



GUMMB
Software, Inc.

Spool-a-Matic

Programmer's Guide and Reference



Edition Notice

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This edition applies to the licensed program Spool-a-Matic (Program 2A55SAM), Version 1 Release 7 Modification 0, and to all subsequent releases and modifications until otherwise indicated in new editions. This revision makes all previous editions obsolete. Make sure you are using the proper edition for the level of the product.

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Chapter 1 Introduction

What's In This Chapter

This chapter introduces you to Spool-a-Matic. The chapter:

- o Describes the features of Spool-a-Matic
- o Describes what Spool-a-Matic does
- o Describes Spool-a-Matic's PDF support
- o Describes Spool-a-Matic's logical printer support
- o Describes Spool-a-Matic's TOOBJ() parameter
- o Describes Spool-a-Matic's relationship to other products
- o Outlines future directions for the product

Spool-a-Matic Features

Spool-a-Matic is a software utility that converts OS/400 spooled files into industry standard file formats and places the resulting PC file into any directory in OS/400's Integrated File System. With Spool-a-Matic you can make OS/400 spooled output available to your users in the form best suited to them.

Spool-a-Matic includes a command and associated print driver programs that allows you to create logical printer devices. Logical printers perform spooled file conversion automatically for all spooled files placed on their output queue.

Spool-a-Matic supports all of the OS/400 spooled file print data streams:

- o *SCS (SNA Character String)
- o *IPDS (Intelligent Printer Data Stream)
- o *AFPDS (Advanced Function Printing Data Stream)
- o *USERASCII (ASCII data stream)
- o *LINE (1403 line data)
- o *AFPDSLIN (Mixed *AFPDS and *LINE data)

Spool-a-Matic can produce PC files in a wide variety of industry standard formats:

- o Adobe's Portable Document Format (PDF)
- o Carriage return/line feed delimited ASCII text (TXT)
- o Microsoft's Rich Text Format word processor file (RTF)
- o The world wide web's Hyper Text Markup Language (HTML)
- o Printer specific print data streams produced by OS/400's Host Print Transform (HPT)
- o An unaltered copy of the original print data stream (NONE)
- o Adobe's PostScript (PS)
- o IBM's AFP Print File (AFP)
- o IBM's Final Form Text (FFT)
- o Tag Image File Format (TIFF)

Not all of the possible conversions are applicable to all spooled file print data streams. The following table shows the supported conversions:

Input Spooled File Print Data Stream	Output Data Format Conversion									
	PDF	TXT	RTF	HTML	HPT	NONE	PS	FFT	TIFF	
*SCS	YES	YES	YES	YES	YES	YES		YES	YES	
*IPDS	YES	YES	YES	YES		YES		YES		
*AFPDS	YES					YES	YES		YES	
*USERASCII						YES				
*LINE	note	note			note	YES	note		note	
*AFPDSL	note	note			note	YES	note		note	

Figure: Print Data Stream/Conversion Matrix

- Note: The PDF transform is double byte enabled for Chinese/Japanese/Korean.
Note: The TXT transform is double byte enabled for *SCS.
Note: You can determine a spooled file's print data stream by displaying its attributes (option 8 from WRKOUTQ or WRKSPLF) and locating the "Printer device type" parameter.
Note: For *LINE and *AFPDSL full *AFPDS support is available with OS/400 V5R1M0. Specify CCTLINDTA(*YES) on the printer file.

Spool-a-Matic also includes a work-a-like for OS/400's Work with Spooled File (WRKSPLF) command called Work with Gumbo Spooled Files (WRKGSISPLF). Spool-a-Matic also includes a work-a-like for OS/400's Work with Output Queue (WRKOUTQ) command called Work with Gumbo Output Queue (WRKGSIOUQ). These commands provide the same functions as their OS/400 equivalent. In addition they provide an option that allows you to access the function of Spool-a-Matic by entering an option number.

What Spool-a-Matic Does

The main function of Spool-a-Matic is accessed by running the Spool Convert (SPLCONVERT) command. The command takes a spooled file and an Integrated File System object (PC file) name as input. The spooled file is retrieved from OS/400's spool store and converted based on the transform requested. The converted spooled file is then placed in the requested Integrated File System object (PC file). The conversion process is described in detail in the Conversions chapter.

PDF Support

The product's PDF conversion provides extensive support for converting OS/400 printed output and is the most widely used by our customers. Print data, page segments, overlays and fonts are accurately processed to give you PC files that display and print like the original spooled file. They are fully searchable and indexable, not just a bit image. The PC files can be encrypted, password protected and compressed during the conversion to provide security and reduce storage requirements. Extensive bookmarking capabilities, including support for DDS's indexing keywords, allow you to generate PC files that are easy to navigate.

While the current release extends coverage, not all possible print data stream features are supported. On the whole, the limitations of the conversion are the same or fewer than those of IBM's PC based AFP Viewer. See AFP Programming Guide and Line Data Reference S544-3884-01 Appendix D. for a list of these limitations. The PDF conversion imposes additional limitations. For example:

- o PTOCA print text suppression is ignored.
- o MODCA Page Groups are treated as no-ops.

For the most part these limitations do not affect mainstream OS/400 spooled files. However, we recommend that you verify a sample of each type of spooled file you will convert before placing the conversion into production. To verify a sample spooled file, convert it then display each page in your Acrobat reader. If you encounter problems, see the Trouble Shooting chapter.

Spool-a-Matic's Logical Printer Support

A Gumbo logical printer is a printer device that performs spooled file processing instead of printing on paper. As with other printer devices, you use OS/400's writer commands (WRKWTR, STRPRTWTR, ENDWTR, HLDWTR, etc.) and OS/400's configuration commands (WRKCFGSTS, VFYCFG, etc.) to control a Gumbo logical printer's operation.

When you create a Gumbo logical printer using the Create Device Gumbo Printer (CRTDEVGLP) command, a source file with the same name is create in library QUSRSYS. The source file contains a member with the same name as the printer and in the source member is a single Control Language (CL) command. As a Gumbo logical printer processes, it runs this command once for each spooled file in the output queue.

Logical printers can be shared to your network and provide direct conversion "printing" from any PC application for any PC on your network. Combine this with Spool-a-Matic's PDF support and you can "print" PDF files without Acrobat.

Spool-a-Matic's TOOBJ() Parameter

The key to generating PC files when using Spool-a-Matic's Spool Convert (SPLCONVERT) command is the TOOBJ() parameter. The parameter specifies the name of the file in terms of OS/400's Integrated File System.

An Object (PC file) is a path that specifies the name and location of the file in terms of OS/400's Integrated File System. This naming convention may be unfamiliar.

By specifying the correct Integrated File System path you can place the generated file in any file system known to OS/400 including writing directly to Windows NT/2000, another iSeries Server, Novell NetWare or NFS server. Run the Work with Object Links (WRKLNK) command to view the available directories and file systems.

As an example, the generated file can be placed in a directory in OS/400's Open Systems file system (QOpenSys). To create file "ABC.TXT" in directory "MYDIRECTORY" in OS/400's QOpenSys, use the following TOOBJ() parameter:

```
TOOBJ('/QOpenSys/MYDIRECTORY/ABC.TXT')
```

The name you specify must follow the naming conventions of the file system involved. For example QOpenSys supports case-sensitive and each component of the path can be up to 255 characters long. For complete details on file system name restrictions see [AS/400 Integrated File System Introduction SC41-5711](#).

Note: We recommend that you not use the /QDLS file system unless you have a specific requirement for its features.

Spool-a-Matic provides several special values that can used to construct dynamic object (PC file) names. When the special values are found, the associated data is blank trimmed and substituted into the name specified when the spooled file is processed. If the data associated with a special value is blank, "BLANK" is substituted. The special values are:

*ACGCDE	Accounting code CHAR(15).
*CRTSYS	System created on originally CHAR(8). This can differ from the current system's name if the spooled file was sent from another ISeries.
*CRTUSR	User creating originally CHAR(10). This can differ from the *JOBUSR value if the spooled file was sent from another ISeries.
*FILE	Spooled file name CHAR(10).
*FILE8	Same as *FILE truncated to CHAR(8).
*JOBNAM	Name portion of the job containing the spooled file CHAR(10).
*JOBNAM8	Same as *JOBNAM truncated to CHAR(8).

*JOBUSR	User portion of the job containing the spooled file CHAR(10).
*JOBUSR8	Same as *JOBUSR truncated to CHAR(8).
*OUTQ	Output queue the file is on CHAR(10).
*PAGECOUNT	Spooled file page count converted to text. Length varies.
*PGM	Program that opened the file CHAR(10).
*PGM8	Same as *PGM truncated to CHAR(8).
*PRTTXT	Print text CHAR(30).
*SPLCDAT	Date the spooled file was open CHAR(7) CYYMMDD.
*SPLCTIM	Time the spooled file was opened CHAR(8) HHMMSS.
*SPLCCYY	Century-year portion of the date the spooled file was open CHAR(3) CYY.
*SPLCYY	Year portion of the date the spooled file was open CHAR(2) YY.
*SPLCMM	Month portion of the date the spooled file was open CHAR(2) MM.
*SPLCDD	Day portion of the date the spooled file was open CHAR(2) DD.
*SPLNBR	Spooled file number converted to text. Length varies.
*USRDFNDA	User defined data CHAR(255).
*USRDFNTXT	User defined text CHAR(100).
*USRDTA	User data CHAR(10).

Product Positioning

Gumbo Software, Inc. has several OS/400 based products:

Number	Licensed Program
2A55RM1	Report Manager - Monitors output queues and distributes spooled files.
2A55SM1	SpoolMail - Sends spooled files as e-mail.
2A55SAM	Spool-a-Matic - Converts spooled files into PC files.
2A55XL1	Excel-erator - Converts/e-mails database files into/as Excel Spreadsheets.
2A55DCR	Dicer - Merge/sort/split/duplicate spooled files.
2A55RDA	Report Designer - Edit DDS, RPG and ILE/RPG print specifications.
2A55SM2	Gumbo Mail - Sends e-mail from your applications.

There is some overlap between and unique function within the products. Choose the product or combination of products that provide the function you need:

Function	Product						
	RM1	SM1	SAM	XL1	DCR	RDA	SM2
Monitor an output queue for work	YES	YES	YES	-	-	-	-
Spooled file distribution	YES	-	-	-	-	-	-
Burst (bundle) spooled files	YES	-	-	-	YES	-	-
Merge/sort/duplicate spooled files	YES	-	-	-	YES	-	-
Convert spool to ASCII text PC file	YES	-	YES	-	-	-	-
Convert spool to PDF/RTF/HTML etc.	-	-	YES	-	-	-	-
Convert database file to Excel	-	-	-	YES	-	-	-
E-mail spool as ASCII text attach	YES	YES	-	-	-	-	-
E-mail spool as PDF/RTF/HTML etc.	-	YES	-	-	-	-	-
E-mail database file as Excel	-	-	-	YES	-	-	-
E-mail any IFS file	-	-	-	-	-	-	YES
Set up OS/400 SMTP & mail router	YES	YES	-	YES	-	-	YES
Edit DDS, RPG, ILE/RPG source code	-	-	-	-	-	YES	-

Figure: Product Function Comparison

Future Directions

Future releases of Spool-a-Matic will include a broader list of spooled file to PC file conversions and feature. Additionally, enhancements are often added by Program Temporary Fix (PTF).

Contact Gumbo Software Inc for information on scheduling or to suggest additional enhancements.

Chapter 2 Installation

What's In This Chapter

This chapter describes:

- o How to install Spool-a-Matic
- o How to verify the installation
- o API authority granted during installation
- o How to include the Spool-a-Matic library in a job's library list
- o How to determine release dependencies
- o How to test a new release while leaving the old in production.
- o How to delete Spool-a-Matic from the system
- o How to find additional installation information
- o How to contact technical support
- o How to integrate Report Manager and Spool-a-Matic
- o Hot site installation

Installing The Spool-a-Matic Licensed Program Product

Follow these instructions to install Spool-a-Matic V1R7M0 on your iSeries server:

Note: If you have downloaded this software from the web, instructions specific to installing from the download can be found in the file "readme.htm" which is included in the download.

1. Sign on to the system as the security officer (QSECOFR).
2. Verify that your machine is at OS/400 V4R5M0 or later by running:

```
DSPDTAARA DTAARA(QGPL/QSS1MRI)
```

Note: If you are running a version of OS/400 earlier than V4R5M0 you can not install Spool-a-Matic V1R7M0 on your machine. You must install an earlier version of Spool-a-Matic or upgrade the operating system.

3. Verify that user domain objects are allowed in the libraries SPLAMATIC and QSRV, by running:

```
WRKSYSVAL SYSVAL(QALWUSRDMN)
```

Take option 5 to display the value. If the value is not *ALL, use option 2 to add libraries SPLAMATIC and QSRV to the list of libraries where user domain objects are allowed.

Note: QSRV is required to correctly process PTFs when they are loaded and applied.

4. Mount the distribution media in the appropriate device.
5. Submit the Restore Licensed Program (RSTLICPGM) command to batch:

```
RSTLICPGM LICPGM(2A55SAM) DEV(device-name) LNG(2924)
```

Note: "device-name" is the device the media was mounted on and is usually OPT01.

When the RSTLICPGM command finishes a new library SPLAMATIC and a new directory '/Gumbo/ProdData/2A55SAM' are on the system. You can access the Spool-a-Matic menu by entering the following command:

```
GO MENU(SPLAMATIC/SPLAMATIC)
```

You can determine which PTFs were included on the media by entering the command:

```
DSPPTF LICPGM(2A55SAM)
```

A list of current PTFs can be found at www.gumbo.com. If there are newer PTFs available, download and apply them. The bottom of our PTF web page also includes a listing of any IBM PTFs that affect the product.

Note: Gumbo Software recommends downloading the current cumulative PTF package after installing the software.

Verifying Spool-a-Matic Installation

You may verify that Spool-a-Matic has been correctly installed by running the installation verification program.

- o Access the Spool-a-Matic menu by entering the following command:

```
GO MENU(SPLAMATIC/SPLAMATIC)
```

- o Select the option to 'Verify that Spool-a-Matic is installed correctly' and press enter.

If the message 'Spool-a-Matic is installed correctly.' is displayed on the bottom of your display when the option finishes, installation is complete.

API Authority Granted During Installation

The first time the product is installed on a system, public authority *USE is granted to 3 of the OS/400 supplied spooling APIs. These are QSPOPNSP, QSPGETSP, and QSPCLOSP. The APIs are used to open, read and close spooled files. This is required in order to process spooled file contents.

Security restrictions and authority requirements pertaining to spooled files and output queues remain in effect and are enforced by OS/400 during use of the APIs. However, if you are operating a highly secured environment you may wish to review and revise the authority granted during installation.

No authority is granted during installation if the product exists on the system. This prevents new releases from altering changes made after the initial installation.

Library List Considerations

Library SPLAMATIC must be in the library list of jobs using Spool-a-Matic commands, or the commands must be qualified with library SPLAMATIC. Depending on your installation and intended use you may choose to:

- o Add library SPLAMATIC to the system library list. This insures every job in the system has access to SpoolMail commands. However this introduces problems with installing new releases and is not recommended.
- o Add library SPLAMATIC to the initial library list parameter of job descriptions controlling jobs which will use Spool-a-Matic commands. (recommended)
- o Run a ADDLIBLE SPLAMATIC command in individual jobs requiring Spool-a-Matic commands.
- o Qualify the command names on each use:

```
SPLAMATIC/CHGSAMAUT
```

Library SPLAMATIC will be temporarily added to the product portion of the job's library list.

Determine the best method for your installation and perform any changes required.

Release Considerations

Spool-a-Matic operates under OS/400 V4R5M0 or higher. Releases occur on a different schedule than IBM releases. Once Spool-a-Matic is installed the following considerations apply:

- o A new release of OS/400 may be installed without installing a new release of Spool-a-Matic.

Spool-a-Matic uses only published or IBM sanctioned interfaces and is upward compatible with all releases of OS/400. The Spool-a-Matic authorization code does not change.

- o A new release of Spool-a-Matic may be installed without installing a new release of OS/400.

Any change in the requirements for operating system release level will be noted in the documentation accompanying the Spool-a-Matic release. The new authorization code must be entered.

- o More than one release of Spool-a-Matic may be installed on a system at one time.

By restoring Spool-a-Matic to a library other than SPLAMATIC a new release can be installed for testing while the current release remains in production. Any release to release considerations that may apply will be noted in the documentation accompanying the new release. Additional operational considerations may apply. For more information on renaming a library during licensed program installation see the Restore Licensed Program (RSTLICPGM) command and the New Release Testing section of this chapter.

- o When a new release of Spool-a-Matic is installed in the same library as an old release the following processing is performed in order to preserve data and authorization information:

1. All objects are saved to the save file QGPL/SAMV1R7M0.
2. Product objects that contain default settings and operational information are copied to library QTEMP.
3. The Spool-a-Matic library is cleared.
4. Spool-a-Matic is restored.
5. Default settings and operational information are copied to the product objects.
6. All objects duplicated to QTEMP are deleted.
7. Save file QGPL/SAMV1R7M0 is deleted.

Note: Gumbo Software recommends making a backup of the current release before installing a new release of Spool-a-Matic.

New Release Testing

Unlike IBM licensed programs, Gumbo Software licensed programs are packaged in a way that allows multiple release to be installed on your ISeries at the same time. This feature allows you to test a new release while the current release remains in production.

The key to new release testing are the LIB() and CODHOMEDIR() parameters of OS/400's Restore License Program (RSTLICPGM) command which allow you to restore the product to a library name and directory different than the those used during packaging. To test a new release, follow this procedure:

1. Install the new release in library SAMV1R7M0 and directory '/Gumbo/ProdData/2A55SAMV1R7M0':

```
RSTLICPGM LICPGM(2A55SAM) DEV(device-name) LIB(SAMV1R7M0) REPLACERLS(*NO) LNG(2924)
          CODHOMEDIR(' /Gumbo/ProdData/2A55SAMV1R7M0')
```

2. Perform your new release testing.
3. When testing is complete you must delete the new release.

```
DLTLICPGM LICPGM(2A55SAM) RLS(V1R7M0) OPTION(*ALL)
```

Note: Do not delete nor rename libraries and directories to move the new release into production. Doing so will corrupt the license program information kept internally by OS/400. If this has already occurred, see the "Software Installation Problems" section of the "Trouble Shooting" chapter.

4. Follow the installation instructions to place the new release into production.

Deleting the Spool-a-Matic Licensed Program Product

Follow these instructions to remove Spool-a-Matic from your ISeries:

1. Sign on to the system as the security officer (QSECOFR).
2. Delete the product by using the Delete Licensed Program (DLTLICPGM) command:

```
DLTLICPGM LICPGM(2A55SAM) OPTION(*ALL)
```

Additional Installation Information

Additional detailed installation information and instructions can be found in the [OS/400 Software Installation SC41-5120](#).

Technical Support

If you encounter a problem with Spool-a-Matic you should:

- o Review the information in the Trouble Shooting chapter for a description of and solution to common problems.
- o Load and apply the current cumulative PTF package for the software. You can obtain the current package by visiting the web site listed below.

If the problem remains unresolved, contact:

Mailing address: Gumbo Software, Inc.
809 W Howe St
Seattle, WA 98119
United States of America
Fax: (206) 284-5029
Telephone: (206) 284-5078
E-mail: support@gumbo.com
World Wide Web: www.gumbo.com

If your problem involves spooled file processing, the best method for getting it resolved is to capture the spooled file using the Create Spool Save File (CRTSPLSAVF) command and e-mail the resulting save file along with a description of the problem to the address listed above. Be sure to include contact information.

Note: See the Trouble Shooting chapter for details on creating and sending spool save files.

Integrating Report Manager and Spool-a-Matic

Report Manager is a product that offers extensive spooled file manipulation capabilities, including the ability to convert spooled files into PC File. The conversion is limited however to <CR><LF> delimited ASCII text and does not include the extensive conversion capabilities offered by Spool-a-Matic.

Spool-a-Matic is a product that offers extensive spooled file conversion capabilities, but does not

provide spooled file splitting, and other capabilities offered by Report Manager.

To make the capabilities of Spool-a-Matic available for use with Report Manager perform the following steps:

1. Change the Report Manager job description RMRPTWTR to include library SPLAMATIC on the Initial library list (INLLIBL) parameter. For example, if you are using the job description as shipped with Report Manager, run the following command:

```
CHGJOB JOB(RPTMGR/RMRPTWTR)
      INLLIBL(RPTMGR QTEMP QGPL SPLAMATIC)
```

2. Add subscriptions to the reports that should create PC files using Spool-a-Matic. For example to generate PC files as Portable Document Format from report INV310, run the following command:

```
ADDRPTSUB RPT(REPORTS/INV310)
          OUTQ(*NONE) TRANSFORM(*PDFLETTER)
          TOOBJ('/MYDIRECTORY/INV310.PDF')
```

Hot Site Installation

In the event of a catastrophic system failure, an otherwise properly licensed and authorized copy of this product may be copied to a back up machine. The product's authorization algorithm will detect that the software is operating on a machine serial number different than the licensed and authorized serial number and automatically grant a 30 day temporary authorization for the back up machine. You do not need to contact Gumbo Software, Inc in the event of an emergency.

An otherwise properly licensed and authorized copy of this product may be transferred to a back up machine for the purpose of testing your emergency recovery procedures and the product's automatic temporary authorization function.

The correct sequence of steps is as follows:

1. Install the software and enter the permanent authorization on your production machine.
2. Save the software from your production machine using the Save Licensed Program (SAVLICPGM) command. This creates an authorized copy, save it with your back ups.
3. When restoring to the back up machine you must first insure that any previous copies have been deleted. To delete a previous copy use the Delete Licensed Program (DLTLICPGM) command.
4. Restore the authorized copy to the back up machine using the Restore License Program (RSTLICPGM) command.
5. The back up machine will create an automatic authorization running for 30 days from the first time the software is used. This allows you install the authorized copy in advance of a disaster.

Chapter 3 Spool-a-Matic Menu

What's In This Chapter

This chapter describes how to access the Spool-a-Matic menu, and reviews the functions that can be performed from the menu.

Accessing The Menu

The Spool-a-Matic commands and functions that you will use are collected on a single menu named SPLAMATIC. To access this menu use the Go To Menu (GO) command:

```
GO MENU(SPLAMATIC/SPLAMATIC)
```

Library SPLAMATIC is added to the product portion of your job's library list while the menu is displayed.

Menu Options

```
-----+-----
SPLAMATIC                               Spool-a-Matic                               System:  GUMBO
Select one of the following:
    1.  Online Manual
Spool-a-Matic
    2.  Spool Convert                               SPLCONVERT
    3.  Work with Gumbo Spooled Files              WRKGSISPLF
    4.  Work with Gumbo Output Queue              WRKGSIOUQ
Verification and Set Up
    10. Verify that Spool-a-Matic is installed correctly
    11. Create Device Gumbo Printer                CRTDEVGLP
    12. Change Device Gumbo Printer               CHGDEVGLP
    13. Delete Device Gumbo Printer              DLTDEVGLP
More...
Selection or command
===> _____
F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
(C) Copyright Gumbo Software, Inc. 1998, 2004. All Rights Reserved.
-----+-----
```

Figure: Spool-a-Matic Menu

The Spool-a-Matic (SPLAMATIC) menu options are summarized below. See the detailed descriptions in later chapters for a complete description of each option.

Option 1. Online Manual

The online manual allows you to view the contents of the Spool-a-Matic Manual from a work station.

Option 2. Spool Convert

The Spool Convert (SPLCONVERT) command converts an OS/400 spooled file into a PC file in OS/400's Integrated File System.

Option 3. Work with Gumbo Spooled Files

The Work with Gumbo Spooled Files (WRKGSISPLF) command works like OS/400's Work with Spooled Files (WRKSPLF) command but provides additional options to access the functions of this product.

Option 4. Work with Gumbo Output Queue

The Work with Gumbo Output Queue (WRKGSIOUQ) command works like OS/400's Work with Output Queue (WRKOUTQ) command but provides additional options to access the functions of this product.

Option 10. Verify that Spool-a-Matic is installed correctly

Installation verification checks to make sure that Spool-a-Matic has been correctly installed.

Option 11. Create Device Gumbo Printer

The Create Device Gumbo Printer (CRTDEVGLP) command creates a device description for a Gumbo logical printer.

Option 12. Change Device Gumbo Printer

The Change Device Gumbo Printer (CHGDEVGLP) command prompts you to change the source command executed by a Gumbo logical printer.

Option 13. Delete Device Gumbo Printer

The Delete Device Gumbo Printer (DLTDEVGLP) command deletes a device description for a Gumbo logical printer.

Option 61. Display Current PTF Status

Displays the Spool-a-Matic PTFs that have been applied to the software.

Option 62. Change Spool-a-Matic Authorization

The Change Spool-a-Matic Authorization (CHGSAMAUT) command changes the authorization value for Spool-a-Matic. The command is used to extend a demonstration period or to permanently authorize Spool-a-Matic for a system or partition.

Option 63. Search Help Index

Search help index allows you to access the Spool-a-Matic help index and search for specific information.

Option 64. Change Spool-a-Matic Default

The Change Spool-a-Matic Default (CHGSAMDFT) command changes values used by Spool-a-Matic to control processing and other activities.

Option 65. Dump Page Index Positions

The Dump Page Index Positions (DMPPIP) command prints the line and position values, for data found in the spooled file, as calculated by the software. These are used to specify data selection criteria for the spooled file.

Option 66. Create Spool Save File

The Create Spool Save File (CRTSPLSAVF) command creates a save file containing a spooled file and all its related resources. The save file is suitable for e-mailing with a problem report.

Chapter 4 Implementation

What's In This Chapter

This chapter describes how to implement Spool-a-Matic in your environment. The chapter:

- o Gives an overview of implementation choices.
- o Describes changing programs to convert spooled files.
- o Describes manually converting spooled files.
- o Describes creating a Gumbo logical printer.
- o Describes sharing a Gumbo logical printer on the network.
- o Describes accessing files in the Integrated File System.
- o Describes automatically converting spooled files.
- o Describes adding bookmarks To PDF files.
- o Describes adding DOCIDXTAG DDS printer file keywords.
- o Describes adding STRPAGGRP DDS printer file keywords.

Overview

The main function of Spool-a-Matic is accessed by running the Spool Convert (SPLCONVERT) command. The command takes a spooled file and an Integrated File System object (PC file) name as input. The spooled file is retrieved from OS/400's spool store and converted based on the transform requested. To implement Spool-a-Matic in your environment you have four basic choices (these are discussed in detail in the following sections):

1. Modify each program that creates spooled files that will be converted to directly run the Spool Convert (SPLCONVERT) command.
Pros The spooled file is always converted as soon as it is created.
Cons Programs must be modified and recompiled.
2. Manually run the Spool Convert (SPLCONVERT) command from a command line or using option 12 from the Work with Gumbo Spooled Files (WRKGSISPLF) or Work with Gumbo Output Queue (WRKGSIOUQ) displays.
Pros Good for casual or on demand use, no program changes required.
Cons Requires manual operations and scheduling.
3. Create a Gumbo logical printer device to run the Spool Convert (SPLCONVERT) command for each spooled file placed in the printer's output queue.
Pros No program changes, no manual intervention.
Cons Fixed path template, limited flexibility compared to Report Manager.
4. Automatically run the Spool Convert (SPLCONVERT) command using Gumbo's Report Manager.
Pros No program changes, no manual intervention, extensive distribution and bursting options.
Cons Additional product required.

Changing Programs

Spool-a-Matic can be implemented by changing the programs that create spooled files to convert them directly. A typical batch Control Language (CL) program that creates a spooled file would contain the following CL sequence:

```
OVRDBF      FILE(INVENTORY) TOFILE(INVLIB/INVENTORY)
OVRDBF      FILE(CUSTOMER) TOFILE(INVLIB/CUSTOMER)
CALL        PGM(INVLIB/INV320)
```

If program INV320 generates spooled file QSYSPRT then the following changes will convert it to the /reports/INV320 directory and create a file with the date and time created as the name:

```
OVRPRTF      FILE(QSYSPRT) HOLD(*YES) /* Can't let it print */
OVRDBF      FILE(INVENTORY) TOFILE(INVLIB/INVENTORY)
OVRDBF      FILE(CUSTOMER) TOFILE(INVLIB/CUSTOMER)
CALL        PGM(INVLIB/INV320)
SPLCONVERT  FILE(QSYSPRT) TRANSFORM(*PDFLETTER) +
            TOOBJ('/reports/*PGM/*SPLCDAT*SPLCTIM.pdf')
RLSSPLF     FILE(QSYSPRT) SPLNBR(*LAST) /* Now it can print */
```

The spool file is converted as soon as program INV320 has completed processing.

Manually Converting Spooled Files

Spool-a-Matic can be implemented by assigning an operator the task of manually converting spooled files. Spool-a-Matic's Work with Gumbo Spooled Files (WRKGSISPLF) or Work with Gumbo Output Queue (WRKGSIOUQ) commands provide a convenient means of accomplishing this. Suppose the operator should convert all spooled files created by user QPGMR and program INV320 in the NIGHTBATCH output queue to the /reports/INV320 directory and create files with the date and time created as the name. The following command displays a list of spooled files created by user QPGMR:

```
WRKGSISPLF  SELECT(QPGMR)
```

The operator enters option 12 for each spooled file to convert and enters the object name on the parameter line as illustrated:

```
-----
Work with Gumbo Spooled Files

Type options, press Enter.
 1=Send 2=Change 3=Hold 4=Delete 5=Display 6=Release 7=Message
 8=Attributes 9=Print Status 12=Convert 14=E-mail

Opt  File      User      Device or  User      Sts  Total  Cur  Copy
 12  QSYSPRT    QPGMR    NIGHTBATCH INV320    RDY   1      1    1
 12  QSYSPRT    QPGMR    NIGHTBATCH INV320    RDY   1      1    1
  —  QJOBLOG    QPGMR    QEZJOBLOG  TEST     RDY   2      1    1
  —  QJOBLOG    QPGMR    QEZJOBLOG  PRT02    RDY   1      1    1
 12  QSYSPRT    QPGMR    NIGHTBATCH INV320    RDY   1      1    1
 12  QSYSPRT    QPGMR    NIGHTBATCH INV320    RDY   1      1    1

Parameters for options or command
====> TOOBJ('/reports/*PGM/*SPLCDAT*SPLCTIM.pdf') TRANSFORM(*PDFLETTER)
F3=Exit  F4=Prompt  F5=Refresh F9=Retrieve F11=Change view F12=Cancel
F17=Top  F18=Bottom F22=Printers
(C) Copyright 1998, 2004 Gumbo Software, Inc. All rights reserved.
-----
Bottom
```

Figure: Work with Gumbo Spooled Files Display

By pressing enter, the spooled files are converted. The spooled files remain on the system.

Creating a Gumbo Logical Printer

Spool-a-Matic can be implemented by using the Create Device Gumbo Printer (CRTDEVGLP) command to create a Gumbo logical printer.

A Gumbo logical printer is a printer device that performs spooled file processing instead of printing on paper. As with other printer devices, you use OS/400's writer commands (WRKWTR, STRPRTWTR, ENDWTR, HLDWTR, etc.) and OS/400's configuration commands (WRKCFGSTS, VFYCFG, etc.) to control a Gumbo logical printer's operation.

When you create a Gumbo logical printer using the Create Device Gumbo Printer (CRTDEVGLP) command, a source file with the same name is create in library QUSRSYS. The source file contains a member with the same name as the printer and in the source member is a single Control Language

(CL) command. As a Gumbo logical printer processes, it runs this command once for each spooled file in the output queue.

After creating the Gumbo logical printer, moved your spooled files to the printer's output queue and release them to initiate processing.

Sharing A Gumbo Logical Printer On The Network

A Gumbo logical printer is a printer device that performs Spool-a-Matic's spooled file processing instead of printing on paper. You can create a share for the Gumbo logical printer that allows PC user to "print" to it and receive its services. To create a print share for Gumbo logical printer GLP01 follow these steps:

1. Open a connection to your iSeries in Operations Navigator.
2. Expand Network.
3. Expand Servers.
4. Click TCP/IP to retrieve a list of TCP/IP servers available.
5. Right-click NetServer and select Open.
6. Right-click Shared Objects and select New and then Printer.
7. Use the General Properties page and configure:
 - o Share name: GLP01
 - o Description: Spool-a-Matic Printer
 - o Output queue: GLP01
 - o Output queue library: QUSRSYS
 - o Printer driver: (leave blank)
 - o Spooled file type: Advanced function printing
8. Click OK.

Note: The Operations Navigator online help provides more details about NetServer file share properties.

Once a share has been created, map to it from your Windows PC by following these steps:

1. From the Windows Control Panel, double click Printers.
2. Double click Add Printer.
3. Click next.
4. Select Network printer and click next.
5. Select Type printer name, enter \\server-name\GLP01 and click next.
 - Note:** server-name is the name by which your iSeries is known to the Windows Network Neighborhood.
6. When the Connect to Printer pop-up appears click OK.
7. When the Add Printer Wizard pop-up appears, double click Manufactures: IBM.
8. Double click IBM AFP 300. Click next.
 - Note:** If you do not have the AFP print drivers they can be loaded using Client Access Set Up.
9. Click Finish.

We suggest you change the printers settings to print text as text instead of graphics. To do so:

1. Right click the newly created "GLP01 on server-name" and select properties.
2. Click the Advanced tab.
3. Click Printer Defaults.
4. Set Print Text as Graphics to Off, click OK.
5. Click OK.

Accessing Files In The Integrated File System

Files are created in OS/400's Integrated File System (IFS). There are a variety of ways to access the contents of the IFS. The following common methods are described here:

- o Accessing the file from a PC using OS/400's support for Windows Network Neighborhood

(NetServer).

- o Creating the file directly on a Windows NT/2000 machine using the IFS's QNTC file system.
- o Transferring the file using FTP from a PC.
- o Transferring the file using FTP from OS/400.
- o Accessing the file from a PC using Client Access (not Express).

Windows Network Neighborhood (NetServer)

OS/400 Support for Windows Network Neighborhood (NetServer) allows a TCP/IP attached PC to access the Integrated File System using the file and print sharing built into Windows.

OS/400 NetServer support does not require you to install any additional software on your personal computer. Similarly, NetServer does not require any software other than base OS/400 V4R2M0 or later.

Follow these guidelines to get your iSeries Server set up to use NetServer. These instructions assume that you do not have access to Operations Navigator support. Whenever possible, you should use Operations Navigator.

Note: You must have *IOSYSCFG special authority to change any part of NetServer configuration. In addition, you must have *SECADM special authority to change the NetServer guest user profile. These changes will take effect the next time NetServer is started.

1. Verify that TCP/IP support is configured on your iSeries Server.
2. Use the Work with Subsystems (WRKSBS) command to confirm that the QSERVER subsystem has started.
3. Verify that the NetServer name is unique on the network. To change the NetServer default server and domain name, use the following command:

```
CALL QZLSCHSN PARM(server-name domain-name  
                  'text description or comment' X'00000000')
```

4. To change NetServer guest support, use the following command:

```
CALL QZLSCHSG PARM(guest-user-profile X'00000000')
```

Users who require the file and print-sharing capabilities of NetServer, but do not have an OS/400 user profile need a guest user profile.

Note: The Guest User Profile should not have a password or any special authority.

5. Stop and start NetServer, using the following commands:

```
ENDTCPSVR SERVER(*NETSVR)  
STRTCPSVR SERVER(*NETSVR)
```

The only directory that is automatically shared with the network is the \QCA400 directory. To create additional shares you must use Operations Navigator and follow these steps:

1. Open a connection to your iSeries Server in Operations Navigator.
2. Expand Network.
3. Expand Servers.
4. Click TCP/IP to retrieve a list of TCP/IP servers available.
5. Right-click NetServer and select Open.
6. Right-click Shared Objects and select New and then File.
7. Use the General Properties page to configure the new file share with a name, description, access, maximum number of users, and directory path name.

Note: The Operations Navigator online help provides more details about NetServer file share properties.

Once a share has been created, map to it from your Windows PC by following these steps:

1. Right-click the Start button and choose Explore to open the Windows Explorer.
2. Open the Tools pull-down menu on the Windows Explorer and select Map network drive.
3. Select the letter of a free drive for the file share.
4. Enter the name of a NetServer file share. For example:

```
\\server-name\Sharename
```

Note: server-name is the system name of NetServer on iSeries Server, and Sharename is the name of the file share you want to use.

5. Click OK.

Alternately you can use Network Neighborhood to access the share:

1. Open Windows Network Neighborhood.
2. Open server-name (Where server-name is the NetServer on iSeries Server).
3. Select a file share.

QNTC File System

OS/400's QNTC file system allows the Integrated File System to write directly to Windows NT/2000 file shares (disk) as if it were local OS/400 disk storage.

Path (file) names in QNTC consist of the file system name, the Windows NT/2000 server name, the sharename, the directory and sub-directory names, and the object name. Path (file) names have the following form:

```
/QNTC/Servername/Sharename/MyDirectory/MyFile.pdf
```

Use the Make Directory (MKDIR) command to add a Windows NT/2000 server to QNTC. For example:

```
MKDIR DIR('/QNTC/NTSRV1')
```

Adds the NTSRV1 server into the QNTC file system directory structure to enable access of files and directories on that server.

FTP Using PC

FTP can be used to transfer the files to another system. In brief, the steps for retrieving the file /mydirectory/myfile.pdf from IFS to your PC are:

1. Insure the OS/400 FTP server is active by running this command from an OS/400 command line:

```
STRTCPSVR SERVER(*FTP)
```

2. From your PC, open a command prompt (a.k.a. DOS session).
3. Open an FTP connection to the iSeries Server by running (use your system's name or IP address):

```
FTP system_name
```

4. Enter a user name and password as prompted.
5. Change to binary (image) mode by running:

```
binary
```

6. Switch to OS/400 Integrated File System by running:

```
quote site namefmt 1
```

7. Retrieve the file by running:

```
get /mydirectory/myfile.pdf
```

8. End FTP and command prompt (DOS session) by running:

```
quit  
exit
```

See [TCP/IP Configuration and Reference SC41-5420](#) or the Info Center for more details.

FTP Using OS/400

FTP can be used from OS/400 to transfer the files to another system interactively or in batch. The interactive procedure is similar to the PC procedure, using "put" instead of "get". In brief, the steps for transferring the file /mydirectory/myfile.pdf from IFS to another system in batch are:

1. Create a source member containing the FTP commands that you would otherwise have to type at the terminal during an interactive session with the target server. By way of example, we use the following command sequence in member FTPCMDS in QGPL/QCLSRC.

```
user password  
binary  
namefmt 1  
put /mydirectory/myfile.pdf  
quit
```

2. Add the following statements to your program:

```
...  
OVRDBF FILE(INPUT) TOFILE(QGPL/QCLSRC) MBR(FTPCMDS)  
OVRDBF FILE(OUTPUT) TOFILE(QGPL/QCLSRC) MBR(FTPLOG)  
FTP RMTSYS(system_name)  
...
```

See [TCP/IP Configuration and Reference SC41-5420](#) or the Info Center for more details.

Client Access (not Express)

Client Access includes software that connects to the iSeries Server and makes the integrated file system available to the PC. The manual Integrated File System Introduction SC41-5711 contains information on getting connected using CA/400.

Automatically Converting Spooled Files

Gumbo's Report Manager is a software utility that automates report distribution and spooled file management on the IBM ISeries. Spool-a-Matic can be integrated with Report Manager or similar products that monitor an output queue and process spooled files upon arrival. Suppose Report Manager is installed and a definition for report INV320 has been created. To have Report Manager automatically convert spooled files created by INV320 to the /reports/INV320 directory and create a file with the date and time created as the name, run the Add Report Subscription command:

```
ADDRPTSUB RPT(INV320) TRANSFORM(*PDFLETTER)  
          TOOBJ('/reports/*PGM/*SPLCDAT*SPLCTIM.pdf')
```

Each time an INV320 spooled file is processed, it is converted to /reports/INV320 in addition to the deliveries for other subscribers.

Adding Bookmarks To PDF Files

When converting spooled files to PDF you can specify that bookmarks are to be included in the generated PC file. Bookmarks provide easy navigation to specific portions of the report. When a bookmark is clicked, Adobe's Acrobat viewer positions the file directly to the page the bookmark references.

The inclusion of bookmarks is controlled by the "PDF bookmark style" PDFBKMSTY() and "PDF bookmark data source" PDFBKMSRC() command parameters which specify what data to use for bookmarking and how the bookmarks are presented.

Consider the following 4 sample pages from a spooled file:

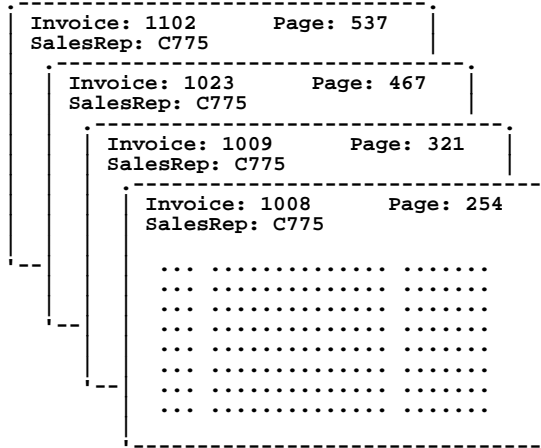


Figure: Sample Spooled File Pages

Specifying line=2, position=12, length=4 as name 'Rep No.' and line=1, position=11, length=4 as 'Invoice' with one level of bookmarking:

```
PDFBKMSTY(*ONELEVEL)
PDFBKMSRC((2 12 4 'Rep No.') (1 11 4 'Invoice'))
```

Generates the following bookmarks in the PDF:

```
|
+--Invoice
  +--1008
  +--1009
  +--1023
  +--1102
+--Rep No.
  +--C775
    +--254
    +--321
    +--467
    +--537
```

Using *TWOLEVEL instead of *ONELEVEL generates (invoice top level bookmark omitted for brevity):

```
|
+--Rep No.
  +--C775
    +--Invoice
      +--1008
      +--1009
      +--1023
      +--1102
    +--Page
      +--254
      +--321
      +--467
      +--537
```

For more details on specifying data sources see the PDFBKMSRC() command parameter description.

Adding DOCIDXTAG DDS Printer File Keywords

One of the possible sources of bookmarking data for *AFPDS spooled files is DDS's DOCIDXTAG keyword. When present in the spooled file they can be selected by the "PDF bookmark data source" PDFBKMSRC() command parameter's special values *DOCIDXTAG, *DOCIDXTAGP and *DOCIDXTAGG.

The DOCIDXTAG() DDS keyword allows you to specify one or more "attribute-name"/"attribute-value" pairs for a page or group of pages. Examples of pairs would be "POLICY NUMBER"/"12345" or "CUSTOMER NUMBER"/"67890". Spool-a-Matic uses the pairs to construct bookmarks as specified by the "PDF bookmark style" PDFBKMSTY() command parameter.

You add DOCIDXTAG data to your spooled file by specifying the DOCIDXTAG keyword in the printer file that creates the spooled file:

```

A          R RECORD1
A 02
A
DOCIDXTAG('Policy Number' +
'43127' PAGE)
...
-- or --
A          R RECORD2
A
A          NAM          20A P
A          VAL          10A P
A
...

```

See IBM's DDS Reference manual for complete details.

Adding STRPAGGRP DDS Printer File Keywords

One of the possible sources of bookmarking data for *AFPDS spooled files is DDS's STRPAGGRP keyword. When present in the spooled file they can be selected by the "PDF bookmark data source" PDFBKMSRC() command parameter's special value *STRPAGGRP.

The STRPAGGRP() DDS keyword in conjunction with the ENDPAGGRP DDS keyword allows you to define a group of pages and assign them a name. Examples of names would be "POLICY NUMBER 12345" or "CUSTOMER NUMBER 67890". The PDF conversion uses the grouping and its name to construct bookmarks as specified by the "PDF bookmark style" PDFBKMSTY() command parameter.

You add page group information to your spooled file by specifying the STRPAGGRP/ENDPAGGRP keywords in the printer file that creates the spooled file:

```

A          R RECORD1
A 02
A
STRPAGGRP('Policy Number +
43127')
...
-- or --
A          R RECORD2
A
A          NAM          20A P
A
...

```

See IBM's DDS Reference manual for complete details.

Chapter 5 Conversions

What's In This Chapter

This chapter describes the spooled file conversions available with Spool-a-Matic. The chapter:

- o Gives an overview of the conversion process
- o Describes the <CR><LF> delimited ASCII text conversion
- o Describes the Portable Document Format conversion
- o Describes the Rich Text Format conversion
- o Describes the Hyper Text Markup Language conversion
- o Describes the Tag Image File Format
- o Describes the Host Print Transform conversion
- o Describes the no conversion conversion
- o Describes the PostScript conversion
- o Describes the Final Form Text conversion
- o Describes the AFP print file conversion

Overview

The Spool Convert (SPLCONVERT) command retrieves the requested spooled file from OS/400's spool store and converts the print data into a PC file in OS/400's Integrated File System. OS/400 applications can produce spooled files in the following data streams:

- o *SCS (SNA Character String)
- o *IPDS (Intelligent Printer Data Stream)
- o *AFPDS (Advanced Function Printing Data Stream)
- o *USERASCII (ASCII data stream)
- o *LINE (1403 line data)
- o *AFPDSLIN (Mixed *AFPDS and *LINE data)

The type of data stream produced is determined by the DEVTYPE parameter of the printer file associated with the application.

Spool-a-Matic can produce attached PC files in several different formats:

- o Carriage return/line feed delimited ASCII text (TXT)
- o Adobe's Portable Document Format (PDF)
- o Microsoft's Rich Text Format word processor file (RTF)
- o World wide web's Hyper Text Markup Language (HTML)
- o Tag Image File Format (TIFF)
- o Printer specific print data streams produced by OS/400's Host Print Transform (HPT)
- o An unaltered copy of the original print data stream (NONE)
- o Adobe's PostScript (PS)
- o IBM's Final Form Text (FFT)
- o IBM's AFP print file (APF)

Not all of the possible conversions are applicable to all spooled file print data streams. The following table shows the supported conversions:

Input Spooled File Print Data Stream	Output Data Format Conversion									
	PDF	TXT	RTF	HTML	HPT	NONE	PS	FFT	TIFF	
*SCS	YES	YES	YES	YES	YES	YES		YES	YES	
*IPDS	YES	YES	YES	YES		YES		YES		
*AFPDS	YES					YES	YES		YES	
*USERASCII						YES				
*LINE	note	note			note	YES	note		note	
*AFPDSLIN	note	note			note	YES	note		note	

Figure: Print Data Stream/Conversion Matrix

- Note: The PDF transform is double byte enabled for Chinese/Japanese/Korean.
Note: The TXT transform is double byte enabled for *SCS.
Note: You can determine a spooled file's print data stream by displaying its attributes (option 8 from WRKOUTQ or WRKSPLF) and locating the "Printer device type" parameter.
Note: For *LINE and *AFPDSLIN full *AFPDS support is available with OS/400 V5R1M0. Specify CVTLINDTA(*YES) on the printer file.

The conversion process is governed by the Spool Convert (SPLCONVERT) command's TRANSFORM() parameter. Depending on the transform specified, the Target coded character set id (TRGCCSID), Source coded character set id (SRCCSID) and Workstation customizing object (WSCST) parameters also play a role.

The following sections describe the conversions in more detail.

<CR><LF> Delimited ASCII Text Conversion

Carriage return/line feed delimited ASCII text PC file format is the simplest of the conversion processes. Each line of the input spooled file is converted from EBCDIC to ASCII based on the source and target CCSIDs specified. A carriage return and line feed are appended to the end of the line. Additional carriage return line feed pairs are inserted to account for blank lines in the page. For transform *TXT, pages are filled from the last print line to bottom of the page with additional blank lines. For transform *TXTFF a single <FORM FEED> control is placed at the end of the last printed line on each page. For transform *TXTTRIM the line padding is omitted on the last page.

The generated file can be read by any ASCII capable viewer. Virtually every machine has an ASCII capable viewer making this transform useful when the capabilities of the recipient's machine are unknown or limited.

You specify this conversion by specifying TRANSFORM(*TXT), TRANSFORM(*TXTFF) or TRANSFORM(*TXTTRIM).

This conversion is Double Byte Character Set (DBCS) enabled for *SCS.

There is a limitation when converting AFPDS spooled files to text. If the lines of a spooled file are printed out of sequential order, the results will not be as expected. The text processor does not have the ability to "move backward" in the generated data and insert new data into a line that was previously passed. The new data for a preceding line is placed on the current line giving undesirable results. This limitation may be addressed in a future release.

The recommended extension for <CR><LF> delimited ASCII PC files is TXT.

Adobe Portable Document Format Conversion

Adobe's PDF is a file format used to represent a document in a manner independent of the application software, hardware, and operating system used to create it. A PDF file contains a PDF document and other supporting data.

The files generated can be read by any PDF capable viewer. Adobe's Acrobat reader is a PDF viewer that is distributed for free and is available for most major platforms making this transform useful when the users have differing platforms. You can download the latest version of Acrobat from www.adobe.com.

Font Processing

When converting spooled files the product processes external print resources such as page segments and overlays. By default, fonts are mapped to one of the fonts built in to Adobe's Acrobat reader. The built in fonts are:

- o Courier (including bold, italic and bold italic)
- o Helvetica (including bold, italic and bold italic)
- o Times (including bold, italic and bold italic)
- o Symbol

For host resident fonts, that is fonts specified using coded font names such as XZ421001 or specified using character set and codepage names such as CZ4200 and T1V10037, you can improve the font fidelity (at the expense of file size) by specifying PDFFONTIMB(*TYPE1 *TYPE3) on the PDF font imbedding parameter. Imbedding fonts includes a copy of the font's definition in the generated PC file.

Text positioning

Most OS/400 spooled files use absolute text positioning operations which are processed exactly. For spooled files and print resources that contain relative moves, use blank padding to position text, or underline variable pitch text, positional accuracy can be improved at the expense of processing time by specifying TXTRELPOS(*EXACT) or TXTRELPOS(*EXACTMOD) on the Text relative positioning parameter.

Document Security

PDF documents can be encrypted to protect their contents from unauthorized access. An encrypted PDF document has two passwords: an owner password and a user password. The PDF document also specifies operations that should be restricted even when the PDF document is decrypted. When opening an encrypted PDF document, Adobe's Acrobat Reader prompts for a password, if one is required. When the correct user password is supplied, the PDF document is opened and decrypted but operations are restricted; when the owner password is supplied, all operations are allowed. The owner password is required to change these passwords and restrictions.

A PDF document is encrypted whenever a user or owner password or restrictions are supplied for the PDF document. However, a user is prompted for a password on opening a PDF document only if the PDF document has a user password.

Because Adobe's Acrobat Reader checks first to see if a proffered password is the user password, you can effectively render the PDF document as read only by setting the owner and user password to the same value.

Document Open Options

PDF documents can be configured to control the behavior of Acrobat when the document is opened. The configuration settings are the same as those found in the full version of Acrobat under File -> Document Properties -> Open Options. With the settings, you can control the Initial View, Window Options, and User Interface Options in effect when the document is opened. You can for example configure the document to hide the Acrobat menu bar, tool bar and window controls and to display in full screen mode when it is opened.

Bookmarks

When converting spooled files the product generates bookmarks based on the "PDF bookmark style" PDFBKMSSTY() and "PDF bookmark data source" PDFBKMSRC() command parameters. These specify

what data to use to produce bookmarks in the generated PDF file. The bookmarks provide easy navigation to specific portions of the report. See "Adding Bookmarks To PDF Files" in the Implementation chapter for more information.

Transform Specification

You specify this conversion by specifying one of the following on the TRANSFORM() parameter

*PDFLETTER	for 8.5" x 11" paper size
*PDFLEGAL	for 8.5" x 14" paper size
*PDFSTATEMENT	for 5.5" x 8.5" paper size
*PDFEXECUTIVE	for 7.25" x 10.5" paper size
*PDFLEDGER	for 11" x 17" paper size
*PDFA5	for A5 paper size
*PDFA4	for A4 paper size
*PDFA3	for A3 paper size
*PDFB5	for B5 paper size
*PDFB4	for B4 paper size
*PDFLETTERLEGAL	for 8.5" x 11" paper size in drawer 1 and 8.5" x 14" paper size in drawer 2.
*PDFLEGALLETTER	for 8.5" x 14" paper size in drawer 1 and 8.5" x 11" paper size in drawer 2.

Double Byte Character Set Enabled

The conversion is DBCS enabled for Chinese/Japanese/Korean, specify a target CCSID of *UNICODE. You must have the appropriate Adobe "Asian Font Pack" installed with Acrobat Reader or an Asian language specific version of Acrobat Reader Installed. You can download Asian Font Packs from www.adobe.com.

Miscellaneous

The recommended extension for Portable Document Format PC files is PDF.

Microsoft Rich Text Format Conversion

Microsoft's RTF Specification provides a format for text and graphics interchange that can be used with different output devices, operating environments, and operating systems. The generated RTF uses the ANSI character set to control the representation and formatting of a document, both on the screen and in print. With the RTF Specification, documents created under different operating systems and with different software applications can be transferred between those operating systems and applications.

The generated RTF file specifies Courier New as the font. The font size is reduced if necessary to fit spooled file pages onto RTF pages. The data in the spooled file is converted from EBCDIC to ASCII based on the values specified for the source and target CCSID parameters.

The generated file can be read by any RTF capable viewer. Most word processors can read RTF encoded files making this transform useful when the recipient has a word processor. Naturally enough, Microsoft's Word has a very good RTF implementation while the quality of other implementations varies. Word Pad is capable of reading RTF files, however it discards most of the page format information such as margins and orientation.

You specify this conversion by specifying one of the following on the TRANSFORM() parameter

*RTFLETTER	for 8.5" x 11" paper size
*RTFLEGAL	for 8.5" x 14" paper size
*RTFSTATEMENT	for 5.5" x 8.5" paper size
*RTFEXECUTIVE	for 7.25" x 10.5" paper size
*RTFLEDGER	for 11" x 17" paper size
*RTFA5	for A5 paper size
*RTFA4	for A4 paper size
*RTFA3	for A3 paper size

*RTFB5 for B5 paper size
*RTFB4 for B4 paper size

The recommended extension for Rich Text Format PC files is **RTF**.

World Wide Web Hyper Text Markup Language

Hyper Text Markup Language (HTML) is the file format of the World Wide Web and is used to represent a document in a manner independent of the application software, hardware, and operating system used to create it. A HTML file contains HTML tags and the content of the spooled file.

The conversion generates a HTML file that specifies a fixed pitch font. The font size is determined by the value set using the product's default settings. The print data in the spooled file is converted from EBCDIC based on the value specified in the source and target CCSID parameters. Each page is placed in a row of a single column table with a border. Only the print data is converted. Images, overlays, page segments, etc. are not converted. The conversion is DBCS enabled.

The generated file can be view by any web browser such as Microsoft's Internet Explorer or Netscape's Navigator which are available free for most major platforms making this transform useful when the users have differing platforms.

You specify this conversion by specifying TRANSFORM(*HTMLBASIC). The recommended extension for Hyper Text Markup Language PC files is **HTM**. The recommended target CCSID is *UTF8.

Tag Image File Format

Tag Image File Format is a widely used format for storing image data. Spool-a-Matic generates a TIFF file by passing the contents of the spooled file to the IBM OS/400 Host Print Transform Function and storing the converted data stream in a PC file.

The generated file can be view by most image viewing or editing applications. Our experience is that the OS/400 support is some what flakey, and that many image viewing applications have problems with multi page TIFF files. Test your results before placing this transform into production.

You specify this conversion by specifying one of the following on the TRANSFORM() parameter:

*TIFFG4 Group 4 specification
*TIFFPB Pack Bit specification
*TIFF Same as *TIFFG4

The recommended extension for Tag Image File Format PC files is **TIF**.

OS/400 Host Print Transform Conversion

OS/400's Host Print Transform converts *AFPDS or *SCS print data streams and generates an ASCII print data stream for a number of printer. For example, you can print Advanced Function Printing (AFP) text, bar codes, image, overlays, and page segments to Hewlett Packard PCL and Lexmark PPDS page printers. To generate the different ASCII data streams, the host print transform function uses OS/400 system objects that describe characteristics of a particular ASCII printer.

Spool-a-Matic generates a HPT file by passing the contents of the spooled file to the Host Print Transform Function and storing the converted data stream in a PC file. The transform performed is controlled by the TRANSFORM() and WSCST() parameters of the Spool Convert (SPLCONVERT) command. The generated file has the CCSID specified in the Spool Convert (SPLCONVERT) command's Target coded character set id (TRGCCSID) parameter. The Source coded character set id (SRCCSID) parameter is ignored.

The generated file can be copied directly to a PC printer port for printing. For example, if the PC file's

name is T103609.HPT then the following DOS command prints the file to printer port LPT1:

```
copy t103609.hpt lpt1:
```

You specify this conversion by specifying one of the Host Print Transforms such as TRANSFORM(*HPIIIP). The recommended extension for Host Print Transform PC files is **HPT**. For complete information on the available Host Print Transforms see the Manufacturer Type and Model (MFRTYPMDL Parameter) of the CRTDEVPRT command.

No Conversion Conversion

Spool-a-Matic can copy a spooled file's print data stream directly to a PC file without conversion. This is most useful for spooled files with a *USERASCII print data stream but works with any spooled file. The generated file has the CCSID specified in the Spool Convert (SPLCONVERT) command's Target coded character set id (TRGCCSID) parameter. The Source coded character set id (SRCCSID) parameter is ignored.

The generated file can be copied directly to a PC printer port for printing. For example, if the PC file's name is T103609.SPL then the following DOS command prints the file to printer port LPT1:

```
copy t103609.spl lpt1:
```

You specify this conversion by specifying TRANSFORM(*NONE). The recommended extension for no conversion PC files is **SPL**, unless a more accurate extension is available for the contents of the file.

Adobe PostScript Conversion

Adobe's PostScript is a widely used page definition language. OS/400 includes an application programming interface (API) for converting Advanced Function Printing Data Streams (AFPDS) into PostScript. The API processes the following AFPDS objects:

- o Document
- o Presentation page
- o Presentation text data
- o IM1 image data
- o IO image (IOCA) commands
- o Presentation Text 2 (PT2) text commands
- o Overlay resources
- o Page segment resources

The API does not process the following objects:

- o Graphic data (GOCA) commands
- o Bar code (BCOCA) commands
- o Double-byte character set (DBCS) fonts
- o Spooled files that are larger than 16 Meg
- o Generated PostScript larger than 16 Meg

AFP that is not supported is ignored, and no warning or error message is sent to the user. Additionally the printed output may appear different than the same spooled file printed on an AFP capable printer.

Spool-a-Matic generates a PostScript file by passing the contents of the spooled file to the OS/400 API and storing the converted data stream in a PC file. The generated file has the CCSID specified in the Spool Convert (SPLCONVERT) command's Target coded character set id (TRGCCSID) parameter. The Source coded character set id (SRCCSID) parameter is ignored.

The generated file can be copied directly to a PC printer port for printing. For example, if the PC file's name is T103609.PS then the following DOS command prints the file to printer port LPT1:

```
copy t103609.ps lpt1:
```

You specify this conversion by specifying TRANSFORM(*POSTSCRIPT). The recommended extension for PostScript PC files is **PS**.

IBM Final Form Text Conversion

IBM's Final Form Text is a data stream defined by DCA that is used to exchange resolved documents (which can be printed directly by most printers or displayed) between systems.

Spool-a-Matic generates an FFT file that specifies Courier New as the font. The font size is set to the size specified by the spooled file. The data in the spooled file is copied to the generated file without conversion. The Spool Convert (SPLCONVERT) command's Target coded character set id (TRGCCSID), parameter is ignored.

Final Form Text files are primarily used by Office Vision users. The generated file can be read by any FFT capable viewer. Office Vision and some word processors can read FFT encoded files making this transform useful for OV/400 users.

You specify this conversion by specifying TRANSFORM(*FFTBASIC). The recommended extension for Final Form Text PC files is **FFT**.

IBM AFP Print File Conversion

IBM's Advanced Function Presentation (AFP) Workbench Viewer is a platform for the integration of AFP-enabling applications and services. The Viewer provides the ability to browse AFP print files.

Spool-a-Matic generates an AFP Print File by copying the contents of the spooled file and inserting any related page segments and overlays. Since the AFP Workbench Viewer "thinks" in EBCDIC, the Spool Convert (SPLCONVERT) command's Target coded character set id (TRGCCSID), parameter is ignored. The resulting PC file is ready for viewing with AFP Workbench Viewer.

You specify this conversion by specifying TRANSFORM(*AFPPRINTFILE). The recommended extension for AFP Print Files is **AFP**.

Chapter 6 Command Descriptions

What's In This Chapter

This chapter describes the control language (CL) commands supplied by Spool-a-Matic. The commands are arranged in alphabetic order by command name (mnemonic). In the printed version of the manual, each description contains a syntax diagram presenting all the parameters and values that can be coded for a command. In both the printed and online version an explanation is given for all the parameters and values that can be coded for a command. A detailed explanation of the format of the command descriptions and syntax diagrams can be found in [OS/400 Control Language Reference SC41-5722](#).

Change Device Gumbo Printer (CHGDEVGLP) Command

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
>>--CHGDEVGLP-DEVD(-device-name--)-----+-----+-----+-----+-----+-----+
|                                     |                                     |
|      +-*YES-+                       |                                     |
| +-START(-----*NO-----)-+      |                                     |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

PURPOSE

The Change Device Gumbo Printer (CHGDEVGLP) command prompts you to change the source command executed by a Gumbo logical printer.

Device description (DEVD)

Specifies the name of the device description. This is a required parameter.

Start (START)

Specifies whether a printer writer is automatically started

(restarted if it is active) when the changes are complete.

*YES

A printer writer is started immediately.

*NO

A printer writer is not started now.

Examples

```
CHGDEVGLP DEVD(GPL01)
```

This command changes a Gumbo logical printer with named GLP01.

Change Spool-a-Matic Authorization (CHGSAMAUT) Command

```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
>>--CHGSAMAUT--AUTH(--authorization-code--)-----+-----+-----+-----+-----+
|                                     |                                     |
|      +-*NONE-----+               |                                     |
| +-EXPDAT(-----expiration-date-----)-+      |                                     |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|                                     |                                     |
|      +-*SYS--+                   | |                                     |
| +-LICTYP(-----*LPAR-----)-+ +-PRCMAx(-----capacity-----)-+
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

PURPOSE

The Change Spool-a-Matic Authorization (CHGSAMAUT) command changes the authorization value for Spool-a-Matic. The command is used to extend a demonstration period or to permanently authorize Spool-a-Matic for a system or a partition.

Authorization number (AUTH)

Specifies the authorization code to use. The authorization code is 8 hex digits that may be entered in upper or lower case. This is a required parameter.

Expiration date (CCYYMMDD) (EXPDAT)

Specifies the date on which the authorization expires.

*NONE

The authorization is permanent.

expiration-date

The date on which the authorization expires in CCYYMMDD format.

License type (LICTYP)

Specifies the type of license that is authorized.

*SYS

The authorization is for a system wide license which enables any and all partitions on the system but is specific to the processor group.

*LPAR

The license is specific to one of the partitions on the system and specific to a number of processors within the partition. A partition license must be entered in the partition for which it is intended.

Processor maximum capacity (PRCMAx)

Specifies the maximum processor capacity for which the partition is licensed. The value is expressed in terms of processors where 1.00 is 100% of a processor's capacity or the same as 1 processor, .50 is 50% of a processor's capacity or .5 processors, 2.00 is 200% of a processor's capacity or 2 processors, etc.

Change Spool-a-Matic Default (CHGSAMDFT) Command

```

Job: B,I Pgm: B,I REXX: B,I Exec
>>--CHGSAMDFT----->
|          +-*SAME-----+ +-*SAME-----+ +-*SAME-----+ +-*SAME-----+ |
+-MARGIN(-----left-margin-----right-margin-----top-margin-----bottom-margin---)-+
|
|          +-*SAME--+ | |          +-*SAME---+ | |          +-*SAME-----+ |
+-PDFDEFLATE(---+*YES---+)-+ +-HTMFNTSIZ(---+*MINUS3---)-+ +-REFPRTDEV(---+*SYSVAL-----)-+
|          +-*NO----+ | |          +-*MINUS2--+ | |          +-*AFPYES-----+ |
|          +-*MINUS1--+ | |          +-*MINUS1--+ | |          +-*HPTASCII---+ |
|          +-*PLUS0---+ | |          +-*PLUS0---+ | |          +-device-name--+ |
|          +-*PLUS1---+ | |          +-*PLUS1---+ | |          |
|          +-*PLUS2---+ | |          +-*PLUS2---+ | |          |
|          +-*PLUS3---+ | |          +-*PLUS3---+ | |          |
|
|          +-*SAME--+ +-*SAME--+ | |          +-*SAME--+ +-*SAME--+ | |          +-*SAME--+ |
+-REFOFFSET(---left-----top-----)-+ +-REFCORRECT(---left-----top-----)-+ +-PDFNPBOVL(---+*YES---)-+
|          +-*NO----+ | |          | |          | |          | |          |
|          +-*SAME-----+ | |          +-*SAME-----+ | |          +-*SAME-----+ |
+-PDFFNTIMB(---+*TYPE1---+---+---)-+ +-PDFIMGPEL(---+*NOPREBLEND32---+---+---)-+
|          +-*TYPE3--+ | |          +-*PREBLEND32---+ | |          +-*PREBLEND32---+ |
|          | |          +-*NOPREBLEND4---+ | |          +-*NOPREBLEND4---+ |
|          | |          +-*PREBLEND4---+ | |          +-*PREBLEND4---+ |
|
|          +-*SAME-----+ |
+-TXTRELPOS(---+*ESTIMATE---)-+
|          +-*EXACT-----+ |
|          +-*EXACTMOD--+ |

```

PURPOSE

The Change Spool-a-Matic Default (CHGSAMDFT) command changes values used by Spool-a-Matic to control processing and other activities.

Margins in hundredths (MARGIN)

Margins are used when converting a spooled file. The values for margins are entered in hundredths. For example, 100 means one inch and 25 means 1/4 inch. The possible values are:

Note: Not all transforms require or use the margin setting. Currently the *RTF transforms do use the margin setting.

Note: In previous releases, margins were used to affect the conversion of *SCS and *IPDS to PDF. This function is now supplied by the "Refprtdev offset default" (REFOFFSET) and "Reference printer device" (REFPRTDEV) parameters.

***SAME**
The value is not changed.

Margin
Specify the margin in hundredths.

Compress PDF files (PDFDEFLATE)

Specifies whether or not to use compression when using any of *PDF conversions. When compression is used, the file is smaller but must be viewed with Adobe's Acrobat Reader 3.0 or higher. When compression is not used, older versions of Adobe's Acrobat Reader can be used to view the file. The possible values are:

***SAME**
The value is not changed.

***YES**
Compression is performed.

***NO**
Compression is not performed.

*HTMLBASIC Font Size (HTMFNTSIZ)

Specifies the font size specification used by the *HTMLBASIC transform. This value is used on the "<FONT SIZE=..." tag in the generated HTML.

***SAME**
The font size setting is not changed.

***MINUS3**
Font is three increments smaller than the base font.

***MINUS2**
Font is two increments smaller than the base font.

***MINUS1**
Font is one increment smaller than the base font.

***PLUS0**
Font is the size as the base font.

***PLUS1**
Font is one increment larger than the base font.

***PLUS2**
Font is two increments larger than the base font.

***PLUS3**
Font is three increments larger than the base font.

Reference printer device (REFPRTDEV)

The reference printer device is used when converting a spooled file. If the conversion process encounters an attribute that specifies *DEV, the reference printer device's description is retrieved to determine the value that is substituted for *DEV.

***SAME**
The value is not changed.

CHGSAMDFT

*SYSVAL

The system determines the reference printer device name from the QPRTDEV system value.

*AFPYES

Spooled files are processed as if an *IPDS AFP(*YES) printer were specified.

*HPTASCII

Spooled files are processed as if a Host Print Transform described ASCII printer were specified.

reference-printer-device

Specify the name of the reference printer device.

Refprtdev offset default (REFOFFSET)

Specifies the default offset values to use if these can not be determined from the printer device specified on the REFPRTDEV parameter.

The Refprtdev offset default values represent the offset from the top left corner of the physical paper to the top left corner of the printable area for the printer:

- o For HPT printers, this offset is often referred to as a "no print border".
- o For *IPDS printers, this offset is often referred to as an "unprintable area".
- o When set to 0s, a printer that is capable of printing edge-to-edge and with the capability turned on, is implied.
- o Under most circumstances, the offset values move text and other page elements without moving page overlays.
- o A typical IBM *IPDS printer has an unprintable area of 227 (1440ths of an inch or 4mm) when edge-to-edge printing is turned off.
- o A typical HP Laser printer has a no print border of 240 (1440ths of an inch or 1/6").

During processing, the Reference printer device is used to determine the offset from the top left corner of the physical paper to the top left corner of the printable area. When the values can not be determined from the Reference printer device, the values specified in the "Refprtdev offset default" (REFOFFSET) parameter are used.

Additional information on this topic can be found in the Red Book *IBM AS/400 Printing V SG24-2160-00* available at <http://www.redbooks.ibm.com>.

Previously, some of the function provided by the REFPRTDEV and REFOFFSET parameters were provided by the MARGIN and NOPRTBDR parameters.

*SAME

The value is not changed.

Offset

Specify the offset in 1/1440ths of an inch.

Refprtdev offset correction (REFCORRECT)

Specifies offset correction values used to fix disparities between the physical hardware and its logical description.

The Refprtdev offset correction (REFCORRECT) parameter should almost always be set to zero. In two obscure cases values should be entered to correct alignment problems in the generated output.

1. If the spooled file normally prints correctly on an *IPDS printer that has a page offset value (usually set through the front panel), enter the same page offset values here.
2. If the spooled file normally prints correctly on a Workstation Customizing Object defined printer (that is, a

custom WSCST is specified on the device description), and if the WSCST inaccurately specifies the devices no print border, enter a value here. The value to enter is the actual no print border minus the no print border inaccurately specified in the WSCST.

If you are not sure that these cases apply, enter zeros.

*SAME

The value is not changed.

Offset

Specify the offset in 1/1440ths of an inch.

PDF apply noprtbdr to overlay (PDFNPBOVL)

Specifies how to handle overlays that fall into a Host Print Transform described printer's no print border when using any of the *PDF conversions.

*SAME

The value is not changed.

*YES

Overlays are moved out of the no print border.

*NO

Overlays are located at their "natural" position.

PDF font imbedding (PDFNTIMB)

Specifies, by font type, which font definitions are included in the generated PDF file. Imbedding fonts improves the fidelity of the PDF at the expense of file size.

*SAME

The value is not changed.

*NONE

No font definitions are included in the file. All fonts are mapped to Acrobat built-ins.

*TYPE1

Outline font resources are imbedded in the file.

*TYPE3

Raster font resources are subsetted and imbedded in the file.

PDF image process blending (PDFIMGPBL)

Specifies the default setting for image process blending which gives you control over image blending in the generated PDF.

The *NOPREBLEND32, *PREBLEND32, *NOPREBLEND4, *PREBLEND4 parameter values define the way in which banded (usually color) 32 bit and 4 bit image data is managed. When *NOPREBLEND32 and *NOPREBLEND4 are specified, the generated PDF takes advantage of the blending facilities implemented in Acrobat 5.0 and higher to significantly reduce the OS/400 processing required to render full color images. However, these images do not display properly in Acrobat 4 and below, 4 bit images may be too dark, and the file size may be larger and the file may take longer to display. With *PREBLEND32 and *PREBLEND4 you can specify that additional processing be performed on your system to "pre-blend" images before placing them into the generated PDF. In particular, color matching for pure 4 bit images may also be improved. The recommended settings are *NOPREBLEND32 and *PREBLEND4.

*SAME

The value is not changed.

CRTDEVGLP

Specifies the qualified name of the message queue to which operational messages for this device are sent.

QSYSOPOR

Messages are sent to the QSYSOPR message queue.

message-queue-name

Specify the name of the message queue.

The possible library values are:

***LIBL:** All libraries in the job's library list are searched.

***CURLIB:** Use the current library for the job. If no library is specified as the current library for the job, QGPL is used.

library-name: Specify the name of the library.

Text 'description' (TEXT)

Specifies text that provides a brief description.

***BLANK**

No text is specified.

'description'

Specify up to 50 characters of text enclosed in apostrophes.

Start (START)

Specifies whether a printer writer is automatically started as soon as the Gumbo logical printer is created.

***YES**

A printer writer is started immediately.

***NO**

A printer writer is not started now.

Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority to the object, who are not on the authorization list, or whose group has no specific authority to the object.

***LIBCRTAUT**

The authority for the object is the same as the value specified on the Create authority prompt (CRTAUT

parameter) of the library in which the object is being created. If the value specified on the Create authority prompt (CRTAUT parameter) is changed, the new value will not effect any existing objects.

***CHANGE**

Change authority allows the user to perform basic functions on the object, however, the user cannot change the object. Change authority provides object operational authority and all data authority.

***ALL**

The user can perform all operations except those limited to the owner or controlled by authorization list management authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user cannot transfer ownership of the object.

***USE**

Use authority provides object operational authority and read authority.

***EXCLUDE**

Exclude authority prevents the user from accessing the object.

authorization-list-name

Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Examples

CRTDEVGLP DEVD(GPL01)

This command creates a Gumbo logical printer with named GLP01. The CL command executed by the print driver program is contained in member GLP01 in the source physical file QUSRSYS/GLP01. The device is automatically varied on at IPL.

Create Spool Save File (CRTSPLSAVF) Command

```

-----+-----
Job: B,I Pgm: B,I REXX: B,I Exec
+--*CURLIB/-----+
>>--CRTSPLSAVF--FILE(--spooled-file-name--)--SAVF(--+--file-name--)-->
+--library-name/--+
-----+-----
| +*-----+ | | +*LAST-----+ |
|--JOB(-----+ | | +SPLNBR(--+*ONLY-----+)--+
+-----user-name/--+ +-----spooled-file-number--+
+--job-number/--+
-----+-----
| +*YES-+ | | +*NONE-----+ |
+SAVRSC(-----*NO-----)-+ +MSG(-----message-----)-+
-----+-----

```

PURPOSE

The Create Spool Save File (CRTSPLSAVF) command creates a save file containing a spooled file and all its related resources. The save file is suitable for e-mailing with a problem report.

Spooled file name (FILE)

Specifies the name of the spooled file to be saved.

Save file (SAVF)

Specifies the name of the save file that is used to contain spooled file data. The saved file must not exist and will be created by the command.

The possible **library** values are:

***CURLIB:** Use the current library for the job. If no library is specified as the current library for the job, QGPL is used.

library-name: Specify the name of the library.

Job name (JOB)

Specifies the name of the job that created the spooled file.

*
- The name of the job that issued the command is used.

job-name

Specify the name of the job.

user-name

Specify the user name associated with the job.

job-number

Specify the system assigned job number.

Spooled file number (SPLNBR)

Specifies the number of the spooled file to send.

*LAST

The highest numbered spooled file with the specified file name is used.

*ONLY

The number of the only spooled file with the specified file name is used.

spooled-file-number

Specify the number of the spooled file.

Save resources (SAVRSC)

Specifies if external resource such as overlays and page segments are included in the save file.

*YES

Resources are saved.

*NO

Resources are not saved.

Message (MSG)

Specifies a short message to include in the save file.

*NONE

No message is included.

message

Specify a short message to include in the save file.

Examples

```
CRTSPLSAVF FILE(QSYSPT)
SAVF(QGPL/PRBRPT)
```

This command creates save file PRBRPT in library QGPL. The last spooled file named QSYSPT is saved along with its resources. The current job is searched to locate the file.

```
CRTSPLSAVF FILE(QPQUPRFILE) SAVF(NEWPRB)
SPLNBR(3)
```

The file named QPQUPRFILE which is spooled file number 3 in the job executing this command is saved to save file NEWPRB. The save file is placed in job's *CURLIB.

Spool Convert (SPLCONVERT) Command

```

-----
Job: B,I Pgm: B,I REXX: B,I Exec
>>--SPLCONVERT--FILE(--spooled-file-name--)---TOOBJ(--object--)-----
>-----
| +*-----+ | | +*LAST-----+ |
+-JOB(-----job-name---)-+ +-SPLNBR(---*ONLY-----)-+
| +-----user-name/-+ | +-----spooled-file-number-+
| +-job-number/-+ |
>-----
| | | +*YES+ |
+-TRANSFORM(---transform--)+ +-DTAAUT(---authority--)+ +-REPLACE(---*NO-----)+
>-----
| | | +*NONE-----+ | |
+-CRTDIR(---*YES---)-+ | +-*LIBL/-----+ | |
| +-----+ | +-----customizing-object---)-+
| +-*CURLIB-----+ |
| +-library-name/-+ |
>-----
| | | +*KBDTYPE-----+ | |
+-TRGCCSID(---*UNICODE-----)-+ +-SRCCSID(---*SYSVAL-----)-+
| +-*UTF8-----+ | +-*JOBDF-----+
| +-coded-chaaracter-set-id+ | +-coded-chaaracter-set-id+
>-----
| | | +*NO--+ |
+-PAGERANGE(---*ENDPAGE-----)-+ +-DLTSPLF(---*YES---)+
| +-starting-page+ | +-*END-----+
| +-ending-page+ |
>-----
| | | +*NONE-----+ | +*NONE-----+ | +*YES+ | +*YES+ | +*YES+ | +*YES+ | +*V1+
+-PDFDOCSEC(---owner-password---user-password---*NO---*NO---*NO---*NO---*V2---)
>-----
| | | |
+-*YES+ +-*YES+ +-*YES+ +-*YES+ |
>---*NO---*NO---*NO---*NO---)---+
>-----
| | | +*DEFAULT---+ | | +*CRTUSRPRF---+ |
+-PDFDOCTL(---*ACGCDE---)-+ +-PDFDOCSBJ(---*ACGCDE---)-+ +-PDFDOCATH(---*NONE-----)-+
| +-*PRTT---+ | +-*PRTT---+ | +-author-----+
| +-*USRDFN---+ | +-*USRDFN---+
| +-*USRDFNT---+ | +-*USRDFNT---+
| +-*USRDTA---+ | +-*USRDTA---+
| +-title-----+ | +-subject-----+
>-----
| | | +*DEFAULT---+ | +*DEFAULT---+ | +*DEFAULT---+ | +*YES+ | +*YES+ | +*YES+ | +*YES+
+-PDFDOCOPN(---*PAGEONLY---*PAGEONLY---*SINGLEPAGE---*NO---*NO---*NO---*YES---)
| +-*BOOKMARK---+ | +-*BOOKMARK---+ | +-*ONECOL-----+
| +-*THUMBNAI---+ | +-*THUMBNAI---+ | +-*TWOCLLEFT---+
| +-*FULLSCREEN---+ | +-*TWOCLRIGHT---+
>-----
| | | +*DEFAULT-----+ | +*DEFAULT---+ | | +*DEFAULT-----+ | |
>---*NO---*NO---*PAGE-----*LAST-----)-+ | | +*NONE-----+ | |
| +-*WIDTH-----+ | +-page-number-+ | | <----- (2) + | |
| +-*HEIGHT-----+ | | +-PDFFONTIMB(---*TYPE1-----)-+ | |
| +-zoom-percentage-+ | | +-*TYPE3-+ | |
>-----
| | | +*NONE-----+ | | +*NONE-----+ | |
+-PDFDOCKWD(---keywords---)-+ | | +-*GREENBAR-----+ | |
| | | +-*BLUEBAR-----+ | | |
| | | +-*COPY-----+ | |
| | | | +-*LIBL/-----+ | |
| | | +-PDFOVL(---overlay---)+
| | | +-*CURLIB/-----+
| | | +-library-name/-+
>-----
| | | <----- (3) + | | | +*NONE-----+ | |
| | | +-*DOCIDXTAGP-----+ | | | +-PDFBKMSTY(---*ONELEVEL---)-+ | |
| | | +-*DOCIDXTAGG-----+ | | | +-*TWOLEVEL-+ | |
| | | +-*DOCIDXTAG-----+ | |
| | | +-*STRPAGGRP-----+ | |
+-PDFBKMSRC(---+---+---+---)---+
| | | +-line---position---length+ | | +-name+

```

SPLCONVERT

PURPOSE

The Spool Convert (SPLCONVERT) command converts an OS/400 spooled file into a PC file in OS/400's Integrated File System.

Spooled file name (FILE)

Specifies the name of the spooled file to send. This is a required parameter. CHAR(10).

Object (TOOBJ)

Specifies the path name of the object (PC file) to create. For more information on specifying path names, refer to Chapter 2 of the CL Reference, SC41-5722. CHAR(5000). This is a required parameter.

'PC-file'

Specify up to 5000 characters of path name.

Note: To create file abc.txt in a directory with name mydirectory, specify '/mydirectory/abc.txt'

Spool-a-Matic provides several special values that can be used to construct dynamic object (PC file) names. When the special values are found, the associated data is blank trimmed and substituted into the name specified when the spooled file is processed. If the data associated with a special value is blank, "BLANK" is substituted. The special values are:

***ACGCDE** Accounting code CHAR(15).

***CRTSYS** System created on originally CHAR(8). This can differ from the current system's name if the spooled file was sent from another ISeries.

***CRTUSR** User creating originally CHAR(10). This can differ from the *JOBUSR value if the spooled file was sent from another ISeries.

***FILE** Spooled file name CHAR(10).

***FILE8** Same as *FILE truncated to CHAR(8).

***JOBNAM** Name portion of the job containing the spooled file CHAR(10).

***JOBNAM8** Same as *JOBNAM truncated to CHAR(8).

***JOBUSR** User portion of the job containing the spooled file CHAR(10).

***JOBUSR8** Same as *JOBUSR truncated to CHAR(8).

***OUTQ** Output queue the file is on CHAR(10).

***PAGECOUNT** Spooled file page count converted to text. Length varies.

***PGM** Program that opened the file CHAR(10).

***PGM8** Same as *PGM truncated to CHAR(8).

***PRTTXT** Print text CHAR(30).

***SPLCDAT** Date the spooled file was open CHAR(7) CYYMMDD.

***SPLCTIM** Time the spooled file was opened CHAR(6) HHMMSS.

***SPLCCYY** Century-year portion of the date the spooled file was open CHAR(3) CYY.

***SPLCYY** Year portion of the date the spooled file was open CHAR(2) YY.

***SPLCMM** Month portion of the date the spooled file was open CHAR(2) MM.

***SPLCDD** Day portion of the date the spooled file was open CHAR(2) DD.

***SPLNBR** Spooled file number converted to text. Length varies.

***USRDFNDA** User defined data CHAR(255).

***USRDFNTXT** User defined text CHAR(100).

***USRDTA** User data CHAR(10).

Job name (JOB)

Specifies the name of the job that created the spooled file. CHAR(10), CHAR(10), CHAR(6).

*

The name of the job that issued the command is used.

job-name

Specify the name of the job.

user-name

Specify the user name associated with the job.

job-number

Specify the system assigned job number.

Spooled file number (SPLNBR)

Specifies the number of the spooled file to send. BIN(4).

*LAST

The highest numbered spooled file with the specified file name is used.

*ONLY

The number of the only spooled file with the specified file name is used.

spooled-file-number

Specify the number of the spooled file.

Transform to perform (TRANSFORM)

Specifies the manner in which the spooled file is converted. CHAR(15). The possible values are:

*TXT

Use <CR><LF> Delimited ASCII Text conversion.

*TXTFF

Use <CR><LF> Delimited ASCII Text conversion ending each page with a form feed instead of filling with blank lines.

*TXTTRIM

Use <CR><LF> Delimited ASCII Text conversion ending each page with a form feed instead of filling all but the last page with blank lines.

*PDFLETTER

Use PDF Adobe Portable Document Format conversion with a page size of 8.5" by 11".

*PDFLEGAL

Use PDF Adobe Portable Document Format conversion with a page size of 8.5" by 14".

*PDFSTATEMENT

Use PDF Adobe Portable Document Format conversion with a page size of 5.5" x 8.5".

*PDFEXECUTIVE

Use PDF Adobe Portable Document Format conversion with a page size of 7.25" x 10.5".

*PDFLEDGER

- Use PDF Adobe Portable Document Format conversion with a page size of 11" x 17".
- *PDFA3**
Use PDF Adobe Portable Document Format conversion with a page size of A3.
- *PDFA4**
Use PDF Adobe Portable Document Format conversion with a page size of A4.
- *PDFA5**
Use PDF Adobe Portable Document Format conversion with a page size of A5.
- *PDFB4**
Use PDF Adobe Portable Document Format conversion with a page size of B4.
- *PDFB5**
Use PDF Adobe Portable Document Format conversion with a page size of B5.
- *PDFLETTERLEGAL**
Use PDF Adobe Portable Document Format conversion with a page size of 8.5" by 11" for drawer 1 and 8.5" by 14" for drawer 2.
- *PDFLEGALLETTER**
Use PDF Adobe Portable Document Format conversion with a page size of 8.5" by 14" for drawer 1 and 8.5" by 11" for drawer 2.
- *RTFLETTER**
Use RTF Microsoft Rich Text Format conversion with a page size of 8.5" by 11".
- *RTFLEGAL**
Use RTF Microsoft Rich Text Format conversion with a page size of 8.5" by 14".
- *RTFSTATEMENT**
Use RTF Microsoft Rich Text Format conversion with a page size of 5.5" by 8.5".
- *RTFEXECUTIVE**
Use RTF Microsoft Rich Text Format conversion with a page size of 7.25" by 10.5".
- *RTFLEDGER**
Use RTF Microsoft Rich Text Format conversion with a page size of 11" by 17".
- *RTFA3**
Use RTF Microsoft Rich Text Format conversion with a page size of A3".
- *RTFA4**
Use RTF Microsoft Rich Text Format conversion with a page size of A4.
- *RTFA5**
Use RTF Microsoft Rich Text Format conversion with a page size of A5.
- *RTFB4**
Use RTF Microsoft Rich Text Format conversion with a page size of B4.
- *RTFB5**
Use RTF Microsoft Rich Text Format conversion with a page size of B5.
- *HTMLBASIC**
Use HTML Hyper Text Markup Language Format conversion.
- *POSTSCRIPT**
Use PostScript conversion.
- *FFT BASIC**
Use FFT IBM Final Form Text conversion.
- *TIFFG4**
Tag Image File Format Group 4 specification conversion.
- *TIFFPB**
Tag Image File Format Pack Bit specification conversion.
- *AFPPRINTFILE**
Use AFP print file conversion.
- *WSCST**
Use HPT OS/400 Host Print Transform Conversion with the specified workstation customizing object.
- *NONE**
Use no conversion conversion.
- host-print-transform**
Use HPT OS/400 Host Print Transform Conversion.
- Target coded character set identifier (TRGCCSID)**
Specifies the ASCII coded character set identifier (CCSID) that is used to map all single-byte character set (SBCS) data on outgoing mail. BIN(4).
- *WINANSI**
The default coded character set identifier (1252) is used.
- *UNICODE**
ISO/IEC 10646 Universal Coded Character Set Level 2 (13488) is used.
- *UTF8**
Unicode 8 bit transfer encoding (1208) is used.
- *BIG5**
Traditional Chinese PC Data Mixed for Big5 (950) is used.
- coded-character-set-identifier**
Specify the coded character set identifier to use.
- Source coded character set identifier (SRCCSID)**
Specifies the coded character set identifier (CCSID) used to create the spooled file. BIN(4). The possible values are:
- *KBDTYPE**
The system determines the coded character set identifier value from the QKBDTYPE system value.
- *SYSVAL**
The system determines the coded character set identifier value from the QCCSID system value.
- *JOBDFI**
The system uses the current job's default coded character set identifier.
- Coded-character-set-identifier**
Specify the coded character set identifier to use.
- Replace object (REPLACE)**
Specifies whether or not data in the PC file should be replaced if the object already exists. If the object does not exist, it is created. CHAR(1)
- *YES**
Data in an existing object is replaced.
- *NO**
Data in an existing object is not replaced and an error is generated.
- Data authorities (DTAAUT)**

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Specifies the *PUBLIC data authorities assign to the created PC file. CHAR(10). The Possible values are:

***ALL**

The *PUBLIC is given *RWX authority to perform all operations on the object except those limited to the owner or controlled by object existence, object management, object alter, and object reference authority. The *PUBLIC can change the object and perform basic functions on the object. *RWX authority provides object operational authority and all the data authorities.

***NONE**

The *PUBLIC does not have any of the data authorities to the object.

***RWX**

The *PUBLIC is given *RWX authority to perform all operations on the object except those limited to the owner or controlled by object existence, object management, object alter, and object reference authority. The *PUBLIC can change the object and perform basic functions on the object. *RWX authority provides object operational authority and all the data authorities.

***RX**

The *PUBLIC is given *RX authority to perform basic operations on the object, such as run a program or display the contents of a file. The user is prevented from changing the object. *RX authority provides object operational authority and read and execute authorities.

***RW**

The *PUBLIC is given *RW authority to view the contents of an object and change the contents of an object. *RW authority provides object operational authority and data read, add, update, and delete authorities.

***WX**

The *PUBLIC is given *WX authority to change the contents of an object and run a program or search a library or directory. *WX authority provides object operational authority and data add, update, delete, and execute authorities.

***R**

The *PUBLIC is given *R authority to view the contents of an object. *R authority provides object operational authority and data read authority.

***W**

The *PUBLIC is given *W authority to change the contents of an object. *W authority provides object operational authority and data add, update, and delete authorities.

***X**

The *PUBLIC is given *X authority to run a program or search a library or directory. *X authority provides object operational authority and data execute authority.

***EXCLUDE**

Exclude authority prevents the *PUBLIC from accessing the object.

Owner (OWNER)

Specifies the user profile that is the owner of the newly created object. CHAR(10)

***CURUSRPRF**

The object is owned by the current effective user of the current job or thread.

***SPLFOWN**

Ownership of the object is transferred to the owner of the spooled file. If the current effective user does not have *ADD data authority to the spooled file owner's profile, ownership of the object is determined in the same manner as *CURUSRPRF.

user-profile-name

Specify the user profile that is the owner of the newly created object. If the current effective user does not have *ADD data authority to the user profile, or if the profile does not exist, ownership of the object is determined in the same manner as *CURUSRPRF.

Create directories (CRTDIR)

Specifies whether or not directories in the object name should be created if they do not exist. CHAR(1).

***NO**

Directories are not created.

***YES**

Directories are created.

Page range to print (PAGERANGE)

Specifies the starting and ending pages to process.

Element 1 Starting page

1

Processing begins at page 1.

***ENDPAGE**

The starting page to print is the ending page to print. Only the ending page is printed.

starting-page-number

Specify the starting page.

Element 2 Ending page

***END**

Processing continues until the end of file.

ending-page-number

Specify the ending page.

Note: Not all transforms honor this parameter.

Delete file after processing (DLTSPLF)

Specifies whether or not to delete the specified spooled file after it has been successfully processed.

***NO**

Do not delete the spooled file.

***YES**

Delete the spooled file after it has been successfully processed.

PDF Document Security (PDFDOCSEC)

Specifies how Portable Document Format (PDF) files are secured.

Note: This parameter is ignored for transforms except those that generate PDF.

PDF documents can be encrypted to protect their contents from unauthorized access. An encrypted PDF document has two passwords: an owner password and a user password. The PDF document also specifies operations that should be restricted even when the PDF document is

decrypted. When opening an encrypted PDF document, Adobe's Acrobat Reader prompts for a password, if one is required. When the correct user password is supplied, the PDF document is opened and decrypted but operations are restricted; when the owner password is supplied, all operations are allowed. The owner password is required to change these passwords and restrictions.

A PDF document is encrypted whenever a user or owner password or restrictions are supplied for the PDF document. However, a user is prompted for a password on opening a PDF document only if the PDF document has a user password.

Because Adobe's Acrobat Reader checks first to see if a proffered password is the user password, you can effectively render the PDF document as read only by setting the owner and user password to the same value.

Element 1 Owner Password CHAR(32)

*NONE

The PDF document does not have an owner password.

owner-password

Specify the password required to perform owner functions for the PDF document (case sensitive).

Element 2 User Password CHAR(32)

*NONE

The PDF document does not have an owner password.

user-password

Specify the password required to open the PDF document (case sensitive).

Element 3 Allow print

*YES

Printing of the PDF document is allowed.

*NO

The PDF document can not be printed.

Element 4 Allow change

*YES

Changing of the PDF document is allowed.

*NO

The PDF document can not be changed.

Element 5 Allow copy

*YES

Copying of the PDF document is allowed.

*NO

The PDF document can not be copied.

Element 6 Allow annotation

*YES

Annotation of the PDF document is allowed.

*NO

The PDF document can not be annotated.

Element 7 Encryption specification BIN(2)

*V1

Version 1 encryption, which uses a 40 bit key length, and is compatible with Acrobat Reader 4.0 and lower.

Note: Version 1 only implements the first four permissions: "Allow print", "Allow change", "Allow copy", and "Allow annotation". Other permissions are ignored and readers treat them as if *YES was specified.

*V2

Version 2 encryption using a key length 128 bits. Version 2 encryption requires Acrobat Reader 5.0 or higher.

Note: Variable values: 0 = *V1 or 16 = *V2.

Element 8 Allow form fill-in and sign

*YES

Form fill-in and document signing operations are allowed.

*NO

The document can not be signed nor forms filled in.

Element 9 Allow accessibility inspection

*YES

Text and graphics can be extracted from the document for the sole purpose of making the contents accessible through assistive technologies such as screen readers or Braille output.

*NO

Accessibility inspection is not allowed.

Element 10 Allow document assembly

*YES

Document assembly operations, including insertion, rotation, deletion of pages and creation of bookmarks and thumbnails, are allowed.

*NO

Document assembly operations are not allowed.

Element 11 Allow print as image

*YES

Allow the document to be printed if "print as image" is selected.

*NO

Do not allow the document to be printed as an image.

Note: The permissions are each CHAR(1) and take a value of '0' = *NO or '1' = *YES.

PDF Document Title (PDFDOCTTL)

Specifies the title of the generated Portable Document Format (PDF) PC file. CHAR(256).

Note: This parameter is ignored for transforms except those that generate Adobe's Portable Document Format (PDF) and HTML.

*DEFAULT

No title is placed in the generated PC file.

*ACGCDE

The spooled file's accounting code is used as the title.

*PRTTXT

The spooled file's print text is used as the title.

*USRDFNDA

The spooled file's user defined data is used as the title.

*USRDFNTXT

The spooled file's user defined text is used as the title.

*USRDTA

The spooled file's user data is used as the title.

title

Specify the title of the PDF file.

PDF Document Subject (PDFDOCSBJ)

Specifies the subject of the generated Portable Document

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Format (PDF) PC file. CHAR(256).

Note: This parameter is ignored for transforms except those that generate PDF.

*DEFAULT

A default subject is placed in the generated PC file.

*ACGCDE

The spooled file's accounting code is used as the subject.

*PRTTXT

The spooled file's print text is used as the subject.

*USRDFNDA

The spooled file's user defined data is used as the subject.

*USRDFNTXT

The spooled file's user defined text is used as the subject.

*USRDTA

The spooled file's user data is used as the subject.

subject

Specify the subject of the PDF file.

PDF document author (PDFDOCATH)

Specifies the author of the generated Portable Document Format (PDF) PC file. CHAR(256).

Note: This parameter is ignored for transforms except those that generate PDF.

*CRTUSRPRF

The user profile that created the spooled file is the author.

*NONE

The generated file does not contain author information.

author

Specify the author of the PDF file.

PDF document keywords (PDFDOCKWD)

Specifies the keywords associated with the generated Portable Document Format (PDF) PC file. CHAR(256).

Note: This parameter is ignored for transforms except those that generate PDF.

*NONE

No keywords are associated with the file.

keywords

Specify a list of keywords to associate with the file.

PDF font imbedding (PDFFONTIMB)

Specifies, by font type, which font definitions are included in the generated PDF file. Imbedding fonts improves the fidelity of the PDF at the expense of file size.

*DEFAULT

The default setting is used.

*NONE

No font definitions are included in the file. All fonts are mapped to Acrobat built-ins.

*TYPE1

Outline font resources are imbedded in the file.

*TYPE3

Raster font resources are subsetted and imbedded in the file.

PDF document open options (PDFDOCOPN)

Specifies how the Acrobat work area appears when a user first opens the PDF document. PDF documents can be configured to control the behavior of Acrobat when the document is opened. The configuration settings are the same as those found in the full version of Acrobat under File -> Document Properties -> Open Options. With the settings, you can control the Initial View, Window Options, and User Interface Options in effect when the document is opened. You can for example configure the document to hide the Acrobat menu bar, tool bar and window controls and to display in full screen mode when it is opened.

Note: This parameter is ignored for transforms except those that generate PDF.

Element 1 Initial page mode CHAR(1)

*DEFAULT

The PDF document does not specify an initial page mode and the viewer's user default settings are used when the document is opened. Value x'00'.

*PAGEONLY

Only the page displays, bookmarks and thumbnails are hidden when the document is opened. Value '1'.

*BOOKMARK

Bookmarks and pages are displayed when the document is opened. Value '2'.

Element 2 Page mode after *FULLSCREEN CHAR(1)

Specifies how to display the document on exiting full-screen mode. This entry is meaningful only if *FULLSCREEN is specified for "Page mode after *FULLSCREEN"; it is ignored otherwise.

*DEFAULT

The PDF document does not specify a page mode and the viewer's user default settings are used. Value x'00'.

*PAGEONLY

Only the page displays, bookmarks and thumbnails are hidden. Value '1'.

*BOOKMARK

Bookmarks and pages are displayed. Value '2'.

*THUMBNAI

Thumbnails and pages are displayed. Value '3'.

Element 3 Page layout CHAR(1)

*DEFAULT

The PDF document does not specify a page layout and the viewer's user default settings are used. Value x'00'.

*SINGLEPAGE

Display one page at a time. Value '1'.

*ONECOL

Display pages in a single column. Value '2'.

*TWOCLLEFT

Display pages in two columns, with odd-numbered pages on the left. Value '3'.

*TWOCLRIGHT

Display pages in two columns, with odd-numbered pages on the right. Value '4'.

Element 4 Hide tool bars CHAR(1)

*NO

The viewer's tool bars are visible. Value '0'.

*YES

The viewer's tool bars are hidden. Value '1'.

Element 5 Hide menu bar CHAR(1)

***NO**
The viewer's menu bar are visible. Value '0'.

***YES**
The viewer's menu bar are hidden. Value '1'.

Element 6 Hide user interface elements CHAR(1)

***NO**
The viewer's user interface elements are visible. Value '0'.

***YES**
The viewer's user interface elements, such as scroll bars and navigation controls, are hidden leaving only the document's contents visible. Value '1'.

Element 7 Resize window to initial page CHAR(1)

***NO**
The document's window is not resized. Value '0'.

***YES**
Resize the document's window to fit the size of the first displayed page. Value '1'.

Element 8 Center window on screen CHAR(1)

***NO**
The document's window is not changed. Value '0'.

***YES**
Position the document's window in the center of the screen. Value '1'.

Element 9 Display document title CHAR(1)

***NO**
Display the name of the PDF file containing the document in the window's title bar. Value '0'.

***YES**
Display the document's title in the window's title bar. Value '1'.

Element 10 Magnification INT(2)

***DEFAULT**
Size the page using the viewer's default user setting. Value 0.

***PAGE**
Size the page to just fit within the window both horizontally and vertically. Value -1.

***WIDTH**
Size the page to just fit within the window horizontally. Value -2.

***HEIGHT**
Size the page to just fit within the window vertically. Value -3.

zoom-percentage

Specify the percentage by which the page is magnified. Value 8 through 1600.

Element 11 Page number INT(4)

***DEFAULT**
The first page is displayed when the document is opened. Value 0.

***LAST**
The last page is displayed when the document is opened. Value -1.

page-number

Specify the page number that is displayed when the document is opened.

PDF media overlay (PDFOVL)

Specifies an overlay to be added to the media (paper) before the contents of the page are rendered. All other content on the page overwrites the content of this overlay. If the spooled file contains an overlay made up of a large image, for example, the contents of this overlay may not be visible. The overlay may not contain other print resources such as page segments. CHAR(8), CHAR(10)

Note: This parameter is ignored for transforms except those that generate PDF.

***NONE**
The PDF document does not have a media overlay.

***GREENBAR**
An overlay that emulates green bar paper is used.

***BLUEBAR**
An overlay that emulates blue bar paper is used.

***COPY**
The word "COPY" in large faint letters diagonally across the paper is used.

overlay
Specify the name of the media overlay to apply.

PDF bookmark style (PDFBKMSTY)

Specifies the style of Portable Document Format (PDF) bookmarks generated from the bookmark data. INT(4).

Note: This parameter is ignored for transforms except those that generate PDF.

***NONE**
No bookmarks are generated.

***ONELEVEL**
The name of each bookmark data source becomes a top level bookmark and these are listed in ascending order. Within each top level bookmark, each unique data value is listed, again in ascending order. If a data value appears on more than one page, then within the data value the page numbers are listed in order.

***TWOLEVEL**
In addition to the structure provided by *ONELEVEL cross reference information is also provided. For each top level bookmark/data value, each other top level bookmark/data value that occurs on the same pages are listed within it.

PDF bookmark data source (PDFBKMSRC)

Specifies the data to be used in generating Portable Document Format (PDF) bookmarks.

Note: This parameter is ignored for transforms except those that generate PDF.

Four elements make up a data source specification: line, position, length and name. The most important is line which influences the meaning of the other 3.

***DOCIDXTAGP**
Bookmarks are generated from the "attribute-name" / "attribute-value" pairs added to the spooled file using the DDS DOCIDXTAG() keyword. Only pairs found at the page level are considered. Pairs at the group level (outside of a page) are ignored.

Position and length are ignored as data does not appear on the printed page and the length is derived from the data entered. If name is omitted, all

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"attribute-name"s that occur in the spooled file are included, each creating a top level bookmark. If a name is specified, only the "attribute-name" / "attribute-value" pairs with the specified name are included.

*DOCIDXTAGG

Processing is identical to that of *DOCIDXTAGP except that only pairs at the group level (outside of a page) are considered and pairs at the page level are ignored. Group level pairs inherit the page number of the next page to occur in the spooled file.

*DOCIDXTAG

Processing is identical to that of *DOCIDXTAGP except that all pairs, regardless of level, are considered. Group level pairs inherit the page number of the next page to occur in the spooled file.

*STRPAGGRP

Bookmarks are generated from the "group-name"s added to the spooled file using the DDS STRPAGGRP() keyword. The "group-name"s are listed under a single top level bookmark.

Position and length are ignored as data does not appear on the printed page and the length is derived from the data entered.

If name is omitted, "Page group" is used as the name of the generated top level bookmark. If a name is specified, it is used as the name of the generated top level bookmark.

line-number

Bookmarks are generated from the print information found in the spooled file. Each page is inspected and the data at line/position/length on each is used as the value of a bookmark.

If name is omitted, "Line xx Position yy Length zz" is used as the name of the generated top level bookmark. The actual values specified are substituted for xx, yy and zz. If a name is specified, it is used as the name of the generated top level bookmark.

When selecting DBCS data from *SCS data, the shift out/shift in (SO/SI) characters must be included by the position/length specification.

Workstation customizing object (WSCST)

Specifies the work station customizing object used to transform the spooled file when TRANSFORM(*WSCST) is specified. CHAR(10), CHAR(10). The possible values are:

*NONE

No work station customizing object is specified.

customizing-object

Specify the name of the work station customizing object.

Parameter dependencies

When transform *WSCST is specified a Workstation customizing object must be specified.

A transform or a workstation customizing object name can be specified, but not both.

When workstation customizing object *NONE is specified transform *WSCST cannot be specified.

PDF document security can only be specified with a *PDFxxx transform.

When a page range is specified, a supporting transform must be specified.

Examples

```
SPLCONVERT FILE(QSYSVRT)
            TOOBJ('/ACCT/MONTHEND.TXT')
            JOB(033194/QPGMR/MONTHEND)
            SPLNBR(2)
```

This command converts spooled file number 2, QSYSVRT from job 033194/QPGMR/MONTHEND into a text file with name MONTHEND.TXT in the directory ACCT in the Integrated File System.

```
SPLCONVERT FILE(QSYSVRT)
            TOOBJ('/QOpenSys/websamp/report.html')
            TRANSFORM(*HTMLBASIC)
```

This command converts the last spooled file with name QSYSVRT from the job the job running the command. The spooled file is convert into an HTML web page with name report.html. The file is placed in directory websamp in the QOpenSys file system.

Work with Gumbo Output Queue (WRKGSIOUQ) Command

```
Job: B,I Pgm: B,I REXX: B,I Exec
+--*LIBL/-----+
>>--WRKRPTOUTQ--OUTQ( -+-----+--output-queue--)-><
+--*CURLIB/-----+ | +*-----+ |
+--library-name/-+ +-OUTPUT(---*PRINT---)-+
```

PURPOSE

The Work with Gumbo Output Queue (WRKGSIOUQ) command works like OS/400's Work with Output Queue (WRKOUTQ) command but provides additional options to access the functions of this product.

Output queue (OUTQ)

Specifies the name of the Output queue and the library where it resides. This is a required parameter.

The possible library values are:

*LIBL

All libraries in the job's library list are searched.

*CURLIB

Use the current library for the job. If no library is specified as the current library for the job, QGPL is used.

library-name

Specify the name of the library.

Output (OUTPUT)

Specifies the kind of output generated by the command. The possible values are:

*

- The output is displayed (if requested by an interactive job) or printed with the job's spooled output (if requested by a batch job).

*PRINT

The output is printed with the job's spooled output.

EXAMPLES:

```
WRKGSIOUQ OUTQ(PRT01)
```

This command allows you to work with all of the spooled files on the PRT01 output queue.

```
WRKGSIOUQ OUTQ(QGPL/QPRINT)
```

This command allows you to work with all of the spooled files on the QPRINT output queue in library QGPL.

Chapter 7 Trouble-Shooting

What's In This Chapter

This chapter provides information and procedures useful for correcting or reporting Spool-a-Matic problems. The chapter:

- o Describes general trouble-shooting
- o Describes software installation problems
- o Describes PDF file problems
- o Describes Gumbo Logical Printer problems
- o Describes RTF file problems
- o Describes how to create a spool save file
- o Describes how to e-mail a spool save file

General Trouble-Shooting

If a command fails to run to completion or if the results you receive are different than those expected, perform these items:

- o Check the messages in your job log:
 - Run the DSPJOBLOG command.
 - Press F10 to display detailed messages.
 - Locate the messages related to the conversion.
 - Place your cursor on each message in turn and press F1.
 - Take any corrective actions suggested by the messages.
- o Download the current cumulative PTF package from www.gumbo.com.
- o Check the bottom of the PTF page at www.gumbo.com for IBM PTFs that may be required.
- o Review the detailed trouble shooting procedures in this chapter for solutions related to your problem.

If you are unable to correct the problem, prepare a problem report and contact your service provider.

Software Installation Problems

This sections describes problems, causes, and solutions specific to software installation.

- o Installation Verification Fails

Symptom When the installation verification option is run, verification fails.

Cause The software is not installed correctly or the installation is damaged. This can be caused for a variety of reasons including renaming a test install library in order to move a new release into production.

Solution Get the system to a clean and stable state and re-install the software by performing the following:

1. Delete the licensed program by running:

```
DLTLICPGM LICPGM(2A55SAM) RLS(*ALL) OPTION(*ALL)
```

It is okay if this fails with diagnostic CPD3D91 "Product 2A55SAM option *ALL release *ALL not installed."

2. Delete the product's library by running:

```
DLTLIB LIB(SPLAMATIC)
```

It is okay if this fails with escape CPF2110 "Library SPLAMATIC not found."

3. Delete the product's directory by running:

```
RMVLNK OBJLNK('/Gumbo/ProdData/2A55SAM')
```

It is okay if this fails with escape CPFA0A9 "Object not found. ...". But if it fails because the directory is not empty, delete the contents using WRKLNK.

4. Rebuild OS/400's internal licensed program information by running:

```
CALL PGM(QSYS/QSZRECOV)
```

This takes several minutes depending on machine size.

5. Install the product according to the instructions in the Installation chapter.

6. Enter your authorization code.

PDF File Problems

This section describes problems, causes, and solutions specific to Portable Document Format (PDF) files.

- o Pages are blank

Symptom The file is generated and displayed without error however the pages displayed are blank.

Cause By default, files are compressed as specified in version 1.2 of the PDF specification. This requires Acrobat 3.0 or higher to view correctly.

Solution Update your copy of the Acrobat viewer to 3.0 or later or turn off compression by changing the default values for Spool-a-Matic.

- o Displayed text is light or missing

Symptom The file is generated and displayed without error however the displayed text is light (gray instead of black) and hard to read, or missing.

Cause By default, Acrobat smooths text causing it to appear bleached out.

Solution From the Acrobat reader select File-> Preferences-> General. Deselect the "Smooth Text and Monochrome Images" check box.

- o Data truncated when PDF document printed

Symptom The file is generated and displayed without error however when it is printed, data is truncated.

Cause The original spooled file's page size may be bigger than the paper size of the selected printer, or may contain print in the printer's unprintable area.

Solution After selecting File-> Print, select the "Shrink to Fit" check box before pressing "OK".

- o Unable to edit PDF document with Adobe's Acrobat

Symptom When attempting to Tools-> Touch up Text, you receive the message: "Touch-Up could not parse this page".

Cause Acrobat is enforcing restrictions on font usage.

Solution Select Help-> Acrobat Guide. Review the information found under: Modifying PDF

documents; Editing pages and text; Editing text; Revising text for a detailed explanation and work arounds.

o Text Is Reduced and Does Not Fill Page

Symptom When viewing the document, the text is small and doesn't use the entire page.
Cause The printer files PAGESIZE parameter is set incorrectly. Most commonly, the intended page size is 8.5 x 11 but the printer file specifies PAGESIZE(66 132).
Solution Correct the printer file's page size parameter to accurately reflect the intended page size using the CHGPRTF command.

o Overlay Or Data Misaligned On Page

Symptom Overlay or print data or both are placed incorrectly with respect to upper left corner of page.
Cause Different printers position print using different algorithms. SpoolMail is not emulating the correct printer.
Solution Use the Reference printer device (REFPRTDEV) parameter of the Change Spool-a-Matic Default (CHGSAMDFT) command to specify the name of the printer that correctly prints the spooled file.

o Overlay And Data Still Misaligned On Page

Symptom Overlay is misaligned with respect to print data. The correct Reference printer device has been specified.
Cause SpoolMail needs help determining the processing used by the printer that correctly prints the spooled file.
Solution Run the Display Device Description (DSPDEV) command for the printer. If the "Host print transform" parameter is *YES, toggle the PDF apply noprtbdr to overlay (PDFNPBOVL) parameter of the Change Spool-a-Matic Default (CHGSAMDFT) command from *NO (the default value) to *YES or from *YES to *NO.

o Overlay And Data Still Misaligned On Page

Symptom Overlay is misaligned with respect to print data. The correct Reference printer device has been specified.
Cause Spool-a-Matic can not determine the printer's no print border from its logical description. Examples of when this situation occurs:

- Some *SCS printers
- Some *IPDS printers with AFP(*NO)
- Ascii printers with custom WSCST specified

Solution Enter the printer's no print border values in the Refprtdev offset default (REFOFFSET) parameter of the Change Spool-a-Matic Default (CHGSAMDFT) command.

o Overlay And Data Still Misaligned On Page

Symptom Overlay is misaligned with respect to print data. The correct Reference printer device has been specified.
Cause There is a discrepancy between the printer's logical description and its actual no print border values. Examples of when this situation occurs:

- Some *IPDS printers with AFP(*YES) and no print borders
- Ascii printers with actual values different from values found in WSCST or MFRTYPMDL parameter

Solution Enter the no print border values' discrepancy in the Refprtdev offset correction (REFCORRECT) parameter of the Change Spool-a-Matic Default (CHGSAMDFT) command.

Gumbo Logical Printer Problems

This sections describes problems, causes, and solutions specific to Gumbo Logical Printers.

- o Spooled Files Go On Hold

Symptom The Gumbo Logical Printer is running but it fails to produce results and the spooled files are placed on hold.

Cause The printer is encountering an error while processing the spooled files.

Solution Display the joblog for the printer writer and correct the error:

Note: In this example the printer's name is **GLP01**. Substitute the name of your device in its place.

1. Run WRKJOB JOB(**GLP01**)
2. If the "Select Job" prompt appears, select the job that is active.
3. From the "Work with Job" take option 10 to display the joblog.
4. Press F10.
5. Review the messages for error information.
6. For detailed information, place your cursor on a message and press F1.
7. Correct the errors shown.

- o Printer Generates Inquiry Messages

Symptom A Gumbo Logical Printer is working correctly but generates operator intervention inquiry messages such as "Load form type *STD" while processing spooled files.

Cause The printer was started with "Message option" *INQMSG which is the start on the STRPRTWTR command.

Solution End and restart the writer specifying "Message option" *NOMSG.

The source file QPDDSRC contains additional information and solutions to product specific problems.

RTF File Problems

This sections describes problems, causes, and solutions specific to Rich Text Format (RTF) files.

- o Text Is Reduced and Does Not Fill Page

Symptom When viewing the document, the text is small and doesn't use the entire page.

Cause The printer files PAGESIZE parameter is set incorrectly. Most commonly, the intended page size is 8.5 x 11 but the printer file specifies PAGESIZE(66 132).

Solution Correct the printer file's page size parameter to accurately reflect the intended page size using the CHGPRTF command.

Creating a Spool Save File

A save file containing all the information needed to transport and reproduce a spooled file on a Gumbo Software, Inc. development system can be produced using the Create Spool Save File (CRTSPLSAVF) command. To create a spool save file:

- o Determine the identity of the spooled file to be saved. A spooled file's identity consists of the file's name, the name/user/number of the job that created it, and the spooled file's number within the job. You can find this information using option 8 from the Work with Spooled Files (WRKSPLF) or Work with Output Queue (WRKOUTQ) commands among others.
- o Determine a library to contain the save file. Typically this is your test library. If you do not have a test library, QGPL can be used.
- o Determine a name for the save file. It must be a file name that does not exist in the library determined above.

- o Run the Create Spool Save File (CRTSPLSAVF) command entering the information from the preceding steps.

Note: The command allows for a short message to be included in the save file. Use this to describe the reason for the save file and to include contact information such as your name and phone number.

In saving the spooled file the command creates a temporary library. It retrieves the contents and attributes of the spooled file and stores these in a user space. Any resources used (such as page segments or overlays) are duplicated to the temporary library. Data areas containing various system values and the message are placed in the library. After creating the requested save file, the library is saved to it and finally the temporary library is deleted.

E-mailing a Spool Save File

Once a spool save file has been created using the Create Spool Save File (CRTSPLSAVF) command you can download it to your PC and e-mail it to Gumbo Software, Inc. by following these steps:

1. From your iSeries insure the FTP server is active by running:

```
STRTCPSVR SERVER(*FTP)
```

2. From your PC open a command prompt (DOS session).

3. From your PC create a temporary directory and change to it:

```
md c:\gumbo  
cd c:\gumbo
```

4. From your PC open an FTP connection to the iSeries by substituting your system's name and running:

```
ftp as400_system_name
```

5. From your PC enter a user name and password as prompted.

6. From your PC change to binary (image) mode by running:

```
binary
```

7. From your PC change to library/file/member mode by running:

```
quote site namefmt 0
```

8. From your PC download the spool save file by running (in this example the save file's name is QGPL/TEST):

```
get qgpl/test
```

9. From your PC end the ftp session by running:

```
quit
```

10. Send e-mail to support@gumbo.com after attaching file c:\gumbo\test.

Include in your e-mail a description of the problem encountered and the command parameter values you were using when it happened.

Appendix A Notices

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