Xerox® FreeFlow® Print Server
What's New

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Common Features

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This section covers all common features included in the FreeFlow Print Server 9.0 Service Pack releases prior to this release.

Managed Print Services

Xerox® D125 Copier/Printer, Xerox® Color C75 Press, Xerox® Color J75 Press, Xerox® D136 Copier Printer, Xerox® Versant 2100 Press

Manager Print Services is a service Xerox® offers to customers who print on a large scale. Managed Print Services allows:

- pages that are produced by office workers, mobile workers, and production print operators to be tracked remotely
- support for office desktop printers, multifunction printers, copiers, scanners, fax machines, and high-volume printers
- support for quick print, offset print, mail, and distribution
- remote support for tracking supplies and consumables such as paper, ink, and toner.

Additional information on Managed Print Services can be found at
http://www.managedprintservices.com/

Managed Print Services includes the Xerox Device Agent Lite (XDA) and Xerox Device Management (XDM) applications that allow users to view and manage printing devices over the network. Add wizards available in XDA and XDM allow easy access to add networked printers to the applications.

GMC Inspire Designer

All printers that support FreeFlow® Print Server Intelligent Printer Data Stream® (IPDS) can receive jobs from GMC Inspire Designer.

Connectivity updates

Novell licenses are no longer available for FreeFlow Print Server software 9.0 and higher. AppleTalk now supports FX Font Downloading.

Embedded Banner Pages

All printers except the Xerox® CiPress™ 500 Production Inkjet System

The Embedded Banner Pages feature enables the user to use the leading pages of the PDL data as the banner page(s) for the job. The following areas support Embedded Banner Pages:

- XPIF
- IPP
- Job Forwarding
- Save

A new collection attribute, job-sheets-col, has been introduced for this feature. The collection contains two members, job-sheets and job-sheet-count. Currently job-sheets supports 3 values, none, standard, and first-print-stream-page. If the job-sheets is set to first-print-stream-page, then the job-sheet-count value is the number of the pages of the data stream that are used as the banner page(s). If the job-sheets is set to first-print-stream-page, but the job-sheet-count is missing in the collection, the job-sheet-count is set to one as the default.

> NOTE If a user forwards a job from a system that supports embedded banner pages to a system that does not support them, the job-sheets-col is ignored. For jobs containing embedded banner pages, the banner pages are printed as part of the job.

Alternative Licensing Method

All printers except the Xerox CiPress 500 Production Inkjet System

In order for the FreeFlow Print Server to be properly configured and tested, the system and a basic set of features must be activated. The purpose of this alternative licensing feature is to enable FreeFlow Print Server features to work for a grace period prior to requiring the installation of normal system and feature licenses. This ensures sufficient time for users to obtain long-term licenses once a system reaches their site.

During the grace period, all of the selected features are enabled for full use. Features that are not selected for activation under the grace period are not active.

While operating a system under a grace period the user is informed by a warning message about how many days are left in the period, and can go to **Setup > License Manager** to see which features are activated.

> NOTE Days when the system is inactive do not count against the grace period time limit.

If any form of Normal License is properly loaded on the system, or the grace period expires, the grace period will no longer activate the system, and all features that require a license require a valid feature license to be loaded.

Updates for Native JDF/JMF

Native JDF/JMF

A new native FFPS gateway is introduced to support the Job Message Format (JMF) network protocol.

JMF is the bi-directional messaging feature of JDF. With this gateway, FreeFlow Print Server will be able to receive, process, and respond to JMF messages from JMF-capable clients.

JDF Media Query Support

A JDF client user may now query FreeFlow Print Server for media resource status using JMF (Resource Query).

JDF DFA Support - Job Submission

A JDF client user may now submit a job and specify the named DFA finishing profile to apply to the job.

JDF DFA Support - Acquire List of DFA Profiles

A JDF client user may now acquire the list of supported DFA finishing profiles from the printer. This is done as part of the Device Capabilities in the known devices query response.

Xerox Developer Program

For more information about using JDF, including these new capabilities, please contact the SDK Developer Program. This program provides documentation, examples and support. The Xerox Developer program is a simple means of leveraging Xerox-designed, Xerox-supplied open standards interfaces to streamline development efforts. It is applicable to all qualified integrated software vendors, system integrators, hardware vendors, and Xerox customers.

Further details on the Developer Program are available at: https://www.xerox-solutions.net/Partners

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 for Color printers. 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

With this release of FreeFlow Print Server, all servers have a Solaris 10 update installed. The version of the Solaris update may vary by product.

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). The standalone tool backs up and restores the system image using NFS share.

The procedure to perform Backup and Restore using the 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 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 version.
- Enter the NFS shared location.
- The system is restored from the backup.

Xerox® Versant™ 2100 Press

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Auto Thumbnail

The user now has the option to set the Job Manager default view for all jobs in a queue to show as thumbnails.

Under Customize, Workspace Settings, Job Manager, select Auto Thumbnail. Thumbnail view is only applicable to held by queue jobs, and only for jobs with a .ps or .pdf extension. The thumbnail view is also only available for single selections and only displays the first two pages of the job.

When a job is selected from Held by Queue, the thumbnail and job properties are displayed. The following job properties are available:

- Job ID
- Quantity
- Sides Imaged
- Stock Name
- Sender

Advanced Preview Support for 1200 DPI

The Preview > Advance Preview option now supports displaying images with a resolution of 1200 DPI.

Single IP

In previous releases, systems with two user interfaces, both the FreeFlow Print Server and the Printer were assigned public IP addresses. The dual IP addresses allowed network clients to access the Printer user interface.

Single IP Port Forwarding behavior can be enabled or disabled by the System Administrator by enabling or disabling the port forwarding of each available service. Enabling Single IP behavior restricts the ability of network clients from accessing the Printer UI and allows only the FreeFlow Print Server to be accessible to the network.

Select Setup > IP/Port Forwarding. The following are set on the displayed screen.
- Private Interface Name: the logical network interface name for the FreeFlow Print Server private interface connection to the printer. The name is assigned by the Solaris operating system.
- Private Interface IP: the IP address of the FreeFlow Print Server Private Network interface.
- Printer Side Interface IP: the IP address of the printer.
- Service Name: the list of services running on the printer. Inbound services provide a response based on a request. Outbound services are requests generated by the printer. Each service can be enabled or disabled for port forwarding, and assigned a port number on the FreeFlow Print Server public network and a port number on the printer side. A printer port of NA is assigned to services which generate outbound requests.

The System Administrator cannot modify the port number assinged to any service.

Save Job Properties

This feature allows users to save job properties and apply those saved properties to new jobs. Job properties can be applied quickly when queues are not being used for automatic job setup.

The FreeFlow Print Server UI contains a new menu Job menu. Using this option, the user can create, save, and manage job property files.

Stock Library Manager

The Stock Library Manager is an application developed for the Xerox Versant Press to manage custom stocks, the Recommended Media List, and paper tray properties of the printer. The Stock Library Manager is installed as a separate application on the FreeFlow Print Server when the FreeFlow Print Server software is installed.

For detailed information on using the Stock Library Manager, refer to the application on-line help.

Full Width Array Baseline Calibration

The Full Width Array Baseline Calibration option is a new feature available under the Color menu on the FreeFlow Print Server user interface.

This feature is designed to deliver an accurate representation of the Full Width Array (FWA) measurement retrieved from the XRite I1 spectrophotometer.

Prior to this release, the converted Look Up Table (LUT) values were fixed based on an average FWA response. The LUT potentially contained errors due to variability of the sensors, lamp, or calibration file. These errors would result in inaccurate profiles created by the FWA.

The Full Width Array and the XRite I1 spectrophotometer are required for this feature. Refer to the FreeFlow Print Server help for more information.

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

Xerox® D136 Copier-Printer

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Line Width Adjustment

A FreeFlow Print Server user can submit a job either through the Internet Printing Protocol (IPP) gateway or by using a Xerox Printing Instruction Format (XPIF) ticket, and include an attribute to adjust the line width.

This feature is designed to adjust the line width of text and graphics on the Xerox® D136 Copier-Printer.

The Xerox® D136 Copier-Printer has the capability of printing at 2400 DPI, accepts 600 dots per inch (DPI) binary B&W images from the FreeFlow Print Server. The 600 DPI binary pixels are analyzed for line content. When 600 DPI line content is detected (depending on the line width adjustment level), it is replaced by a 2400 DPI line pattern.

The user can select a numeric value from +2 to -2 to change the width of the lines. The higher the number, the thicker the black lines and the thinner the white lines. A value of 0 has no effect on the image.

Xerox® iGen™ 150 Press

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New FreeFlow Print Server Platform

Introduces a new platform, the T420i, for the FreeFlow Print Server. The new platform provides equal to or better performance than the existing hardware platform.

Job and Queue Attributes

The Print Attributes Report is an existing feature that consists of a collection of attributes and the associated values for rendering a job. These attributes are used to verify the image quality of printed jobs.

The following job and queue attributes have been added to the Print Attributes Report:

* Edge Enhancement
* K100 % High Resolution
* Image Shift
* Imposition Setting

The Print Attributes Report is enabled based on the FreeFlow Print Server queue level setting.

Standard Dry Ink

Standard Dry Ink support is available for the Xerox® iGen™ 150 Press. The system can be installed with either the Standard Dry Ink license or the Matte Dry Ink license.

The Standard Dry Ink system provides a more dynamic range, or gamut, of color from the darkest black to paper white. The result is more contrast in the color output. The magenta colorant used in Standard Dry Ink enables the system to render many blues and purples that a typical four color press cannot without the use of a specialty ink. Vivid blues, deep purples, deep blacks, and brilliant magentas are colors unique to the Standard Dry Ink system.

210 Halftone Dot

Utilizing angled line screens, 210 halftone dot ensures smoothness of pictures and large graphics with good overall quality for text and detail.

250 Halftone Dot

The 250 halftone dot provides optimal uniformity for small text, thin lines, and fine detail.

Pantone Matching System® Plus

FreeFlow Print Server supports all spot colors defined in the Pantone Matching System® Plus Coated and Uncoated lookup tables. The Plus system is not backwards compatible with the existing Pantone system.