

SPOOL-A-MATIC

Version 1 Release 9 Modification 0
Enhancement Summary
Program Number 2A55-SAM

Eighth Edition (May 2006)

GUMBO *Software, Inc.*

809 W Howe St
Seattle, WA 98119

Phone: (206) 284-5078
Fax: (206) 284-5029
E-mail: support@gumbo.com
Web: www.gumbo.com

Installation Instructions

Restoring the new release

Read the Enhancement Summary to determine if any changes affect your installation.

Follow these instructions to install Spool-a-Matic V1R9M0 on your eServer i5 (iSeries):

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 i5/OS V5R2M0 or later by running:

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

Note: If you are running a version of i5/OS earlier than V5R2M0 you can not install Spool-a-Matic V1R9M0 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.

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.

Note: You may receive message CPA3DE4 "Directory not registered. (C G)" (three times). If so, take option "G".

6. Enter your permanent authorization code.
7. Determine which PTFs were included on the media by entering the following command:

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

8. Visit www.gumbo.com to determine if newer PTFs are available.

Enhancements for Spool-A-Matic V1R9M0

What's In This Section

This section provides information on Spool-a-Matic enhancements for the current release, notes any customer code implications, and describes where to find more information when applicable.

Retrieve Page Data (RTVPAGDTA) Command Added

A new command, Retrieve Page Data (RTVPAGDTA), has been added to Spool-a-Matic. The command allows you to retrieve selected data from within a spooled file.

For example, by retrieving the page position of the customer number in a spooled file containing an invoice, you can determine the customer number for which the invoice was generated from within a CL program.

The command takes the identity of a spooled file, a CL variable name, page data selection and a page number as input. The page data parameter allows you to specify the line, position, and length of the data to be retrieved from the page. Additionally, the page data parameter allows you to specify that "off page" data, such as that specified on the DDS STRPAGGRP() and DOCIDXTAG() keywords, should be retrieved.

Spool Index SCS Control SIXSIC() Parameter Added

A new parameter, Spool Index SCS Control (SIXSIC), has been added to Spool-a-Matic's CHGSAMDFT command. The parameter specifies the spooled file indexing method for *SCS files in the presence of lines per inch (LPI) changes or font changes within a page. Spooled file indexing occurs when line and position values are required to process a request. Examples are filtering, or specifying page data. This setting can only affect the determination of line numbers if the spooled file contains *SCS and if the LPI or font changes within a page. The possible values are:

***SAME**

The value is not changed.

***ORDINAL**

This is the recommended value. Line numbers and position numbers are calculated using a deterministic, repeatable method that typically returns line and position values as they were specified in the DDS for the printer file.

***RELATIVE**

This value gives the original indexing behavior. The method returns line and position numbers that may vary from page to page for data that otherwise appears in the same position. The variance depends on the data's position relative to preceding data on the page.

The value shipped with the product is the recommended ***ORDINAL** and during a clean install this is the value that results. All previous releases of the product are considered to have had ***RELATIVE** and this value is preserved when this release is installed over a previous release. We recommend existing installations update to the and preferred ***ORDINAL** value.

Product Integrity Enhancements

Objects and the save files that contain them are digitally signed by Gumbo when they are created on our development system. You can verify that their contents have not been altered or corrupted since they were produced. You do this by first importing the our root certificate authority (CA) and object signing certificates to your system and then running the Check Object Integrity (CHKOBJITG) command against them. For detailed instruction on importing certificates for signature verification using the CHKOBJITG command, see IBM's manual "Digital Certificate Manager RZAH-U000".

Note: We uniquely name our digital certificates to simplify their management on your system. If you have previously imported digital certificates from us with the same name as those included in this package, you do not need to repeat this step.

Certificates can be found in downloads that contain save files as well as in the product's /doc directory after it is installed.

Object Attribute (OBJATR) Parameter Added

An Object attribute (OBJATR) parameter was added to the Spool Convert (SPLCONVERT) command. Its help text follows.

Specifies additional attributes for the generated file and is similar in function to the CHGATR command. Each attribute is specified as an attribute/value pair. If an attribute is specified more than once, the last one wins. BIN(4) BIN(4). The possible values are:

***NONE**

No additional attributes are specified.

***DISKSTGOPT**

Determines how auxiliary storage is allocated by the system for the object. This attribute can only be specified for byte stream files in the Root (/), QOpensys and User-defined file systems. This attribute will be ignored for *TYPE1 byte stream files. Valid values are:

***NORMAL**

The auxiliary storage will be allocated normally. That is, as additional auxiliary storage is required, it will be allocated in logically sized extents to accommodate the current space requirement, and anticipated future requirements, while minimizing the number of disk I/O operations. If the *DISKSTGOPT attribute has not been specified for an object, this value is the default.

***MINIMIZE**

The auxiliary storage will be allocated to minimize the space used by the object. That is, as additional auxiliary storage is required, it will be allocated in small sized extents to accommodate the current space requirement. Accessing an object composed of many small extents may increase the number of disk I/O operations for that object.

***DYNAMIC**

The system will dynamically determine the optimum auxiliary storage allocation for the object, balancing space used versus disk I/O operations. For example, if a file has many small extents, yet is frequently being read and written, then future auxiliary storage allocations will be larger extents to minimize the number of disk I/O operations. Or, if a file is frequently truncated, then future auxiliary storage allocations will be small extents to minimize the space used. Additionally, information will be maintained on the byte stream file sizes for this system and its activity. This file size information will also be used to help determine the optimum auxiliary storage allocations for this object as it relates to the other objects sizes.

Fidelity enabled for *AFPPRINTERFILE and variants

The Spool Convert (SPLCONVERT) command's Fidelity (FIDELITY) has been enabled for APF transforms allowing you to specify what should happen when resource specified by the spooled file are not found.

Logical Device Driver Example Corrected

SPLAMATIC/QPDDSRC/PRTDRVFS4 source member contained variable declaration error which is corrected. If you have used this sample program, see the member for more details.

PDF Generator Corrections And Updates

- o DDS AFPRSC (AFP Resource) keyword implemented for JPG images.
- o Previously, all resources such as page segments and overlays were processed and placed in the generated file even if page selection criteria such as page range or page data processing rendered them pointless. Now unused resources are omitted from the generated file reducing file size in some cases.
- o Image processing realloc() pseudo memory leak caused heap exhaustion.
- o Image data in a MODCA graphics object caused PDF conversions to fail in some cases.
- o Implement conversion of fonts specified with DDS FONTNAME() keyword. Initial support is "map to fgid" as follows:

Typeface	Fgid
Monotype Sans	2304
Monotype Sans Duospace	416
Times New Roman	2308
Thorndale Duospace	416

- o A new transform name, *PDFPAGESIZE, was added. The transform derives the paper size of the document from the spooled file's attributes making it suitable for use only with spooled files that do not include print resources such as overlays.
- o Corrected barcode generation for Code 128 code points FNC1, FNC2, FNC3, and FNC4.
- o Bookmarks in the presence of a constant back overlay were pointing at the wrong pages.
- o CMAP used when the target ccsid is 950 (*BIG5) was changed from Adobe's ETenms-B5-H to HKscs-B5-H to include the HKSCS-2001 Hong Kong supplemental characters. This change requires that *BIG5 users have Acrobat Reader 5.0 or higher in order to properly view the generated files.
- o Processing for the following bar code types was added:
 - Australian Post Bar Code
 - Royal Mail RM4SCC
 - Royal Mail Dutch KIX
 - Japan Postal
- o Blank pages were generated in rare cases for SCS spooled files.

AFP Print File Generator Corrections And Updates

- o Enhance print data stream processing to distinguish header info from between page data.
- o AFP data stream processing now bypasses garbage found at the end of some old print resources.

Authorization Component Corrections And Updates

- o Check Spool-a-Matic Authorization (CHKSAMAUT) command added. The command exercises the product's authorization verification function. This allows you to determine whether the product is authorized for use. If the product is not permanently authorized, the generated messages allow you to determine when the temporary authorization will expire. You may specify a message queue to receive messages generated when the product is not permanently authorized.

Configuration Processor Corrections And Updates

- o Added Manufacturer type and model data for additional HP printers.

Font Processor Corrections And Updates

- o Corrected recent list processing to return the same return code on all calls.
- o Font base definition tables were extended to include i5/OS fonts for the new DDS FONTNAME() keyword.
- o New functions added to process DDS FONTNAME() keyword.
- o Detection for DBCS spooled files has been improved for spooled files that specify IGCDTA(*NO) but in fact contain DBCS data.
- o DBCS font selection improved for spooled files that specify IGCCDEFNT(*SYSVAL) on a machine where the QIGCCDEFNT system value has not been set. Selection now depends on IGCCPI() and CPI() values specified on the spooled file.
- o Previously font processing interpreted a spooled file's "DBCS data" attribute to mean there was DBCS data in the file and grew alarmed when it could not find the related font specification (i.e. failed). Some applications (i.e. BPCS) always have the flag set, even on single byte machines. Processing has been updated to interpret "DBCS data" to mean "might have" if the source ccsid is single byte.
- o When the definition of a character set is needed to process a font, an internal table is consulted. The internal table contains information on a large number of IBM and some Elixir fonts. Previously if the table did not contain a particular character set, default values were used. Now, an attempt is made to retrieve the definition directly from the character set when it is not found in the table. This provides better support for home brew fonts.
- o The base font used by a spooled file that does not otherwise specify a font was calculated incorrectly for all spooled files other than character set 697, codepage 37.
- o Updated font base data table with additional character set data for Greek, Cyrillic, etc.
- o Updated font base data table with additional *FGID imbedding data for Greek, Cyrillic, etc.

HPT Processor Corrections And Updates

- o Processor updated to include new drawer information on the api call and several additional tiff transforms were added. Each of these includes paper size information that is passed to the i5/OS api for its consideration. The new transforms are:

- *TIFFLETTER
- *TIFFLEGAL
- *TIFFEXECUTIVE
- *TIFFLEDGER
- *TIFFA3
- *TIFFA4
- *TIFFA5
- *TIFFB4
- *TIFFB5
- *TIFFCONT80
- *TIFFCONT132

Integrated File System Component Corrections And Updates

- o Functions and parameters to allow the updating of stream files have been added.
- o New *INHERIT special value was added to the Data authorities (DTAAUT) parameter. When specified the *PUBLIC and other authorities to the object are copied as follows. The owner, primary group, and public data and object authorities (*R, *W, *X, *OBJEXIST, *OBJMGT, *OBJALTER, and *OBJREF) are copied from the parent directory's owner, primary group, and public data and object authorities. In addition, the private authorities (if any) and authorization list (if any) are copied from the parent directory. If the new file has a different owner than the parent directory and the new file's owner has a private authority in the parent directory, that private authority is not copied from the parent directory. The authority for the owner of the new file is copied from the owner of the parent directory.
- o The maximum stream file size that can be generated has been increased to 256 Gig from 2 Gig.
- o Functions and parameters to allow the specification of additional object attributes at stream file creation time have been added. These are the attributes of the CHGATR command.

IPDS Processor Corrections And Updates

- o Enhance print data stream processing to distinguish header info from between page data.
- o Page size miscalculated for some spooled files when multiple font specified.

MODCA Processor Corrections And Updates

- o MO:DCA data stream processor now processes MDR (Map Data Resource) SFIs for font specifications.
- o MO:DCA specifies that a print text descriptor is required in an environment group. However some generators (Elixir) omit the descriptor. This is now tolerated when processing the data stream.
- o Enhance print data stream processing to distinguish header info from between page data.
- o MO:DCA data stream processing now bypasses garbage found at the end of some old print resources.
- o Spooled file resource processing was extended to optionally include font processing.

Logical Printer Miscellaneous Corrections And Updates

- o The Edit File (EDTF) command is now used to edit source code, while creating or changing a logical printer, when Start Source Entry Utility (STRSEU) command is not available on a system.

Print Data Stream Processor Corrections And Updates

- o Corrected and & or operations on mismatched page maps.
- o Add function and export to allow mapping of document header data in spooled files.
- o Default print data stream manager's internal buffering now buffers entire spooled file regardless of size. This greatly increases performance when traversing very large spooled files multiple times.
- o Open spooled files are now closed as soon as final buffer is pulled, effectively raising the number of spooled that can be processed "simultaneously".

PTOCA Processor Corrections And Updates

- o Odd Elixir splitting of print text data in print resources (*PAGSEG *OVL) was previously mishandled resulting in missing data. Parser now correctly handles straddling unchained control sequences.

SCS Processor Corrections And Updates

- o Enhance print data stream processing to distinguish header info from between page data.
- o Parser was updated to correct processing of Set Line Density control code affecting the bottom margin in rare spooled files.
- o Parser was updated to introduce the notion of marks being placed on a page outside of the data stream. This affects page ejection in the presence of overlays.
- o Character set and code page (gcsgid/cpgid) for default fonts now set correctly for all languages.

Spool Indexing Corrections And Updates

- o Spool indexing now accounts for the difference between document header data and data that is "before the first page" and segregates them.
- o Dump Page Index Positions (DMPPIP) command fails with MCH1210 unless page range end specified.
- o Dump Page Index Positions (DMPPIP) command report heading "Ending page" was misspelled.

Spool User Interface Corrections And Updates

- o WRKGSISPLF and WRKGSIOUQ panels have been enhanced. Previously when option 15=Merge was entered for multiple spooled files, multiple MRGSPLF commands were prompted. One for each spooled file. Now, all spooled files are included on a single MRGSPLF command.

Text Generation Corrections And Updates

- o "Real" blank pages were being suppressed for *SCS spooled files.

