



PDF to AFP Transform Server

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Title page 1

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This page intentionally starts on an odd page, so that it is on the right half of an open book from the readers point of view. This is the reason why the previous page was blank (the previous page is the back side of the cover)

PDF to AFP Transform Server

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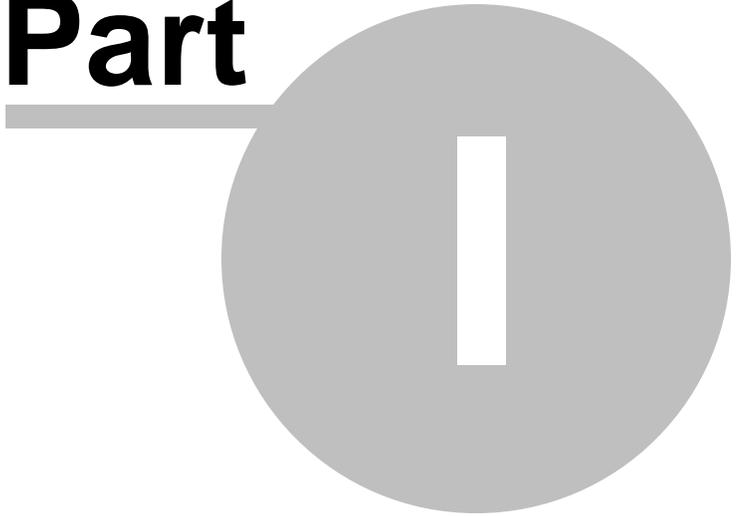
Foreword

This is just another title page
placed between table of contents
and topics

Top Level Intro

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Part



1 Introduction

User's Manual for PDF2AFP Transform Server



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*Designed for Windows 10/8.1/8/7/Vista/XP/2000
and Windows Server 2012/2008/2003/2000*

1.1 Overview

This User Guide describes how to convert from Adobe Portable Document Format (PDF) to Advanced Function Printing (AFP) on Microsoft Windows platforms.

IPDS Printing Solutions SV offers software solutions specifically designed for high performance PDF to AFP conversion. Powered by our leading PDF to AFP transform and conversion technology, users can quickly convert PDF to IBM MO:DCA (AFP, IOCA and PTOCA) documents. Unlike other software solutions

that simply rasterize the PDF document to full-page images, PDF2AFP Transform Server maintains all document objects such as vector graphics, searchable text, tables and live forms, uniquely within the generated AFP for easy access by AFP Workbench Viewer or any other AFP viewers.

This document is intended for customers, business partners, and systems specialists who need to understand the fundamentals of the PDF to AFP transform with enterprise class software on Windows NT based systems in high volume environment.

1.2 What is AFP

Advanced Function Printing (AFP) is a document format and presentation architecture originally developed by IBM to drive its printers and support the production of variable data printing on laser printers, and later provides for document and information presentation independent of specific applications and devices.

The first software program to produce this format and to drive the IBM printers was the so called Print Service Facility (PSF), which is still until today found in IBM's Mainframes. PSF is fed with the input data to be printed and the definitions on how to organize the data on the page, i.e. PAGEDEF (Page Definition) and FORMDEF (Form Definition). It allows electronic forms to be printed on named OVERLAYS.

PSF is not only able to format the documents, but also to drive the AFP printers, or the Intelligent Printer Data Stream (IPDS) compatible printers to be more precise. IPDS is a host-to-printer data stream used for AFP subsystems that provides an attachment-independent interface for controlling and managing.

IPDS format is a bidirectional format where the software is constantly in control of the printer and knows at all times the status of the pages that were sent to the printer, making it an ideal format for high volume production printers, that print hundreds of pages within a minute.

IBM also offered the PSF software to drive the IPDS printers using the AFP format not only on the mainframe, but also on all of the their platforms, so

there were PSF/390 (for the OS/390 mainframe), PSF/6000 (for the RS/6000 AIX9), PSF/400 (for the AS/400) and PSF/2 running under OS/2. Unfortunately all of these behaved slightly different and IBM renamed PSF then into IBM InfoPrint Manager.

In 1984 when storage space was still an expensive commodity, the AFP format was designed to be very small, which is why still today it is a very popular format for data exchange that seconds to Adobe Portable Document Format (PDF) and to manage high volumes of documents, such as banks, telecoms and insurances. The format originates from the MVS environment so it typically uses the EBCDIC based codepages. As with all page description languages (like PostScript, PDF, and PCL) it is necessary to use a viewer, usually it's the widely-used viewer, IBM AFP Workbench Viewer, in order to display the pages.

One of the more notable features of AFP printers is that output data can be placed at any addressable point on a page. This capability is called all points addressability (APA). APA gives AFP prints the freedom to create output anywhere on a page, as opposed to being limited to just line and character positions.

1.3 What is AFPDS

AFPDS stands for Advanced Function Printing Data Stream, which is a data stream for advanced function printers independent of operating systems, independent of page printers, and portable across environments.

AFPDS is a structured data stream divided into components called objects. AFPDS includes text, images, graphics, and barcodes and references AFP resources (for example, overlays, page segments, and fonts).

1.4 What is AFP Architecture

The AFP architecture consists of a number of sub-architectures:

MO:DCA-P (Mixed Object:Document Content Architecture-Presentation):

MO:DCA-P is occasionally called AFPDS (AFP Data Stream), which is a PDL (Page Description Language) file format that describes the text and graphics on a page. The 'Mixed Object' moniker refers to the fact that a MO:DCA file can contain multiple types of objects, including text, images, vector graphics, page separators, patch code, and barcodes. An

application can simply include a string of digits along with controls that identify a specific type of barcode, and the rendering of bars will be performed on the output platform via either physical printer hardware or software emulation. A MO:DCA document consists of a sequential, ordered hierarchy of independent objects - documents, pages, data objects, and such resource objects as fonts and ICC profiles. Each object is delimited by one or more begin/end structures, and objects to be rendered specify presentation parameters and resource requirements in structures called "environment groups". Since the pages in MO:DCA documents are organized in sequential order, presentation can start as soon as the first page is received. The MO:DCA format is comparable to other PDLs such as Adobe PDF that specify distinct pages.

IPDS (Intelligent Printer Data Stream)

Known as a bi-directional protocol used between the host and the printer, IPDS is used to send the page-level data to the printer and to signal errors and accounting information back to the host server. The IPDS protocol, comparable to protocols like IPP (Internet Printing Protocol), allows the server to query a printer's available resources such as available memory, fonts, input trays, etc.

BCOCA (Bar Code Object Content Architecture)

BCOCA is used to describe and generate barcodes such as PDF417.

CMOCA (Color Management Object Content Architecture)

CMOCA defines resources that carry color management information, such as ICC profiles, tone transfer curves, and halftones.

AFP GOCA (Graphics Object Content Architecture for AFP)

AFP GOCA is used to define and generate vector graphics.

IOCA (Image Object Content Architecture)

IOCA is used to define and generate raster images.

PTOCA (Presentation Text Object Content Architecture)

PTOCA is used to define and generate text.

AFP also supports other industry-standard data formats using the concept of AFP object containers; examples are TIFF, GIF, JPEG (JFIF), EPS, and PDF. These objects can be mixed as peer objects on an AFP page with native AFP objects such as BCOCA, AFP GOCA, IOCA, and PTOCA objects.

1.5 Why use AFP

AFP (Advanced Function Printing) enables users to control formatting, the form of paper output, how a document is to be printed or viewed, and manage document storage and access in a distributed network across multiple operating system platforms. AFP is primarily employed in large enterprises for production variable data printing (VDP).

AFP applications allow users or print room operators to distribute print jobs among a group of printers or in a printer farm, and to designate backup printers when one fails, which is called failover. In publishing AFP is considered to be a cornerstone of electronic document management (EDM) applications such as print-and-view, archive and retrieval, and Enterprise Report Management (ERM).

1.6 PDF to AFP Transform Advantages

PDF to AFP Conversion Advantages including but not limited to,

- PDF file created in any application can be converted to an AFP file, and dynamically inserted into an AFP datastream on an IBM iSeries, zSeries, and AS/400
- Archive Adobe Portable Document Format in IBM and Infoprint AFP/IPDS format
- Avoid costly changes or replacement of your AFP based print applications
- Easy integration with IBM iSeries, zSeries, AS/400 applications
- Avoid new investment on PDF processing software
- Eliminate the costly acquisition of Adobe Acrobat or Adobe LiveCycle products

- Accelerate the delivery of reports generated on Windows platforms.
- Lessen storage budget for hard copy reports
- Easier reorganization of data in documents and reports by using AFP technologies
- Increase efficiency of information combination and reuse
- Reduce risk by geographically distributing data on IBM platforms
- Distribute transformed AFP/IPDS documents across IBM and InfoPrint printing systems.

1.7 Ways to convert PDF to AFP

There would be two ways to perform PDF to AFP transform.

The easiest way is to convert the PDF to a series of TIFF images and rewrite the AFP stream to include them as IOCA images. If they are two-color fax G4 compressed, they can be converted to IOCA group 10 without much trouble.

The second way is to convert the PDF to AFP and rewrite the AFP stream to include it. If the PDF doesn't have embedded fonts then you shouldn't have too much trouble mapping the fonts to the AFP ones.

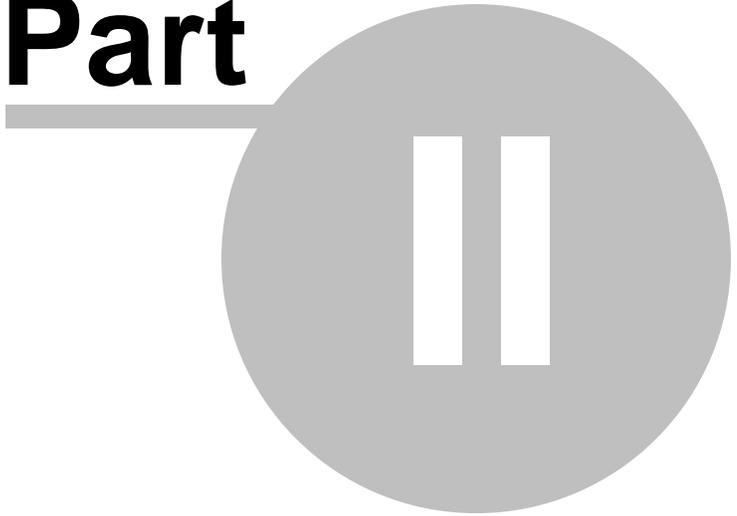
The first way generates full-page images, i.e. rasterized AFP pages, text is not searchable, graphics is not vector based. It may not look quite right at first impression.

PDF2AFP Transform Server follows the second way and generates full-text searchable AFP files with vector based graphics.

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2 Features

PDF2AFP key features include,

- Convert PDF to AFP streams in batch at unlimited speed
- Perform object-to-object conversion from PDF to AFP
- Transform PDF into live AFP that contains text as searchable text and graphics as vector graphics, not just rasterize
- Support monochrome, color-white, 16-color, and full color graphics
- Automate conversion from PDF form template to AFP and load it to AS400, iSeries, or zSeries mainframe
- Adaptive PDF to AFP transform such as to handle many smaller PDFs or a few much larger PDFs
- Optimize conversion from PDF to AFP either by speed or by quality
- Translate fill-able form in PDF files to inline form in AFP documents
- Support full color conversion of PDF pages to AFP pages
- Import PDF files from Windows local or network shared folders
- Speedy conversion to efficiently handle production sized jobs
- Sharpen image and graphics in AFP output
- Produce high fidelity AFP to the original print in PDF format
- Support a complete set of paper sizes
- Define custom paper size
- Flexible page orientation such as Portrait, Landscape, Portrait 180, Landscape 270
- Clip unprintable area or offset plus size
- Grayscale methods including photographic dither, compressed dither, diagonal dither, line art halftone
- Color options for mono, color/white, 16 colors (4bit CMYK from 4bit RGB or 24bit RGB), and Full Color 32bit CMYK
- Color Management with ICC Profiles
- Adjust image resolution between 300x300 and 600x600 dpi
- JPEG and LZW compression algorithm for images
- Easy Intensity and Contrast Controls
- Best output fidelity for TrueType fonts as references, inline resources, or images
- Optimize text in OpenType fonts, raster fonts, and outline fonts
- Maintain Output Fidelity for placement in character, word, and line level

- Font substitution of AFP character set with closely matched Windows font
- Support Inline Form Definition
- Produce AFP output files as smaller as possible
- Flexible file extension for AFP documents, page segments, medium overlays, and overlays
- Output AFP files can be emailed, saved to a folder on your computer, copied to a network location, uploaded to a host platform via FTP, or sent to an AFP/IPDS capable printer.
- Automatic installation and configuration on Windows x86 and Windows x64
- Live update for newer versions on Windows 32bit and Windows 64bit
- Free upgrades for registered users

Top Level Intro

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3 Known Issues

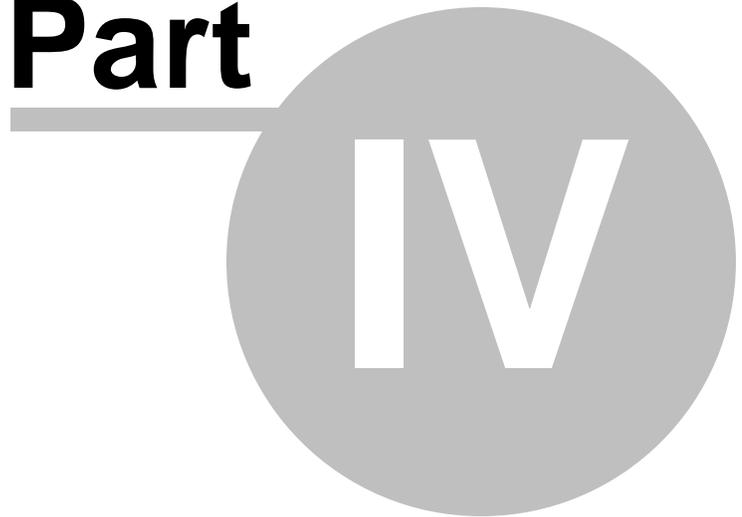
The following limitations apply to the PDF to AFP transform:

1. Adobe Reader needs to be installed and launched with the end-user license agreement accepted before it can be used for PDF to AFP conversion.
2. Adobe Reader or Adobe Acrobat is suggested to be the default application to open, view, and print PDF documents. Other 3rd-party PDF viewer or reader might not be supported.
3. The transform cannot process DBCS fonts very well.
4. Resolution conversion algorithms might produce a degraded appearance when used to reduce the resolution of images imbedded in a data stream. For this reason, the transform might degrade the appearance of higher-resolution images when used with 240-pel printers. You should verify that print fidelity is satisfactory.
5. For certain PDF files, the transform does not produce color output, and it produces monochrome output only.

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4 Installing

This chapter introduces the concept of software installation on Microsoft Windows, how to adjust proxy settings in a corporate environment, and how to deploy PDF2AFP Transform Server (PDF2AFP) in a centralized environment.

Before installing the PDF2AFP software, please make sure that the following hardware requirements are met,

Intel or AMD processor 1.7GHZ or better
200MB free disk space
1024x768 or higher resolution for Display Monitor
Microsoft Windows 10/8.1/8/7/Vista/XP/2003/2008/2012 Server
[32bit/64bit]
Adobe Reader installed

PDF2AFP Transform Server working on Windows 64-bit operating systems outperform approximately 30% in performance over working on 32-bit operating systems.

Note: This PDF2AFP conversion software run on Microsoft Windows NT based operating systems only, and it cannot be launched on OS/390, z/OS, Linux, Solaris, UNIX, or AIX systems.

4.1 Overview

Before installing PDF2AFP Transform Server, make sure that you have Windows Print Spooler service enabled. This service is by default enabled by Microsoft Windows, and it is required by PDF2AFP Transform Server as well as required by all Inkjet and Laserjet printers.

To enable the Print Spooler service, just click Start->Run, and type in the following command,

SC.EXE start Spooler

The file name of the installer for PDF2AFP Transform Server is PDF2AFP_Server_Setup.exe. And the installer installs an evaluation copy of the PDF2AFP Transform Server for users to try for up to 15 days.

To facilitate the installation, you are required to log on Microsoft Windows as Administrator or a Power User with the rights to install software. After you download PDF2AFP_Server_Setup.exe from the web or obtain the file from a 3rd-party source, you need to right-click on the file, and choose 'Run As Administrator' on Microsoft Windows 7 and later operating systems to ensure that the installer is executed with elevated

privilege so that installation won't fail.

The file name 'PDF2AFP_Server_Setup.exe' is for the trial version of the PDF2AFP Transform Server, and the one for the full retail version differs.

4.2 Silent Install

PDF2AFP Transform Server can be installed in a completely silent way without any user interaction.

To start a silent installation, start the installer with the following switches,

```
PDF2AFP_Server_Setup.exe /SP- /VERYSILENT
```

Sometimes a certain driver file might be in use by an application, and the file has to be replaced during next reboot. In this case, the installer might prompt user to restart the computer. To suppress the information, just use the following switches,

```
PDF2AFP_Server_Setup.exe /SP- /VERYSILENT /NORESTART
```

If you need MSI package for installation, feel free to contact support@ipdsprinter.com.

4.3 Proxy Settings

The installer of PDF2AFP Transform Server always perform a check to see if a new version of the PDF2AFP core component is available on the web, and therefore an active Internet connection is highly desired by the installer.

In a corporate environment the users have to specify a proxy server to have access to the Internet in the web browser. The installer of the PDF2AFP Transform Server is able to detect the proxy settings specified in Microsoft Internet Explorer.

If you haven't set up your proxy server, you can click Start->Run, and then type in the following command,

```
Rundll32 Shell32.dll,Control_RunDLL Inetcpl.cpl,,4
```

and then specify the proxy server name (or IP address), and the proxy server port.

4.4 Central Deployment

To deploy PDF to AFP conversion capability across your organizations, you need to install PDF2AFP Transform Server software.

This PDF2AFP Transform Server program allows your users to drop in PDF documents in an incoming folder, and immediately after the software processes the incoming PDF files, they are converted to AFP documents. In this way the PDF2AFP Transform Server servers as an efficient server-side PDF2AFP Transform Server.

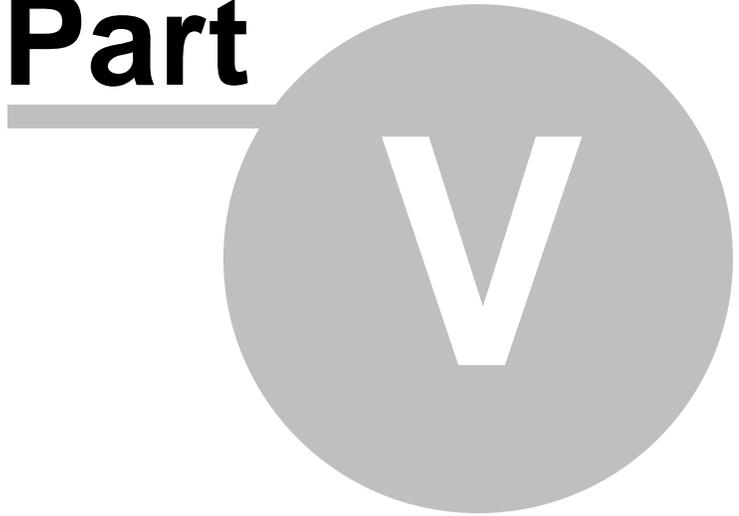
More information on [PDF to AFP Transform Server](http://www.ipdsprinter.com/pdf2afp-transform-server.html) product can be found in our web site,

<http://www.ipdsprinter.com/pdf2afp-transform-server.html>

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5 Using PDF2AFP

This chapter covers the following topics,

1. Checklist before using the software
2. Get familiar with the user interface
3. Folder options
4. Conversion options
5. Advanced options
6. Step-by-step instructions for using the PDF2AFP Transform Server software

5.1 Checklist Before Using

Before the first launch of PDF2AFP Transform Server, you need to review the following checklist,

1. Is Adobe Reader or Adobe Acrobat installed? Adobe Reader can be any version of Adobe Reader, such as Adobe Reader 7, Adobe Reader 8, Adobe Reader X. If you have already acquired Adobe Acrobat, you should make sure that Adobe Acrobat is installed.
2. Have you ever used the Adobe Reader and accepted the end-user license agreement and chosen the UI language of your preference? If the end-user license agreement is not accepted or the UI language is not selected, the batch conversion from PDF to AFP would probably fail.
3. Make sure that you can open and read an AFP file on your computer.
4. Be aware of the AFP Printer is available in your printer list.
5. Delete all files in your C:\IPDSCache folder only if the folder exists.

5.2 Get Familiar with the UI

Let's get familiar with the graphical user interface on the first launch of PDF2AFP Transform Server after install.

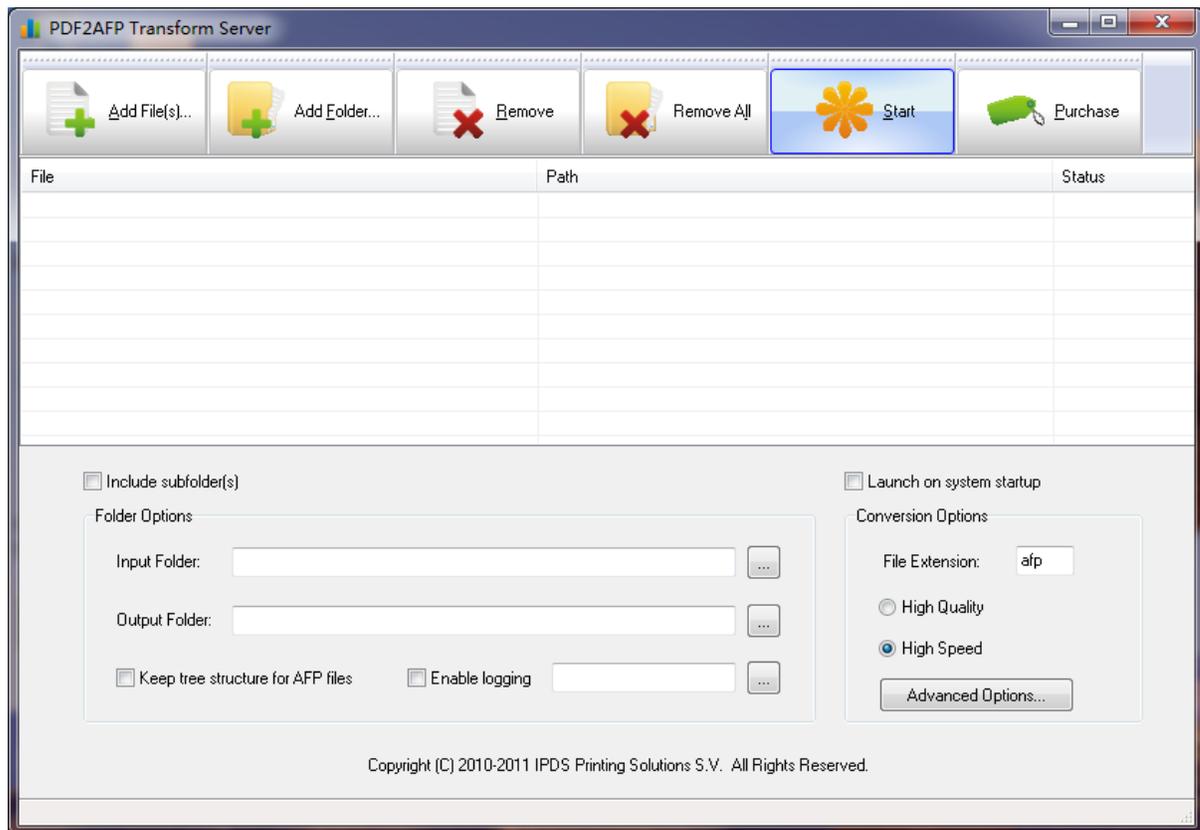
On the top of the user interface, there exist six buttons. The functionality of each can be,

Start: Once this button is clicked, the PDF2AFP Transform Server starts running. This button will be changed to a Stop button.

Buy Now: To purchase a license online.

Help: Load this user guide. This button is not available in the evaluation

copy.



Down the list of PDF files, you see Output Options and Conversion Options. More details will be disclosed in the subsequent topics.

You can also initiate a manual PDF to AFP Transform, and these buttons would be of great help,

Add File(s)...: Add one or more PDF files. Once this button is clicked, a select file dialog appears, and you can hold the Shift key on your keyboard to select multiple PDF files.

Add Folder...: Add all PDF files in a specified folder. If this button is clicked in the mean time the 'Include subfolder(s)' option is checked, you will see a folder selection dialog, and be able to automatically import all the PDF files in all of the subfolders of the folder that have just specified.

Remove: Delete one or more selected PDF files from the list of the UI. The actual files are not erased from your storage.

Remove All: Delete all PDF files in the list of the UI. The actual files are not erased from your storage.

If you do not need a manual AFP2PDF transform, *i.e. you simply want to specify an input folder and an output folder, and wait for AFP files coming into the Input Folder to be converted to PDF, and be output to the Output Folder*, you should ignore any click of these buttons.

5.3 Folder Options

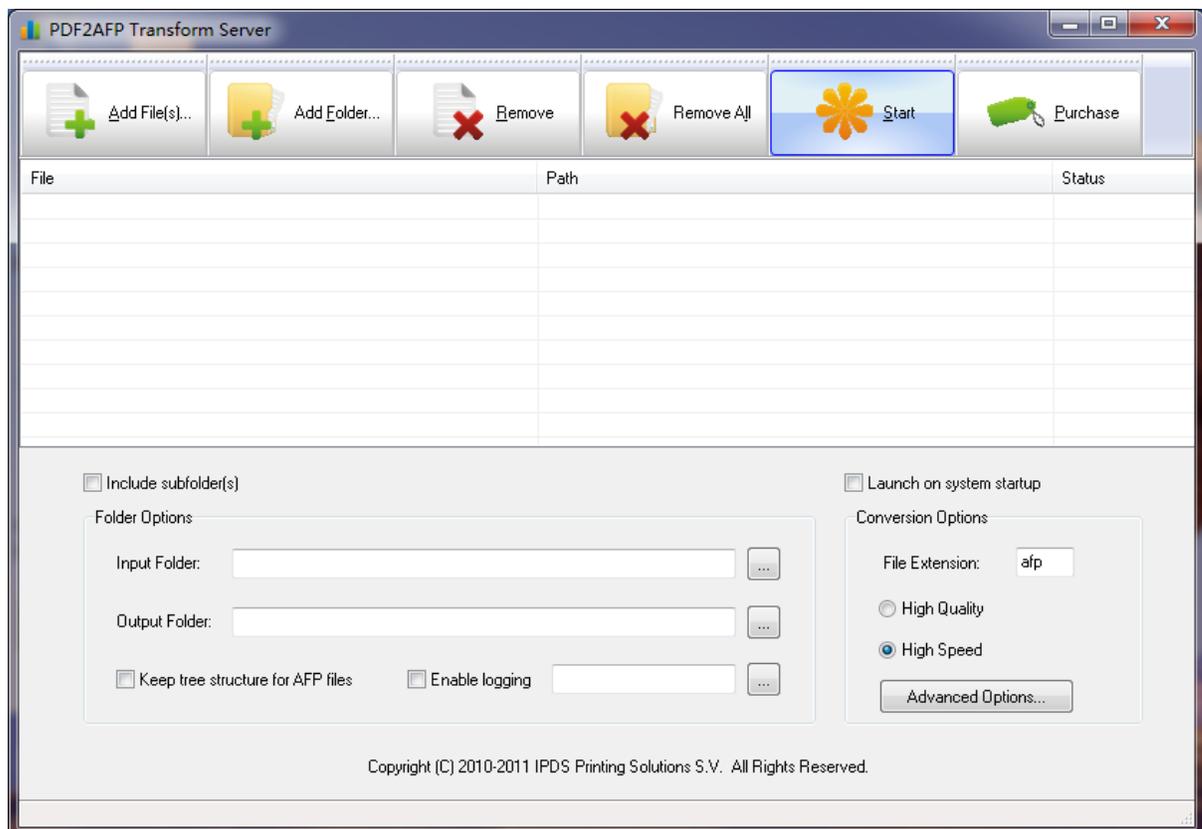
In Folder Options you are required to specify the Input Folder and Output Folder.

Input Folder is a folder monitored by the PDF2AFP Transform Server program, and once a PDF file is detected in this folder, it will be taken out for processing. After it is transformed by the PDF2AFP server it turns out to be an Adobe PDF file, and will be placed in the Output Folder.

Keep tree structure for AFP files: this option enables the output AFP files to be created with hierarchical folder structure in the target folder.

Delete AFP file after conversion: the source PDF file will be deleted once it is converted to an AFP file.

Enable logging: Specify a log file, and analyze logged key events in the log file.



5.4 Conversion Options

In the Conversion Options area, you can customize the file extension for output AFP file. This feature is most frequently used when users wish to distinguish AFP document, page segment, medium overlay, and overlay with the different file extensions on Microsoft Windows 10/8.1/8/7/2000/XP/2003/Vista/2008/2012 and later operating systems.

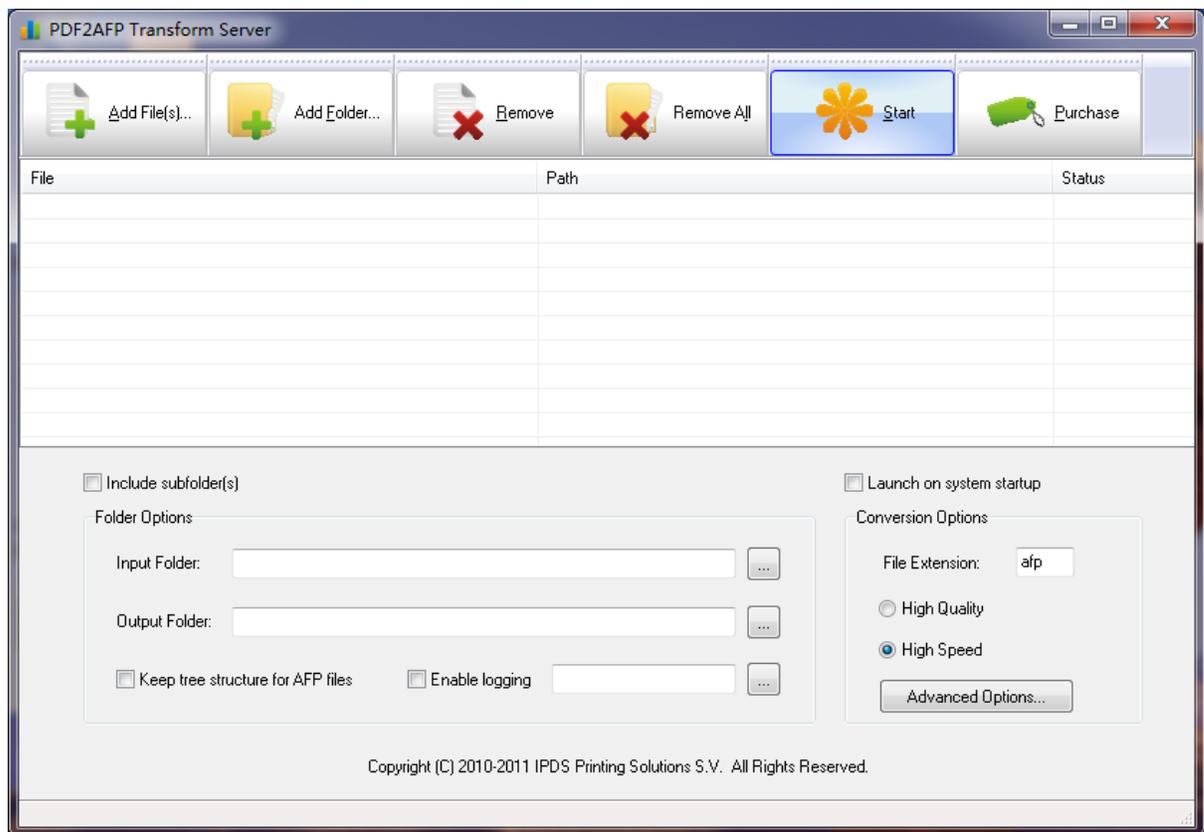
The default file extensions are,

AFP Document: *.afp, *.AFP
AFP Page Segment: *.psg, *.PSG
AFP Medium Overlay: *.oly, *.OLY
AFP Overlay: *.oly, *.OLY

An important option is the conversion optimization mode; you can choose either High Quality or High Speed.

High Quality uses industrial-strength PDF to AFP transform algorithms.

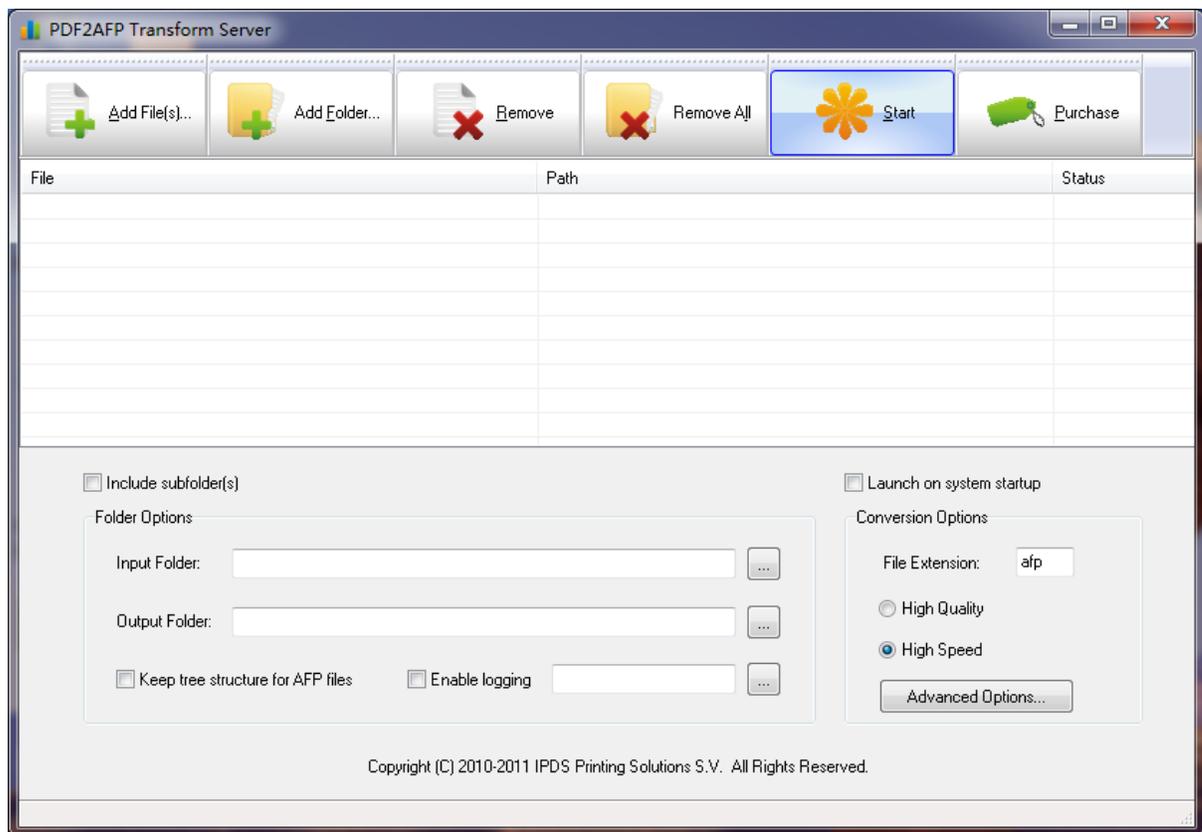
High Speed optimizes the conversion work flow, and generates the AFP documents at high speed.



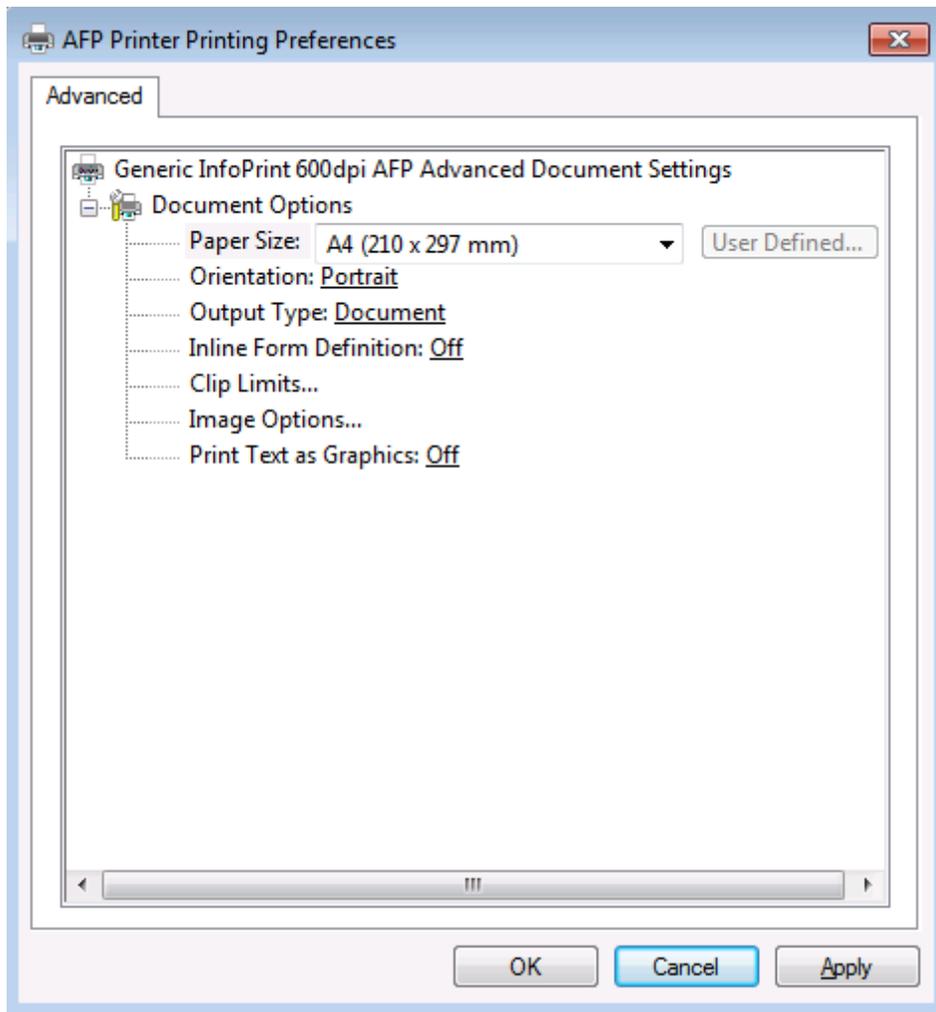
5.5 Step by Step Instructions

Here is an example on how to use PDF2AFP Transform Server to batch several AFPs to PDFs.

1. Launch PDF2AFP Transform Server
2. Specify the Input Folder as C:\PDFInput
3. Specify the Output Folder as C:\AFPOutput
4. Enable logging, and specify the log file C:\Log\PDF2AFP.log
5. Set the Conversion Options, High Quality

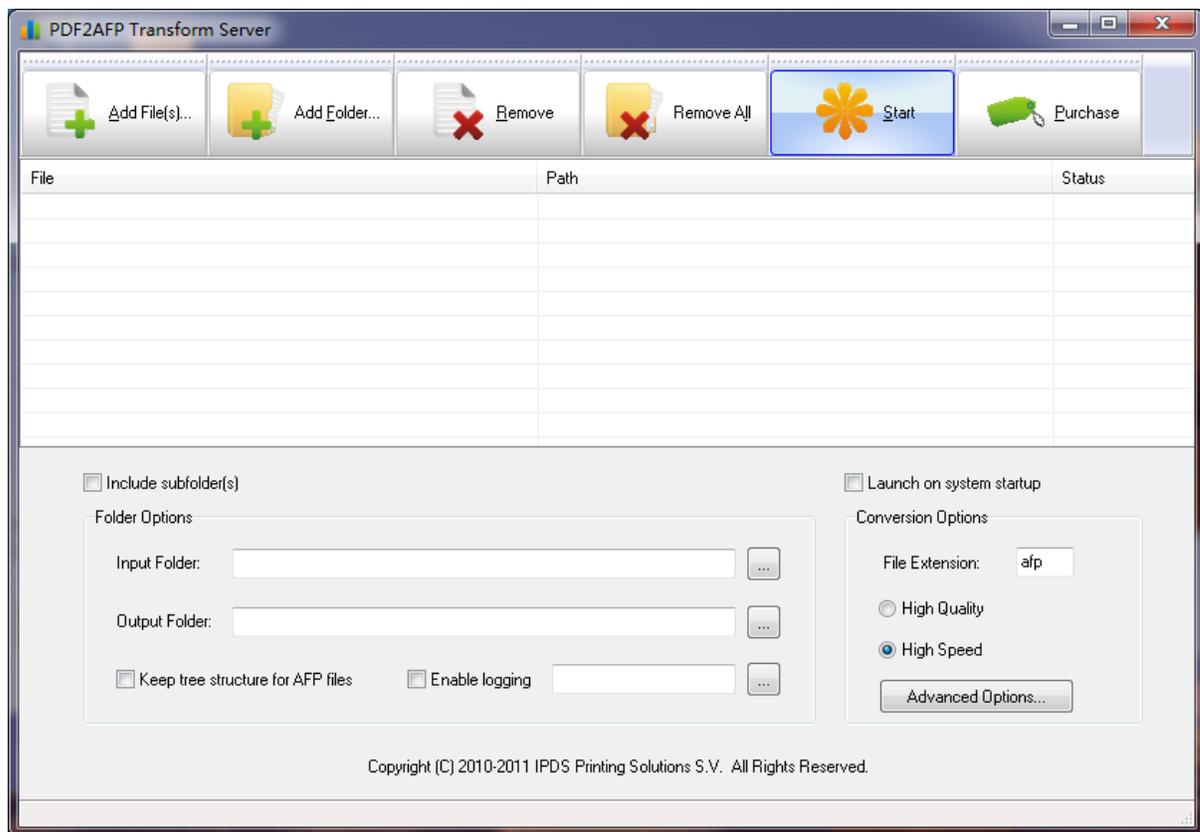


6. Click 'Advanced Options...' button to adjust the paper size to A4 (210x297 mm)



7. Click OK button to close this AFP Advanced Options dialog

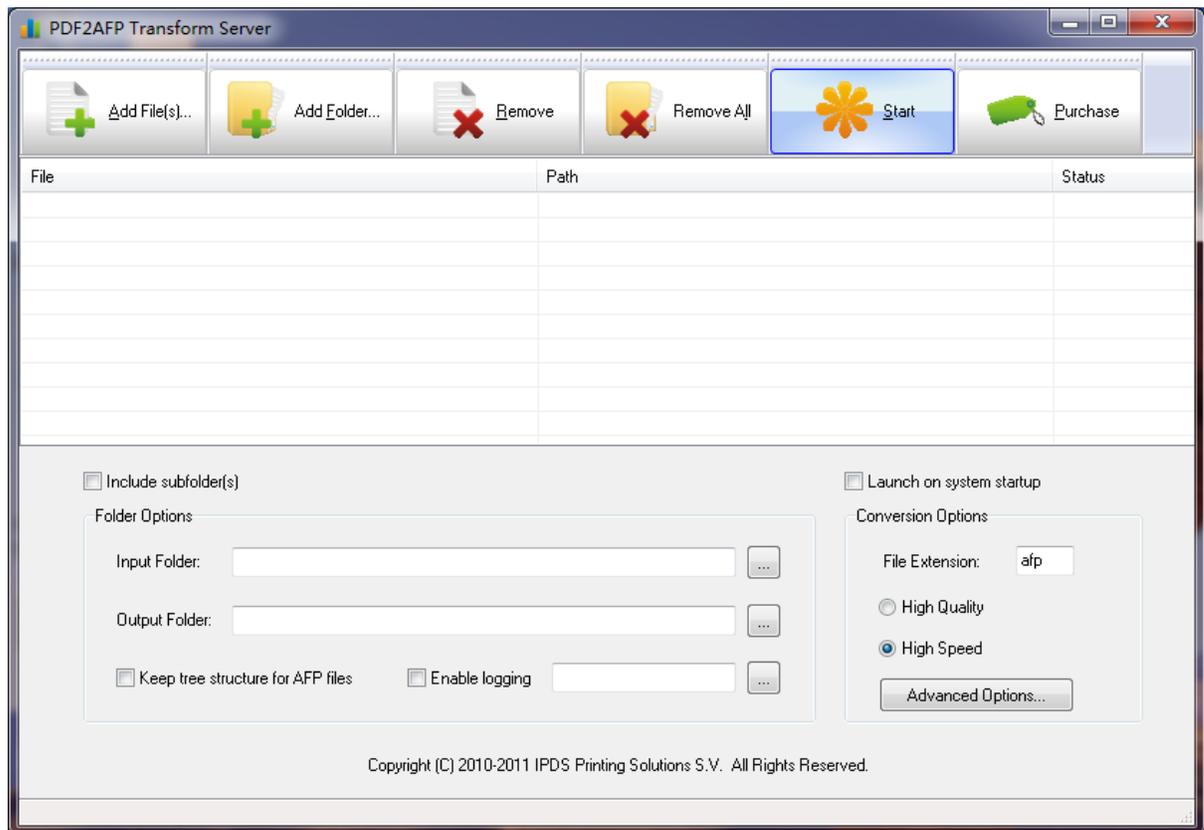
8. Now click 'Start' button to start the PDF to AFP transform,



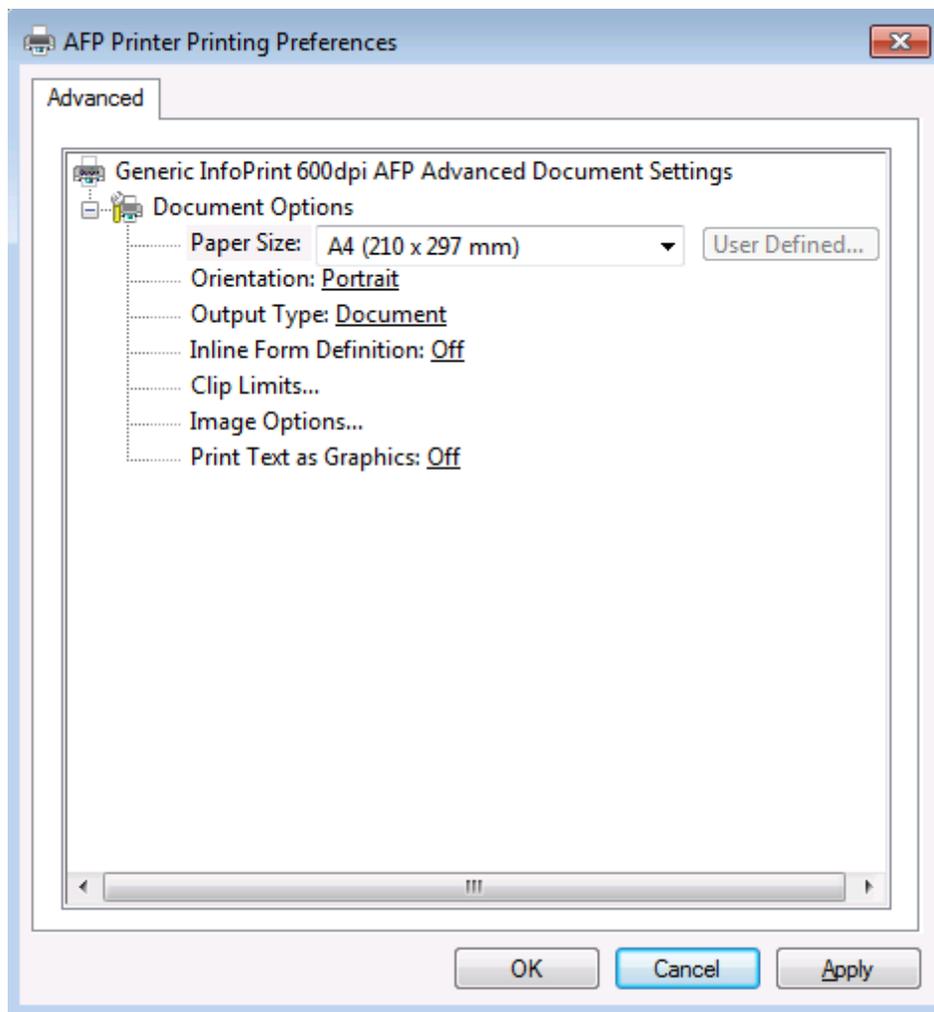
9. Drop some PDF files into C:\PDFInput folder, and these PDF files would be processed, and transformed into AFP, and output to the C:\AFPOutput folder after the PDF to AFP conversion.

Start button becomes Stop button immediately after the conversion begins. You can click Stop button at any time to terminate the conversion process at any time.

5.6 Advanced Options



Advanced Options... button resides in the Conversion Options area. Once you click this button, you will see the following dialog,



You can change the Paper Size, Orientation, Output Type, Inline Form Definition, Clip Limits, Image Options and more. For more information on the options, read the sub topics.

5.6.1 AFP Output Type

Four types of AFP output are defined by IBM Advanced Function Presentation Architecture, document, page segment, medium overlay, and overlay.

These output types make it possible to print PC documents on high-speed AFP system printers, produce electronic forms using your favorite PC application, and even create signatures and logos from existing or newly-scanned sources.

- AFP documents

Using the AFP Printer, you can send your PC documents, such as Microsoft Word document, Microsoft Excel document et al, for printing on a high-speed AS/400 AFP system printer instead of overloading your desktop PC printer.

- Page segments

Page segments are collections of predefined data that can be merged with other data on a page when the page is printed. They generally are used to print signatures or logos. Page segments may contain either IM images, IO images, vector graphics, and, with some limitations, pre-composed text.

IM images are supported on all AFP Advanced Function Presentation printers. An IM image object specifies the content of an uncompressed raster image and its placement on a page. It is resolution and orientation. However, when printed on a printer of a different resolution from the image, if the printer supports IO images, the IM image is converted to IO image and scaled to the printer's resolution. This is done for most 300-dpi printers when 240-dpi images are used.

IO images are supported only on the newer AFP Advanced Function Presentation printers. An IO image object (also known as IOCA), also specifies the content of a raster image. However, the image is resolution independent and can be either uncompressed or compressed with one of the following compression algorithms: IBM MRR, RL4, ABIC, G3MR (CCITT T.4 G3) and G4 MRR (CCITT T.6 G4). If IO images are used for printers that do not support them, the images will be scaled to the printer's resolution, if necessary, and converted to an IM image at print time.

Graphics are supported on only the newer AFP Advanced Function Presentation printers. They are not supported on old printers. A graphic object specifies the content of a vector graphic and it, too, is resolution independent.

If you already have your business logos or signatures in PC format, you can include these in overlays, or perhaps create them as a separate resource, i.e. an AFP page segment. Captured at a PC-attached scanner, they can be imported into a PC application and then "printed" as a page segment.

- Overlays and Medium Overlays

An overlay may be either a medium overlay or a page overlay (page overlay is usually called overlay). Not all printers can support page

overlays electronic forms.

The most common overlay is the medium overlay, which can be used to print same overlay on every page of data, print different overlays electronic forms on different copies of the same page, or print different overlays electronic forms on front and back of duplex page. It's a type of overlay that is called out in a form definition to be included on one or more pages of a document when it prints.

A page overlay is used to print different overlays electronic forms on different pages of a job, and/or print same overlay at different locations on different pages.

5.6.1.1 Creating an overlay

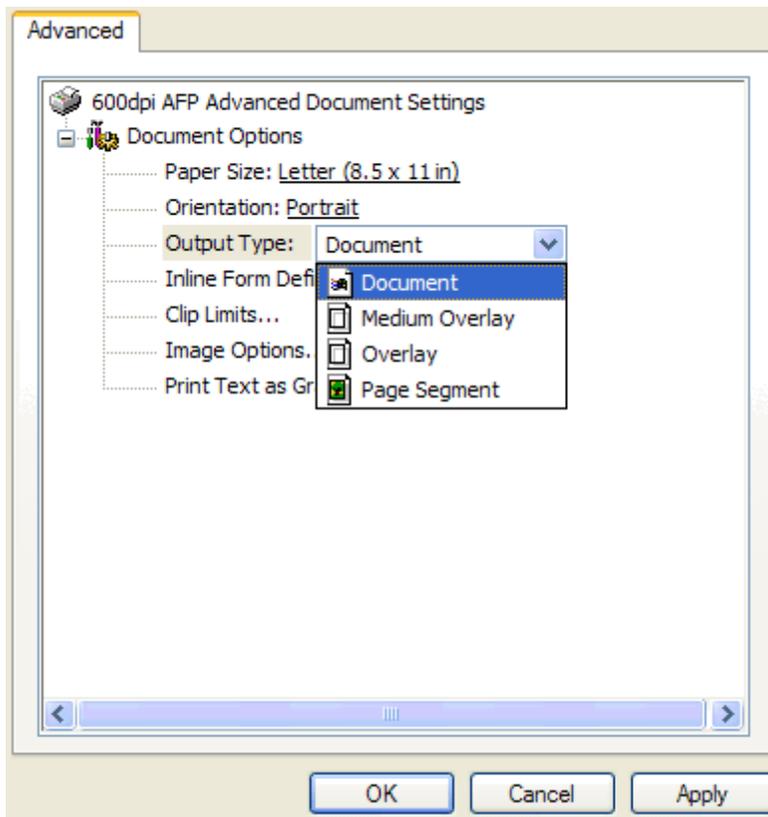
What is AFP overylay?

An overlay may be either a medium overlay or a page overlay (page overlay is usually called overlay). Not all printers can support page overlays electronic forms.

A page overlay is used to print different overlays electronic forms on different pages of a job, and/or print same overlay at different locations on different pages.

How to create AFP overlay?

1. Start your PC software (Here, we take Microsoft Excel as an example)
2. Open a Microsoft Excel spreadsheet
3. Select from main menu "File"->"Print"
4. Select Printer "AFP Printer"
5. Click the "Property" button on the right, and the follow window appears,



6. Select "Overlay" from the drop-down list of "Output Type"
7. Click "Apply" button and then click "OK" button to confirm your changes
8. Click "OK" in the Print Dialog of Microsoft Excel to confirm your "Print" command
9. A "Save-As" dialog will pop up, you can specify the folder and file name of the AFP document to be created.

5.6.1.2 Creating a document

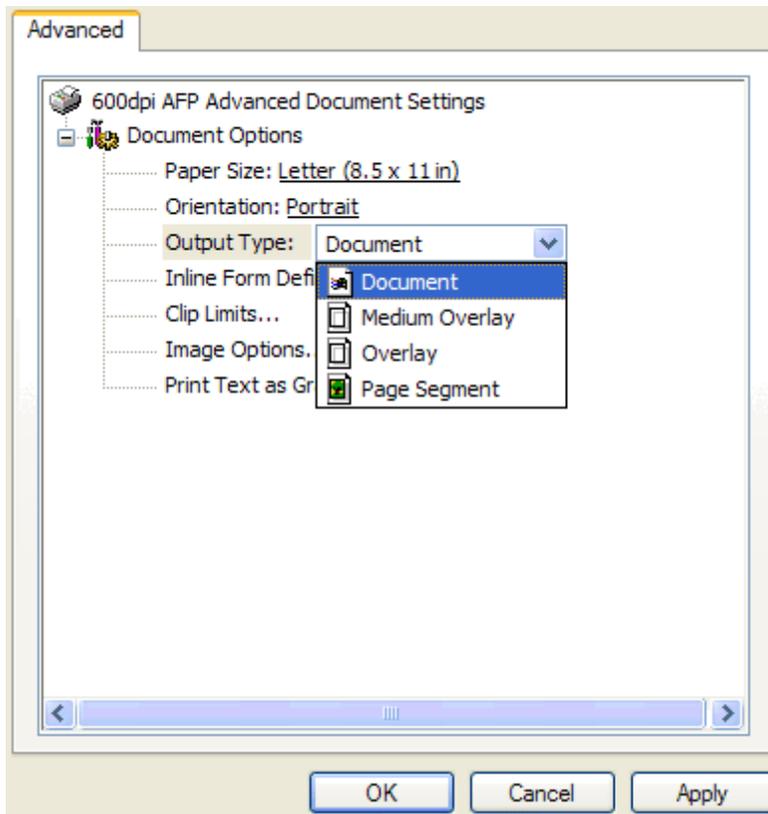
What is AFP document?

Using the AFP Printer, you can send your PC documents, such as Microsoft Word document, Microsoft Excel document et al, for printing on a high-speed AS/400 AFP system printer instead of overloading your desktop PC printer.

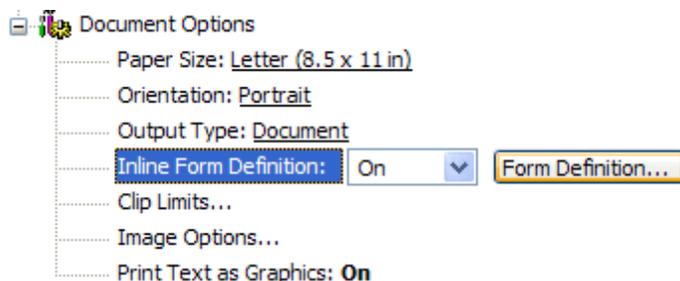
How to create AFP document?

1. Start your PC software (Here, we take Microsoft Word as an example)

2. Open a Microsoft Word document
3. Select from main menu "File"->"Print"
4. Select Printer "AFP Printer"
5. Click the "Property" button on the right, and the follow window appears,



6. Select "Document" from the drop-down list of "Output Type"
7. If you want to specify duplex printing and use a different drawer, highlight "Inline Form Definitions" and then click the "Form Definition..." button on the right,



You will get the Inline Form Definition dialog,

8. You can also specify an AFP (Medium) Overlay to be printed with your document, but you must ensure it is available as a separate resource on the system from which you want to print.

9. Click "OK" button to close the Inline Form Definition dialog.

10. Click "Apply" button and then click "OK" button to confirm your changes

11. Click "OK" in the Print Dialog of Microsoft Word to confirm your "Print" command

12. A "Save-As" dialog will pop up, you can specify the folder and file name of the AFP document to be created.

5.6.1.3 Creating a page segment

What is AFP page segment?

Page segments are collections of predefined data that can be merged with other data on a page when the page is printed. They generally are used to print signatures or logos. Page segments may contain either IM images, IO images, vector graphics, and, with some limitations, pre-composed text.

IM images are supported on all AFP enabled printers. An IM image object specifies the content of an uncompressed raster image and its placement on a page. It is resolution and orientation. However, when printed on a printer of a different resolution from the image, if the printer supports IO images, the IM image is converted to IO image and scaled to the printer's resolution. This is done for most 300-dpi printers when 240-dpi images are used.

IO images are supported only on the newer AFP enabled printers. An IO

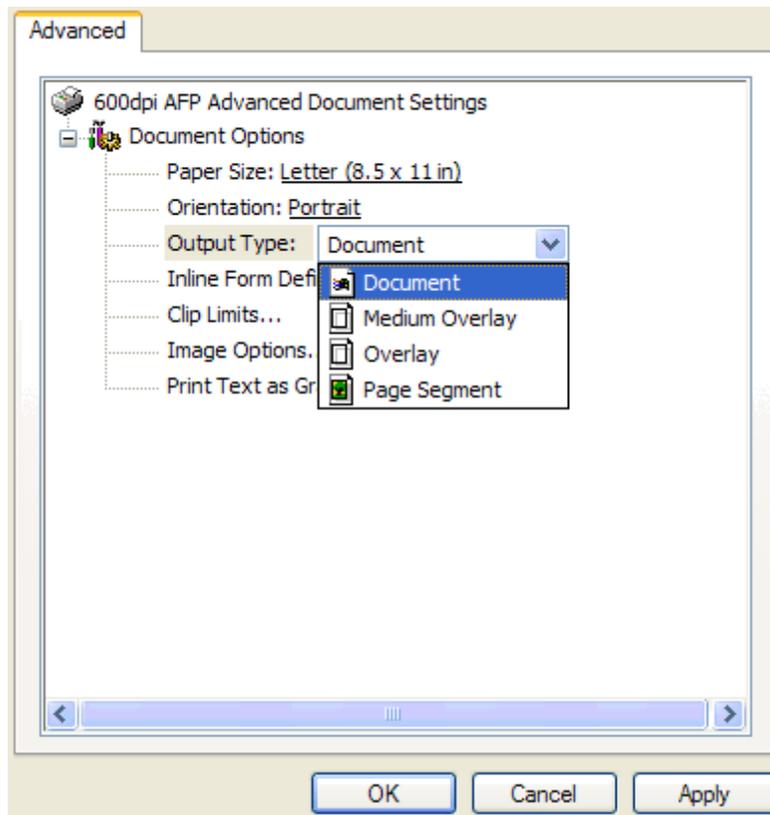
image object (also known as IOCA), also specifies the content of a raster image. However, the image is resolution independent and can be either uncompressed or compressed with one of the following compression algorithms: IBM MRR, RL4, ABIC, G3MR (CCITT T.4 G3) and G4 MRR (CCITT T.6 G4). If IO images are used for printers that do not support them, the images will be scaled to the printer's resolution, if necessary, and converted to an IM image at print time.

Graphics are supported on only the newer AFP enabled printers. They are not supported on old printers. A graphic object specifies the content of a vector graphic and it, too, is resolution independent.

If you already have your business logos or signatures in PC format, you can include these in overlays, or perhaps create them as a separate resource, i.e. an AFP page segment. Captured at a PC-attached scanner, they can be imported into a PC application and then "printed" as a page segment.

How to create AFP page segment?

1. Start your PC software (Here, we take Microsoft Access as an example)
2. Open a Microsoft Access database/document
3. Select from main menu "File" -> "Print"
4. Select Printer "AFP Printer"
5. Click the "Property" button on the right, and the follow window appears,



6. Select "Page Segment" from the drop-down list of "Output Type"

7. Click "Apply" button and then click "OK" button to confirm your changes

8. For an image that occupies most or all of the page, leave the Top/Left and Width/Height settings at their default values. If you are producing a company logo or signature that typically occupies a small area of the page, you can place your logo in the top left-hand area of the page, and then change Paper Size to User Defined (for instance, 2.0 inches wide by 1.2 inches deep). This helps reduce the amount of surrounding white space you capture with the page segment and makes positioning it much easier.

8'. Alternatively, you can enter the coordinates of the top left-hand corner of the logo or area you want to capture in Top and Left in "Clip Limits..." options dialog, and change Width and Height as required (for instance, 2.0 inches by 1.2 inches). *NOTE:* This method does not work with certain Windows applications

8". Another method is to select the Partial Print option from your Windows application, which means that you print only an area of your spreadsheet or drawing, but not the whole area.

9. Click "OK" in the Print Dialog of Microsoft Access to confirm your "Print" command

10. A "Save-As" dialog will pop up, you can specify the folder and file name of the AFP document to be created.

5.6.1.4 Creating a medium overlay

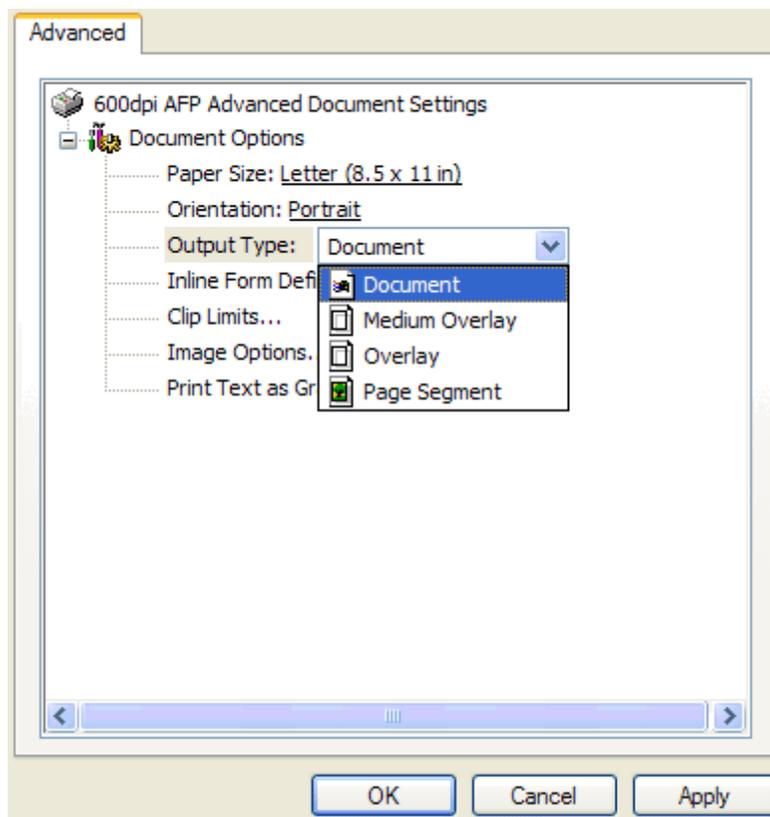
What is AFP medium overlay?

An overlay may be either a medium overlay or a page overlay (page overlay is usually called overlay). Not all printers can support page overlays electronic forms.

The most common overlay is the medium overlay, which can be used to print same overlay on every page of data, print different overlays electronic forms on different copies of the same page, or print different overlays electronic forms on front and back of duplex page. It's a type of overlay that is called out in a form definition to be included on one or more pages of a document when it prints.

How to create AFP medium overlay?

1. Start your PC software (Here, we take Microsoft PowerPoint as an example)
2. Open a Microsoft PowerPoint slide
3. Select from main menu "File"->"Print"
4. Select Printer "AFP Printer"
5. Click the "Property" button on the right, and the follow window appears,



6. Select "Medium Overlay" from the drop-down list of "Output Type"
7. Click "Apply" button and then click "OK" button to confirm your changes
8. Click "OK" in the Print Dialog of Microsoft PowerPoint to confirm your "Print" command
9. A "Save-As" dialog will pop up, you can specify the folder and file name of the AFP document to be created.

5.6.2 Page Setup

The AFP drivers differ from normal printer drivers in that the output is Advanced Function Presentation Data Stream (AFPDS) instead of the more usual Printer Control Language (PCL), Personal Printer Data Stream (PPDS), PostScript, and others. You "print" to the AFP Printer to obtain the output in an AFP file just the same way as you normally print from any Windows application to an Inkjet or Laserjet printer.

There are a variety of page setup options, among which the most important options are paper size and page orientation.

Paper size specifies which type of media your document is printed on,

for example, print each your Microsoft Word document page to an A4 size paper represented in an AFP document.

Page orientation describes the layout of your document, portrait or landscape or even complex.

5.6.2.1 Paper Size

To adjust the paper size settings, you can run the following command in Start->Run,

```
rundll32.exe printui.dll, PrintUIEntry /e /n "AFP Printer"
```

Or you can go to your Control Panel->Printers and Devices (only on Windows 10/8.1/8/7/Vista/2008/2012) or Control Panel->Printers and Faxes (only on Windows 2000/XP/2003), and right-click on the "AFP Printer", and then choose "Printing Preferences".

In the Printing Preferences dialog, you see the Paper Size option.

The following paper sizes are supported by the AFP Printer,

- Letter (8.5 x 11 inch)
- Legal (8.5 x 14 inch)
- Ledger (17 x 11 inch)
- Executive (7.25 x 10.5 inch)
- Tabloid (11 x 17 inch)
- Statement (5.5 x 8.5 inch)
- A3 (297 x 420 mm)
- A4 (210 x 297 mm)

- A4 Small (210 x 297 mm)
- A5 (148 x 210 mm)
- B4 (250 x 354 mm)
- B5 (182 x 257 mm)
- Folio (8.5 x 13 inch)
- Quarto (215 x 275 mm)
- Note (8.5 x 11 inch)
- 10 x 14 inch
- 11 x 17 inch
- Envelope B4 (110 x 230 mm)
- Envelope B5 (176 x 250 mm)
- Envelope B6 (176 x 125 mm)
- Envelope C3 (324 x 458 mm)
- Envelope C4 (229 x 324 mm)
- Envelope C5 (162 x 229 mm)
- Envelope C6 (114 x 162 mm)
- Envelope C65 (114 x 229 mm)
- Envelope DL (110 x 220 mm)

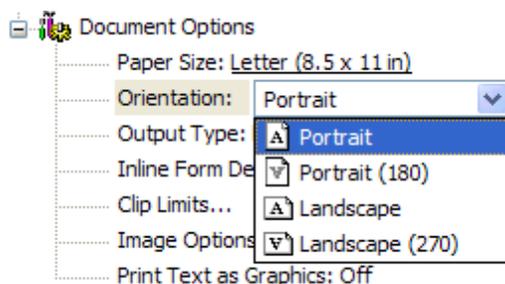
Envelope #9 (3.875 x 8.875 inch)
 Envelope #10 (4.125 x 9.5 inch)
 Envelope #11 (4.5 x 10.375 inch)
 Envelope #12 (4.75 x 11 inch)
 Envelope #14 (5 x 11.5 inch)
 Envelope Monarch (3.875 x 7.5 inch)
 C Sheet
 D Sheet
 E Sheet
 Continuous (13.2 x 8.5 inch)
 Continuous (13.2 x 11 inch)
 Continuous (13.2 x 14 inch)
 User Defined (When this item is chosen, you are required to click the "User Defined..." button on the right and specify the height, width, and unit.)

NOTE: The paper size that you enter must exist on your printer, or printing any documents that are created with this paper size may fail. Neither height nor width must exceed the range of [1, 22].

5.6.2.2 Page Orientation

The following page orientation are supported by the AFP Printer,

Portrait
 Landscape
 Portrait 180
 Landscape 270



To adjust the page orientation settings, you can run the following command in Start->Run,

```
rundll32.exe printui.dll, PrintUIEntry /e /n "AFP Printer"
```

Or you can go to your Control Panel->Printers and Devices (only on Windows 10/8.1/8/7/Vista/2008/2012) or Control Panel->Printers and Faxes (only on Windows 2000/XP/2003), and right-click on the "AFP

Printer", and then choose "Printing Preferences".

In the Printing Preferences dialog, you see the Orientation option.

5.6.3 Clipping

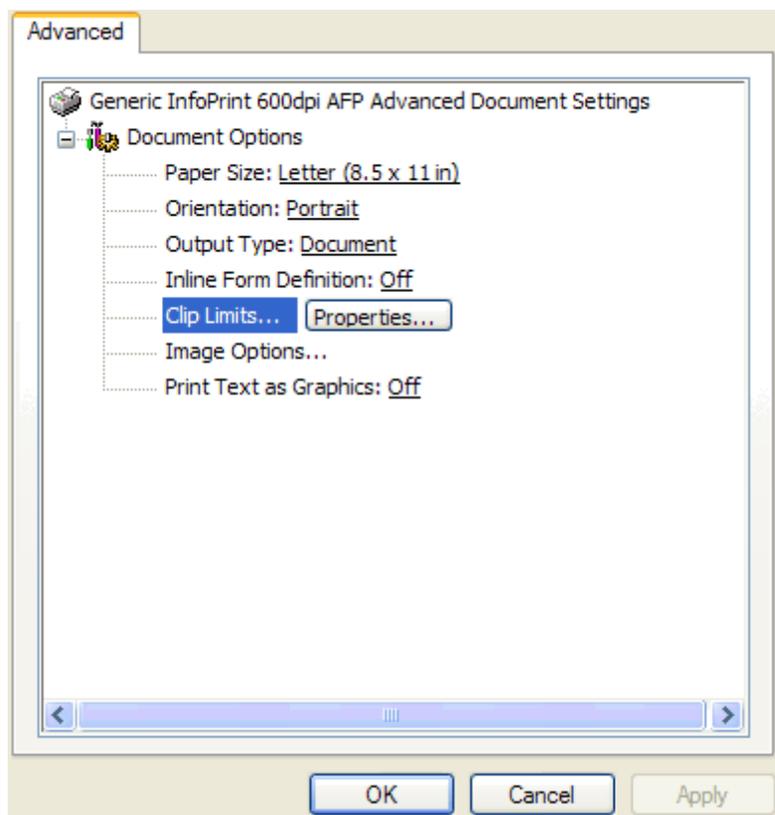
AFP Printer offers a Clip Limit Options dialog to indicate how the AFP Printer should clip the output generated.

To show this dialog, you can run the following command in Start->Run,

```
rundll32.exe printui.dll, PrintUIEntry /e /n "AFP Printer"
```

Or you can go to your Control Panel->Printers and Devices (only on Windows 10/8.1/8/7/Vista/2008/2012) or Control Panel->Printers and Faxes (only on Windows 2000/XP/2003), and right-click on the "AFP Printer", and then choose "Printing Preferences".

In the Printing Preferences dialog, you see an option "Clip Limits..." and a button "Properties..." on the right,



Click this button, and you will get the Clip Limit Options dialog,

The screenshot shows a dialog box with the following sections:

- Clip Method:** Two radio buttons: Unprintable area and Offset plus size.
- Medium Origin:** Two spinners: X (0.000) and Y (0.000).
- Margins:** Four spinners: Top (0.000), Left (0.000), Right (0.000), and Bottom (0.000). A central rectangle represents the page area.
- Units:** Two radio buttons: Inches and Millimeters.
- Buttons:** OK, Defaults, Cancel, and Help.

5.6.3.1 Clip Method

Two kinds of clip methods are provided in AFP Printer,

Unprintable area:

This method is intended for document and medium overlays. You need to specify the amount of unprintable area on the top and bottom of the page, and for the left and right margins. For instance, the default margin in your printer is set to one quarter of an inch on all sides, but you may want to decrease this amount to take advantage of your printer's ability to print closer to the edge.

Offset plus size:

This method is for page segments and overlays. You are required to specify the coordinates of the top-left corner of the area to be included in the page segment or overlay and the width and height of the area.

The following formula should be met,

1. Left offset + Width \leq paper width
2. Top offset + Height \leq paper height

The screenshot shows a dialog box titled "Clip Area" with a light beige background. It is divided into several sections:

- Clip Method:** Two radio buttons are present: "Unprintable area" (selected) and "Offset plus size".
- Medium Origin:** Two numeric input fields for "X" and "Y", both set to "0.000".
- Dimensions:** Five numeric input fields for "Top", "Left", "Right", and "Bottom", all set to "0.000". A central rectangular preview area shows a smaller rectangle within a larger one.
- Units:** Two radio buttons: "Inches" (selected) and "Millimeters".
- Buttons:** Four buttons at the bottom: "OK", "Defaults", "Cancel", and "Help".

5.6.3.2 Clip Area

You can set the area for the actual amount to clip. The value ranges are determined by the clip method selected.

The Top value determines how much to clip off the top of the page.

The Left value determines how much to clip off the left of the page.

The Bottom value determines how much to clip off the bottom of the page.

The Right value determines how much to clip off the right of the page.

The Width value determines how wide the clipped output should be.

The Height value determines indicates how high the clipped output should be.

The screenshot shows a dialog box with the following sections:

- Clip Method:** Two radio buttons: Unprintable area and Offset plus size.
- Medium Origin:** Two spinners: X 0.000 and Y 0.000.
- Dimensions:** Four spinners: Top 0.000, Left 0.000, Right 0.000, and Bottom 0.000. A central rectangular box represents the clipping area.
- Units:** Two radio buttons: Inches and Millimeters.
- Buttons:** OK, Defaults, Cancel, and Help.

5.6.3.3 Medium Origin

Medium origin indicates the (X ,Y) origin of the medium in the form definition (FORMDEF) to be used when a document is being printed. By default X=0.000 and Y=0.000. The upper bound for the X origin is the Left value, and the bound for the Y origin is the Top value.

Medium origin options disappear when the Inline Form Definition is set to On, because the medium origin always equals to (0,0) in the inline form definition to be created.

Clip Method

Unprintable area
 Offset plus size

Medium Origin

X 0.000
Y 0.000

Top 0.000

Left 0.000 Right 0.000

Bottom 0.000

Units

Inches Millimeters

OK Defaults Cancel Help

5.6.3.4 Measurement

The unit of measurement can either be Inch or Millimeter.

You can choose the one of your preference.

5.6.4 Image Options

AFP Printer offers an Image Options dialog to indicate how the AFP Printer should process images and graphics before generating the output.

When you print from some Windows applications to the AFP printer, they do not send halftone data directly to the printer, and the options you select for Color Options, Graphics Options, Grayscale Method, Compression Method, Intensity, and Contrast determine how your images and graphics are printed.

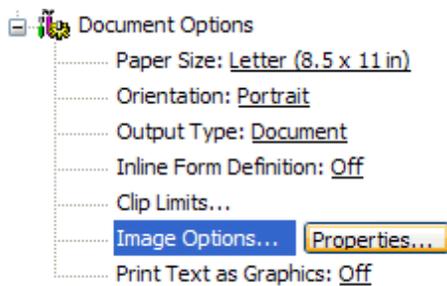
You may need to experiment with these options to get the best results.

To show this dialog, you can run the following command in Start->Run,

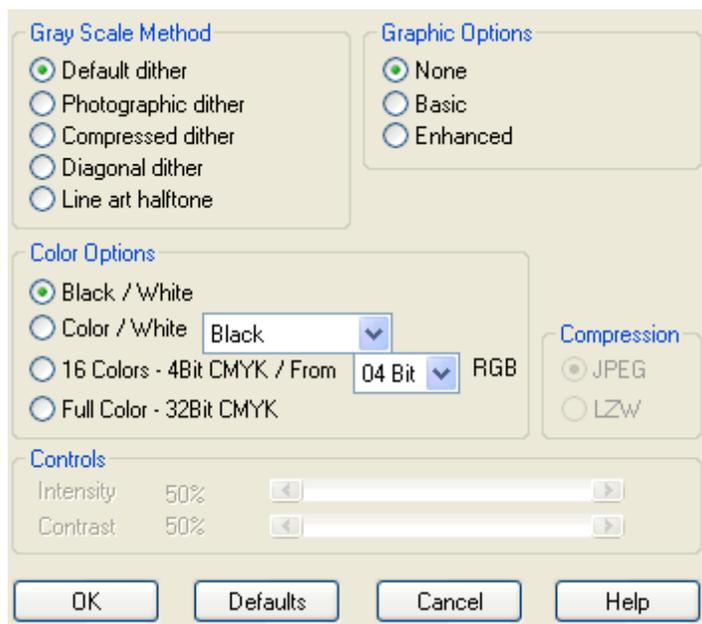
```
rundll32.exe printui.dll, PrintUIEntry /e /n "AFP Printer"
```

Or you can go to your Control Panel->Printers and Devices (only on Windows 10/8.1/8/7/Vista/2008/2012) or Control Panel->Printers and Faxes (only on Windows 2000/XP/2003), and right-click on the "AFP Printer", and then choose "Printing Preferences".

In the Printing Preferences dialog, you see an option "Image Options..." and a button "Properties..." immediately on the right of the option,



Click this button, and you will get the Image Options dialog,



5.6.4.1 Color Options

Four kinds of Color Options are available. The color option that you select determines how your AFP document (*.AFP), page segment (*.PSG), medium overlay (*.OLY), or overlay (*.OLY) looks like.

Back / White (B/W)

This bitonal option forces the AFP Printer to generate black and white images. Only black and white are available in the output AFP docs.

Color / White (C/W)

This bitonal option mandates the AFP Printer to generate single color and white images. Only the selected single color and white are available in the output AFP docs. The single color is Black by default, and you may change it to other colors but White as well.

16 Colors - 4Bit CMYK / From RGB

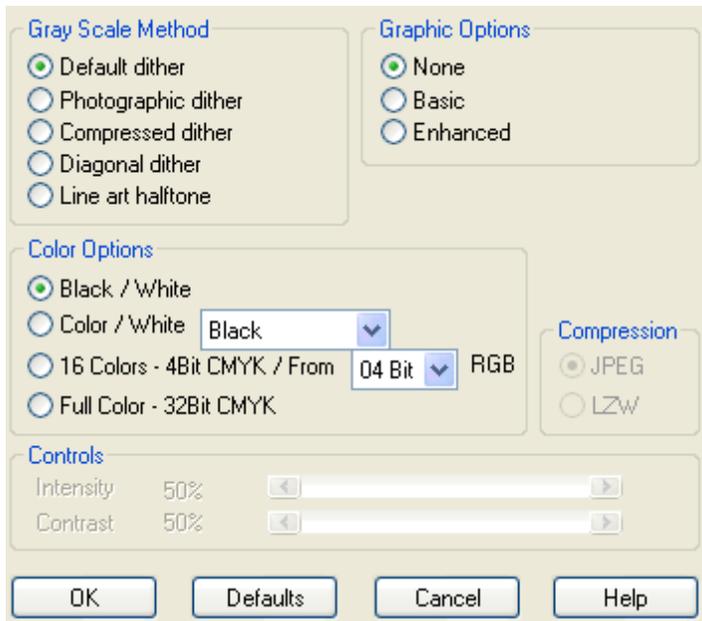
This option allows the creation of 16 colors images in the CMYK Color

Space. The halftone algorithm is selected by the number of bits, either 4Bit or 32Bit, in the RGB Color Space.

Full Colors - 32Bit CMYK

This option allows the creation of 32-bit full-color image in the CMYK Color Space.

NOTE: CMYK stands for Cyan, Magenta, Yellow, and Black, and RGB is short for Red, Green, and Blue.



5.6.4.2 Graphics Options

Graphic Options determines the support level of graphics the AFP Printer generates. Three options are provided:

None

All graphic objects are rasterized into images.

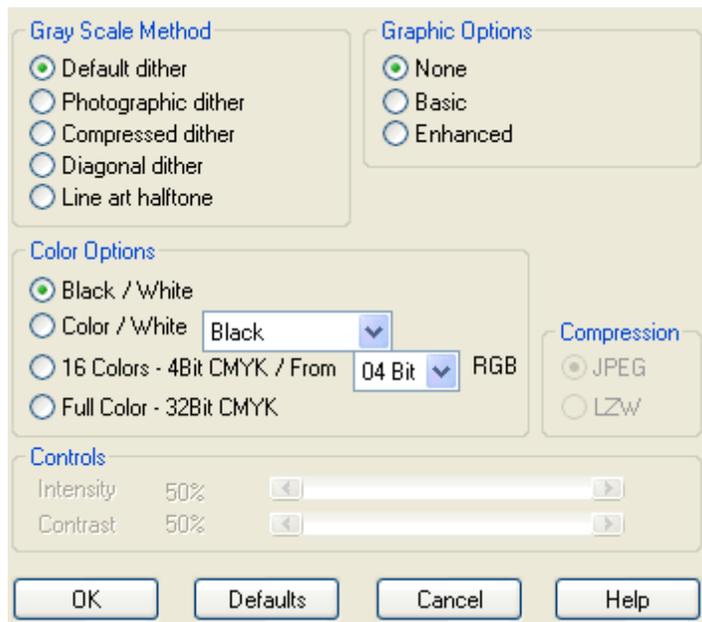
Basic

Graphic objects comply with GOCA's DR/2V0 standard, which is a standard supported by all AFP enabled printers.

Enhanced

Graphic objects have additional drawing orders not support by GOCA's DR/2V0 standard. Not all AFP enabled printers support the additional drawing orders.

NOTE: GOCA is an architected collection of constructs for the interchange and presentation of graphic data. The AFP Printer uses constructs from the GOCA DR/2V0 and above.



5.6.4.3 Grayscale Method

Five grayscale methods are provided,

Default Dither

This method uses a 4 x 4 bit pattern of dots to emulate up to 16 levels of gray.

Photographic Dither

This method uses an 8 x 8 bit pattern of dots to emulate up to 64 levels of gray, producing a smooth, realistic, and photographic appearance. If you need soft contrasts between various shades of gray, you should not miss this dither.

Compressed Dither

This method uses an 8 x 8 bit pattern of horizontal lines to emulate up to 64 levels of gray, producing the smallest output, while still giving reasonable quality. This dither should not be applied to the full color images produced by a scanner.

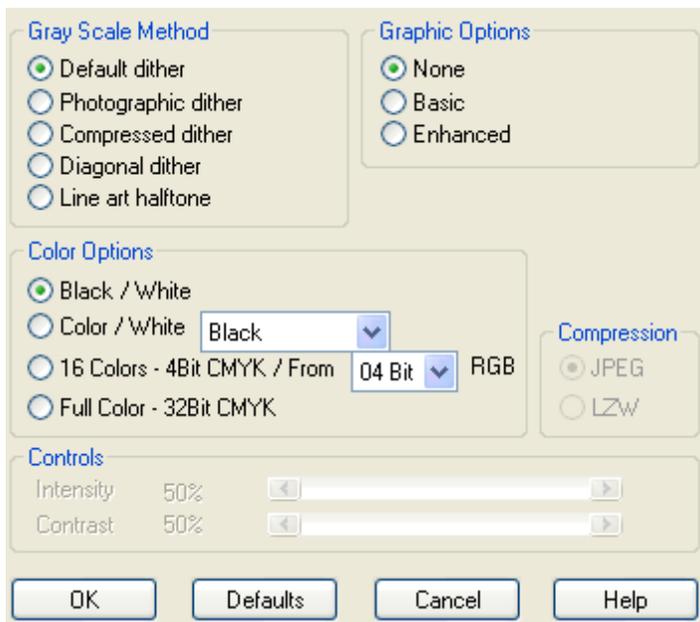
Diagonal Dither

This method uses an 8 x 8 bit pattern of diagonal lines to emulate up to 64 levels of gray, producing a smooth, realistic appearance without the graininess otherwise produced using the Photographic Dither.

Line art halftone Dither

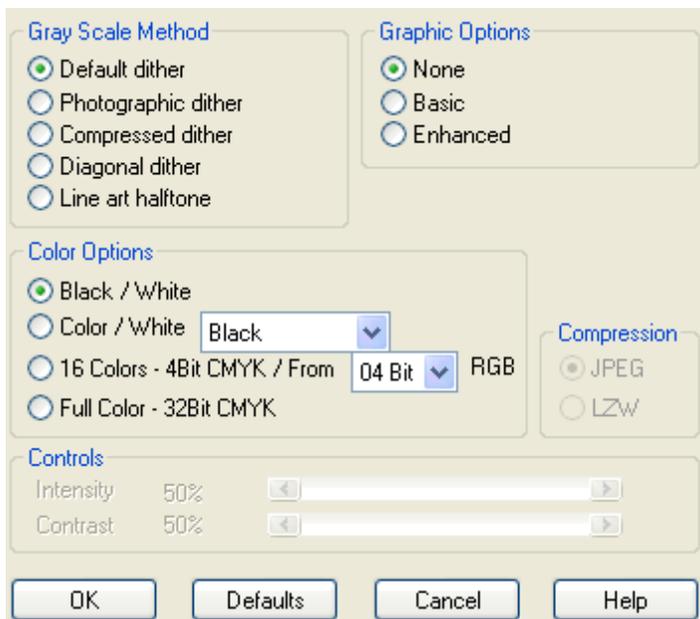
This method uses 32 different 8 x 8 bit patterns to produce 32 distinct levels of gray. Line art halftone Dither works well for images with

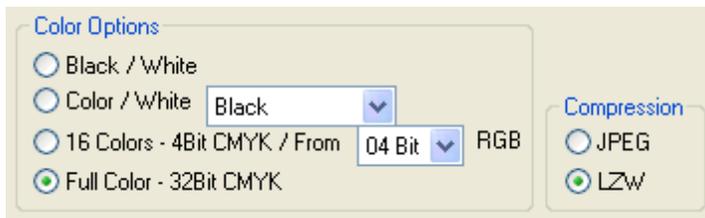
intricate lines and fine detail such as clip art graphics. Unlike Photographic Dither and Diagonal Dither that provide soft contrasts between various shades of gray, the Line art halftone Dither provides solid lines and well-defined borders between various shades of gray.



5.6.4.4 Compression Method

This option, for most cases, is grayed out, unless the Full Color - 32Bit CMYK Color option is selected as the color option for AFP docs.





Full color image objects can be compressed using either the LZW or the JPEG compression algorithm. LZW compression is good for text-based content, and JPEG compression is recommended for photographic images.

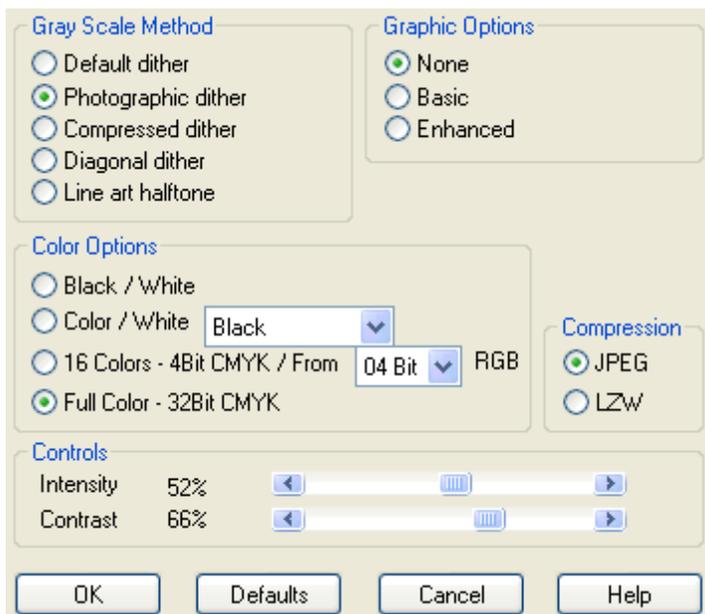
5.6.4.5 Intensity and Contrast

Intensity Control and Contrast Control are grayed out when the grayscale method is Default dither; they are enabled when any other dither is selected as the grayscale method.

Intensity Control can be used to increase or decrease the lightness of image and graphics in the output AFP docs.

Contrast Control can be used to increase or decrease the contrast of image and graphics in the output AFP docs.

In most cases the two values do not need to be adjusted.



5.6.5 Inline Form Definition

AFP Printer offers an Inline Form Definition Options dialog to indicate how the AFP Printer should process images and graphics before

generating the output.

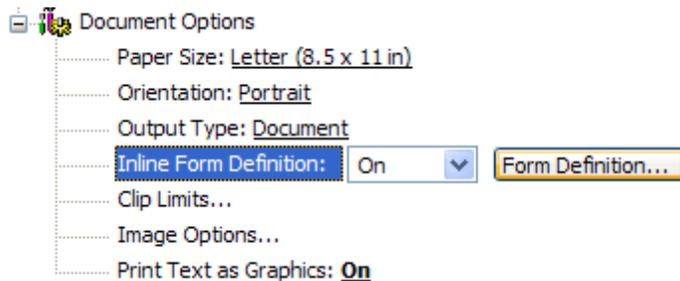
You may need to experiment with these options to get the best results.

To show this dialog, you can run the following command in Start->Run,

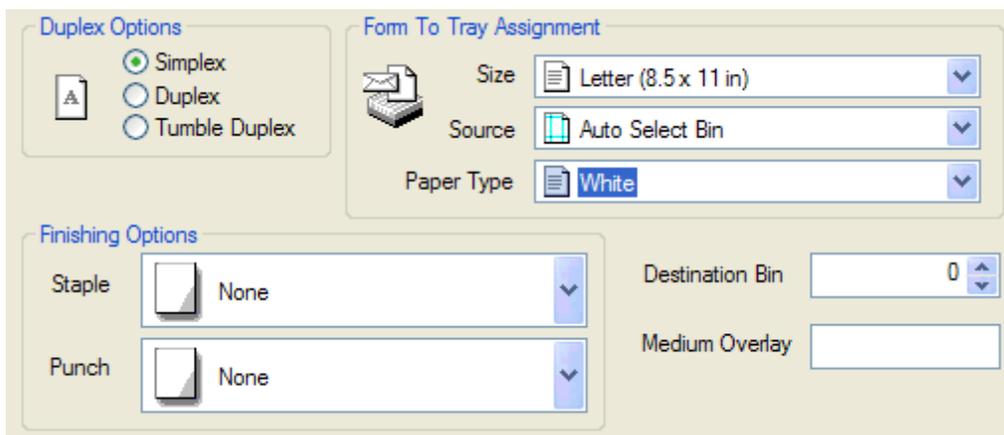
```
rundll32.exe printui.dll, PrintUIEntry /e /n "AFP Printer"
```

Or you can go to your Control Panel->Printers and Devices (only on Windows 10/8.1/8/7/Vista/2008/2012) or Control Panel->Printers and Faxes (only on Windows 2000/XP/2003), and right-click on the "AFP Printer", and then choose "Printing Preferences".

In the Printing Preferences dialog, you see an option "Inline Form Definition", turn it from Off to On, and a button "Form Definitions..." appears immediately on the right of the option,



Click this button, and you will get the Inline Form Definition dialog,



5.6.5.1 Duplex Options

Duplex Options are embedded parameters and/or commands in the AFP docs (document, page segment, overlay, or medium overlay) to indicate on which sides of the output sheet the target printer prints your AFP docs. The target printer can be a consumer inkjet printer, a high-volume laserjet printer, or a CMYK printing press.

Simplex

Print only one side on each output sheet.

Duplex

Print both sides on each output sheet and arrange the resulting sheets to be found on the left.

Tumble Duplex

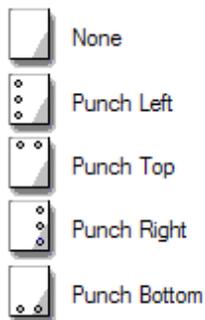
Print both sides on each output sheet and arrange the resulting sheets to be bound on the top.

5.6.5.2 Finishing Options

Finishing Options are embedded parameters and/or commands in the AFP docs (document, page segment, overlay, or medium overlay) to indicate the type of task to do at the end of printing on a document level. For instance, if Punch is selected, and all the pages in a document are punched.

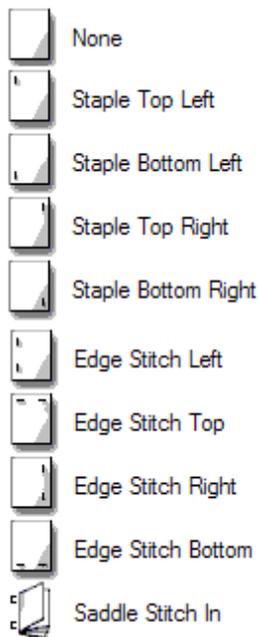
Punch

The following types of Punch operations are supported by AFP Printer,



Staple

The following types of Staple operations are supported by AFP Printer,



5.6.5.3 Destination Bin Options

Destination Bin Options are embedded parameters and/or commands in the AFP docs (document, page segment, overlay, or medium overlay) to indicate which output bin should be used by the target printer.

Zero stands for the default bin, and one stands for Bin 1, and two stands for Bin 2 etc.

5.6.5.4 Medium Overlay Options

Medium Overlay Options are embedded parameters and/or commands in the AFP docs (document, page segment, overlay, or medium overlay) to indicate which medium overlay is to be included on every page of your AFP document when the document is printed on the target printer. A valid name of the medium overlay is required.

5.6.5.5 Form To Tray Assignment Options

Form To Tray Assignment Options are embedded parameters and/or commands in the AFP docs (document, page segment, overlay, or medium overlay) to match the correct paper size with each paper source available on the target printer.

Size

A full list of available paper sizes.

Source

A complete list of valid paper sources available on the target printer. If the "Auto Select Bin" option is selected, Paper Type is matched to Size to determine the media object identifier.

Paper Type

White, Color, Transparent are the three available options.

5.6.6 Font Options

AFP Printer offers an Font Options dialog to indicate how the AFP Printer should process fonts before generating the output.

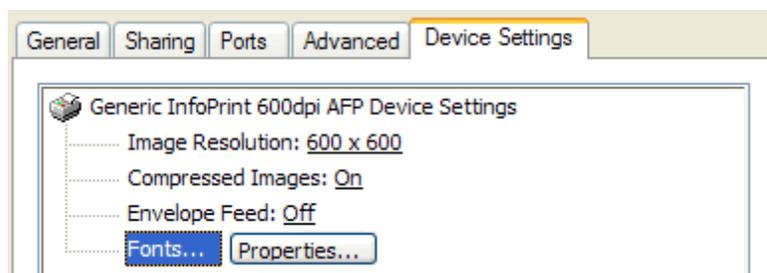
When you print from some Windows applications to the AFP printer, text printed in a certain font might not have a substitute in your table is printed as image. By setting up the Font Options, you can determine which AFP character set should be substituted for particular Windows fonts in your AFP output and what level of fidelity should be maintained.

You may need to experiment with these options to get the best results.

To show this dialog, you can run the following command in Start->Run,

```
rundll32.exe printui.dll, PrintUIEntry /p /n "AFP Printer"
```

In the Printing Preferences dialog, you see an option "Fonts..." and a button "Properties..." immediately on the right of the option,



Click this button, and you will get the Font Options dialog,

5.6.6.1 EBCDIC

Extended Binary Coded Decimal Interchange Code (EBCDIC) is an 8-bit character encoding (code page) employed mainly on IBM mainframe operating systems such as z/OS, OS/390, VM and VSE, as well as IBM midrange computer operating systems such as OS/400 and i5/OS (see also Binary Coded Decimal).

When the EBCDIC option is selected, the AFP Printer will convert all ASCII text into EBCDIC text. A valid EBCDIC code page must be specified in the Code Page column, or the text strings would otherwise print improperly.

The screenshot shows the 'Font Settings' dialog box with the following configuration:

- Font Type:** AFP Raster Fonts (selected), AFP Outline Fonts, TrueType Fonts.
- Text Support:** Basic (selected), Enhanced Color.
- Use Text Rules:** (checked), Maintain Text Order: .
- Font Process Table:**
 - For Font:** Name: Arial, Style: Regular, Size: 12.
 - Use AFP Character Set:** COH200B0, with Add, Modify, and Delete buttons.
 - TrueType Font Options:** Create Reference (selected), Create Inline Resource, Generate Image.
- Code Page:** T1001252, EBCDIC: .
- Output Fidelity:** Character, Word (selected), Line.

Buttons at the bottom: OK, Defaults, Cancel, Help.

The default EBCDIC code page is T1001140.

This EBCDIC option is by default disabled.

5.6.6.2 Use Text Rules

This Use Text Rules option allows you to trade off between speed, file size, and output fidelity.

When this option is enabled, the AFP Printer produces output files as smaller as possible. Smaller AFP files are usually printed faster by the target printer.

Font Type

AFP Raster Fonts
 AFP Outline Fonts
 TrueType Fonts

Text Support

Basic
 Enhanced Color

Use Text Rules
 Maintain Text Order

Font Process Table

For Font

Name:

Style:

Size:

Use AFP Character Set

TrueType Font Options

Create Reference
 Create Inline Resource
 Generate Image

Code Page: EBCDIC

Output Fidelity

Character Word Line

This option is by default enabled.

5.6.6.3 Maintain Text Order

This Maintain Text Order option determines the whether the AFP Printer should keep the text in the order it was received from the application where the Print command is issued.

When this option is enabled, the received text is kept in order; when it is disabled, the AFP Printer will order the text by font type and style improving performance as a result.

Font Type

AFP Raster Fonts
 AFP Outline Fonts
 TrueType Fonts

Text Support

Basic
 Enhanced Color

Use Text Rules
 Maintain Text Order

Font Process Table

For Font

Name: Arial
Style: Regular
Size: 12

Use AFP Character Set

COH200B0
Add Modify Delete

TrueType Font Options

Create Reference
 Create Inline Resource
 Generate Image

Code Page: T1001252 EBCDIC

Output Fidelity

Character Word Line

OK Defaults Cancel Help

This option is by default disabled.

5.6.6.4 Font Type

Three options for Font Type are provided,

AFP Raster Fonts
AFP Outline Fonts
TrueType Fonts

We recommend TrueType fonts among the three options so as to get the best output fidelity. Some AFP enabled printers require that the printers are configured to accept TrueType fonts.

AFP Raster Fonts are fonts whose graphic character shapes are defined by small raster patterns.

AFP Outline Fonts are fonts fully compliant to the Adobe Type 1 Font standards, and graphic character shapes are defined by mathematical equations rather than by raster patterns.

Please check with your printer manufacturer to see if your AFP enabled printer supports TrueType fonts, Raster Fonts, and Outline Fonts.

The screenshot shows a dialog box with the following sections and controls:

- Font Type:** Three radio buttons: AFP Raster Fonts, AFP Outline Fonts, and TrueType Fonts.
- Text Support:** Two radio buttons: Basic and Enhanced Color.
- Use Text Rules and Maintain Text Order.
- Font Process Table:**
 - For Font:** Name (Arial), Style (Regular), and Size (12) dropdown menus.
 - Use AFP Character Set:** Text box containing 'COH200B0', with 'Add', 'Modify', and 'Delete' buttons.
 - TrueType Font Options:** Three radio buttons: Create Reference, Create Inline Resource, and Generate Image.
- Code Page:** Text box containing 'T1001252' and EBCDIC.
- Output Fidelity:** Three radio buttons: Character, Word, and Line.
- Buttons:** OK, Defaults, Cancel, and Help.

5.6.6.5 Text Support

This Text Support option determines the support level of text the AFP Printer generates. Two options are available for Text Support, *Basic* and *Enhanced Color*.

Basic

Text objects generated from AFP Printer are compliant to PT2 standards.

Enhanced Color

Text objects generated from AFP Printer are compliant to PT3 standards.

NOTE: PT2 standards only support the eight colors, red, blue, green, black, magenta, cyan, yellow, and brown. Whereas PT3 standards support a full spectrum RGB color space, i.e. all the 24-bit color values. PT3 is not supported by all AFP enabled printers.

The screenshot shows the 'Font Process Table' dialog box. It is divided into several sections:

- Font Type:** Three radio buttons: 'AFP Raster Fonts' (selected), 'AFP Outline Fonts', and 'TrueType Fonts'.
- Text Support:** Two radio buttons: 'Basic' (selected) and 'Enhanced Color'. To the right are two checkboxes: 'Use Text Rules' (checked) and 'Maintain Text Order' (unchecked).
- Font Process Table:**
 - For Font:** Three dropdown menus: 'Name' (Arial), 'Style' (Regular), and 'Size' (12).
 - Use AFP Character Set:** A text box containing 'COH200B0' and three buttons: 'Add', 'Modify', and 'Delete'.
 - TrueType Font Options:** Three radio buttons: 'Create Reference' (selected), 'Create Inline Resource', and 'Generate Image'.
- Code Page:** A text box containing 'T1001252' and a checkbox for 'EBCDIC' (unchecked).
- Output Fidelity:** Three radio buttons: 'Character', 'Word' (selected), and 'Line'.

At the bottom are four buttons: 'OK', 'Defaults', 'Cancel', and 'Help'.

5.6.6.6 Font Substitution

You can substitute a font in your table with a Windows font in the [Font Process Table](#) frame.

The **Font Process Table** frame contains three sub-frames,

For Font
 Use AFP Character Set
 TrueType Font Options

5.6.6.6.1 For Font

Choose a font in the **For Font** sub-frame as a replacement for the font in your table.

Name

Specify the name of the Windows font such as Arial.

Style

Specify the style of the Windows font such as Regular, Italic, Bold.

Size

Specify the size of the Windows font selected.

When you select a font in the drop-down list of all the available fonts installed on your Microsoft Windows system, the current substitution for the selected font, if available, is shown in the **Use AFP Character Set** sub-frame, as illustrated, COH200B0 is for shown for Arial.

The screenshot shows the 'Font Process Table' dialog box. It is divided into several sections:

- Font Type:** Three radio buttons: 'AFP Raster Fonts' (selected), 'AFP Outline Fonts', and 'TrueType Fonts'.
- Text Support:** Two radio buttons: 'Basic' (selected) and 'Enhanced Color'. To the right are two checkboxes: 'Use Text Rules' (checked) and 'Maintain Text Order' (unchecked).
- Font Process Table:** A sub-section titled 'For Font' with three dropdown menus: 'Name' (Arial), 'Style' (Regular), and 'Size' (12). To the right is a 'Use AFP Character Set' section with a text box containing 'COH200B0' and three buttons: 'Add', 'Modify', and 'Delete'.
- TrueType Font Options:** Three radio buttons: 'Create Reference' (selected), 'Create Inline Resource', and 'Generate Image'.
- Code Page:** A text box containing 'T1001252' and an unchecked 'EBCDIC' checkbox.
- Output Fidelity:** Three radio buttons: 'Character', 'Word' (selected), and 'Line'.

At the bottom are four buttons: 'OK', 'Defaults', 'Cancel', and 'Help'.

5.6.6.6.2 Use AFP Character Set

Choose a font in the **For Font** sub-frame as a replacement for the font in your table.

When you select a font in the drop-down list of all the available fonts installed on your Microsoft Windows system, the current substitution for the selected font, if available, is shown in the **Use AFP Character Set** sub-frame. For example, COH200B0 is a substitution for Arial.

You can add, modify, and delete a font substitution at any time. Any AFP character set that is substituted should have metrics that closely match the selected Windows font, or text in your AFP output will not be correctly placed. You can avoid some of these errors by varying the output fidelity.

The screenshot shows a dialog box with the following sections:

- Font Type:** Three radio buttons: AFP Raster Fonts, AFP Outline Fonts, TrueType Fonts.
- Text Support:** Two radio buttons: Basic, Enhanced Color. Two checkboxes: Use Text Rules, Maintain Text Order.
- Font Process Table:**
 - For Font:** Name: Arial (dropdown), Style: Regular (dropdown), Size: 12 (dropdown).
 - Use AFP Character Set:** Text box containing "COH200B0", with Add, Modify, and Delete buttons.
 - TrueType Font Options:** Three radio buttons: Create Reference, Create Inline Resource, Generate Image.
- Code Page:** Text box containing "T1001252", with an EBCDIC checkbox.
- Output Fidelity:** Three radio buttons: Character, Word, Line.
- Buttons:** OK, Defaults, Cancel, Help.

5.6.6.6.3 TrueType Font Options

Three options are provided in the [TrueType Font Options](#) sub-frame.

Create Reference

This option directs the AFP Printer to create references for TrueType fonts, and it helps minimize the size of output files.

Create Inline Resource

This option directs the AFP Printer to embed a subset of TrueType fonts as inline resources in the AFP output, and thus produce larger output files.

Generate Image

This option directs the AFP Printer to rasterize the TrueType fonts and store fonts as image rather than text objects, and therefore create the largest output files.

Note: We recommend the Create Reference option for document without text in special fonts. We suggest the choice of the Create Inline Resource option for document with special fonts. We do not advise the use of the Generate Image option unless the target printer does not support TrueType fonts.

The screenshot shows the 'Font Process Table' dialog box. It is divided into several sections:

- Font Type:** Three radio buttons: 'AFP Raster Fonts' (selected), 'AFP Outline Fonts', and 'TrueType Fonts'.
- Text Support:** Two radio buttons: 'Basic' (selected) and 'Enhanced Color'. To the right are two checkboxes: 'Use Text Rules' (checked) and 'Maintain Text Order' (unchecked).
- Font Process Table:** A section for configuring fonts. It includes:
 - For Font:** Three dropdown menus for 'Name' (Arial), 'Style' (Regular), and 'Size' (12).
 - Use AFP Character Set:** A text box containing 'COH200B0' and three buttons: 'Add', 'Modify', and 'Delete'.
 - TrueType Font Options:** Three radio buttons: 'Create Reference' (selected), 'Create Inline Resource', and 'Generate Image'.
- Code Page:** A text box containing 'T1001252' and an unchecked checkbox for 'EBCDIC'.
- Output Fidelity:** Three radio buttons: 'Character', 'Word' (selected), and 'Line'.

At the bottom of the dialog are four buttons: 'OK', 'Defaults', 'Cancel', and 'Help'.

5.6.6.7 Code Page

Code page is another name for character encoding, which consists of a table of values describing the character set for a particular language. The term code page originated from IBM's EBCDIC-based mainframe systems.

The default code page for ASCII is T1001252 (Personal Computer: Desktop Publishing). You can enter your own code page to be used by the AFP Printer.

T1001252 works for most cases.

The screenshot shows a configuration dialog for the PDF to AFP Transform Server. It includes the following settings:

- Font Type:** AFP Raster Fonts (selected), AFP Outline Fonts, TrueType Fonts.
- Text Support:** Basic (selected), Enhanced Color. Use Text Rules, Maintain Text Order.
- Font Process Table:** For Font: Name (Arial), Style (Regular), Size (12).
- Use AFP Character Set:** COH200B0. Buttons: Add, Modify, Delete.
- TrueType Font Options:** Create Reference, Create Inline Resource, Generate Image.
- Code Page:** T1001252. EBCDIC.
- Output Fidelity:** Character, Word, Line.

Buttons at the bottom: OK, Defaults, Cancel, Help.

5.6.6.8 Output Fidelity

Like the Use Text Rules option, the Output Fidelity options can be used to trade off between speed, file size, and output fidelity.

Only text printed in substituted fonts will be impacted by the Output Fidelity options, whereas text printed as image will never be impacted.

Three methods are provided for Output Fidelity,

Character

This method places each character individually according to the metrics of the Windows font. provides the greatest fidelity, it causes the driver to run slower and increases the size of your output file.

If the AFP character set that you are substituting has metrics that closely match your Windows fonts, this method is rarely used unless you do find incorrect character placement in the AFP output.

Word

This method places each word individually according to the metrics of the Windows font, thus providing a good compromise between speed, size, and fidelity. Recommended for most situations.

Line

This method places each line individually according to the metrics of the Windows font, thus generating the smallest output files that will be printed much faster.

Though this method might cause words to overlap in some cases, it provides considerable fidelity when your document is composed of individual lines in the same font and proper font substitutions have been set up in the AFP Printer.

The screenshot shows the AFP Printer configuration dialog box. It is divided into several sections:

- Font Type:** Three radio buttons are present: AFP Raster Fonts, AFP Outline Fonts, and TrueType Fonts.
- Text Support:** Two radio buttons: Basic and Enhanced Color.
- Checkboxes:** Use Text Rules and Maintain Text Order.
- Font Process Table:** A section for configuring fonts. It includes:
 - For Font:** Three dropdown menus for Name (Arial), Style (Regular), and Size (12).
 - Use AFP Character Set:** A text box containing 'COH200B0' and three buttons: Add, Modify, and Delete.
 - TrueType Font Options:** Three radio buttons: Create Reference, Create Inline Resource, and Generate Image.
- Code Page:** A text box containing 'T1001252' and a checkbox for EBCDIC.
- Output Fidelity:** Three radio buttons: Character, Word, and Line.

At the bottom of the dialog are four buttons: OK, Defaults, Cancel, and Help.

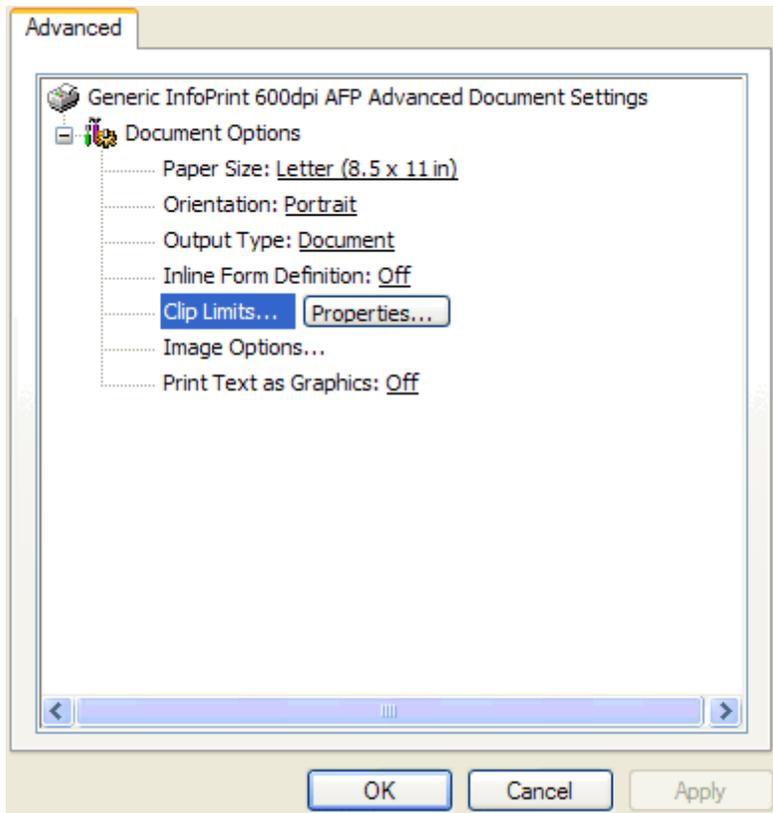
5.6.7 Print text as image

This option allows you to print text as vector-based font objects or rasterized images.

When this option is set to On, the AFP Printer processes text in your PC document as text wherever possible with graphics and shading being produced as image, and it makes it more efficient to produce text-based overlays and documents in terms of both the file size and the speed of viewing and printing.

When this option is set to Off, all text-based contents are processed as a series of images rather than as vector-based text.

We highly recommend this option to be set to On unless you find that certain text is missing or certain type of fonts are misinterpreted in the output AFP docs.



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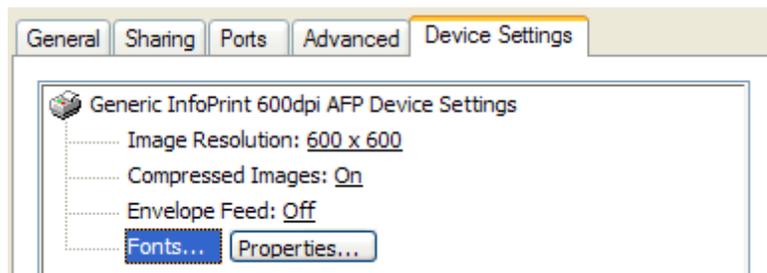


6 More Advanced Options

Color Management options are available in the Color Management tab of the AFP Printer Properties dialog, after you run the following command in Start->Run,

```
rundll32.exe printui.dll, PrintUIEntry /p /n "AFP Printer"
```

Image Resolution and Compressed Images options can both be found in the "Device Settings" tab,



6.1 Color Management

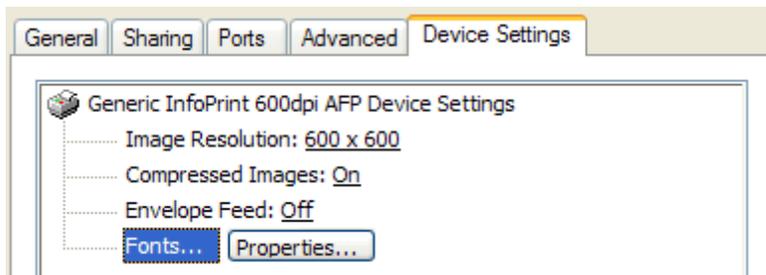
Color Management options are only available on Microsoft Windows 10/8.1/8/7/Vista/2008/2012 or later operating systems, which can be found when you can go to your Control Panel->Printers and Devices, and right-click on the "AFP Printer", and then choose "Properties".

Color Management options are on the Color Management tab of the AFP Printer Properties tab, and you can specify an ICC profile for color space conversion.

6.2 Image Resolution

Image Resolution can either be 300x300 or 600x600 DPI (Dot Per Inch). The principle of the choice is to match your target printer.

Most laserjet printers, such as IBM, Oce, InfoPrint printers, use AFP resources at 300 dpi even if they subsequently print the output at 600 dpi.

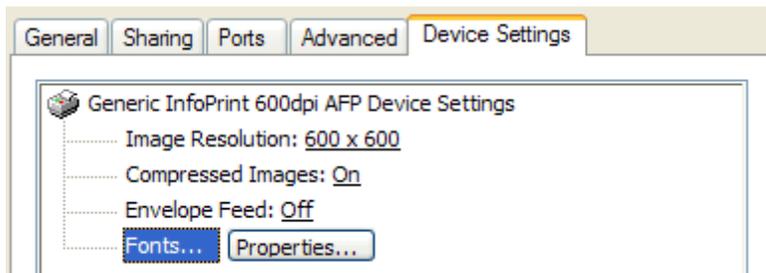


6.3 Image Compression

Compressed Images option is set to On by default. If you turn this option off, you get larger AFP document, page segment, or (medium) overlay.

Most laserjet printers, such as IBM, Oce, InfoPrint printers, is capable of decompressing images when a AFP document, page segment, or (medium) overlay is printed.

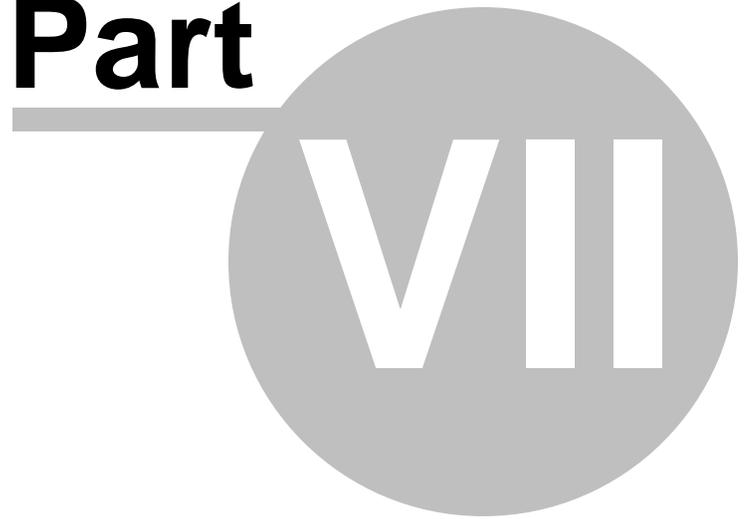
This option is set to Off only when the target printer is old and does not support image compression.



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7 Viewing AFP

AFP document, page segment, medium overlay, and overlay can all be viewed by IBM AFP Workbench Viewer, a free program that help you view and print AFP docs.

There exist many 3rd-party AFP viewers, but some of them can not interpret or present AFP data stream correctly.

7.1 IBM AFP Workbench Viewer

IBM AFP Workbench Viewer Plug-in for Microsoft Internet Explorer
<ftp://ftp.infoprintsolutionscompany.com/frominfoprint/Printers/products/workbench/windows/service/gnsp32dm.exe>

IBM AFP Workbench Viewer Standalone application
<ftp://ftp.software.ibm.com/printers/products/workbench/windows/service/ipsafpwb.exe>

Both the plug-in and the standalone application are able to view and print the AFP document, page segment, medium overlay, and overlay with the following file extensions on Microsoft Windows 10/8.1/8/7/2000/XP/2003/Vista/2008/2012 and later operating systems.

Document: *.afp, *.AFP
Page Segment: *.psg, *.PSG
Medium Overlay: *.oly, *.OLY
Overlay: *.oly, *.OLY

The following type of resources are also supported by the IBM AFP Workbench Viewers,

Form Definition: *.fde, *.FDE
JFIF: *.DOR, *.jpg, *.JPG, *.jfif, *.jpeg
GIF: *.DOR, *.gif, *.GIF
TIFF: *.DOR, *.tif, *.TIF, *.tiff, *.TIFF
CHARSET: *.240, *.300, *.OLN, *.oln, *.Oln, *.fnt
CODEPAGE: *.fnt
CODEDFONT: *.FNT

IBM AFP Workbench Viewers only allow you to view and print AFP document but does not create AFP document, page segment, medium overlay, or overlay. To create AFP docs, you are suggested to install the AFP Printer, which can be obtained from,

http://www.afpdriver.com/AFPPrinter_Setup.exe

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8 Purchase

Why to buy?

The evaluation copy of the PDF2AFP Transform Server software expires after 15 days. You can purchase the full version of the PDF2AFP Transform Server software from our resellers worldwide.

For more information on purchasing,

<http://www.ipdsprinter.com/order-PDF2AFP-transform-server.html>

Billing & Payment

Billing currency: USD, EUR, GBP, AUD, CAD, JPY, CHF.

Payment options: Credit card, Debt card, PayPal, Wire Transfer, Bank Check, Purchase Order etc.

NOTE: The simplest and fastest way to buy our software is to order it Online.

Benefits of Purchase & Registration

After you purchase the full version, you will receive:

- Use of the software beyond the 15-day trial period
- No registration reminders
- No hidden watermark on AFP files
- Unlimited free upgrades
- Product support by e-mail totally free.

Delivery Options

You can choose either of the following delivery methods:

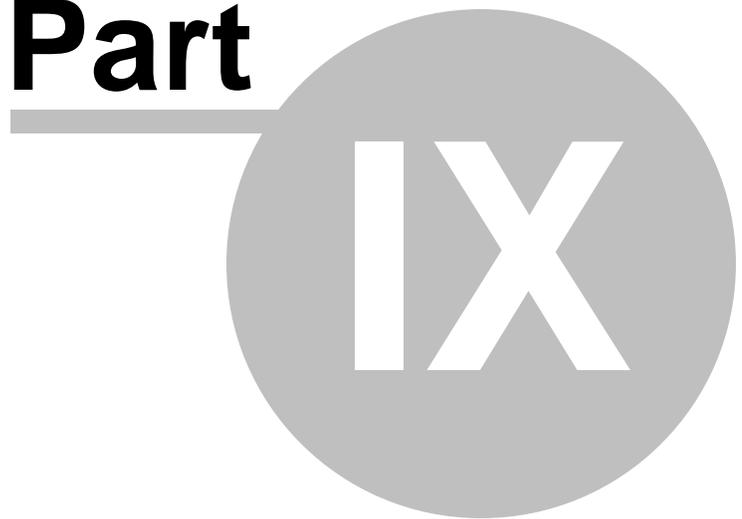
1) Download: You will receive a download link to the full version immediately after your order is processed.

2) Download + CD: You will receive a download link to the full version, and the full version software will also be mailed to you on one CD-ROM.

Top Level Intro

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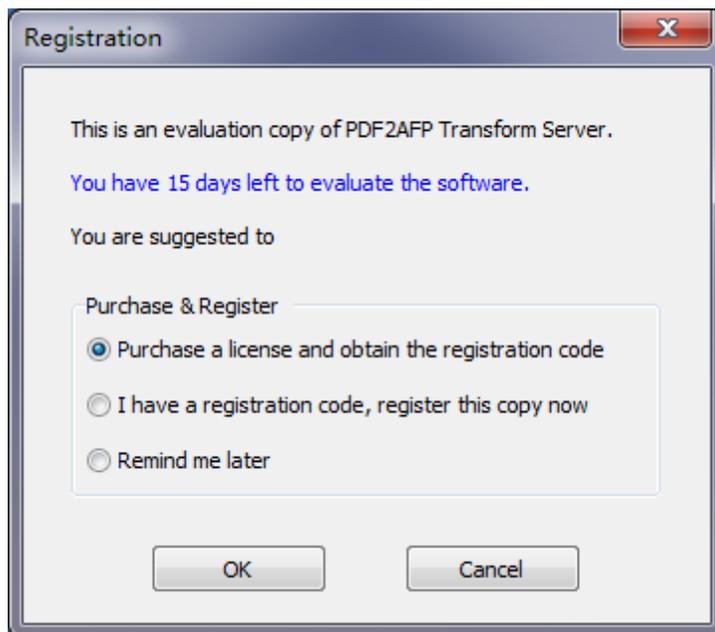
9 Registration

How to register your copy of PDF2AFP Transform Server?

Before registration you need to obtain a valid license code to turn your evaluation copy into full version copy. If you don't have a license code, you can purchase one from our store,

<http://www.ipdsprinter.com/order-PDF2AFP-transform-server.html>

To register the PDF2AFP Transform Server software with your license key, you should provide your license key in the Registration Reminder window. The license key can be found in the order confirmation email sent by our reseller.



If you do not wish to register, just choose 'Reminder me later'.

If you have trouble in registering your copy of the PDF2AFP Transform Server, feel free to contact our support team at support@ipdsprinter.com

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10 Support

If you have any question, feel free to contact us.

Contact Sales Representative

sales@ipdsprinter.com

Contact Technical Support Staff

support@ipdsprinter.com

Contact Reseller in North American

Share-it
c/o Digital River, Inc.
10380 Bren Road West
Minnetonka, MN 55343
USA

Languages: English

Phone: +1 952 646-5747 (for calls from outside the U.S.) or +1 800 903-4152 (for calls within the U.S.)

Fax: +1 952 646-4552

Contact Reseller in European

Share-it - Digital River GmbH
c/o Digital River Ireland Ltd.
Unit 153
Shannon Free Zone West
Shannon Co. Clare
Ireland

Languages: English, German, French, Italian, Spanish and Portuguese

Phone: +49 221 31088-20

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