Dumpster

Enhancement Summary
Licensed Program 2A55DMP V1R9M0

Spooled File Internals

Edition

Ninth Edition (June 2016)

This edition applies to the licensed program Dumpster (Program 2A55DMP), Version 1 Release 9 Modification 0.

This summary is available through option 1 of the DUMPSTER menu, in PDF format in directory /Gumbo/Proddata/2A55DMP/doc on your system, and on the web at www.gumbo.com

Contents

Installation Instructions

Follow these instructions to install Dumpster V1R9M0 on IBM i using physical media or a virtual image:

Prepare

If you are upgrading a previous release (if Dumpster is currently installed), perform these steps before installing the software:

1. Read the Enhancement Summary to determine if any changes affect your installation.
2. Insure that the product is not in use, as the installation process must clear the product's library. This will fail if objects such as menus are in use. If the installation fails, the previous release will be restored.

Install

Note: If you are installing from a save file downloaded as an executable zip (.exe), use the save file specific "readme.htm" instructions included in the download.

1. Sign on to the system as the security officer (QSECOFR).
2. Verify that your machine is at IBM i V7R1M0 or later by running:

   ```
   WRKLICINF
   ```

   Note: If you are running a version of IBM i earlier than V7R1M0 you cannot install Dumpster V1R9M0 on your machine. You must install an earlier version of Dumpster or upgrade the operating system.

3. Verify that user domain objects are allowed in the libraries DUMPSTER 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 DUMPSTER 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 physical media or virtual image on the appropriate device.
6. Submit the Restore Licensed Program (RSTLICPGM) command to batch:

   ```
   RSTLICPGM  LICPGM(2A55DMP) DEV(device-name) LNG(2924)
   ```

Note: Where "device-name" is the device where the media or image was mounted 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 or four times.

Finish

When the RSTLICPGM command completes, library DUMPSTER and directory '/Gumbo/ProdData/2A55DMP' contain the new software. To complete the installation:

1. If you have an Authorization or Instructions letter with your permanent authorization code, enter the code now.

   Note: Dumpster automatically grants 30 days usage for new installs or 90 days usage for release upgrades.

2. Retrieve the current cumulative Dumpster PTF package by running the following command:

   ```
   DUMPSTER/RTVGSIPTF
   ```

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

3. Visit our PTF page at www.gumbo.com and check the **Additional IBM i PTF Information** section for IBM PTFs you may need to install.
4. You can access the Dumpster menu by running the following command:

   ```
   GO   MENU(DUMPSTER/DUMPSTER)
   ```

Enhancements For Dumpster V1R9M0

What's In This Section

This section provides information on Dumpster enhancements for release V1R9M0, notes any customer code implications by marking them with a **COMPATIBILITY WARNING**, and describes where to find more information when applicable.

Sample Source Code Added

Source file DMSOURCE added to the product's library. The file will contain example and template source code for your consideration. If you decide to use source code from this file, make a copy to your source file as the example may not be in the next release of the product.

User Option Example Added

The spooled file user defined option program demonstrates the correct parameter list and is a good starting point for creating a new CL based option to run the DMPSPLF command from IBM supplied spooled file panels WRKSPLF, WRKOUTQ and WRKJOB OPTION(*SPLF).

Spool Interface Rewritten

Our WRKGSISPLF and WRKGSIOUTQ commands have been rewritten to employ newer and speedier APIs from IBM. They now more closely emulate the IBM analogues. Performance improvement is particularly noticeable with very large lists. See additional enhancements listed below.

AFP Processor Changes

- SPLNBR(*ANY) processing corrected for EXTAFPRSC command. Previously specifying *ANY generated an error and processing stopped.

Configuration Processor Changes

- Processing logic modified to allow a spooled file's IPDSPASTHR() parameter to suppress IPDS page re-size logic when *YES specified, even when other requirements are not met. This allows spooled files that depend on the pre AFP logic to print correctly to be correctly converted.

Font Processor Changes

- New export key Font Unique ID(FSUID), compliments the existing Font Stack Handle(FSH). The existing FSH is the key to information of a font that is currently on the stack. The new FSUID is the key to the same information about any font that is/was ever on the stack. The FSUID are valid for the duration of the Font Stack. The FSUID grants easy access to exported information of all the fonts used.
- Unicode value is now the communication method for Glyph names. A Unicode equivalent array is available for each font used. A new export, FntGlyphGetForUnicode, returns the Unicode Glyph name for the Unicode value.

- Corrected font size in cases where the same font was referenced multiple times, with different 'height's.
- Enabled accurate Text Length for TrueType fonts.
- Improved handling of TrueType fonts given with data as Unicode, and no corresponding codepage.
- Resolving TrueType fonts failed to check for existing resolved reference resulting in a stack overflow and failed processing.
- Retrieving font file names using QGSLRSC failed when processing a spooled file that has a duplicate on the system. QGSLRSC is now called using the system's internal IDs for the job and spooled file and the problem avoided.
- The font size derived from *SCS spooled file which specifies a scalable font was incorrect.
- Missing code page font resource no longer causes the process to fail, a substitute is used instead. This restores the previous behavior.
- Default code page selection enhanced to be sensitive to the spooled file's encoding.
- Improved internal handling of TrueType fonts.
- Malformed codepage *FNTRSC caused MCH3601 after parsing. The malformed codepage is now treated as if it does not exist.
- Font processing was sending message id FNT0013, FNT0016, CPF9801 and CPF33CF when a code page font resource could not be found for a grid specified font. Now the message is postponed until the missing code page is needed and thus avoiding the messages when the missing code page doesn't matter.
- Font processing was sending message id FNT0022 when a host character set could not be found for a grid specified font. Now the message is postponed until the missing character set is needed and thus avoiding the message when the missing character set doesn't matter.
- New internal version of font processor released. The release reorganizes internal structure to provide on demand or as needed processing of font resources. As a result, some errors such as "font not found" occur later than in earlier releases.
- GCSGID superset - subset data updated for Japanese character sets.
- DBCS fonts identified by FGIDs 53248, 53249 (Japanese), 54563, 54568 (Traditional Chinese), 54565, 54566, 54567, 54568 (Simplified Chinese), and 54560, 53816 (Korean) were incorrectly treated as not scalable, resulting in improper font sizing.
- For fonts identified by an FGID which has an implied height, height overrides were ignored. Overrides are now applied.

FreeType Changes

- Added functions to process type1 fonts.

Integrated File System Changes

- Integrated file system service program recast with storage model *INHERIT to increase product construction flexibility.

MODCA Processor Changes

- Missing return code processing corrected. It was exposed during testing of another component.

- Incorrect processing of Begin Page's Page Position Information triplet resulted in wrong overlay applied to page in some instances.

National Language Support Changes

- Previously an unknown keyboard type code was treated as an error. Now the job default ccsid is used.
- Several QKBDTYPE values don't have an implied ccsid, for example CAB and JEB. Now when resolving these, the job default ccsid is used instead of returning an error.
- Special value *JOBDFT incorrectly resolved to job ccsid, not job default ccsid.

Program Distribution Changes

- RTVGSIPTF command failed when there were no PTFs issued for the product.
- CDROM no longer contains older releases in addition to the current releases.
- Previously, a missing product directory didn't cause SAVLICPGM or CHKPRDOPT to fail. Now, diagnostic message CPD3D70 is issued for each missing directory and the operation fails.
- /lib has been added to the product's directory structure to facilitate future enhancements.
- Added QSYSLIBL check to trouble shooting instructions.
- RTVGSIPTF fails if no PTFs currently installed.
- The product's prompt message file is now part of the shipped deliverables as a prelude to internationalization.
- Command compilation change to allow *IMOD in all commands that allow *IPGM and to allow *BMOD in all commands that allow *BPGM.
- Incorrectly declared variable prevented RTVGSIPTF command from loading and applying PTFs.

PTOCA Processor Changes

- Added processing for new control sequence x6A Unicode Complex Text (UCT). Previously message ID PTX0005 was issued.

Sfntly Changes

- Initial build. Google's Sfntly library has been compiled into a service program to subset font files.

Space Management Changes

- SpcRetrieveSpaceName() was generating avoidable MCH3601 Pointer not set error messages under some error situations. The MCH3601 did not affect processing but was a distraction during problem determination.

Spool Management Changes

- Generating a resource list using QGSLRSC failed when processing a spooled file that has a duplicate on the system. QGSLRSC is now called using the system's internal IDs for the job and spooled file and the problem avoided.

Spool User Interface Changes

- Selection check at the wrong point in the code resulted in poor performance on systems with many spooled files.
- Holding a spooled file from WRKGSIOUTQ panel using option 3 failed to update the status to *HLD. The status is now updated.
- WRKGSISPLF command's SELECT() parameter has been extended and enhanced. Generic processing has been added for the User and User data elements. New elements have been added for ASP and Spooled file.
- WRKGSISPLF command has been extended to include a JOB() parameter and a PERIOD() parameter mirroring changes in IBM's WRKSPLF command.
- Holding a spooled file from WRKGSIOUTQ panel using option 3 failed to update the status to *HLD. The status is now updated.
- Pressing F5=Refresh for a second time on WRKGSISPLF and WRKGSIOUTQ panels caused the panel to reposition to the top of the list. The error is corrected.