

Printed March 28, 2024

This Manual applies to Release 2
Modification 0 or later of Remote Backup Organizer/400 for IBM i™

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TABLE OF CONTENTS

Chapter 1 Introduction

Save Operations Features.....	1-2
Restore Operations Features	1-4
Display IFS & Network File Features.....	1-5
Display BDS Personal Cloud Backup Features	1-5

Chapter 2 Installation

Prerequisites.....	2-1
Installation	2-1
Planning Guide.....	2-3

Chapter 3 Main Menu

Administration	3-1
Save Operations	3-2
Restore Operations.....	3-4
Display Operations.....	3-5

Chapter 4 Define Tailoring Options

System Statistics	4-1
Passwords.....	4-2
Other Options.....	4-2
Access the BDS Software Server.....	4-3

Chapter 5 Define Remote System Specifications

Chapter 6 Define Backup Specifications

Chapter 7 Save Operations

Save Library Operations	7-1
Save Objects Operations	7-4
Save Changed Objects Operations	7-7
Save IFS Objects Operations	7-10
Save System Information Operations	7-13

Chapter 8 Restore Operations

Restore Library Operations.....	8-1
Restore Objects Operations.....	8-3
Restore IFS Objects Operations.....	8-4

TABLE OF CONTENTS

Restore System Information Operations	8-5
---	-----

Chapter 9 Display Operations

Display a Backup Image in an IFS File	9-1
Display a Backup Image in a Network File	9-1
Display a Backup Image in the BDS Cloud.....	9-2
Display Remote System Backup Groups/Jobs.....	9-4
Display Backup Jobs in a Backup Group.....	9-6
Change Session Settings	9-7
Restore Displayed Objects.....	9-8

Chapter 10 Display Saved Library Objects

Library Display	10-1
Object Display	10-2
Attribute Display.....	10-4
Change Object Display Specifications.....	10-7
Display Saved File Members/Spool Entries	10-7

Chapter 11 Display Saved IFS Objects

Attribute Display.....	11-2
------------------------	------

Appendix A Electronic Media Distribution

Appendix B Tutorial

IFS and QNTC Example	B-1-1
Network File Example	B-2-1
BDS Personal Cloud Example	B-3-1

Appendix C Release Compatibility Table

Current Release Table.....	C-1
----------------------------	-----

Appendix D Other Considerations

DR/HA Replication (Mirroring) Considerations	D-1
Saving Remote Backup Organizer Data	D-1

Appendix E ASP Considerations

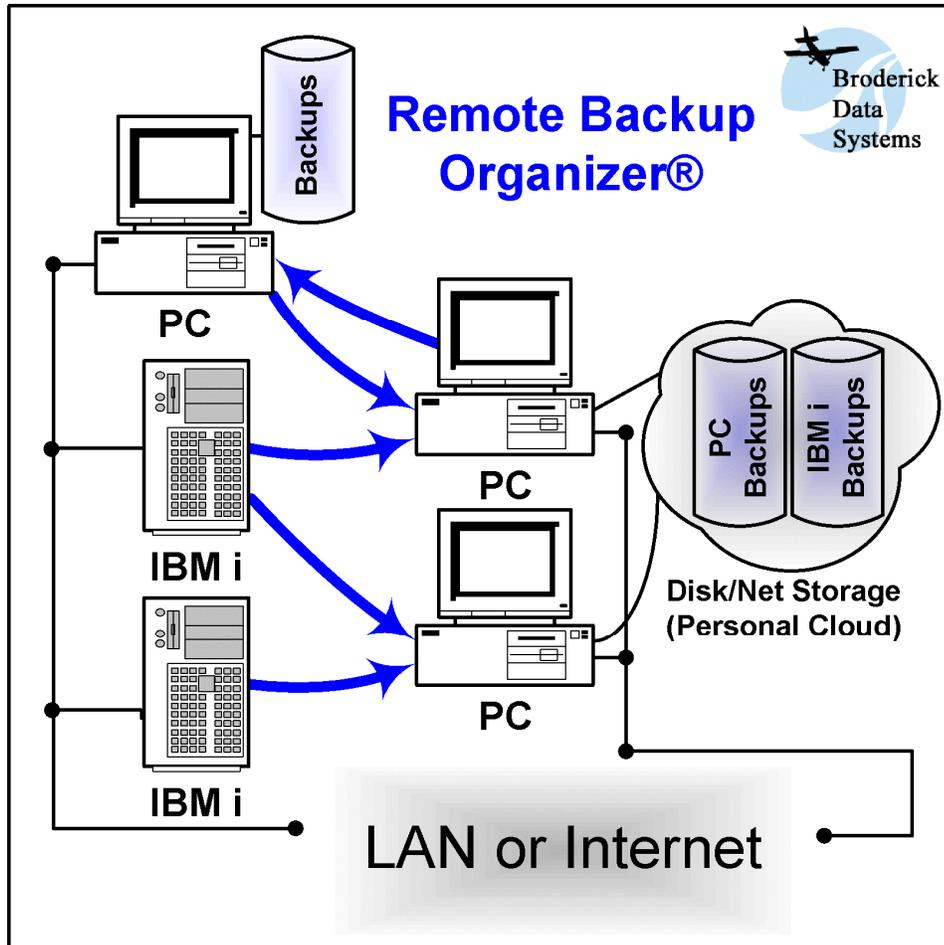
Setup/System Considerations.....	E-1
----------------------------------	-----

TABLE OF CONTENTS

Operational Considerations.....	E-2
Moving Product Libraries to other ASPs.....	E-2
Running Multiple Instances in an LPAR.....	E-2

INTRODUCTION

Remote Backup Organizer for IBM i is a product that will automate and enhance your iSeries application backup strategy. It will allow you to perform various backup functions to remote systems, spreading out and diversifying your backups. Using **Remote Backup Organizer for IBM i**, the Administrator can build their own Personal Cloud for their backups.



Having your own Personal Cloud for backups has the following advantages:

- **Fast:** Backups can be saved to the IFS or to Remote systems that are connected via local networks.
- **Cost Effective:** Local Disk Storage costs continue to fall as disk capacities continue to grow exponentially. Yet external Cloud costs continue to rise. With Remote Backup Organizer, you can utilize your existing local network, or cheaply add a drive or two.
- **Diverse:** New and different media types can be used, minimizing the exposure of a given systematic failure. Backups can be spread out across systems and hard disks.

REMOTE BACKUP ORGANIZER for IBM i™

- **Automatic:** Remote Backup Organizer save commands can be put in your Job Scheduling application, placed into CL programs, and put on menus.
- **Control:** Data is kept on your hardware, your systems, and your way. You do not have to worry about the failures, costs or delays and exposures of external entities. When you need your data, it's there at your fingertips.
- **Secure:** **Remote Backup Organizer** security features work with your local policies to provide you the smallest possible area of exposure.

Remote Backup Organizer for IBM i save and restore functions call IBM save/restore APIs, and provide the same command user interface and function as base IBM Save and Restore commands (i.e. SAVLIB, RSTOBJ). The following base IBM save/restore functions are incorporated into **Remote Backup Organizer for IBM i** save and restore commands:

- Save/Restore Library (SAVLIB, RSTLIB)
- Save/Restore Objects (SAVOBJ, RSTOBJ)
- Save Changed Objects (SAVCHGOBJ)
- Save IFS Objects (SAV, RST)
- Save/Restore System Information (SAVSYSINF, RSTSYSINF)

The command interface allows administrators to integrate **Remote Backup Organizer for IBM i** into their procedures the same as they would with base IBM save/restore commands. **Remote Backup Organizer for IBM i** commands can be run from a command line, submitted to batch, placed into CL programs, and placed into job scheduling applications.

Remote Backup Organizer for IBM i can save/restore information to/from 3 areas:

- **Integrated File System (IFS): Remote Backup Organizer for IBM i** can save, display and restore information to/from a file in the IFS. The IFS subdirectory can be on Independent ASPs or can be on networked PCs via QNTC.
- **Network PC file: Remote Backup Organizer for IBM i** can save, display and restore information to/from a file on a remote Windows PC running **Remote Backup Organizer for Windows**. Any directory accessible through the NTFS (hard disks, network shares, etc.) can be accessed for iSeries backups.
- **BDS Private Cloud: Remote Backup Organizer for IBM i** can save, display and restore information to the BDS Cloud, which is maintained by one or more Windows PCs running **Remote Backup Organizer for Windows**. This allows the backups to be managed (retention policies, multiple instances, storage rotation. etc.). Refer to the **Remote Backup Organizer for Windows** Help for more information.

Save Operations Features

INTRODUCTION

Remote Backup Organizer for IBM i provides commands that will save the following types of user information to the following locations:

<u>iSeries Base Function</u>	<u>To IFS File</u>	<u>To Network File</u>	<u>To BDS Cloud</u>
Save Library	SAVLIBIFS	SAVLIBNET	SAVLIBCLD
Save Objects	SAVOBJIFS	SAVOBJNET	SAVOBJCLD
Save Changed Objects	SAVCHOBIFS	SAVCHOBNET	SAVCHOBNET
Save IFS Objects	SAVIFS	SAVNET	SAVCLD
Save System Information	SAVSYINIFS	SAVSYINNET	SAVSYINCLD

Virtually all IBM base save command features are supported in **Remote Backup Organizer for IBM i** commands. Refer to IBM restore command documentation for more information.

Remote Backup Organizer for IBM i commands have the following features:

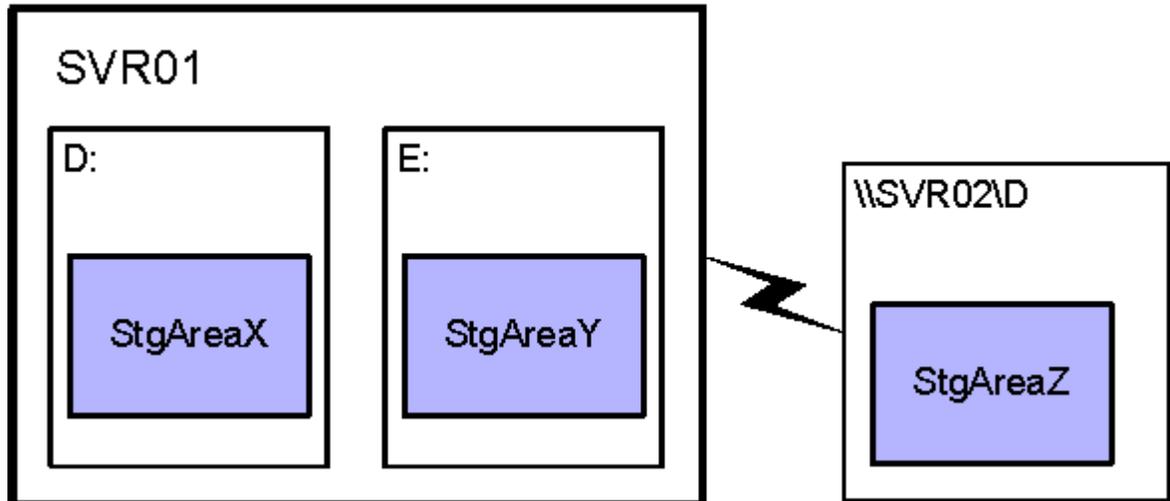
- **Multiple Systems:** You can save, display and restore information to/from as many Remote Systems as you wish to define.
- **Communications Encryption:** You can optionally encrypt data while transferring it to and from the Remote System. AES (Industry Standard, Strong) Encryption is used.
- **Storage Encryption:** You can optionally encrypt data while writing it to disk storage. AES (Industry Standard, Strong) Encryption is used.
- **Security:** Only authorized users and authorized Remote Systems can access **Remote Backup Organizer for IBM i** Backups.
- **CRC Data Checking:** **Remote Backup Organizer for IBM i** uses CRC (Industry Standard Error Detecting) checks when sending and receiving to and from Remote Systems. IBM save and restore APIs also incorporate CRC data checking, insuring the integrity of your data.

Save operations to your Personal BDS Cloud has the following additional features:

- **Full or Initial/Changes Grouping:** The user can make a large initial backup followed by small incremental (changes) backups. The Initial and Changes backups are managed together by **Remote Backup Organizer**.
- **Auto Purging:** Each Backup placed into your Personal BDS Cloud is given a retention period, either a time period (i.e. 30 days) or a number of iterations. Each Remote System will automatically remove its backups that have exceeded their defined retention period.
- **Retention Period:** Specifies when to delete the Backup Job or Group. Specify the retention period using one of the following categories:

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- Permanent (do not delete it)
 - Number of Iterations
 - Number of Days
 - Number of Months
 - Number of Years
 - Month End
 - Quarter End
 - Year End
 - Date
- **Storage Areas and Storage Groups:** The Administrator can define one or more Storage Areas on a Remote System, which can be referenced by **Remote Backup Organizer for IBM i** cloud save operations. Any network file system location (hard drive, network directory) accessible by the Remote System's file system can contain a Storage Area. Optionally the Administrator can specify a maximum size for a Storage Area. Remote Backup Organizer will not place backup data into a Storage Area if its size has been exceeded.



The Administrator can define Storage Groups on a Remote System, which are lists of Storage Areas. Storage Groups can be referenced by **Remote Backup Organizer for IBM i** save operations. Remote Backup Organizer will place the backup on a different Storage Area within the Group each time the backup is run. This automatically spreads out your backups, minimizing the impact of a disk hardware failure. If the selected Storage Area is full, **Remote Backup Organizer for IBM i** save operations will use the next Storage Area in the Storage Group.

Restore Operations Features

Remote Backup Organizer for IBM i provides commands that will restore the following types of user information from the following locations:

iSeries Base Function

From IFS File

From Network File

From BDS Cloud

INTRODUCTION

Restore Library	RSTLIBIFS	RSTLIBNET	WRKCLDBAK
Restore Objects	RSTOBJIFS	RSTOBJNET	WRKCLDBAK
Restore IFS Objects	RSTIFS	RSTNET	WRKCLDBAK
Restore System Information	RSTSYNIFS	RSTSYNNET	WRKCLDBAK

Virtually all IBM base restore command features are supported in **Remote Backup Organizer for IBM i** commands. Refer to IBM restore command documentation for more information.

Display IFS & Network File Features

Remote Backup Organizer for IBM i provides commands that will display the contents of backups from the following locations:

IFS File	DSPRMBKIFS
Network File	DSPRMBKNET

Using the display commands, the user can drill down into the objects contained in the backup and perform the following:

- **Display Libraries:** If more than one Library was saved, a list of the saved libraries is shown.
- **Display Objects:** A list of objects contained in the selected library or directory is shown.
- **Members or Spool Entries:** A list of the spool entries contained in the selected outq, or a list of the members contained in the selected database file is shown.
- **Restore:** The user can restore selected libraries or objects. The data can be restored to its original location or to a different location. Most IBM base restore parameters (OPTION, MBROPT, SPLFDTA, OMITOBJ, etc.) are supported.
- **Display Attributes:** The attributes (type, size, save date/time) of the selected object is shown.

Display BDS Personal Cloud Backup Features

Using the **WRKCLDBAK** command, the user can display the Backup Jobs contained on the Remote Systems that form your BDS Personal Cloud. A list of the Backup Jobs and Groups is shown for each defined Remote System. The user can drill down into the objects contained in the backup and perform the following:

- **Display Backups in Group:** If the backup is a Group, a list of the Initial Backup and the Changes Backups is shown. The user can work with each backup.

REMOTE BACKUP ORGANIZER for IBM i™

- **Change/Delete Backups:** The user can delete Backup Jobs or Groups, and can change certain backup attributes. The delete/change operations are sent to and performed on the Remote System.
- **Display Libraries:** If more than one Library was saved, a list of the saved libraries is shown.
- **Display Objects:** A list of objects contained in the selected library or directory is shown.
- **Members or Spool Entries:** A list of the spool entries contained in the selected outq, or a list of the members contained in the selected database file is shown.
- **Restore:** The user can restore selected Backup Groups, Backup Jobs, libraries or objects. The data can be restored to its original location or to a different location. Most IBM base restore parameters (OPTION, MBROPT, SPLFDTA, OMITOBJ, etc.) are supported.
- **Display Attributes:** The attributes (type, size, save date/time) of the selected object is shown.

INSTALLATION

Before you begin

- 1) Use these instructions if you are installing a new instance of Remote Backup Organizer for i. If you are updating your existing Remote Backup Organizer instance to a new release refer to the document “**Remote Backup Organizer for i Update Instructions**” provided with the update package.
- 2) A permanent or temporary password is needed once Remote Backup Organizer is installed. If you have already have an instance of Remote Backup Organizer running on this or any other LPAR within this CPU, you can use its permanent password for this instance. Otherwise you will need to contact Broderick Data Systems for a temporary or permanent password. If you plan to install Remote Backup Organizer after business hours, you may wish to call Broderick Data Systems in advance to get your password.
- 3) If you plan to install more than one instance of Remote Backup Organizer on this LPAR, or you plan to install Remote Backup Organizer onto APSs other than the System ASP (ASP 1), refer to Appendix C, “ASP Considerations” prior to performing the install.

Prerequisites

The following hardware and system software is needed to execute Remote Backup Organizer. Please ensure that all needed system software is installed before beginning the installation.

iSeries:

- + OS/400 Version 7, Release 2, Modification 0 or greater
- + Security level 40 or less

To create encrypted files:

- Cryptographic Access Provider for IBM i (57xx-AC3)

Installation

- 1) Sign on as **QSECOFR**
- 2) Restore the install routines from the media.

Mount the media and enter one of the following:

If you are using Tape:

```
RSTOBJ OBJ(BRBIN*) SAVLIB(RMBK40) DEV(xxxxxx) VOL(*MOUNTED)  
RSTLIB(QTEMP)
```

If you are using CD-ROM:

REMOTE BACKUP ORGANIZER for IBM i™

**RSTOBJ OBJ(BRBIN*) SAVLIB(RMBK40) DEV(OPT01) VOL(BDS)
RSTLIB(QTEMP) OPTFILE(RMBK40)**

If you are using a Save file:

You should have a save file containing the Remote Backup Organizer media. Verify the contents and note the library saved:

DSPSAVF FILE(mylib/myfile)

The library saved should be **RMBK40**.

Restore the install objects from the save file containing library **RMBK40** into library QTEMP:

**RSTOBJ OBJ(BRBIN*) SAVLIB(RMBK40) DEV(*SAVF) SAVF(mylib/myfile)
RSTLIB(QTEMP)**

3) Execute the install procedure. Enter one of the following:

Note: If you are planning to install Remote Backup Organizer into ASPs other than the system ASP (ASP 1), refer to Appendix X, “ASP Considerations” to determine the values for the xxxASP and xxxASPDEV parameters on the following BRBINS command. Refer to the command help text for more information regarding the xxxASP and xxxASPDEV parameters.

Note: If you are planning to install Remote Backup Organizer into an IASP, verify that the IASP device’s status is **AVAILABLE**. Use the command WRKCFGSTS CFGTYPE(*DEV) CFGD(your-IASP-dev).

If you are using Tape or CD-ROM (Press F4 to prompt):

QTEMP/BRBINS DEV(XXXXX)

If you are using a Save file (Press F4 to prompt):

QTEMP/BRBINS DEV(*SAVF) PGMSAVF(mylib/myfile)
Enter the save file containing library **RMBK40** for mylib/myfile.

You will receive the message “Installation of Remote Backup Organizer complete”. You may need to call Broderick Data Systems to activate your 30 day trial package.

4) Access the BDS Software Server (optional).

Note: Your iSeries must be connected to the Internet to perform this procedure.

a) If you have not done so previously, access the tailoring options screen:

BDSRMBK/BRBSETUP

INSTALLATION

b) Note the fields “BDS Access Userid” and “Password”. You will need a user ID and password to access some of the server options. If needed, contact BDS administration to get this information. If you add your user id and password, press **ENTER** to enter them and re-enter the setup command.

c) Press F14, E-Comm. The Software Server display will appear. Take note of the options available to you. When you are finished, press F3 to exit

Planning Guide

Certain actions should be performed before saving or restoring data. The administrator should use this section as a guide when planning for the setup of **Remote Backup Organizer for i**. Setup examples are included in the appendices.

Planning involves the following major areas :

Data to be saved

- + **Determine the data (libraries, IFS directories) to be saved**
- + **Determine the frequency of saving (daily, weekly, etc.)**
- + **Determine the retention policy for each save operation**

Remote Systems

- + **Determine the remote systems that will receive backups**
- + **Determine the physical disk drives that will contain backup data**

Other Considerations

- + **Determine which users are allowed to access to Remote Systems**
- + **Disk Space available**
- + **Network speed and capacity**
- + **Impact of Hardware failures (CPU, hard drive, etc.)**
- + **Application backup windows**

Follow the steps below to set up your installation:

1) **Install Remote Backup Organizer.** Install Remote Backup Organizer on all participating IBM iSeries and Windows PC machines. Refer to the Remote Backup Organizer for Windows documentation, section Setup for more information.

If you are only saving to the Integrated File System (you will not be saving to Network Files on Remote Systems, or use BDS Personal Cloud features), you can skip to step 6, Define Save Commands. To perform **Remote Backup Organizer for i** functions that use Remote Network File or BDS Personal Cloud functions, continue with the planning steps below.

2) **Define Remote Systems.** For each IBM iSeries or Windows system running Remote Backup

REMOTE BACKUP ORGANIZER for IBM i™

Organizer, define the other participating systems as Remote Systems. For more information refer to:

- iSeries: Chapter 5, Define Remote System Specifications
- Windows PC: Setup, Define Systems and Ports

3) **Define Users.** On each Windows PC system, define the Remote System and Users (iSeries User Profiles) that are allowed to access the local machine. For more information refer to:

- iSeries: Chapter 4, Define Tailoring Options, parameter System Name
- Windows PC: Administration, Define Users

Note: As shipped from BDS, Remote Backup Organizer for Windows allows requests from all systems/all users. The administrator should consider removing the default security entry and adding specific security entries.

If you are only saving to Network Files on Remote Systems (you will not be using BDS Personal Cloud features), you can skip to step 6, Define Save Commands. To perform **Remote Backup Organizer for i** functions that use BDS Personal Cloud functions, continue with the planning steps below.

4) **Define Storage Areas and Storage Groups.** On each Windows PC system, define the Storage Areas and Storage Groups that will be used. Refer to the Remote Backup Organizer for Windows documentation, Administration, Define Local System Storage Areas and Groups for more information.

5) **Define Backup Specifications.** On each IBM iSeries system, define the Backup Specifications that will be used. Refer to Chapter 6, Define Backup Specifications for more information.

6) **Define Save Commands.** On each IBM iSeries system, define or execute the Save commands that will be used. Refer to Chapter 7, Save Operations for more information.

7) **Explore Display and Restore Commands.** On each IBM iSeries system, become familiar with **Remote Backup Organizer for i** display and restore commands. Refer to Chapter 8, Restore Operations and Chapter 9, Display Operations for more information.

MAIN MENU

To access Remote Backup Organizer for IBM i Main Menu, enter the following command:

BDSRMBK/RBKADM

Administrator Main Menu

The following screen should appear:

```
Remote Backup Organizer for IBM i (TM)      1/30/20   08:58:32
Main Menu                                  02 00 2001   QSECOFR

Administration
  1. Tailoring Options  (BRBSETUP)
  2. Manage Remote System Specifications
  3. Manage Backup Specifications

      Save Operations                                Restore Operations
Save Library                                Restore Library
  11. To IFS File      (SAVLIBIFS)              16. From IFS File      (RSTLIBIFS)
  12. To Network File (SAVLIBNET)              17. From Network File (RSTLIBNET)
  13. To BDS Cloud     (SAVLIBCLD)
Save Objects                                Restore Objects
  21. To IFS File      (SAVOBJIFS)              26. From IFS File      (RSTOBJIFS)
  22. To Network File (SAVOBJNET)              27. From Network File (RSTOBJNET)
  23. To BDS Cloud     (SAVOBJCLD)
Save Changed Objects
  31. To IFS File      (SAVCHOBIFS)
  32. To Network File (SAVCHOBNET)
  33. To BDS Cloud     (SAVCHOBCLD)

Selection: _____ F3=Exit  F6=Messages  F10=Command Entry
(C) Copyright 2018, 2020 - Broderick Data Systems

More...
```

Administration

Options 1 thru 3 are used to describe various components to Remote Backup Organizer for IBM i. The above options have the following definitions:

1. Tailoring Options

Allows the Administrator to enter passwords, set various system options, and define Remote Backup Organizer for IBM i options. For more information, refer to Chapter 4, "Define Tailoring Options".

2. Manage Remote System Specifications

REMOTE BACKUP ORGANIZER for IBM i™

Allows the Administrator to define Remote Systems and attributes such as the IP Address/HostName and if encryption is used during transmission. For more information, refer to Chapter 5, "Define Remote System Specifications".

3. Manage Backup Specifications

Allows the Administrator to define Backup Specifications, which contain attributes such as the Remote System, Storage Area info, and whether encryption is used. For more information, refer to Chapter 6, "Define Backup Specifications".

Save Operations

Save Operations allow the user to save libraries and objects to BDS controlled storage.

Save Library

Save Library operations save one or more libraries and their contents. Options 11 thru 13 have the following definitions:

11. To IFS File (SAVLIBIFS)

Executes the SAVLIBIFS command, which will save one or more libraries and their contents to an IFS file.

12. To Network File (SAVLIBNET)

Executes the SAVLIBNET command, which will save one or more libraries and their contents to a file on a remote system

13. To BDS Cloud (SAVLIBCLD)

Executes the SAVLIBCLD command, which will save one or more libraries and their contents to a BDS Storage Area defined on a remote system.

Save Objects

Save Objects operations save the objects contained in one or more libraries. Options 21 thru 23 have the following definitions:

21. To IFS File (SAVOBJIFS)

Executes the SAVOBJIFS command, which will save the objects contained in one or more libraries to an IFS file.

22. To Network File (SAVOBJNET)

Executes the SAVOBJNET command, which will save the objects contained in one or more libraries to a file on a remote system

23. To BDS Cloud (SAVOBJCLD)

MAIN MENU

Executes the **SAVOBJCLD** command, which will save the objects contained in one or more libraries to a BDS Storage Area defined on a remote system.

Save Changed Objects

Save Changed Objects operations save the objects contained in one or more libraries that have changed since the base save operation. Options 31 thru 33 have the following definitions:

31. To IFS File (SAVCHOBIFS)

Executes the **SAVCHOBIFS** command, which will save the objects contained in one or more libraries that have changed since the base save operation to an IFS file.

32. To Network File (SAVCHOBNET)

Executes the **SAVCHOBNET** command, which will save the objects contained in one or more libraries that have changed since the base save operation to a file on a remote system

33. To BDS Cloud (SAVCHOBCLD)

Executes the **SAVCHOBCLD** command, which will save the objects contained in one or more libraries that have changed since the base save operation to a BDS Storage Area defined on a remote system.

Save IFS Objects

Save IFS Objects operations save IFS directories and IFS files. Options 41 thru 43 have the following definitions:

41. To IFS File (SAVIFS)

Executes the **SAVIFS** command, which will save IFS directories and IFS files to an IFS file.

42. To Network File (SAVNET)

Executes the **SAVNET** command, which will save IFS directories and IFS files to a file on a remote system

43. To BDS Cloud (SAVCLD)

Executes the **SAVCLD** command, which will save IFS directories and IFS files to a BDS Storage Area defined on a remote system.

Save System Information

Save System Information operations saves System Information. Options 51 thru 53 have the following definitions:

51. To IFS File (SAVSYINIFS)

Executes the **SAVSYINIFS** command, which will save System Information to an IFS file.

52. To Network File (SAVSYINNET)

Executes the **SAVSYINNET** command, which will save System Information to a file on a remote system

REMOTE BACKUP ORGANIZER for IBM i™

53. To BDS Cloud (SAVSYINCLD)

Executes the SAVSYINCLD command, which will save System Information to a BDS Storage Area defined on a remote system.

Restore Operations

Restore Operations allow the user to restore libraries and objects that were previously saved to BDS controlled storage.

Restore Library

Restore Library operations restores one or more libraries and their contents. Options 16 thru 17 have the following definitions:

16. From IFS File (RSTLIBIFS)

Executes the RSTLIBIFS command, which will restore one or more libraries and their contents to an IFS file.

17. From Network File (RSTLIBNET)

Executes the RSTLIBNET command, which will restore one or more libraries and their contents to a file on a remote system.

Restore Objects

Restore Objects operations restores the objects contained in one or more libraries. Options 26 thru 27 have the following definitions:

26. From IFS File (RSTOBJIFS)

Executes the RSTOBJIFS command, which will restore the objects contained in one or more libraries to an IFS file.

27. From Network File (RSTOBJNET)

Executes the RSTOBJNET command, which will restore the objects contained in one or more libraries to a file on a remote system.

Restore IFS Objects

Restore IFS Objects operations restores IFS directories and IFS files. Options 46 thru 47 have the following definitions:

46. To IFS File (RSTIFS)

Executes the RSTIFS command, which will restore IFS directories and IFS files to an IFS file.

MAIN MENU

47. To Network File (RSTNET)

Executes the **RSTNET** command, which will restore IFS directories and IFS files to a file on a remote system.

Restore System Information

Restore System Information operations restores System Information. Options 56 thru 57 have the following definitions:

56. To IFS File (RSTSYINIFS)

Executes the **RSTSYINIFS** command, which will restore System Information to an IFS file.

57. To Network File (RSTSYINNET)

Executes the **RSTSYINNET** command, which will restore System Information to a file on a remote system

Display Operations

Display Operations allow the user to display the attributes of Backups and objects that were previously saved to BDS controlled storage. The user can restore the Backups or individual objects from the display session.

Options 61 thru 63 have the following definitions:

61. Backup Image in IFS File (DSPRMBKIFS)

Executes the **DSPRMBKIFS** command, which will display the contents of an IFS file.

62. Backup Image in Network File (DSPRMBKNET)

Executes the **DSPRMBKNET** command, which will display the contents of a file on a remote system.

63. Work w/Backups on BDS Cloud (WRKCLDBAK)

Executes the **WRKCLDBAK** command, which will display the contents of Backup Groups and Backup Jobs on remote systems.

DEFINE TAILORING OPTIONS

This allows the Administrator to define system wide options. To access the Tailoring Options screen, select option 1 from the Menu or enter the following command:

BDSRMBK/BRBSETUP

The following screen will appear:

```
Remote Backup Organizer for IBM i (TM)      2/7/20 10:41:07
Setup Display

System Statistics:  Rel Mod PTF  System Name CPU Serial Model Feat Grp  Num
                   02  00 0000  BDSI          7845090  41A  EP10 P05  0001

Passwords: Permanent          Temporary          High Avail
           F1F2F3F4F5F6F7F8   FAFBFCFDFF     F1F2F3F4F5F6F7F8

BDS Access Userid: _____ Password: _____
EBCDIC CCSID:      37
ASCII CCSID:       437

System Name:       BDSI
Dft. Encr Password: DSIX1CC41
Restore Dft Job Desc: *INTER
                    _____

F3=Exit w/o Update F12=Exit w/o Update F14=BDS SwSvr
Copyright 2018, 2020 Broderick Data Systems
```

The above parameters have the following definitions:

System Statistics

Rel, Mod and PTF

This is the Release, Modification and Program Temporary Fix level of Remote Backup Organizer for IBM i you have installed.

Note: When the update to Remote Backup Organizer for IBM i is done, it will update these fields. If you update Remote Backup Organizer and these fields do not update, verify you have executed the update procedure in the Remote Backup Organizer for IBM i Update Instructions.

System Name

REMOTE BACKUP ORGANIZER for IBM i™

The system name assigned to the iSeries computer running the Remote Backup Organizer for IBM i software.

CPU Serial

The CPU serial number assigned to this iSeries computer.

Model, Proc Feat

The model number and Processor Feature of this iSeries computer.

Proc Grp

The Processor Group assigned to this iSeries computer.

LPAR Num

The Logical Partition number currently running.

Passwords

Permanent and Temporary Passwords

Passwords are provided by Broderick Data Systems to allow access to Remote Backup Organizer for IBM i. Certain key functions test these passwords before executing. If the password tests fail, a message will appear on the **QSYSOPR** message queue and in the executing job's job log, and the function stops.

High Availability Password

If this machine is being replicated to a High Availability machine, specify the Permanent Password for the HA machine here on the production machine. This value will be replicated to the HA machine. This will allow you to cut over to the HA machine without changing passwords. Note: You must purchase an HA license from Broderick Data Systems in order to receive an HA password.

BDS Access User ID and Password

Specifies the user ID and password needed to access the BDS Software Server. Contact BDS Administration for your user ID and password.

Other Options

EBCDIC and ASCII CCSID

Specifies the EBCDIC to ASCII conversion scheme to use. Please note that the iSeries is an EBCDIC machine and PC's are ASCII machines. Remote Backup Organizer for IBM i will convert the certain transmitted data to the specified ASCII character set ID. The save data segments are not converted during transmission. For more information refer to iSeries National Language Support, Appendix G.2 "Code Pages and CCSID's"

DEFINE TAILORING OPTIONS

Notes:

- 1) Specified CCSID's will be checked by issuing a test string to convert. Errors will be reported back to the user. For a list of errors and their meanings refer to "OS/400 National Language API's", Chapter 3.2.2 "CDRCVRT API Feedback Codes and Conditions". No error message does not insure a proper conversion.
- 2) CCSIDs 37 and 437 are US English EBCDIC and ASCII.

System Name

Specifies the System Name that identifies this system to other systems. This value must match the Remote System Name specified on other systems' Remote System Specs that refer to this System. This value is also sent to the remote system when sending Backup Sets and search requests. Choose a name that describes this machine, LPAR, etc. Specify up to 32 characters.

Note: Backup Groups and Backup Jobs on remote systems are grouped by Remote System Name. If you change this system's system name, remote systems will treat any subsequent backups sent by this system as from a different system than the old system name. Thus it is not recommended to use the default system name that is established when the IBM OS is installed. This name contains the CPU serial number, which will probably change when migrating to new hardware.

Dft. Encr Password

Specify the disk encryption password value to use if *DFT is specified on the command. Specify a password of up to 16 characters or *NONE for no disk encryption.

Restore Dft Job Desc

Specifies the job description to use when *DFT is specified on restore operations. Specify one of the following:

***INTER:** The function is executed interactively. No job description is needed.

name

Specifies the job description name.

library

Specifies the library. Specify a name or the following:

***LIBL:** The job's library list is searched for the specified job description.

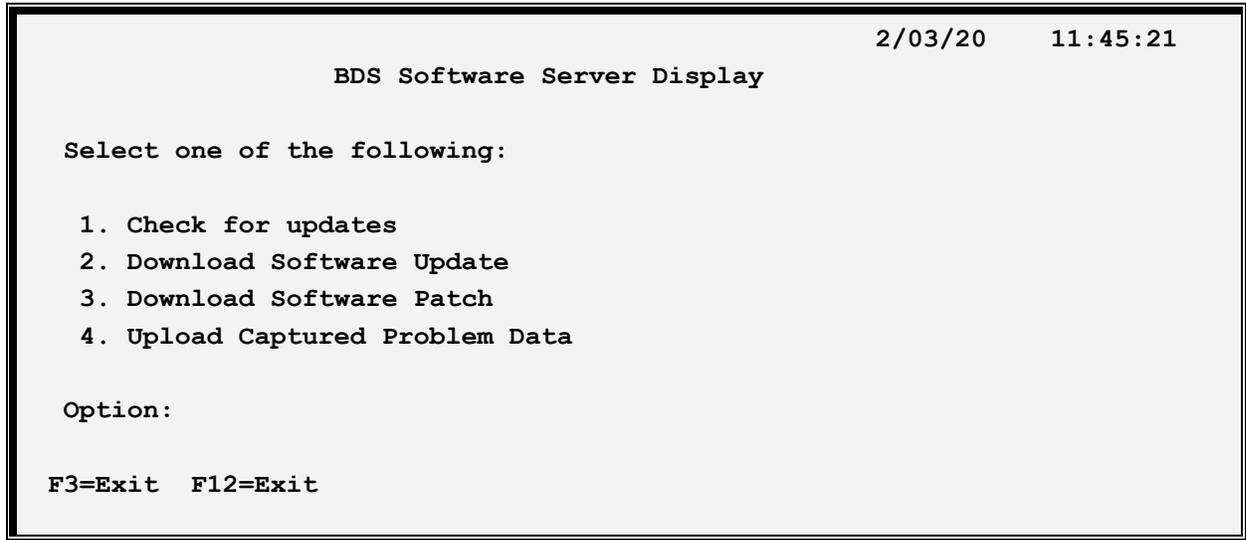
F3 (Return)

Press F3 to exit without updating.

Access the BDS Software Server

REMOTE BACKUP ORGANIZER for IBM i™

If **F14** is chosen, the screen showing BDS Software Server options is displayed. To access the BDS Software Server the iSeries must be connected to the Internet. The following display will appear:



Some of the following options require a user ID and password. If you do not have one, contact BDS Administration. These options use the Internet to connect to a server at Broderick Data Systems. Therefore your iSeries must be connected to the Internet. If behind a firewall, the firewall must allow outbound sessions through it.

Check for updates

Retrieves the latest available release of the product. Displays the BDS and OS/400 prerequisites releases required to install the latest release of the product.

Download Software Update

Downloads the latest release of the product into save files on your system. The update procedure can then be done using these save files. The product may be active and running while you perform this download.

Download Software Patch

Downloads objects into a save file on your system. Usually you will use this option while working with BDS tech support.

Upload Captured Problem Data

Uploads a save file on your system (containing objects that you have saved) into a save file on the BDS server. Usually you will use this option while working with BDS tech support.

F3 (Return)

Press F3 to exit.

DEFINE TAILORING OPTIONS

F12 (Return)

Press F12 to exit.

DEFINE REMOTE SYSTEM SPECIFICATIONS

The Define Remote Systems display allows the administrator to define Remote Systems. A Remote System Specification is needed for each computer that will receive Backup Jobs from this system. The Remote System's IP address or hostname, port, and security and other information is specified on the Remote System Spec.

Select **F6** to add a new Specification. Enter the name of the Spec to create and press **ENTER**. The following screen should appear:

```
Remote Backup Organizer for IBM i (TM)          ADD          1/06/20
Define Remote Systems                          10:16:46
Remote System Name: DEV03

Active: A                                     (A, D)
Host Name: _____

Server Password: _____

Port Number: _____ (1-65536)
Encrypt Comm Data: Y                         (Y, N)
Descriptive Text: _____

F3=Exit   F12=Cancel Current Operation
(C) Copyright 2018, 2020 Broderick Data Systems
```

The above parameters have the following definitions:

Active

Specifies if this definition is active. Specify A for Active and D for Deactivated. Define a Remote System as Deactivated if you wish to disable it but not delete its definition.

Host Name

Specifies the IP address or Host Name of the Remote System. Use the iSeries PING command from the command line to verify this system can connect to the remote system. This is a required field.

Server Password

Enter the password the Remote System requires. To locate, bring up the Remote Backup Organizer application on the Remote System and select Administration, Define Product-wide settings. In the TCP Server box, locate the field Password. This is a required field.

Port Number

Enter the TCP port number for the Remote System. To locate, bring up the Remote Backup Organizer

REMOTE BACKUP ORGANIZER for IBM i™

application on the Remote System and select Administration, Define Product-wide settings. In the TCP Server box, locate the field Listen Port Num. This is a required field.

Encrypt Comm Data

Specifies if communications data passed to/from this Remote System is encrypted. Specify Y to encrypt data communications to this remote system or N to not encrypt data communications to this Remote System. This is a required field.

Remote Backup Organizer uses the industry standard AES 128-bit encryption. Encryption uses a considerable amount of CPU, but is recommended for any unsecure (i.e. internet) connection.

Descriptive Text

Specify up to 50 characters of text that describes the Specification.

DEFINE BACKUP SPECIFICATIONS

The Define Backup Specifications display allows the administrator to define Backup Specifications. Backup Specifications are used on SAVxxxCLD (Save xxx to BDS Cloud) commands. The Remote System name, Storage Area/Group name, retention info and other information is specified on the Backup Spec.

Select **F6** to add a new Specification. Enter the name of the Spec to create and press **ENTER**. The following screen should appear:

```
Remote Backup Organizer for IBM i (TM)          ADD          1/06/20
Define Backup Specification                      10:16:46
Backup Spec Name: SALESWK

Active: A                                     (A, D)
Backup Type: F                                (F, G)
Rmt System Spec Name: _____              (Name, F4=Prompt)
Storage Area Type: A                          (A, G)
Storage Area Name: *DFT_____
Retention Type: ND Value: 30
Disk Encr Passwd: *DFT_____
Descriptive Text: _____

F3=Exit   F12=Cancel Current Operation
(C) Copyright 2018, 2020 Broderick Data Systems
```

The above parameters have the following definitions:

Active

Specifies if this definition is active. Specify A for Active and D for Deactivated. Define a specification as Deactivated if you wish to disable it but not delete its definition.

Backup Type

Specifies the type of Backup being generated. Specify one of the following:

F (Full): This backup is a full backup (as opposed to an Initial/Changes group backup). Each iteration is considered an individual stand-alone backup set.

G (Group)

This backup set consists of an Initial backup and zero or more Changes backups.

Rmt System Spec Name

REMOTE BACKUP ORGANIZER FOR IBM I™

Specifies the Remote System Spec Name to use. The Remote System Spec Name must exist. Refer to Chapter 4, Define Remote System Specifications for more information.

Storage Area Type

Specifies if a Storage Area or Storage Area Group is being used on the remote system. Storage Areas and Groups are defined on the Remote System. Refer to the Storage Area Name parameter for more information. Specify one of the following:

A (Area): This backup is using the Storage Area specified in the Name parameter.

G (Group)

This backup is using the Storage Area Group specified in the Name parameter.

Storage Area Name

Specifies the name of the Storage Area or Group to use to describe where the backup will be placed. Storage Areas and Groups are defined on the Remote System. To locate this information, bring up the Remote Backup Organizer application on the Remote System and select Administration, Define Local System Storage Areas and Groups. Select the desired Storage Area or Group.

Specify the type (A or G), and the Name, or enter A, *DFT to select the default Storage Area defined on the remote system.

Retention Type

Specifies how long the Backup will be kept before it is deleted by the remote system. Specify one of the following:

ND (Number of Days): Specify the number of days to keep the backup.

NM (Number of Months)

Specify the number of months to keep the backup.

NY (Number of Years)

Specify the number of years to keep the backup.

ME (Month End)

The backup will be kept until the end of the current month.

QE (Quarter End)

The backup will be kept until the end of the current quarter.

YE (Year End)

The backup will be kept until the end of the current year.

DT (Date)

The backup will be kept until the specified date. Enter the date as 8 digits in the format

DEFINE BACKUP SPECIFICATIONS

YYYYMMDD.

PM (Permanent)

The backup will be kept permanently.

NI (Number of Iterations)

The specified number of backups will be kept.

Retention Value

Specifies how long the Backup will be kept before it is deleted by the remote system. Refer to the Retention Type parameter for more information.

Disk Encr Passwrd

Specifies if backup data passed to the remote system is encrypted when written to disk.

Remote Backup Organizer uses the industry standard AES 128-bit encryption. Encryption uses a considerable amount of CPU, but is recommended for backups containing sensitive data.

Users will not be asked this password when using Remote Backup Organizer to retrieve backups. Changing the password (making backups using a new password) will not affect the existing backups.

Specify one of the following:

***NONE:** Data written to disk on the remote system will not be encrypted.

***DFT:** Data written to disk on the remote system will be encrypted using the remote system's default disk encryption password. To locate this information, bring up the Remote Backup Organizer application on the Remote System and select Administration, Define Product-wide Settings.

encryption-password: Data written to disk on the remote system will be encrypted using the specified password.

Descriptive Text

Specify up to 50 characters of text that describes the Specification.

Press **ENTER**. The following screen should appear:

REMOTE BACKUP ORGANIZER FOR IBM I™

```
Remote Backup Organizer for IBM i (TM) Libraries to Save  ADD      1/06/20
Backup Spec Name: SALESWK                               10:18:46

  Library Name
1  _____
2  _____
3  _____
4  _____
5  _____
6  _____
7  _____
8  _____

More...

F3=Exit  F6=Accept  F12=Return
(C) Copyright 2018, 2020 Broderick Data Systems
```

The above parameters have the following definitions:

Library Name

Specifies the library to save. Specify up to 300 libraries. If the save operation that will be using this spec does not support libraries, specify *NONE.

Note: Generic names or special values are not supported.

F6 (Accept)

Press F6 to save the entry and return.

SAVE OPERATIONS

Remote Backup Organizer for i save operations allow users to save objects to the following locations:

- iSeries IFS file system
- Windows PC Network File System
- BDS Storage Areas and Storage Groups (BDS Personal Cloud)

Remote Backup Organizer save operations use IBM APIs to perform the following IBM base operations:

- | | |
|---------------------------|-----------|
| • Save Libraries | SAVLIB |
| • Save Objects | SAVOBJ |
| • Save Changed Objects | SAVCHGOBJ |
| • Save IFS Objects | SAV |
| • Save System Information | SAVSYSINF |

Remote Backup Organizer save commands share many parameters and values with the IBM base commands. Refer to IBM command documentation for more information. Remote Backup Organizer save commands can be executed anywhere IBM base save commands can be executed. For example they can be run from the command line, placed into CL programs, submitted to batch, or placed into job scheduling applications.

Save Library Operations

Save Library operations allow users to save libraries and their contents to the following locations:

- + iSeries IFS file system
- + Windows PC Network File System
- + BDS Storage Areas and Storage Groups (BDS Personal Cloud)

Save Library to IFS File

The **SAVLIBIFS** command saves the specified libraries and their contents to a BDS image in an IFS file. The saved data can be accessed with Remote Backup Organizer **RSTxxxIFS** (restore) or **DSPRMBKIFS** (display) commands. Refer to IBM **SAVLIB** documentation for more information regarding parameters and their values. The following **SAVLIBIFS** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that will contain the objects to be saved. Specify a value in the format

REMOTE BACKUP ORGANIZER for IBM i™

/myDir1/myDir2/myFile.myExt. The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the CLEAR parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the IFSFILE parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save Library to Network File

The **SAVLIBNET** command saves the specified libraries and their contents to a BDS image in a file on a Remote System. The saved data can be accessed with Remote Backup Organizer **RSTxxxNET** (restore) or **DSPRMBKNET** (display) commands. Refer to IBM **SAVLIB** documentation for more information regarding parameters and their values. The following **SAVLIBNET** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

SAVE OPERATIONS

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that will contain the objects to be saved. Specify a value in the format you would enter from a Windows Cmd session, for example:

```
D:\myDir1\myFile.myExt  
\\myNetPC\myNetVol\myDir1\myFile.myExt
```

The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the CLEAR parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the NETFILE parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

REMOTE BACKUP ORGANIZER for IBM i™

Save Library to BDS Cloud

The **SAVLIBCLD** command saves the specified libraries and their contents to the BDS cloud area on the specified Remote System. The saved data can be accessed with Remote Backup Organizer **WRKCLDBAK** (Work w/Cloud Backups) commands. Refer to IBM **SAVLIB** documentation for more information regarding parameters and their values. The following **SAVLIBCLD** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

Backup Spec Name (BACKSPEC) Parameter

Specifies the Backup Specification to use. The Backup Specification must exist. Backup Specifications contain values such as the Remote System Spec and the Storage Area to use. Refer to Chapter 7 Define Backup Specifications for more information.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save Objects Operations

Physical files, logical files, source physical files, and save files can be copied. Files written to **IFS** directories can be in the following formats:

- + Text
- + Binary
- + CSV (Spreadsheet, database)
- + TSV (Spreadsheet, database)

Save Objects to IFS File

The **SAVOBJIFS** command saves the specified objects to a BDS image in an IFS file. The saved data

SAVE OPERATIONS

can be accessed with Remote Backup Organizer **RSTxxxIFS** (restore) or **DSPRMBKIFS** (display) commands. Refer to IBM **SAVOBJ** documentation for more information regarding parameters and their values. The following **SAVOBJIFS** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that will contain the objects to be saved. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCRCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using **BDS RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the **IFSFILE** parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the **BDS** supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save Objects to Network File

REMOTE BACKUP ORGANIZER for IBM i™

The **SAVOBJNET** command saves the specified objects to a BDS image in a file on a Remote System. The saved data can be accessed with Remote Backup Organizer **RSTxxxNET** (restore) or **DSPRMBKNET** (display) commands. Refer to IBM **SAVOBJ** documentation for more information regarding parameters and their values. The following **SAVOBJNET** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that will contain the objects to be saved. Specify a value in the format you would enter from a Windows Cmd session, for example:

D:\myDir1\myFile.myExt
\\myNetPC\myNetVol\myDir1\myFile.myExt

The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the **NETFILE** parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

SAVE OPERATIONS

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save Objects to BDS Cloud

The **SAVOBJCLD** command saves the specified objects to the BDS cloud area on the specified Remote System. The saved data can be accessed with Remote Backup Organizer **WRKCLDBAK** (Work w/Cloud Backups) commands. Refer to IBM **SAVOBJ** documentation for more information regarding parameters and their values. The following **SAVOBJCLD** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

Backup Spec Name (BACKSPEC) Parameter

Specifies the Backup Specification to use. The Backup Specification must exist. Backup Specifications contain values such as the Remote System Spec and the Storage Area to use. Refer to Chapter 7 Define Backup Specifications for more information.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save Changed Objects Operations

Physical files, logical files, source physical files, and save files can be copied. Files written to **IFS** directories can be in the following formats:

+ Text

REMOTE BACKUP ORGANIZER for IBM i™

- + Binary
- + CSV (Spreadsheet, database)
- + TSV (Spreadsheet, database)

Save Changed Objects to IFS File

The **SAVCHOBIFS** command saves the specified objects that have changed to a BDS image in an IFS file. The saved data can be accessed with Remote Backup Organizer **RSTxxxIFS** (restore) or **DSPRMBKIFS** (display) commands. Refer to IBM **SAVCHGOBJ** documentation for more information regarding parameters and their values. The following **SAVCHOBIFS** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that will contain the objects to be saved. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the **IFSFILE** parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

SAVE OPERATIONS

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save Changed Objects to Network File

The **SAVCHOBNET** command saves the specified objects that have changed to a BDS image in a file on a Remote System. The saved data can be accessed with Remote Backup Organizer **RSTxxxNET** (restore) or **DSPRMBKNET** (display) commands. Refer to IBM **SAVCHGOBJ** documentation for more information regarding parameters and their values. The following **SAVCHOBNET** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that will contain the objects to be saved. Specify a value in the format you would enter from a Windows Cmd session, for example:

```
D:\myDir1\myFile.myExt  
\\myNetPC\myNetVol\myDir1\myFile.myExt
```

The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

REMOTE BACKUP ORGANIZER for IBM i™

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the NETFILE parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save Changed Objects to BDS Cloud

The SAVCHOBCLD command saves the specified objects that have changed to the BDS cloud area on the specified Remote System. The saved data can be accessed with Remote Backup Organizer **WRKCLDBAK** (Work w/Cloud Backups) commands. Refer to IBM **SAVCHGOBJ** documentation for more information regarding parameters and their values. The following **SAVCHOBCLD** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

Backup Spec Name (BACKSPEC) Parameter

Specifies the Backup Specification to use. The Backup Specification must exist. Backup Specifications contain values such as the Remote System Spec and the Storage Area to use. Refer to Chapter 7 Define Backup Specifications for more information.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

SAVE OPERATIONS

***NONE:** No additional parameters are provided.

Save IFS Objects Operations

Physical files, logical files, source physical files, and save files can be copied. Files written to **IFS** directories can be in the following formats:

- + Text
- + Binary
- + CSV (Spreadsheet, database)
- + TSV (Spreadsheet, database)

Save IFS Objects to IFS File

The **SAVIFS** command saves the specified IFS objects to a BDS image in an IFS file. The saved data can be accessed with Remote Backup Organizer **RSTIFS** (restore) or **DSPRMBKIFS** (display) commands. Refer to IBM **SAV** documentation for more information regarding parameters and their values. The following **SAVIFS** command parameters are different than the IBM base command:

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that will contain the IFS objects to be saved. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the **IFSFILE** parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If

REMOTE BACKUP ORGANIZER for IBM i™

created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save IFS Objects to Network File

The **SAVNET** command saves the specified IFS objects to a BDS image in a file on a Remote System. The saved data can be accessed with Remote Backup Organizer **RSTNET** (restore) or **DSPRMBKNET** (display) commands. Refer to IBM **SAV** documentation for more information regarding parameters and their values. The following **SAVNET** command parameters are different than the IBM base command:

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that will contain the IFS objects to be saved. Specify a value in the format you would enter from a Windows Cmd session, for example:

D:\myDir1\myFile.myExt
\\myNetPC\myNetVol\myDir1\myFile.myExt

The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

SAVE OPERATIONS

Specifies the action to take if the file specified in the NETFILE parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save IFS Objects to BDS Cloud

The **SAVCLD** command saves the specified IFS objects to the BDS cloud area on the specified Remote System. The saved data can be accessed with Remote Backup Organizer **WRKCLDBAK** (Work w/Cloud Backups) commands. Refer to IBM **SAV** documentation for more information regarding parameters and their values. The following **SAVCLD** command parameters are different than the IBM base command:

Backup Spec Name (BACKSPEC) Parameter

Specifies the Backup Specification to use. The Backup Specification must exist. Backup Specifications contain values such as the Remote System Spec and the Storage Area to use. Refer to Chapter 7 Define Backup Specifications for more information.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save System Information Operations

Physical files, logical files, source physical files, and save files can be copied. Files written to **IFS** directories can be in the following formats:

+ Text

REMOTE BACKUP ORGANIZER for IBM i™

- + Binary
- + CSV (Spreadsheet, database)
- + TSV (Spreadsheet, database)

Save System Information to IFS File

The **SAVSYINIFS** command saves system information to a BDS image in an IFS file. The saved data can be accessed with Remote Backup Organizer **RSTSYINIFS** (restore) or **DSPRMBKIFS** (display) commands. Refer to IBM **SAVSYINF** documentation for more information regarding parameters and their values. The following **SAVSYINIFS** command parameters are different than the IBM base command:

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that will contain the objects to be saved. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCRCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the **IFSFILE** parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

SAVE OPERATIONS

***NONE:** No additional parameters are provided.

Save System Information to Network File

The **SAVSYINNET** command saves system information to a BDS image in a file on a Remote System. The saved data can be accessed with Remote Backup Organizer **RSTSYINNET** (restore) or **DSPRMBKNET** (display) commands. Refer to IBM **SAVSYSINF** documentation for more information regarding parameters and their values. The following **SAVSYINNET** command parameters are different than the IBM base command:

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that will contain the objects to be saved. Specify a value in the format you would enter from a Windows Cmd session, for example:

```
D:\myDir1\myFile.myExt  
\\myNetPC\myNetVol\myDir1\myFile.myExt
```

The path directories if specified must exist. If the file does not exist it will be created. If the file exists the action taken is described in the **CLEAR** parameter (see below).

Disk Encryption Password (DISKENCR) Parameter

Specifies the password to use when save data segments are encrypted while written to the output file on the target disk drive. Disk encryption keeps unauthorized people from accessing saved data by obtaining the target disk files. Note that users will not need to know this password when performing restore or display operations using BDS **RSTxxx** (restore) or **DSPRMBKxxx** (display) commands. Specify a password of up to 16 characters or one of the following:

***DFT:** The Default Encryption Key specified on the server's Settings Display is used.

***NONE:** Encryption is not used when writing save data to the server's hard drive.

Clear (CLEAR) Parameter

Specifies the action to take if the file specified in the **NETFILE** parameter exists. Specify one of the following:

***NONE:** If the target file already exists, an error will be sent and the command ends abnormally with an escape message.

***REPLACE:** If the target file already exists, it will be cleared. Otherwise it file will be created. If

REMOTE BACKUP ORGANIZER for IBM i™

created, the file's security permissions will be inherited from the specified parent directory.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Save System Information to BDS Cloud

The **SAVSYINCLD** command saves system information to the BDS cloud area on the specified Remote System. The saved data can be accessed with Remote Backup Organizer **WRKCLDBAK** (Work w/Cloud Backups) commands. Refer to IBM **SAVSYSINF** documentation for more information regarding parameters and their values. The following **SAVSYINCLD** command parameters are different than the IBM base command:

Library Name (LIB) Parameter

Specifies the name of the libraries to save. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

Backup Spec Name (BACKSPEC) Parameter

Specifies the Backup Specification to use. The Backup Specification must exist. Backup Specifications contain values such as the Remote System Spec and the Storage Area to use. Refer to Chapter 7 Define Backup Specifications for more information.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

RESTORE OPERATIONS

Remote Backup Organizer for IBM i restore operations allow users to restore objects that were saved using Remote Backup Organizer for IBM i save commands to the following locations:

- iSeries IFS file system
- Windows PC Network File System
- BDS Storage Areas and Storage Groups (BDS Personal Cloud)

Remote Backup Organizer for IBM i restore operations use IBM APIs to perform the following IBM base operations:

- | | |
|------------------------------|-----------|
| • Restore Libraries | RSTLIB |
| • Restore Objects | RSTOBJ |
| • Restore IFS Objects | RST |
| • Restore System Information | RSTSYSINF |

Remote Backup Organizer restore commands share many parameters and values with the IBM base commands. Refer to IBM command documentation for more information regarding many of the Remote Backup Organizer for IBM i command parameters.

Restore Library Operations

Restore Library operations allow users to restore libraries and their contents that were saved to the following locations:

- + iSeries IFS file system
- + Windows PC Network File System
- + BDS Storage Areas and Storage Groups (BDS Personal Cloud)

Restore Library from IFS File

The **RSTLIBIFS** command restores the specified libraries and their contents from a BDS image contained in an IFS file. Refer to IBM **RSTLIB** documentation for more information regarding parameters and their values. The following **RSTLIBIFS** command parameters are different than the IBM base command:

Saved library (SAVLIB) Parameter

Specifies the name of the libraries to restore. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that contains the saved objects. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories/file must exist.

REMOTE BACKUP ORGANIZER for IBM i™

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Restore Library from Network File

The **RSTLIBNET** command restores the specified libraries and their contents from a BDS image contained in a file on a Remote System.. Refer to IBM **RSTLIB** documentation for more information regarding parameters and their values. The following **RSTLIBNET** command parameters are different than the IBM base command:

Saved library (SAVLIB) Parameter

Specifies the name of the libraries to restore. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that contains the objects to be restored. Specify a value in the format you would enter from a Windows Cmd session, for example:

```
D:\myDir1\myFile.myExt  
\\myNetPC\myNetVol\myDir1\myFile.myExt
```

The path directories/file must exist.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

RESTORE OPERATIONS

Restore Objects Operations

Restore Objects operations allow users to restore objects that were saved to the following locations:

- + iSeries IFS file system
- + Windows PC Network File System
- + BDS Storage Areas and Storage Groups (BDS Personal Cloud)

Restore Objects from IFS File

The **RSTOBJIFS** command restores the specified objects from a BDS image contained in an IFS file. Refer to IBM **RSTOBJ** documentation for more information regarding parameters and their values. The following **RSTOBJIFS** command parameters are different than the IBM base command:

Saved library (SAVLIB) Parameter

Specifies the name of the libraries to restore. Specify 1-300 libraries.

Note: Generic values (ABC*) and special values are not supported.

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that contains the saved objects. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories/file must exist.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Restore Objects from Network File

The **RSTOBJNET** command restores the specified objects from a BDS image contained in a file on a Remote System. Refer to IBM **RSTLIB** documentation for more information regarding parameters and their values. The following **RSTLIBNET** command parameters are different than the IBM base command:

Saved library (SAVLIB) Parameter

Specifies the name of the libraries to restore. Specify 1-300 libraries.

REMOTE BACKUP ORGANIZER for IBM i™

Note: Generic values (ABC*) and special values are not supported.

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that contains the objects to be restored. Specify a value in the format you would enter from a Windows Cmd session, for example:

D:\myDir1\myFile.myExt
\\myNetPC\myNetVol\myDir1\myFile.myExt

The path directories/file must exist.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Restore IFS Objects Operations

Restore IFS Objects operations allow users to restore IFS objects that were saved to the following locations:

- + iSeries IFS file system
- + Windows PC Network File System
- + BDS Storage Areas and Storage Groups (BDS Personal Cloud)

Restore IFS Objects from IFS File

The **RSTIFS** command restores the specified IFS objects from a BDS image contained in an IFS file. Refer to IBM **RST** documentation for more information regarding parameters and their values. The following **RSTIFS** command parameters are different than the IBM base command:

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that contains the saved IFS objects. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories/file must exist.

RESTORE OPERATIONS

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Restore Objects from Network File

The **RSTNET** command restores the specified IFS objects from a BDS image contained in a file on a Remote System. Refer to IBM **RST** documentation for more information regarding parameters and their values. The following **RSTNET** command parameters are different than the IBM base command:

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that contains the objects to be restored. Specify a value in the format you would enter from a Windows Cmd session, for example:

D:\myDir1\myFile.myExt
\\myNetPC\myNetVol\myDir1\myFile.myExt

The path directories/file must exist.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Restore System Information Operations

Restore System Information operations allow users to restore System Information info that was saved to the following locations:

- + iSeries IFS file system
- + Windows PC Network File System

REMOTE BACKUP ORGANIZER for IBM i™

+ BDS Storage Areas and Storage Groups (BDS Personal Cloud)

Restore System Information from IFS File

The **RSTSYINIFS** command restores the System Information from a BDS image contained in an IFS file. Refer to IBM **RSTSYSINF** documentation for more information regarding parameters and their values. The following **RSTSYINIFS** command parameters are different than the IBM base command:

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that contains the saved System Information. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories/file must exist.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

Restore System Information from Network File

The **RSTSYINNET** command restores the System Information from a BDS image contained in a file on a Remote System. Refer to IBM **RSTSYSINF** documentation for more information regarding parameters and their values. The following **RSTSYINNET** command parameters are different than the IBM base command:

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the IP address or if encryption will be used during transmission to the remote system. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that contains the System Information to be restored. Specify a value in the format you would enter from a Windows Cmd session, for example:

D:\myDir1\myFile.myExt

\\myNetPC\myNetVol\myDir1\myFile.myExt

The path directories/file must exist.

Additional Parameters (ADDLPARMS) Parameter

Specifies additional base save/restore command parameters. Use this parameter if for some reason you are

RESTORE OPERATIONS

unable to enter an IBM base command parameter through the BDS supplied parameters. Enter the parameters/values as if you were typing them onto the command line. Specify up to 5000 characters. or the following:

***NONE:** No additional parameters are provided.

DISPLAY OPERATIONS

Remote Backup Organizer for IBM i display operations allow users to display objects that were saved using Remote Backup Organizer for IBM i save commands to the following locations:

- iSeries IFS file system
- Windows PC Network File System
- BDS Storage Areas and Storage Groups (BDS Personal Cloud)

The displays shown depends on the type of data (Library objects, IFS objects, etc.) saved. Refer to the following chapters for a detailed description of the library/object display screens:

- Chapter 10 Display Saved Library Objects
- Chapter 11 Display Saved IFS Objects

Display a Backup Image in an IFS File

The **DSPRMBKIFS (Display Remote Backup in IFS)** command displays the contents of a Backup image contained in an IFS file. The **DSPRMBKIFS** command has the following parameters:

IFS Path/File name (IFSFILE) Parameter

Specifies the IFS path and file that contains the saved objects. Specify a value in the format /myDir1/myDir2/myFile.myExt. The path directories/file must exist.

Display a Backup Image in a Network File

The **DSPRMBKNET (Display Remote Backup on Remote System)** command displays the contents of a Backup image contained in a file on a Remote System. The **DSPRMBKNET** command has the following parameters:

Remote System Spec Name (RSS) Parameter

Specifies the Remote System Specification to use. The Remote System Specification must exist. Remote System Specifications contain values such as the remote system's IP address and if encryption will be used during transmission. Refer to Chapter 5 Define Remote System Specifications for more information.

Network Path/File name (NETFILE) Parameter

Specifies the path and file that contains the objects to be restored. Specify a value in the format you would enter from a Windows Cmd session, for example:

```
D:\myDir1\myFile.myExt  
\\myNetPC\myNetVol\myDir1\myFile.myExt
```

The path directories/file must exist.

REMOTE BACKUP ORGANIZER for IBM i™

Display a Backup Image in the BDS Cloud

The **WRKCLDBAK (Work with Cloud Backups)** command displays the contents of Backup images contained in your BDS Personal Cloud. The **WRKCLDBAK** command has no parameters. Enter the start/end values or press enter to show all defined Remote Systems. The following screen should appear:

```
Remote Backup Organizer for IBM i (TM)  Work with Remote Backups  1/12/20
5=Retrieve Backups  8=RmtSys Attr  09:16:28
Remote
Opt System Nm Act Descriptive Text
- ATLANTANW A Atlanta Northwest
- COLUMBUSN A Columbus Northern
- SEATTLEW A Seattle West
More...
F3=Exit F5=Refresh F6=DSPMSG F7=DSPJOBLOG F8=WRKSBJOB
F10/F11=View -/+ F18=Disp Specs F19=Sess Sets
Copyright 2018, 2020 Broderick Data Systems
```

The above Columns have the following definitions:

Remote System Name

Shows the Remote System Specification. See Chapter 5 Define Remote System Specifications for more information.

Act (Active)

Shows the status (Active or Deactivated) of the Remote System Specification. Only Active Remote Systems can be queried. See Chapter 5 Define Remote System Specifications for more information.

Descriptive Text

Shows the descriptive text defined for the Remote System.

IP Address/Host Name

Shows the IP Address or Host Name defined for the Remote System. See Chapter 5 Define Remote System Specifications for more information.

Port Num

Shows the port number defined for the Remote System. See Chapter 5 Define Remote System Specifications for more information.

Encr Comm

Shows if the backup's data segments will be encrypted during transmission. See Chapter 5 Define Remote

DISPLAY OPERATIONS

System Specifications for more information.

The user can select the following options:

Option 5 (Retrieve Backups)

Take option 5 to retrieve and display the list of Backup Jobs contained on the Remote System. The user can work with (display, change, delete) or restore the objects in the Backup Jobs. See the section Display Remote System Backup Jobs below for more information.

Option 8 (RmtSys Attr)

Take option 8 display the attributes defined for the Remote System. See Chapter 5 Define Remote System Specifications for more information.

F3 (Exit)

Press F3 to exit.

F5 (Refresh)

Press F5 to refresh the screen. All retrieved information previously retrieved will be discarded.

Note: Some operations (attribute changes, etc.) require a refresh in order to see the changes in the local session.

F6 (DSPMSG)

Press F6 to execute the IBM **DSPMSG** (Display Messages) command.

F7 (DSPJOBLOG)

Press F7 to execute the IBM **DSPJOBLOG** (Display JobLog) command.

F8 (WRKSBMJOB)

Press F8 to execute the IBM **WRKSBMJOB** (Work with Submitted Jobs) command.

F10/F11 (View -/+)

Press F10 or F11 to change the columns displayed when showing the list.

F18 (Disp Specs)

Press F18 to show the specifications display, which allows the user to narrow down the list of displayed Remote Systems.

F19 (Sess Sets)

Press F19 to show the Session Settings display, which allows the user to change settings for this display session. Refer to the section Change Session Settings below for more information.

REMOTE BACKUP ORGANIZER for IBM i™

Display Remote System Backup Groups/Jobs

The Backup Groups and Backup Jobs for a Remote System can be displayed. The following screen should appear:

```
Rmt System:  ATLANTANW      Remote Backups      1/12/20
2=Change  4=Delete  5=List Bk/Obj  6=Restore  8=Display      08:54:11
X T Bkup Name  Date/Time
_ G ATLDAILY
_ G ATLDAILY
_ G ATLDAILY
_ G ATLSALES
_ F CMHIFS1    11/29/19 08:16:11
_ G CMHWEEKLY

F3=Exit  F4=Mass Change  F6=DSPMSG  F7=DSPJOBLOG  F8=WRKSBJOB  F12=Cancel

Copyright 2018, 2020 Broderick Data Systems
```

The above Columns have the following definitions:

T (Type)

Specifies the type of Backup Job. Refer to the Backup Specification defined on the Remote System for more information. The backup can be one of the following types:

F (Full): The Backup is a full, standalone backup.

G (Group): The Backup is a group, containing an initial backup and zero or more changes backups.

Bkup Name

Shows the Backup Specification name. Refer to Chapter 6 Define Backup Specifications for more information.

Date/Time

Shows, for type Full backups, the date and time the Backup was created.

Note: The date/time is stored in UTC format and displayed in the local system's time zone.

The user can select the following options:

DISPLAY OPERATIONS

Option 2 (Change)

Allows the user to make changes to some of the Backup's attributes. Note that changes are made to the Backup Job on the Remote System. Only type F (Full) Backups can be changed.

Option 4 (Delete)

Allows the user to delete the Backup from the Remote System.

Option 5 (List Backup/Obj)

For type F (Full) Backups, the contents of the Backup Job are displayed. The contents of the backup can be displayed or restored. Refer to Chapter 10 Display Saved Library Objects or Chapter 11 Display Saved IFS Objects for more information.

For type G (Group) Backups, a list of the Initial and Changes Backups is shown. The user can select and process each Backup individually.

Option 6 (Restore)

Allows the user to restore the Backup or its objects to the Local System.

Option 8 (Display)

For type F (Full) Backups, the attributes of the Backup Job are displayed.

For type G (Group) Backups, various statistics (sizes, times) are displayed.

F3 (Exit)

Press F3 to exit.

F4 (Mass Change)

Allows the user to make changes to several Backups at once. Place a 2 by all desired backups to be changed and press F4 to be prompted.

F6 (DSPMSG)

Press F6 to execute the IBM **DSPMSG** (Display Messages) command.

F7 (DSPJOBLOG)

Press F7 to execute the IBM **DSPJOBLOG** (Display JobLog) command.

F8 (WRKSBMJOB)

Press F8 to execute the IBM **WRKSBMJOB** (Work with Submitted Jobs) command.

F12 (Cancel)

Press F12 to cancel the current operation.

REMOTE BACKUP ORGANIZER for IBM i™

Display Backup Jobs in a Backup Group

If option 5 (Display) is selected for a Backup Group entry, a list of Backup Jobs (Initial and Changes) will be shown. The following screen should appear:

```
Rmt System:  ATLANTANW          Backup Jobs in Backup Group          1/18/20
2=Change  4=Delete  5=List Objs  6=Restore  8=Display          10:07:50
X T Bkup Name  Date/Time
_ I ATLDAILY   11/29/19 08:05:34
_ C ATLDAILY   11/30/19 08:05:37
_ C ATLDAILY   12/01/19 08:05:31

F3=Exit  F4=Mass Change  F6=DSPMSG  F7=DSPJOBLOG  F8=WRKSBMJOB  F12=Cancel
Copyright 2018, 2020 Broderick Data Systems
```

The above Columns have the following definitions:

T (Type)

Specifies the type of Backup Job. Refer to the Backup Specification defined on the Remote System for more information. The backup can be one of the following types:

I (Initial): The Backup is the Initial backup for the Backup Group. All specified objects are saved.

C (Changes): The Backup is a Changes backup for the Backup Group. Only specified objects meeting the specified changes will be saved. Refer to IBM Saved Changed Objects documentation for more information.

Bkup Name

Shows the Backup Specification name. Refer to Chapter 6 Define Backup Specifications for more information.

Date/Time

Shows the date and time the Backup was created.

Note: The date/time is stored in UTC format and displayed in the local system's time zone.

The user can select the following options:

Option 2 (Change)

Allows the user to make changes to some of the Backup's attributes. Note that changes are made to the Backup Job on the Remote System.

DISPLAY OPERATIONS

Option 4 (Delete)

Allows the user to delete the Backup from the Remote System.

Option 5 (List Backup/Obj)

The contents of the Backup Job are displayed. The contents of the backup can be displayed or restored. Refer to Chapter 10 Display Saved Library Objects or Chapter 11 Display Saved IFS Objects for more information.

Option 6 (Restore)

Allows the user to restore the Backup or its objects to the Local System.

Option 8 (Display)

The attributes of the Backup Job are displayed.

F3 (Exit)

Press F3 to exit.

F4 (Prompt)

Allows the user to make changes to several Backups at once. Place a 2 by all desired backups to be changed and press F4 to be prompted.

F6 (DSPMSG)

Press F6 to execute the IBM **DSPMSG** (Display Messages) command.

F7 (DSPJOBLOG)

Press F7 to execute the IBM **DSPJOBLOG** (Display JobLog) command.

F8 (WRKSBMJOB)

Press F8 to execute the IBM **WRKSBMJOB** (Work with Submitted Jobs) command.

F12 (Cancel)

Press F12 to cancel the current operation.

Change Session Settings

If when running the **WRKCLDBAK** command the Session Settings key is pressed, the Session Settings display is shown. The user can change the current display settings. The following screen should appear:

REMOTE BACKUP ORGANIZER for IBM i™

Remote Backup Organizer for IBM i (TM)	1/18/20
Change Session Settings	10:52:12
Source System Name: <u>LEXINGTON</u>	
F3=Exit F12=Cancel Current Operation	
Copyright 2018, 2020 Broderick Data Systems	

The above Columns have the following definitions:

Source System Name

Specifies the Source System name to pass to the Remote System for requests. This allows the user to work with Backups on the Remote System that were created by another system.

F3 (Exit)

Press F3 to exit.

F12 (Cancel)

Press F12 to cancel the current operation.

Restore Displayed Objects

If when running the **WRKCLDBAK** command the Session Settings key is pressed, the Session Settings display is shown. The user can change the current display settings. A screen similar to the following should appear:

DISPLAY OPERATIONS

Remote Backup Organizer for IBM i (TM)		1/22/20
Restore a Backup or Backup Group		10:14:28
Backup Type/Name/Date:	G TGRP1	
Save Command:	SAVLIB	Saved Library: ***LIST***
Restore Command:	<u>*LIB</u>	*LIB, *OBJ
Job Description:	<u>*DFT</u>	Name, *DFT, *INTER
		Name, *LIBL
Prompt SBMJOB:	<u>N</u>	Y, N
Error Option:	<u>*SKIP</u>	*END, *SKIP
F3=Exit F12=Cancel Current Operation		
Copyright 2018, 2020 Broderick Data Systems		

The above parameters have the following definitions:

Backup Type/Name/Date

Shows, for Backups created in the BDS Cloud, the Backup identifier. The Type (Full or Group), Name, and Date/Time are shown.

Save Command

Shows the IBM Base command used to create the backup. One of the following IBM i commands will be shown:

- SAVLIB
- SAVOBJ
- SAVCHGOBJ
- SAV
- SAVSYSINF

Note: The restore parameters shown are based on which IBM base command was used to create the Backup.

Saved Library

Shows, for Backups created using an IBM Save Library Objects command, the Library that was saved.

Specify the following parameters:

Restore Command

Specify, for Backups created using an IBM **SAVLIB** base command, if the OS base command for the restore is a RSTLIB or a RSTOBJ. Specify one of the following:

REMOTE BACKUP ORGANIZER for IBM i™

***LIB:** The IBM **RSTLIB** base command is used to restore the objects.

***OBJ:** The IBM **RSTOBJ** base command is used to restore the objects.

Job Description

Specify the Job Description to use to submit the Backup operation to batch. IBM Job Descriptions allow the user to specify values such as logging values and execution Job Queue and priority. The specified Job Description must exist. Specify one of the following:

***DFT:** The default Job Description value contained on the Tailoring Options display is used. Run the command **BDSRMBK/BRBSETUP** to see the default Job Description value.

***INTER:** The restore operation is executed interactively. No job description is needed.

name

Specifies the job description name.

library

Specifies the library. Specify a name or the following:

***LIBL:** The job's library list is searched for the specified job description.

Prompt SBMJOB

Specifies if the user will be prompted for additional SBMJOB parameters if the restore request is run in batch. This parameter is ignored if the restore request is run interactively. Specify one of the following:

N: The user will not be prompted for additional SBMJOB parameters.

Y: The user will be prompted for additional SBMJOB parameters.

Error Option

Specifies, for restores of a Backup Group, the action to be taken if an escape message is returned during an OS base restore operation. Please note that when restoring objects from a Backup Group, a separate OS base restore operation (RSTLIB, RSTOBJ, etc.) is performed for each Backup Job within the Backup Group. Specify one of the following:

***SKIP:** The restore operation will continue with the next Backup Job in the Backup Group.

***END:** The restore request will end.

Note: Some escape messages may occur due to conditions considered normal operation. For example, some owner changes cause the OS base restore operation to return an escape message even though all objects were restored. The user should consider this when determining whether to continue or end the restore request.

DISPLAY OPERATIONS

Restore to Directory

Specifies, for Backups created using an IBM **SAV** base command, the IFS directory where you want the objects restored. Specify one of the following:

***SAME:** Restore the objects into the same directory from which they were saved.

directory-name: Specify the directory to restore the objects. The name must begin with a forward slash (i.e. /Dir1/Dir3).

F3 (Exit)

Press F3 to exit.

F12 (Cancel)

Press F12 to cancel the current operation.

DISPLAY SAVED LIBRARY OBJECTS

If any the following Remote Backup Organizer for IBM i display operations are run and the Backup Job contains Library Objects, a Library Objects Display session is started.

- Save Library commands (SAVLIBxxx)
- Save Objects commands (SAVOBJxxx)
- Save Changed Objects commands (SAVCHOBxxx)
- Save System Information commands (SAVSYINxxx)

The user can display, restore and display the attributes of a Backup Job's library objects.

Library Display

If the Backup Job contains more than one Library, the following screen will appear:

```
Remote Backup Organizer (TM)   BDS Remote Backup Library Display   1/18/20
  Saved                               17:11:15
  Library
  _ MAB2
  _ MAB3

  5=Dsp Entries  6=Restore  8=Display
  F3=Exit  F16=Dsp Hdr  F6=DSPMSG  F7=DSPJOBLOG  F8=WRKSBMJOB  F12=Return
  Copyright 2018, 2020 Broderick Data Systems
```

The above Columns have the following definitions:

Saved Library

Shows the name of the Library that was saved.

The user can select the following options:

Option 5 (Dsp Entries)

Take option 5 to retrieve and display the list of Backup Jobs contained on the Remote System. The user can work with (display, change, delete) or restore the objects in the Backup Jobs. See the section Display Remote System Backup Jobs below for more information.

Option 6 (Restore)

Take option 6 restore the selected libraries into a specified library. Multiple libraries can be selected at once. See **Restore Options** in this chapter for more information.

REMOTE BACKUP ORGANIZER for IBM i™

Note: If the restore option is selected, no other options can be selected.

Option 8 (Display)

Take option 8 display the library's attributes

F3 (Exit)

Press F3 to exit.

F6 (DSPMSG)

Press F6 to execute the IBM **DSPMSG** (Display Messages) command.

F7 (DSPJOBLOG)

Press F7 to execute the IBM **DSPJOBLOG** (Display JobLog) command.

F8 (WRKSBMJOB)

Press F8 to execute the IBM **WRKSBMJOB** (Work with Submitted Jobs) command.

F12 (Return)

Press F12 to return to the previous screen.

F18 (Disp Specs)

Press F18 to show the specifications display, which allows the user to narrow down the list of displayed Remote Systems.

Object Display

If the Backup Job only contains one library or the user displays a library on the Library list screen (see above), the following screen will appear:

DISPLAY SAVED LIBRARY OBJECTS

```
Remote Backup Organizer for IBM i (TM)  BDS Object Display  1/18/20
Library saved: EDSBASE  09:25:55
Object      Type      Attribute  Owner      Size (K)  Data
- BSOBATCH  *CLS      QSECOFR   QSECOFR    8 YES
- BSOBDLMGR *CLS      QSECOFR   QSECOFR    8 YES
- BSOIDXMGR *CLS      QSECOFR   QSECOFR    8 YES
- BSO40     *CLS      QSECOFR   QSECOFR    8 YES
- BXFER40   *CLS      QSECOFR   QSECOFR    8 YES
- BDSUSRPRF *CMD      QSECOFR   QSECOFR    8 YES
- EDSBDS    *SBSD     QSECOFR   QSECOFR    72 YES
- BDSUSRPRF *USRSPC   BDS       QSECOFR    3808 YES

5=Dsp Entries  6=Restore  8=Display
F3=Exit  F16=Dsp Hdr  F6=DSPMSG  F7=DSPJOBLOG  F8=WRKSBMJOB  F18=Disp Specs
Copyright 2018, 2020 Broderick Data Systems
```

The above Columns have the following definitions:

Library Saved

Shows the name of the Library that was saved.

Object

Shows the name of the object that was saved.

Type

Shows the type of the object that was saved. Refer to IBM documentation for more information.

Attribute

Shows the subtype of the object that was saved, if any.

Owner

Shows the owner of the object that was saved.

Size (K)

Shows the approximate size of the object in kilobytes that was saved.

Data

Shows if the object's data was saved during the save operation.

The user can select the following options:

Option 5 (Dsp Entries)

Take option 5 to display a list of members or spool entries contained in the object. This option is only

REMOTE BACKUP ORGANIZER for IBM i™

valid for Outqsr or Database files.

Option 6 (Restore)

Take option 6 restore the selected objects into a specified library. Multiple objects can be selected at once. See Restore Options in this chapter for more information.

Note: If the restore option is selected, no other options can be selected.

Option 8 (Display)

Take option 8 display the object's attributes

F3 (Exit)

Press F3 to exit.

F6 (DSPMSG)

Press F6 to execute the IBM **DSPMSG** (Display Messages) command.

F7 (DSPJOBLOG)

Press F7 to execute the IBM **DSPJOBLOG** (Display JobLog) command.

F8 (WRKSBMJOB)

Press F8 to execute the IBM **WRKSBMJOB** (Work with Submitted Jobs) command.

F12 (Return)

Press F12 to return to the previous screen.

F16 (Disp Hdr)

Press F16 to show the library header attributes (save date, etc.).

F18 (Disp Specs)

Press F18 to show a screen that allows the user to enter search specifications that limit the displayed objects. Refer to Change Object Display Specifications in this chapter for more information.

Attribute Display

If the user selects the option to display an object's attributes, following screen will appear:

DISPLAY SAVED LIBRARY OBJECTS

```
Remote Backup Organizer for IBM i                                1/18/20
Object Attributes                                              10:50:32

Obj Name/Lib: BDSUSRPRF   BDSBASE   Save ASP: 1   *SYSBAS
Type: *CMD
Attribute:
Text: User Profile Coordinator
Size: 8,192
System: LEXINGTON
Saved, Tgt Release: V7R2M0   V7R2M0
Saved Date/Time: 01/19/2020 09:25:44
Owner: QSECOFR
Successful Save: Yes

F3=Exit  F12=Return
Copyright 2018, 2020 Broderick Data Systems
```

The above fields have the following definitions:

Obj Name/Lib

Shows the object name and library.

Save ASP

Shows the ASP number and Device Name where the object resided.

Type

Shows the object type (*FILE, *DTAARA, etc.).

Attribute

Shows the object subtype.

Text

Shows the object's descriptive text.

Size

Shows the size of the object that was saved in bytes.

System

Shows the name of the system containing the object that was saved.

Saved, Tgt Release

Shows the saved system's version (V7R4M0, etc.) and the TGTRLS (target release) parameter specified during the save.

REMOTE BACKUP ORGANIZER for IBM i™

Saved Date/Time

Shows the date and time the object was saved.

Owner

Shows the owner of the object that was saved.

Successful Save

Shows if the object save completed successfully.

The user can select the following options:

Option 5 (Dsp Entries)

Take option 5 to display a list of members or spool entries contained in the object. This option is only valid for Outqs or Database files.

Option 6 (Restore)

Take option 6 restore the selected objects into a specified library. Multiple objects can be selected at once. See Restore Options in this chapter for more information.

Note: If the restore option is selected, no other options can be selected.

Option 8 (Display)

Take option 8 display the object's attributes

F3 (Exit)

Press F3 to exit.

F6 (DSPMSG)

Press F6 to execute the IBM **DSPMSG** (Display Messages) command.

F7 (DSPJOBLOG)

Press F7 to execute the IBM **DSPJOBLOG** (Display JobLog) command.

F8 (WRKSBMJOB)

Press F8 to execute the IBM **WRKSBMJOB** (Work with Submitted Jobs) command.

F12 (Return)

Press F12 to return to the previous screen.

F16 (Disp Hdr)

Press F16 to show the library header attributes (save date, etc.).

DISPLAY SAVED LIBRARY OBJECTS

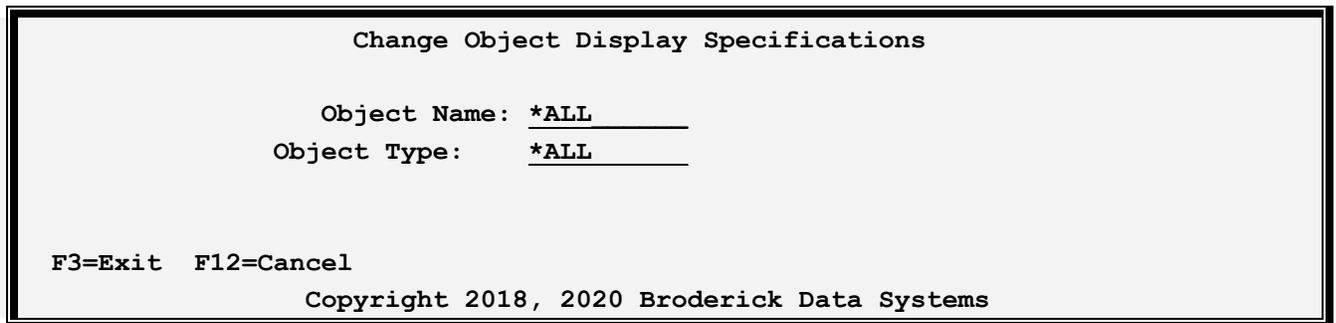
F18 (Disp Specs)

Press F18 to show a screen that allows the user to enter search specifications that limit the displayed objects. Refer to Change Object Display Specifications in this chapter for more information.

Change Object Display Specifications

If the user presses F18 on an object display screen the Change Display Specifications screen will appear. The Change Display Specifications screen allows the user to display a subset of the entries. Specify a value other than *ALL to use the field as a criteria to reduce the number of entries displayed.

:



```
Change Object Display Specifications

Object Name: *ALL
Object Type:  *ALL

F3=Exit  F12=Cancel

Copyright 2018, 2020 Broderick Data Systems
```

The above Columns have the following definitions:

Object Name

Specifies the name of the object to display.

Object Type

Shows the type of the object to display. Refer to IBM documentation for more information.

F3 (Exit)

Press F3 to exit.

F12 (Cancel)

Press F6 to cancel the current operation.

Display Saved File Members/Spool Entries

If the saved object type is an output queue or a database file (physical or logical), its spool entry list or

REMOTE BACKUP ORGANIZER for IBM i™

member list can be displayed. Select the option to display the object and one of the following screens will appear:

```
                Display Saved File Members                1/18/20
                File: ACFL250312                        08:56:47
                File Type: PF
                Members Saved:          1
Member      Member      Member      Member      Member      Member
ACFL250312

F3=Exit  F12=Cancel
                Copyright 2018, 2020 Broderick Data Systems
```

```
                Display Saved Spool Entries                1/18/20
                                                    09:03:20
                Creation      Creation
                File      Number      Job      User      Number      Date      Time
XF203W      0001      XFWEEKLY      QSYSOPR      659335      01/18/20      09:32:03

F3=Exit  F12=Cancel
                Copyright 2018, 2020 Broderick Data Systems
```

F3 (Exit)

Press F3 to exit.

F12 (Cancel)

Press F12 to cancel the current operation.

DISPLAY SAVED IFS OBJECTS

If a Remote Backup Organizer display operation is run and the Backup Job contains IFS Objects, an IFS Objects Display session is started.

- DSPRMBKIFS (Display Backup in IFS) command
- DSPRMBKNEAT (Display Backup on Network) command
- WRKCLDBAK (Work with Backups in BDS Cloud) command

The user can display, restore and display the attributes of a Backup Job's IFS objects. The following screen will appear:

```
Remote Backup Organizer   BDS Remote Backup Object Display   1/18/20
  Display Level: 1                               11:13:40
    Directory: /

X Object                Type      Owner      Size Data
_ EDSBDS                *DIR     QSECOFR    8192 Yes
_ MAB2                  *DIR     MAB        8192 Yes

5=Display objects in subdir 6=Restore 8=Display object information
F3=Exit F6=DSPMSG F7=DSPJOBLOG F8=WRKSBMJOB F16=Dsp Hdr
Copyright 2018, 2020 Broderick Data Systems
```

The above Columns have the following definitions:

Directory

Shows the directory containing the objects saved.

Object

Shows the name of the object that was saved.

Type

Shows the type of the object (*DIR, *STMF, etc.) that was saved. Refer to IBM documentation for more information.

Owner

Shows the owner of the object that was saved.

Size

Shows the approximate size of the object in bytes that was saved.

Data

REMOTE BACKUP ORGANIZER for IBM i™

Shows if the object's data was saved during the save operation.

The user can select the following options:

Option 5 (Display objects in subdir)

Take option 5 to display a list of objects contained in the subdirectory object. This option is only valid for directories (*DIR).

Option 6 (Restore)

Take option 6 to restore the selected objects into the IFS. Multiple objects can be selected at once. See Restore Options in this chapter for more information.

Note: If the restore option is selected, no other options can be selected.

Option 8 (Display)

Take option 8 display the object's attributes

F3 (Exit)

Press F3 to exit.

F6 (DSPMSG)

Press F6 to execute the IBM **DSPMSG** (Display Messages) command.

F7 (DSPJOBLOG)

Press F7 to execute the IBM **DSPJOBLOG** (Display JobLog) command.

F8 (WRKSBMJOB)

Press F8 to execute the IBM **WRKSBMJOB** (Work with Submitted Jobs) command.

F12 (Return)

Press F12 to return to the previous screen.

F16 (Disp Hdr)

Press F16 to show the Backup Job's header attributes (save date, etc.).

Attribute Display

If the user selects the option to display an object's attributes, following screen will appear:

DISPLAY SAVED IFS OBJECTS

Remote Backup Organizer for IBM i		1/18/20
Object Attributes		11:38:06
Object Name:	EDSBDS	
Size:	8,192	
Save ASP:	1	*SYSBAS
Object Type:	*DIR	
Object Owner:	QSECOFR	
Text:		
Successful Save:	Yes	
Save Data:	Yes	
F3=Exit F12=Cancel		
Copyright 2018, 2020 Broderick Data Systems		

The above fields have the following definitions:

Object Name

Shows the object name.

Size

Shows the size of the object that was saved in bytes.

Save ASP

Shows the ASP number and Device Name where the object resided.

Object Type

Shows the object type (*DIR, *STMF, etc.).

Object Owner

Shows the owner of the object that was saved.

Text

Shows the object's descriptive text.

Successful Save

Shows if the object save completed successfully.

Save Data

Shows if the object's data was saved during the save operation.

The user can select the following options:

REMOTE BACKUP ORGANIZER for IBM i™

F3 (Exit)

Press F3 to exit.

F12 (Return)

Press F12 to return to the previous screen.

APPENDIX A: ELECTRONIC MEDIA DISTRIBUTION

The user can distribute **Remote Backup Organizer for i** media from one system to remote systems electronically. Thus the user can install or update Remote Backup Organizer on similar remote systems. A working **APPC/APPN** or **TCP** link to the remote system, and a file transfer program such as **FileXfer3X/400** or **FTP** is needed to do this. Below are the steps you must perform to transmit Remote Backup Organizer to remote systems. **Please note** that a thorough knowledge of the operating systems involved is suggested.

The **iSeries** media consists of **1** library:

RMBK40

The steps to distribute Remote Backup Organizer are:

Source System

- 1) Restore library **RMBK40** from the **BDS**. Media. For optical disk, the library is contained in optical file **RMBK40**. For zip files, the library **RMBK40** is contained in file **RMBK40I.SAVF** in the downloaded zip file and must be uploaded into a save file prior to restoring library **RMBK40**.

Note: You must be signed on as a user with ***SECADM** authority when performing the restores.

- 2) Create a save file **SAVRMBK**.
- 3) Save library **RMBK40** into save file **SAVRMBK**.
- 4) Delete the library **RMBK40**.
- 5) Transmit the save file to the remote system(s).

Remote System(s)

- 1) Create and receive the transmitted save files, if necessary.
- 2) Proceed with the update or install instructions with the following:

When requested to restore the install or update objects into library **QTEMP**, use the save file option. Enter save file **SAVRMBK**.

When executing the install or update command (**BRBINS** or **BRBUPD**) use the save file option. Enter save file **SAVRMBK**.

Remote Backup Organizer will be installed or updated.

OS/400 E-MAIL SETUP

To be able to send spool entries via E-Mail to internet users, OS/400 must be set up properly. Below are some OS/400 setup suggestions for OS/400 version 4. For more information contact your E-Mail server's tech support team or IBM.

Sending Mail

To send mail on the AS/400, verify the following steps have been performed.

- 1) Verify the following OS/400 tasks are active:

TCP/IP	STRTCP
SMTP	STRTCPSVR *SMTP
MSF	STRMSF

- 2) Determine the system name of your installations Mail Server. Verify the AS/400 can communicate to it via TCP/IP. For example:

GO CFGTCP

Select option 10, "Work with TCP host table entries"

Add the E-Mail server if necessary.

PING xxxx (xxxx is the E-Mail server's Host Name)

- 3) Add a special directory entry name:

```
ADDIRE USRID(INTERNET GATEWAY) USRD('Send mail') SYSNAME(TCPIP)  
MSFSRVLVL(*USRIDX) PREFADR(NETUSRID *IBM ATCONXT)
```

- 4) Change your distribution attributes:

```
CHGDSTA SMTPRTE(INTERNET GATEWAY)
```

- 5) Change your SMTP attributes:

```
CHGSMTPA SYSNAME(TCPIP) MAILROUTER(mail.router.name) FIREWALL(*YES)  
FWDHUBSVR(mail.router.name)
```

If you have a firewall or proxy server, enter the **mail router** and **firewall** parameters.

mail.router.name is your E-mail server and is in your Host Table (step 2)

Note: The **FWDHUBSVR** parameter applies to V7R1 and later.

E-MAIL UTILITIES™

- 6) If changes are made, stop and restart IBM components:

```
ENDTCPSVR *SMTP
ENDMSF
STRTCPSVR *SMTP
STRMSF
```

- 7) Verify your time zone. Enter the following command:

```
WRKSYSVAL QUTCOFFSET
```

Change the value if necessary. Common US time zones are:

	Standard	Daylight Savings
Eastern	-5:00	-4:00
Central	-6:00	-5:00
Mountain	-7:00	-6:00
Pacific	-8:00	-7:00

Note: You must remember to change this value when switching to and from Daylight Savings time.

- 8) To test your setup, use the following OS/400 command to send a test message:

```
SNDDST TYPE(*FILE) TOINTNET((user@company.com)) DSTD(D1)
      DOCFILE(BDSDATA/BEMHTM) DOCMBR(BEMHTM) DOCTYPE(*FFT)
      SNDFMT(*NOTE)
```

If you do not receive mail as a result of the above command, contact IBM or your network support personnel for assistance.

Preventing Split Messages

As shipped from IBM, OS/400 will split up large outgoing E-mail messages. The split message will appear to most browsers as several messages, each labeled in the message header as message/partial. The problem with this is most E-Mail viewers including Netscape Navigator, Internet Explorer, and Lotus Notes will not properly reassemble message parts back into one large message. To get around this IBM added a POP attribute in version V4R4. Enter the following command:

```
CHGPOPA (Press F4)
```

Change the "Message split size" parameter to *NOMAX. You must end and restart the POP server for the change to take effect (ENDTCPSVR *POP).

For OS/400 versions prior to V4R4, IBM released PTF **SF37157**, which will cause OS/400's POP server

OS/400 E-MAIL SETUP

to not split large messages. PTF SF37157 is very simple; to implement it you only need to create a data area. You may look up PTF SF37157 or enter the following command:

CRTDTAARA QUSRSYS/QTMSNOSPLT TYPE(*CHAR)

You must end and restart the POP server for the change to take effect (ENDTCPSVR *POP).

APPENDIX B: IFS AND QNTC EXAMPLE

The following example shows the steps needed to save and restore objects to/from the IBM Integrated File System (IFS). In this example, we will save a library into a stream file located in the IFS, display the saved data, and restore objects from the saved media file. This example will also show using the QNTC file system to access files contained on LAN-attached PC disks. This example assumes Remote Backup Organizer for i has been installed on the iSeries. Refer to Chapter 2, Installation for more information.

Note: To save/restore/display to PC files via QNTC, Remote Backup Organizer for Windows does **not** need to be installed on the PC.

Library Objects to IFS Example

Perform the following steps:

1) Access the Main Menu. Add library BDSRMBK to your library list. This will save you from having to enter the library qualifier for each command:

ADDLIBLE LIB(BDSRMBK)

Run the Main Menu command:

RBKADM (Press ENTER)

2) Tailoring Options. Take option 1 (Tailoring Options) to show the Setup Display. Note and make changes to the following fields if desired:

System Name
Default Encr Password
Restore Dft Job Desc

3) Run the Save command. Enter the **SAVLIBIFS** command and press F4 to prompt (or select the command off of the menu). Enter the following parameters:

Library Name (LIB): MYLIB
IFS Path/File name (IFSFILE): /MYDIR/MYFILE.BIN

Substitute your library name and IFS directory/file name. Press **ENTER** to execute the command.

It is recommended to look over the job log after running any save or restore operation. Enter the command **DSPJOBLOG** and press **ENTER**. Verify the desired objects were saved successfully.

4) Run the Display command. Enter the **DSPRMBKIFS** command and press F4 to prompt (or select the command off of the menu). Enter the following parameters:

IFS Path/File name (IFSFILE): /MYDIR/MYFILE.BIN

REMOTE BACKUP ORGANIZER for IBM i™

Substitute your library name and IFS directory/file name. Press **ENTER** to execute the command. The BDS Object Display will appear, showing a list of saved objects. Note the available options and command keys.

a) Display the File Header. Press F16 to show the Display Save Header screen. Certain attributes of the Backup are shown. Press **ENTER** to return.

b) Display Search Specs. Press F18 to show the Change Object Display Specifications screen. From here you can narrow down the list of objects displayed by showing only a certain object name or type. Press **ENTER** or press **F12** to return.

c) Display IBM Info. Press F6, F7, or F8 to show the IBM messages, job log or submitted jobs. Press **F12** to return.

d) Display Object Attributes. Select option 8 to display the Object Attributes screen. Certain attributes of the object are shown. Press **F12** to return.

e) Display Object Subentries. If your list of objects contains an outq or a database file (physical or logical), you can display its spool entries or members. Select option 5 to display the entries or members screen. Press **F12** to return.

f) Restore Objects. If Select option 6 (restore) for one or more objects and press **ENTER**. The Restore Objects screen appears. Enter the following:

Job Description: *INTER
Prompt SBMJOB: N

Press **ENTER**. The Restore Objects screen will appear. Enter the following:

Restore to library (RSTLIB): QTEMP

Enter other parameters if desired then press **ENTER**. When the restore operation is finished, the BDS Object Display screen will appear. Press F7 to display the job log and verify the operation completed successfully. Press F12 to return and press F12 to return to the command line.

5) Run the Restore command. Enter the **RSTLIBIFS** command and press F4 to prompt (or select the command off of the menu). Enter the following parameters:

Library Name (LIB): MYLIB
IFS Path/File name (IFSFILE): /MYDIR/MYFILE.BIN
Restore to library (RSTLIB): QTEMP

Substitute your library name and IFS directory/file name. Press **ENTER** to execute the command.

APPENDIX B: IFS AND QNTC EXAMPLE

It is recommended to look over the job log after running any save or restore operation. Enter the command **DSPJOBLOG** and press **ENTER**. Verify the desired objects were saved successfully.

6) Other commands. Enter the **RBKADM** (Remote Backup Organizer Administration) command if not already there. Note the other “To/From IFS File” Save, Restore, and Display commands listed on the menu screen.

QNTC Example

The QNTC file system is an iSeries feature that displays LAN-connected PCs and their hard disks (network shares) as subdirectories of the IFS directory /QNTC. Each participating PC will appear as a subdirectory of /QNTC. Each PC’s shared hard drives and network shares will appear as subdirectories to the PC directory, and so on. Thus, by knowing the directory structure, user applications can access files on LAN-attached PCs similar to accessing other IFS files.

Using the QNTC file system is easy, you access the PCs’ directories and files just like you would access any other IFS file. For example:

```
SAVLIBIFS LIB(MYLIB) IFSFILE('/QNTC/SVR01/SVR01C/MyDir/MySave.BIN')
CLEAR(*REPLACE)
```

QNTC and NetServer may need to be setup. To determine if they are setup, perform the following:

1) Display QNTC. Enter the following command:

```
WRKLNK      (Press ENTER)
```

A list of directories will appear. Scroll down until you see directory QNTC. Take option 5 to display directory QNTC. A list of directories should appear. Each directory represents a LAN-attached PC. If no directories are shown, or the desired PC is not shown, you will need to set up QNTC.

2) Display PC directories/files. Select a desired PC by taking option 5 (Display). A list of network shares defined on the PC should appear.

Note: If a single desired hard drive or directory does not appear in the list, you may need to enable sharing on the hard drive/directory. On the PC, go into File Explorer and select the device or directory, select properties, sharing, and create a share.

3) Display the iSeries IFS thru NetServer. From a PC, Start File Explorer. In the left pane, locate the Network icon and click on it to expand it. Your iSeries should appear in the list of network devices. If not, NetServer will need to be configured. Otherwise expand the iSeries icon. One of the subdirectories should be root, the IFS root directory. Expand directory root. Your iSeries IFS directory system is displayed. You may find it easier in some situations to work with IFS files from your PC via File Explorer and the root directory than from other methods.

REMOTE BACKUP ORGANIZER for IBM i™

4) Configure IBM i NetServer and QNTC. If you need to setup QNTC or NetServer, refer to online documentation such as IBM Knowledge Center, or contact you company support or IBM support. Expect to work closely with your company network personnel.

APPENDIX B: NETWORK FILE EXAMPLE

The following example shows the steps needed to save and restore objects to/from a Network File. In this example, we will save a library into a stream file located on a Windows PC. This example assumes Remote Backup Organizer has been installed on the iSeries and the Windows PC. Refer to Chapter 2, Installation and the Remote Backup Organizer for Windows Help for more information.

Library Objects to Network File Example

In this example the iSeries will save a library to a file on a Remote PC. To do this, you need to check some info on the PC, make a Remote System Description on the iSeries, and use the Save to Network File commands on the iSeries.

Perform the following steps on the PC:

1) Check/Set Settings. Click Start, BDS Remote Backup Organizer, Product Administration. Select Product Wide Settings. Write Down the following information:

Listen IP Address
Listen Port Number
Password

Make any changes if needed and press ENTER.

These values will be used later.

2) Start/Restart the BDS Server. Start a Control Panel session. Click Administrative Tools, Services. Click the BDS Remote Backup Organizer Server service. If you made any changes in the previous step, then click Restart if the service is running. Otherwise, click Start if the server is not running.

Note: The BDS Remote Backup Organizer Server service can also be started by Selecting Other Functions on the Product Administration display.

3) Verify Security Info. Click Start, BDS Remote Backup Organizer, Product Administration. Select Define Users. If there is a system/user value of *ANY/*ANY (which is not recommended), you will not need to enter your System Name and User Profile. Otherwise, note that you will need to return to this screen and enter them after identifying them on the iSeries (see below).

Perform the following steps on the iSeries:

1) Access the Main Menu. Add library BDSRMBK to your library list. This will save you from having to enter the library qualifier for each command:

ADDLIB LIB(BDSRMBK)

REMOTE BACKUP ORGANIZER for IBM i™

Run the Main Menu command:

RBKADM (Press ENTER)

2) Set Tailoring Options. Take option 1 (Tailoring Options) to show the Setup Display. Note and make changes to the following fields if desired:

System Name	Note 1
Dft. Encr Password:	Note 2
Restore Dft Job Desc	*INTER

Note 1: The System Name entered on this screen must match the Remote System's Security System Name/User entry. If the remote system's security does not have an entry with a value of *ANY in the system part (see above), you should go back and enter the specific security entries (i.e. MySys/MyUser) now.

Note 2: We recommend you specify a password here. Please note that the password is only used internally, users will not be asked this password. Also note users will not be asked for this password, and changing the password will not affect previously written data, it will still be accessible. You should specify a strong password. Save commands can override this setting if desired.

2) Create a Remote System Specification.

Take option 2 (Manage Remote System Specifications) and then press **ENTER** to show all Remote Systems. Press F6 to add a specification. Enter the following and press **ENTER**:

Remote System Name: MYPC

The Define Remote System screen will appear. Refer to the PC values you noted earlier (see above) and enter the following:

<u>Field</u>	<u>Value</u>	or	<u>PC Field</u>
Active:	A		
Host Name:			Listen IP Address (see note)
Server Password:			Password
Port Number			Listen Port Number
Encrypt Comm Data	Y		
Descriptive Text	My PC		

Note: If the Listen IP Address field on the PC is not blank, you must specify it on the Remote System Spec. If it is not blank, you can specify any IP address or Host Name associated with the PC.

Press **ENTER** to save the specification. Press F3 to end the add session. You should now see MYPC

APPENDIX B: NETWORK FILE EXAMPLE

in the list of specs. Press F3 to return to the menu.

2) Run the Save command. Enter the **SAVLIBNET** command and press F4 to prompt (or select the command off of the menu). Enter the following parameters:

Library Name (LIB): MYLIB
Remote System Spec Name (RSS): MYPC
Network Path/File name (NETFILE): D:\MYDIR\MYFILE.BIN

Substitute your library name and Network Path/file name. Press **ENTER** to execute the command.

It is recommended to look over the job log after running any save or restore operation. Enter the command **DSPJOBLOG** and press **ENTER**. Verify the desired objects were saved successfully.

2) Run the Display command. Enter the **DSPRMBKNET** command and press F4 to prompt (or select the command off of the menu). Enter the following parameters:

Remote System Spec Name (RSS): MYPC
Network Path/File name (NETFILE): D:\MYDIR\MYFILE.BIN

Substitute your library name and Network Path/file name. Press **ENTER** to execute the command. The BDS Object Display will appear, showing a list of saved objects. Note the available options and command keys.

a) Display the File Header. Press F16 to show the Display Save Header screen. Certain attributes of the Backup are shown. Press **ENTER** to return.

b) Display Search Specs. Press F18 to show the Change Object Display Specifications screen. From here you can narrow down the list of objects displayed by showing only a certain object name or type. Press **ENTER** or press **F12** to return.

c) Display IBM Info. Press F6, F7, or F8 to show the IBM messages, job log or submitted jobs. Press **F12** to return.

d) Display Object Attributes. Select option 8 to display the Object Attributes screen. Certain attributes of the object are shown. Press **F12** to return.

e) Display Object Subentries. If your list of objects contains an outq or a database file (physical or logical), you can display its spool entries or members. Select option 5 to display the entries or members screen. Press **F12** to return.

f) Restore Objects. If Select option 6 (restore) for one or more objects and press **ENTER**. The Restore Objects screen appears. Enter the following:

Job Description: *INTER

REMOTE BACKUP ORGANIZER for IBM i™

Prompt SBMJOB: N

Press **ENTER**. The Restore Objects screen will appear. Enter the following:

Restore to library (RSTLIB): QTEMP

Enter other parameters if desired then press **ENTER**. When the restore operation is finished, the BDS Object Display screen will appear. Press F7 to display the job log and verify the operation completed successfully. Press F12 to return and press F12 to return to the command line.

3) Run the Restore command. Enter the **RSTLIBNET** command and press F4 to prompt (or select the command off of the menu). Enter the following parameters:

Library Name (LIB): MYLIB
Remote System Spec Name (RSS): MYPC
Network Path/File name (NETFILE): D:\MYDIR\MYFILE.BIN
Restore to library (RSTLIB): QTEMP

Substitute your library name and Network Path/file name. Press **ENTER** to execute the command.

It is recommended to look over the job log after running any save or restore operation. Enter the command **DSPJOBLOG** and press **ENTER**. Verify the desired objects were saved successfully.

3) Other commands. Note the other “To/From Network File” Save, Restore, and Display commands listed on the menu screen.

APPENDIX B: BDS PERSONAL CLOUD EXAMPLE

The following example shows the steps needed to setup and save and restore objects to/from your BDS Personal Cloud. This example assumes Remote Backup Organizer has been installed on the iSeries and the Windows PC machines. Refer to Chapter 2, Installation and the Remote Backup Organizer for Windows Help for more information.

The Example System

In this example the iSeries will save library and IFS objects to a BDS Personal Cloud. Remote Backup Organizer is installed on the iSeries and on 2 Windows servers.

Example System

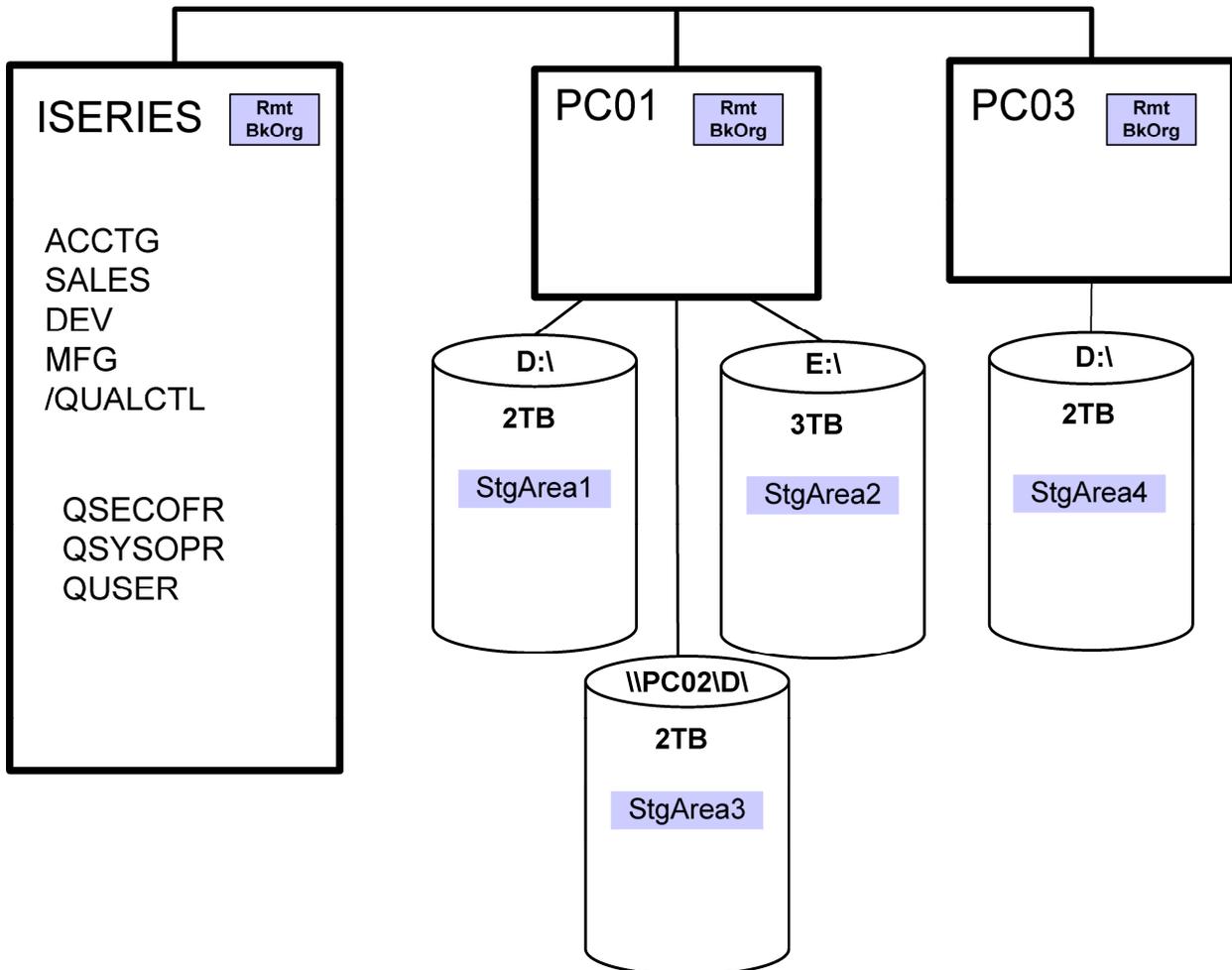


Figure B-3-1: Example System

In this example we have the following objectives:

REMOTE BACKUP ORGANIZER for IBM i™

- Save libraries ACCTG, SALES, and MFG. Make a full save every month, and save changes nightly. Save the libraries to PC01, and spread the saves in areas across the 3 attached hard drives. Keep the backups for at least 3 months.
- Save library DEV nightly. Save the library to PC01, and spread the saves in areas across the 3 attached hard drives. Keep the last 10 backups.
- Save IFS directory /QUALCTL. Make a full save every month, and save changes nightly. Save the directory to PC01, and spread the saves in areas across the 3 attached hard drives.
- Save ACCTG, SALES, MFG. Make a full save every month to PC03. Keep at least 6 iterations of the backup.
- Save /QUALCTL. Make a full save every month to PC03. Keep at least 6 iterations of the backup.
- Encrypt data written to the PC hard drives. Encrypt transmissions between PC03 and the iSeries. There is no need to encrypt transmissions between PC01 and the iSeries.
- Allow only user profiles QSECOFR, QSYSOPR and QUSER access to the Remote Backup Organizer Backups.

Perform the following steps on PC01:

1) Check/Set Settings. Click Start, BDS Remote Backup Organizer, Product Administration. Select Define Product-wide Settings. Write Down the following information:

Listen IP Address
Listen Port Number
Password

Make any changes if needed and press ENTER.

These values will be used later.

2) Start/Restart the BDS Server. Start a Control Panel session. Click Administrative Tools, Services. Click the BDS Remote Backup Organizer Server service. If you made any changes in the previous step, then click Restart if the service is running. Otherwise, click Start if the server is not running.

Note: The BDS Remote Backup Organizer Server service can also be started by Selecting Other Functions on the Product Administration display.

3) Create Storage Areas and Groups. Click Start, BDS Remote Backup Organizer, Product

APPENDIX B: BDS PERSONAL CLOUD EXAMPLE

Administration. Select Define Local Storage Areas and Groups.

a) Define Storage Areas. Click File, New Storage Area. Name the Storage Area StgArea1 and Click OK. On the Storage Area Specification panel, enter the following:

Path Name: Click Browse. Locate and expand the D drive. Right-click on the D drive and click New, Folder. Name the folder StgArea1, make sure it is selected, and click OK.

Maximum Size: *NOMAX

Description: Storage Area 1

Click Accept to create the Storage Area specification StgArea1.

Repeat the above steps for StgArea2, placing it on hard disk E: and StgArea3, placing it on [\\PC02\D](#). When complete exit back to the Storage Areas and Groups display, you should see the 3 Storage Areas in the upper portion of the screen.

b) Define a Storage Group. Click File, New Storage Area Group. Name the Storage Area Group StgGroup1 and Click OK. On the Storage Area Group Specification panel, enter a Description and then click File, New Storage Area. Click the Select button, then double-click StgArea1 in the list to select it. Click Accept to add StgArea1 to the list.

Perform the following steps on PC03:

1) Check/Set Settings. Click Start, BDS Remote Backup Organizer, Product Administration. Select Define Product-wide Settings. Write Down the following information:

Listen IP Address
Listen Port Number
Password

Make any changes if needed and press ENTER.

These values will be used later.

2) Start/Restart the BDS Server. Start a Control Panel session. Click Administrative Tools, Services. Click the BDS Remote Backup Organizer Server service. If you made any changes in the previous step, then click Restart if the service is running. Otherwise, click Start if the server is not running.

Note: The BDS Remote Backup Organizer Server service can also be started by Selecting Other Functions on the Product Administration display.

3) Create Storage Area. Click Start, BDS Remote Backup Organizer, Product Administration.

REMOTE BACKUP ORGANIZER for IBM i™

Select Define Local Storage Areas and Groups.

a) Define Storage Areas. Click File, New Storage Area. Name the Storage Area StgArea4 and Click OK. On the Storage Area Specification panel, enter the following:

Path Name: Click Browse. Locate and expand the D drive. Right-click on the D drive and click New, Folder. Name the folder StgArea1, make sure it is selected, and click OK.

Maximum Size: *NOMAX

Description: Storage Area 4

Click Accept to create the Storage Area specification StgArea4.

Perform the following steps on the iSeries:

1) Access the Main Menu. Add library BDSRMBK to your library list. This will save you from having to enter the library qualifier for each command:

ADDLIBLE LIB(BDSRMBK)

Run the Main Menu command:

RBKADM (Press ENTER)

2) Set Tailoring Options. Set and display product-wide values. Take option 1 (Tailoring Options) to show the Setup Display. Note and make changes to the following fields if desired:

System Name:	Note 1
Dft. Encr Password:	Note 2
Restore Dft Job Desc:	*INTER

Note 1: The System Name entered on this screen must match the Remote System's Security System Name/User entry (see below). The System Name entered on this screen does not need to match the Network Attribute (DSPNETA) though it is recommended.

Note 2: Since one of the objectives is to encrypt all save data written to disk, you should specify a password here. Please note that the password is only used internally, users will not be asked this password. Also note users will not be asked for this password, and changing the password will not affect previously written data, it will still be accessible. You should specify a strong password. Save commands can override this setting if desired.

2) Create Remote System Specifications. Take option 2 (Manage Remote System Specifications) and then press ENTER to show all Remote Systems. Press F6 to add a specification. Enter the following and press **ENTER**:

APPENDIX B: BDS PERSONAL CLOUD EXAMPLE

Remote System Name: PC01

The Define Remote System screen will appear. Enter the following (Refer to the values for PC01 recorded above):

<u>Field</u>	<u>Value</u>	or	<u>PC Field</u>
Active:	A		
Host Name:			Listen IP Address (see note)
Server Password:			Password
Port Number:			Listen Port Number
Encrypt Comm Data:	N		
Descriptive Text:	PC01		

Note: If the Listen Port IP Address field on the PC is not blank, you must specify that IP address on this Remote System Spec. If it is not blank, you can specify any IP address or Host Name associated with this PC.

Press **ENTER** to save the specification.

Enter the following and press **ENTER**:

Remote System Name: PC03

The Define Remote System screen will appear. Enter the following (Refer to the values for PC03 recorded above):

<u>Field</u>	<u>Value</u>	or	<u>PC Field</u>
Active:	A		
Host Name:			Listen IP Address (see note)
Server Password:			Password
Port Number:			Listen Port Number
Encrypt Comm Data:	Y		
Descriptive Text:	PC03		

Note: If the Listen Port IP Address field on the PC is not blank, you must specify that IP address on this Remote System Spec. If it is not blank, you can specify any IP address or Host Name associated with this PC.

Press **ENTER** to save the specification.

Press **F3** to end the add session. You should now see PC01 and PC03 in the list of Remote Systems. Press **F3** to return to the menu.

3) Create Backup Specifications. Take option 3 (Manage Backup Specifications) and then press **ENTER** to show all Backup Specifications. Press **F6** to add a specification.

REMOTE BACKUP ORGANIZER for IBM i™

a) Libraries ACCTG, SALES, and MFG to PC01: Name the specification PRD_IC (Production Libraries, Init/Chgs) and press **ENTER**. Enter the following:

Active:	A
Backup Type:	G
Storage Area Type/Name:	G StgGroup1
Retention Type/Value:	NM 3
Disk Encr Passwr:	*DFT
Descriptive Text:	Save ACCTG, SALES, MFG to PC01

Press **ENTER**. On the Libraries to Save screen, enter the following:

ACCTG
SALES
MFG

Press F6 to save the specification.

b) Library DEV to PC01: Name the specification DEV (Development Library) and press **ENTER**. Enter the following:

Active:	A
Backup Type:	F
Storage Area Type/Name:	G StgGroup1
Retention Type/Value:	NI 10
Disk Encr Passwr:	*DFT
Descriptive Text:	Save DEV to PC01

Press **ENTER**. On the Libraries to Save screen, enter the following:

DEV

Press F6 to save the specification.

c) IFS /QUALCTL to PC01: Name the specification QUALC and press **ENTER**. Enter the following:

Active:	A
Backup Type:	F
Storage Area Type/Name:	G StgGroup1
Retention Type/Value:	NI 10
Disk Encr Passwr:	*DFT
Descriptive Text:	Save /QUALCTL to PC01

Press **ENTER**. On the Libraries to Save screen, enter the following:

APPENDIX B: BDS PERSONAL CLOUD EXAMPLE

*NONE

Press F6 to save the specification.

d) Libraries to PC03: Name the specification LIB_PC03 and press **ENTER**. Enter the following:

Active:	A
Backup Type:	F
Storage Area Type/Name:	A StgArea4
Retention Type/Value:	NI 6
Disk Encr Passwr:	*DFT
Descriptive Text:	Save ACCTG, SALES, MFG, and DEV to PC03

Press **ENTER**. On the Libraries to Save screen, enter the following:

ACCTG
SALES
MFG
DEV

Press F6 to save the specification.

e) IFS /QUALCTL to PC03: Name the specification QC_PC03 and press **ENTER**. Enter the following:

Active:	A
Backup Type:	F
Storage Area Type/Name:	A StgArea4
Retention Type/Value:	NI 6
Disk Encr Passwr:	*DFT
Descriptive Text:	Save /QUALCTL to PC03

Press Enter. On the Libraries to Save screen, enter the following:

*NONE

Press F6 to save the specification.

3) Set Security. As shipped, all users can run all Remote Backup Organizer commands. All users can access Backups on all Remote Systems. One of the stated objectives is to allow only certain users access to Remote Backup Organizer commands. To limit users' ability to access commands or Backups, perform the following:

a) PC01 and PC03. On both PC01 and PC03, click Start, BDS Remote Backup Organizer, Product

REMOTE BACKUP ORGANIZER for IBM i™

Administration. Select Define Users. If an entry *ANY/*ANY exists, right-click on it and remove it. Click File, New User. Use the System Name specified on the iSeries Tailoring Options screen above to add the following iSeries user profiles:

```
QSECOFR
QSYSOPR
QUSER
```

b) iSeries. Sign on as QSECOFR and run the following iSeries Security commands for each of the following commands in library BDSRMBK:

Commands:

```
SAV*
RST*
DSP*
WRKCLDBAK
```

iSeries Security commands:

```
RVKOBJAUT OBJ(BDSRMBK/xxx) OBJTYPE(*CMD) USER(*PUBLIC)
GRTOBJAUT OBJ(BDSRMBK/xxx) OBJTYPE(*CMD) USER(QSYSOPR QUSER)
```

Note: User profile QSECOFR owns the objects, and already has all authority.

The administrator can also use an iSeries Authorization List to manage object security if desired.

4) Enter the Save commands. The following commands can be run from a command line, placed into CL programs, placed into menu programs, or inserted into job scheduling applications.

First day of each month:

```
SAVLIBCLD BACKSPEC(PRD_IC)
SAVLIBCLD BACKSPEC(DEV)
SAVCLD BACKSPEC(QUALC) OBJ('/QUALCTL') CHGPERIOD(*ALL)
SAVLIBCLD BACKSPEC(LIB_PC03)
SAVLIBCLD BACKSPEC(QC_PC03)
```

Other Days:

```
SAVCHOBCLD BACKSPEC(PRD_IC) OBJ(*ALL)
SAVLIBCLD BACKSPEC(DEV)
SAVCLD BACKSPEC(QUALC) OBJ('/QUALCTL') CHGPERIOD(*LASTSAVE)
```

It is recommended to look over the job log after running any save or restore operation to verify the desired

APPENDIX B: BDS PERSONAL CLOUD EXAMPLE

objects were saved successfully.

Note: You should attempt to perform/simulate as many of the above save operations as possible so that you have data for the steps that follow.

5) Display/Restore saved Objects. After running save commands, you can display the backups contained on the remote systems.

a) Run the Display Cmd. Enter the **WRKCLDBAK** (Work w/Cloud Backups) command and press ENTER (or select the command off of the menu). Press enter to show all Remote Systems. The Work with Remote Backups screen will appear, showing the defined remote systems (PC01 and PC03). Select PC01 or PC03 and take option 8 to display its defined attributes. Press ENTER to return to the list. Press the following function keys and note their function:

F5	Refresh
F6/F7/F8/F8	IBM displays
F10/F11	View +/-
F18	Display Specifications
F19	Session Settings

Note that you can press F1 (and then F2) to show help information relevant to the data at your current cursor position.

6) Retrieve Backups. Select PC01 and take option 5 to retrieve and display its Backups. A list of the Backups is shown. Note the backups can be one of the following types:

- G (Group) – Group Backups have an Initial Backup and zero or more Changes Backups
- F (Full) – Full Backups are separate, standalone Backups

The options work slightly different depending on the Backup Type, for example, taking option 5 (display) for a Group shows the Backups contained in the group, where for a Full shows a list of the libraries/objects within the saved Backup.

a) Delete Backups/Groups. Press Take option 4 (delete) next to one or more Backups and press ENTER. A list of pending Backups to delete is shown. For now, press **F12** to return without deleting.

b) Display/Change Backup Attributes. Select a backup and take option 2 (Change) or option 8 (Display) and press ENTER. The backup's attributes is shown. For now, press **F12** to return without changing.

Note: Changes are made on the Remote System. You will have to refresh your session (F5) to see the changes.

Note: To change a Group Backup's attributes, take option 5 (display list) and then take option 2 to change the Initial Backup in the list.

REMOTE BACKUP ORGANIZER for IBM i™

c) Restore. Select a backup and take option 6 (Restore) and press **ENTER**. The Restore a Backup or Backup Group screen is shown. Note the options and press **ENTER**. A second screen showing additional, save-command-specific options is shown. For now, press **F3** to return without restoring.

Note: For a Group Backup, you can take option 6 (restore) to restore all Backups in the Group, or you can select option 5 (list) and then take option 6 (restore) to restore individual Backups in the Group. Depending on the screen where 6 (restore) is selected, you can restore all of the backups in a Group, a single Backup in a Group, a single Full (stand-alone) Backup, a single library within a Backup containing multiple libraries, or one or more objects.

7) Display Objects. Take option 5 (display) next to one of the Backups. If the Backup is a Group, select one of the Backups in the list and take option 5 (List Objs). If a list of libraries is shown take option 5 (Dsp Entries) next to one of the libraries.

The BDS Object Display screen should appear, showing a list of saved objects. Note the available options and command keys.

a) Display the File Header. Press F16 to show the Display Save Header screen. Certain attributes of the Backup are shown. Press **ENTER** to return.

b) Display Search Specs. Press F18 to show the Change Object Display Specifications screen. From here you can narrow down the list of objects displayed by showing only a certain object name or type. Press **ENTER** or press **F12** to return.

c) Display IBM Info. Press F6, F7, or F8 to show the IBM messages, job log or submitted jobs. Press **F12** to return.

d) Display Object Attributes. Select option 8 to display the Object Attributes screen. Certain attributes of the object are shown. Press **F12** to return.

e) Display Object Subentries. If your list of objects contains an outq or a database file (physical or logical), you can display its spool entries or members. Select option 5 to display the entries or members screen. Press **F12** to return.

f) Restore Objects. If Select option 6 (restore) for one or more objects and press **ENTER**. The Restore Objects screen appears. Enter the following:

Job Description: *INTER
Prompt SBMJOB: N

Press **ENTER**. The Restore Objects screen will appear. Enter the following:

Restore to library (RSTLIB): QTEMP

APPENDIX B: BDS PERSONAL CLOUD EXAMPLE

Enter other parameters if desired then press **ENTER**. When the restore operation is finished, the BDS Object Display screen will appear. Press F7 to display the job log and verify the operation completed successfully. Press F12 to return and press F12 to return to the command line.

APPENDIX C: RELEASE COMPATIBILITY TABLE

To ease the scheduling of updates of BDS software, Remote Backup Organizer will support some back releases of Remote Backup Organizer on another system. The following table shows the oldest releases of Remote Backup Organizer which is considered current for compatibility purposes. Please note these tables do not address future releases. If a location has a later release than your local system, you must use its documentation to determine compatibility.

To display the release of **Remote Backup Organizer for i**, run the command BRODERICK/BRBSETUP. To display the release of **Remote Backup Organizer for Windows**, click Start, BDS Remote Backup Organizer, Product Administration. Select Define Product-wide Settings.

Current Release Table

The following table shows the oldest release of Remote Backup Organizer the remote system can have and still be considered a current release

iSeries:	0200 0000
Windows:	0200 0000

APPENDIX D: OTHER CONSIDERATIONS

Below are other areas to be considered when implementing Remote Backup Organizer for i on your iSeries.

DR/HA Replication (Mirroring) Considerations

Remote Backup Organizer for IBM i resides in the following containers:

Library BDSRMBK
IFS subdirectory /BDSRMBK

To fully replicate the product, the administrator should mirror all objects in the above containers.

Saving Remote Backup Organizer Data

The administrator should periodically save Remote Backup Organizer to external media such as tape cartridge or optical, by using IBM commands (SAVLIB, SAV). The following should be saved:

Library BDSRMBK
IFS directory /BDSRMBK

Remote Backup Organizer for IBM i does not accumulate user data on a daily basis. A small amount of data is stored as a result of administrative file maintenance (Remote System Specifications, Backup Specifications, etc.). In most cases, Library BDSRMBK needs to be saved only after administrative changes are made. IFS subdirectory /BDSRMBK only contains temporary and program data, it does not contain any user data than needs to be saved on a regular basis. The following is a recommended backup strategy:

After administrative changes:

Save Library BDSRMBK and IFS directory /BDSRMBK to save files.

Every month or quarter:

Save Library BDSRMBK and IFS directory /BDSRMBK during a Save All (option 21) operation.

Deleting Temporary Work Files

Remote Backup Organizer creates temporary work areas, and deletes them at when no longer needed. In some circumstances the work areas do not get deleted and must be deleted manually. If no Remote Backup Organizer tasks are active, the following objects can be deleted if they are present:

REMOTE BACKUP ORGANIZER for IBM i™

- Files in IFS directory /BDSRMBK/tmp/
- Files BRBOnnnnnn* (O as in Oscar) in library BDSRMBK
- User Spaces BRBSnnnnnn* in library BDSRMBK
- User Spaces BRBRnnnnnn* in library BDSRMBK

In the above examples, nnnnnn represents 6 decimal digits. If you wish to delete these objects automatically (i.e. in your startup CL program), instead of specifying a simple generic name (i.e. BRBO*), we recommend you delete them as follows:

```
DLTF BDSRMBK/BRBO1*
MONMSG CPF0000
DLTF BDSRMBK/BRBO2*
MONMSG CPF0000
...
DLTF BDSRMBK/BRBO9*
MONMSG CPF0000
```

Use the same strategy with BRBSnnnnnn and BRBRnnnnnn.

Operational Considerations

Below are issues the user should consider when using **Remote Backup Organizer for i** functions:

Base Command Differences. The following functions will behave differently than their corresponding base commands:

- Multiple Libraries, locking differences. IBM base save commands allow multiple libraries to be specified, but the IBM APIs only one library. Remote Backup Organizer issues multiple API calls to the API to save or restore multiple libraries. The locking and unlocking of libraries is done at different times due to this difference.
- **Command Parameter Differences.** The following parameters are not supported by **Remote Backup Organizer for i**, or have limitations or differences:
 - **OUTPUT, OUTFILE, OUTMBR, INFTYPE:** These parameters are used internally and are not available to the user.
 - **LIB, SAVLIB:** Generic library names (LIB1*) and special values (*NONSYS, *ALLUSR) are not supported.
 - **CLEAR:** Only values *NONE and *REPLACE are supported.
 - Media-dependent parameters: parameters such as **DEV** (Device), **VOL** (Volume) are not supported.

APPENDIX E: ASP CONSIDERATIONS

Remote Backup Organizer for IBM i supports Basic and Independent Auxiliary Storage Pools (ASPs, or Disk Pools). **Remote Backup Organizer for IBM i** supports multiple instances per LPAR. The administrator has several choices when deciding which ASP to install **Remote Backup Organizer for IBM i** product libraries. This appendix will describe the issues involved in moving **Remote Backup Organizer for IBM i** libraries to different ASPs, and installing multiple **Remote Backup Organizer for IBM i** instances in an LPAR.

The following containers make up the **Remote Backup Organizer for IBM i** product:

- Programs Library (**BDSRMBK**) – Programming objects and temporary data.
- IFS subdirectory **/BDSRMBK/EMAL40** – Programming objects and temporary data.

The administrator should be familiar with ASPs before moving **Remote Backup Organizer for IBM i** libraries to different ASP locations or implementing multiple **Remote Backup Organizer for IBM i** instances. For more information on OS/400 ASP capabilities, visit the IBM Knowledge Center:

<https://www.ibm.com/support/knowledgecenter>

Use IBM's search function; search for "disk pools". There are also excellent IBM Redbooks available. Here is a list of some:

Independent ASPs A Guide to Moving Applications to IASPs	SG24-6802
IBM i 6.1 IASPs: A Guide to Quick Implementation of Independent ASPs	SG24-7811

Setup/System Considerations

When planning your ASP selection for your **Remote Backup Organizer for IBM i** installation, consider the following:

- Moving **Remote Backup Organizer for IBM i** objects to different ASPs is optional. The administrator should consider the advantages and disadvantages before moving. BDS recommends you don't move **Remote Backup Organizer for IBM i** product libraries unless you see a clear advantage to moving them.
- The IFS subdirectory **/BDSRMBK** must remain in the *SYSBAS ASP's directory system. It cannot be moved to the IFS directory system in an Independent ASP. Multiple instances will share the one **/BDSRMBK** IFS directory.
- Library **BDSRMBK** can be in the *SYSBAS ASP or an Independent ASP.
- Check application ASP needs. Please note that the ASP Group setting allows only one non-*SYSBAS IASP to be accessed at a time by a user job.

REMOTE BACKUP ORGANIZER for IBM i™

- ASP IPL startup delay. Some ASP devices may not automatically vary on during IPL. Even if the devices do automatically vary on during IPL, the time it takes for the ASP devices to become AVAILABLE can be significant, and libraries on the ASPs are not accessible until the ASP is available. If you place **Remote Backup Organizer for IBM i** product libraries on ASPs other than ASP 1, you should modify your startup procedures to account for this delay. For example your IPL startup stream should submit a job to start **Remote Backup Organizer for IBM i** processes instead of starting them directly. It should test for the existence of library **BDSRMBK** (the tested lib should be in an ASP), and delay/loop until the lib is found. Then issue **Remote Backup Organizer for IBM i** commands.
- Entire System Save. The IBM Save All function (option 21) does not save the contents of IASPs. An instance's library **BDSRMBK** that exists on an IASP must be saved after the Save All function completes.

Operational Considerations

When running **Remote Backup Organizer for IBM i** commands, consider the following:

- Set the ASP Group before running **Remote Backup Organizer for IBM i** commands. There are several different ways to do this, including:
 - The IBM SETASPGRP command.
 - User Profile (via Job Description).
 - Submit Job Command
 - Job Description

To determine the ASP Group of a **Remote Backup Organizer for IBM i** asynchronous job (or any job), run the WRKACTJOB command and display the job (option 5). Take option 2 (Display job definition attributes).

Moving Product Libraries to other ASPs

The procedure to move the **Remote Backup Organizer for IBM i** library is as follows:

- Stop all operations in that instance for all BDS products.
- Back up the library.
- Remove the library from all active jobs' library lists.
- Perform the following operations on the library: SAVLIB, DLTLIB, RSTLIB.
- Restart BDS product operations.

Running Multiple Instances in an LPAR

APPENDIX E: ASP CONSIDERATIONS

Multiple instances of **Remote Backup Organizer for IBM i** can run within an LPAR. Each instance runs independently, though some objects are shared by all instances, including:

- IFS subdirectory **/BDSRMBK**

All instances can be active and running at the same time. Each instance must contain a copy of library **BDSRMBK** in its own unique IASP.

Note: Library BDSBASE is not created or used by **Remote Backup Organizer for IBM i**. It may exist on your system because another BDS Product created it.

When running multiple **Remote Backup Organizer for IBM i** instances, consider the following:

- Library **BDSRMBK** cannot reside in ***SYSBASE**. See “Moving Product Libraries to other ASPs” in this appendix for more information on moving library **BDSRMBK** to an IASP.
- The IFS subdirectory **/BDSRMBK** must remain in the ***SYSBAS** IASP’s directory space.
- You must install and update each instance separately. For example, if you have **Remote Backup Organizer for IBM i** instances installed in IASPs IASP1 and IASP2, you must run the update procedure twice.
- To update or install an instance of **Remote Backup Organizer for IBM i**, all instances in the LPAR must be stopped.
- For each instance, library **BDSRMBK** must be backed up and restored as a separate entity. For example if you have 2 instances, you must back up both instances of library **BDSRMBK** in order to be able to recover data if needed.

Note: You can restore an instance’s **BDSRMBK** library into another IASP to create another instance.

- If you are Mirroring our product, each instance must be mirrored as a separate entity. Please note that we do not think it is necessary to mirror library **BDSRMBK**.

To work with an instance of **Remote Backup Organizer for IBM i**, you simply set your job’s ASP Group. For example:

```
SETASPGRP IASP1
SAVOBJNET ...
SETASPGRP IASP2
SAVOBJNET ...
```