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This Manual applies to Release 1
Modification 2 or later of Spool PDF Overlay/400™

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INTRODUCTION

Spool PDF Overlay/400™ is a product that will create IFS files in Adobe PDF format from spool entries. Spool entries containing images, multiple fonts, graphics commands, barcodes, and Overlays (containing images and multiple fonts) are supported. Thus the user can use PC products to generate overlays, merge the overlays with iSeries reports such as Invoices and Statements, and generate PDF's to give to their customers. The generated PDF files can be placed in the iSeries IFS area or on networked PC disk drives.

SCS and AFPDS data streams are supported. Front and Back overlays, each containing multiple images and fonts are supported. Multiple fonts (AFPDS) are supported. The following image compression techniques are supported:

- JPEG
- CCITT
 - G3 1D fax
 - G3 2D fax
 - G4 2D fax
- IBM MMR

Optional Font Substitution is supported. Thus if the font resource is not found a similar one can be substituted.

Graphics Support

Spool PDF Overlay/400 will process graphics commands. The following objects are supported:

- Lines
- Line Types
- Patterns
- Fill
- Color

Barcode Support

Spool PDF Overlay/400 will print barcodes. The following barcode types are supported:

- MSI
- UPC (A, E, 2, 5)
- EAN (8, 13, 2, 5)
- Code 3 of 9
- Interleaved 2 of 5
- Code 128

Check digits, text positioning, horizontal/vertical, and asterisks attributes are supported.

SPOOL PDF OVERLAY/400™

Commands

The SPLETOPDF command can be executed from the command line or placed into CL programs. It creates an IFS file in PDF format from the specified spool entry.

Cross Product Support

Spool PDF Overlay/400 can be utilized by other products from Broderick Data Systems. The other product, if specified, will use Spool PDF Overlay/400 routines instead of product routines to create the PDF, then process the PDF as if its product routines created the PDF. The following products fully support using Spool PDF Overlay/400 to create PDF files:

SpoolOrganizer/400™: The Spool Organizer product can use Spool PDF Overlay/400 to create PDF files in all of its PDF-creating functions:

- Monitors
- Bundles
- Email
- Display/Print
- Optical

E-mail Utilities™: The E-mail Utilities product can use Spool PDF Overlay/400 to create PDF files in all of its PDF-creating functions:

- Email a Spool Entry
- Write a Spool Entry to an IFS file

IASPs and Multiple Spool PDF Overlay Instances

Spool PDF Overlay product libraries can be placed onto Basic and Independent ASPs, giving the Administrator great flexibility. Multiple instances of Spool PDF Overlay can be running within an LPAR. Each Spool PDF Overlay instance is independent of the other instances.

INSTALLATION

Before you begin

- 1) Use these instructions if you are installing a new instance of Spool PDF Overlay/400. If you are updating your existing Spool PDF Overlay/400 instance to a new release refer to the document “**Spool PDF Overlay/400 Update Instructions**” provided with the update package.
- 2) A permanent or temporary password is needed once Spool PDF Overlay is installed. If you have already have an instance of Spool PDF Overlay 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 Spool PDF Overlay 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 Spool PDF Overlay on this LPAR, or you plan to install Spool PDF Overlay onto APSs other than the System ASP (ASP 1), refer to Appendix D, “ASP Considerations” prior to performing the install.

Prerequisites

The following hardware and system software is needed to execute Spool PDF Overlay/400. Please ensure that all needed system software is installed before beginning the installation.

AS/400:

- + OS/400 Version 7, Release 1, Modification 0 or greater
- + Security level 40 or less

Retrieve Font Attributes Utility:

To retrieve Font Attributes in existing PDF files:

- + Windows 2000, Windows XP, Windows 7, or Windows Server 2003
- + DotNet Framework 2.0 or greater

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(BOVIN*) SAVLIB(SPDF40) DEV(xxxxxx) VOL(*MOUNTED)  
RSTLIB(QTEMP)
```

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If you are using CD-ROM:

**RSTOBJ OBJ(BOVIN*) SAVLIB(SPDF40) DEV(OPT01) VOL(BDS)
RSTLIB(QTEMP) OPTFILE(SPDF40)**

If you are using a Save file:

You should have a save file containing the Spool PDF Overlay media. Verify the contents and note the library saved:

DSPSAVF FILE(mylib/myfile)

The library saved should be **SPDF40**.

Restore the install objects from the save file containing library **SPDF40** into library QTEMP:

**RSTOBJ OBJ(BOVIN*) SAVLIB(SPDF40) DEV(*SAVF) SAVF(mylib/myfile)
RSTLIB(QTEMP)**

Press **ENTER**

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

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

Note: If you are planning to install Spool PDF Overlay 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/BOVINS DEV(XXXXX)

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

QTEMP/BOVINS DEV(*SAVF) PGMSAVF(mylib/myfile)

Enter the save file containing library **SPDF40** for mylib/myfile.

Press **ENTER**.

You will receive the message “Installation of Spool PDF Overlay/400 complete”. You may need to call Broderick Data Systems to activate your 30 day trial package. You will first need to add library

INSTALLATION

BRODERICK to your library list.

4) Access the BDS Software Server (optional).

Note: Your AS/400 must be connected to the Internet to perform this procedure.

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

BRODERICK/BOVSETUP

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

MAIN MENU

To access Spool PDF Overlay/400 Main Menu, enter the following command:

SPDADM

The following screen should appear:

```
Spool PDF Overlay/400 (TM)      11/30/09  08:58:32
Administrator Main Menu      01 00 0000  QSECOFR

Administration
  1. Tailoring Options          (BOVSETUP)
  2. Manage Option Specifications
  3. Manage Font Global ID (FGID) Table
  4. Manage FGID Substitution Table

Operation
  11. Create a PDF from a Spool File (SPLETOPDF)

  90. Sign off

Selection: _____ F3=Exit  F6=Messages  F10=Command Entry
(C) Copyright 2009, 2010 - Broderick Data Systems
```

Administration

Options 1 thru 4 are used to describe various components to Spool PDF Overlay/400. The above options have the following definitions:

1. Tailoring Options

Allows the Administrator to enter passwords, set various system options, and define Spool PDF Overlay/400 options. For more information, refer to Chapter 4, "Define Tailoring Options".

2. Manage Option Specifications

Allows the definition of Option Specs, which are used by other tasks (i.e. the SPLETOPDF command). They specify options and default values to use when creating a PDF file.

3. Manage Font Global ID (FGID) Table

Allows the definition of FGID Specifications, which contain the PDF attributes needed to create the corresponding font in a PDF file.

4. Manage FGID Substitution Table

Allows the definition of FGIDs to use if the requested FGID is not in the FGID Table described above.

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Operation

Option 11 has the following definitions:

11. Create a PDF from a Spool File (SPLETOPDF)

Executes the SPLETOPDF command, which creates a PDF file from the specified spool entry.

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:

BRODERICK/BOVSETUP

The following screen will appear:

```
Spool PDF Overlay/400 (TM)      11/7/09 10:41:07
Setup Display                      Prc  LPAR
System Statistics: Rel Mod PTF  System Name  CPU Serial  Model Grp  Num
                   01  02 0000  BDS400      00000000    E4A  P05 00001
Passwords: Permanent              Temporary  High Avial
                   F1F2F3F4F5F6F7F8  FAFBFCFDFEFF  F1F2F3F4F5F6F7F8

EBCDIC CCSID:    ___ 37
ASCII CCSID:     ___ 437

BDS Access Userid: _____ Password: _____

F3=Exit w/o Update F12=Exit w/o Update F14=BDS SwSvr
Copyright 2009, 2013 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 Spool PDF Overlay/400 you have installed.

Note: When the update to Spool PDF Overlay/400 is done, it will update these fields. If you update Spool PDF Overlay/400 and these fields do not update, verify you have executed the update procedure in the Spool PDF Overlay/400 Update Instructions.

System Name

The system name assigned to the iSeries computer running the Spool PDF Overlay/400 software.

CPU Serial Number

The CPU serial number assigned to this iSeries computer.

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Model

The model number of this iSeries computer.

Proc Grp (Processor Group)

The Processor Group of this iSeries computer. The Processor Group is a designation designed by IBM to group its hardware for tiered pricing purposes. BDS also uses IBM's groupings for pricing purposes.

Passwords

Permanent and Temporary Passwords

Passwords are provided by Broderick Data Systems to allow access to Spool PDF Overlay/400. Certain key functions test these passwords before executing. If the password tests fail, a message will appear on the **QSYSOPR** message queue 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. 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 PDF is an ASCII specification. Spool PDF Overlay/400 will convert data from the specified EBCDIC character set ID to the specified ASCII character set ID. For more information refer to AS/400 National Language Support, Appendix G.2 "Code Pages and CCSID's"

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. We recommend you test the conversion by creating a PDF and displaying it in Adobe Acrobat.
- 2) CCSIDs 37 and 437 are US English EBCDIC and ASCII.

DEFINE TAILORING OPTIONS

F3 (Return)

Press F3 to exit without updating.

Access the BDS Software Server

If **F14** is chosen, the screen showing BDS Software Server options is displayed. To access the BDS Software Server the AS/400 must be connected to the Internet. The following display will appear:

```

12/03/01      11:45:21
BDS Software Server Display

Select one of the following:

1. Check for updates
2. Download Software Update
3. Download Software Patch
4. Upload Captured Problem Data

Option:

F3=Exit  F12=Exit
```

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 AS/400 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 prerequisite 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.

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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.

F12 (Return)

Press F12 to exit.

DEFINE OPTION SPECIFICATIONS

Options Specs are used by other tasks to create a PDF. They specify options and default values to use when creating a PDF file.

The default specification, *DFT is shipped with the software. It can be changed by the Administrator but not deleted.

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

```
Spool PDF Overlay/400          ADD          11/06/09
Define Option Specs            10:16:46

Name:  Spec1

Page Method:  *SPLFILE      (*SPLFILE, *TGTSIZE)
Page Length/Width:  11.000   8.500
Unit of Measure:  *INCH      (*INCH, *CM)
Rotate Column:  80
Font Global ID:  11 Point Size:  12.000
Allow Font Substitution:  Y      (Y, N)
Overlay Margin Top/Left:  .00000  .00000
EBCDIC/ASCII CCSID:  0 0 (0=Default, 1-65535)
Display page rotate:  999      (0, 90, 180, 270, 999=Calc)
SCS Margins (T/B/L/R):  .500 .500 .500 .500 (Inches)
Descriptive Text:  My Options Spec

Barcode Defaults
Wide/Narrow Ratio:  25
Module Width:  13
Color:  000000FF
Font FGID:  2305
Font Point Size:  .000

F3=Exit  F12=Cancel Current Operation
```

The above parameters have the following definitions:

Page Method

Specifies, for Device Type *SCS spool entries, the method to use when calculating the page length and width. Specify one of the following:

***SPLFILE:** The attributes retrieved from the spool entry are used to determine the page size.

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***TGTSIZE:** The page length and width is determined by the length and width parameters below.

This parameter is ignored for *AFPDS spool entries. The Page Length, Page Width, Unit of Measure, and Rotate Column fields will be ignored if *SPLFILE is used.

Page Length

Specifies, for page method *TGTSIZE, the page length in inches or centimeters (see below). This parameter is ignored for *AFPDS spool entries.

Page Width

Specifies, for page method *TGTSIZE, the page width in inches or centimeters (see below). This parameter is ignored for *AFPDS spool entries.

Unit of Measure

Specifies, for page method *TGTSIZE, the unit of measure to use to calculate the Page Length and Page Width attributes. Select one of the following:

***INCH:** The UOM is inches.

***CM:** The UOM is centimeters.

Page Rotate Column

Specifies, for page method *TGTSIZE, the page minimum page width that will cause the page to be rotated 90 degrees. For example, if 80 is specified and the spool entry's page width is 132 columns, the page will be rotated 90 degrees when the PDF is generated.

Font Global ID

Specifies the default Font Global ID (FGID) to use. Specify a number from 1 to 65535.

The FGID scheme was set up by IBM to uniquely identify a font typestyle and size. The FGID's specified size may be overridden by other attributes. FGID information is contained in various IBM publications. For example, Refer to "Printing V" Appendix D for more information at :

<http://publib.boulder.ibm.com/infocenter/iseres/v5r3/topic/books/sc415713.pdf>

Font Point Size

Specifies the font's point size. This value may be overridden by other spool entry attributes. Specify zero to set this FGID's point size as unspecified. If unspecified, the point size value will be calculated from CPI and LPP values.

Allow Font Substitution

Specifies the action to take if a font referenced in a spool entry cannot be found, either in the OS/400 library system (i.e. CDEFONT objects) or Spool PDF Overlay/400 specs (i.e. FGID Spec). Specify one of the following:

DEFINE OPTION SPECIFICATIONS

Y: Another font will be substituted. The Font Substitution Table will be referenced or the Default FGID will be used.

N: No substitution will be attempted. An escape message will be sent to the calling program, causing a function check if not monitored.

Overlay Margin Top and Left

Specifies, using the Unit of Measure specified above, the top and left margins to use when positioning overlays on the page. Some AFP printers have settings that allow users to specify a margin, which only applies to overlays and not to text. Specify a number between 0 and 99, up to 5 decimal places. Specifying margin values will shift the overlay down and right on the page.

Display Page Rotate

Specifies the amount to rotate the page when displaying the page using Adobe's Acrobat Reader or other PDF display apps. This allows the user to be able to easily read a page that is rotated when printed. This value does not affect the rotation performed when the page is printed on a printer. Select one of the following:

999 (calc): Calculate the rotate amount and adjust the displayed output accordingly.

0, 90, 180, or 270: Specifies the amount (clockwise) to rotate the output when it is displayed.

SCS Margins (Top, Bottom, Right and Left)

Specifies, in inches, the top, bottom, right and left margins to use when positioning SCS text on the page. Some AFP printers have settings that allow users to specify a margin, which only applies to SCS text. Specify a number between 0 and 99, up to 3 decimal places. Note: Use the Left and Bottom values to move the text right/left or up/down.

Descriptive Text

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

Barcode Defaults

Wide/Narrow Ratio

Specifies the wide entry - narrow entry width ratio to use if the value is not specified by the barcode application. Specify a non-zero integer. The ratio value will be calculated by assuming a decimal point after the first digit. For example, 2345 will be interpreted as 2.345. The calculated value must be between 2.0 and 3.0.

Module Width

Specifies the module width if the value is not specified by the application. The module width is the width of narrowest bar or space. All other bars or spaces are multiple of this width. Specify a value in thousands of an inch. For example, a value of 23 will be interpreted .023 inch

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Note: Some printers may require the module width to be within certain parameters to insure quality output. Check with the manufacturer for more information.

Color

Specifies the color to use when printing barcodes if the value is not specified by the barcode application. Specify 8 hex digits, representing 4 CMYK components between 0 and 255. For example, specify 0000FF for black, 00FF0000 for Magenta.

Font FGID

Specifies the font FGID to use when printing barcodes if the value is not specified by the barcode application. Specify an integer, or zero to use the spool entry default.

Font Point Size

Specifies the font point size to use when printing barcodes if the value is not specified by the barcode application. Specify a number, or zero to use the spool entry default.

DEFINE FONT GLOBAL ID (FGID) SPECIFICATIONS

The Define Font Global ID (FGID) Specifications option allows the System Administrator to define Font options used when creating PDF files and email attachments. OS/400 uses a Font Global ID number to describe a font typestyle and point size in spool entries. PDF uses structures called Font Objects to define Fonts. The attributes needed by PDF to convert an FGID into a PDF Font Object are specified here.

Please note that only minor syntax checking is performed. For more information, refer to the Adobe Portable Document Format, PDF Reference by Adobe Systems Incorporated. Refer to Chapter 5.5, "Simple Fonts". Listed below are parameters that have special meanings to Spool PDF Overlay/400.

Std 14

Specifies if this font is one of the Standard 14 fonts defined by the Adobe PDF specification. Standard 14 fonts do not require many of the other attributes to be specified. Specify Y or N.

Point Size

Enter the font's point size. This value may be overridden by other spool entry attributes. Specify zero to set this FGID's point size as unspecified. This is a required field.

Descriptive Text

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

Optional Fields

Many PDF Font Objects do not always specify all parameters. To specify an optional field, place an X next to it, then fill in the desired value. To deselect a field, place a space next to it.

Note: To enter a negative number, enter the number and press the field-minus key (usually the minus sign (-) on the far right side of the keyboard).

Flags

To enter the Flags attribute, specify Y or N for the appropriate field. The resulting Flags integer will be calculated.

DEFINE FGID SUBSTITUTION TABLE

The Define FGID Substitution Table option allows the System Administrator to define the FGID to use when the desired FGID is not found in the Font Global ID Table. The Administrator can define ranges, or specific FGID from/to values. A specific match takes precedence over a range match.

Select **F6** to add a new entry. Enter The following screen should appear:

```
Spool PDF Overlay/400 (TM)
Add/Copy FGID Specification

FGID Spec to Add/Copy -

Type:  _          (R, S)
From FGID:  _ 0
To FGID:    _ 0

F3=Exit  F12=Cancel Current Operation
```

The above parameters have the following definitions:

Type

Specifies the entry type. Specify one of the following:

R (Range): A range is being specified. The From and To FGIDs will be specified.

S (Specific): A single, specific From FGID will be specified. The To FGID field will be ignored.

From FGID

Specify the Range lower limit (for type R) or From (for type S) FGID.

To FGID

Specify the Range upper limit (for type R) FGID. This parameter will be ignored for type S.

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

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Spool PDF Overlay/400 (TM)	CHANGE	12/22/09
Define FGID Substitution Table		16:43:27
Type: R	From FGID: 1	To FGID: 2
	Substitute FGID: <u>33</u>	
	Substitute Option: <u>0</u>	(0=Always, 1=Not Found)
F3=Exit F4=Prompt F12=Cancel Current Operation		

The above parameters have the following definitions:

Substitute FGID

Specifies the FGID to substitute. A definition for this FGID must exist in the Font Global ID table.

Substitute Option

Specifies when to perform the FGID substitution. Specify one of the following:

0 (Always): Substitution will always occur.

1 (Not Found): Substitution will only occur if the source FGID was not found in the FGID Specs table.

SPOOL ENTRY TO PDF (SPLETOPDF) COMMAND

The Spool Entry to PDF (SPLETOPDF) command is used to create a PDF from a specified spool entry. The PDF is placed into the specified IFS file. The spool entry can be Device Type *SCS or *AFPDS. Supported Overlays, Fonts, and Images will be preserved.

Enter the **SPLETOPDF** command and press **F4**. The following screens will appear:

```

                                Spool Entry to PDF (SPLETOPDF)

Type choices, press Enter.

Output PDF Path and File Name . _____
_____

Spool entry's file name . . . . . _____      Name
Spool entry's Job Name . . . . . *CURRENT      Name, *CURRENT
  User . . . . . _____      Name
  Number . . . . . _____      000000-999999
Spool entry's file number . . . . . *LAST      Name, *ONLY, *LAST
Job system name . . . . . *ONLY      Name, *ONLY, *CURRENT, *ANY
Spooled file created:
  Creation date . . . . . *ONLY      Date, *ONLY, *LAST
  Creation time . . . . . _____      Time, *ONLY, *LAST
Options Spec Name . . . . . *DFT      Character value
Data Authorities Assigned . . . . . *DFT      *DFT, *IRUSR, *IWUSR...
      + for more values . *DFT      .

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
```

Output PDF Path and File Name (OUTFILE) Parameter

Specifies the IFS path and file name of the file to create. If the file exists it will be unlinked (deleted).

Note: Include a leading forward slash.

Note: File System QDLS is not supported.

Spool entry's file name (SPLFILE) Parameter

Specifies, with the **SPLJOB** and **SPLNBR** parameters, the spool entry to E-Mail. OS/400 uses the combination of Job name, spool file name, and spool file number to uniquely identify a spool entry in the system

Spool entry's Job name (SPLJOB) Parameter

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Specifies, with the **SPLFILE** and **SPLNBR** parameters, the spool entry to E-Mail. Specify the Job name, user, and number. The user may also specify one of the following special values:

***CURRENT:** The job that issues the SPLETOPDF command will be used to identify the spool entry.

Spool entry's file number (SPLNBR) Parameter

Specifies, with the **SPLFILE** and **SPLJOB** parameters, the spool entry to E-Mail. Specify the file number or one of the following special values:

***LAST:** The last spool file that the job created will be sent.

***ONLY:** The only spool file that the job created will be sent.

Job system name (JOBSYSNAME) Parameter

Specifies the system where the job that created the spooled file (JOB parameter) ran. This parameter is considered after the job name, user name, job number, spooled file name, and spooled file number parameter requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date and time.

***CURRENT:** The spooled file created on the current system with the specified job name, user name, job number, spooled file name, spooled file number, and create date and time is used.

***ANY:** The job system name is not used to determine which spooled file is used. Use this value when the spooledfile create date and time parameter is to take precedence over the job system name when selecting a spooled file.

system-name: Specify the name of the system where the job that created the spooled file ran.

Spooled file created (CRTDATE) Parameter

Specifies the date and time the spooled file was created. This parameter is considered after the job name, user name, job number, spooled file name, spooled file number, and job system name parameter requirements have been met.

This parameter is used if there is more than one spool entry in the system with the same Job Name/User/Number File/num values.

Specify one of the following:

SPOOL ENTRY TO PDF (SPLETOPDF) COMMAND

***ONLY:** There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date/time.

***LAST:** The spooled file with the latest create time of the specified job name, user name, job number, spooled file name, spooled file number, job system name, and spooled file create date is used.

date/time: Specify the date/time the spooled file was created.

Options Spec Name (SPECNAME) Parameter

Specifies the Options Spec name to use. The Options Spec name contains parameters used to create the output file, for example Font Size. Use the Manage Option Specifications menu option to create an Options Spec. The possible values are:

***DFT:** The default Options Spec is used.

spec-name: Specify the Options Spec name to use. The spec must have been created using the Manage Option Specifications menu option.

Data Authorities Assigned (DTAAUT) Parameter

Specifies the Data Authorities assigned to the created IFS file. Select one or more of the following:

***DFT:** The *IRWXU and *IRWXO values (see below) will be used.

***IRUSR:** The creating user will have read access to the created file.

***IWUSR:** The creating user will have write access to the created file.

***IXUSR:** The creating user will have execution access to the created file.

***IRWXU:** The creating user will have all access to the created file.

***IRGRP:** The creating user's group will have read access to the created file.

***IWGRP:** The creating user's group will have write access to the created file.

***IXGRP:** The creating user's group will have execution access to the created file.

***IRWXG:** The creating user's group will have all access to the created file.

***IROTH:** The public will have read access to the created file.

***IWOTH:** The public will have write access to the created file.

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***IRWXO:** The public will have all access to the created file.

Example: The following command will take a spool entry (a screen print) created by you and create a PDF. Please note that the Options Spec O1 must be created prior to entering this command:

```
SPLETOPDF OUTFILE('/MyIFSDir/MyPDF.pfg') SPLFILE(QPRINT)  
SPLJOB(*CURRENT) SPLNBR(*LAST) SPECNAME(O1)
```

APPENDIX A: ELECTRONIC MEDIA DISTRIBUTION

The user can distribute Spool PDF Overlay/400 to remote systems electronically. Thus the user can install or update E-mail Utilities on similar remote systems (i.e. AS/400 to AS/400's). 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 Spool PDF Overlay/400 to remote systems. **Please note** that a thorough knowledge of the operating systems involved is suggested.

The **AS/400** media consists of **2** libraries:

SPDF40
SPDF40DATA

The steps to distribute Spool PDF Overlay/400 are:

Source System

- 1) Restore libraries **SPDF40** and **SPDF40DATA** from the **BDS**. Media. For optical disk, the libraries are contained in optical files **SPDF40** and **SPDF40D**.

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

- 2) Create two save files **SAVSPDF** and **SAVSPDFD**.
- 3) Save library **SPDF40** into save file **SAV SPDF**, and library **SPDF40DATA** into save file **SAVSPDFD**.
- 4) Delete the libraries **SPDF40** and **SPDF40DATA**.
- 5) Transmit the save files 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 files **SAVSPDF** and **SAVSPDFD**.

When executing the install or update command (**BOVINS** or **BOVUPD**) use the save file option. Enter save files **SAVSPDF** and **SAVSPDFD**.

Spool PDF Overlay/400 will be installed or updated.

APPENDIX B: RETRIEVE FONT ATTRIBUTES

The Retrieve Font Attributes utility allows the administrator to retrieve a font's attributes from an existing PDF file. The retrieved attributes can be imported into an FGID Spec within the Spool PDF Overlay/400 product. The Retrieve Font Attributes utility program runs on the Microsoft Windows platform.

The Retrieve Font Attributes utility is located in the IFS directory:

/BRODERICK/SPDF40/PGMS/RetrieveFontAttrs

Due to Microsoft DotNet security issues, the administrator should copy this directory to a directory on the PC's hard drive, then execute the program from the hard drive. Once copied, to start the utility execute the file:

RetrieveFontAttrs.exe

Click the Help menu option for detailed help concerning the utility. In general, perform the following steps to import font specifications:

1) **Create a PDF:** Skip this step if the desired font is in an existing PDF file. **Note:** This step requires the PDF driver, which is in Adobe Corp's Acrobat Writer product. Acrobat Writer must be purchased from Adobe Corp.

a) From the Retrieve Font Attributes window, click the Create PDF File button.

b) The "Create a PDF containing a Specific Font" window will appear. Select the following:

- Printer – Must be the Adobe PDF driver
- Font Family
- Style

The em-size is optional; it will not affect the generated font attributes. Click the Go button.

c) The Adobe "Save PDF File As" dialog box will appear. Navigate to the desired folder and type the desired File Name. The Save as Type field should be left as PDF files. Click the Save button. Click yes to replace an existing PDF if asked.

d) The PDF application will open, showing a small 1-page PDF containing the printable ASCII characters. Close the PDF application.

e) Close the Create a PDF window to return to the Retrieve Font Attributes window.

Note: The user can copy/paste the one-page PDF's characters into Microsoft Notepad (or other Windows applications) and print using the PDF driver to achieve the same results as step 1.

2) **Scan the PDF:** Enter the PDF File Name, or Click the Browse button to navigate to and select the desired PDF file. Click the Scan button.

3) **Select the Desired Font:** A list of fonts that were found in the scanned PDF file will appear in the "Fonts in File" listbox. The listbox shows the Object Number within the PDF

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file and the Base Font Name. Double-click the desired base font name to select it. Its attributes should appear in the Attributes area.

4) **Save the Attributes:** Enter the Output File Name or click the Browse button to navigate to the desired directory and click the Save button. If possible, navigate to a network directory which points to an iSeries's IFS subdirectory. Click the Export button to create the file.

5) **Copy the file to the iSeries:** IFS: Skip this step if you saved the file to the iSeries IFS in the previous step. Use any method available to copy the file to the iSeries. Do not convert from ASCII to EBCDIC.

6) **Import the Attributes:** The attribute file can be imported into a new or existing FGID spec. For detailed information regarding FGID specs, refer to Chapter 6, "Define FGID Specs". In general, perform the following:

a) Sign on to the iSeries. Enter the following command:

BRODERICK/SPDADM

b) Take option 3, Manage Font Global ID (FGID) Specifications. Press ENTER to show all.

c) Take Option 2 to select the desired FGID spec or press F6 to add and add the new spec. The Define FGID Specs screen should appear.

d) Press F6=Import. The Import FGID Attributes screen will appear. Enter the path and file name created in Step 5. For example:

/MYDIR/Courier.inf

Press ENTER. The attributes are now copied into the FGID spec.

e) Make any desired changes and press ENTER to add/change the FGID spec.

APPENDIX C: ACKNOWLEDGEMENTS

The following third party products have been incorporated into Spool PDF Overlay/400:

Flate - Flate is an industry-standard compress/decompress algorithm written by Jean-loup Gailly and Mark Adler. BDS has adopted their code to run on the AS/400 platform. The Adobe PDF format supports Flate compression. You can contact them at <http://www.gzip.org/>.

LibTiff - LibTiff is an organization that develops tiff-supported compress/decompress algorithms. BDS has adopted their code to run on the AS/400 platform. The CCITT fax decompressions (G3 1D and 2D, and G4) are used. You can contact them <http://www.libtiff.org/>. Per their license agreement:

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Copyright (c) 1991-1997 Silicon Graphics, Inc.

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ASP Considerations

Spool PDF Overlay supports Basic and Independent Auxiliary Storage Pools (ASPs, or Disk Pools). Spool PDF Overlay supports multiple instances per LPAR. The administrator has several choices when deciding which ASP to install Spool PDF Overlay product libraries. This appendix will describe the issues involved in moving Spool PDF Overlay libraries to different ASPs, and installing multiple Spool PDF Overlay instances in an LPAR.

The following containers make up the Spool PDF Overlay product:

- Programs Library (**BRODERICK**) – Programming objects and temporary data.
- Data Library (**BDSDATA**) – User Data objects (files, etc.)
- IFS subdirectory **/BRODERICK/SPDF40** – Programming objects and temporary data.

The administrator should be familiar with ASPs before moving Spool PDF Overlay libraries to different ASP locations or implementing multiple Spool PDF Overlay 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 Spool PDF Overlay installation, consider the following:

- Moving Spool PDF Overlay objects to different ASPs is optional. The administrator should consider the advantages and disadvantages before moving. BDS recommends you don't move Spool PDF Overlay product libraries unless you see a clear advantage to moving them.
- The IFS subdirectory **/BRODERICK** 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 **/BRODERICK** IFS directory.
- Libraries **BRODERICK** and **BDSDATA** can be in the *SYSBAS ASP or an Independent ASP.
- Libraries **BRODERICK** and **BDSDATA** must be in the same ASP Group. Either or both libraries can be in *SYSBAS (ASP 1 – 32). One library can be in *SYSBAS and the other can be in an IASP. Both libraries can be in the same IASP. The libraries can be in different ASP Devices within an IASP. For example library **BRODERICK** can be in the primary ASP Device and **BDSDATA** can be in one of the secondary ASP Devices attached to that primary.

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You cannot put an instance's libraries **BRODERICK** and **BDSDATA** into two different IASPs. For example, you cannot put an instance's library **BRODERICK** in **IASP1** and **BDSDATA** in **IASP2**. You can, however, put **BRODERICK** in ***SYSBAS** and **BDSDATA** in **IASP1**, or visa-versa.

- 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. Consider a user application that writes reports to an outq in an IASP. If Spool PDF Overlay libraries are in a different IASP, Spool PDF Overlay tasks such as the **SPLETOPDF** command will not be able to access the outq or its spool entries. This includes Spool PDF Overlay tasks that access spool entries via Job Name/File Name attributes, such as the **SPLETOPDF** command. Only objects and spool entries that reside within the same ASP Group as Spool PDF Overlay can be accessed by Spool PDF Overlay.
- 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 Spool PDF Overlay 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 Spool PDF Overlay processes instead of starting them directly. It should test for the existence of library **BRODERICK** or **BDSDATA** (the tested lib should be in an ASP), and delay/loop until the lib is found. Then issue Spool PDF Overlay commands.
- Entire System Save. The IBM Save All function (option 21) does not save the contents of IASPs. An instance's libraries **BRODERICK** and **BDSDATA** that exists on an IASP must be saved after the Save All function completes.

Operational Considerations

When running Spool PDF Overlay commands, consider the following:

- Set the ASP Group before running Spool PDF Overlay 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 an Spool PDF Overlay asynchronous job (or any job), run the **WRKACTJOB** command and display the job (option 5). Take option 2 (Display job definition attributes).

ASP Considerations

Moving Product Libraries to other ASPs

To move a Spool PDF Overlay instance's library to another ASP, be aware of the operational considerations listed above. Also, be aware of the following:

- All BDS products within the library(s) are moved during the move operations.
- You can save and restore multiple libraries of an instance with one **SAVLIB** or **RSTLIB** command in some circumstances. For example you can move libraries **BRODERICK** and **BDSDATA** from ASP 1 to IASP MYIASP with one **SAVLIB** and one **RSTLIB** command.

The procedure to move the Spool PDF Overlay library(s) 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.

You can also use the **BDSMOVLIB** command, which automates the Save/Delete/Restore operations for you, and performs some checking/verification. See the "BDS Move Lib Utility" below for more information.

BDS Move Lib Utility

The **BDSMOVLIB** command will move Broderick Data Systems product libraries to another ASP. The Pgm objects library (**BRODERICK**), Data objects library (**BDSDATA**), the Base objects library (**BDSBASE**), or any combination can be moved. All Broderick Data Systems functions must be stopped. No object locks can be on any moved library, including the lock that occurs when the library is in a job's library list. The user should verify no job is locking the intended Libraries by using the **WRKOBJLCK** command. It is recommended that QSECOFR, or a user profile with *SECADM authority perform this command.

In order to move libraries, **SAVLIB** and **RSTLIB** commands are performed. The intermediate save media can be a save file or magnetic tapes (including virtual tape devices). It is recommended to use the Save File option unless disk space is a concern.

The **BDSMOVLIB** command and its associated objects reside in library **BRODERICK**. If you wish to move **BRODERICK**, you will need to make a copy of the following objects in another library (i.e. MYLIB), add that library to your library list (and remove **BRODERICK**) and run the **BDSMOVLIB** command from the new library:

BDSMOVLIB	*CMD
BDS13	*PGM

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BDSHELP

*PNLGRP

Following is the screen and parameters of the **BDSMOVLIB** command.

```
Move BDS Libs to other ASPs (BDSMOVLIB)

Type choices, press Enter.

Device . . . . . *SAVF _____ Name, *SAVF
      + for more values _____
Volume Identifier . . . . . *MOUNTED _____ Character value, *MOUNTED
      + for more values _____
Base Lib (BDSBASE) ASP Number . *SYS _____ 1-32, *SYS, *NOMOVE
Pgm Lib (BRODERICK) ASP Number . *SYS _____ 1-32, *SYS, *NOMOVE
Pgm Lib (BRODERICK) ASP Device . *SYSBAS _____ Name, *SYSBAS
Data Lib (BRODERICK) ASP Number *SYS _____ 1-32, *SYS, *NOMOVE
Data Lib (BDSDATA) ASP Device . *SYSBAS _____ Name, *SYSBAS
SAVF for lib objs in transit . . BDSTSAVF _____ Name, *LIBL
                               QTEMP _____ *YES, *NO

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

Device (DEV) Parameter

Specifies the name of the device used to hold objects in transit during the move operations. Specify up to four devices. The device name must exist on the system.

Note: During the move operations, the specified media contains a full SAVLIB instance of the library being moved. In the event of a failure during the restore phase of the move, the specified media may be used to manually move the library. For this reason, if the **BDSMOVLIB** command is submitted to batch and DEV(*SAVF) is specified, a library other than **QTEMP** should be considered.

The possible values are:

***SAVF:** The move operation is done using the save file specified by the SAVF for lib objs in transit.

device-name: Specify the name of the tape device(s) used for the move operation. Specify up to 4 devices.

Volume Identifier (VOL) Parameter

Specifies, for tape devices, the Volume(s) to check for.

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The possible values are:

***MOUNTED:** No volume-id checking is performed. The mounted volume is used.

volume-id: Specify the name of the volumes(s) to be checked for during the move operation. Specify up to 5 volumes.

Note: If a library's data is expected to continue onto more than one tape, it is recommended to specify the actual volume IDs instead of *MOUNTED.

Base Lib (BDSBASE) ASP Number (BASASP) Parameter

Specifies the destination ASP Number for the Base objects library (BDSBASE). This value must be different than the Base Lib's existing ASP number.

The possible values are:

***SYS:** The System ASP (ASP = 1) is the destination ASP.

***NOMOVE:** The Base objects Lib is not moved.

number: Specify the destination User ASP number, from 1 to 32.

Pgms Lib (BRODERICK) ASP Number (PGMASP) Parameter

Specifies the destination ASP Number for the Pgm objects library (BRODERICK). Use this parameter instead of the PGMASPDEV parameter if you wish to specify a Basic ASP (1 - 32). This value must be different than the Pgm Lib's existing ASP number.

The possible values are:

***SYS:** The System ASP (ASP = 1) is the destination ASP.

***NOMOVE:** The Pgm objects Lib is not moved.

number: Specify the destination User ASP number, from 1 to 32.

Pgms Lib (BRODERICK) ASP Device (PGMASPDEV) Parameter

Specifies the destination ASP Device for the Pgm objects library (BRODERICK). Use this parameter instead of the PGMASP parameter if you wish to specify an Independent ASP (33 - 256).

The possible values are:

***SYSBAS:** The value specified in the ASP Number parameter (PGMASP) is used.

name: Specify the ASP Device name. This name must exist and must be in an AVAILABLE status.

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Data Lib (BDSDATA) ASP Number (DTAASP) Parameter

Specifies the destination ASP Number for the Data objects library (**BDSDATA**). Use this parameter instead of the DTAASPDEV parameter if you wish to specify a Basic ASP (1 - 32). This value must be different than the Data Lib's existing ASP number.

The possible values are:

***SYS:** The System ASP (ASP = 1) is the destination ASP.

***NOMOVE:** The Data objects Lib is not moved.

number: Specify the destination User ASP number, from 1 to 32.

Data Lib (BDSDATA) ASP Device (DTAASPDEV) Parameter

Specifies the destination ASP Device for the Data objects library (**BDSDATA**). Use this parameter instead of the DTAASP parameter if you wish to specify an Independent ASP (33 - 256).

The possible values are:

***SYSBAS:** The value specified in the ASP Number parameter (DTAASP) is used.

name: Specify the ASP Device name. This name must exist and must be in an AVAILABLE status.

SAVF for lib objs in transit (SAVF) Parameter

Specifies the name and library of the save file that contains the objects in transit during move operations.

The possible values are:

BDSTSAVF: File BDSTSAVF will be used.

save-file-name: Specify the name of the save file to use when performing the move operations. If the save file does not exist, it will be created.

The possible Library values are:

QTEMP: The library **QTEMP** is used to locate the save file.

library-name: Specify the name of the library to be searched.

Running Multiple Spool PDF Overlay Instances in an LPAR

Multiple instances of Spool PDF Overlay can run within an LPAR. Each instance runs independently,

ASP Considerations

though some objects are shared by all instances, including:

- Library **BDSBASE** and its objects
 - Subsystem BDS and its subcomponents.
 - The BDS User profile coordinator (BDSUSRPRF).
- IFS subdirectory **/BRODERICK/SPDF40**

All instances can be active and running at the same time. Each instance must contain a copy of libraries **BRODERICK** and **BDSDATA** in its own unique IASP.

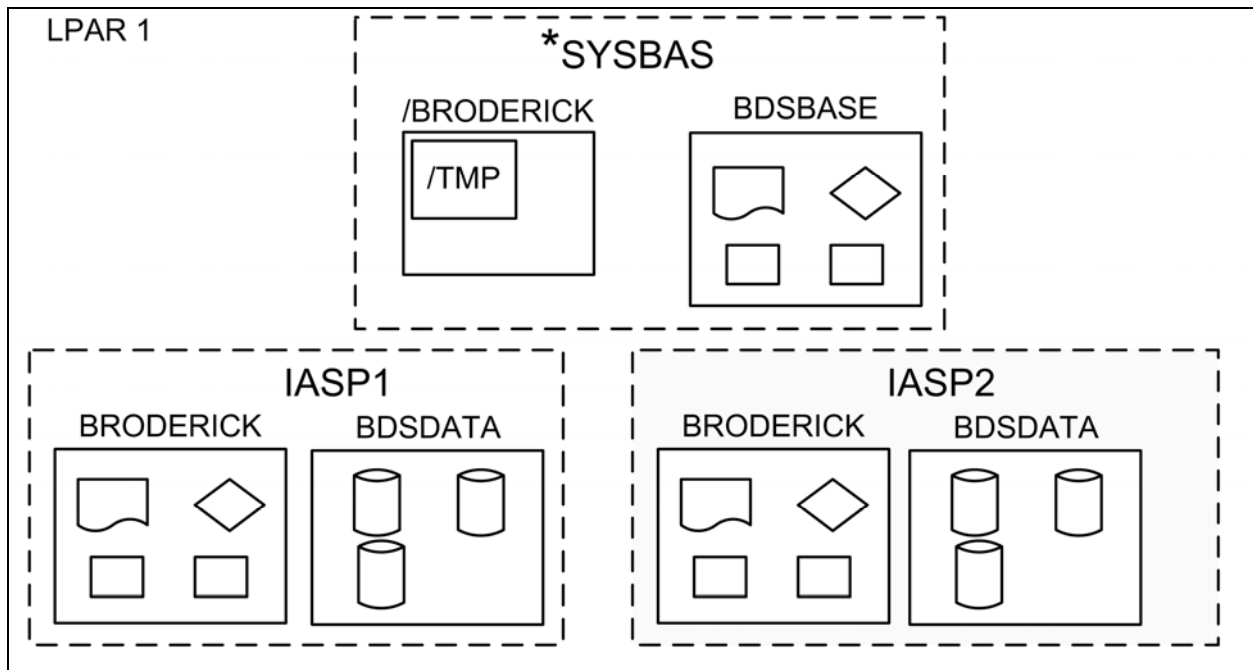


Figure 1-1: Multiple Spool PDF Overlay Instances

Note: Library **BDSBASE** is not created or used by Spool PDF Overlay. It may exist on your system because another BDS Product created it.

When running multiple Spool PDF Overlay instances, consider the following:

- Libraries **BRODERICK** and **BDSDATA** cannot reside in ***SYSBASE**. See “Moving Product Libraries to other ASPs” in this appendix for more information on moving libraries **BRODERICK** and **BDSDATA** to an IASP.
- The IFS subdirectory **/BRODERICK** must remain in the ***SYSBAS** IASP’s directory space.
- You must install and update each instance separately. For example, if you have Spool PDF Overlay instances installed in IASPs IASP1 and IASP2, you must run the update procedure twice.

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- To update or install an instance of Spool PDF Overlay, all instances in the LPAR must be stopped.
- For each instance, libraries **BRODERICK** and **BDSDATA** must be backed up and restored as a separate entity. For example if you have 2 instances, you must back up both instances of libraries **BRODERICK** and **BDSDATA** in order to be able to recover data if needed.

Note: You can restore an instance's **BRODERICK** and **BDSDATA** libraries 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 recommend mirroring libraries **BDSBASE** and **BRODERICK** but it is not a requirement. You must, however, mirror ALL objects in **BDSDATA** in order for a recovery to be successful.

To work with an instance of Spool PDF Overlay, you simply set your job's ASP Group. For example:

```
SETASPGRP IASP1  
EMLSPLF ...  
SETASPGRP IASP2  
EMLSPLF ...
```