Chapter 1. Infoprint Server for iSeries - CRTAFPDTA

The CRTAFPDTA command is one of the four major components of the Infoprint Server for iSeries product.

This chapter describes how to use CRTAFPDTA. It includes a conceptual overview, a discussion of the parameters that are used for each of the functions of the command, a description of the structure and naming of the output files, information on how to use the output with the AFP Viewer, and a comparison to the OS/390 product, AFP Conversion and Indexing Facility.

The Create AFP Data Command (CRTAFPDTA) can be viewed as a multipurpose tool that expands the use of AFP applications on the iSeries.

The CRTAFPDTA command transforms (*LINE) or mixed (*AFPDSLINE) data into AFP (*AFPDS) for printing and viewing. It can index a document for viewing, archiving, or document retrieval, and optionally retrieves and packages AFP resources needed for printing or viewing. The output of CRTAFPDTA is stored in the Integrated File System (IFS) on the iSeries.

1.1 Scenarios that use CRTAFPDTA

The following scenarios are examples where the CRTAFPDTA is used to enhance or enable a new AFP based application.

- If you use the AFP Viewer, CRTAFPDTA can be used to add index and group records to the file. This assists customer service representatives to quickly access specific information directly. The AFP Viewer is shipped as part of Client Access Express, may be downloaded for free as a plug in, or may be purchased as part of a standalone product, IBM AFP Workbench for Windows V2.

- If you use Infoprint Server for iSeries to generate multiple PDF files, CRTAFPDTA can be used to insert group records that are used to segment the file. The information in the group records can be also be used act as the key for a lookup operation to determine the address if using the e-mail function.

- If you distribute spooled files from the iSeries to another system, use CRTAFPDTA to select and concatenate external resources. This avoids having to send them manually as a separate operation.

- If you plan to store documents for an extended period of time, and reproduce them at a later date, use CRTAFPDTA to concatenate the external resources to ensure the documents print correctly even if the resources, such as overlays or page segments change.

- If you generate line data in your spooled files, and use Infoprint Designer for iSeries or other tools that generate page definitions, you may choose to use CRTAFPDTA to convert the line data to composed AFPDS for use with the AFP Viewer or to print to an ASCII printer using Host Print Transform.

- If you use an archive product such as Content Manager Common Server you may choose to use CRTAFPDTA to index the file and concatenate external resources.

1.2 CRTAFPDTA overview and concepts

The function of CRTAFPDTA can be looked at as four separate, but related tasks.

1. Convert line and mixed-mode data to AFPDS

2. Index the document

3. Retrieve AFP resources

4. Merge the results of the other three steps to one output file

1.2.1 Example of using CRTAFPDTA

Page definitions are powerful tools that separate document formatting from the application. Infoprint Designer now makes it very easy to create page definitions. Page definitions are applied only at print time, and therefore a document built this way cannot be viewed directly using the AFP Viewer. To make line data documents that use page definitions available for viewing, including the appropriate AFP resources, use CRTAFPTA. This has the added advantage of adding index records to the file for easy navigation. Figure 1 shows the flow of data for the CRTAFPDTA command, for an application that generates data for the AFP Viewer.

- An iSeries application (1) generates a spooled file, using a printer file(2), and places the output in an output queue(3). In this example the spooled file is generated as line data.

- The CRTAFPDTA command (4) takes the spooled file and creates one to four files in the Integrated File System, IFS (5), depending on the options selected. External resources residing in iSeries libraries (6) are referenced, and optionally copied to the IFS with the spooled data.

- In this example, the merged output is process by the Print AFP Data, (PRTAFPDTA) command (7) to generate a new spooled file. The new spooled file is in *AFPDS format, and contains index records. The resources such as overlays and page segments are included inline. The resulting spooled file can viewed using the AFP Viewer via the Client Access Express Navigator (8).
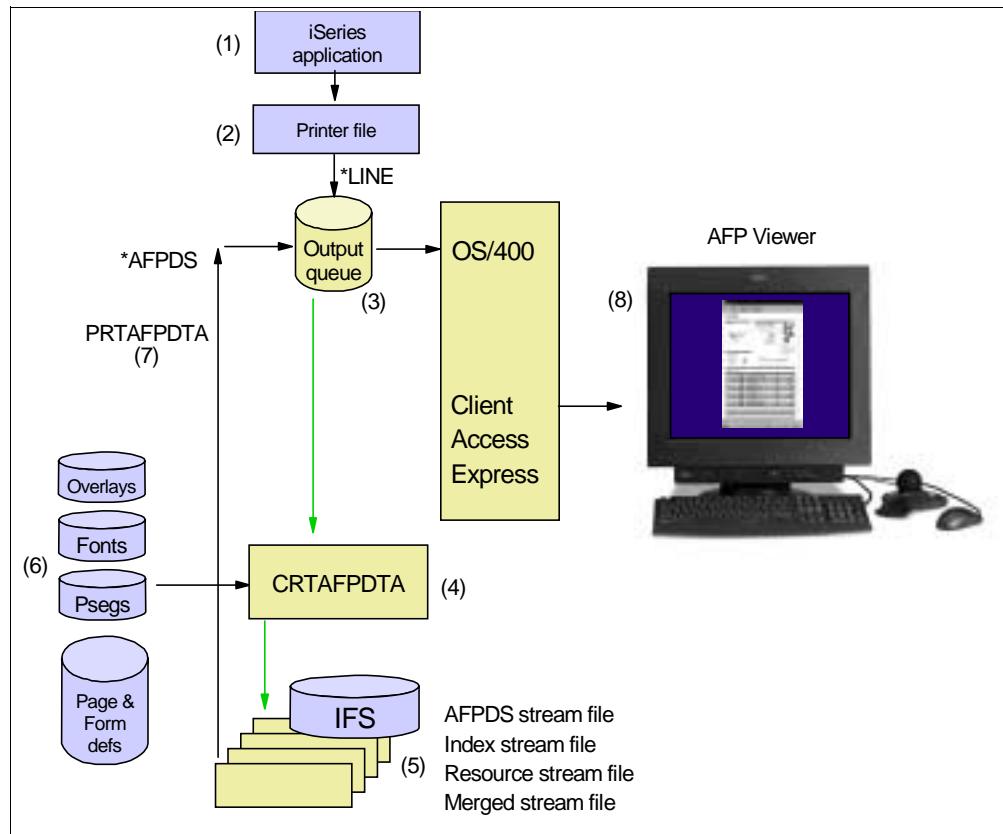
Figure 1. Example of CRTAFPDTA data flow for viewing

Section 1.5, "Using the AFP Viewer with the output of CRTAFPDTA" on page 15 describes other ways of using the AFP Viewer with the output of CRTAFPDTA.

1.2.2 Understanding the data streams used by CRTAFPDTA

Depending on the what is being done to a spooled file, there are different ways the data can be build, and yet still be considered part of the AFP architecture.

Line data
When a spooled file is generated with DEVTYPE(*LINE), it contains line data. This is the simplest form of data used by AFP applications. Line data is very similar to SCS. Except for optional carriage control and font selection bytes, there is no formatting information in the data. The instructions on how the data is to be presented on the page comes from the external resources, the page definition and the form definition. At print time, PSF/400 uses the formatting information in those resources, and sends the spooled file directly to an IPDS printer. Other resources such as overlays, page segments and fonts are referenced in the page definition and form definition.

Line data is becoming more prevalent on the iSeries because Infoprint Designer normally works with that format. There have been other recent enhancements to page definitions. For more information on line data and page definitions see the PPFA chapter.

Mixed data

Spooled files generated with DEVTYPE(*AFPDSLINE) are said to contain mixed data. These spooled files consist mainly of line data with a limited number of AFP structured fields. A page definition and form definition are still needed to format this type of data on the page. This type of file is not usually generated using traditional iSeries programming.

AFPDS or MO:DCA-P

Spooled files that contain the text plus formatting instructions are said to be in AFPDS, the Advanced Function Presentation Data Stream format, or by the more current name, MO:DCA-P, Mixed Object Document Content Architecture for Presentations. When you generate a spooled file with DEVTYPE(*AFPDS) the data is in this format. Resources, such as overlays, page segments, and fonts remain external to the spooled file and are brought in by PSF/400 at print time. (One exception is that the iSeries spooled file generator builds a Form Definition inline, if one is not specified in the printer file parameter, FORMDF. This inline form definition is based on the spooled file attributes such as paper source and duplex.) This type of data stream is sometimes referred to as Composed AFP. CRTAFPDTA can convert line data or mixed data to Composed AFP.

Portable AFP

This refers to spooled files that have the external resources included inline as a resource group. The resources that may be put inline are: fonts, overlays, page segments or form definitions. These spooled files can be moved from system to system without being concerned if the resources reside on that target machine. Traditional iSeries programs cannot include resources inline. CRTAFPDTA can be used to generate portable AFP.

Index Object File

This may be a separate file, or merged with the AFP document. It contains Index information with pointers to Group tags in the AFP document.

1.2.3 Advanced uses of CRTAFPDTA

CRTAFPDTA was migrated from the AFP Conversion and Indexing Utility program available on OS/390. Some options and parameters have been included on the iSeries for reasons of consistency and compatibility. These parameters may not have much relevance for most iSeries users who use traditional programming techniques.

The term "traditional" programming is used in a number of places in this chapter. This refers to using a high-level-language program such as RPG or COBOL which references a printer file to generate a spooled file. In contrast, a "non-traditional" application may be one that uses API's, or the AFP Toolbox to generate the data. Spooled files generated on another system such as AIX or OS/390 and transferred to the iSeries, may also be considered "non-traditional".

These "non-traditional" techniques may generate spooled files that have features that are not otherwise available through "traditional" programming techniques on the iSeries. This chapter focuses on functions of CRTAFPDTA as they apply to "traditional" spooled files. For information on dealing with the more advanced functions, see the *Infoprint Server for iSeries User's Guide*, G544-5775 or the *AFP Conversion and Indexing Facility: User's Guide*, S544-5285.

1.3 CRTAFPDTA command details

This section describes in detail each of the four tasks that CRTAFPDTA performs, and the parameters used by each task.

1.3.1 Common parameters

The following parameters are used by CRTAFPDTA for any of the tasks that is performs.

Spooled file name, job, and number (FROMSPLF, JOB, SPLNBR)
As with most any other command that acts on iSeries spooled files, you need to identify the spooled file by the job that created it, and its unique name and number. The spooled file may contain line (*LINE), mixed (*AFPDSLINE) or AFP data (*AFPDS). It is important to note that the iSeries default spooled file type of *SCS is not supported.

Form definition and Library (FORMDF)
The form definition to use with this operation must be specified. You may name one explicitly here, or tell CRTAFPDTA to use the form definition already associated with the spooled file by specifying *SPLF. Some applications may generate the form definition in line with the spooled data, in which case you would say *INLINE. This is the case for *AFPDS spooled files generated using normal programming and printer files on the iSeries.

To stream file (TOSTMF)
A file containing AFPDS is always generated. Use this parameter to name the AFPDS stream file and/or specify the target directory. For information on the naming convention used in this parameter see 1.4, "Locating and naming the output of CRTAFPDTA" on page 14. If the original spooled file was already in AFPDS format the output file is essentially the same, with few modifications.

Image output (IMAGEOUT)
If you choose *IOCA for this parameter, CRTAFPDTA converts all image data to uncompressed IOCA format. This may increase the size of the output generated. IBM recommends that you select the default value of IMAGEOUT(*ASIS) unless you have a specific requirement for IOCA images.

1.3.2 Convert line and mixed-mode data to AFPDS

There are a growing number of tools and method available for the iSeries to create and work with page definitions and form definitions to format line data. These include:

- Infoprint Designer for iSeries
- Page Printer Formatting Aid
- enhancements to DDS for Record Format Line Data
- Java class LineDataRecordWriter

Each of these is described elsewhere in this document. They share the common advantage in that formatting of the output is separate from the application that generates the data.

There are a few limitations to using spooled files generated as *Line or *AFPDSLINE on the iSeries. Host Print Transform, which is used to print to ASCII printers, does not support these data streams. Nor does the AFP Viewer.

These functions do support composed AFP. Spooled files that are generated as *LINE can be processed by CRTAFPDTA to convert them to composed AFP. This file can be re-spooled and subsequently sent to an ASCII printer configured with TRANSFORM(*YES) to use Host Print Transform, or it can be viewed with the AFP Viewer.

1.3.2.1 Comparison to CVTLINDTA

A new parameter for printer files, Convert Line Data (CVTLINDTA) is an alternate way of converting spooled file that are in *LINE format to AFPDS. CVTLINDTA differently than CRTAFPDTA. It is a parameter of the printer file, used with DEVTYPE(*LINE). It causes the resulting spooled file to be generated as AFP. The End-to-end Chapter contains a chart comparing these two techniques. If the main reason for needing to use the function is to print to an ASCII printer, the CVTLINDTA command may suffice. Users of the AFP Viewer may choose to use CRTAFPDTA to take advantage of the indexing capability for faster retrieval of specific information.

1.3.2.2 Parameters used to convert line data to AFPDS

This process takes place any time the input spooled file contains line or mixed mode data.

To stream file(TOSTMF)

The composed AFP data is stored in the IFS file and directory as defined in the TOSTMF (To stream file) parameter. For information on the naming convention used in this parameter see 1.4, "Locating and naming the output of CRTAFPDTA" on page 14.

Page definition and Library (PAGDFN)

Specify the name of the page definition to use to format the line or mixed mode spooled file. You may name it explicitly with this parameter, or reference a page definition that is already specified by the spooled file. A page definition may be placed inline by "non-traditional" programming techniques.

AFP Characters (AFPCHARS)

Use this parameter to specify up to four coded font names, or reference the fonts already specified in the Spooled file attributes. These are used if the spooled file was designed to use Table Reference Characters, TRCs. This is not commonly used for "traditional" iSeries applications.

1.3.3 Indexing the document

Indexing is one of the primary tasks for which CRTAFPDTA is used. Indexing allows users of the AFP Viewer to quickly access pages in large spooled files. Pages are grouped based on specific information such as Customer Number. This can aid customer support personal in retrieving the necessary information quickly, rather than be doing a string search in the entire document. See Figure 2 on page 9 for an example of viewing a spooled file containing group records created using CRTAFPDTA.
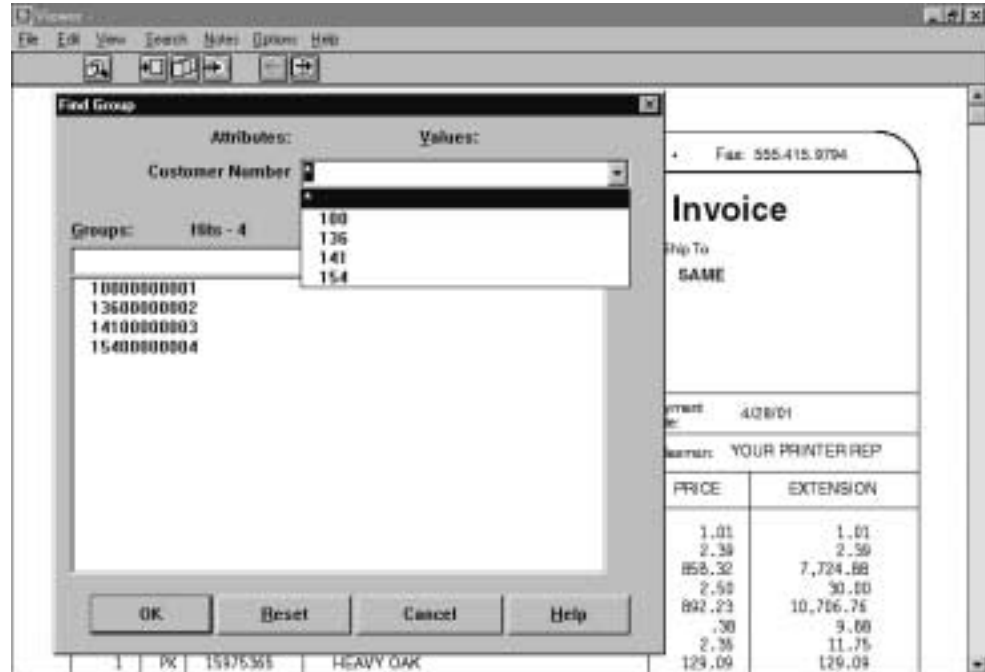
Figure 2. Using the AFP Viewer with an indexed spooled file

Index information can also be used by another component of the Infoprint Server for iSeries product, namely the PDF creation. You can break up a large spooled file into groups of pages to either file separately on the IFS, send as separate e-mail document attachments, or re-spool as PDF files separately. CRTAFPDTA is one way of adding the necessary information to the spooled file. The End-to-end chapter describes this entire process.

1.3.3.1 CRTAFPDTA versus DDS

Alternate methods of adding index information to a spooled file include DDS keywords and the AFP Toolbox. Use the CRTAFPDTA command if you do not have access to the application, or if you are using a Page Definition to format line data. Infoprint Designer for iSeries is the key enabler that would generate this requirement.

1.3.3.2 Parameters used to index the document

The most important specifications to understand when working with the indexing function of CRTAFPDTA are:

- To Index Stream File (TOIDXSTMF)
- Index trigger (IDXTRG)
- Index tag fields (IDXTAGFLD)
- Index tag (IDXTAG)
- Index group (IDXGRP)

To Index Stream File (TOIDXSTMF)

The index operation is performed if you specify a value other than (*NONE) for the TOIDXSTMF parameter. Use this parameter to name the Index stream file and/or specify the target directory. For information on the naming convention used in this parameter see 1.4, "Locating and naming the output of CRTAFPDTA" on page 14. This file contains information based on the index tag fields with pointers to the AFPDS document file.

Group tags are inserted at the beginning of the appropriate pages in the AFPDS document.

Index trigger (IDXTRG)

Assume you have a large spooled file containing multiple client statements, each of which may consist of a different number of pages. These are referred to as a **group.** You need to be able to tell CRTAFPDTA where to look for information that trigger's the beginning of each client's statements or group.

Typical information to use for this are literal strings that print on the first page of the group in predictable locations, such as "Page 1", "New Balance", or "Invoice Date". If the spooled file is generated with carriage control bytes, you could use the fact that there is a "1" in the first column at the beginning of every page. You may specify up to 4 sets of strings to use as the Index trigger.

In order to be serve as a group trigger, the combination of fields used for the IDXTRG must all appear on the first page of the group. That same combination of fields must not all appear on subsequent pages within the same group, or else you get a false group. If you use the carriage control byte as a trigger, it must be used with some other information to further define the group, otherwise CRTAFPDTA thinks that each page is the beginning of a new group.

The first trigger value that you specify has some special characteristics. It is the only trigger value for which you specify a record-number value of '*'. Each record in the file containing the value specified in the first IDXTRG specification is referred to as an *indexing anchor record*. The record-number in the specifications for any subsequent IDXTRG fields is the relative record number from this indexing anchor point. This must be a **positive** value between 0-255.

When CRTAFPDTA is processing the spooled file, it starts by looking in every record for the first trigger value. Once it has found a match it checks that the remaining IDXTRG fields also match. If they do, then CRTAFPDTA knows it has the beginning of a new group and begins processing the Index Tag fields. After CRTAFPDTA has extracted the necessary information it begins looking for the first trigger field again.

Index Tag Fields (IDXTAGFLD)

The index tags are used by the AFP Viewer to further assist in quickly finding the information. Along with the customer number, a service representative may need to access a client's statement by statement number, due date, or postal code. The index tag fields are also used indirectly to generate the group name string that is used by the e-mail exit program.

The first step in creating the index tags, is to define the individual fields from which they are to be build. These are the *index tag fields*. The index tag fields may consist of strings of information from the spooled file or literals.

Literal values do not have any added value when only one file is being considered, but in an archive or customer service situation, they may help the user distinguish between information in similar files. For example, you may insert a literal value for "October" to distinguish between records from the "November" file. Literals my also be used in conjunction with "non-traditional" applications that already have some index information inserted, or do not otherwise have information in predictable locations.

When using fields based on data, you specify the record-number, column position and length. The record-number is the relative record number from the indexing anchor point, as defined in the first index trigger field in IDXTRG. The value for record-number can be an integer from -255 to +255.

You may specify up to 16 index tag fields. These are numbered automatically in the order they are specified, namely *IDXTAGFLD1 to *IDXTAGFLD16. These names are used for building the Index Tags, and may appear in error messages to assist with problem determination.

Index Tag (IDXTAG)
The index tag parameter does two things. It allows you to group index tag fields in a meaningful way to build the index tags, and assigns a literal descriptors to them. For example, assume you want to build an index tag based on the client's phone number, and choose to remove the punctuation. You specify the three components of the phone number as three separate Index Tag Fields, and then concatenate them in the specification for the Index Tag. Assuming the phone number is printed as (xxx) xxx-xxxx, the parameters in the CRTAFPDTA command may look something like this:

```
IDXTAGFLD((1 76 3) (1 81 3) (1 85 4))

IDXTAG((`Phone Number' (*IDXTAGFLD1 *IDXTAGFLD2 *IDXTAGFLD3)))
```

You can specify up to 8 index tags. These are numbered automatically, *IDXTAG1 to *IDXTAG8, for use in the index group name field, and for reference in error messages.

Index Group (IDXGRP)
This parameter specifies which of the index tag values to use to define the group. It is recommended that you use the most unique index value for the group name. The default value is *IDXTAG1.

This value is used by the AFP Viewer. This is also the value passed to the user exit program of the PDF generation feature of Infoprint Server.

Index Object (IDXOBJ)
This parameter defines specifies how much information CRTAFPDTA writes to the index object file. If you specify *GROUP, only group-level entries are put into the index object file. If you specify *ALL, both page-level and group-level entries are put into the index.

Select *ALL if your are indexing a file to use with the Viewer.

1.3.3.3 Records versus lines
When referring to the relative distance between the index anchor record and other trigger fields or the index tag fields CRTAFPDTA is looking at the actual records in the spooled file. This is not necessarily the relative position when the information is printed. In the following example in Figure 3 on page 12, it appears as if the combination of "Hello" and "World" may make a good set of trigger fields. The record containing "Hello" could defined as the trigger anchor record, with the record containing "World" appearing 2 lines after it.

```
Page 1:
This prints on line 1 of page1. Hello.
This prints on line 2 of page1.
This prints on line 3 of page1. World.

Page 2:
This prints on line 1 of page2. Hello.

This prints on line 3 of page2. World.
```

Figure 3. Sample of printed data

Based on this assumption, you run CRTAFPDTA, with the following specifications for IDXTRG:

```
IDXTRG((* 34 'Hello') (2 34 'World')
```

After doing so, you discover that not all groups in the spooled file were identified correctly. Further inspection of the spooled file reveals the problem. As illustrated in Figure 4 on page 12, the word "World" is in the second record after "Hello" on page 1 as expected. But on page 2 it is on the first record immediately after "Hello". This is because a channel character of "0" was used to double space, instead of having a blank record inserted in the data.

```
Page 1:
1This prints on line 1 of page1. Hello.
 This prints on line 2 of page1.
 This prints on line 3 of page1. World.

Page 2:
1This prints on line 1 of the page. Hello.
0This prints on line 3 of the page. World.
```

Figure 4. Sample records in spooled file

If you are having problems with the index function, you may need to take a closer look at your data. Use the CPYSPLF command and specify CTLCHAR(*FCFC). The target physical file needs to be one byte longer than the spooled file records. If the spooled file is already in *LINE format and references a page definition, you must do a Change spooled file attributes, CHGSPLFA, to set the PAGDFN value to *NONE before running CPYSPLF. (Don't forget to change the PAGDFN value back to the original value before printing.)

For most applications it is likely that the best choices for trigger fields are to be found near the top of the page, where there is usually less variability in where fields and records are positioned. The example in the End-to-end demonstrates how a simple program change can make it easier to define the index trigger fields.

There are additional examples of setting the trigger and index fields in both the *Infoprint Server for iSeries User's Guide*, G544-5775 and the *AFP Conversion and Indexing Facility: User's Guide*, S544-5285.

Other parameters

Other parameters used by the index function are:

- IDXCDEPAG
- IDXPAGNAM
- IDXGRPNAM
- IDXPAGLMT

They are described in the *Infoprint Server for iSeries User's Guide*, G544,5775. For more detailed information on these fields, see the corresponding sections on CPGID, CDFPAGENAMES, UNIQUEBNGS, and INDEXSTARTBY in the *AFP Conversion and Indexing Facility: User's Guide*, S544-5285.

1.3.4 Retrieve and package AFP resources

When generating a spooled file on the iSeries, the resources are usually external to the file. This is an advantage in that improves performance and space utilization on the system.

One disadvantage, however, is that if a spooled file is sent to a different system, either another iSeries or another platform, the external resources must be migrated to that other system as a separate operation, and must be managed in order to keep the two systems in sync with the same resources.

Another concern is change management. If a resource such as a company logo, overlay, or signature changes over time, you need to make sure that older documents print with the older versions of these resources, not the new copies. This is important for archive and customer service applications.

1.3.4.1 Parameters used to retrieve AFP Resources

The following parameters are used to specify the creation of a resource stream file and name the resource types to be included.

To Resource Stream File (TORSCSTMF)

The resource retrieval operation is performed if you specify a value other than (*NONE) for the TORSCSTMF parameter. Use this parameter to name the resource stream file and/or specify the target directory. For information on the naming convention used in this parameter see 1.4, "Locating and naming the output of CRTAFPDTA" on page 14. This file contains resources used by the designated spooled file, based on the selection criteria of the RSCDTA parameter.

Resource Data (RSCDTA)

This parameter specifies the types of resource data to be written to the resource stream file. The library list of the job is searched for the needed resources.

Applications developed on the iSeries using traditional programming techniques only use *FONT, *FORMDF, *OVL and *PAGSEG. The *BARCODE, *GOCA, and *IOCA options are included for consistency with other platforms and for users of the AFP Toolbox.

You may notice that the resource type *PAGDFN is not included in the list of available options. Once CRTAFPDTA has used the page definition to generate AFPDS, the page definition itself is no longer of use.

CRTAFPDTA retrieves the designated resource types from the *LIBL, *CURLIB or a specific library. It also searches the default font libraries for resources, QNDTCPL, QFNT01-QFNT19, and QFNT61-QFNT69.

The resources selected may have been specified in the original application in any number of ways:

- Form definitions specified directly in the CRTAFPDTA command
- Form definitions or overlays specified in the attributes of the spooled file
- DDS keywords referencing overlays or page segments

Resources referenced within other resources are also selected. For example a form definition may reference an overlay which in turn references page segments and fonts.

If you are using the CRTAFPDTA to prepare a document to use the the AFP Viewer you do not need the capture the fonts in the resource file. This is because the AFP Viewer maps the requests for AFP fonts to fonts resident on the PC.

1.3.5 Create a merged file

Depending on the needs of the application, it is likely that you need to concatenate or merge the resource file or index file with the AFPDS data. For example, when sending the spooled file to another system, you need the resources to be sent at the same time in one package. Similarly, the index information needs to be included when using the AFP Viewer.

1.3.5.1 Parameter for creating a merge file.
There is only one parameter to specify to create a merge file.

To Merge Stream File (TOMRGSTMF)
The merge operation is performed if you specify a value other than (*NONE) for the TOMRGSTMF parameter. Use this parameter to name the merge stream file and/or specify the target directory. For information on the naming convention used in this parameter see 1.4, "Locating and naming the output of CRTAFPDTA" on page 14. This file contains information based on the index tag fields with pointers to the AFP

1.4 Locating and naming the output of CRTAFPDTA

The CRTAFPDTA command generates from one to four files on the iSeries IFS. There are a number of ways you can specify the names and locations of these files.

Data in the traditional file system is referenced by library, physical file name, and member. This same data is accessible via the IFS under the QSYS.LIB directory. For example, a member MYMBR in a physical file MYFILE in library MYLIBRARY can be accessed via the IFS directory naming convention as:

```
/QSYS.LIB/MYLIBRRARY.LIB/MYFILE.FILE/MYMBR.MBR
```

If you want to use the output from CRTAFPDTA in a process that is expecting a physical file member, you should direct the output to a directory in the QSYS.LIB file system. For example, if you need to re-spool the output using the PRTAFPDTA command you must reference the data as a physical file member.

One easy way to do this is to change the current directory to one in the QSYS.LiB file system before running CRTAFPDTA. Use the Change Current Directory (CHGCURDIR) command.

```
CHGCURDIR '/QSYS.LIB/MYLIB.LIB/MYFILE.FILE'
```

If you are going to use the data in an application that can access the IFS files using the /directory structure, you may specify any directory that suites the needs of the target application. For example, an application that posts the files to an intranet site may use the IFS naming convention.

TOxxxSTMF(*DFT)

For any of the four stream files generated you may specify a value of *DFT. This places the output in the current working directory. If the current working directory is in the QSYS.LIB file system, the resulting files are named **outputafp.mbr, outputidx.mbr, outputrsc.mbr,** and **outputmrg.mbr.** (When referencing the members using traditional file/member methods, do not include the ".mbr".)

If the current directory is not in the QSYS.LIB file system, the resulting files are named **output.afp, output.idx, output.rsc,** and **output.mrg**.

TOxxxSTMF (to-xxx-stream-file-path)

If you specify a name for the target stream file path, the following rules apply:

- If you specify a file name without a path, the output file is placed in the current working directory.

- If you specify a directory or path without a file name, a file with the default name of **outputxxx.mbr** or **output.xxx** is created in the specified directory.

- All directories in the path must exist.

- If the path name is qualified it must be enclosed in quotation marks.

- The path name cannot contain a pattern.

- If the file exists it is overwritten.

1.5 Using the AFP Viewer with the output of CRTAFPDTA

The AFP Viewer is available as part of a variety of products. Choose the most appropriate implementation that suites your source for this tool, and where the data resides. For more information on the AFP Viewer see the description in the Printing Software Chapter.

1.5.1 Using the AFP Viewer via Operations Navigator

The AFP Viewer is included as part of Client Access Express, and is very easily to access via the Operations Navigator. In this mode of use, it is expecting the data to be in the form of an iSeries spooled file. One advantage of using the AFP Viewer in this manner is that external resources are automatically downloaded to the workstation.

One disadvantage of using the AFP Viewer in this manner is that the output of CRTAFPDTA needs to be re-spooled using PRTAFPDTA.

1.5.2 Viewing an AFP Stream File

Although the AFP Viewer is shipped as part of Client Access Express, it can be run as a standalone application on the workstation. Chapter 8 of the *Infoprint Server for iSeries User's Guide*, G544-5775, describes how to set up this environment.

Users may prefer this method as it avoids the extra processing step required for PRTAFPDTA. The output files from CRTAFPDTA may be accessed directly from the IFS. For additional performance improvements, copy the file from the IFS to the hard drive on the workstation.

If the output from CRTAFPDTA is to be used in this manner, all the external resources except fonts need to be selected and merged with the AFP file.

1.5.3 Using the IBM AFP Workbench for Windows V2

You may choose to use the standalone product, IBM AFP Workbench for Windows, 5622-416, if the user who wishes to view AFP files is not otherwise licensed for Client Access. The AFP data could reside on the iSeries IFS, or copied to the user's workstation. All external resources except for fonts must be included.

1.5.4 Using the AFP Viewer plug-in with a web browser

Most users are familiar with the use of the Adobe plug-in for viewing PDF files from a web browser. There is a similar plug-in available from IBM to view AFP files. In a distributed environment, a web serving application could be written that accesses the output from CRTAFPDTA from the IFS, and delivers it to a user via their browser.

The AFP Viewer has the advantage over a PDF viewer in that AFP files tend to be much more compact than the equivalent PDF document. PDF documents generated by Infoprint Server for iSeries do not contain index information used for navigation within the document the way the AFP documents do.

You can download the AFP Viewer plug-in "as-is" for free, from

```
http://www.ibm.com/printers/R5PSC.NSF/Web/afp_viewer_plug-in
```

1.6 Command comparison with OS/390 ACIF

CRTAFPDTA was migrated from the OS/390 program, AFP Conversion and Indexing Facility, which is commonly called ACIF. The overall function is similar, but there are some differences in implementation.

- CRTAFPDTA does not provide user exit points.
- ACIF does not automatically merge the resulting spooled files.
- With ACIF you name specific libraries for each resource type. With CRTAFPDTA the iSeries library lists are used.
- Some parameters such as CTLCHAR or TBLREFCHAR are picked up from the iSeries spooled file attribute. With ACIF these must be entered as part of the command.

Table 1 lists the CRTAFPDTA parameters and the corresponding ACIF keywords.

Table 1. CRTAFPDTA-ACIF cross reference

CRTAFPDTA	ACIF
AFPCHARS	CHARS
CTLCHAR from spooled file attributes	CC and CCTYPE
FORMDF	FORMDEF, FDEFLIB
FROMSPLF, JOB, SPLNBR	INPUTDD
IDXCDEPAG	CPGID
IDXGRP	GROUPNAME
IDXGRPNAM	UNIQUEBNGS
IDXOBJ	INDEXOBJ
IDXPAGLMT	INDEXSTARTBY
IDXPAGNAM	DCFPAGENAMES
IDXTAG	INDEXn
IDXTAGFLD	FIELDn
IDXTRG	TRIGGERn
IGCSOSI from spooled file attributes	PRMODE
IMAGEOUT	IMAGEOUT
PAGDFN	PAGEDEF, PDEFLIB
RSCDTA	RESTYPE
TBLREFCHAR from spooled file attributes	TRC
TOIDXSTMF	INDEXDD
TOMRGSTMF	Not supported
TORSCSTMF	RESOBJDD
TOSTMF	OUTPUTDD

Table 2 lists ACIF keywords that do not have specific CRTAFPDTA equivalent parameters.

Table 2. ACIF parameters not used directly in CRTAFPDTA

ACIF	CRTAFPDTA
CC	CTLCHAR from spooled file attributes
CCTYPE	CTLCHAR from spooled file attributes
COMSETUP	Not supported
FDEFLIB	Library portion of FORMDF
FONTECH	Not supported
FONTLIB	Not supported. *LIBL of splf creator used.

ACIF	CRTAFPDTA
INDEXEXIT	Not supported
INPEXIT	Not supported
MCF2REF	Not exposed. Hard-coded to value of CF.
OBJCONLIB	Not supported
OUTEXIT	Not supported
OVLYLIB	Not supported. *LIBL of splf creator used.
PDEFLIB	PAGDFN Library portion of PAGDFN
PRMODE	IGCSOSI from spooled file attributes
PSEGLIB	Not supported. *LIBL of splf creator used.
RESEXIT	Not supported
RESFILE	Not supported
TRACEDD	Not supported. Use OS/400 job trace facility.
TRC	TBLREFCHAR from spooled file attributes
UNIQUEBNGS	IDXGRPNAM
USERLIB	Not supported

For more information on the ACIF keywords, refer to the *AFP Conversion and Indexing Facility: User's Guide*, S544-5275.

This is a sample chapter.