
Using Global Resource Identifiers

Infoprint can identify the fonts required for a job, access AFP font files that are installed on or NFS-mounted to the RS/6000, and download the appropriate fonts to an Infoprint-managed printer device. However, some Infoprint printers can use fonts that are resident in the printer, saving the time it takes to download these fonts. Because the font files on the RS/6000 do not share the same names as the printer-resident fonts, Infoprint uses global resource identifiers (GRIDs) to map the RS/6000-resident fonts to the printer-resident fonts. Use the information in this chapter to work with GRIDs.

How Can You Use GRIDs?

GRID files contain pre-assigned mappings that you can modify to map RS/6000-resident font file names to printer-resident font identifiers. These pre-assigned mappings include both single-byte character set (SBCS) and double-byte characters set (DBCS) outline fonts.

If you have a printer that supports outline fonts, you can use the GRID files to map raster character-set names to outline font global identifiers so that Infoprint downloads the outline fonts or use printer-resident outline fonts with that printer.

Another use of GRID files is to support Mixed Object Document Content Architecture for Presentation (MO:DCA-P) files that specify fonts using GRIDs rather than character-set names. You can customize the GRID files to define which fonts Infoprint uses when the data stream of the job specifies GRIDs.

What GRID Files Ship with Infoprint?

Infoprint ships four GRID files that you can customize for use with the types of printer devices that you use and the types of jobs that you print. These files are **charset.grd.sample**, **codepage.grd.sample**, **cpgid.grd.sample**, and **fgid.grd.sample**, and they are installed in the **/usr/lpp/psf/grd** directory. The following describes each file:

charset.grd.sample

Specifies which printer-resident fonts are activated for the character-set names found within the data stream of the job.

This file maps the font character-set name to a:

- Font global identifier (**fgid**)
- Graphic character set global identifier (**gcsgid**)
- Font width
- Vertical size value
- Set of font attributes (bold, italic, and doublewide)

Figure 1 on page 2 shows an example of the format of a line in the character set sample file.

```
# FCS name -> fgid gcsgid width vsize attr #
#-----#
C0L00GSC 398 - 96 120 - # GOTHIC CONDENSED 1
```

Figure 1. Sample File for a Character Set

codepage.grd.sample

Specifies which printer-resident fonts are activated for the code page names found within the data stream of the job.

This file maps a code page to the:

- Code page global identifier (**cpgid**)
- Graphic character set global identifier (**gcsgid**)

Figure 2 shows an example of the format of a line in the code page sample file.

```
# code page name -> cpgid gcsgid #
#-----#
T1000038 38 123 # US-ASCII Character Set 1
```

Figure 2. Sample File for a Code Page

fgid.grd.sample

Specifies which font character set Infoprint should download when substituting for a global resource identifier that it finds in the data stream of the job.

This file maps the following to a font character set (FCS) name:

- A font global identifier (**fgid**)
- A graphic character set global identifier (**gcsgid**)
- A font width
- A vertical size value

Figure 3 shows an example of the format of a line in the font global identifier sample file.

```
# fgid gcsgid width vsize -> FCS name #
#-----#
3 0 144 240 C0E0DE10 # DELEGATE 12 POINT 1
```

Figure 3. Sample File for a Global Identifier

cpgid.grd.sample

Specifies which code page Infoprint should download when substituting for a global resource identifier that it finds in the data stream of the job.

This file maps a code page global identifier and a graphic character set global identifier to a code page name. Figure 4 shows an example of the format of a line in the code page identifier sample file.

```
# cpgid gcsgid -> code page name #
#-----#
29 0 T1V10871 # OLD ICELANDIC 1
```

Figure 4. Sample File for a Code Page Identifier

For a detailed explanation of how the different types of identifiers combine to produce fonts, see *AFP Fonts: Font Summary*

If you have a job that specifies a font that is not resident on your printer, you can use the GRID files to map the missing font to one with the same point size that does reside on your printer. To understand what fonts your printer device has, consult both your printer documentation and *Advanced Function Presentation: Printer Information*.

Where Does Infoprint Search for GRID Files?

Infoprint searches the following two directories, in the order shown, for GRID files:

1. **/usr/lpp/psf/grd**
2. **/var/psf/printername**, where *PrinterName* is the name of a valid Infoprint physical printer.

When you install Infoprint, sample GRID files are installed in the **/usr/lpp/psf/grd** directory. You can maintain new or modified GRID files for all printers by storing files in the **/usr/lpp/psf/grd** directory. You can maintain new or modified GRID files for specific printers in the **/var/psf/PrinterName** directory. If you maintain **.grd** files in both directories, Infoprint logically appends the mapping data from the **/var/psf/PrinterName** directory to the **/usr/lpp/psf/grd** directory.

Notes:

1. The new or modified GRID files you create have the same names as the sample files except that you delete **.sample** from each file name.
2. After creating or modifying GRID files, you must shut down and restart the Infoprint physical printer represented by *PrinterName* for the changes in the file to take effect.

Understanding the General Syntax Rules and Allowable Values for GRID Files

To tailor the Infoprint-supplied GRID files for your own system needs, you need to understand the general syntax rules for the four GRID files and the allowable values for the fields within the files.

Syntax Rules Applying to All Types of GRID Files

The GRID files are simple ASCII text files that you can modify through any standard AIX text editor: The following rules apply to all of the GRID files:

- Each line in the file cannot contain more than 255 characters
- Separate fields within a line with one or more delimiters (spaces)
- A pound sign (#) indicates the start of comments, which causes Infoprint to ignore the remainder of that line
- A dash, -, indicates the absence of a particular value
- An asterisk, *, indicates that a wildcard value (any numeric decimal) is accepted.
- Infoprint ignores blank lines and extraneous fields

Allowable Values for the charset.grd File

You can specify the following values for fields in the GRID file for a character set for a font:

fcs name

Identifies the font character set name for the font. Specify up to eight alphanumeric characters beginning with a letter.

fgid

Identifies the character set identifier for the font. Specify a numeric value from 1 to 65534 or enter a dash, - , if you want to disable the mapping of this character set to GRID values. If you specify an asterisk (*), Infoprint issues an error message.

gcsgid

Identifies a global identifier for the font. Specify a numeric value from 0 to 65534 or enter a dash, - , to specify no **gcsgid**. If you specify an asterisk, Infoprint issues an error message.

width

Identifies the width specified in the character set. Specify a numeric value from 0 to 65534 or enter a dash, - , to specify no width. If you specify an asterisk, Infoprint issues an error message.

vertical_size

Identifies the vertical size specified in the character set. Specify a numeric value from 0 to 65534 or enter a dash, - , to specify no vertical size. If you specify an asterisk, Infoprint issues an error message.

attribute_field

Indicates the attributes of the character set. Specify a lowercase b (bold), i (italic), d (doublewide), or enter a dash, - , to specify no attribute.

Allowable Values for the codepage.grd File

You can specify the following values for fields in the GRID file for a code page for a font:

codepage name

Identifies the code page name for the font. Specify up to eight alphanumeric characters beginning with a letter.

cpgid

Identifies the code page identifier for the font. Specify a numeric value from 1 to 65534 or enter a dash, - , if you want to disable the mapping of this character set to GRID values. If you specify an asterisk, Infoprint issues an error message.

gcsgid

Identifies a global identifier for the code page. Specify a numeric value from 0 to 65534 or enter a dash, - , to specify no **gcsgid**. If you specify an asterisk, Infoprint issues an error message.

Allowable Values for the fgid.grd File

You can specify the following values for fields in the GRID file for a font global identifier:

fgid

Identifies the global identifier for the font. Specify a numeric value from 1 to 65534.

gcsgid

Identifies the global identifier for the font. Specify a numeric value from 0 to 65534 or enter an asterisk, *, to indicate a wildcard value. If you specify a dash, Infoprint issues an error message.

width

Identifies the number of characters per horizontal inch. Specify a numeric value from 1 to 65534 or enter an asterisk, *, to indicate a wildcard value. If you specify a dash, Infoprint issues an error message.

vertical_size

Identifies the vertical size of the font. Specify a numeric value from 1 to 65534 or enter an asterisk, *, to indicate a wildcard value. If you specify a dash, Infoprint issues an error message.

fcs name

Identifies the font character set name for the font. Specify up to eight alphanumeric characters beginning with a letter.

Allowable Values for the cpgid.grd File

You can specify the following values for fields in the GRID file for a code page global identifier:

cpgid

Identifies code page identifier for the font. Specify a numeric value from 1 to 65534.

gcsgid

Identifies the global identifier for the font. Specify a numeric value from 0 to 65534 or enter an asterisk, *, to indicate a wildcard value. If you specify a dash, Infoprint issues an error message.

codepage name

Identifies the code page name for the font. Specify up to eight alphanumeric characters beginning with a letter.

Modifying GRID Files

The following section describes two ways you can modify GRID files to support the printer devices and types of jobs in your production printing environment.

Note: If you are using Infoprint to print from either the IBM 6404 Line Matrix printer, the IBM 6408 Line Matrix printer, or the 6408 Line Matrix printer in both native and 4234 emulation mode, you must modify both the **charset.64xx.grd** and the **codepage.64xx.grd** files as described in “An example of modifying GRID Files”.

An example of modifying GRID Files

You can avoid having Infoprint download fonts by adding font entries that map a font character set or code page to a global identifier for a resident font.

For example, if many of your jobs specify the Prestige 10-point font, which is character set C0S0PR10, and that font is not resident on your IBM 3812 printer diskette, you can map the Prestige 10-point font to a similar font that does reside on your IBM 3812 printer diskette. In the following procedure, you map the Gothic 10-point font, character set C0D0GT10, that is a printer-resident font to the Prestige 10-point font.

Perform the following steps:

1. From the AIX command line, change to the the `/var/psf/PrinterName` directory, where *PrinterName* is the name of the Infoprint physical printer representing the 3812 printer device.
2. Create the **charset.grd** file from the **charset.grd.sample** file or the **charset.64xx.grd** file when printing to a 64xx printer. Enter the command:

```
cp /usr/lpp/psf/grd/charset.grd.sample charset.grd
```
3. Using an AIX editor, such as vi, edit the **charset.grd** file you just created and copy the following line for the Gothic 10-point printer-resident font:

```
C0D0GT10 40 - 144 240 # GOTHIC TEXT 10
```
4. Change the first entry in the copied line, in the **FCS name** column, to the character set identifier of the Prestige 10-point font that you want to map to the Gothic 10-point font. You can change the comment at the end of the copied line to identify the mapping change you are making.

```
C0S0PR10 40 - 144 240 # PRESTIGE 10 mapped to GOTHIC TEXT 10
```
5. Search the remainder of the **charset.grd** file to ensure that it contains no other C0S0PR10 entries. A later entry of the same character set would replace the entry you just made.
6. Save your changes and close the file.

If you print many jobs that specify the personal computer ASCII codepage for Iceland, T1000861, but that codepage is not resident on your printer diskette, you can map codepage T1000861 to a similar codepage that does reside on your printer diskette, the personal computer multilingual codepage for ASCII data, T1000850.

Perform the following steps:

1. From the AIX command line, change to the the `/var/psf/PrinterName` directory, where *PrinterName* is the name of the Infoprint physical printer representing the printer device.
2. Create the **codepage.grd** file from the **codepage.grd.sample** file or the **charset.64xx.grd** file when printing to a 64xx printer. Enter the command:

```
cp /usr/lpp/psf/grd/codepage.grd.sample codepage.grd
```
3. Using an AIX editor, such as vi, edit the **codepage.grd** file you just created and copy the following line for the personal computer multilingual codepage for ASCII data:

```
T1000850 850 980 # PC MULTILINGUAL
```
4. Change the first entry in the copied line, in the **code page name** column, to the codepage identifier of the personal computer ASCII codepage for Iceland font that you want to map to the multilingual codepage. You can change the comment at the end of the copied line to identify the mapping change you are making.

```
T1000861 850 980 # ICELAND MAPPED TO MULTILINGUAL
```
5. Search the remainder of the **codepage.grd** file to ensure that it contains no other T1000861 entries. A later entry of the same character set would replace the entry you just made.

6. Save your changes and close the file.

Modifying the FGID and CPGID GRID Files

You can add new entries to your GRID files that map numeric identifiers to font character set names or code page names. A typical scenario would be an AFP data stream generated on the AS/400 platform, where names are not used. Instead, fgid and cpgid are used to specify the desired font.

For example, a print file may specify a fgid of 33335. By default, this would map to a 6–point Optima font. Infoprint Manager attempts to activate a printer resident font with this fgid. If a 6–point Futura font was desired instead of the font mapped by default and the printer did not have fgid 33335 resident, the following steps cause Infoprint Manager to search on disk for a 6–point Futura font to download:

1. From the AIX command line, change directories to the `/var/psf/PrinterName` directory, where *PrinterName* is the name of the Infoprint actual destination representing the physical printer device.
2. Create the **fgid.grd** file from the **fgid.grd.sample** file. Enter the command:

```
cp /usr/lpp/psf/grd/fgid.grd.sample fgid.grd
```
3. Using an AIX editor, edit the file that you just created and copy the following line:

```
33335 0 40 120 C0E20060 # OPTIMA 6 POINT
```

4. Place a pound sign (#) in front of the first character of the first copy of the line:

```
#33335 0 40 120 C0E20060 # OPTIMA 6 POINT
33335 0 40 120 C0E20060 # OPTIMA 6 POINT
```

5. Change the mapping to use the Futura 6 point font character set name

```
#33335 0 40 120 C0E20060 # OPTIMA 6 POINT
33335 0 40 120 C0E20F60 # REMAP OPTIMA 6 TO FUTURA 6
```

6. Save your changes and exit the text editor.

Using GRID File Character Set Names with Resource Search Order

The font selected for printing depends on both GRID file mappings and several font resource management attributes in Infoprint Manager. For example, a particular installation prefers to use customized outline fonts instead of commonly used Gothic raster fonts for either performance or aesthetic considerations. Use the following procedure to make this change:

1. From the AIX command line, change directories to the `/var/psf/PrinterName` directory, where *PrinterName* is the name of the Infoprint actual destination representing the physical printer device.
2. Create the **charset.grd** file from the **charset.grd.sample** file. Enter the command :

```
cp /usr/lpp/psf/grd/charset.grd.sample charset.grd
```

3. Using an AIX text editor, edit the file that you just created and copy the following lines:

```
C0D0GT10 40 - 144 240 - # GOTHIC TEXT 10
C0D0GT12 66 - 120 200 - # GOTHIC TEXT 12
C0D0GT13 203 2037 108 180 - # compatibility L6 *fd*
C0D0GT15 230 - 96 160 - # GOTHIC TEXT 15
C0D0GT18 275 - 78 130 - # GOTHIC TEXT
C0D0GT20 281 - 72 120 - # GOTHIC TEXT 20 PITCH
C0D0GT24 290 - 54 90 - # GOTHIC TEXT 27
```

- Place a pound sign (#) in front of the first character of the first copy of the line:

```
#C0D0GT10      40      -   144   240 - # GOTHIC TEXT 10
#C0D0GT12      66      -   120   200 - # GOTHIC TEXT 12
#C0D0GT13     203     2037  108   180 - # compatibility L6 *fd*
#C0D0GT15     230      -    96   160 - # GOTHIC TEXT 15
#C0D0GT18     275      -    78   130 - # GOTHIC TEXT
#C0D0GT20     281      -    72   120 - # GOTHIC TEXT 20 PITCH
#C0D0GT24     290      -    54    90 - # GOTHIC TEXT 27
C0D0GT10       40      -   144   240 - # GOTHIC TEXT 10
C0D0GT12       66      -   120   200 - # GOTHIC TEXT 12
C0D0GT13     203     2037  108   180 - # compatibility L6 *fd*
C0D0GT15     230      -    96   160 - # GOTHIC TEXT 15
C0D0GT18     275      -    78   130 - # GOTHIC TEXT
C0D0GT20     281      -    72   120 - # GOTHIC TEXT 20 PITCH
C0D0GT24     290      -    54    90 - # GOTHIC TEXT 27
```

- Change affected fgids to dashes (signifying not specified) so that any resident font that might exist cannot be activated. Note that the vertical and horizontal sizes must not be modified if the outline font is to be scaled to the proper size.

```
#C0D0GT10      40      -   144   240 - # GOTHIC TEXT 10
#C0D0GT12      66      -   120   200 - # GOTHIC TEXT 12
#C0D0GT13     203     2037  108   180 - # compatibility L6 *fd*
#C0D0GT15     230      -    96   160 - # GOTHIC TEXT 15
#C0D0GT18     275      -    78   130 - # GOTHIC TEXT
#C0D0GT20     281      -    72   120 - # GOTHIC TEXT 20 PITCH
#C0D0GT24     290      -    54    90 - # GOTHIC TEXT 27
C0D0GT10       -      -   144   240 - # CUSTOM GOTHIC TEXT 10
C0D0GT12       -      -   120   200 - # CUSTOM GOTHIC TEXT 12
C0D0GT13       -     2037  108   180 - # CUSTOM GOTHIC TEXT 13
C0D0GT15       -      -    96   160 - # CUSTOM GOTHIC TEXT 15
C0D0GT18       -      -    78   130 - # CUSTOM GOTHIC TEXT 18
C0D0GT20       -      -    72   120 - # CUSTOM GOTHIC TEXT 20
C0D0GT24       -      -    54    90 - # CUSTOM GOTHIC TEXT 27
```

- Save your changes and exit the text editor.
- Create a directory to contain references to the custom font. For this example, the directory is named **custom_fonts**

```
mkdir /usr/lpp/psf/custom_fonts
```

- Change default document attributes on the actual destination printer object that receive jobs requiring the custom fonts. Note that this attribute prepends the specified directory, **custom_fonts**, to the default search path. Assume that the resolution of raster fonts to be replaced is 240–pel.

```
resource-context-font=/usr/lpp/psf/custom_fonts
font-resolution=240
```

- From the AIX command line, change directories to the directory that will contain the references to the custom fonts.
- Create proxy files with names matching what Infoprint Manager will be looking for (for this example, the desired custom font is NEWFONT.OLN).

```
ln -s /home/NEWFONT.OLN ./C0D0GT10
ln -s /home/NEWFONT.OLN ./C0D0GT12
ln -s /home/NEWFONT.OLN ./C0D0GT13
ln -s /home/NEWFONT.OLN ./C0D0GT15
ln -s /home/NEWFONT.OLN ./C0D0GT18
ln -s /home/NEWFONT.OLN ./C0D0GT20
ln -s /home/NEWFONT.OLN ./C0D0GT24
```


Verifying the GRID Files

During physical printer initialization, Infoprint examines the contents of the GRID files. If Infoprint detects any syntax errors, it reports an error condition and fails to enable the physical printer. To correct these errors, you must edit the failing GRID files. For information on what files, lines, or fields are in error, you must access the GRID **error.log** file for the physical printer that is located in `/var/psf/PrinterName`.

Preventing Infoprint From Using Resident Fonts

If you have obtained a multi-resolution printer but print 240-pel jobs, the printer-resident fonts may have different line spacings and endings in the printed output. For some types of billing statements, these line endings are inappropriate. You can solve this problem by modifying the GRID files to prevent Infoprint from using the printer-resident fonts. To do this, use one of the following procedures:

With customized information :

1. Using the AIX **mv** command, rename your customized GRID files. For example, if you are in the `/var/psf/PrinterName` directory and you want to rename the **charset.grd** to `charset.grd.bak`, enter:

```
mv charset.grd charset.grd.bak
```
2. Copy the **charset.grd.bak** file to **charset.grd** in the `/var/psf/PrinterName` directory.
3. Using an AIX editor, such as **vi**, edit the copied **charset.grd** file and place a dash (-) in the **fgid** column for each row of the file.
4. Copy the **codepage.grd.bak** file to **codepage.grd** in the `/var/psf/PrinterName` directory.
5. Edit the copied **codepage.grd** file and place a dash (-) in the **cpgid** column for each row of the file.

With no customized information:

1. Copy the `/usr/lpp/psf/grd/charset.grd.nores` file to **charset.grd** in the `/var/psf/PrinterName` directory.
2. Copy the `/usr/lpp/psf/grd/codepage.grd.nores` file to **codepage.grd** in the `/var/psf/PrinterName` directory.