BEST PRACTICES FOR PRINTING SMOOTH GRADIENTS WITH FIERY XF

The purpose of this document is to communicate best practices for printing smooth gradients with Fiery XF 6 and higher.

Purpose of "Dynamic smoothing"

"Dynamic smoothing" has been implemented to cover three use cases:

- **Gradation smoothing -** smoothes contour data gradations that have ideally already been designed as smooth gradations in a desktop publishing application, but are printed with line edge artifacts due to bit-depth restrictions in the RIPing process.
- **Raster image compression smoothing -** smoothes low contrast areas of raster image files that sometimes print with visible artifacts due to image compression.
- **Light printing area artifact smoothing -** smoothes light printing areas where a hard drop-off visual effect may be seen between 0% (media white) and 1% ink coverage.
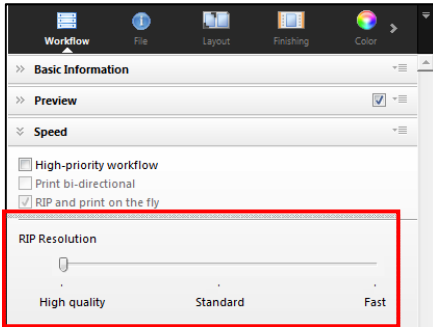
Activating "Dynamic smoothing"

The feature "Dynamic smoothing" was introduced with Fiery XF / Fiery proServer 6.0 and can be found on the "Advanced Print Options" pane of the "Output" tab:
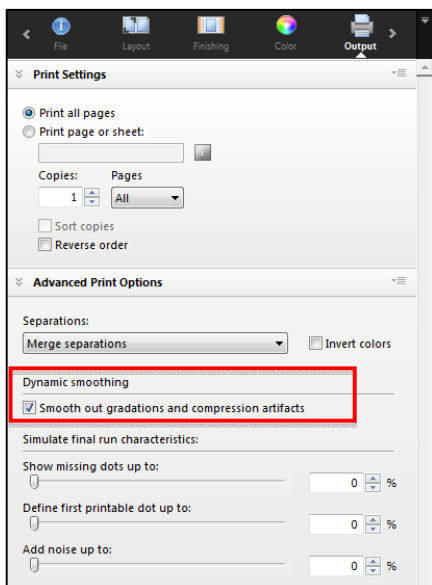
Prerequisites for using "*Dynamic smoothing*"

It is recommended that the "*RIP resolution*" in Fiery XF be set to "*High Quality*".

- Go to System Manager. In the layout area, click the workflow. On the "Workflow" tab, open the "*Speed*" pane.


"Add noise up to" remains available in the Fiery XF client for legacy reasons and for simulating analog presses. Before "Dynamic smoothing" was implemented, it was the recommended method of smoothing out gradations, but at higher levels it also adds graininess to fine contours and fonts, which is a disadvantage.

"Dynamic smoothing" is the better choice.

The "*Add noise up to*" feature needs to remain at 0% when "*Dynamic smoothing*" is selected.

- On the "*Output*" tab, open the "*Advanced Print Options*" pane and set "*Add noise up to*" to 0%:
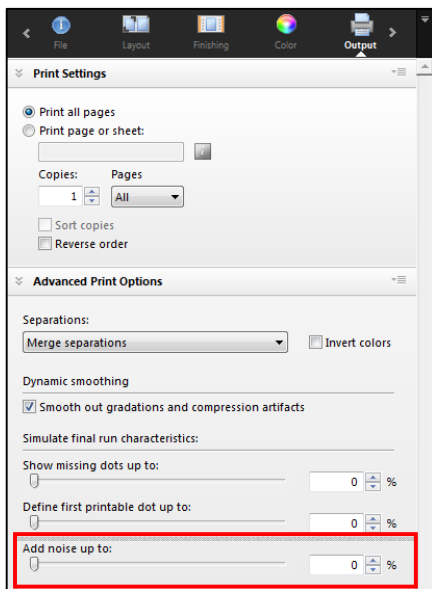
Platforms supported by *"Dynamic smoothing"*
- Windows 64-Bit
- Mac OS X

RAM requirements for *"Dynamic smoothing"*
- There are no special RAM requirements for dynamic smoothing
- For Fiery XF / Fiery proServer hardware requirements and recommendations check: http://w3.efi.com/en/fiery-wide-format/product-overview/marketing-materials

File formats supported by *"Dynamic smoothing"*
- All file formats (PDF, PS, EPS, TIFF, JPEG, etc.)

Gradation types supported by *"Dynamic smoothing"*
- 8- or 16-bit raster gradations (e.g. created in Adobe Photoshop)
- Contour data gradations (e.g. created in Adobe Illustrator or Adobe InDesign)
- Contour data gradations rasterized in Adobe Photoshop

Print engines supported by *"Dynamic smoothing"*
- Adobe PDF Print Engine
- Adobe PostScript 3 Engine

Color modes and color types supported by *"Dynamic smoothing"*
- All (!) color modes are supported
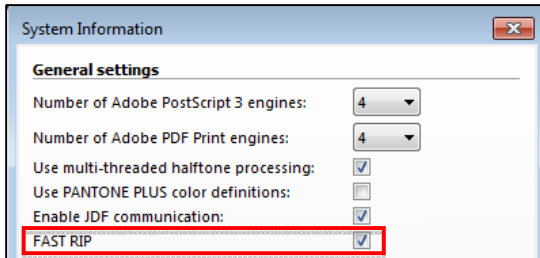- Both process and named spot colors are supported

Product configurations supporting *"Dynamic smoothing"*
- All Fiery XF 6 software-only configurations
- Fiery proServer 6.0 and higher
- Note that "Dynamic smoothing" does not require a special license – it is available for all the above configurations!

"Dynamic smoothing" and *"FAST RIP"*
- FAST (Fiery Accelerated System Technology) RIP is EFI's acceleration technology, improving both the Adobe PDF Print Engine (APPE) as well as the Adobe PostScript 3 Engine (also known as CPSI).
- FAST RIP is available exclusively on Fiery proServer 6.0 for VUTEk; it is not available for software-only Fiery XF configurations.
- Gradations are smoother if FAST RIP is selected. If *"Dynamic smoothing"* is used in conjunction with FAST RIP on a Fiery proServer, Fiery XF will first try to solve the "Gradation smoothing" use case by using FAST RIP's internal high-bit depth smoothing, but will fall back to dynamic smoothing algorithms if not successful – Fiery XF will judge the result of the smoothing automatically without any user interaction.

- FAST RIP is selected in the System Information dialog box which is accessible in System Manager's Tools menu:

System Information

General settings

Number of Adobe PostScript 3 engines:	4 ▾
Number of Adobe PDF Print engines:	4 ▾
Use multi-threaded halftone processing:	☑
Use PANTONE PLUS color definitions:	☐
Enable JDF communication:	☑
FAST RIP	☑

Note: There are circumstances where FAST RIP is not used even if it is selected. See the FAST RIP FAQ for details.