Xerox® FreeFlow® Print Server
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Common Features

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XCPT Support for Interoperability with Enterprise Printers

This feature provides the support for Xerox Common Print Ticket (XCPT) job ticket format.

XCPT is a job ticket format supported by Xerox Enterprise and Office Products. XCPT tickets are semantically similar to Xerox Printing Instruction Format (XPIF) tickets, as they use the same attributes and values, but they have a different encoding. The string @PJL XCPT is included at the beginning of every line. This encoding allows XCPT tickets to be treated as Printer Job Language (PJL) comments if sent to a non-Xerox printer, which is a requirement for Xerox Enterprise and Office printer products.

Supporting XCPT format tickets allows FreeFlow Print Server to accept jobs that were generated for Xerox Enterprise or Office printer products.

Support for XCPT format tickets is a necessary, but not sufficient, requirement for supporting Xerox Cloud and Mobile Print Solutions. Additional functionality, such as supporting Extensible Interface Platform (EIP) on the FreeFlow Print Server platform, is also required to fully support Cloud and Mobile Print integration.

PDF/VT Support with APPE

The main intent of the Portable Document Format/Variable Transactional (PDF/VT) feature is for Variable and Transactional printing. An example of PDF/VT is printing of a color graphics page that has transparencies along with monochrome billing statement page. This document describes the FreeFlow Print Server processing of PDF/VT. PDF/VT supports specifying the finishing options such as media color and stapling within the document.

The following are prerequisites for performing PDF/VT:
- Adobe PDF Print Engine (APPE) 2.6
- JDF 1.4 or higher
- PDF version 1.5 or higher

VIPP Normalizer APPE Path

The Variable Data Intelligent PostScript Printware (VIPP) client sends VIPP job (jobs with extension as .nm, .sub, .vp) to a queue that has APPE enabled and no other queue setup is required. The VIPP Normalizer converts the VIPP job into a PDF/VT file. FreeFlow Print Server then processes the PDF/VT with APPE. During this process, the **setpagedevice** commands are converted to equivalent PDF/VT metadata, enabling FreeFlow Print Server to process the job according to the instructions (such as finishing) with the job.

Client Path

XMPie and other clients that produce native PDF/VT files send jobs to a queue that has APPE enabled and the job is processed accordingly.

The user has to set the PDF/X button on the Color Management GUI to On to properly process the PDF/X4 content within the PDF/VT.

Description

PDF/VT is designed to make Variable Data Print (VDP) more efficient. PDF/VT uses Job Definition Format (JDF) to control the printing workflow. The available type of PDF/VT is PDF/VT-1. All resources (contents) are embedded in a single PDF file. FreeFlow Print Server currently supports this version. FreeFlow Print Server support is dependent on the usage on FreeFlow Print Server defined PDF Document Part (DPart) metadata semantics and structure. FreeFlow Print Server does not support JDF tickets, designating the PDF DPart metadata semantics and structure, generated by a client.

PDF/VT has hierarchy (DPart) that describes the structure of the document. Within these DParts the Document Part Metadata (DPM) exists and contains information about the DPart. FreeFlow Print Server uses metadata to describe finishing and media attributes for the logical document (or set of pages) for a PDF/VT file.

FreeFlow Print Server also uses JDF in conjunction with the PDF/VT file to describe finishing and media attributes for the document. The FreeFlow Print Server prints the job as instructed by the DPart available inside the job; there is no need to modify the GUI. For example, the PDF/VT file can instruct FreeFlow Print Server to use dynamic duplexing or use the interposer. If GUI overrides are selected, then the GUI selections take precedence over the DPart commands.

Considerations

- PPR only supports up to PDF version 1.5. Currently APPE 2.6 will process PDF version 1.7. There may be a need to change PPR to support version 1.7.
- User PPR for optimal performance.

- Depending on the complexity of the PDF/VT file:
  - RIP performance could be below the rated speed of the print engine.
  - An ill-formed DPart catalog within a PDF/VT job may cause the system to hang. No message describing the situation is presented on the GUI. The job may process correctly in serial mode.
  - A system restart while a PDF/VT job is processing may cause incorrect rendering of embedded metadata.

Hot Folder Support

The Hot Folder feature enables customers to drop files ready to print into network folders. Hot Folder Observer periodically checks for files, and if they are present submits them to FreeFlow Print Server through Common Gateway Application Programming Interface (CGAPI) to print. The user has the ability to enable or disable the Hot Folder based on the requirement.

Hot Folder Observer periodically (every 5 seconds, by default) observes new jobs (PDL files or XPIF /JDF tickets submitted into Hot Folders. If there is a new PDL job, then it submits the job to FreeFlow Print Server. If the job is a XPIF /JDF ticket, then FreeFlow Print Server pre-processor processes the XPIF /JDF ticket to obtain PDL files specified in Universal Resource Locator (URL) attribute in the XPIF /JDF ticket.

After a successful job submission to FreeFlow Print Server, Hot Folder Observer deletes the job in the Hot Folder.

If Hot Folder Observer fails to submit the job to FreeFlow Print Server, then it copies the job into the Error folder, which is a sub folder in Hot Folder.

As a print job submitter using an FreeFlow Print Server Hot Folder, the user can get jobs printed in the First In First Out (FIFO) order in which it was submitted to the Hot Folder. Prior to this change, jobs were not guaranteed to be processed in the order they were received. This change makes the new default behavior to process the Hot Folder jobs in order based on the time stamp of the job files.

It is possible to modify the behavior of the Hot Folder job processing order using a script. The default behavior is FIFO based on timestamp. By using the script, the behavior can be reset to the standard behavior of the Operating System (OS) if legacy compatibility is needed.

Hot Folders Directory

All the Hot Folders created by FreeFlow Print Server UI are stored in the /var/spool/XRXnps/hotfoldersdirectory.

Considerations

- This feature does not affect normal job submission / processing / printing.
- Hot Folder feature might not be available on Mac OS 9 since Mac OS 9 does not support SAMBA.
- All Hot Folders are publicly visible.

- FreeFlow Print Server does not know the actual job submitter. The sender name specified in FreeFlow Print Server GUI is the generic name HotFolderClient.
- XPIF tickets do not support relative path in URL. The customer must specify the fully qualified path to data files in URL.
- JDF tickets support absolute paths, relative paths, and remote Hypertext Transfer Protocol (HTTP) locations for referencing the PDL file.

Native JDF/JMF Gateway

JDF 1.4 Pass Through

Job Definition Format (JDF) Gateway processes JDF job tickets and uses the set of job attributes accordingly for files to be printed. The user submits a job with a JDF 1.4 ticket and it is processed by FreeFlow Print Server. Earlier the JDF gateway rejected the JDF 1.4 job tickets and did not process them. FreeFlow Print Server retains a copy of the original job ticket and associates it with the job ID.

Considerations

Although FreeFlow Print Server accepts and processes JDF 1.4 job tickets; it does not support new JDF 1.4 features. The intent of this feature is to allow processing of tickets that have version 1.4, but the ticket attributes that will be processed are equivalent to JDF 1.3 ticket support.

Solaris 10 Update 10

With this release of FreeFlow Print Server, all servers have the Solaris 10 update 10 installed.

Validate FreeFlow Print Server Connectivity

This feature allows the Xerox analyst or customer support representative to analyze connectivity problems with the Xerox support server from the customer site. This can be executed from the command line.

BandR Tool for System Backup and Restore

The BandR tool for FreeFlow Printer Server provides support for the Z pool File System (ZFS) version 29. The standalone tool backs up and restores the system image using NFS share.

The procedure to perform Backup & restore using BandR tool is as follows:

Backup

- Write BandR.iso image to a DVD.

   Note To create a"BandR.iso" image, the user must run the BandR.sh script.

- Boot the system with the BandR.iso image DVD.
- Select the ZFS 29 backup version and initiate backup.
- Store the backup in the Network File System (NFS) shared location.

Restore

- Boot the system with the BandR DVD.
- Select the ZFS 29 version.
- Enter the NFS shared location.
- The system is restored from the backup.

Xerox® Color 800/1000 Press and Xerox® iGen® 150 Press

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Both the Xerox® Color 800/1000 Press and Xerox® iGen® 150 Press now offer Color Management SDK as well as Alternative Grace Period Licensing.

Color Management SDK

The Color Management SDK provides third party access to color measurement data generated by the Inline Spectrophotometer (ILS). A Color Management service uses the SDK to submit a test print job with a specific target PDF document. When the job prints, the output is measured with the ILS and the resulting data file is automatically returned to the submitting application. A Color Management service typically uses this data to do the following:

- Determine whether the print quality is within a target tolerance, and/or
- Generate new ICC profiles to adjust the color output.

The Color Management SDK uses the industry standard protocol JDF/JMF to support the print submission with an associated measurement request, as well as to return the resulting data.

The initial deployment is as part of a Xerox Cloud Color Management (CM) Solution. In this solution, a Cloud CM service user is allowed to submit a test print job from the Cloud CM service and FreeFlow Print Server returns the color measurement reading of the job Cloud CM service. The color measurement data is used by the CM service to generate a set of new International Color Consortium (ICC) profiles to improve the color output of the printer. In this release, these new profiles must be downloaded manually into FreeFlow Print Server. In the future, the new profiles will download automatically.

While the Cloud Color Management Solution is the initial deployment, the FreeFlow Print Server functionality is considered to be an Software Development Kit (SDK) interface. The SDK must be licensed, whether it is being used with the Cloud solution or not.

Queue Creation for Color Measurement

The Color Management SDK is a licensed feature. If a valid Color Management SDK license is detected, then FreeFlow Print Server creates a new **hostname_MEASUREMENT** queue with appropriate settings for color measurement. To prevent unintended modifications to the queue settings, which may invalidate the color measurement data, the queue is locked. The system administrator must manually unlock the queue to modify the queue settings.

The queue will only be created if it doesn't already exist. Thus if the queue has been modified, the modifications will not be lost.

If the license is not valid, any jobs submitted to this queue will fault.

Alternative Grace Period Licensing

Grace Period Licensing enables a basic set of FreeFlow Print Server features through License Manager to work for a specific period of time (grace period) prior to the installation of the customer-specific system and feature Licenses. The grace period ensures sufficient time for obtaining long term licenses once a system reaches the customer site.

During the grace period, all of the selected features are enabled for full use. The features shown as invalid and disabled are not supported for the grace period.

While operating a system under a grace period, a message states how many days are left in the period. The user can use the License Manager window to view what features have been activated. The grace period decrements by one day for each day the system is active. Days when the system is inactive are not counted against the grace period time limit. Partial days are counted as whole days.

Xerox® Color 8250 Production Printer

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Standard Dot Halftone

The Xerox® Color 8250 Production Printer offers a more affordable **Standard Dot** halftone value, with a speed of 110 dots per inch (DPI). Internet Printing Protocol (IPP), Xerox Print Instruction Format (XPIF), and Job Forwarding support are available for the Standard Dot halftone value.

Pantone Matching System

FreeFlow Print Server continues to support Pantone Matching System (PMS) Coated/Uncoated and Pantone GOE Coated lookup tables uniquely tuned for each color printer. FreeFlow Print Server is updated with PMS Plus Coated/Uncoated lookup tables. The outstanding results from FreeFlow Print Server spot color tables are due to exclusive rendering technology, including gamut mapping methods derived specially for generating spot color recipes.

Gray Component Replacement

The Xerox® Color 8250 Production Printer offers the GCR technique of replacing CMY content with K content on near neutral colors This lowers the amount of ink required by the machine. The following options are available:

- **High GCR** - More K is used, reducing the amount of toner used.
- **Medium GCR** - CMY may be used instead of K. This uses a greater amount of toner.

When creating a new color profile, users can select from these two options on the New Profile Properties window. Users can then view the selected halftone from the Job Properties, Queue Properties, and Print from File windows.

Xerox® Color 550/560/570 Printer

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New Speed Offering

The Xerox® Color 550/560/570 Printer, previously the Xerox® Color 550/560 Printer, is a high-performance, professional, light production/multifunction printer best suited for graphic arts, pay-for-print, commercial print and corporate environments. It copies and prints with color control up to 2400 x 2400 dpi resolution. It also can fax, as well as scan at high speed – in color or monochrome – to PC, USB or email.

Rated speed:
- Color 550: 50 ppm color, 55 ppm black
- Color 560: 60 ppm color, 65 ppm black

Rated speed for the newest offering:
- Color 570: 70 ppm color, 75 ppm black