Quad/Imaging's Optimization and Handle & Prepare Workflows

Quad/Imaging utilizes 100% digital workflows for all prepress processes, from image capture to page assembly to plate imposition and platemaking. Our all-digital workflows are based on optimized PDF files: non-plateready files from clients, including "normalized" PDF files, undergo an "optimization" conversion to create streamlined PDF files that are compatible with any prepress workflow and output device. All incoming files, including plateready files also go through our standard "Handle & Prepare" process before platemaking.

Quad/Imaging's Optimization Process

Our optimization process is a critical step to ensure the files move efficiently through our workflows and print correctly on press. Quad/Imaging requires ALL non-plateready files, including normalized PDF/X-1a files, to undergo our Quad optimization process. In addition to normalized PDF files, Quad/Imaging will optimize PostScript files and current versions of QuarkXPress, and Adobe InDesign. **Quad/Imaging cannot guarantee the accuracy, integrity and stability of page files unless they undergo our Quad optimization process.**

The only exceptions to our optimization process are plateready files, including DCS2, TIFF/IT, CT/LW as well as PDFX/-1a files created with one of these Quad-certified RIPs: DALiM TWiST, PRINERGY Evo from Kodak and NEXUS ArtPro. All other PDF files are required to undergo our optimization process.

Please see "Guidelines for Preparing Digital Files" at www.QG.com > Supplier Information for more details.

The Quad optimization process utilizes a RIP that converts these incoming files into PDF/X-1a files. These optimized files will process efficiently through any workflow system, regardless of software and hardware, with maximum security and reliability. Optimization allows Quad/Imaging's prepress specialists to adjust the resulting PDF file for any output requirement.

During optimization, incoming data files are first pre-flighted to check for common errors. Our verification software confirms that the file is error-free and includes all necessary elements and instructions. After pre-flighting, OPI images are updated to the high-res. The file is exported, then "optimized," removing layers, flattening transparencies, down-sampling images, setting overprints and creating traps (trap is a Quad/Imaging requirement).

The instructions contained in each Quad-optimized PDF file support consistent and reliable file output with any workflow. The Quad-optimized PDF is ripped at each output device, providing extensive workflow flexibility since any RIP device can be used with any proofer, printer or platesetter.

Optimization vs. Normalization

Most digital prepress vendors use a traditional digital workflow in which incoming data files, including PDF files, are normalized, which means they are converted into standard PDF files for further processing in a dedicated RIP or workflow. Many normalized PDF files are NOT plateready and cannot be printed without problems. Unflattened transparency layers, for example, could erroneously conceal (knock out) text, and images may not be the proper resolution. The bottom line is that an incorrect page reproduced during a press run could result in a great financial burden.

The Normalizer is a software application - often but not always some version of Adobe Acrobat Distiller - installed as a module in a digital workflow system. Normalizers usually create PDF files with specific settings and characteristics for specific systems.

Quad/Imaging will not accept responsibility or liability for PDF files created using Adobe Acrobat, Adobe InDesign, QuarkXPress and any other PDF normalizer solution. It is impossible to keep up with the multitude of versions introduced by these software manufacturers. Although manufacturers will position their products as capable of delivering print-ready PDF files, our experience is this is not always the case. Too often, overprints are not correctly set and there is no trap in the file.

Quad Optimizer Advantages

Quad/Imaging's Optimizer possesses more powerful capabilities than a Normalizer. Our Optimizer process delivers the following benefits and advantages:

- Supports multiple file formats
- Flattens the file as needed
- Updates OPI images
- Creates proper trap and correctly sets overprint for all elements.

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Quad/Imaging's "Handle & Prepare" process

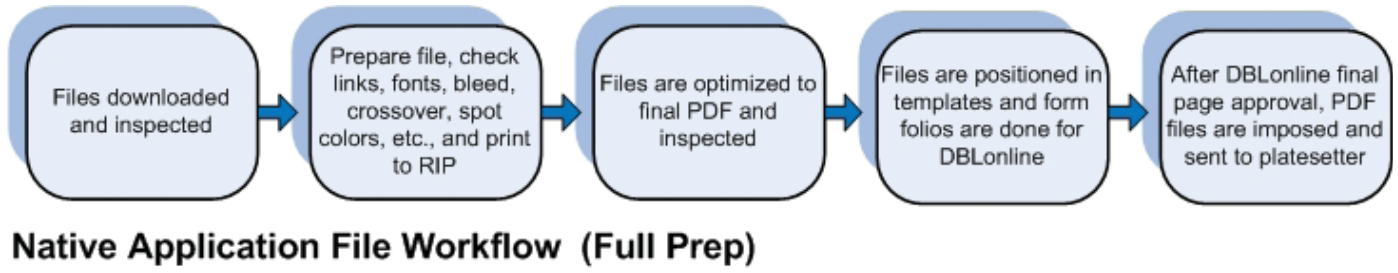
All incoming page files, both plateready files and files that must be optimized, also undergo prepress production steps that we call "Handle and Prepare."

Quad Handle and Prepare is a standardized process with a standard fee that is applied to EVERY print job. The "Handle and Prepare" process is documented in our standard operating procedures, called Quality Systems Management (QSM), and is managed in exactly the same way at all Quad/Imaging Service Centers. The Imaging QSM system is our guide for continuous improvement in our performance, allowing us to provide the highest attainable quality in prepress technology and service.

Handle & Prepare steps

1. Receive the page files digitally via FTP or by disk.
2. Download the files onto a Quad/Imaging network server.
3. Create low-res for imposition (high-res swapped at RIP).
4. Impose files in a single-page template. This creates a digital reader PDF for DBLonline, and separated preview files.
5. Inspect ripped preview files.
6. Do form folios for association with DBLonline (i.e., putting page numbers to the pages based on file-name associations).
7. Files go to platemaking after final page appproval in DBLonline.
8. Impose the page files in plate template for press.

This diagram illustrates the basic differences in our digital workflows based on supplied file types.



Native Application File Workflow (Full Prep)

PostScript & Normalized PDF File Workflow (Optimization)

Plateready File Workflow (Handle & Prepare)