Xerox® FreeFlow® Print Server Version 8, PostScript/Legacy PDF Processing Color Workflow

Input

RIP Process

Post-RIP Process

R G B

C M Y K

SPOT

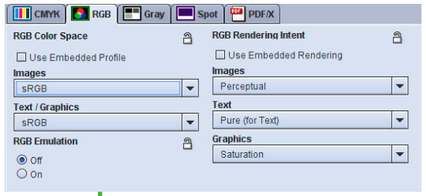
Apply AIE

– Off (default)
– Normal
– Custom

DeviceLink

RGB Color Space

- sRGB (default)
- Adobe RGB
- Apple RGB
- Color Match RGB
- Xerox Consistent Color Mode RGB
- Xerox Consistent Color Mode RGB, Gamma = 1



RGB Rendering Intent

- Saturation
- Perceptual
- Relative Colorimetric
- Absolute Color Metric
- Pure (default text)

RGB Emulation

Off (default)

On

Destination Profile

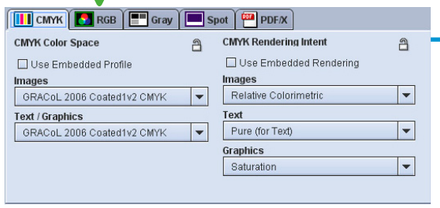
XEROX DC5000

Destination Profile

- Xerox Printer (default)
- Use Stock Profile
- (Custom)

CMYK Color Space

- GRACoL 2006 Coated1v2 CMYK (default)
- Direct CMYK
- Commercial CMYK
- Europe ISO Coated FOGRA 27 CMYK
- Euroscale Coated CMYK
- FOGRA *CMYK
- ISO Coated v2 (ECI)
- ISO Uncoated
- Japan Color 2001 *CMYK



- SWOP Coated CMYK
- SWOP Plus CMYK
- US Sheet Fed Coate CMYK
- (Custom)

Direct CMYK

No

Yes

CMYK Rendering Intent

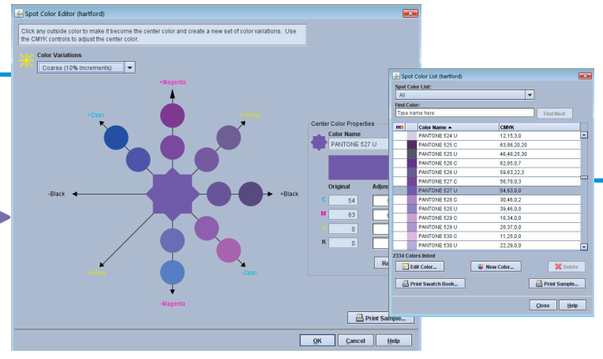
- Saturation (default graphics)
- Perceptual
- Relative Colorimetric (default images)
- Absolute Color Metric
- Pure (default text)

Spot Color Processing

Disable**

Enable (Default)

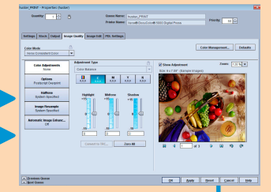
Spot Color not in table**



Spot Color Editor

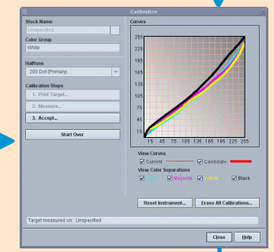
FreeFlow Print Server CMYK Recipe

*Several variants for coating type



Color Adjustments

- <Name>
- Color Balance
- New TRC
- <Named TRC>



Calibration
(by stock group)

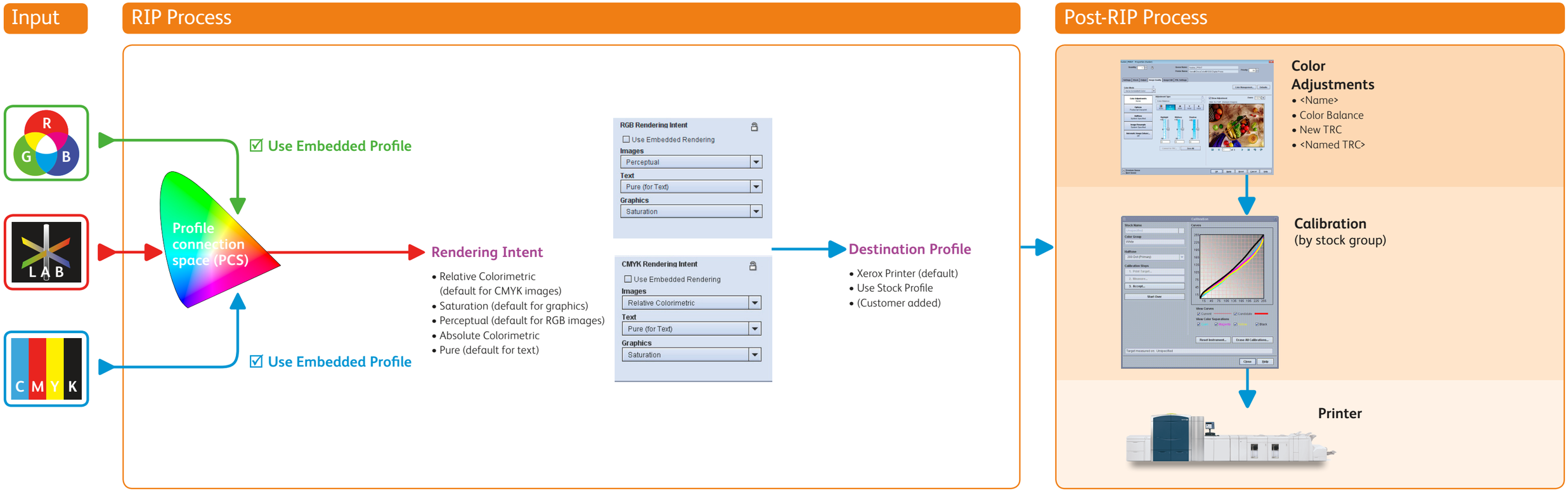
Printer

Key

- Job Properties
- RGB Data
- Spot Color Data
- CMYK Data

**Alternative color definition is used. CMYK (shown) is commonly used.

Xerox® FreeFlow® Print Server Version 8, PostScript/Legacy PDF Processing Color Workflow – Using Embedded Profile



Maximize Your Color Workflow

RGB Workflow (DeviceLink)

- Default: sRGB, optimal for office applications and direct photo printing. Adobe RGB is often used by designers working in the Adobe Creative Suite.
- Use Embedded Profile (default on iGen4): This option honors the intent of designers who associate profiles with their photo/images.
- RGB Emulation processes RGB objects through the defined CMYK Color Space. When On, RGB and CMYK output emulates the look of the specified CMYK device or print standard. When Off, RGB renders to the full gamut potential of the printer.
- Automatic Image Enhancement (AIE), works best on sRGB images, and adds value to consumer photography applications.
- For RGB black/grays, use Pure rendering intent to force printing with K only.

Rendering Intents

CMYK: Relative Colorimetric (RC): best mapping from source CMYK to printer CMYK while adjusting for paper white. Absolute Colorimetric: required when evaluating against CGATS standards. Saturation: offers RC matching but preserves 100%K (rather than emulating pure black of the source space). Pure: same as Saturation.

RGB: Perceptual: optimized for photo reproduction, maintains rich hues while bringing out detail in dark and saturated areas. Saturation: delivers maximum saturated primary colors for graphics, while maintaining reasonable color balance and tone for images. Pure: same as Saturation except for PostScript/Legacy PDF, ensures that R=G=B is printed K only.

CMYK Workflow

- Direct CMYK
  - – Uses the full printer gamut with no color management. This can be used to achieve the richest color (especially for textand graphics).
  - – Supports a workflow where color management is applied upstream.
- Default: GRACoL (v7), provides optimal color balance for traditional CMYK workflows and offset press emulation. Additional common CMYK standards are built-in for regional and shop-specific preferences.
- Add new CMYK profiles via the Color Manager to emulate specific devices and the system dynamically creates Device Link.
- DeviceLink technology insures black preservation.

PDF/X Compatibility

Simply check Process as PDF/X to honor standardized PDF/X-1a and PDF/X-3.

- Option for RGB to bypass emulation.
- Files which do not contain PDF/X Output Intent will not be processed as PDF/X.

Grayscale Processing (not illustrated)

- If Color Mode ➡ Grayscale is selected, all data (grayscale and full color) is rendered with K only.
- In Color Mode ➡ Normal, grayscale input data is printed as K. Grayscale Color Space options adjust the contrast level.

Spot Color Processing

- Named spot colors in a print file will print using built-in CMYK recipes for PANTONE® PMS and GOE colors which are fully customized and PANTONE licensed.
- Spot colors can be fine tuned with the visual Spot Color Editor. Custom named colors can also be added.
- Spot Color Processing is not impacted by any other color controls, except for calibration to ensure consistency.
- Solution available to map “RGB” spot colors from office applications
- If the spot color name is not found in the table, or the feature is Disabled, the alternative color definition is used.**

Using embedded color management (embedded profiles)

- To honor embedded profiles, check the Use Embedded Profile box for the applicable Source Color Space.
- Black channel is **not** preserved.

Xerox Consistent Color (XCC) Mode minimizes differences between printers by forcing the following settings:

- RGB Emulation “On”
- Spot Color Processing “Disabled”
- Default RGB and CMYK color spaces
- Color Adjustments “None”

**Alternative color definition is used. CMYK (shown) is commonly used.

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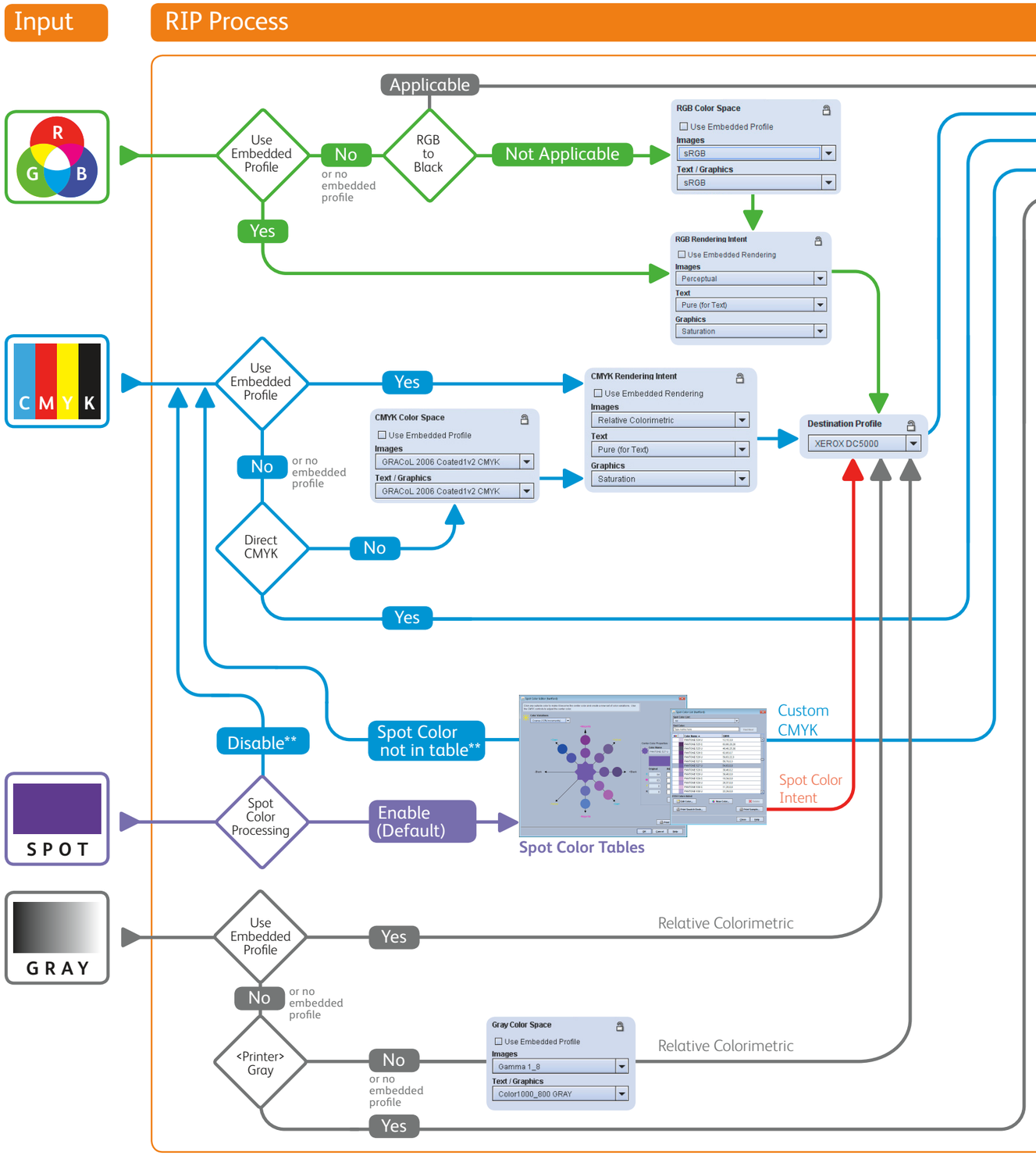
Xerox® FreeFlow® Print Server Version 8, Adobe PDF Print Engine 2.0 Color Workflow



Key

- Job Properties
- RGB Data
- Spot Color Data
- CMYK Data
- Device Independent Color Data
- K Data

General/Normal Mode

RGB Workflow

- Default color space: sRGB, optimal for office applications and direct photo printing. Adobe RGB is often used by designers working in the Adobe Creative Suite.
- Use Embedded Profile (default on iGen4): This option honors the intent of designers who associate profiles with their photo/images.
- For RGB black/gray text and graphics, use the RGB to Black option to force printing with K only (not applicable when using embedded profile or to images).
  - "Black uses K" is applicable when R=G=B=0
  - "Black and Gray use K only" is applicable when R=G=B
- Automatic Image Enhancement is not supported with APPE in v8.

CMYK Workflow

- Direct CMYK
  - Uses the full printer gamut with no color management. This can be used to achieve the richest color (especially for textand graphics).
  - Supports a workflow where color management is applied upstream.
- Default color space: GRACoL (v7), provides optimal color balance for traditional CMYK workflows and offset press emulation. Additional common standards are built-in for regional and shop-specific preferences.
- Add new CMYK profiles via the Color Manager to emulate specific devices, and the system dynamically creates a DeviceLink.
- DeviceLink technology insures black preservation.

Grayscale Processing

- Grayscale data is printed as K-only.; profiles adjust the contrast level.
  Default Images: Gamma 1_8
  Default Text/Graphics: <Printer> Gray (Direct)
- If Color Mode ➡ Grayscale is selected, all data is rendered with K only.

Using Embedded Color Management (Embedded Profiles)

- To honor embedded profiles, check the Use Embedded Profile box for the applicable Source Color Space.
- Embedded profiles generally do not use DeviceLink, therefore the CMYK black channel is not preserved.

Spot Color Processing

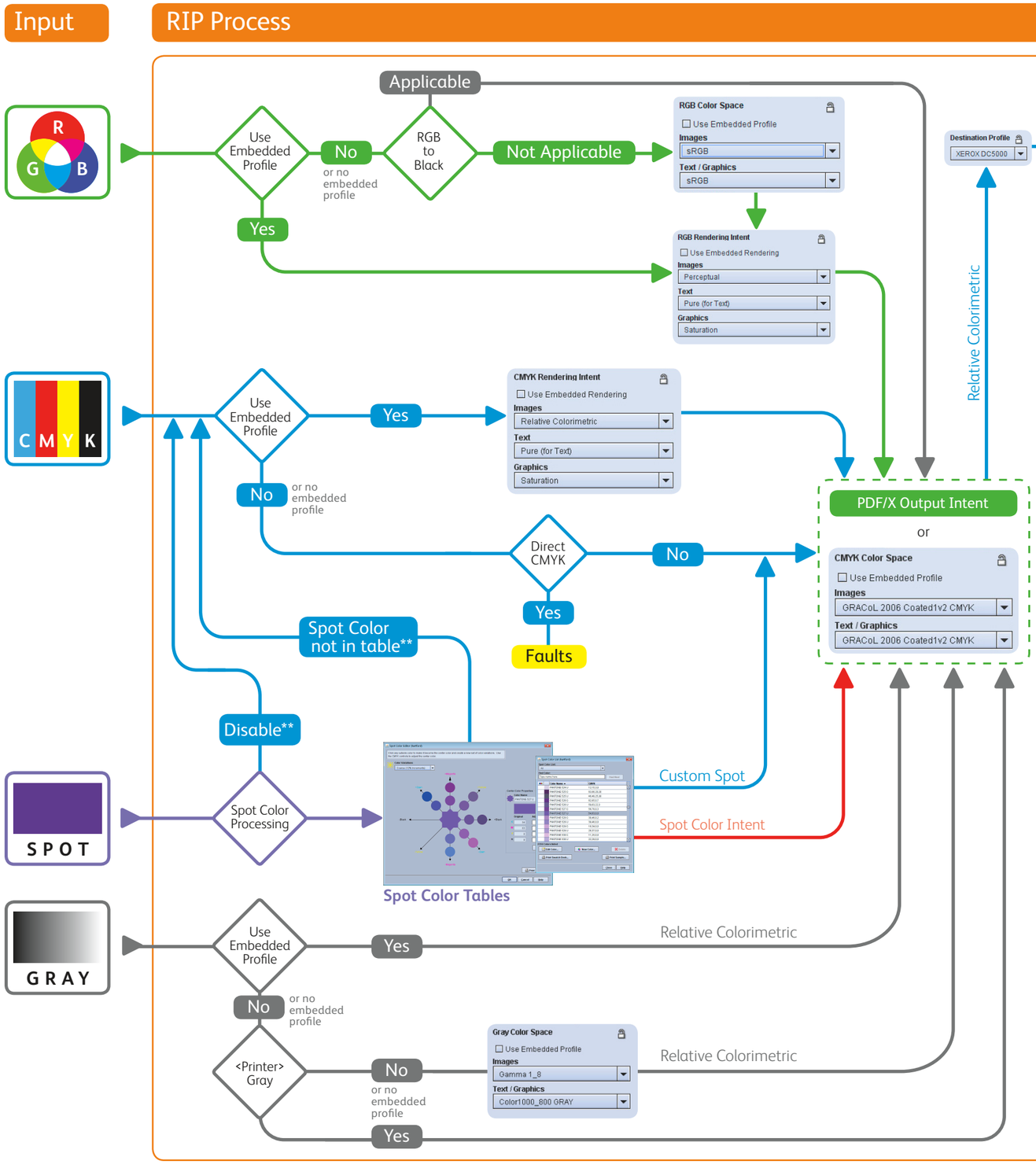
- FreeFlow Print Server is PANTONE® licensed. PANTONE® PMS and GOE colors will be rendered using Pantone L*a*b* aims, with the current Destination Profile.
- Spot colors can be fine tuned with the visual Spot Color Editor. Custom named colors can also be added. Edited or custom colors will print using the CMYK specified in the Editor.
- If the spot color name is not found in the table, or Spot Color Processing is Disabled, the alternative color definition is used. The chart depicts typical scenario, in which alternative color is CMYK

Rendering Intents

Same as PostScript/Legacy PDF.

**Alternative color definition is used. CMYK (shown) is commonly used.

Xerox® FreeFlow® Print Server Version 8, Adobe PDF Print Engine 2.0 Color Workflow – Emulation Mode



Key

- Job Properties
- RGB Data
- Spot Color Data
- CMYK Data
- Device Independent Color Data
- K Data

Adobe PDF Print Engine's Printer Emulation Mode

- Optimizes consistency between devices
- In effect when any of the following FreeFlow Print Server Color Management options are selected:
  - RGB Emulation "On"
  - Color Mode ➡ Xerox Consistent Color
  - Process as PDF/X (checkbox selected)

Note: Page exceptions for these settings are ignored; entire job is processed in either normal or printer emulation mode.

- Uses two-stage processing:
  All content—RGB, CMYK, Gray, Spot, L*a*b*—is normalized to the emulated CMYK space, then rendered in printer CMYK via the Destination Profile.

RGB Emulation

"Off": Normal color flow, color optimized for printer

"On": Enable emulation mode.

- The emulated CMYK space is defined by the CMYK Color Space selected for the job/page.

Xerox Consistent Color Mode

- Sets RGB Emulation "On", thus engaging emulation mode
- Enforces default RGB & CMYK settings, restricts Color Adjustments
- Spot Color Processing "Disabled"
  - Alternative color definition (rather than PANTONE L*a*b* value) is rendered to the emulation space

Process as PDF/X

- Ensures compliance (PDF/X-1a, PDF/X-3, or PDF/X-4)
  - If the file defines PDF/X Output Intent, that defines the emulated CMYK space.
  - If the file does not have a PDF/X Output Intent, the emulated CMYK space is defined by the CMYK Color Space selected for the job/page.
- Enforces use of embedded profile, embedded rendering intent, and overprint. (not shown in properties display as does not apply to non-PDF)

**Alternative color definition is used. CMYK (shown) is commonly used.

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