only be restored to the original source machine (the case with certain applications) this option is not displayed and the user therefore cannot specify another target machine.

Restoration destination

> This zone is optional. It can be used to specify a different destination directory to allow you to keep your restored files separate from existing files, meaning they are easier to identify.

> The destination directory must be located on a volume with sufficient available space to restore the selected files. When you restore data to a different location than the source directory, the syntax used to specify the path of the destination directory depends on the operating system onto which the data is being restored.

> Some examples of the syntax to be used for the destination directory path for the operating systems supported by the StoreWay DPA:

Windows 98/Me/XP/NT/ 2000/2003/Vista	`c:\Restored documents`
Unix	`/home/restored_documents`
NetWare	`sys:/resto`

If the data can only be restored to the original source directory (this is the case with certain applications) this option is not displayed and the user therefore cannot specify another target directory.

See also:

Time navigation window

This page features two different tables that can be used to browse files that existed at a given point in the past:

> **Displayed date**.

> **Display deleted objects**: to choose whether or not to display the files that have been deleted during a given time period.

Whatever mode of time navigation you select, you can browse back through the directory tree only as far as the system creation date (or the date of the first backup) recorded in the StoreWay DPA database.

NOTE: For some operating systems (Windows NT/2000 and NetWare, for example), the file size does not correspond to the size of files on the disk, but on the size of the data backup flow.

Time navigation options concern the search for files in the past:

The choice of the displayed date

You can choose to display:

> the present,

> the past, at a specific date and time by selecting the year, month, day, hour and minute.

Choice of display for missing objects

> **None**: **default option: no missing files are displayed**.

> **Deleted for less than**: **specify your chosen time period**.

See also:

Restoration follow-up window

Once the restore has started, this window allows you to monitor its progress. It provides the following information:

> **Objects to restore**: a list of the objects selected in the restore cart is shown here.

> **Restoration follow-up**: the status of the operation in progress is displayed here. This status is refreshed every 10 seconds until the operation is complete.

The restore operation can be canceled when performed with a large number of files by using the abort button.

WARNING: Aborting a restore will not undo the restoration of those files that have already been restored.

In the course of the restore operation, it may be necessary to load one or more external media. In this case, a message is displayed in the restore interface, prompting you to load the required media.

The **back to browsing** button allows you to resume browsing and launch a subsequent restore operation.

The operations/Backups menu

This menu displays backup, DRP and restoration activity for the past periods or still to come. These jobs can either be displayed:

> for whole systems and applications for a given period by selecting **Backup Overview** in the left menu.

> for a given system or application by selecting this entity in the left menu.

> as a summary of latest jobs done for whole systems, applications and backup profiles by selecting **Systems Overview** in the left menu.

Job information

Job list displays this information:

> **Name**: Name of the system or application.

> **Profile**: Backup profile.

> **Type**: Job type (full backup, incremental backup, synthetic backup, DRP, restoration).

> **Date**: Start date of the job.

> **Status**: Job status. By clicking on job status, you can have detailed information about the job.

> **Nb objects**: Number of objects. Objects are files, but also folders, links and shortcuts, and some special objects such as Active Directory.

> **Volume**: volume of data before compression.

> **Duration**: Job duration.

> **Throughput**: Average throughput of the job. This throughput is not displayed for incremental backups since it is not significant: only a part of the files is actually backed up (therefore reducing volumes), but the disk is nonetheless scanned which can represent a relatively long time.

Backup Overview

The **Backup Overview** displays 2 tabs:

> first tab, **Backup activity**, contains information about past and scheduled jobs.

> second tab **Backup Launching** allows you to manually start a job.

Systems Overview

The **Systems Overview** displays a complete summary of all latest valid jobs for each profile of each system or application. This allows to quickly check that all systems and applications are backed-up.

> Only jobs with available backed-up data are displayed. This excludes non-started and recycled jobs.

Abort or restart jobs

In backup activity view, one can abort running jobs or re-start (re-schedule) those that did not successfully finished. Proceed as follow:

> Check the jobs and click **abort** or **restart** button.

Selected job list is displayed for confirmation. If some of them are not compatible with the requested operation, they are shown as discarded.

> If a job restart is requested, then you can choose to schedule those jobs for an immediate start or for a later start.

> Confirm the request by clicking again **abort** or **restart** button.

Jobs requested for restart are scheduled again and immediately appear in the scheduled jobs list, while jobs requested for abortion need a short time to be processed.

Once a job abortion is requested, the given job may still appear as running for a short period, since it actually aborts. Following a stoppage request, the jobs in question continue to appear to be in progress for a period of up to a few minutes, the time required for the order to stop.

See also:

The operations/Storage menu

These pages provide information about the contents of the drives (Drive1) or the libraries (for StoreWay DPA models equipped with tape libraries) and the media, disks, DVD and tapes.

The backups in StoreWay DPA models not equipped with tape libraries are provisionally saved to disk, before being transferred to tape. In the event of a problem with the DVD or cartridges, data is backed up to the StoreWay DPA hard disk while awaiting resolution of the problem.

It is nonetheless necessary to load the cartridges: a disk that has too little available space may result in corrupted backups (backups cannot be performed when the disk is full).

See:

The operation/Storage/Media menu

The Media page displays the contents of the backed-up data and the identification of the known cartridges.

Disk space and migration status

The total volume used on the StoreWay DPA appliance disks for storage of backed-up data is indicated under the heading **Disk space**.

The detailed breakdown of storage space on disk is indicated under the heading **Data to copy from disk to tape**:

> The **Volume on disk** column indicates, for each data retention period, the volume occupied by the data on the disk.

> The **Volume to copy** column indicates the volume of data that the appliance still has to copy from disk to tape.

> The **Cartridges** column indicates the relevant target cartridges.

> **Status**: indicates the status of the migration: **Waiting** when this has not yet started, **Running** when copying from the disk to tape is in progress and **Complete** when the data has been copied.

> NOTE: The appliance has no more data to save to tape when the status of the data to copy from disk to tape is **Complete**. All existing data on the disk has then been copied to the cartridges.

Cartridge status

The list of cartridges presents the following elements for each cartridge:

> **Cartridge name**: This is a label that the appliance still writes, along with other information, to the cartridge. This information enables the appliance to identify

each cartridge individually just by reading the tape.

> **Coding**: L_ indicates long retention period cartridges, M_ normal retention period cartridges and X_ indicates cartridges that have an infinite retention period.

You can more easily identify cartridges by giving them a name, such as "Monday cartridge" or "Monthly". To do so, click on the cartridge name: you will then be able to set or change the cartridge's name.

> **Volume**: Total volume occupied by data on the cartridge.

As data is compressed beforehand by the appliance, the total volume written to tape is less than the total theoretical volume of the cartridge. Nevertheless, when full, the real volume backed up to a cartridge will of course be more than the theoretical capacity of the tape and will vary depending on the type and compression ratio of the backed up data.

> **Status**: this shows the cartridge status

The various cartridge statuses are shown below:

Status	Meaning
Blank	> Does not have a StoreWay DPA label
Empty	> Has a StoreWay DPA label
	> Does not contain any stored data or has been emptied
Initiated	> Has a StoreWay DPA label
	> Contains stored data
	> May continue to be used for storing new data
Closed	> Has a StoreWay DPA label
	> Contains stored data
	> Blocked from being used for storing new data until it is recycled, following a cartridge rotation
Closed following incident	> Has a StoreWay DPA label
	> Contains stored data
	> Blocked from being used for storing new data until it is recycled, after an incident
Full	> Has a StoreWay DPA label
	> Full with stored data
	> May not be used for storing new data until it is recycled
Unknown	> Has a StoreWay DPA label
	> Is unknown to StoreWay DPA: this cartridge may come from another appliance, or have been deleted from the StoreWay DPA database. It cannot be used by the appliance until it has been deleted (operation which deletes the cartridge's label)

NOTE: In order to make it easier to identify cartridges, the appliance gives names to blank and unknown cartridges: blank cartridges are named spare##### and unknown cartridges are named ...-LF#####, where ##### is a number.

These unknown cartridges (lost and found) may come from other appliances or may contain backups that are not in the StoreWay DPA database (restoration from previous file).

> **Write access**: Write access indicates that it is possible to save data on the tape. So you may store new data on a cartridge that is write accessible, whereas you must wait for the next recycle for a cartridge that is blocked.

> **Last writing**: The last writing date indicates the date of the last backup or of the last cartridge recycle. When a cartridge is write protected, it is this date that marks the start of the data retention period. At the end of this period, the cartridge may be automatically emptied and reused.

> **Location**: Physical location of the cartridge as recognized by StoreWay DPA. A cartridge may be in the drive, in a slot in a library, in the mailbox of a library or even be located externally (cartridge is also said to be off-line).

The operations/Storage/Media/Tape menu

The StoreWay DPA also provides a summary table of the cartridges being used by the various backup profiles throughout the week. This table helps you to plan your cartridge checks.

This page allows you to identify tapes used by the StoreWay DPA, their location and where appropriate, to empty or delete their contents.

NOTE: For StoreWay DPA models not equipped with tape libraries, even if the cartridge in the drive cannot be used for backups, and even if the drive is empty, the backups may still run without any disruption, by storing the data to disk. When a valid cartridge is subsequently inserted in the drive, the data will be copied to it

See also:

The operations/Storage/Media/Disk menu

The page concerning the disk differs according the model.

> For all models, there is a summary of the breakdown of the used and free disk space.

> For StoreWay DPA models not equipped with tape libraries, the page presents the volumes of data to copy for each retention period: the backed up data are migrated to different cartridges or DVD and disappear from the disk depending on disk space requirements).

> For StoreWay DPA models equipped with tape libraries, the page presents the space occupied on the disk for each retention period (because on these models, the backed-up data remain on the library disks and it is the processing linked to the DRP (data recovery plan) which writes data to tape.

The operations/Storage/Media/DVD menu

The StoreWay DPA also provides a summary of the DVDs being used by the various backup profiles throughout the week. This table helps you to plan your DVD checks.

This page allows you to identify the DVDs in use and determine their location.

The operations/Storage/ASM menu

> The Advanced Storage Module (ASM) makes it possible to backup Windows servers and workstations partitions or disks in bloc mode.

> Disk partition dedicated to ASM is defined on appliance's first initialization, after network configuration (appliance name, network address, etc.)

> The size of this partition once allocated can not be modified, unless the appliance is completely reinitialized.

> In this case, it is greatly recommended to make a security backup of the appliance prior to remasterizing.

> Once the operation done, security backup will allow to recover the appliance configuration and access to externalized backed-up data.

> **WARNING:** This operation may be necessary if you want to allocate more disk space to ASM than previously configured. In this case, all data backed-up on disk will be deleted, and only externalized backed-up data will be usable.

> A DiskSafe agent is installed on each server or workstation that must be protected.

> Once the agent set up, configuration is automatically made by ASM to allocate disk space to this agent.

> Allocated disk space is equal to the size of the protected partition or disk, plus 10% for snapshots.

(Please refer to the DiskSafe documentation for more information).

See also:

The operations/Storage/ASM/Storage space menu

The **Storage area** page describes storage space managed by ASM.

> **Agents disks:** represents the amount of disk space used by agents images. This should be equal to the sum of all protected partitions/disks from all client machines.

> **Snapshots**: represents the total amount of disk used by snapshots. By default, this is approximately 10% of previous value.

> **Free**: Amount of unallocated ASM disk space.

The operations/Storage/ASM/Virtual disks menu

The **Virtual disks** page displays list of all protected disks and partitions from all client hosts, and all snapshot versions from these disks and partitions.

Displayed information:

Column	Description
Name	The name of the disk as known by ASM. It looks like: **ds_vdev_CLIENTNAME_timestampsec[_timestampsnapshot].**
Type	Image type: if it is the current disk image, or Snapshot if it is a previously taken image.
Size	Partition or disk size. This can be useful to identify the partition or disk on multi-partitions/disks servers).
Client	The name of the client to which the image belongs.
Date	Snapshot date. For current partition/disk image, this is the current date.
Status	Green if the disk is OK, red if there is a problem.

The following actions can be performed:

> **update** - update page information.

> **delete** - delete a disk image or a snapshot. If a current disk image is deleted, then all associated snapshots are also deleted.

> **init password** - this operation allows to connect to a disk image from DiskSafe Recovery CD (server restoration) when one do not know the recovery password requested before the restoration phases (please refer to DiskSafe documentation for further information.

The Alarms menu

The color of the alarm button shows how serious the alert is. The number written on the button displays the total number of alarms (of all colors) which require your attention.

Alarm	Description
Green	No alarm.
Yellow	Minor alarm, does no stop the backup activity. > **EXAMPLE:** "Data tape migration requires a blank or not full cartridge", means you will have to insert a particular type of cartridge in the StoreWay DPA but that not doing so will not stop your backup activity (to disk) for the time being.
Orange	A major alarm, can stop backup activity > **EXAMPLE:** "The system accounts_server2' is unreachable. This means that no backups will be performed on this machine until the connection is fixed (wrong IP address, network problems, system down etc.).
Red	Means the presence of a critical alarm. This means no backup operations are possible. > **EXAMPLE:** "Backup to tape replaced by a backup to disk", suggests that the tape backup is not working and that only disk backups are performed. Obvious future storage difficulties will occur if no action is taken.

Possible actions:

The Reports menu

Reports/systems menu

The tabs **Locations** and **Systems** provide a view of the daily reports classified by location or system.

The page displays a list of links to daily reports from the last two weeks and to cumulative reports for other durations: week, month, year.

Reports are only shown for complete periods: yearly reports will not be displayed until there are 12 months of reports in the StoreWay DPA.

Each backup report can be accessed clicking on the date. Reports are classed by week.

Details by report type (link to the date)

These backup reports show, in graph format, the volume and number of backed-up objects, the success rate and the backed-up volume by system.

They supplement the mailed backup reports sent to the administrator and designated recipients and show the relevant data in another format.

Menu Report/Event Logs

The **Reports/Event Logs** page allows you to analyze a problem in greater detail by opening one of the folders in the tree structure.

See:

New activity report

To follow up the StoreWay DPA activity, you can schedule other activity reports to be sent by e-mail to those persons concerned by the backups.

By default, a report is sent to the StoreWay DPA administrator every weekday morning, Monday to Friday.

Program

Email frequency.

> Every day for a specified range of days at a given time.

> Every week on a given day of the week and at a given time.

Recipients

Check one of the options:

> Administrator.

> All users with an e-mail address.

> A specific recipient, whose e-mail address must be entered.

   It is necessary to complete the e-mail address and make sure it is valid (be careful with accents or hyphens).

StoreWay DPA events

StoreWay DPA logs are intended to help you understand the problems you may encounter with your StoreWay DPA configuration. There are two types of display with more or less technical details (Standard Mode, Expert Mode).

The list of choice of the types of events of the StoreWay DPA singles out problems per type:

> **StoreWay DPA global events:** concern the StoreWay DPA itself. You can find all the actions performed: for example: alarms acknowledged.

> **System Events**: concern hardware problems. This information deals with the operating system of the StoreWay DPA **to know its Linux redistribution.**

> **Backup Events:** concern the problems linked to the backup and restoration tasks started on the StoreWay DPA. You can find out, thanks to this information, when a backup job fails and the reason for this failure.

> **ASM Events:** concern the problems linked to backup tasks to the Windows Disaster Recovery (ASM module). You can, thanks to this information, find out when a disk image, a Snapshot was performed. You can also know which server performed a synchronization.

   The **Refresh** button takes into account the new choice in the list.

   NOTE: The consultation window superposes the previous window. To close it, click the **X** in the top right of this new window.

See also:

"Understanding logs" page 76

Declaring detected systems

This page lists the systems detected by the StoreWay DPA (with an installed agent) and which have not yet been created in the appliance. You can create these systems globally without manually creating each system. In addition, if there is an association file for a system/profile association (see **settings/StoreWay DPA/System creation**), a profile can be created automatically (see also "System Creation" page 27).

How does it work?

To create several systems at once, check the systems to create check box (**Sel**. column), assign the profile chosen for each of the systems (**Profile** column) then click **create**. The systems created will therefore be created with the chosen profiles.

Creation methods

There are two creation methods.

> In **automatic mode**, all detected systems will be created with defined profiles in the association file. If no profile is found in this file, the system will not be created but added to the list of detected systems.

> In **semi-automatic mode**, the systems are added to the list of detected systems. The user can consult the page of detected systems (menu **settings/**

Systems "**Declare detected systems**" button) to validate the profile association and create, in a single click, all detected systems. You can also create systems using the standard manual method (**settings/Systems** menu "**Create a new system**" button).

To select one or another of these methods, click **Automatic Creation** or **Semi-automatic Creation** then **update** at the bottom of the page.

How do I assign profiles to the systems?

Select the systems

This enables you to select several systems based on their type. Click on one of the items to select all the corresponding systems. The other systems will be unchecked.

WARNING: To select all Windows systems, select **All Windows Systems** in the list.

Assign the profile to the selection

Enables you to assign the same profile to all the selected systems. The non-selected systems will not be affected.

EXAMPLE: To assign the profile Workstation to all systems in the list, select **All systems** from the list **Select the systems**: all systems are selected. Then select **Work stations** in the list **Assign the profile to the selection**. This profile is associated with all systems in the list.

Create the systems

Once you have made your selection, click **create** to create these systems in the appliance and associate them with the chosen profile.

Profile association file

This section displays a summary of the loaded system/profile associations.

Load a new association file

To load a new association files, select a file using the **Browse** button then click the **load the file** button.

See also:

Index

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