efi | Fiery® Color Server

Glossary

GLOSSARY

This Glossary contains some terms that are industry concepts and may not be explicitly referenced in the documentation set. The term "Print Server" refers to the controller from EFI that processes jobs for your print device.

A

additive color model

A system in which colors are produced by combining red, green, and blue light (the additive primaries). An RGB video monitor is based on an additive color model.

additive primaries

Red, green, and blue light used in additive color systems. When blended together in proper amounts, these colors of light produce white.

AppleTalk

Network communication protocol designed by Apple Computer, Inc.

artifact

A visible defect in an image, usually caused by limitations in the input or output process (hardware or software); a blemish or error.

Atlas PrintShop Mail-Fiery Version

A variable data printing application that supports FreeForm, FreeForm 2, and PostScript.

authoring tool

A software application used to create text or images, or to define layouts for documents.

B

banding

Visible steps between shades in a color gradient.

bit depth

Amount of information used for each pixel in a raster image. Black-and-white images require only one bit per pixel. Grayscale images with 256 shades of gray require 8 bits (or 1 byte) per pixel. Photographic quality color images can require 24 bits per pixel (RGB images) or 32 bits per pixel (CMYK images).

Bitmap (BMP)

> A graphics file format established by Microsoft; native to the Windows operating system.

bitmap (or raster)

> An image made up of small squares arranged in a grid. Each square in the grid is a pixel. The number of pixels per inch defines the resolution of a bitmap.

blasting

> An undesirable effect that occurs when excess amounts of toner, possibly combined with certain types of paper stock, cause objects in an image to spread beyond the boundaries defined in the file.

brightness

> Both the saturation and lightness of product color.

C

calibration

> The process of adjusting the basic setting of a monitor, printer, or other device to standard values in order to ensure uniform and consistent results over time. Calibration helps assure predictable and consistent printing results.

calibration target (or calibration set)

> A set of measurements that describe the expected density response of a printing device. Calibration targets are associated with the output profile of the device.

CIE

> The International Commission on Illumination, abbreviated as CIE from its French title Commission Internationale de l'Eclairage, is an organization devoted to international cooperation and exchange of information among its member countries on all matters relating to the science and art of lighting. The CIE developed mathematical models to quantify light sources, objects and observers as a function of wavelength, which led to the development of a basic color space for plotting colors.

CIEbased colors (A, ABC, DEF, DEFG)

> Device-independent color spaces that are produced by color management outside of the Print Server, such as application software, operating systems, or printer drivers, and are applied at the user's computer.

CMS

> *See* color management system.

CMYK

> A subtractive color model that uses cyan, magenta, yellow, and black (process colors), and is used in color printing; a color model used in the printing of colors in four-color process printing.

coated media

> Media that is coated to enhance print quality. The coating allows the media to be printed without allowing significant toner or ink absorption, thereby preventing blurriness or lack of contrast.

color channel

> A single-color image that can be edited separately from the other color channels in a color space; for example, the red channel of an RGB image.

color gamut

> *See* gamut.

color management system (CMS)

> System used to match color across different input, display, and output devices.

color rendering dictionary

> *See* CRD (Color Rendering Dictionary).

color separation

> The process of separating a color image into the color components for printing: cyan, magenta, yellow, and black. Also refers to the four sheets of film that result from the process of separating a color image.

color space

> A model for representing color in terms of measurable values, such as the amount of red, green, and blue in an image. RGB and CMYK color spaces correspond to color devices (monitors and printers, respectively). Other color spaces, such as CIE Lab, are based on mathematical models and are device-independent (that is, not based on the color response of a particular device). *See* gamut.

colorant

> An ink, dye, toner, paint, or other pigment that modifies the color of media to which it is applied.

ColorWise

> *See* ColorWise color management.

ColorWise color management

> An ICC-open color management solution, which is an easy-to-use system that addresses the needs of both casual and experienced color management users.

component

In variable data printing, an element such as text, a graphic, or a photograph that is printed on a page.

composite printer

Any output device that can print directly in color without first creating color separations. A composite print can be used as an early proof of an offset print job.

Configuration page

A list of current settings for the configuration, or *Setup*, of the Print Server. Information on the Configuration page includes network settings, amount of hard disk space, and default print settings.

consumable

Material such as ink, toner, paper, or lubricants that must be replenished regularly in order for the print device to function properly.

continuous tone (contone)

A photographic image that contains gradient tones from black to white (such as a 35mm transparency or a photograph). Continuous tones cannot be reproduced in that form for printing, but must be screened to translate the image into dots.

cover page

A page that the Print Server prints at the end of a job, summarizing information such as the user's name and number of pages.

CRD (Color Rendering Dictionary)

A feature that maintains the best possible translation of color from one color device to another. A CRD is used by the color management system or the PostScript interpreter of the Print Server when converting data between color spaces. The Print Server includes several CRDs, each of which provides a different color rendering style.

Creo VPS (Variable Print Specification)

A variable data printing language.

custom color system

A system of named color swatches that can be matched on press using spot colors or approximated using process colors. PANTONE and TruMatch are examples of custom color systems.

custom page size

A user-defined page size used for printing. Custom sizes are defined in the printer driver.

D

DCS (Desktop Color Separation)

A data file standard that assists in making color separations with desktop publishing systems. Five files are created: four color files (one each for C, M, Y, and K) and a composite color preview file of the color image. DCS allows an image-editing application to perform color separation and pass it through to final output with its integrity intact.

densitometer

An instrument commonly used in the graphic arts industry to measure density according to a specified standard.

density

A measurement of the light-absorbing quality of a photographic or printed image.

desktop color separation

See DCS.

device-dependent colors

Colors directly related to their representation on an output device. Color values map directly or via simple conversions to the application of device colorants, such as quantities of ink or intensities of display phosphors. Device-dependent colors are controlled precisely for a particular device, but the results may not be consistent between different devices. Examples of device-dependent color spaces are DeviceRGB, DeviceCMYK, and DeviceGray.

device-independent colors

Colors described using a model based on human visual perception instead of being device-specific.

DIC

A Japanese standard of specifications for separations, proofs, and color printing.

Direct connection

A print connection on the Print Server, similar to the Print queue and Hold queue, except that jobs are not spooled to the Direct connection; they are printed only as the Print Server accepts data.

DNS (Domain Name System)

A set of protocols and services on a TCP/IP network that uses a distributed database for translating names of network nodes into IP addresses. With DNS enabled on your network and on the Print Server, users can access the Print Server (for example, to use WebTools) by its DNS name instead of its IP address.

duplex

To print on both sides of a page.

E

Encapsulated PostScript (EPS)

A PostScript file format designed to be embedded in another PostScript stream.

Euroscale

A European standard of specifications for separations, proofs, and color printing.

F

finishing

Processing printed output, for example, by stapling, folding, hole punching, or collating.

flexography

A printing technology that uses flexible raised-image plates. Flexography can be used to print on non-flat materials such as cans.

four-color printer

A printing device that uses cyan, magenta, yellow, and black ink or toner.

FreeForm

A variable data printing technology that works with variable data printing solutions from EFI. It allows data that is used many times in a variable data printing job to be processed just once, enabling the print device to run at or near rated speed.

FreeForm 2

FreeForm 2 expands FreeForm technology by allowing you to determine page conditions and rules for printing a job containing multiple master pages. Unlike FreeForm, FreeForm 2 requires a variable data printing application that specifically supports FreeForm 2.

G

gamma

A numeric value representing the relationship (gamma curve) between the input and output values of a color device. If gamma equals 1, input values are mapped exactly to output values.

gamut

A range of colors. A device gamut is the range of colors that a print device can produce. An image gamut is the range of colors in a particular image.

gamut mapping

The conversion of color coordinates from one device's gamut to another, usually accomplished with algorithms or look-up tables.

GCR

See gray component replacement.

GDI (Graphics Device Interface)

Graphics and display technology used by Windows computers. GDI applications rely on GDI (rather than the PostScript language) to send text and pictures to a print device.

GIF (Graphics Interchange Format)

A standard for bitmap graphics of up to 256 colors used for posting photographic images on Internet or intranet pages; rarely used for professional printing.

gradient

A smooth transition between two different colors or two shades of a color.

Graphics Device Interface

See GDI.

Graphics Interchange Format

See GIF.

gravure

A printing technology that uses an etched cylinder that has been immersed in ink. The ink that remains in the etched areas is applied to the paper. The non-etched surfaces of the cylinder are non-printing areas.

gray component replacement (GCR)

A method for improving wet ink trapping and reducing ink costs in process color printing. In shadow, midtone, and quarter-tone areas where all three process colors (C, M, Y) overprint, the gray components of those colors are reduced and replaced by black.

H

halftoning

A method for representing an original continuous tone image using a pattern of dots, lines, or other patterns.

Hold queue

A print connection on the Print Server. Jobs sent to the Hold queue are saved to the hard disk on the Print Server, awaiting intervention from a user with proper access privileges.

HSB

> A color model where each color is represented by its hue, saturation, and brightness components; supported by most color applications.

HSL

> A color model in which each color is represented by its hue, saturation, and lightness components.

I

ICC profile

> An industry standard color profile format developed by the International Color Consortium (ICC) that describes the color capabilities, including the gamut, of a color device based on the differences between an ideal and the current device. The ideal is often provided by the manufacturer as a color reference file. ICC profiles are implemented on Mac OS computers in ColorSync and on Windows computers in Image Color Matching (ICM). The Print Server color management system, ColorWise, supports ICC profiles.

imageable area

> The actual usable area on a page onto which the Print Server can print.

imagesetter

> Raster-based film output device; a high-resolution laser output device that writes bitmapped data onto photosensitive paper or film.

imposition

> Grouping and arranging pages for efficient printing on larger sheets of paper, taking into account the need to cut and bind the pages after printing.

installable option

> An option, such as a finishing unit for the print device or a software option for the Print Server. After you install a printer driver, you can take advantage of the additional features that the installable option provides.

IP address

> A 32-bit address in the form of four 8-bit numbers separated by periods; for example, 10.35.101.4. The IP address identifies a computer, the Print Server, or a network server on the network.

IPP (Internet Printing Protocol)

A network protocol for printing over an intranet or the Internet.

IPX (Internetwork Packet Exchange)

A data-transfer protocol used between the Print Server and NetWare networks.

J

job

A file consisting of PostScript or PCL commands and comments that describe the graphics, sampled images, and text that should appear on each page of a document, and the printer options that should be used in printing, such as media or finishing options.

job template

A group of print option settings that users can save in the Windows printer drivers and reuse for other jobs in the future. Windows printer drivers allow more than one saved job template. Although job templates are not available with the Mac OS printer drivers, users can save the current group of settings.

JPEG

A graphics file format defined by the Joint Photographic Experts Group committee of International Standards Organization (ISO); a standard for digital compression of still image graphic data.

L

Lab

A uniform device-independent color space in which colors are located within a three-dimensional rectangular coordinate system. The three dimensions are lightness (L), redness/greenness (a) and yellowness/blueness (b). (Also referred to as L*a*b* and CIELab.)

LPD (Line Printer Daemon)

A service that you can enable on the Print Server to receive print jobs from UNIX workstations.

M

master elements

Used in variable data printing with variable elements. Reusable data that is common across copies of a document.

member printing

Requires you to enter a valid account name and password (or group name and password) in the printer driver before the job can be printed. The administrator defines members and groups.

metamerism

Phenomenon in which two colors composed of different combinations of light wavelengths appear identical under a specific light source, but may look different under other light sources. The colors are called "metamers."

Mixed Media

A feature that allows you to print ranges of pages on different types of media.

moiré

An undesirable pattern in images made using halftone screens. Moiré can be caused by the improper line frequency of the screens, improper screen angles, improper alignment of halftone screens, or by the combination of a halftone screen with patterns in the image.

N

named color

A color that is defined according to a custom color system. For example, PANTONE 107 C is a named color; also referred to as a spot color.

O

office applications

Software applications commonly used for business purposes, including presentation, spreadsheet, and word processing applications.

offset lithography

Printing in which ink is transferred from printing plates to a rubber blanket, and then from the blanket to paper.

output

>   *See* output profile.

output profile

>   A file that describes the color characteristics of a printing device. The output profile is associated with a calibration target that defines the expected density response of the print device.

P

Pageflex Persona-Fiery Version

>   A variable content design application that supports PPML and PostScript. It uses PPML to store and re-use variable data elements.

PANTONE System

>   One of the best known color specification systems used by designers and printers to communicate color. Available in Coated, Uncoated, and Matte, each swatch book contains a series of colors that can be referenced based on the assigned PANTONE notation.

PDF (Portable Document Format)

>   An open file format specification that describes text and graphics in documents.

phosphor

>   Material used in making computer monitors; phosphors glow and emit red, green, and blue light when struck by an electron beam, thus creating an image.

photographic rendering

>   A color rendering style that preserves tonal relationships in images. Unprintable colors are mapped to printable colors in a way that retains differences in lightness, sacrificing color accuracy as necessary.

pixel

>   The smallest distinct element of a raster image. The term is a combination of the words "picture" and "element."

Point and Print

>   The method for automatically installing a Windows printer driver by connecting to the Print Server over the network from a Windows computer.

postflight

>   A quality control tool for predicting how a job will be processed or for diagnosing problems after a job is printed.

PostScript

A device-independent page description language that is used to print and display pictures and text. PostScript 3 includes many enhancements to older versions of PostScript, including improved image quality and color.

PPD (PostScript Printer Description)

A file containing information about particular PostScript capabilities of the print device. The information in the PPD is presented via the printer driver.

PPML (Personalized Print Markup Language)

A variable data language.

prepress proof

A print made from a set of film separations or other file to simulate the results of printing. A prepress proof is the last opportunity to catch problems before the print job goes to press.

presentation graphics rendering

A color rendering style that creates saturated colors but does not match printed colors precisely to displayed colors. It is appropriate for bright saturated colors used in illustrations and graphs.

print

The task of rendering, or imaging, a page or job on a print device.

Print queue

The standard print connection on the Print Server that processes jobs and prints them in the order in which they are received.

Printer Control Language (PCL)

A page description language used to image the page and communicate with applications and the print device.

printer description file

A file that contains information about the specific print options and settings of the Print Server; used by the printer driver to display these options and settings. In most cases, the printer description file is installed automatically when you install the printer driver.

printer driver

A computer program that formats the print job so that it can be sent to the Print Server for processing.

printing group

See member printing.

process

Used interchangeably with the term "RIP" to refer to raster image processing.

process colors

> The colors used in printing to simulate full-spectrum color images: Cyan, Magenta, Yellow, blacK (CMYK).

profile

> Systematically describes how a color maps to a particular space. By identifying a source profile and an output profile, you initiate the appropriate workflow to maintain consistent color values.

Q

QuickDraw

> Graphics and display technology built into Mac OS computers. QuickDraw applications rely on QuickDraw (rather than the PostScript language) to send text and pictures to the print device.

R

raster image

> Electronic representation of a page or image using a grid of points called pixels.

rasterization

> The process of converting code that describes text and graphics into the format that is understood by a printer's "print engine" to print them on a page.

rendering intent

> The style of color rendering, or gamut mapping, designed for a particular type of color job. An example of a rendering intent is Photographic rendering (also referred to as Image rendering or Contrast rendering), which is designed for photographic images.

resolution

> The number of pixels per inch (ppi) in a bitmap image or the number of dots per inch (dpi) that a device can render.

RGB

> An additive color model that makes a range of colors by combining red, green, and blue light, called the additive primaries. Commonly used to refer to the color space, mixing system, or monitor in color computer graphics.

RIP

> Acronym for raster image processing, which changes printer language commands (for example, PostScript or PCL) into descriptions of each mark on a page. In common use as a noun, a "raster image processor" (RIP) is the computer processor that performs this function. The Print Server changes text and graphics commands in PostScript or PCL into specifications for each dot of toner deposited on a page by the print device.

S

saddle stitch

Finishing option that stitches together printed output for booklets.

signature

Folded sheets to be trimmed and bound for making booklets.

simulation

See simulation profile.

simulation profile

The simulation profile describes the color characteristics of another print device, such as a printing press, that you want the Print Server to simulate.

SMB (Server Message Block)

A network protocol used to share files and printers; also known as WINS. Users send print jobs to the Print Server by communicating directly with it; that is, with no intervening network server. TCP/IP must be enabled on the Print Server and on the network in order for SMB to be enabled.

soft proof

An accurate color preview of a job displayed on the monitor.

solid color rendering

A color rendering style intended for use when color accuracy is crucial. Unprintable colors are mapped to the closest printable colors. Solid color rendering does the best job of preserving the saturation of displayed colors.

source color space

The color environment of the originating source of a colored element, including scanners and color monitors.

source profile

A file used by a color management system to determine the characteristics of the color values specified in a source digital image.

spectral light

The wavelengths of electromagnetic radiation emitted by a given light source that can be seen by the human eye.

spectrophotometer

An instrument commonly used in the graphic arts industry to measure spectral light according to a specified standard.

spool

> Write to a disk. Refers to a PostScript or PCL print job saved to the Print Server hard disk in preparation for processing and printing.

spot color

> A color that is printed on its own separation plate when separations are specified. A spot color is printed using a custom ink for that color, in contrast to process colors, which are printed using combinations of cyan, magenta, yellow, and black. (Also referred to as a named color.)

SPX (Sequenced Packet Exchange)

> A data-transfer protocol used between the Print Server and NetWare networks.

Status T

> A spectral response for graphic arts reflection densitometers defined by ANSI (American National Standards Institute).

substrate

> The material upon which a job is printed.

subtractive color model

> A system in which color is produced by combining colorants such as paint, inks, or dyes on media such as paper, acetate, or transparent film. All printing devices use the subtractive color model.

subtractive primaries

> Cyan, magenta, and yellow colorants used in subtractive color systems for color printing. Combining the subtractive primaries produces darker colors. Black is added to the subtractive primaries to compensate for deficiencies of the toners or inks, and for more efficient black printing.

SWOP

> The abbreviation for Specifications for Web Offset Publications. A standard of specifications for separations, proofs, and color printing on a web offset press (*not* a sheet-fed press).

T

tab printing

> Printing onto tab stock used to divide sections of a binder.

TCP/IP (Transmission Control Protocol/Internet Protocol)

> A suite of protocols, including TCP, HTTP, and IPP, which are used to provide communication across a network and between networks and include standards for how computers communicate over the network.

TIFF (Tag Image File Format)

A common format for exchanging raster graphics (bitmap) images between applications.

trapping

Printing technique in which some objects are printed slightly larger or smaller than you have specified in an application in order to prevent white edges around these objects.

two-way communication

The manner by which the printer driver discovers options installed on the Print Server and print device. Using the printer driver, the user polls the Print Server, and the Print Server updates the printer driver with the list of options installed.

U

undercolor removal (UCR)

A method for improving wet ink trapping and reducing ink costs in process color printing. In shadow areas where all three process colors (C, M, Y) overprint, the amounts of those colors are reduced and replaced by black.

URL (Uniform Resource Locator)

A name that refers to a resource on the intranet or Internet; for example, http://www.efi.com.

V

variable data printing (VDP)

Uses digital printing technology that customizes printed communication by linking databases that contain content.þ Typically used for personalized mailings; can also be used to create attractive, highly customized documents.

variable elements

Used in variable data printing with master elements to refer to data that changes with each customized copy of a document.

vector graphic

Graphic illustration created on computers where picture objects are defined mathematically as lines or curves between points. These mathematical definitions are interpreted by an image language such as PostScript. Vector images include artwork created with illustration applications (such as Adobe Illustrator or Macromedia FreeHand) and page layout applications (such as Adobe PageMaker).

W

white point

The color temperature of any white light source, typically expressed in degrees Kelvin (for example, 6500 K, typical for the white of a monitor).

WINS (Windows Internet Name Services)

See SMB.

workflow

The path a print job follows from creation to destination. A workflow may originate with an RGB scan imported to the client workstation and opened on the desktop in an image processing application, such as Adobe Photoshop. After adjustments are made to the scanned image, it is evaluated on a color proofing device for eventual color printing on the same device or on a press.

X

Xerox VIPP (Variable data Intelligent PostScript Printware)

A page-description language (PDL) designed especially for printing variable data documents.