



Adobe PDF Print Engine enables integrated, end-to-end PDF workflows for printing graphically rich content, including variable content for personalized publishing.



Adobe PDF Print Engine

The Adobe PDF Print Engine (APPE) is a common rendering engine technology packaged as a software development kit (SDK). APPE can be the basis for a variety of products for previewing and printing Adobe Portable Document Format (PDF) documents at different stages of the professional print workflow. APPE uses a native PDF imaging model, eliminating the need to convert PDF documents to PostScript for printing, and processes jobs under the control of jobs specified in the Job Definition Format (JDF). The Adobe PDF Print Engine combines the strengths of Adobe PDF for content definition with the power of JDF for workflow automation.

As print consumers and design applications have matured, print workflow applications have had to deal with the growing number of problems and idiosyncracies inherent in PostScript-based workflows. Utilizing APPE will enable them to circumvent these problems by supporting more advanced design features and implementing a more streamlined approach.

APPE and transparency

Since the PostScript language is predicated on an opaque object model, transparent objects (such as drop shadows) must be converted, or “flattened”, to opaque objects. Objects are often flattened at the early stages of a print workflow. Additional steps (such as the ones below) occur next, and at the end the entire job is prepared for the final output device.

Transparent objects, therefore, are subject to two transformations: an “early” rasterizing process to flatten transparent objects; and a second “late-stage” transformation at the end of the job, to rasterize the entire job for the output

device. Because two operations are required, and occur at different ends of the workflow, often by different individuals and/or processes, problems occur:

1. **Incorrect colorspace conversion during early flattening** - in many instances the colorspace of the target device is not known or not specified correctly. As a result, any color conversion which occurs during the “early” stage is not consistent with conversions that occur at the “late” stage.
2. **Incorrect resolution during early flattening** - target resolution is often not known (or incorrectly specified) during “early” flattening. Like early colorspace conversion, this can result in inconsistencies between early and later stages.
3. **Early flattening prevents late-stage edits** - objects that are flattened at the early stages lose their “intelligence” as they’re converted to raster data. This prevents the possibility of later-stage edits to correct/update data, and often results in much more complex, time-consuming workflows.

APPE supports “live transparency”; since PDF inherently supports transparent objects, there is no need to “pre-process” them. Transparent objects therefore retain their intelligence until the final production stage. And since no operations are performed on the job, no errors are introduced. Transparent objects are rendered at the final stage, along with all the other content in the job, ensuring consistency and compatibility with the target output device.



About Datalogics

For over 40 years, Datalogics has been providing innovative electronic document-focused technology to end-users and OEMs alike. In addition to our high performance batch-pagination composition systems, we are an Adobe portfolio company and key channel for several of their developer technologies.

Datalogics and Adobe

Datalogics has been working with Adobe Systems, Inc. since 1993. We are the primary source for the Adobe PDF Library and other technologies. Our unique relationship with Adobe has enabled us to extend the reach of these toolkits by porting to other platforms, including 64-bit Windows, HP-UX and Solaris.

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Generating job previews using APPE

Job previews are a vital part of any print workflow system. Print production personnel as well as consumers rely on online- and hardcopy previews as assurances of final job quality.

While PostScript is required at the final stage, PDF is often used as the preferred file format for job previews (PostScript files are too large; PostScript viewers are not as available or feature-rich as Acrobat). Since

different rendering engines are used in preview vs. final output, the possibility of discrepancies between the two exist. APPE-based applications use the “Adobe Common Renderer” (ACR) for both previews and final output rasterization, thus ensuring that what you see is indeed what you get.

Components

- **A JDF Print Processor** - this component processes incoming JDF job tickets, acts as the controller for APPE, and includes messaging services for interacting with external systems.
- **Adobe Common Renderer** - this component is the workhorse of APPE. Its capabilities include trapping, imposition, rasterizing to a target device (whether it's a monitor for preview, or a final output device), and advanced color management. Its actions are controlled by the JDF Print Processor.

System Requirements

Platform	Operating System	Compiler
Windows (x86)	Windows XP Professional; Windows Vista; Windows Server 2003	Visual Studio 2005 (8.0) with SP 1
Win x64	Windows XP Professional; Windows Vista; Windows Server 2003	Visual Studio 2005 (8.0) with SP 1
Apple Macintosh	Intel: OSX 10.4.6 and higher PPC: OSX 10.4.6 and higher	gcc 4.1.1 gcc 4.0.1
Linux (IA32)	Fedora 6, RedHat	gcc 4.1.1
Sun (Intel)	Solaris 10	Sun Studio 12



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