



@server

iSeries

Backup, Recovery and Media Services

Version 5 Release 3





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Note

Before using this information and the product it supports, be sure to read the information in Notices.

Fourth Edition (August 2005)

This edition applies to version 5, release 3, modification 0 of IBM Operating System/400 (product number 5722-SS1), Backup, Recovery and Media Services (BRMS) (product number 5722-BR1) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CISC models.

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Contents

Backup, Recovery and Media Services (BRMS) 1

Online backups of Lotus servers	2
Differences between the BRMS interfaces	2
Differences in the terminology	2
Differences in the function	3
Advantages of using BRMS instead of Operational Assistant and iSeries Navigator Backup	3
How to use BRMS instead of Operational Assistant or iSeries Navigator Backup	4
Set up BRMS	5
Hardware and software requirements for BRMS	5
Install BRMS	6
Uninstall BRMS	6
Scenarios: How one company uses BRMS.	7
Scenario: Global policy properties	8
Scenario: Backup using BRMS	8
JKLDEV backup strategy	10
JKLPROD backup strategy	10
JKLINT backup strategy	11
Scenario: Move media using BRMS	11
Scenario: Reclaim media	12
Scenarios: Restores using BRMS	13
Recover a server after a natural disaster using BRMS	13
Restore an accidentally deleted item using BRMS	14
Specify global policy properties.	15
Back up your server using BRMS	15
Backup policies that ship with BRMS.	16
Create a backup policy using BRMS	16
Back up pieces of your server from the iSeries Navigator hierarchy	16

Perform a fully automated backup.	17
Schedule a BRMS operation	17
Schedule a backup using BRMS	17
Schedule a restore using BRMS.	17
Schedule a reclaim operation using BRMS	18
Schedule a move using BRMS	18
Restore items on your server using BRMS	18
Restore individual items using BRMS.	18
Recover your entire server using BRMS	19
Important information about your recovery report	19
Schedule a BRMS operation	19
Schedule a backup using BRMS	19
Schedule a restore using BRMS.	20
Schedule a reclaim operation using BRMS	20
Schedule a move using BRMS	20
Manage your BRMS devices.	20
Manage your media using BRMS	21
Prepare media for use	21
Work with media	21
Move media	22
Create a move policy using BRMS.	22
Schedule a BRMS operation	22
Verify a move using BRMS	23
Reclaim your media	24
Run BRMS maintenance	24
View or print BRMS reports	24
BRMS printed reports	25

Appendix. Notices 27



Trademarks	29
Terms and conditions for downloading and printing publications	29

Backup, Recovery and Media Services (BRMS)

Backup, Recovery and Media Services for iSeries^(TM) helps you implement a disciplined approach to managing your backups, and provides you with an orderly way to retrieve lost or damaged data. Using BRMS, you can manage your most critical and complex backups, including “Online backups of Lotus servers” on page 2, simply and easily. You can also recover your system fully in the event of a disaster or failure.

In addition to these backup and recovery features, BRMS enables you to track all of your backup media from creation to expiration. You no longer have to keep track of which backup items are on which volumes, and worry that you will accidentally write over active data.

BRMS also performs some daily maintenance activities that are related to your backup routine.

There is an iSeries Navigator interface to Backup, Recovery and Media Services that makes managing your backups even easier. There are several wizards you can use to simplify the common tasks you need to perform— creating a backup policy, adding media to BRMS and preparing it for use, adding items to a backup policy, creating a move policy, restoring backed-up items and  reclaiming media. 

If you already use BRMS, you will not find all of the function in the iSeries Navigator interface that you are used to in the character-based interface. However, you may want to use the graphical interface to perform a number of tasks; if so, you will want to be aware of some of the “Differences between the BRMS interfaces” on page 2.

If you currently use Operational Assistant Backup or the iSeries Navigator Backup program to manage your backups, you may want to use BRMS instead. BRMS offers several “Advantages of using BRMS instead of Operational Assistant and iSeries Navigator Backup” on page 3 that make it a better choice.

Important note:

Backup, Recovery and Media Services is not a replacement for a backup, recovery, and media management strategy; it is a tool that you use to implement your strategy. Before you start doing backups using BRMS or any other product, you should plan your backup and recovery strategy.

To make the most of Backup, Recovery and Media Services in your business, see the following:

“Set up BRMS” on page 5

Find out what you need to have on your system to be able to use the BRMS plug-in to iSeries Navigator. Then, find out how to install and uninstall the program.

“Specify global policy properties” on page 15

Find out how to use global policy properties to control how BRMS operations occur on your server.

“Back up your server using BRMS” on page 15

Find out how to use backup policies to manage backups on your server.

“Restore items on your server using BRMS” on page 18

Find out how to restore individual objects and recover your entire system using BRMS.

“Manage your media using BRMS” on page 21

Find out how BRMS can help you keep track of your media, including what items are backed up where, what media are available, and where the media are located.

» “Manage your BRMS devices” on page 20

Find out how to display, add, remove, and change the properties of any standalone devices, media libraries, and Tivoli^(R) Storage Manager (TSM) servers used for your BRMS backups. «

“Run BRMS maintenance” on page 24

Find out how to run BRMS maintenance, what exactly happens when you perform maintenance, and how often you should do it.

“View or print BRMS reports” on page 24

Find out what BRMS reports will be most useful to you and learn how to print them.

Online backups of Lotus servers

Backup, Recovery and Media Services supports online backups of Lotus^(R) server databases (such as Domino^(R) and Quickplace). An **online backup** is a backup that you do while your Lotus server databases are in use; there are no save-while-active synchronization points. You can direct your online backups to a tape device, media library, save file, or a Tivoli^(R) Storage Manager server.

Important note:

Do not use online Lotus server backups in place of complete system backups. Lotus server online backups only back up Lotus server databases. There are other important Lotus server and non-Lotus server system data that should be backed up on a regular basis.

For more information on online backups of Lotus servers, go to the Backup, Recovery and Media Services homepage. 

Differences between the BRMS interfaces

If you are already using Backup, Recovery and Media Services and want to use the iSeries^(TM) Navigator interface, you will want to be aware of the differences between the interface you are used to and the new interface.

Differences in the terminology

If you are used to the character-based interface, you might be confused by some of the terminology in the iSeries Navigator interface. Some of the differences in terminology are as follows:

New Term	Definition
backup history	A list that contains information about each of the objects saved as part of a backup done with Backup, Recovery and Media Services. The backup history includes any items backed up using a backup policy. In the character-based interface, this is known as media information .
backup policy	A group of defaults that controls what information is backed up, how it is backed up, and where it is backed up. A backup policy in iSeries Navigator is a combination of a backup control group and a media policy in the character-based interface.
global policy properties	Settings that are used, in conjunction with values that you specify in your backup policies, to enable you to control how BRMS operates in your environment. In the character-based interface, this is known as a system policy .

New Term	Definition
media pool	A grouping of media by similar characteristics, such as density or capacity. In the green screen interface, this is known as a media class .


Differences in the function

If you currently use the character-based interface, you will not find all of the function in the iSeries Navigator interface that you are used to. You are able to perform the following tasks using iSeries Navigator:

- Create and run a backup policy
- Create and run a move policy
- Restore individual items
- Schedule items to be backed up, restored, and moved
- Back up items to tape devices, tape libraries, save file, and Tivoli^(R) Storage Manager (TSM) server
- Print BRMS reports, including a system recovery report
- View the backup history (media information in the character-based interface)
- Customize and run BRMS maintenance activities
- Run policies that are shipped with BRMS
- Add media
- View the backup and recovery log
- Display and manage tape media

Some functions that are not available in iSeries Navigator are the following:

- Advanced functions, such as hierarchical storage management
- Network support

For more detailed information on the capabilities of the BRMS character-based interface, see Backup, Recovery and Media Services for iSeries .

Advantages of using BRMS instead of Operational Assistant and iSeries Navigator Backup

Operational Assistant and iSeries^(TM) Navigator Backup both provide an orderly approach to saving information on your system. Operational Assistant provides a character-based interface, while iSeries Navigator Backup is part of iSeries Navigator, and so is a graphical interface. They both provide roughly the same function. Therefore, they have many of the same limitations that prevent them from being complete solutions for your backup needs. The following list compares the features of BRMS with those of Operational Assistant and iSeries Navigator Backup:

- “Online backups of Lotus servers” on page 2 - BRMS enables you to back up Lotus^(R) servers while they are active. Neither Operational Assistant nor iSeries Navigator Backup provide this feature.
- “Work with media” on page 21 - BRMS enables you to keep an inventory of your media and track everything that is on them. When you do a backup, BRMS lets you know which tapes to use, so you don’t have to worry about writing over active data.
- Robust graphical user interface - Both BRMS and iSeries Navigator Backup have iSeries Navigator interfaces; if you have BRMS installed, the iSeries Navigator Backup interface is not available to you. The BRMS interface provides more robust features and more control over your backups.

- “Recover your entire server using BRMS” on page 19 - After every backup, you can print a disaster recovery report that will guide you through the recovery of your system. It even tells you which media you need to restore which pieces of the system. Neither Operational Assistant nor iSeries Navigator Backup provide this feature.
- “Create a backup policy using BRMS” on page 16 - BRMS comes with several standard backup policies that cover the basics, but its real value is that it allows you to create detailed policies that are tailored to your specific backup needs. You can pick and choose the pieces that you want to back up, even from the Integrated File System (IFS). With Operational Assistant and iSeries Navigator Backup, you have to choose all of IFS or none of it.

For more information on how to achieve the same results with BRMS that you do with Operational Assistant or iSeries Navigator Backup, refer to “How to use BRMS instead of Operational Assistant or iSeries Navigator Backup.”

How to use BRMS instead of Operational Assistant or iSeries Navigator Backup

If you are already using Operational Assistant or iSeries^(TM) Navigator Backup for your backups, and would like to switch to BRMS because of the “Advantages of using BRMS instead of Operational Assistant and iSeries Navigator Backup” on page 3 it offers, you could easily migrate your backup strategy to BRMS. Follow these steps to start using BRMS instead of Operational Assistant or iSeries Navigator Backup:

Step One: Add media to BRMS

One of the great advantages of BRMS is that it manages your media for you. Therefore, before you can use BRMS to do a backup, you have to “Work with media” on page 21

Step Two: Prepare your backup policies

Operational Assistant and iSeries Navigator Backup allow you to create three policies: one for daily backups, one for weekly backups, and one for monthly backups. In iSeries Navigator Backup, there are default values for each of these policies. Use the following information to set up BRMS to emulate the defaults in the iSeries Navigator Backup:

Policy	What iSeries Navigator Backup does	How to achieve the same result using BRMS
Monthly	Backs up all libraries, folders, and directories. Also backs up security data and configuration data.	“Back up your server using BRMS” on page 15 that is shipped with BRMS.
Weekly	Backs up all libraries, folders, and directories.	“Back up your server using BRMS” on page 15 that is shipped with BRMS.
Daily	Backs up any changes since the last full backup of libraries and folders that you specify. Also backs up changes to all IFS directories.	“Create a backup policy using BRMS” on page 16 that includes the items you want to back up, and indicate that the policy should back up only the changes since the last full backup.

In Operational Assistant, there are no default values for each of the policies. Use the following information to set up BRMS to emulate the options in Operational Assistant:

What is backed up	To what extent is it backed up	How to achieve the same result using BRMS
Libraries, folders, directories, security data, configuration data	All - full system backup	"Back up your server using BRMS" on page 15 that is shipped with BRMS.
User libraries	All user libraries	"Back up your server using BRMS" on page 15 that is shipped with BRMS.
	Selected user libraries	"Create a backup policy using BRMS" on page 16 that includes the items you want to back up.
Folders	All folders	"Back up your server using BRMS" on page 15 that is shipped with BRMS.
	Selected folders	"Create a backup policy using BRMS" on page 16 that includes the items you want to back up.
Directories	All directories	"Back up your server using BRMS" on page 15 that is shipped with BRMS.
Security data	All security data	"Back up your server using BRMS" on page 15 that is shipped with BRMS.
Configuration data	All configuration data	"Back up your server using BRMS" on page 15 that is shipped with BRMS.

Step three: Schedule your backups

If you use the scheduling function in Operational Assistant, you can continue to .

Set up BRMS

Backup, Recovery and Media Services is a plug-in to iSeries Navigator, the graphical interface for the iSeries^(TM) server. A **plug-in** is a program that is created separately from iSeries Navigator, but, when installed, it looks and behaves like the rest of iSeries Navigator.

To set up BRMS, refer to the following:

- "Hardware and software requirements for BRMS"
- "Install BRMS" on page 6
- "Uninstall BRMS" on page 6

Hardware and software requirements for BRMS

Before you install the BRMS plug-in to iSeries^(TM) Navigator, you should ensure that your iSeries and PC meet the following requirements:

Requirements for your iSeries

- Operating system
 - OS/400^(R) Version 5 Release 3 Modification 0
 - Media and Storage Extensions (option 18)
- IBM^(R) iSeries Navigator installed on the iSeries
- IBM Backup, Recovery and Media Services installed on the iSeries

Requirements for your PC

- Processor: » 850 mHz, « minimum
- Memory: » 512 MB « is recommended for all platforms
- Display: 800 x 600 resolution, minimum. If you have trouble reading the fonts on some panels, try using a screen resolution of 1024x768 or better.
- Operating system: » Microsoft^(R) Windows 2000, Microsoft Windows NT^(R) 4.0 with Microsoft Service Pack 5 or later, Microsoft Windows XP, Microsoft Windows Server 2003 and later «
- IBM iSeries Access for Windows with iSeries Navigator installed

Once you are sure that you meet these requirements, you can “Install BRMS.”

Install BRMS

Before you install BRMS, you should first ensure that your iSeries^(TM) server and PC meet the “Hardware and software requirements for BRMS” on page 5. Then, follow these steps to install the BRMS plug-in to iSeries Navigator:



1. In iSeries Navigator, right-click **My Connections** and select **Install Options>Install Plug-ins**.
2. On the Install Plug-ins panel, select the server that you want to install the plug-in from (must be a server that has the BR1 product installed) and click **OK**.
3. Enter your OS/400^(R) user profile name and password on the Password panel and click **OK**. (The prompt may ask for the Windows^(R) password, but it needs to be the OS/400 user profile password.)
Note: Some Windows operating systems may require the Windows and OS/400 user profile passwords to match.
4. A scan for plug-ins on the selected system will occur next. When the Plug-in Selection panel appears, check the Backup, Recovery, and Media Services checkbox and click **Next**.
5. The first time the iSeries Navigator is used after installing a plug-in, the iSeries Navigator scan panel will appear. Click **Scan Now**. If you do not click the Scan Now button, the plug-in that was just installed will be disabled and will not show up in iSeries Navigator.



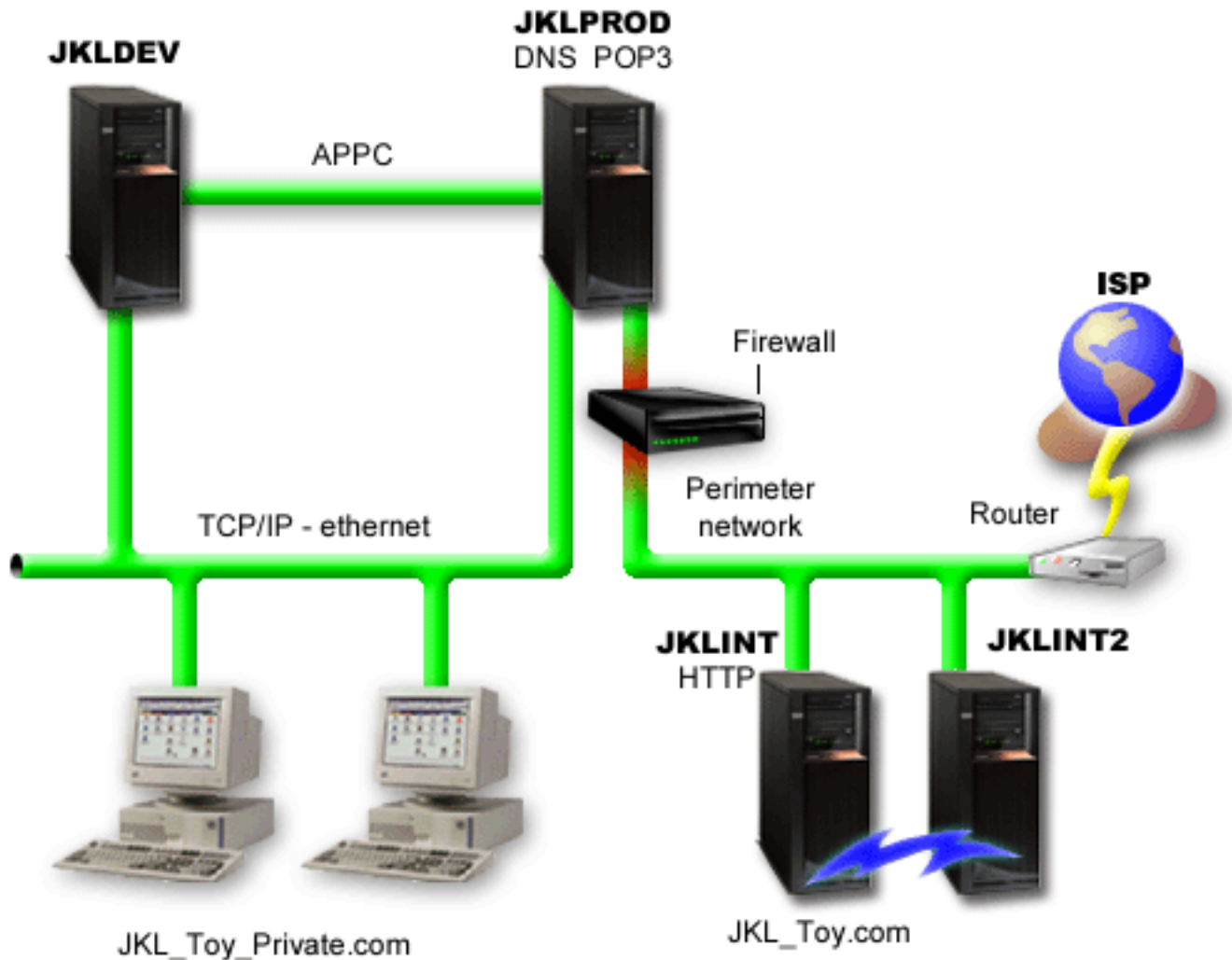
Uninstall BRMS

Follow these steps to uninstall the BRMS plug-in:

1. Go to your iSeries^(TM) Access for Windows directory on your PC and double-click **Selective Setup**.
2. Click **Next** on the Selective Setup panel.
3. Select **Ignore, I'm going to uninstall components** on the Selective Setup Options panel.
4. Uncheck **Backup, Recovery and Media Services** on the Component Selection panel.
5. Click **Next** on the Component Selection panel. Backup, Recovery and Media Services should be in the list of components to remove on the Start Copying Files panel.
6. Wait for the program to finish removing the files.
7. Click **Next** on the Start Copying Files panel.
8. Click **Finish** on the Setup Complete panel.

Scenarios: How one company uses BRMS

Sharon Jones, the system administrator for the JKL Toy Company, is responsible for ensuring that all of their data is backed up and that they can recover their systems in the event of a disaster or system failure. Following is a diagram of JKL's network:



JKL has four iSeries^(TM) servers that each serve a different purpose and have different backup, recovery, and availability needs. These servers are as follows:

- JKLDEV - this server is for development and is used primarily during the week and during the day, although there is some development activity into the evening hours and on weekends.
- JKLPROD - this is the server that JKL uses for all of their customer orders and where their business applications are installed (inventory control, customer orders, contracts and pricing, accounts receivable).
- JKLINT and JKLINT2 - these servers are used for the JKL website and e-mail.

Sharon spent considerable time initially planning the backup strategy that would best meet JKL's needs—in doing so, she had to address the following questions:

- What will it cost JKL if a system goes down?
- What are the availability requirements for each system?

- What is the backup window for each system?
- What data has to be backed up and how often does it have to be backed up?

For detailed information about these and other issues that are critical in backup, recovery, and availability planning see *Plan a backup and recovery strategy* and *Availability roadmap for your iSeries server*.

For information about some global policy settings that Sharon chose to use with BRMS, see “Scenario: Global policy properties.” For details on the backup strategies that Sharon chose, see “Scenario: Backup using BRMS.” Once she established a backup strategy, Sharon had to make some decisions about how to manage her media. See “Scenario: Move media using BRMS” on page 11 to read about the strategy she chose for her media. ➤ To see how Sharon could make the most efficient use of her used but unexpired media, see “Scenario: Reclaim media” on page 12. ⏪

To read about how JKL recovers lost data after a natural disaster and after someone accidentally deletes an object, see “Scenarios: Restores using BRMS” on page 13.

Scenario: Global policy properties

There are some global properties that Sharon wants to specify that will control how BRMS operates in her environment. To access these settings, she selects **Backup, Recovery and Media Services** in iSeries^(TM) Navigator, and then clicks **Global Policy Properties**.

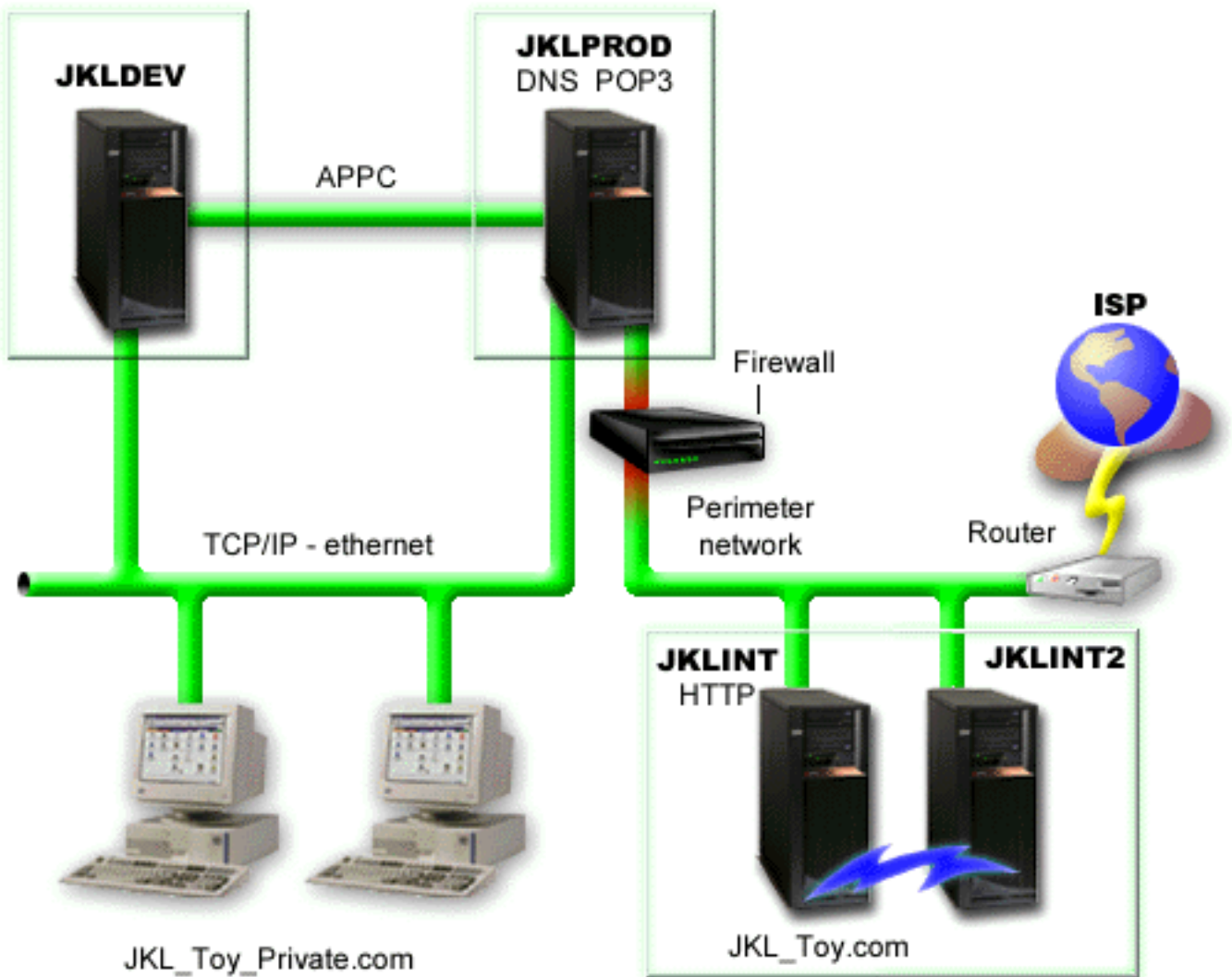
First, she wants to ensure that she is able to access the server during backup processing. She clicks on the Signoff Exceptions tab and specifies the security officer user name.

Second, she wants to tailor how BRMS interacts with her during processing. She wants to be sure that she sees messages about a program or function ending abnormally, but she isn’t interested in seeing messages that are purely informational. She clicks on the Notification tab and specifies the settings she wants to use.

With these settings in place, Sharon is ready to set up her backup policies. For more details on what Sharon did in these steps, and what other global properties are available, see “Specify global policy properties” on page 15.

Scenario: Backup using BRMS

Sharon’s backup plan for JKL took into account each server’s purpose, workload, and availability requirements. She also planned carefully for how the media used for each backup would be moved to and from offsite locations. Her strategy is reflected in the following diagram of JKL’s network. Click on a server to see Sharon’s backup strategy for it:



Once Sharon established the backup strategy for each server (“JKLPROD backup strategy” on page 10, “JKLDEV backup strategy” on page 10, and “JKLINT backup strategy” on page 11), she needed to decide how often the media from those backups would be rotated and moved to an offsite location for safekeeping. For details of her media movement strategy, see “Scenario: Move media using BRMS” on page 11.

For more information on the different aspects of this scenario, see the following:

- Plan a backup and recovery strategy
- “Back up your server using BRMS” on page 15
- “Create a backup policy using BRMS” on page 16
- “Move media” on page 22

JKLDEV backup strategy

JKLDEV



JKLDEV is JKL's development system and does not require continuous availability. It is used primarily during the week and during the day, although there is some development activity into the evening hours and on weekends. This system can be taken down for a full backup on a weekend night and have changes backed up on all of the other nights.

To accommodate these requirements, Sharon uses the *System policy that was shipped with BRMS. She schedules this policy to run every Saturday night at midnight. » Sharon tested this backup and found that the amount of data being backed up would fit on a single tape so the backup could be run unattended. She just has to verify that the tape device is available and there is an expired tape mounted before leaving for the weekend. «

During the week, Sharon also schedules the policy to start running at midnight every night. She chooses to override the policy setting and do a cumulative changes-only backup, which means that she saves all of the data that has changed since the last full backup.



For more information on running unattended backups, see "Perform a fully automated backup" on page 17.



"Scenario: Backup using BRMS" on page 8

JKLPROD backup strategy

JKLPROD



JKLPROD is the system that JKL uses for all of their customer orders and where their business applications are installed (inventory control, customer orders, contracts and pricing, accounts receivable). Right now their website is static, so customers place orders by phone or e-mail. The phone hours are 8am through 8pm Monday through Saturday; if a customer wishes to place an order outside of those hours, they can send an e-mail.

The information on this system is extremely critical to their business, so it is important that they do frequent backups. Sharon has scheduled a full system backup to start every Saturday night at midnight. She used the *System policy that came with BRMS to do these backups. » Since there is a large amount of data that is backed up on this system, Sharon determined that she couldn't do an unattended backup. A system operator would have to be there to change tapes during the backup. Sharon is planning on writing a proposal to her manager asking for a tape library which would eliminate the need for an operator to be present during the full backups. «

During the week, she backs up all changed user data using the *Bkugrp policy that came with BRMS. She overrides the default full backup with an incremental backup, which means that every night she backs up the changes since the previous night's incremental backup.

“Scenario: Backup using BRMS” on page 8

JKLINT backup strategy



JKLINT is the system that JKL uses for their website and e-mail. While this data is critical to their business, it is fairly static—they don't make a lot of changes to the user profiles or configuration data on the system.

They need continuous availability for the critical data on this system, and they accomplish that by having a second system, JKLINT2, that shadows JKLINT. They use a high availability replication solution to copy the data from JKLINT to JKLINT2. Then, if JKLINT goes down, they can switch to JKLINT2.

There is no time to bring JKLINT down for a full backup, so Sharon instead backs up JKLINT2, since it is a replication of JKLINT. She does a full backup of JKLINT2 every weekend using the *System backup policy that came with BRMS. She uses the Lotus^(R) server policy (QLTSSVR) to do an online backup of their Lotus Notes mail databases every night except the night of the full backup.

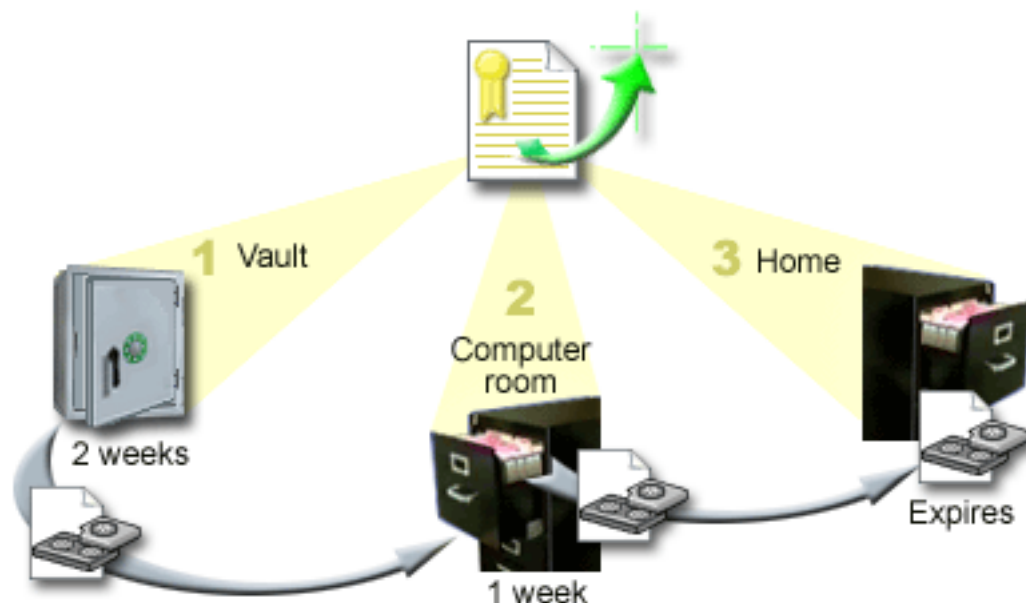
Another possible setup: Sharon investigated using logical partitions on JKLINT and JKLINT2 to increase the security of these systems. They could use the native firewall capabilities of the iSeries^(TM) server to filter all but e-mail on one partition and all but web traffic on the other partition. Then, the web partition would be protected from any security threats that might come through e-mail, which is a common route of attack. While this setup would have allowed for greater security, it also increased the level of complexity in their network, and Sharon decided that at this point they would stay with the simpler setup.

“Scenario: Backup using BRMS” on page 8

Scenario: Move media using BRMS

Sharon knows that media management is critical to the success of her backup strategy. If her media is damaged or destroyed, her backups are destroyed with it. If the correct media cannot be located when it

is needed, her recoveries can be unnecessarily delayed. Sharon knows that it is important to have multiple copies of her media, and to have at least one copy stored offsite. Sharon creates a move policy in BRMS that she uses to track her media. The following figure shows the locations that Sharon establishes:



She defines three locations in the move policy where the media will reside:

1. **Vault:** This is Sharon's secure offsite location. She has a contract with a local company who picks her media up every day and takes it to this facility for safekeeping. She indicates that the media will stay here for two weeks.
2. **Computer room:** Sharon defines this location as the filing cabinet in the computer room. The media will move from the vault to here and will stay here one week.
3. **Home:** Sharon defines her home location as the filing cabinet in her office. This is the final location for the media. This is where the media expires, which means that it can be used again.

Every morning, Sharon prints out a copy of the BRMS recovery report for each server and makes two copies of each report. She also makes two copies of the media used for each backup. She gives one copy to the courier, stores one copy in a filing cabinet in her office, and stores the third copy in the computer room.

For more information on move policies and how to use them as you manage your media, see "Move media" on page 22. >>

Scenario: Reclaim media

Periodically, Sharon retrieves a special set of tapes from the vault. These tapes contain some of their business records that need to be kept for several years. She decides to run reclaim to copy only the active data to new tape volumes. This will save the latest data that hasn't expired on the tape volumes to the new volumes and they will be sent back to the vault.

To figure out the volumes to reclaim, Sharon does the following:

1. In iSeries^(TM) Navigator, she expands **Backup, Recovery and Media Services**.
2. She expands the **Media** folder.
3. She right-clicks **Tape volumes** and selects **Customize this View, Include**.
4. On the **Tape Volumes - Include** window, she selects **Active** for the Status field and clicks **OK**.
5. She right-clicks a Tape volume that she wants more information about and selects **Open**.

6. On the **Backup History** window, she selects **View, Customize this View, Columns** and adds **File sequence** to the Columns to be displayed.

She can now look at the tape volume information and determine if the volume should be reclaimed. She looks for large gaps in the sequence numbers that indicate expired data. (For example, 1 10 35100 would be a good candidate. 1 ,2 ,3, 4, 5, 6, 7... would not.) She looks over several tape volumes and determines which ones should be reclaimed. Once she knows the volumes to be reclaimed, she right-clicks **Tape Volumes** and selects **Reclaim** to go through the Reclaim wizard and reclaim the media.


For more information about reclaiming media, see “Reclaim your media” on page 24. <<

Scenarios: Restores using BRMS

One of the reasons that the JKL Toy Company chose BRMS as their backup and recovery solution is because of how easy it makes full system recoveries. Sharon and her team are developing ways for JKL to expand their business over the Internet, and they recognize that system availability is key if they want to play in the Internet market. Any system downtime could mean a loss of sales and a loss of customer satisfaction. BRMS simplifies system recoveries so that, should disaster strike, they can get their system back online as quickly as possible.

BRMS also makes it very easy to restore a single item that has been accidentally deleted or corrupted. This is a task that Sharon does pretty regularly, as their developers work in a fast paced environment.

In addition to using BRMS, Sharon has a contract with IBM Business Continuity and Recovery Services.

 This contract ensures that she has an offsite system to use in the event of a disaster; Sharon goes to the recovery hot site twice a year to perform full system recoveries. Her contract with IBM Business Continuity and Recovery Services gives her an extra measure of security because she knows she can recover any of her systems should the need arise.



Before you read about how Sharon uses BRMS to handle the following recovery situations, you may want to familiarize yourself with the JKL backup strategies by reading the “Scenario: Backup using BRMS” on page 8.

- “Recover a server after a natural disaster using BRMS”
- “Restore an accidentally deleted item using BRMS” on page 14

Recover a server after a natural disaster using BRMS



In the middle of the night during a particularly wet spring, 8 inches of rain fell on the main office of the JKL Toy Company. A leak started in the corner of the roof that quickly turned into a small stream. The development system, JKLDEV, was positioned near the corner of the building where the water was leaking in. By the time Sharon arrived for work the next morning, JKLDEV was ruined.

While repairs were being made to the roof and she was waiting for the new server to be delivered, Sharon contacted her storage service provider and had them bring over the latest recovery report and media for JKLDEV. Then, she went to the recovery hot site provided by IBM Business Continuity and Recovery Services.  With the assistance of the skilled staff at the hot site, Sharon followed each of the steps in the recovery report for JKLDEV, referring to the instructions in Backup and Recovery  when necessary, until the system was recovered.

Once the roof was repaired and they had a new system to take JKLDEV's place, Sharon did a full backup of the system at the recovery hot site and then restored the latest data on the new JKLDEV system.

For more details on what Sharon did in this situation, go to "Recover your entire server using BRMS" on page 19.

"Scenarios: Restores using BRMS" on page 13

Restore an accidentally deleted item using BRMS

JKLDEV



Nate Anderson is a recent college graduate who was hired by JKL for his Java^(R) programming and web systems administration skills. His primary duty is to ensure that the JKL web site is easy to use and functions correctly.

In his free time, he likes to work on innovative ideas for the future. He has a library on the JKL development system, JKLDEV, where he stores any programs he is working on for the future— ideas he hopes to implement one day when the JKL website becomes interactive. Last Thursday, another programmer accidentally deleted this library. Nate called on Sharon to restore the library for him.

Sharon uses the BRMS Restore wizard to restore Nate's library on JKLDEV. Because she uses BRMS to manage the backups on JKLDEV, she can restore the library right from the backup history. The "JKLDEV backup strategy" on page 10 includes a weekly full backup on Saturday night and a changes-only backup every other night of the week.

For more details on what Sharon did in this situation, go to "Restore individual items using BRMS" on page 18.

"Scenarios: Restores using BRMS" on page 13

Specify global policy properties

Global policy properties are settings that are used, in conjunction with values that you specify in your backup policies, to enable you to control how BRMS works in your environment. Following are some of the global properties that you can specify:

- Notification - you can specify how and when you want BRMS to communicate with you about backup processing.
- Power down - you can specify the earliest and latest times that you want your server to be restarted, and the subsystems that you want to check for activity before the server restarts.
- Signoff exceptions - you can specify any users or display devices that you want to stay active when BRMS does a backup. For example, you might add the security officer or the system console to this list to ensure that the server can be accessed by that person or device during processing.
- >> Maintenance - you can customize the maintenance options that are to be run when maintenance is selected to be run from a backup policy. <<
- >> Retrieval - you can specify the options you want BRMS to use when you retrieve objects that have had their storage freed by BRMS. For example, you can specify the type of media to retrieve objects from such as whether to use devices in parallel or serial mode and how long to retain retrieved objects on the system.
The retrieval options are associated with archive operations which are currently not supported by the BRMS client.<<
- >> Network - you can manage the systems in your BRMS network and specify options such as whether TCP/IP should be used as your networking protocol for BRMS operations. <<

To change the global policy properties on your server in iSeries^(TM) Navigator, right-click **Backup, Recovery and Media Services** and select **Global Policy Properties**.

For an example of how one company uses these global settings for their backups, see “Scenarios: How one company uses BRMS” on page 7.

Back up your server using BRMS

One of the advantages of using Backup, Recovery and Media Services is that you can use global settings and backup policies to control your backups and other operations. Global settings control how your server processes backups in a very general way. See “Specify global policy properties” for more details on what these settings are and how they affect your backups.

A backup policy is a group of defaults that controls what information is backed up, how it is backed up, and where it is backed up. Once you set up your backup policies, you can run them at any time or schedule them to run at particular times. This way, you can ensure that your backups are complete and are done when it is most convenient and appropriate for your business.

There are several basic backup policies that come with BRMS. You may be able to meet your backup needs by using these shipped policies, either alone or in combination. If so, you may not have to create any policies of your own. For more information on these policies, see “Backup policies that ship with BRMS” on page 16.

When you back up data using a BRMS backup policy, information about each item backed up is stored in the **backup history**. This information includes the item name, type of backup done on that item, the date of the backup, and the volume on which each item is backed up. You specify the level of detail you want to track for each item in the properties for the policy. You can then restore items by selecting them from the backup history; the information in the backup history is also used for full system recoveries.

To read about how one company uses BRMS to manage their backups, see “Scenario: Backup using BRMS” on page 8.

For more information about doing backups with BRMS, see the following:

- “Create a backup policy using BRMS”
- “Back up pieces of your server from the iSeries Navigator hierarchy”
-

Backup policies that ship with BRMS

Following are the names and descriptions of the backup policies that are shipped with BRMS:

- *System - Backs up the entire system (except printer output)
- *Sysgrp - Backs up all system data
- *Bkugrp - Backs up all user data
- Qltssvr - Does an online backup of all Lotus^(R) servers. This policy only appears in the list if you have Lotus servers.

If you do not have a very complicated environment, these backup policies may be all you need to use to protect your data.

Create a backup policy using BRMS

You can use the **New Backup Policy** wizard in iSeries^(TM) Navigator to create a new backup policy. To access the wizard, follow these steps:



1. Expand **Backup, Recovery and Media Services**.
2. Right-click Backup policies and select **New policy**.

The wizard gives you the following options for creating your backup policies:

Option	Description
Back up all system and user data	Enables you to do a full system backup of all user and IBM ^(R) -supplied data. Printer output is not included in this backup.
Back up all user data	Enables you to back up the data that belongs to users on your system, such as user profiles, user libraries, folders, configuration data, security data, and objects in directories.
Back up Lotus ^(R) server data online or a customized set of objects	Enables you to do “Online backups of Lotus servers” on page 2.

When you finish creating the policy, you can choose to run the policy or . If you want to modify the policy later, you can do that by editing the properties of the policy. There are many customization options available in the properties of the policy that are not available in the New Backup Policy wizard. To access the policy properties, right-click the policy and select **Properties**.

Back up pieces of your server from the iSeries Navigator hierarchy

In addition to using backup policies to back up the data on your server, you can back up individual  files, libraries, or folders from the iSeries^(TM) Navigator hierarchy. To back up an individual item, right-click the item you want to back up under Integrated File System and select **Back Up...** 

For more information about backing up information using BRMS, see the following:

- “Back up your server using BRMS” on page 15
- “Scenario: Backup using BRMS” on page 8
- “Create a backup policy using BRMS”



Perform a fully automated backup

In BRMS, you can start and run a system backup without having to use the interactive console monitor. This ability allows you to run your system backups unattended. To run a fully automated backup, you must make sure that you have enough tape capacity to ensure that your backup can run without getting tape volume mount messages. For example, if you schedule an automated system backup over the weekend, you need to verify that the tape device and enough expired tapes are available before leaving for the weekend. You must also make sure that in the Global Policy Properties, that there is enough time specified for the backup to run.

To schedule a fully automated backup, follow these steps:

1. In iSeries^(TM) Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Backup Policies**.
3. Right-click the policy you want to run and select **Schedule**.
4. On the **Run Backup Policy *System - Backup Overrides** window, deselect the **Use interactive console monitor** check box and click **OK**.



Schedule a BRMS operation

When you use BRMS, you can do backups, restores, and media moves without having to be nearby when they occur. For example, you have a four hour save window every Saturday night when you could do a full system backup. With BRMS, you can schedule the full system backup for Saturday night, but you don't have to be onsite for the backup to occur.

Schedule a backup using BRMS

When you use the **New Backup Policy** wizard, you are given the option to schedule the backup when you complete the wizard. To schedule a backup policy to run other than when you create it, follow these steps:

1. In iSeries^(TM) Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Backup Policies**.
3. Right-click the policy you want to schedule and select **Schedule**.

When you schedule a policy to run, keep in mind that only the items that are scheduled to be backed up on the day you run the policy will be backed up. For example, you have a backup policy that includes the library MYLIB. In the policy properties, you have MYLIB scheduled to be backed up every Thursday. If you schedule the policy to run on Thursday, MYLIB will be backed up. If you schedule the same policy on any other day, MYLIB will not be backed up.

Also, be aware that some operations (such as a full system backup) require that your system be in a restricted state when they run. » In BRMS, the interactive console monitor allows you to submit a backup job, either scheduled or directly, to the interactive session running on the system console. A system operator can use the interactive system console session to monitor the progress of the backup and respond to tape mount messages. When you schedule a backup using the interactive console monitor, « you will see the instructions for how to start the console monitor.

If you choose not to use the interactive console monitor and no one will be present to process commands as the backup runs, then you must ensure that your backup can run without intervention. » A restricted state backup not using the interactive console monitor can also be scheduled as long as the backup can run unattended. «

Schedule a restore using BRMS

When you use the **Restore** wizard, you are given the option to schedule the restore when you complete the wizard.



Schedule a reclaim operation using BRMS

When you use the **Reclaim** wizard, you are given the option to schedule the reclaim when you complete the wizard.

Schedule a move using BRMS

When you use the **New Move Policy** wizard, you are given the option to schedule the move when you complete the wizard. To schedule a move policy to run other than when you create it, follow these steps:

1. In iSeries Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Move Policies**.
3. Right-click the policy you want to schedule and select **Schedule**.

For more information on using BRMS for backups, restores, reclaims, and moves, see the following topics:

- “Back up your server using BRMS” on page 15
- “Restore items on your server using BRMS”
- “Reclaim your media” on page 24
- “Move media” on page 22

Restore items on your server using BRMS

The primary reason for having a backup and recovery strategy and doing regular backups is to be ready if an item needs to be restored, or if your entire system needs to be recovered. The only way to ensure that you are fully protected by your backup and recovery strategy is to perform a full system backup and then recover your system from that backup.

For a better understanding of how one company might use BRMS to restore items on their system, and to perform a full system recovery, read “Scenarios: Restores using BRMS” on page 13.

For more information on restoring items or recovering your system using BRMS, see the following:

- “Restore individual items using BRMS”
- “Recover your entire server using BRMS” on page 19

Restore individual items using BRMS

It is sometimes necessary for you to restore individual items on your system (for example, if a file is corrupted or accidentally deleted). When you use BRMS backup policies to back up items on your system, you can restore those items from the backup history. When you restore an item from the backup history, you can view details about the item, such as when it was backed up or how large it is. If there are several versions of the item in the backup history, you can select which version of the item you want to restore.



To restore individual items on your system, use the Backup History panel to find the item or items you want and then click Restore to start the **Restore** wizard. The items must have been backed up with a BRMS backup policy.

For example, if a mail database was corrupted by a user, you can easily find and restore the database file by following these steps:

1. Right-click **Backup, Recovery and Media Services** and select **Restore**.
2. On the **Backup History - Include** panel, select **Directories** or **file** for **Backed-up items**, **Type** and enter ‘userName.nsf’ (for example, msmith.nsf) for **File** and click **OK**.

Other include criteria can also be specified to further filter the search.

3. On the Backup History window, find the file, right-click and select **Restore**.



Recover your entire server using BRMS


When you back up your system using BRMS, information about each backed up item is recorded in the backup history. The information in the backup history is used to create a **recovery report**, which steps you through a full system recovery. Should your system fail or a disaster occur, you can use the recovery report to recover your system to the point it was at before the failure.

Follow these steps in iSeries^(TM) Navigator to print your recovery report:




1. Expand a system with Backup, Recovery and Media Services installed on it.
2. Right-click **Backup, Recovery and Media Services** and select **Print Reports**.
3. Select **Disaster Recovery** and click **OK**.

Important information about your recovery report

Because your recovery report contains critical information about your system, it is important that you take a few precautions to ensure that this information is current and accessible when you need it.

- You cannot use your recovery report alone to recover your system. You must also have the recovery information in Backup and Recovery  to be successful.
- Your recovery is only as good as your backup, so be sure to test your backup and recovery strategy any time you change it by doing a full system recovery. You may need to adjust your strategy to ensure that a full recovery is possible.
- You should test your recoveries at a disaster recovery hotsite, or by using a test system. **Do not** use your production system.
- Print your recovery report every time you do a backup. By doing this, you ensure that your report includes the most current information.
- Print at least two copies of your recovery report every time you do a backup. Keep one copy with your system and keep the other in a safe place offsite, such as an offsite vaulting location.

To see what other reports BRMS offers that may help you manage your backups, or to learn more about how IBM can help you with your backup and recovery strategy, see the following:

-  “View or print BRMS reports” on page 24 
- IBM Business Continuity and Recovery Services 

Schedule a BRMS operation

When you use BRMS, you can do backups, restores, and media moves without having to be nearby when they occur. For example, you have a four hour save window every Saturday night when you could do a full system backup. With BRMS, you can schedule the full system backup for Saturday night, but you don't have to be onsite for the backup to occur.

Schedule a backup using BRMS: When you use the **New Backup Policy** wizard, you are given the option to schedule the backup when you complete the wizard. To schedule a backup policy to run other than when you create it, follow these steps:

1. In iSeries^(TM) Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Backup Policies**.
3. Right-click the policy you want to schedule and select **Schedule**.

When you schedule a policy to run, keep in mind that only the items that are scheduled to be backed up on the day you run the policy will be backed up. For example, you have a backup policy that includes

the library MYLIB. In the policy properties, you have MYLIB scheduled to be backed up every Thursday. If you schedule the policy to run on Thursday, MYLIB will be backed up. If you schedule the same policy on any other day, MYLIB will not be backed up.

Also, be aware that some operations (such as a full system backup) require that your system be in a restricted state when they run. » In BRMS, the interactive console monitor allows you to submit a backup job, either scheduled or directly, to the interactive session running on the system console. A system operator can use the interactive system console session to monitor the progress of the backup and respond to tape mount messages. When you schedule a backup using the interactive console monitor, « you will see the instructions for how to start the console monitor.

If you choose not to use the interactive console monitor and no one will be present to process commands as the backup runs, then you must ensure that your backup can run without intervention. » A restricted state backup not using the interactive console monitor can also be scheduled as long as the backup can run unattended. «

Schedule a restore using BRMS: When you use the **Restore** wizard, you are given the option to schedule the restore when you complete the wizard.



Schedule a reclaim operation using BRMS: When you use the **Reclaim** wizard, you are given the option to schedule the reclaim when you complete the wizard. «

Schedule a move using BRMS: When you use the **New Move Policy** wizard, you are given the option to schedule the move when you complete the wizard. To schedule a move policy to run other than when you create it, follow these steps:

1. In iSeries Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Move Policies**.
3. Right-click the policy you want to schedule and select **Schedule**.

For more information on using BRMS for backups, restores, reclaims, and moves, see the following topics:

- “Back up your server using BRMS” on page 15
- “Restore items on your server using BRMS” on page 18
- » “Reclaim your media” on page 24 «
- “Move media” on page 22



Manage your BRMS devices

Backup, Recovery and Media Services enables you to back up your data to stand-alone devices, media libraries, and Tivoli^(R) Storage Manager (TSM) servers. Any device you want to use in your BRMS processing must be known to BRMS. You can display, add, remove, and change the properties of these devices through the Manage Devices window. For example, you can specify in the properties of a device whether the device is shared with other systems. You can also specify connection information for your TSM servers.

To work with BRMS devices in iSeries^(TM) Navigator, right-click **Media** under Backup, Recovery and Media Services and select **Manage Devices**.

For additional information about tape devices, see Storage solutions.



Manage your media using BRMS

Backup, Recovery and Media Services keeps an inventory of media and simplifies media management by tracking everything in that inventory— what pieces of information are backed up where and which media have available space. When you create your backup policies, you can specify the following locations for storing the backup items— serial media, parallel media, save file, or Tivoli^(R) Storage Manager (TSM) server. Then, when you do a backup, BRMS selects the media it needs from the available pool of that type of media. You don't have to worry about accidentally writing over active files or using an invalid piece of media because it is all tracked for you.

Once you back up your data, you can use BRMS to help you track your media as it moves through the different storage locations you define. For example, you may move your backups offsite for storage; BRMS will keep track of when the media leaves and when it is scheduled to return.

For more information on managing media with BRMS, refer to the following topics:

“Prepare media for use”

Find out how to add media to the BRMS pool of available media. You have to add media before you can perform any backups using BRMS.

“Work with media”

Find out how you can view information about the media you are using, and how you can filter the media you view based on criteria that you specify.

“Move media” on page 22

Find out why it is important to have move policies and how to create those policies and move your media.



“Reclaim your media” on page 24

Find out how to reclaim old fragmented tape volumes and make them usable again. 

For detailed information on using tape libraries with your iSeries^(TM), see Storage solutions.

Prepare media for use

Before you can use media in BRMS, you have to add it to the BRMS inventory and initialize it. You can use the **Add media** wizard to do that. To access the wizard in iSeries^(TM) Navigator, follow these steps:

1. Expand **Backup, Recovery and Media Services**.
2. Expand **Media**.
3. Right-click on **Tape Volumes** and select **Add**.

Work with media

Once media is added to the BRMS inventory, you can view that media based on criteria that you specify, such as the volume name, status, media pool, or expiration date. This is helpful if you need to manually expire a piece of media, which returns that piece of media to the BRMS media inventory.

To filter which media you see in the list, follow these steps:

1. Expand **Backup, Recovery and Media Services**.
2. Expand **Media**.
3. Right-click **Tape Volumes** and select **Include**.

To view information about a particular volume or perform an action on that volume, right-click the volume you are interested in and select the action you want to perform from the menu.

Move media

An important part of your backup plan is how you rotate and protect your media. It is recommended that you keep the media for at least the last two versions of your full system backups as well as the most current version. In addition, you should duplicate the media for each backup and keep the copies in a safe, offsite location.

You can use move policies to keep track of where your media is and when it is scheduled to be in each storage location. Move policies include information about the different storage locations that your media will reside in during its lifecycle. For example, when you do weekly full backups of your server, you have a courier come to pick up your media and take it to a vault, where it stays for 21 days. At the end of the 21 days, the media is returned to your site and placed in a filing cabinet in your computer room. A move policy for your full backups would keep track of where your media was at each step of its journey, and would include information about each storage location, such as how long it would take to retrieve the media from this location in the event of an emergency.

For more information on move policies, see the following:

“Create a move policy using BRMS”


Find out how to create a move policy using iSeries^(TM) Navigator.

“Schedule a BRMS operation” on page 19

Find out how to schedule a move policy to run.

“Verify a move using BRMS” on page 23

Find out how to verify that your media has moved and update BRMS.

Media management and movement is a very important part of your backup strategy. If your media is lost or not adequately protected, you could lose data in the event of a disaster or system failure. If you would like help in implementing an effective backup strategy for your company, including media management, contact **IBM Business Continuity and Recovery Services**. 

Create a move policy using BRMS: You can use the **New Move Policy** wizard to create a move policy using iSeries^(TM) Navigator. To do that, follow these steps:

1. Expand **Backup, Recovery and Media Services**.
2. Right-click **Move Policies** and select **New Policy**.
3. Follow the wizard’s instructions to create a new move policy.

Schedule a BRMS operation: When you use BRMS, you can do backups, restores, and media moves without having to be nearby when they occur. For example, you have a four hour save window every Saturday night when you could do a full system backup. With BRMS, you can schedule the full system backup for Saturday night, but you don’t have to be onsite for the backup to occur.

Schedule a backup using BRMS: When you use the **New Backup Policy** wizard, you are given the option to schedule the backup when you complete the wizard. To schedule a backup policy to run other than when you create it, follow these steps:

1. In iSeries^(TM) Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Backup Policies**.
3. Right-click the policy you want to schedule and select **Schedule**.

When you schedule a policy to run, keep in mind that only the items that are scheduled to be backed up on the day you run the policy will be backed up. For example, you have a backup policy that includes the library MYLIB. In the policy properties, you have MYLIB scheduled to be backed up every Thursday. If you schedule the policy to run on Thursday, MYLIB will be backed up. If you schedule the same policy on any other day, MYLIB will not be backed up.

Also, be aware that some operations (such as a full system backup) require that your system be in a restricted state when they run. » In BRMS, the interactive console monitor allows you to submit a backup job, either scheduled or directly, to the interactive session running on the system console. A system operator can use the interactive system console session to monitor the progress of the backup and respond to tape mount messages. When you schedule a backup using the interactive console monitor, « you will see the instructions for how to start the console monitor.

If you choose not to use the interactive console monitor and no one will be present to process commands as the backup runs, then you must ensure that your backup can run without intervention. » A restricted state backup not using the interactive console monitor can also be scheduled as long as the backup can run unattended. «

Schedule a restore using BRMS: When you use the **Restore** wizard, you are given the option to schedule the restore when you complete the wizard.



Schedule a reclaim operation using BRMS: When you use the **Reclaim** wizard, you are given the option to schedule the reclaim when you complete the wizard. «

Schedule a move using BRMS: When you use the **New Move Policy** wizard, you are given the option to schedule the move when you complete the wizard. To schedule a move policy to run other than when you create it, follow these steps:

1. In iSeries Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Move Policies**.
3. Right-click the policy you want to schedule and select **Schedule**.

For more information on using BRMS for backups, restores, reclaims, and moves, see the following topics:

- “Back up your server using BRMS” on page 15
- “Restore items on your server using BRMS” on page 18
- » “Reclaim your media” on page 24 «
- “Move media” on page 22

Verify a move using BRMS: When you create a move policy, you are asked if you want to verify the actions that take place when the move policy runs— what volumes move where and when. Verifying moves keeps BRMS synchronized with what actually happens.

You can choose to manually verify moves, or you can have BRMS automatically verify moves. Because you need to be sure that your media is where BRMS says it is, it is recommended that you verify moves manually at first. You may choose to have BRMS verify moves automatically once your media movement procedures are established and have been working smoothly for some time.

To manually verify a move using iSeries^(TM) Navigator, follow these steps:

1. Right-click **Move Policies** and select **Verify Moves**.
You will see a table of all volumes of media currently scheduled to be moved. For each volume listed, the table columns display the current location, the next location the volume is moving to, the move date, as well as the name of the move policy the volume is associated with.
2. Contact the storage location by phone or e-mail to ensure that the media has arrived at the location.
3. Select the volumes you want to verify and click **Verify**.

If you opt to have BRMS verify moves automatically, no action is required on your part to verify moves. When the date and time of the move passes, BRMS will automatically update the information about that media. In addition, BRMS will print a media movement report when you run or schedule the move policy.

Important note: Remember that if you verify moves automatically, BRMS will update the information about the media whether the physical move of the volume takes place or not. If the move does not take place, the information in the BRMS database will not be accurate. >>

Reclaim your media

Reclaiming your media allows you to duplicate a volume or set of volumes that have become fragmented to new volumes. Typically, over time, you have volumes that just sit in storage unusable. These volumes are highly fragmented with gaps in the active file sequences due to the varying expiration dates of the saved items on the media. The reclaim function allows you to copy only the unexpired or active file sequences to unused (scratch) media. The old volumes will be expired and the backup history of the active saved items is updated to reflect the new volume. This allows you to remove the old volumes from the media inventory or make the old volumes available for reuse. Ultimately, this should reduce the number of active volumes you must manage plus reduce the total number of volumes being managed and minimize your media and media storage costs.

You can use the Reclaim wizard to reclaim one or more volumes in BRMS. To access the Reclaim wizard, follow these steps:

1. In iSeries^(TM) Navigator, expand **Backup, Recovery and Media Services**.
2. Expand **Media**.
3. Right-click **Tape Volumes** and select **Reclaim**.



Run BRMS maintenance

When you run maintenance on your server, you automatically perform BRMS cleanup on your system, update backup information, and run reports. You can customize what activities you want to perform when you run maintenance.

If you do not customize the maintenance activities, the following are performed:

- Expire media
- Remove media information
- Remove migration information (180 days old)
- Remove log entries (from beginning entry to within 90 days of current date)
- Run cleanup
- Retrieve volume statistics
- Audit system media (if you are working in a network)
- Change journal receivers
- Print expired media report
- Print version report
- Print media information
- Print recovery reports

You should run maintenance every day. To run maintenance in iSeries^(TM) Navigator, right-click **Backup, Recovery and Media Services** and select **Run Maintenance**. If you want to customize the maintenance activities, click **Options**. >> There is also an option to run maintenance at the end of a backup in the properties for each backup policy. << >>

View or print BRMS reports

BRMS has powerful reporting capabilities that help you manage your backups more effectively and track the information that BRMS records for you. With iSeries^(TM) Navigator, you can print reports immediately

or you can schedule a report to print at a later time. To print reports, right-click **Backup, Recovery and Media Services** and select **Print Reports**. For more information on the BRMS reports that are available to print, see “BRMS printed reports.”

You can also view or save selected reports in HTML format. HTML reports for backup and move policies contain the details for all policies or a selected policy. There are also reports available for volume information and backup and recovery log entry information. To view or save one of these reports in HTML format, right-click on the folder or item that you want and select the **View Report** menu option.



BRMS printed reports

The following table shows the BRMS reports that are available to print, the name each report has in the output queue, and a brief description of each report:

Report name	File name	Description
Backup plan	QP1ABP	Lists all backup policies and the items that make up each policy.
Container	QP1ACN	Lists containers based on class, status, and location.
Container pool	QP1ACT	Lists all container pools that are specified in BRMS.
Devices and libraries	QP1ADV	Lists all devices defined to BRMS.
Disaster recovery	QP1ARCY - analysis QP1A2RCY - volume summary QP1AASP - disk pools	List the steps necessary to recover your server, the volumes that are required to complete a recovery, and the disk pools that are set up on your system.
Disk pools	QP1AASP	Lists all disk pools that are set up and provides statistical information for each.
Lists	QP1ALQ - printer output QP1AFL - folder QP1AOB - object QP1AFL - directory	Shows all of the items in each of the lists.
Locations	QP1ASL	Shows the storage locations that you have set up for your system and the current contents and maximums that you have set up.
Location analysis	QP1A2SL	Lists all locations that are specified to BRMS, together with details of the current and maximum volumes and containers at each location.
Media (active)	QP1AMM	Summarizes the status and location information for the active volumes in a media library.
Media (all)	QP1AMM	Summarizes the status and location information for all volumes in a media library.
Media (expired)	QP1AMM	Summarizes the status and location information for the expired volumes in a media library.

Report name	File name	Description
Media movement	QP1APVMS	Shows all volumes that are scheduled to move from one location to another location.
Media pools	QP1AMT	Shows basic information for each media pool that is defined to BRMS.
Media statistics	QP1AVU	Shows how your media are being used; helps to identify if any volumes are being used excessively when compared to others.
Move policies	QP1AMP	Shows the move sequences and associated values for each move policy defined to BRMS.
Save files	QP1ASF	Shows all libraries that have been saved to save files and whose media content information has not been deleted.

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