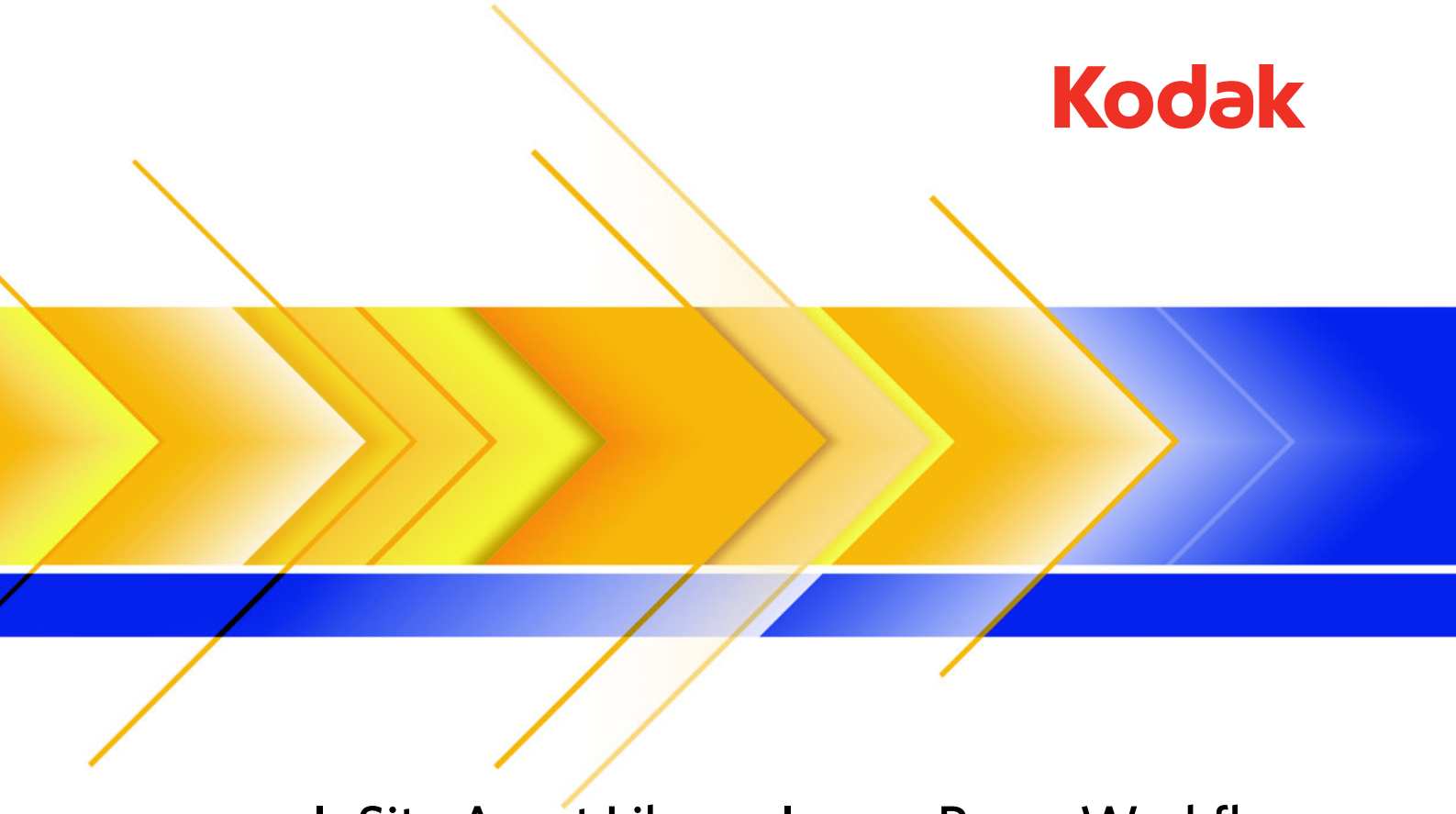


InSite Asset Library Image Proxy Workflow

For Printers

User Guide

English

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Overview

This guide provides the following information:

- What the Kodak® InSite™ Asset Library image proxy workflow is, and how it differs from a traditional OPI workflow
- Limitations of the image proxy workflow
- How proxy images work with transparency in an image proxy workflow

This guide is for printers who receive files from their customers that contain Asset Library proxy images and want to know how to successfully process the files through their Kodak Prinergy® workflows. Information for designers who create these files is provided in *InSite Asset Library Image Proxy Workflow For Designers User Guide*.

Although this guide provides a brief explanation of image proxy workflows, it assumes that you have some prior knowledge of OPI workflows.

OPI Background

Asset Library uses the term "image proxy workflow" rather than "OPI workflow" because the Asset Library workflow provides significant advantages compared with classic OPI and has a different usage. However, the image proxy workflow is based on OPI, so we must begin our discussion with OPI.

OPI (Open Prepress Interface) is an extension to the PostScript® language that enables automatic replacement of low-resolution placeholder (or proxy) images with their high-resolution originals before printing. OPI was created to make page files easier to handle and transmit. The printer would generate small, down-sampled proxy images (called FPOs, which means For Placement Only) from large scanned images and then send these FPOs to the designer to place into the layout instead of the large images. This meant layout files were smaller and easier to manipulate. When printing to a high-resolution device, the printer's software would recognize the FPOs in the page layout and automatically swap them for the high-resolution images.

In a classic OPI workflow, the designer places the FPO in the layout and then, when printing as PostScript (or PDF), selects the option **Omit Images**. The layout software then places OPI comments into the PostScript file but does not place the FPO itself into the PostScript file. The resulting file is called "thin" PostScript. At the printer, OPI merging software scans the PostScript file for the OPI comments and then searches the printer's image database to find the high-resolution image that matches the FPO file name. The high-resolution image is then merged into the PostScript file (or "swapped" for the comment), creating "fat" PostScript.

One problem with thin PostScript files is that the placed FPOs cannot be viewed prior to the prepress OPI merge, since the images are not in the file. To get around this, the designer may choose to print PostScript from the layout software but with **Omit Images** off, so that the FPO image is actually visible. This is called "chunky" PostScript because it is the low-resolution (FPO) version of the image that is included rather than the high-resolution version. The layout software still places OPI comments into the generated PostScript, so the OPI merge engine is able to find the high-resolution image and swap out the FPO.

The FPO is an EPS file that can contain three parts, depending on the FPO generating software (also called a Sampler) that is used to create the FPO:

- OPI comments
- A screen preview image—enables you to see the image on screen
- A print preview image—enables you to see the image when printed

Generally, the Sampler creates the FPO image at 72 dpi and places it into the screen preview portion of the file. If the Sampler also provides an option to include a print preview image in the file, the print preview image can be created at a high or low resolution. In the case of a high-resolution print preview image, more data is included. So it is possible for the size of the FPO file to be larger than the file size of the original image, although this is unusual for images generally used in professional quality publications.

Classic OPI has a number of advantages:

- Generation of PostScript from the layout software is much faster (since large images are not included).
- The page files transmitted to the printer are smaller, so sending them electronically is easier.
- High-resolution images can be edited separately from the page layouts and brought together only in prepress.

However, it also has a number of disadvantages:

- The merge operation depends on file names to find the high-resolution image. This means that the image may not be found or—worse—that the wrong image may be substituted.
- Image effects cannot be applied in the layout software, since they would be applied to the FPO and lost when the high-resolution image is swapped in.
- Many applications remove OPI comments (for example, Adobe® Acrobat® Distiller® software has an option to do so); therefore, you must take care when processing page layout files prior to the OPI merge.
- If chunky PostScript is generated, it is possible that the FPOs can mistakenly make it onto plate and even onto the press.
- It is problematic to mix placed FPOs and placed high-resolution images. (See *Mixing Classic OPI, FPOs, and High-Resolution Images* on page 6.)

Image Proxy Workflow Overview

The Asset Library image proxy workflow is similar to a classic OPI workflow, but differs in a number of key ways.

To generate an FPO in Asset Library, the designer selects an image in a supported format (EPS, DCS, TIFF, JPEG, PDF) and then downloads it as an FPO and places it in their layout. (By default, the screen preview and print preview portions of the FPO are each at 72 dpi, although an administrator can change the default resolutions and can specify whether FPOs will contain print previews.)

The OPI comments included in Asset Library FPOs contain both the name of the image and a unique database ID. This ID is "globally unique", meaning that it can be used to identify the image uniquely amongst all other available images.

When the designer prints PostScript from their layout software, they must *not* select **Omit Images**. The resulting chunky PostScript file contains the FPO image, including its embedded OPI comments.

Tip: An easy way to check if Asset Library OPI comments are included in the PostScript or PDF file printed from the layout software is to open the file in a text editor and search for **%ALD** in a PostScript file, or **OPI** in a PDF file. For example:

```
%ALDImageFileName: TwAm:/24 April OPI files/tiff images/IP Image 1.tif
%ALDImageID:
CSW:TW;SiteId:E6F21CD656674CA484935D6151C59D3A;DocumentId:
7090E5282F3A02A32F3A02A335730D0D;VersionId:
9903A2252F3A02A32F3A02A335730DB6;RenditionClass:default
%ALDImageDimensions: 289 361
%ALDImageCropRect: 0 0 289 361
%ALDImageCropFixed: 0.000000 0.000000 288.000000 360.000000
%ALDImagePosition: 0.000000 0.000000 0.000000 360.000000 288.000000 360.000000 288.00
%ALDImageResolution: 150 150
```

Figure 1: Asset Library OPI comments in a PostScript file

```
16 0 obj<</OPI<</1.3<</Version
1.3/ID(CSW:TW;SiteId:E6F21CD656674CA484935D6151C59D3A;DocumentId:
7090E5282F3A02A32F3A02A335730CB7;VersionId:
9903A2252F3A02A32F3A02A335730D60;RenditionClass:default)/F(TwAm:/24
April OPI files/pdf images/IP Image 34.pdf)/CropFixed[0.0 0.0 474.0 474.0]/CropRect[0
0 474 474]/Size[474 474]/Type/OPI/Position[0.0 0.0 0.0 474.0 474.0 474.0 474.0
0.0]>>>>/Subtype/Form/Length 93/Filter/ FlateDecode/Matrix[1.0 0.0 0.0 1.0 0.0 0.0]/
Resources<</XObject<</Im0
14 0 R>>/ProcSet[/PDF/ImageC]/ExtGState<</GS0 10 0 R>>>>/BBox [-32767.0 32767.0
```

Figure 2: Asset Library OPI comments in a PDF file

Note: Readable text may not be visible in some types of compressed PDF files. If the PDF file is compressed, it is possible that you will see only a series of indecipherable characters when you open the file. Compression is supported in PDF 1.5 and later.

When you process the file through your Prinergy workflow, the Prinergy normalize function detects the embedded Asset Library OPI comments and uses the unique database ID to get the path to the high-resolution image from Asset Library. The high-resolution image is then swapped for the FPO, as in classic OPI.

The settings to control the Asset Library FPO swap are found in the **Normalizer** section of the Prinergy Process Template Editor. Normal OPI must be enabled before the Asset Library (referred to as **AssetManager** in current version of the Process Template Editor) parameters are enabled. The template has a check box to specify whether Asset Library processing should be done. If this is selected, there are also settings to specify whether failure to find an image in Asset Library should prevent normal Prinergy OPI folder searching. In addition, there is a verbosity setting that controls how much information is logged to the Prinergy history. **Verbose** logs a history message for each image, **normal** logs a message for each page, **terse** logs a message for each input file, and **off** disables all logging related to Asset Library FPO swaps.

Compared to classic OPI, the Asset Library image proxy workflow has the advantage of not linking the name of the FPO with the high-resolution image; there is no chance that the wrong high-resolution image will be swapped in, and there is a much lower chance that an image won't be found. In fact, after an FPO has been generated from Asset Library, you can rename it or change its location to another folder or even another library, and the high-resolution image will still be found. Note, however, that you cannot *copy* the image and then delete it from its original location, because the new copy has its own unique database ID. Also, of course, if the image is deleted from Asset Library, the high-resolution will not be found.

Image Proxy Workflow Limitations

This section describes some common problems that occur with the Asset Library image proxy workflow. For information specifically about problems with transparency, see *Transparency and Asset Library Image Proxy Workflow* on page 8.

Image Edits

The Asset Library image proxy workflow has the same advantage as classic OPI in that the high-resolution image can be edited even if the FPO is used in the page layout. But this also means that it is possible to get the wrong version of the image. You should exercise caution while uploading to a library that overwriting of an image will not cause already generated FPOs to result in the wrong image on a page.

For example, an image of a dog is uploaded to Asset Library and then downloaded as an FPO and placed in a layout. The high-resolution image is then downloaded and modified so that a hat is placed on the dog's head. The revised image is uploaded to the same Asset Library library, overwriting the original image. The FPO image in the layout does not appear to have changed, and the layout is printed to PostScript. However, when the PostScript file is processed through the printer's Prinergy workflow and OPI swapping occurs, the high-resolution image of the dog wearing a hat is swapped for the FPO image in the layout (in which the dog has no hat). This may cause confusion, since the designer who placed the original FPO image in the layout is not aware that the image was revised.

In general, you should only overwrite when the new file is an improvement to the image that will be desired in all usages. If the changes alter the fundamental nature of the image, you should rename the file so that the overwrite will not occur (for example, rename **dog.tif** to **dog_with_hat.tif**), and then download and place a new FPO of the revised file.

Image Effects

A feature of the newer versions of Adobe InDesign® and QuarkXPress® software is image editing (for example, feathering the edge of an image). Often these image effects result in the removal of all OPI comments—including the database ID—when PostScript is generated.

Not all image effects will cause this. For example, drop shadows are okay when processed using InDesign CS2 (although not when processed using InDesign CS1). Some image effects are also preserved when generating PDF files. Most transparency effects to Asset Library FPO files will be preserved and transferred to the swapped high-resolution image.

Caution is recommended and you will need to experiment with various effects to see if they can be used safely with Asset Library FPOs. However, anything that alters the image itself will not work properly with an OPI or image proxy workflow with PostScript generation. The safest approach is to not use FPOs if you want to use image effects.

Print Previews

InSite Creative Administration includes a setting (**Generate printable FPO**) to enable embedding of print previews in generated FPO previews. You will generally want to turn this option off, to make FPO file sizes smaller. However, this means that when the designer prints a QuarkXPress or InDesign file that contains an FPO, the FPO will not print in the document; the area where the FPO is placed will print blank, although OPI swapping is maintained.

In QuarkXPress, the solution is to select **Low Resolution** in the Print dialog box, under **Options > Pictures > Output**. This will force **QuarkXPress** to print the screen preview of the FPO. In InDesign, the solution is to select **Print > Graphics > Images > Send Data** and select **Proxy**.

Also note that if you turn off the **Generate printable FPO** option, when the designer prints a PDF file from an InDesign document that contains an FPO, the OPI comments will be removed and no image swap will occur when the PDF file is placed into Prinergy. In other words, InDesign requires a print preview in the FPO file when generating PDF with OPI comments intact.

Mixing Classic OPI, FPOs, and High-Resolution Images

It is generally not possible to generate PostScript with a combination of thin and chunky behavior; you must either **Omit Images** or not. The best solution is to print thin and chunky pages into separate files. However, this doesn't allow for a single page that contains an FPO and an omitted image.

QuarkXPress 5.0 and later does include an OPI extension that allows individual images to either have or not have QuarkXPress-generated OPI comments. This is found under **Utilities > Usage > OPI** in the QuarkXPress software. Normally, QuarkXPress automatically generates OPI comments for placed images, but with this tool, it is possible to select which individual placed images will have QuarkXPress OPI comments attached. However, the use of this tool either erases or rewrites embedded OPI comments in Asset Library FPOs, and when rewritten, the new **QuarkXPress** OPI comments do not contain the unique database ID. This means that the link to the high-resolution file in the Asset Library database is lost and the Prinergy software will not swap the FPO (at least not through the Asset Library database; Prinergy will still do folder path OPI if enabled). Therefore, when using QuarkXPress software with Asset Library FPOs, you must disable the OPI extension.

It is possible to place a mix of high-resolution and FPO images and then print with **Omit Images** off. However, this will cause problems when Prinergy refines the PostScript, since the layout software inserts OPI comments even when **Omit Images** is off. This means that Prinergy will attempt to swap both the FPOs and the high-resolution images, resulting in error or warning messages from the refine process. The simplest way around this is to print pages with FPOs separately from those with high-resolution images and then to process each with different process plans in Prinergy. However, this may not always be possible. In this case, the best that you can achieve is to set the Asset Library FPO processing to fail if the images are not found and to set classic OPI processing to only warn.

PDF OPI and Prinergy

At the time of writing, Prinergy software has some significant issues related to both OPI swapping of FPOs in PDF input files, and OPI swapping of FPOs whose high-resolution format is PDF. The problem is that Prinergy converts the PDF page or FPO to PostScript before doing the swap. Specifically this means that:

- Transparency effects are flattened (see *Transparency* on page 7).
- Performance is slower (compared with PostScript OPI) because of the time required to convert.
- The conversion to PostScript is not perfect and can introduce problems in the generated PostScript (which is then changed back into PDF by the normalize function).

The simplest solution is to not send PDF files to Prinergy when using FPOs, but this is not generally acceptable because of the advantages of the PDF workflow (for example, the use of Kodak Prepare). The performance problem must simply be lived with; vigilant checking of generated PDF pages in Prinergy will suffice.

For customers running both Prinergy and Asset Library software, Prinergy 3.1 introduced the ability to do PDF OPI directly without conversion to PostScript. Prinergy 3.1 provided this functionality as a beta feature; it is fully released in Prinergy 4.0.

Transparency

With the CS1 version of its software, Adobe introduced "live" transparency to graphic arts. While this provided powerful new options to designers, it introduced significant complexity to prepress, and in particular, in an image proxy workflow. This section provides some background about transparency and discusses the problems and possible solutions when using an Asset Library image proxy workflow with transparency.

Background

Transparency has been around for a while. It has been available inside Adobe Photoshop® software as an option when layering objects on top of one another, but when exporting to a nonnative format like EPS or TIFF, Photoshop layers and transparency had to be rasterized, or flattened. Today, some software supports, as well as exports, file formats that maintain transparency.

Transparency is an effect where an overlaying object allows objects stacked directly underneath to be visible. Flattening transparency, or flattening, is defined as the process where the visual effect of transparency is replicated by using a flat layer of opaque objects, often achieved by rasterizing layers of vector objects, portions of vector objects, and images. Sometimes it is easy to overlook that a transparent effect has been used on a page because transparency can occur when an object or image that was already transparent is imported into a layout, or when an object uses a pattern or brush that itself uses transparency.

Currently, no versions of QuarkXPress software support transparency, either natively or via an imported, placed file that contains transparency. There is no workflow through QuarkXPress that can contain transparency.

Transparency and Asset Library Image Proxy Workflow

InDesign and Illustrator software (CS1 and CS2 versions) do support transparency in many modes and forms, so consideration must be given to Asset Library FPOs and transparency interactions.

Images With Transparency

The only image format that Asset Library supports for FPO generation that can contain transparency is PDF. As described above, the PDF image is flattened before it is swapped for the FPO during the Prinergy refine process. Generally, this will result in correct behavior as long as it is okay that this image flattening occurs only for the image and not with any other overlapping objects on the page, as discussed further in the next section.

Pages With Transparency

The simplest option is to not mix transparency and Asset Library FPOs (or any OPIed image). Although we describe one option that does allow for pages with transparency and FPOs, the workflow is still complex and problematic. If designers will be using transparency, they should simply place high-resolution images.

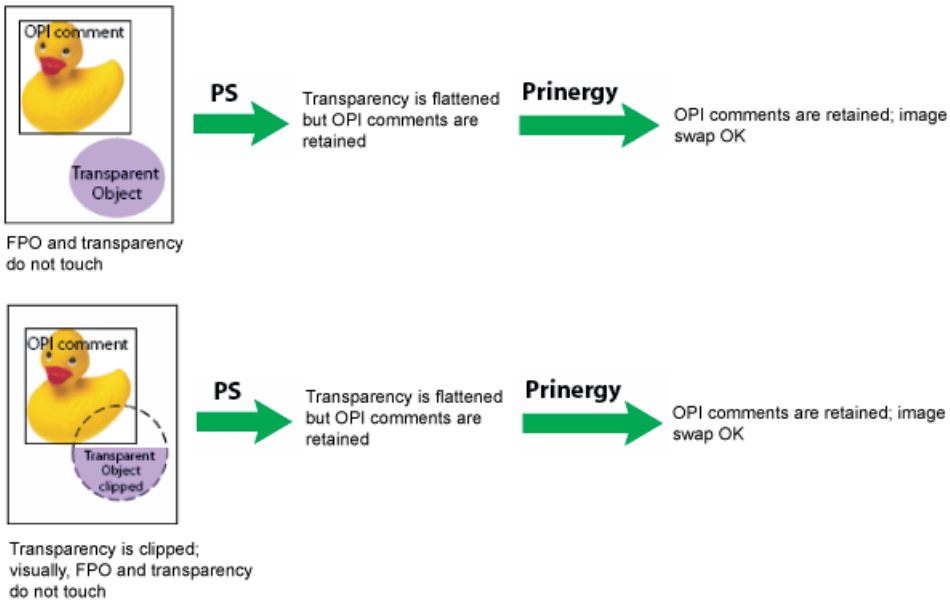
Tip: It can be easy to miss a transparency effect on a page. InDesign has two ways of detecting transparency effects. First, on the **Pages** palette, pages with transparency appear with a checkered pattern, while pages with no transparency appear as solid white. Second, you can select **Window > Output > Flattener Preview** to highlight transparency at the object level using several selectable modes. Illustrator CS and CS2 also have a transparency flattener preview tool.

PDF from Distiller

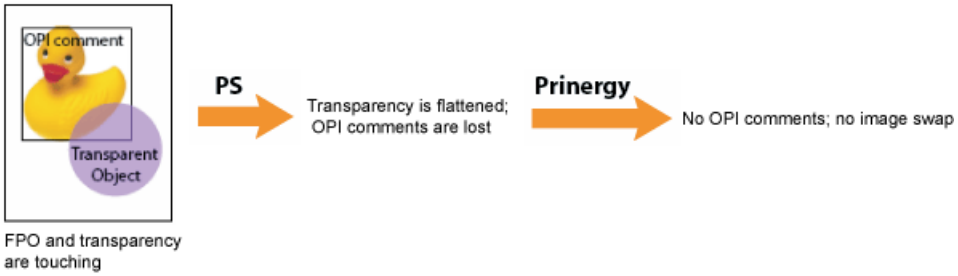
If PostScript is generated from InDesign or Illustrator software and then distilled, it is possible to mix transparency and placed FPOs, but you must ensure that these FPOs and transparent objects do not overlap. It is not possible to place a transparent object over or under an FPO. The problem is that when the PostScript is generated, the transparency will be flattened. If the transparency overlaps an FPO, it is the FPO that is altered, removing the OPI comments.

The following diagram illustrates this workflow. The duck element in the layout is the FPO.

If the transparency and the FPO do not overlap, or the transparency is clipped so that visually the transparency and the FPO do not touch, and the layout is exported as a PostScript or EPS file, the transparency is flattened but the FPO's embedded OPI comments are retained.



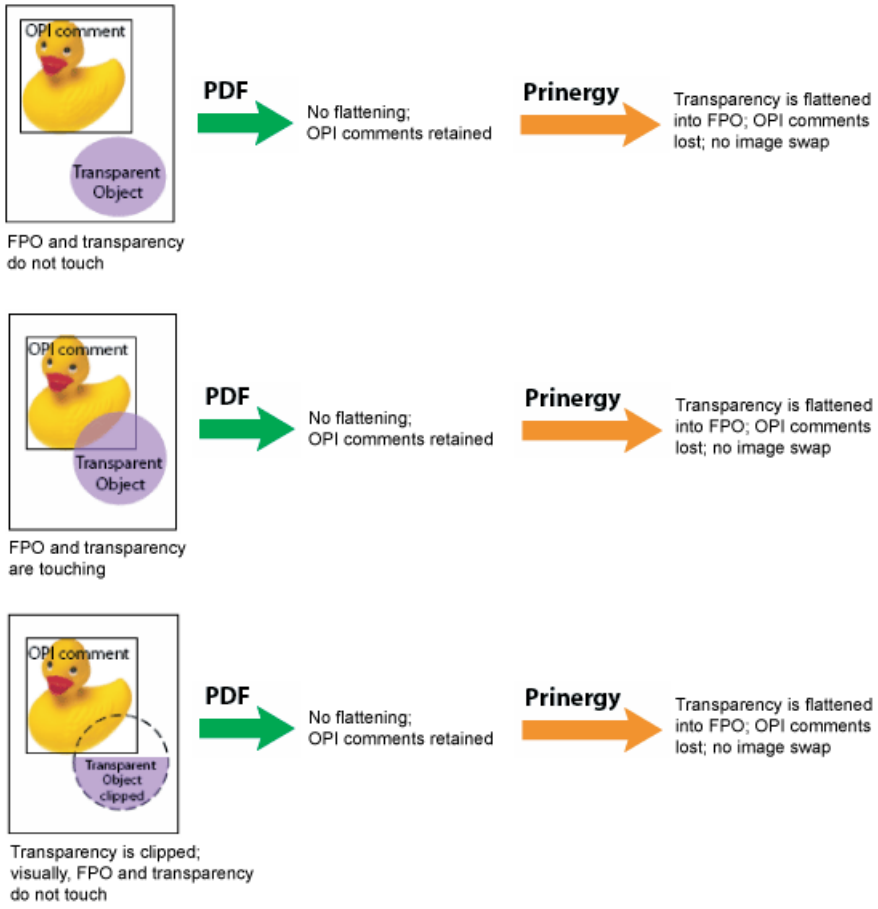
However, if the transparency visually overlaps the FPO, and the layout is exported as a PostScript or EPS file, the transparency will be flattened into the FPO and the FPO's embedded OPI comments will be lost.



PDF Export

If transparent effects are used, PDF export out of InDesign software will not allow for the use of placed Asset Library FPOs. The generation of PostScript during the Prinergy refine process removes all OPI comments if any transparency is used anywhere in the refined file. (Prinergy 4.0 removes this limitation by providing the ability to do PDF OPI directly without conversion to PostScript. This functionality was introduced as a beta feature in Prinergy 3.1 for customers running both Prinergy and Asset Library software, and is fully released in Prinergy 4.0.) In addition, InDesign and Illustrator CS1 remove all OPI comments when doing PDF export. So even when the Prinergy problem is resolved, only InDesign and Illustrator CS2 will support the desired workflow.

Just for informational purposes, we include the following diagram, which illustrates how a page in InDesign or Illustrator CS2 is flattened when it is exported as a PDF file.



Clipping Paths in an Image Proxy Workflow

Asset Library FPOs support clipping paths for some high-resolution file types. This means you can upload to Asset Library an element of a supported file type that includes a clipping path, then download the element as an FPO and place it in a layout, and the clipping path information is retained in the FPO. Prinergy then honors the clipping path when it swaps the FPO for the high-resolution original version. Text that is wrapped around a clipping path is also retained.

The file formats for which clipping paths are honored are TIFF, JPG, and Photoshop EPS files. Note that only EPS files from Photoshop are honored; EPS files from other software applications are not supported.

A high-resolution image that contains a clipping path may or may not show the effects of the clipping path in the element thumbnail after upload to Asset Library. Photoshop EPS files show only the clipped area in the thumbnail, while TIFF and JPG files show an unclipped thumbnail. However, clipping paths are honored in all three cases, regardless of whether the clipping path is visible in the element thumbnail.

For clipping paths to be retained when an element is downloaded as an FPO and placed into an Illustrator layout, the **Generate printable FPO previews** option must be selected in InSite Creative Administration. (For more information about this setting, see the *InSite Creative Workflow and Asset Library System Administration Guide*.) Other software applications may require this option to be selected as well. The option does not need to be selected to retain clipping paths when downloading an element as an FPO and placing it into a QuarkXPress 6.5 or InDesign CS or CS2 layout; these software applications can read the element's clipping paths and preview information without this option selected.