

Chapter 3. Image file transform

This chapter introduces the new image converter part of Infoprint Server for iSeries. The three new image transforms are Windows based and may be used to convert objects from PC based applications in AFP format or documents,

Infoprint Server image converter is able to convert GIF, JPEG, and TIFF images to AFP and PostScript objects.

The following sections are describing the Infoprint Server image transforms:

- Introduction
- Installation and setup
- Conversion example
- Function comparison table

3.1 Convert PC images to AFP objects introduction

Since Image application are so popular, the need to convert images in a different format take more and more importance. In the past customers have been able to use the AFP print driver and or the AFP Workbench viewer for this need. The new transforms may be called from a command in under Windows or from a Windows application.

Many customers who use PC based image software and hardware want to create, print, and use these resources on the iSeries. Infoprint Server 400 provides PC based conversion capabilities for the most common images formats.

The transforms may be used as an alternative way to produce AFP resources or AFP documents. Each converter may be invoked manually from a command prompt or from a program. The new transforms are a valuable alternative to the AFP print driver. They can be integrated in PC based application, such as images or scanning software.

Figure40 shown an overview of the new Infoprint Server image transform.

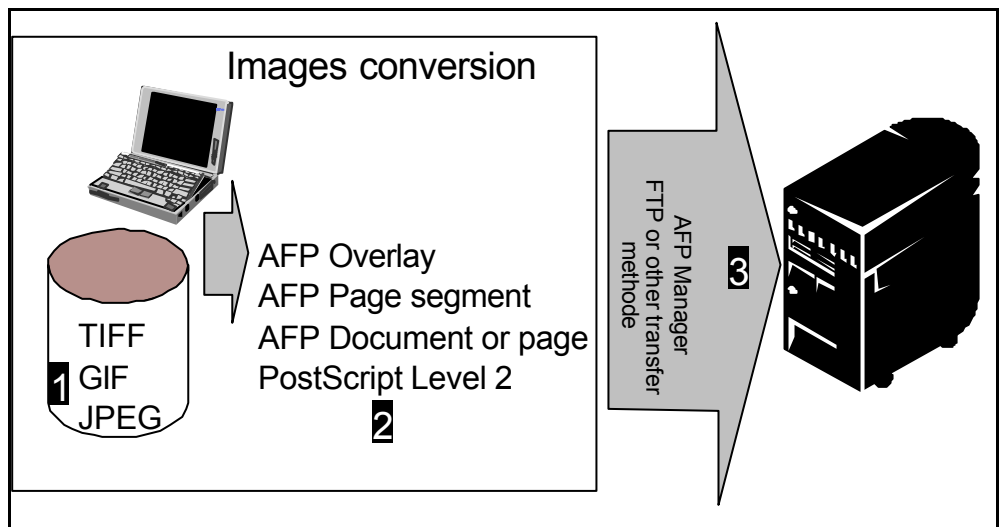


Figure 40. Images conversion flow

1. PC based applications or programs are used to create images.
2. The Infoprint Server image converter may be invoked, manually or in batch. The converted imaged may place on the pc disk or on a iSeries shared folder.
3. The output objects can be used on any system that supports AFP. The AFP Manager may be used to place AFP objects on the iSeries 400 as explained in 3.3, "Convert TIFF, GIF and JPEG images to AFP objects" on page 82. Other transfer methods like FTP or Client Access/400 may be used to place the AFP objects on the iSeries server.

Table11 shows the different capabilities supported by Image converter.

Table 11. Image conversion format

PC image object	Supported AFP object type
JPEG ¹	document (or page), overlay, page segment
TIFF ²	document (or page), overlay, page segment
GIF ³	document (or page), overlay, page segment
1)Only Huffman coding with Baseline DCT JPEG algorithm is supported. At most 8-bit grayscale and 24-bit color is supported 2)Only Huffman coding with Baseline DCT JPEG algorithm is supported. Old style JPEG specification (Photometric Interpretation 6) is not supported. Use the Photometric Interpretation 7 to incorporate the JPEG compressed images in TIFF files. Additional color information, such as alpha data, is disregarded. Transparency maps are ignored. At most 8-bit grayscale and 24-bit color is supported 3)Timing data from GIF animation sequences is ignored. Animation sequences are processed as unrelated images	

3.1.1 Other image transforms available on OS/400

Some image transform capabilities have been available on OS/400 in the past. Table12 shows these transform and conversion capabilities. Note that these transforms are OS/400 based.

Table 12. Image Transforms from OS/400 V4R2

Input data streams	Output data streams
TIFF GIF BMP PostScript Level 1 ¹⁾	AFPDS PCL

1. A new Inbound postscript transform is available with Infoprint Server. Chapter4, "Converting PCL, PostScript, or PDF to AFP" on page87 provide additional information on this topic.

Additional informations about previous images transform are available in *AS/400 Printing V*, SG24-2160.

3.2 Image transform setup

In order to use these windows based transforms you must install them on your PC by following these steps.

1. Right-click **Network Neighborhood** and select **Find Computer...** Specify the name of your OS/400 in the Named: field.

2. When Windows finds your OS/400, double-click your system to display the contents.
3. Expand **QIB-> ProdData-> InfoprintServer-> Transforms-> Install-> Image**.
4. Double-click **setup.exe** as shows in Figure41 on page 81and follow the instructions provided in the installation shield.

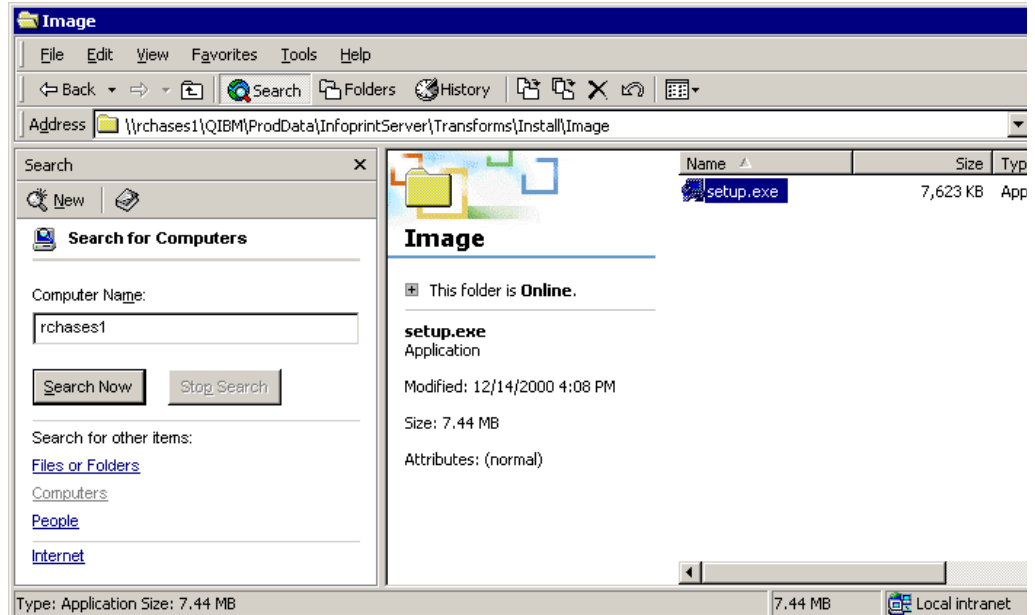


Figure 41. Install Image transform

Check if the program have been installed on your PC as following. Use Windows Explorer and search for: gif2afp.exe;tiff2afp.exe;jpeg2afp.exe

Continue with Section3.2, “Image transform setup” on page 80 before you start to convert images.

3.2.1 Setting the configuration

Before you can use one of the transform you must understand and setup the environment. All three transforms, jpeg2afp, gif2afp and tiff2afp may use default parameters or environment variables. The parameter values are determined by the following hierarchy (least significant first):

1. Internal defaults
2. Environment variables
3. Configuration file
4. Command-line arguments

Using environment variables and configuration file setup are optional.

3.2.1.1 Using Environment Variables

You can use environment variables to specify parameters for the GIF to AFP transform. Environment variables have the form Variable: GIF2AFP_ *option*, Value: *value*, where *option* and *value* are the same as the command line and configuration file option and value. If the option does not have a value, specify a

blank surrounded by quotation marks (' '). You cannot use -calib as an environment variable.

To edit your Windows environment variables, follow these steps:

1. Right-click **My Computer** and select **Properties**.
2. Select the **Environment** page.
3. Specify the parameters you want by repeating the following steps as many times as necessary:
4. Fill in **Variable** and **Value** for the parameter you want to use.
 - a. Click **Set**.
 - b. Click **Apply**.
5. Restart your computer for the changes to take effect.

3.2.1.2 Transform configuration file

All transforms have a different config file that can be modify to use the parameter as default. Not all parameters are eligible, so the example in Figure42 shows a typical configuration used to create AFP page segments.

```
a=iocal0
cmp=g4
respath=.;<Install Path>\config
ms=5120
msf=0.01
term=yes
v=yes
pagetype=page
r=600
x=0
y=0
```

Figure 42. Typical configuration for creating AFP page segments

The configuration file may reduce the number of parameters we need to set in the command. The parameter used on the command line override the parameter set in the configuration file.

3.3 Convert TIFF, GIF and JPEG images to AFP objects

We choose to create an Page segment for this example but any different supported type maybe used. If the wrong object type is selected no conversion will be provided and no object will be created.

```
jpeg2afp.exe myfile.jpg -o myfile.afp -r300 -scale100% -alg afp -pagetype pseg
```

```
tiff2afp.exe myfile.tif -o myfile.afp -r300 -scale100% -alg afp -a ioca
-pagetype pseg
```

Following attributes have been used for this example:

- o** is the name of the converted file resulting of the transformation
- r300** is the resolution of the output file, in this case 300 dpi
- scale100%** allow to rescale the image inside of the defined size
- alg** use AFP halftoning algorithms for default printer
- a** image format is IOCA 10

-pagetype in this case produce a page segment (pseg)

Many transform options are available and are listed in Section 3.4, “Images transform options” on page85. Detailed informations about the attributes are available in the Infoprint Server for iSeries User’s guide form G544-5775.

Figure43 shows the AFP output file using the AFP Workbench viewer. The AFP Workbench viewer is available with Client Access/400.

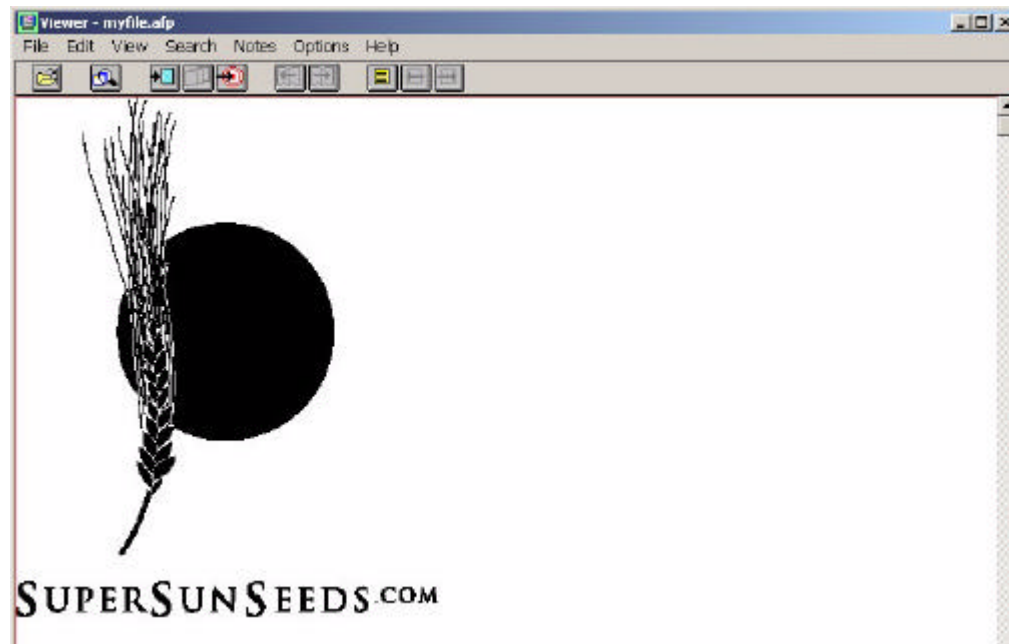


Figure 43. Display the AFP resource

3.3.1 Upload your AFP resources with the AFP Manager

You have to upload the AFP resources if you want use it on the iSeries. Depending of the resource type you defined in the conversion. Different transfer method are possible, manually or using the new AFP Manager available with CA/400.

AFP Manager is used in this example. Start the AFP Manager in the Operation Navigator as shows in Figure44 on page84.

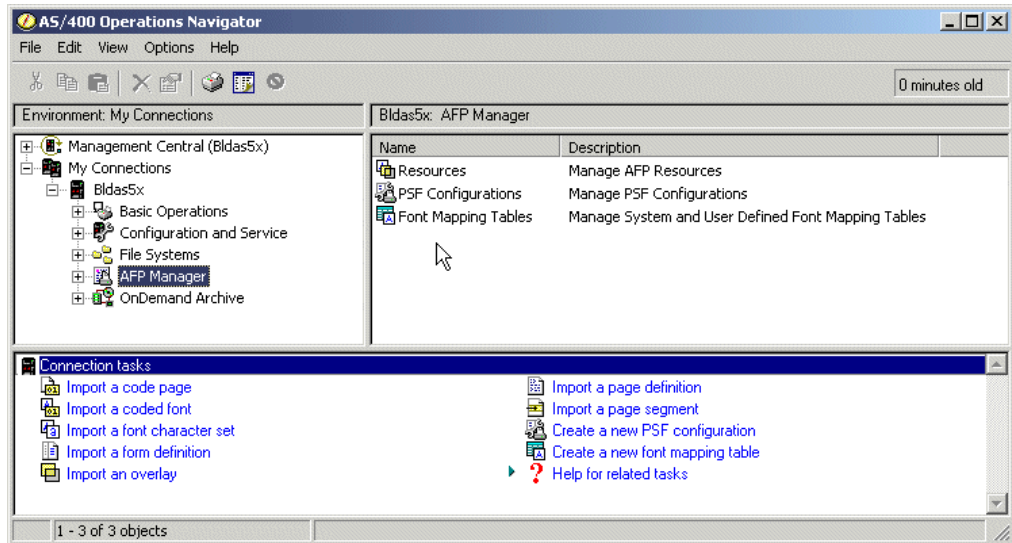


Figure 44. AFP Manager

The AFP manager import function provide an upload function for AFP resources. Choice the corresponding import function for your resource. If your PC file do not match the requested format, no resource will be created.

The AFP manager invoke the native command to upload the resource, and create the iSeries object. The temporary files created for this process are deleted at the end of each upload request.

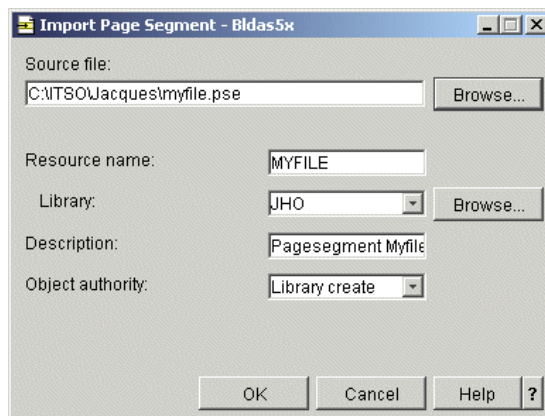


Figure 45. Import Page Segment

- Source file:** Specify the name of the file you wish to import. Click Browse... to search for the file. The file must be in a supported format and correspond to the selected AFP resource.
- Resource name:** Specify a name for the resource you wish to create. The name cannot be more than eight characters long and must meet AS/400 name requirements.
- Library:** Specify the library where the new resource will be located. You can store it in the current library or a different library. To

specify a different library enter the name or click Browse... to search for a library. The library you specify must exist.

Description Enter a description of the resource you wish to create. This parameter is recommended, but not required. The description cannot contain more than 50 characters.

Library create: When the library containing this object was created on the server using the Create Library command (CRTLIB), a value was specified on the Create authority prompt (CRTAUT parameter). When you select Library create as the object authority, PSF/400 uses that value to determine the authority for this object. If the value specified on the Create authority prompt is changed, the new value does not affect any existing objects.

3.4 Images transform options

Many options are available for each deferments images transform. One or several options me be passed to the transform as an attribute. Most of the options are similar as these used on different image utilities.

Table 13. Image transforms options comparison

Functions	GIF to AFP	JPEG to AFP	TIFF to AFP
[-a <i>ImageType</i>	√	√	√
[-alg <i>ProcessingAlgorithms</i>	√	√	√
[-calib <i>calibration</i>]	√	√	√
[-choice <i>ImageChoice</i>]			√
[-C <i>ConfigurationFile</i>]	√	√	√
[-clean <i>cleanup</i>]	√		√
[-cmp <i>compression</i>]	√		√
[-crop <i>CropFactors</i>]	√	√	√
[-fit { <i>trim</i> <i>scale</i> }]	√	√	√
[-force]		√	√
[-gcorr <i>GrayscaleMappingTable</i>]	√	√	√
[-ink <i>color</i>]	√		√
[-inv]	√		√
[-j <i>ScanOffsetFileName</i>]	√	√	√
[-l <i>ImageLength</i>]	√	√	√
[-M <i>MemoryBound</i>]	√	√	√
[-mp <i>-nomp</i>]			√
[-ms <i>space</i>]	√	√	√
[-msf <i>SpaceFraction</i>]	√	√	√
[-o <i>OutputFile</i>]	√	√	√

Functions	GIF to AFP	JPEG to AFP	TIFF to AFP
[-outbits <i>NumberOfOutputBits</i>]	√	√	√
[-outcolor <i>OutputColorModel</i>]	√	√	√
[-p <i>PageRange</i>]	√	√	√
[-pagetype <i>PageType</i>]	√	√	√
[-paper <i>PaperSize</i>]	√	√	√
[-r <i>resolution</i>]	√	√	√
[-respath <i>ResourceSearchPath</i>]	√	√	√
[-rot <i>rotation</i>]	√	√	√
[-scale <i>ImageSize</i>]	√	√	√
[-sgcorr <i>ScannerCorrection</i>]	√	√	√
[-sniff -nosniff]	√		√
[-term -noterm]	√	√	√
[-thresh <i>HalftoneFile</i>]	√	√	√
[-v -nov]	√	√	√
[-w <i>ImageWidth</i>]	√	√	√
[-wrkdir <i>WorkDirectory</i>]		√	√
[-x <i>LeftMargin</i>]	√	√	√
[-y <i>TopMargin</i>]	√	√	√
[-z] <i>file</i>	√	√	√