SpoolMail
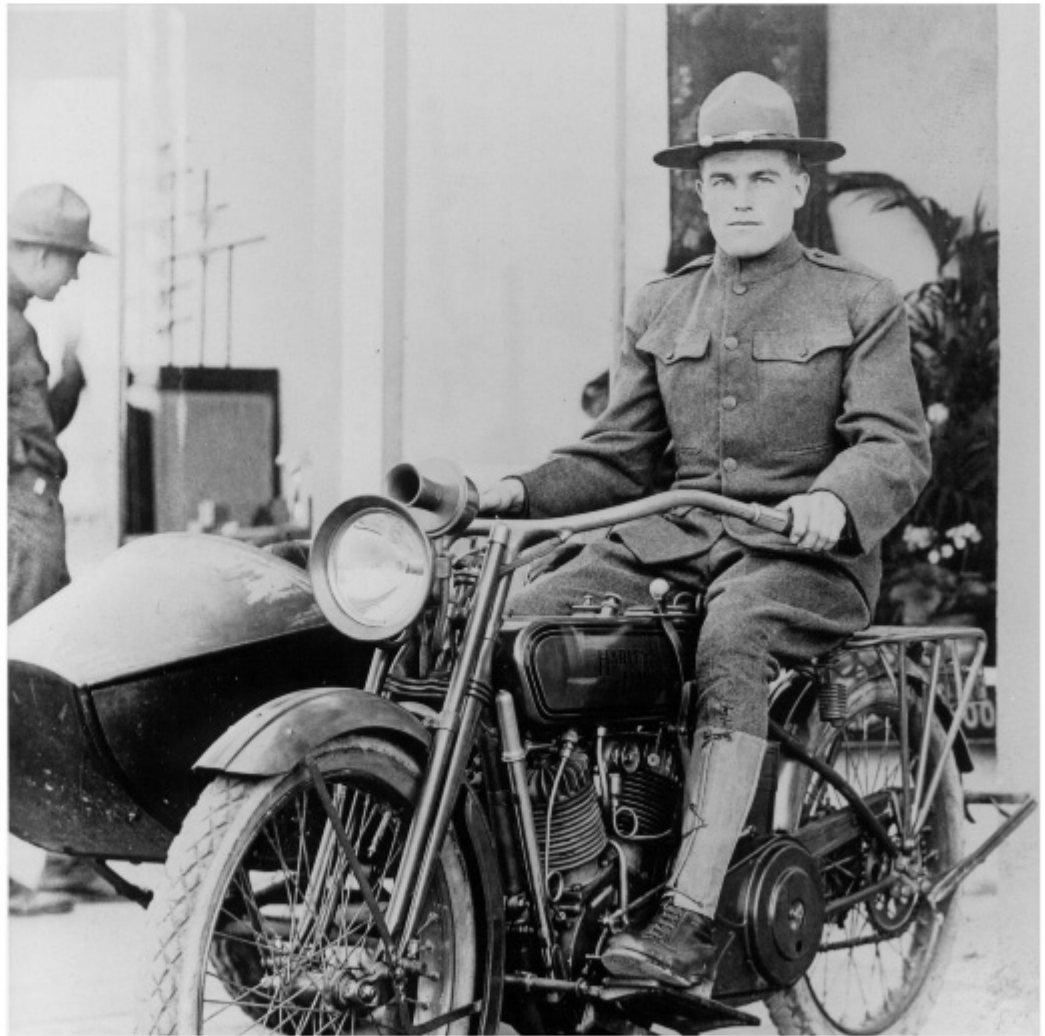
Enhancement Summary
Licensed Program 2A55SM1 V2R5M0

Spooled File Conversion

Edition

Fifteenth Edition (November 2009)

GUMBO
Software, Inc.

```
809 W Howe St
Seattle, WA 98119
United States of America
Phone:  (206) 284-5078
Email:  support@gumbo.com
Web:    www.gumbo.com
```

Contents

Installation Instructions

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

Follow these instructions to install SpoolMail V2R5M0 on your System i:

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 IBM i V5R4M0 or later by running:

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

   Note: If you are running a version of IBM i earlier than V5R4M0 you can not install SpoolMail V2R5M0 on your machine. You must install an earlier version of SpoolMail or upgrade the operating system.

3. Verify that user domain objects are allowed in the libraries SPOOLMAIL 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 SPOOLMAIL 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. Insure that IBM i will be able to verify the signatures that we apply to our product's objects by installing our Signing Certificate and Root CA Certificate using Digital Certificate Manager. Alternately, insure that signature verification will not prevent the restore operation by running:

   ```
   WRKSYSVAL SYSVAL(QVFYOBJRST)
   ```

   Take option 5 to display the value. If the value is 3 or higher, use option 2 to temporarily change the value to 1.

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

   ```
   RSTLICPGM   LICPGM(2A55SM1) DEV(device-name) LNG(2924)
   ```

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

   Note: During the restore operation the system operator message queue may receive inquiry message CPA3DE4 "Directory not registered. (C G)". Unless you are using a directory naming convention similar to ours (that is the directory specified in the CPA3DE4's second level text is unrelated to our software), You can safely respond with a "G" to reestablish the relationship between the directory and the product. Typically the message will occur three times.

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

   ```
   DSPPTF   LICPGM(2A55SM1)
   ```

9. Visit www.gumbo.com to determine if newer PTFs are available. If so, download and install them. The bottom of our PTF web page also includes a listing of any IBM PTFs that affect the product.

Note: *GUMBO* recommends downloading the current cumulative PTF package after installing the software.

Enhancements For SpoolMail V2R5M0

What's In This Section

This section provides information on SpoolMail enhancements for release V2R5M0, notes any customer code implications with a **COMPATIBILITY WARNING**, and describes where to find more information when applicable.

Product Build Enhancements

The manner in which programs and service programs in our products are compiled and bound has undergone a significant change in order to incorporate and take advantage the *TERASPACE storage model and *LLP64 data model added to IBM i.

You will probably not notice a difference, but you may face an exposure that is worth considering. Several of our products can call programs that you provide to perform processing. SpoolMail "Address mapping programs" and Report Manager "User process programs" are examples of this. If you do not use a "we call you" feature, you are not exposed. When source is compiled and a program bound, it specifies the storage model it uses, the activation group it attaches to and whether or not it is teraspace enabled. If you take the default values for these and you are coding in languages other than C and C++ (RPG and CL for example), you are not exposed.

COMPATIBILITY WARNING

If on the other hand your programs are not teraspace enabled (the default for C and C++) and/or you are attaching to our product's activation group either by specifying ACTGRP(*CALLER) or by specifying our named activation group, your program may fail when we call it. You can avoid this by changing your program to TERASPACE(*YES) for the first, and compiling with ACTGRP(*NEW) for the second.

Product Manual "Enhancements"

In a sad passing, the printed manual's command diagrams have been retired. They have been replaced by the output of IBM's Generate Command Documentation (GENCMDDOC) command, the new "normal". While we view them as inferior, they obviate the grueling job of hand maintaining the diagrams. We won't miss the work.

With the change, the printed and green screen version of the manual have been converged. Both are now generated from the green screen UIM help source. In most instances this means that the figures in the printed manual have been degraded to the level available using UIM. Their level was never high to begin with.

The convergence will make it easier to better document the product as it only needs be done once. And being machine generated, the documentation is much easier to manipulate. If you have suggestions for format improvement, we'd like to hear them.

*TIFF Transforms Enhanced

The *TIFF related transforms have been enhanced. Previously *TIFF transforms could only convert a spooled file in it's entirety. Now spooled files can be subsetted using the pagerange parameter and or split using the *PAGDTA feature when *TIFF transforms are specified.

CHGSM1DFT Shipped Defaults Changed

When a new release of SpoolMail is installed over and existing release, the existing values set using the Change SpoolMail Default (CHGSM1DFT) command are preserved. With this release several of the values shipped as the initial defaults have changed:

- Reference printer device (REFPRTDEV) was changed from *SYSVAL to *HPTASCII.
- Refprtdev offset default (REFOFFSET) left was change from 0 to 360, right from 0 to 240.
- PDF apply noprtbdr to overlay (PDFNPBOVL) was changed from *NO to *YES.

The change was made to match the "most likely new installation configuration" which has changed over time.

Final Form Text Generator Changes

- Procedure FftLoadEndPage() generates MCH3601 or MCH0601 when a sequence of blank pages is converted. The number of sequential blank pages to cause the failure varies with the spooled file lines per page and can be as few as 900 pages with page length 66 lines.

Font Processor Changes

- Internal font tables erroneously mapped character set C0S0CB12 to Fgid 108 instead of Fgid 110 resulting in missing bold attribute in some instances.
- F:OCA data stream processor now processes HSF (Horizontal Scale Factor) triplet for MCF (Map Coded Font 2) SFI. These can be found in overlays created using InfoPrint Designer. Function added to retrieve scale.
- Corrected sizing of the bolded counterpart of a font selected by the SCS command SFG which is imbedded (*FGID).

Graphic Object Processing Changes

- Chained command sequences that contain an interior begin segment command resulted in extraneous lines. Interior begin segment commands are now treated as NOOPs.

HTML Generator Changes

- Procedure HtmLoadEndPage() generates MCH3601 or MCH0601 when a sequence of blank pages is converted. The number of sequential blank pages to cause the failure varies with the spooled file lines per page and can be as few as 8 pages with page length 66 lines.

MODCA Processor Changes

- New export to retrieve the currently active Medium Descriptor.
- Wrong overlay was selected from formdef. Triplet FQN (Fully Qualified Name) now checks for a name that is less than 8 bytes when loading the DSNAM8 value, and blank fills.
- MO:DCA data stream processor now processes HSF (Horizontal Scale Factor) triplet for MCF (Map Coded Font 2) SFI. These can be found in overlays created using InfoPrint Designer.

Mail Set Up Changes

- Mail Set Up manual instructions rewritten to include new material and remove obsolete material.
- Obsolete processing was removed from the VFYLOCAL command.
- Option 61 on the Mail Verification And Set Up (MAILSETUP) menu now defaults to *NO for the purge parameters.
- QtocRtvTCPA() API parameter prototyped as signed instead of unsigned causing potential api in mail set up functions to fail.
- Name of job started when TCPIP is started changed from QTCPIP to QTCPWRK at V6R1. VFYLOCAL command now checks correct name.
- Name of job started when TCPIP is started changed from QTCPIP to QTCPWRK at V6R1. VFYROUTER command now checks correct name.

National Language Support Component Changes

- Added new simple string conversion function export.

PDF Generator Changes

- Function used to test IBM-MMR images for end of file markers was corrected to avoid long distance bit tests outside the range of tstbit() function.
- Now correctly position logical page on medium when the page and medium use differing units of measure. Though rare overall, the situation is most often associated with custom form definitions.
- Replicate Patterns was mishandled. End IIM image now turns off the Drawing Pattern switch for Replicate Patterns.
- The precision of type 3 font character size scaling was increased from 2 decimal places to 3. Characters at the end of long sequences are now more accurately positioned.
- IBM-MMR images whose end of file marker spans the underlying structured fields were being mishandled resulting in PDF0063 TIFFax error and failed conversion.
- IBM-MMR images now converted to PDF as uncompressed images instead of CCITTFaxDecode.
- Graphic Object Content Architecture fractional line widths, in all cases, and line widths at resolutions other than 1440ths were rendered incorrectly. Generally the lines produced were thinner than specified.
- Font and print text processing now honors HSF (Horizontal Scale Factor) specified on fonts in AFPDS spooled files, overlays and page segments.
- USPS IMB Barcode HRI distance from symbol reduced.
- USPS IMB Barcode generated inline instead of as document Xobject.
- Handling of corrupt G4-MMR images corrected.
- Fix for corrupt G4-MMR images introduced potential pointer not set failure.
- Processing has been added for United States Postal Service (USPS) Intelligent Mail Barcode (IMB) aka. 4-state customer barcode. Initial support is for OPTIMAL symbol length (2.9 inches).
- Intelligent Mail Barcode (IMB) processing extended to support SMALL variant (2.667 inches). Support also added for optional HRI (Human Readable Information) above or below.
- Processing has been added for object-type *TIFF files specified on the DDS AFPRSC() keyword. *TIFF files stored in the integrated file system and included in a spooled file now appear in the generated PDF.
- ToUnicode CMap stream object erroneously omitted for *TYPE3 and *TRUETYPE embedded fonts under some circumstances resulting in PDF/A that does not meet standard and resulting in text operations such as cut and paste giving unusable results.
- ToUnicode CMap stream object now included for *TYPE1 embedded fonts to insure that even ill behaved fonts can be accurately handled by Adobe Acrobat.
- Mapping of obscure font FGIDs to PDF builtin fonts now always produces a result and hence bold is always honored.
- Missing function return caused random conversion failures on some systems.
- Removed erroneous error messages generated for spooled files with underline during most PDF conversions.

Program Distribution Changes

- Additional manual sections with product usage information added.
- Menu option to 'Verify the product is installed correctly CHKPRDOPT' now specifies CHKSIG(*NONE). Since we digitally sign our objects but most customers do not install our digital certificates, the option gave unnecessarily alarming results. If you have installed our digital certificates, you can run a complete check using:

  ```
  CHKPRDOPT PRDID(2A55SM1) RLS(V2R5M0) CHKSIG(*ALL)
  ```

- Added function to retrieve a product's installed home directory coded in the requesting job's default ccsid.

- Added function to produce a system wide unique temporary file name. The file is in the product installed home directory's /tmp folder unless /tmp contains variant EBCDIC, as is the case for Japanese ccsid 5026 jobs. In this case the file is placed in the system /tmp directory using a /TMP name.

RTF Generator Changes

- Procedure RtfLoadEndPage() generates MCH3601 or MCH0601 when a sequence of blank pages is converted. The number of sequential blank pages to cause the failure varies with the spooled file lines per page and can be as few as 3 pages with page length 66 lines.

System Distribution Directory Processor Changes

- Added functions to test for the existence of user ID in the system distribution directory and in the system distribution lists.
- Search System Directory (QOKSCHD) API performs erroneous conversion on converted data resulting in incorrect directory data for ccsids that do not contain the EBCDIC invariant characters i.e. 5026 Japan.

Spool Indexing Changes

- Commands DMPPIP, DSPPAGDTA, and RTVPAGDTA now support specifying spooled file name *LASTCRT. *LASTCRT selects the last spooled file created by the current job or thread, using the QSPRILSP api, for processing. processed. This is useful for jobs that create spooled files under other user profiles, which consequently end up in the user's QPRTJOB. When *LASTCRT is specified, the JOB() and SPLNBR() parameters are ignored.
- The concept of filter sets, sets of page filters joined by *AND/*OR conjunctions, has been introduced to indexing. Functions and types to manipulate these have been added. *AND/*OR conjunction processing is modeled on QUERY, whereby *ORs separate groups of *ANDs.

Send Mail Changes

- Portions of manual instructions rewritten to include new material and remove obsolete material.
- New special value for email address parameters, ***USRID**, has been added. ***USRID** is used to specify a directory entry or distribution list that supplies email address(es). The correct form is: ***USRID:NAME:ADDRESS** where **NAME** is either a directory entry's "User ID" or a distribution list's "List ID" and where **ADDRESS** is either a directory entry's "Address" or a distribution list's "List ID qualifier".
- New functions, definitions, and parameter types were added. These allow direct entry of arbitrary MIME message headers.
- To correct the encoding of MIME parameter values for attachment names of unusual length or containing blanks, *RFC2231* was implemented. Not all mail clients have implemented *RFC2231* (outlook 2000, 2002, 2003) resulting in odd attachment names. *RFC2231* encoding is now avoided unless it is required to meet other MIME constraints.
- Attachment names containing blanks or of unusual length resulted in an incorrectly formed mime message. Mime is now correctly formed.
- i5/OS' mail server framework can't find files when the path is encoded in a ccsid that does not contain the EBCDIC invariant characters. The tmpnam() API returns a name containing lowercase letters, which, when run in a ccsid 5026 job aren't in the invariant code points. QtmmSendMail() API requires path names to be in the job's ccsid. Send component was modified to use only uppercase (always invariant) path names when the job's ccsid causes tmpnam() to produce variant characters. Japanese 5026 now can be processed by the MSF.
- Sending an email to a user id/address fails in all cases.

- Sending an email to a user id/address that utilizes an *ANY entry from the directory to supply the domain name for the email address was inadvertently broken by a change to the code. *ANY entries are now correctly processed.
- Sending an email that contains no body part such as attached file or message results in malformed email.

Space Management Component Changes

- QUSCRTUS() api parameter 11's default behavior changed at i5/OS V6R1M0 rendering some uses of large user spaces an error. Call to api changed to specify original behavior.

Spool Component Changes

- Previously the CRTSPLSAVF command could fail with CPF21A0 "*AUDIT required to create or change libraries" as the CRTLIB command used by CRTSPLSAVF specified CRTOBJAUD(*NONE). The CRTLIB command now takes the default CRTOBJAUD(*SYSVAL) and the error is avoided.
- Added *FORMTYPE path special value which substitutes the spooled file's form type.

Spool User Interface Changes

- WRKGSISPLF and WRKGSIOUTQ panels have been enhanced to more closely simulate their i5/OS analogs when prompting option 2, Change Spooled File Attributes. The output queue parameter is now accessible without pressing F10.

LibTiff Component Changes

- Initial build. Portions of the LIBTIFF library have been compiled into a service program to manipulate TIFF files.

Text Generation Changes

- Procedure TxtLoadEndPage() generates MCH3601 or MCH0601 when a sequence of blank pages is converted. The number of sequential blank pages to cause the failure varies with the spooled file lines per page and can be as few as 11 pages with page length 66 lines.

ZLib Component Changes

- Initial build. Portions of the ZLIB library have been compiled into a service program to manipulate ZLIB related functions.