# Prinergy for digital print introduction


- Digital printing vs. offset printing
- Digital printing workflow scenarios
- Digital printing and JDF technology
- What is Prinergy Digital?
- Using Prinergy for digital print
- Supported digital presses


## Digital printing vs. offset printing

| Printing concept | Digital printing process | Offset printing process |
|---|---|---|
| Cost to reproduce | Digital printing can be an economical choice if you want smaller quantities (500-2000 sheets). If you need a lager quantity, the costs can become higher than offset printing. | Offset printing can be more expensive due to press setup. Costs associated with plate production, press make-ready time (mounting plates, registration adjustments, setting ink keys), can elevate the cost of reproduction.<br>If large quantities are required, however, once an offset press is set up, offset printing can offer an overall lower cost. |
| Time to set up | As the major setup requirements for a digital press includes adding paper and ink carriers, the digital press can generally be ready faster. | As the major setup required to prepare a press between press runs includes washing, set up and alignment, offset printing setup time generally takes longer compared to a digital press setup. |
| Quality of reproduction | Digital printing can provide an acceptable reproduction that meets the needs of many types of printing requests. It can, however, have limitations in resolution output (generally 600 dpi). | Offset printing can produce a higher resolution output (generally 1200-2400 dpi). The higher the resolution, the finer the image quality. |

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|---|---|---|
| Color | Digital color printers use a four color process that can include additional colors to widen the color gamut. Some digital printers, however, have limitations in brightness, saturation, and the range of colors available, for example PANTONE colors, metallic and fluorescent inks. There can also be limits to special treatments such as varnishes. | Offset printing uses a four color process but can allow for a wider selection of additional colors (PANTONE spot colors).<br>In comparison to some digital printers, offset can offer better color control which results in better color reproduction. |
| Speed of printing | Overall speed is slow compared to offset. | Overall speed is very fast once setup is complete. |
| Proofing | A proof can be created on the same equipment that the final job is printed on, therefore the proof is accurate to the final piece. | Proofing can be inaccurate depending on the type of proof created and the type of press the job is printed on, therefore, results may be inconsistent. |
| Paper | Paper choice can be limited based on paper thickness and size. Additional limitations are related to finishing choices (embossing, stamping, die-cutting, special folding needs). | A large selection of paper can be used for offset printing. A wide range of paper thicknesses, textures, and sizes can be selected, including the use of a multitude of finishing techniques. |
| Strengths | • Economical for short run jobs<br>• Less time for press setup<br>• Scheduling keeps press continually working<br>• Less waste<br>• Accurate proofing process<br>• Enables Variable Data Printing | • Economical for long run jobs<br>• Can display higher quality output vs. digital printing<br>• Has greater reproduction abilities (greater color spectrum, accepts wide range of paper substrates, allows for wide range of finishing techniques |

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|---|---|---|
| Challenges | • Not economical for long runs<br>• Can display quality limitations<br>• Can have reproduction restrictions (color spectrum, paper size/thickness, finishing techniques) | • More time for press setup<br>• Longer turn-around time<br>• Not economical for short runs<br>• More waste<br>• Can't meet Variable Data Printing needs |

**Digital print growth has mainly taken place in these areas:**

- Fast turn-around times
- Short run jobs
- Print on Demand
- Variable-Data Printing

## Digital printing workflow scenarios

There are a variety of workflows that can be utilized in a digital environment. The following scenarios provide examples of digital printing workflows.

**Scenario 1: Pure digital using Variable-Data Printing (VDP)**
Job description:
The job is an 8-page personalized brochure. The brochure uses CMYK throughout and uses a different cover paper stock compared to the body stock. Both the cover and body pages are to be reproduced on a digital press.
Process:
A variable design template is first created by a prepress department. The output of the template is proofed and approved by the customer using the sample data. Using a web portal, the customer uploads the data file that will drive the personalization of the brochure. A Customer Service Representative downloads the data file, and the prepress department composes the VDP output file using the data provided. The VDP output composition is then sent to the digital front end for ripping, imposition, and print output. As each printed piece is unique, production staff must keep the output in order and reprint any pieces that could be damaged.

**Scenario 2: Hybrid workflow**
Job description:
The job is a 400-page textbook plus cover. The front cover uses CMYK process color and the body pages are black only. The covers are to be printed in advance on an offset press and stored on an as needed basis. The textbook body is to be reproduced on a print on demand basis using a digital press. The print buyer has just requested 200 textbooks to be printed.
Process:
Input files are added from a stored location and added to a digital press workflow. PDF pages are imposed using the digital front end associated to the digital press. At completion of the digital printing process, books are bound with the pre-printed offset covers.

**Scenario 3: Pure offset workflow using digital print for content proofing**
Job description:
The job is a 32-page booklet plus cover. The front cover uses CMYK process color and two spot colors. The body pages use CMYK process color and one spot color. The customer has requested 5,000 booklets to be produced. The job is to be run on an offset press with content proofs generated on a color digital press.
Process:
Input files are added to a prepress workflow, imposed, and prepared for output. Prior to making plates, pages are output to a digital press for content proofing purposes. Following approval of the digital proof, plates are made and the job is printed on an offset press.

## Digital printing and JDF technology

Job Description Format (JDF) is an industry standard format designed to simplify the information exchange between different applications and systems in and around the graphic arts industry.
JDF technology provides a method to describe the entire lifecycle of a print job from start to finish, including a detailed description of the prepress, the final output device, postpress, and delivery processes.

- JDF-enabled digital presses
- JDF templates and job tickets
- JDF digital press front end
- JMF-enabled digital presses

### JDF-enabled digital presses

JDF digital printers have the ability to execute printing instructions sent to them in JDF or other forms of job ticket descriptors. JDF templates or job tickets instruct how a job is to be printed including colors to use, size of paper, type of paper, page layout, bindery information etc.
JDF digital printers essentially support JDF templates/job tickets based on:

- Remote job ticketing—eliminates having to physically walk to a digital press front end to manually set up a job ticket.
- Job submission and tracking—supports job ticket submission to a digital press front end and allows a job to be tracked throughout the printing process.

### JDF templates and job tickets

Digital JDF templates and job tickets describe how a job is to be printed. This information includes print parameters such as orientation, two-sided printing settings, offset selections and trim sizes. Additional information can include paper stocks to use, how marks are to be positioned, how color is to be rendered, and how the final product is to be finished. JDF templates/job tickets work as remote instructions for a print job.

### JDF digital press front end

A JDF digital press front end is a component of a JDF workflow that initiates devices, routes JDF messages, and communicates status. JDF front ends have the ability to read job ticket instructions for each job and process the job accordingly. A JDF front end may be embedded as part of the press, may be a separate physical device, and could be in control of more than one press.

**JMF-enabled digital presses**

Job Messaging Format (JMF) works as the communication format that facilitates interaction between various aspects of a JDF workflow.
JMF communication creates a more automated method of submitting files between a Prinergy system and a digital press, and creates a bi-directional communication link that allows Prinergy to display direct feedback from the press.
Prinergy also supports non-JMF-enabled presses; however, these presses need to use an alternate submission channel, and cannot provide Prinergy with direct status information.

## What is Prinergy Digital?

Prinergy Digital is a production tool that communicates with a variety of digital press front ends to schedule, submit, and monitor the printing of multiple documents in a digital printing environment.


- What features does it support?
- Prinergy for digital printing concepts
- What are Digital Submit and Digital Direct?
- Who uses Digital Submit?
- Creating and submitting digital print jobs
- Digital Direct
- About lists
- About document status types
- About the press window
- Who uses Digital Direct?
- A Prinergy for digital print environment
- Submission methods used in a Prinergy for digital print environment


**What features does it support?**

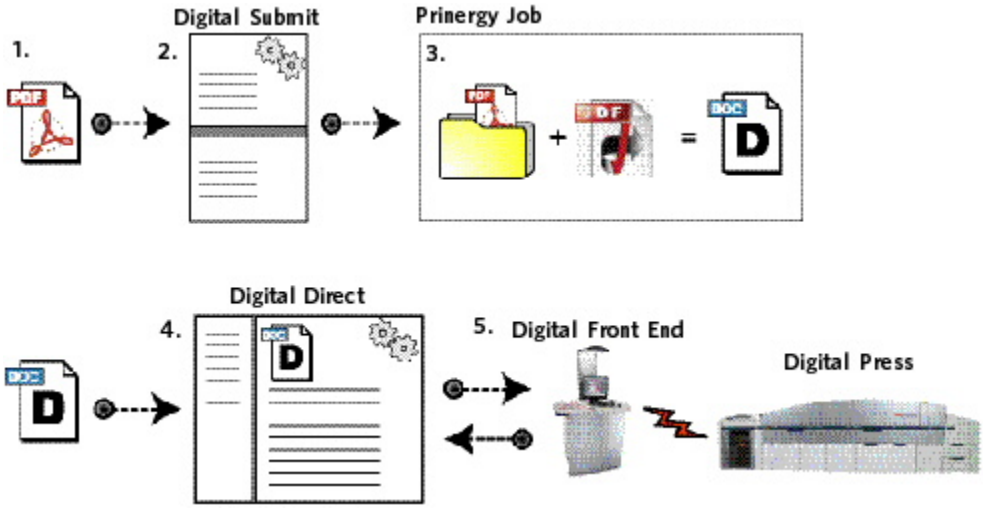
- Remote Job Ticketing—eliminates having to physically walk to a press to manually set up a job ticket and submit a job. Facilitates an uninterrupted flow of jobs that can be initiated by multiple operators at the same time.
- Centralized Repository—stores job files in a centralized location that can be accessed by all. Can also provide file management options such as archiving.
- Job Messaging Format Capabilities—provides press status and feedback information through Prinergy Workshop.
- Supports Rules-Based Automation (RBA)—allows for automatic job processing and digital print job ticketing through RBA.

**Prinergy for digital printing concepts**

A Prinergy for digital printing workflow can be described using five basic concepts:

1. Upload documents
   Input files are submitted to Prinergy Digital Print. A Prinergy job is created, and content files and a JDF template or job ticket are uploaded to the digital print management system (Digital Direct) as documents.
2. Manage documents
   Documents are organized or sorted based on a manual or automated process. Managing documents helps sort large numbers of documents received on a daily basis, and is important for scheduling purposes.
3. Plan documents
   Planning involves setting document priorities and scheduling digital press use for maximum productivity.
4. Submit documents
   Documents are submitted and placed into an active state to be RIPed and printed. At completion, documents are moved to a completed or done state.
5. Remove documents
   At completion of the printing process, documents can be archived and removed from the system. This helps manage the large number of documents entering and moving through the system.

To help you understand the concepts of a Prinergy for digital print workflow in more detail, the following example provides a fundamental representation of the workflow, including software and process terms used.




1. An input file (PDF, PS, DCS, VPS, PPML) is submitted to a target press using Digital Submit.
2. A Prinergy job name is selected and a JDF template or job ticket is identified (contains print instructions). The input file and JDF template/job ticket are then submitted to the Prinergy Digital Print system.
3. A Prinergy job is created and the input file and print instructions are combined into a document. The document is uploaded to Digital Direct.
4. In Digital Direct, the document is sorted, planned, and submitted to a digital press.

5. The digital press front end prepares the document (RIPs the file) and then submits it to a digital press to be printed. At completion, the front end updates the document status in Digital Direct and the document is then archived and/or removed from Digital Direct.

**Important:** The example above represents a basic workflow. Based on submission processes used (Digital Submit vs. Workshop), the number of input files submitted (single vs. multiple), and the number of presses selected (one vs. multiple presses), steps in the workflow can vary. The main workflow sequence, however, remains the same.

**Helpful definitions**
Content file—An input file (PDF, PS, DCS, VPS, PPML), imposition plan, or multiple PDF pages
Document—A document contains content file data and printing instructions. In Digital Direct, a document is managed independently. If a Prinergy job contains two documents, each document is managed separately. In Digital Direct, a document could also be considered a digital job.

**What are Digital Submit and Digital Direct?**

Digital Submit and Digital Direct manage the production of multiple documents that move through a digital printing environment on a daily basis.

**Digital Submit**
Digital Submit software is used to create Prinergy jobs, combine content file information and printing instructions into a document, and upload the document to the Prinergy Digital Print system.

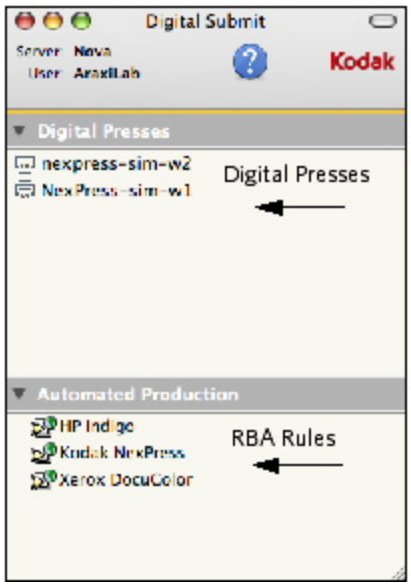
**Digital Submit window**
The Digital Submit window lists the digital presses and automated production targets that you can submit content files to.
All listed digital presses and automated production targets are generally set up by your system administrator. The targets that are listed are arranged based on your workflow system and business needs, such as the different types of digital presses that you have, or if your system includes automation.
Content files can be submitted in one of two ways:

- Directly to a digital press

The targets that are listed under the **Digital Presses** section are associated to digital presses in your environment. Choosing a target press will queue a document to be manually planned and submitted to a specific press

- Directly to an automated production target

The targets that are listed under the **Automated Production** section have Rules-Based Automation (RBA) rules associated with them. These rules include pre-defined job parameters that automatically move content files through the system.




**Who uses Digital Submit?**

Digital Submit software is designed primarily for customer service representatives or individuals who receive customer orders to be printed. These users know which type of digital press or automated production rule to target a job to based on the type of job and the printing requirements. Digital Submit allows users to create Prinergy digital print jobs without having to use Workshop.

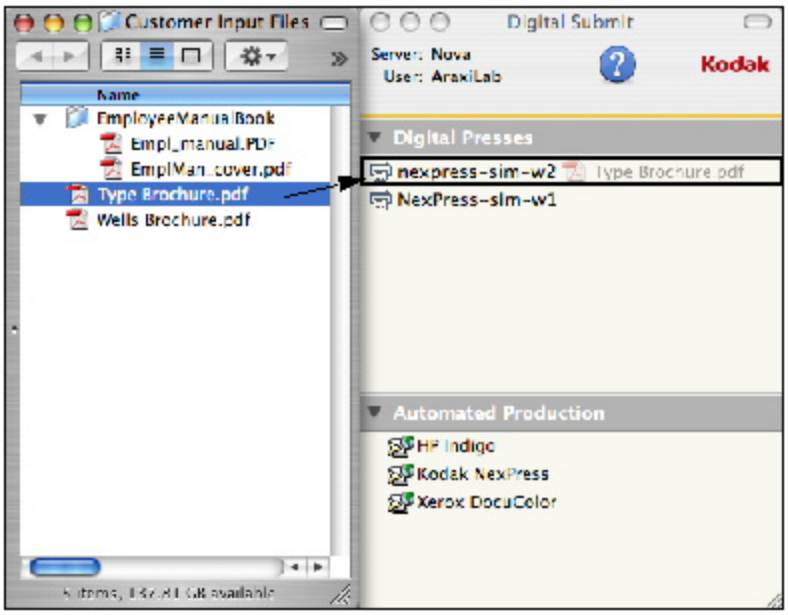
**Creating and submitting digital print jobs**

The following steps outline the basic procedures used when submitting content files to Digital Submit:

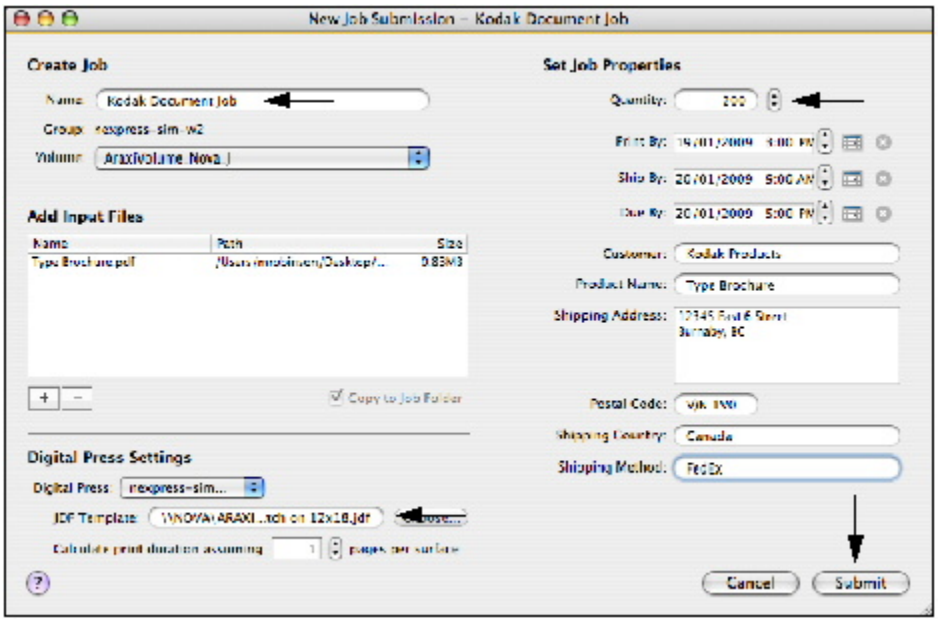
1. A content file is dragged to a target digital press or automated production target (RBA rule) listed in the Digital Submit window.
2. Prinergy job selections are made that include a Prinergy job name, printing instructions, and print quantities. The content file is then submitted.
3. The Prinergy system creates a job, combines the content file information and printing instructions into a document, and uploads the document to be printed by a target digital press.

When submitting to a target press or automated RBA rule, you are:

- Creating a Prinergy job
- Uploading documents to Digital Direct
- Targeting the documents to be printed by a specific digital press




When a content file is dragged to a digital press or an automated production rule in Digital Submit, a New Job Submission dialog box opens. Here, information is entered that includes the name of the Prinergy job, the JDF template or job ticket to use (printing instructions), print quantities, and shipping information.
When the **Submit** button is selected, a Prinergy job is created and the document is uploaded to Digital Direct.




Depending on how the content file was submitted to Digital Submit, the document could follow one of two possibilities:

- If submitted to a target press, once uploaded to Digital Direct, the digital press operator manually prioritizes and submits the document to be printed to a target press.
- If submitted to an automated production rule, once uploaded to Digital Direct, the document is automatically printed to a target press.

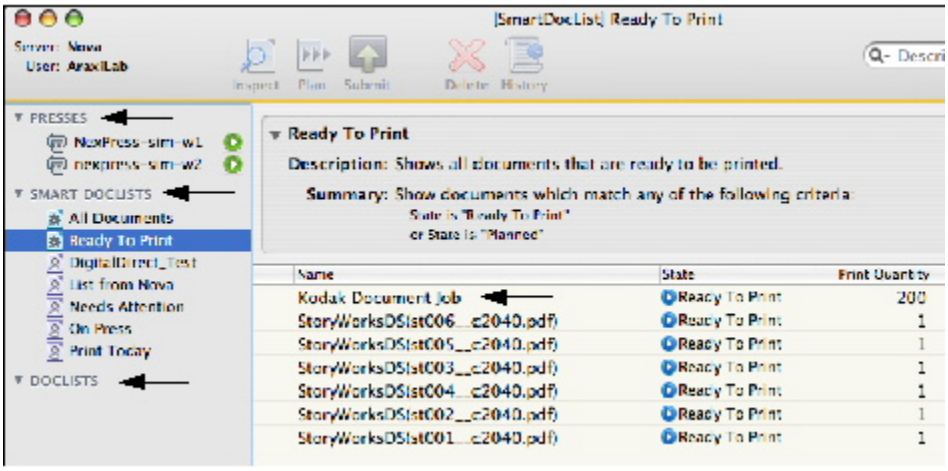
## Digital Direct

**Note:** Digital direct is only used to monitor and control older digital press connections. Newer digital presses, such as Ricoh and Konica Minolta, uses the TRACK module for queue management and monitoring. TRACK is also compatible with older digital presses.

Digital Direct is used to manage multiple documents and digital presses in a digital printing environment.
Digital Direct manages and queues documents to be printed during a shift, determines how many hours of printing are required for each digital press, and provides flexibility to change printing submissions if required.

### Digital Direct window

The Digital Direct window allows you to work with different types of lists that help organize multiple documents and efficiently queue jobs to digital presses.
DocLists are used for manually sorting documents into groups for specific purposes, for example, sorting "documents that need to be printed during the second shift".
Smart DocLists are used to automatically sort documents based on specific criteria that you select. For example, you might need to create a list of documents that can only be printed by a specific digital press or using a particular media type.




The Digital Direct window includes the following information and functionality:

- Available **Presses**, **Smart DocLists** and **DocLists** are located in the left pane. The status of a press can be viewed in this pane.
- When Digital Direct is opened, the default view is **Ready to Print**. The Ready to Print view displays all documents that have yet to be planned or submitted to press. You can click columns to change the sorting order. Columns can be controlled using the menu item **View** > **Visible Columns**.
- If you want to view every job in the system, select **All Documents**.
- In the lower left corner of the window, buttons are available to create and delete lists.

### About lists

DocLists and Smart DocLists are use to organize large numbers of documents entering the system, and can greatly assist in the digital press scheduling process. You can create as many document lists as required. Every list will be available to any user on the system.

The left side of the Digital Direct window displays all document list types available. These lists include:

- All Documents list

Contains all documents that are in the system, including documents that are "On Press" or have "Completed" printing. Any document that has been created using Digital Submit is automatically added to this list. This list can't be deleted or modified.

- Ready to Print list

Contains all documents that are not yet printed. By default, this list is automatically displayed when you open Digital Direct. This list can't be deleted or modified.

- DocLists

DocLists are used to manually organize or sort documents in a production environment. DocLists are first created using pre-determined names, and then documents are dragged to the appropriate DocList based on how they are to be organized. For example, you can create a DocList to group a random collection of documents that need to be printed by the end of the day. You could then delete the DocList after all documents have been printed. The following examples could be used as DocList names:

    - Print on Monday before noon
    - Print on Monday between 1 pm and 5 pm
    - Print on Tuesday
    - Print on Wednesday
    - Rush Jobs
    - Smart DocLists
    - Smart DocLists

Smart DocLists use customized criteria to automatically sort documents entering the Prinergy Digital Print system. A Smart DocList displays all documents that match the criteria that you set up for that list. Documents are automatically added to a Smart DocList when they match the criteria, and are automatically removed when they no longer fit the criteria. The following examples identify criteria that could be used as part of a Smart DocList name:

    - Specific press name
    - Jobs to print today
    - Variable data jobs
    - Jobs in error
    - Jobs over 4 hours of printing
    - FedEx jobs for today

**About document status types**

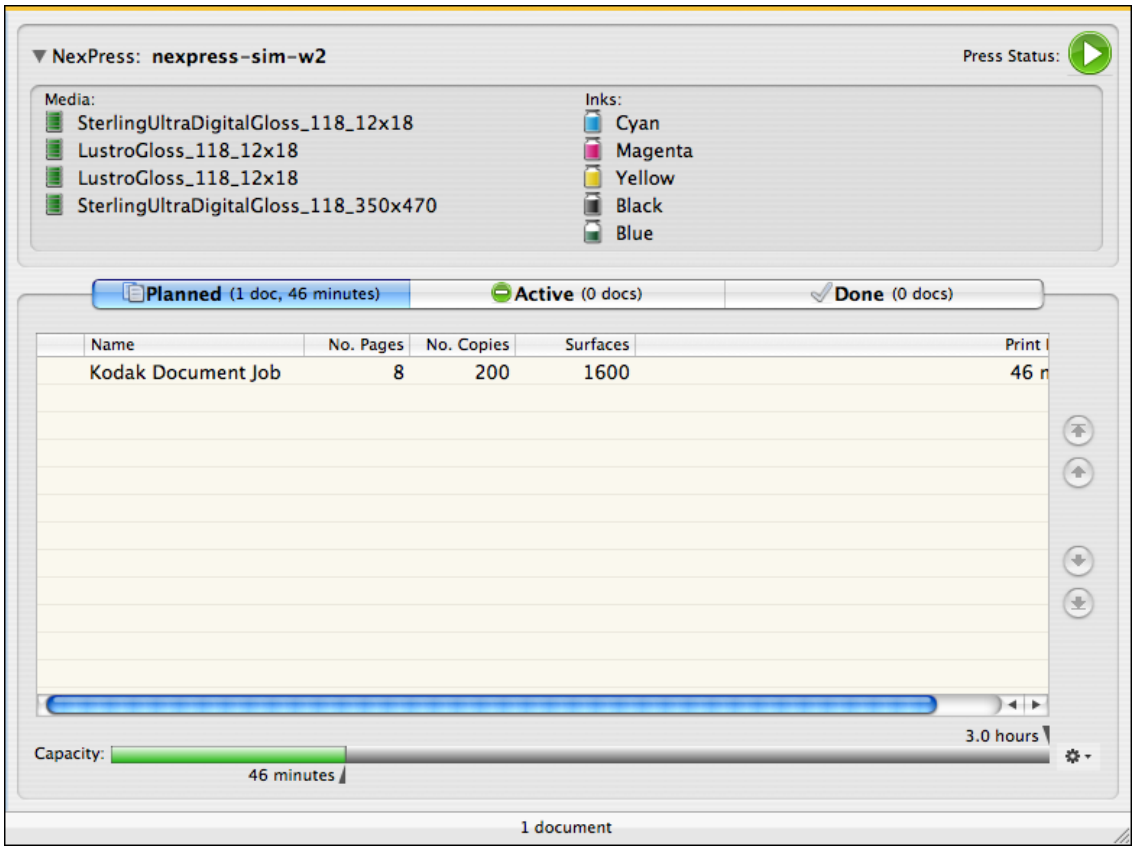
The status of a document is indicated by a status indicator. The indicator changes as the document moves through the system.

- **Ready to Print**—indicates that the document is ready to print.
- **Planned**—indicates that the document has been scheduled to print.
- **On Press**—indicates that the document is printing.

- **Post Press**—indicates that the document is finished printing, but additional processing is occurring (such as bindery processes).
- **Completed**—indicates that the document has finished printing and any additional processing.
- **Removed**—indicates that a document has been deleted or removed from a digital press via its front end software.

**About the press window**

Use the press window to view the status of a digital press and to manage documents that you want to print.
In the Digital Direct window, a list of presses that have been configured for your printing environment is displayed in the left pane. The icon beside the name of the press indicates the status of the press.
When you manage documents on the digital press, the information that is displayed depends on the digital press and front end that you are using.




**Press window status**
In the press window, documents move from a status of **Ready to Print** to **Planned**, **Active**, and **Done** or **Storage.**

- **Planned** tab—displays a list of documents that you plan to submit to the press in the next print run.
- **Active** tab—after a document is submitted, it becomes an active document. You can view the progress of the document as it is being printed.
- **Done** or **Storage** tab—after a document is finished printing it is displayed in the **Done** or **Storage** tab, depending on the type of digital press or front end that you have.

## Who uses Digital Direct?

The Digital Direct software has been designed to be used by digital press operators responsible for managing documents and digital presses in a digital printing environment.

## A Prinergy for digital print environment

- Using Prinergy Workshop
- Using Rules-Based Automation
- Monitoring documents in a digital print environment

### Using Prinergy Workshop

When large numbers of documents need to be effectively managed in a digital environment, it isn't time effective to manually create a new job in Workshop for every document to be printed. To save time, a Prinergy job is automatically created when input files are submitted to Digital Submit (to a digital press or RBA rule), or submitted using an RBA rule.

Workshop essentially works "under the hood" to create jobs, store content files in a centralized location, and provide file management options such as archiving. In most digital printing workflows, Workshop isn't used as a production tool. If there are file errors or additional prepress tasks required for a job, the job can be opened in Workshop and content files can be corrected or edited as needed. Content files are then submitted back to Digital Direct and scheduled for press.

### Using Rules-Based Automation

Rules-Based Automation (RBA) software automates the submission process of content files to the Prinergy Digital Print system. RBA rules can be used as a submission channel in Digital Submit. Based on the needs of the submission process, RBA rules can be created to meet a multitude of customized submission requirements.

**Note:** For more information about Rules-Based Automation, see the *Rules-Based Automation Self-Study Guide*.

### Monitoring documents in a digital print environment

Documents can be monitored as they move through the digital printing process in two ways:

- Using the **Press** view in Digital Direct
- Using the **History** view in Workshop

## Submission methods used in a Prinergy for digital print environment

The following examples outline how a document could be submitted using various submission methods.

### A submission scenario using Rules-Based Automation (RBA), Workshop, Digital Submit, and Digital Direct

A customer service representative (CSR) receives an input file from a customer and uses Digital Submit to submit the file. The CSR can use either a target digital press or a target RBA rule to submit the input file. A Prinergy job is created and the document is displayed in Digital Direct. Using Digital Direct, the digital press operator will schedule the document to run at a certain time on a digital press. Similarly, RBA rules can be configured to submit documents directly to a digital press.

Submission process:

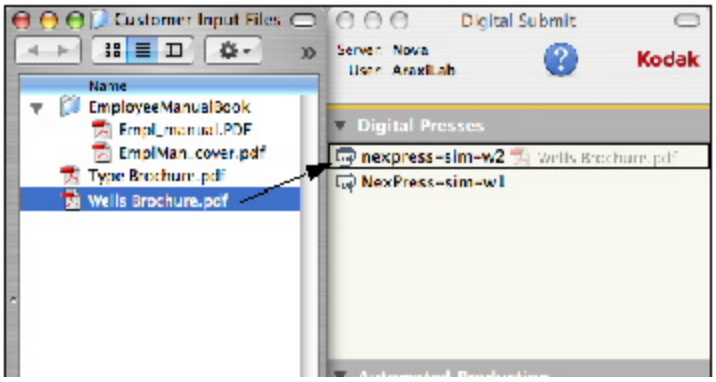
- Input file is submitted to Digital Submit (digital press or RBA rule).
- Digital Submit can also be used as a direct submission channel to Prinergy for offset jobs (RBA rule).

**A submission scenario using Workshop, Digital Submit, and Digital Direct**
A CSR receives an input file from a customer and uses Digital Submit to submit the input file to a digital press. A Prinergy job is created and the document is displayed in Digital Direct. Using Digital Direct, the digital press operator schedules the document to run at a certain time on a digital press.
Submission process:

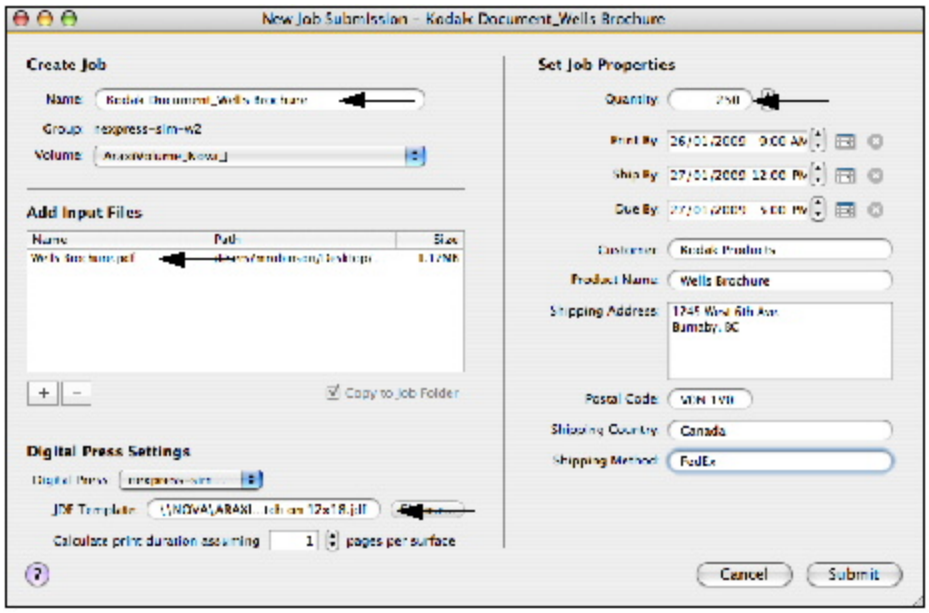
- Input file is submitted to Digital Submit (digital press).

**Using Prinergy for digital print**

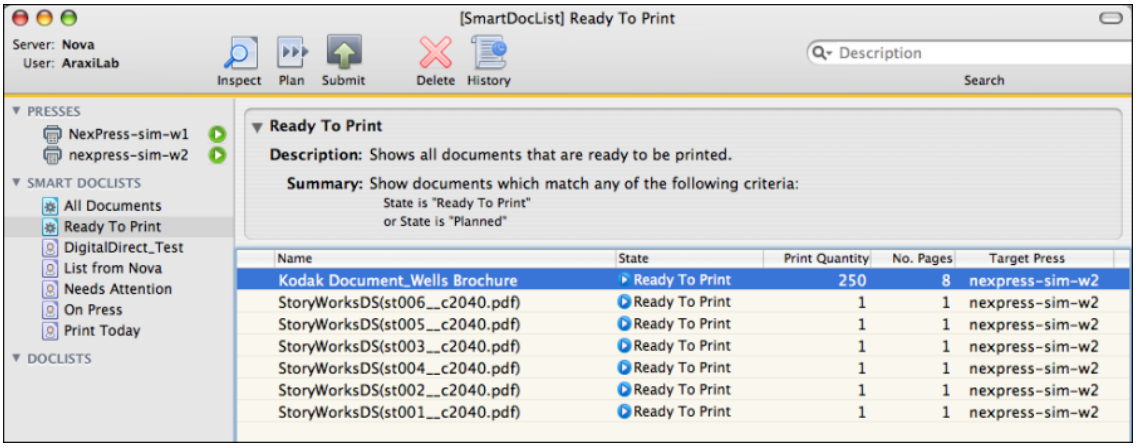
The following illustrates a digital workflow using Digital Submit and Digital Direct.
Drag an input file from a desktop or other location to a digital press or RBA rule in Digital Submit. Alternatively, you can double-click a digital press or RBA rule and then add the input file. If you want to use the **File** menu, you can select a target press or RBA rule and use **File** > **New Job Submission**.



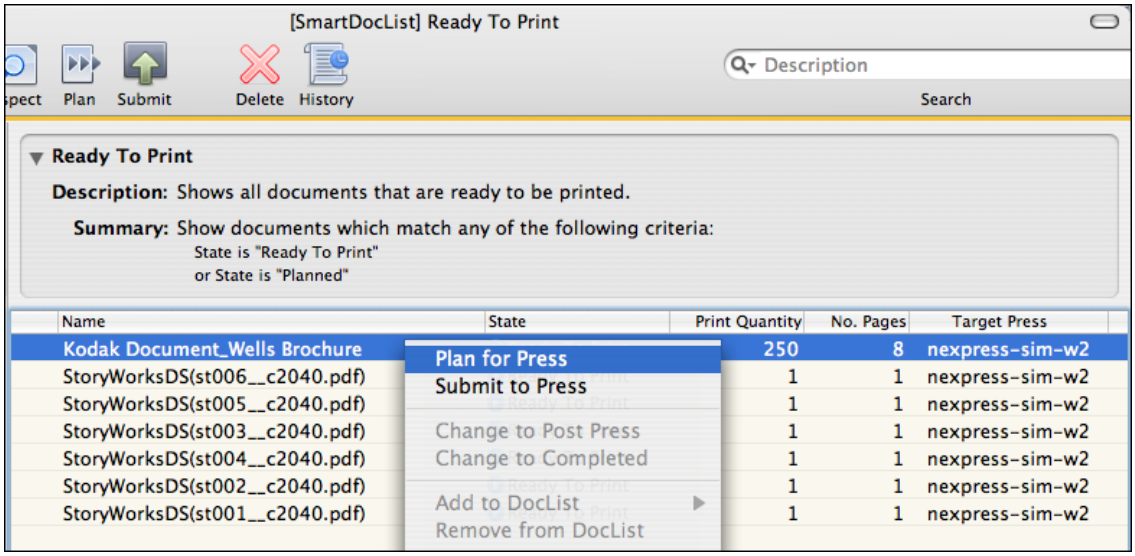

In the New Job Submission dialog box, enter information that identifies the Prinergy job name, input files selected, print instructions, quantities to print, and properties of the job. Then, submit the job.



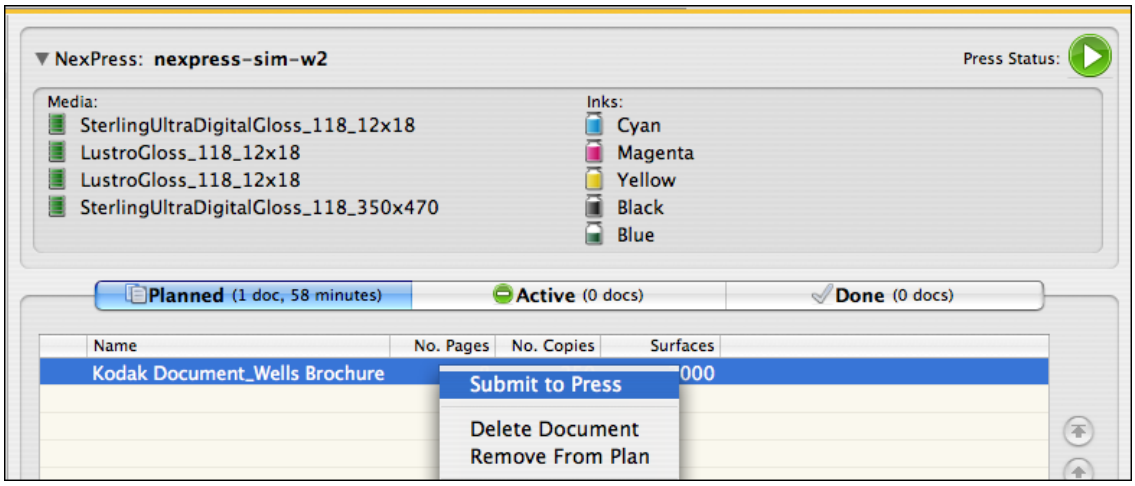

Once the job is submitted, the Processing File Submission dialog box indicates when the job submission process is complete. At completion, a Prinergy job is created and the input file associated to the job and it's print instructions appear in Digital Direct as a document.
In Digital Direct, a digital press operator can organize or sort the document into a list (DocLists or Smart DocLists). Alternatively, the document can be directly accessed from the Ready to Print window.



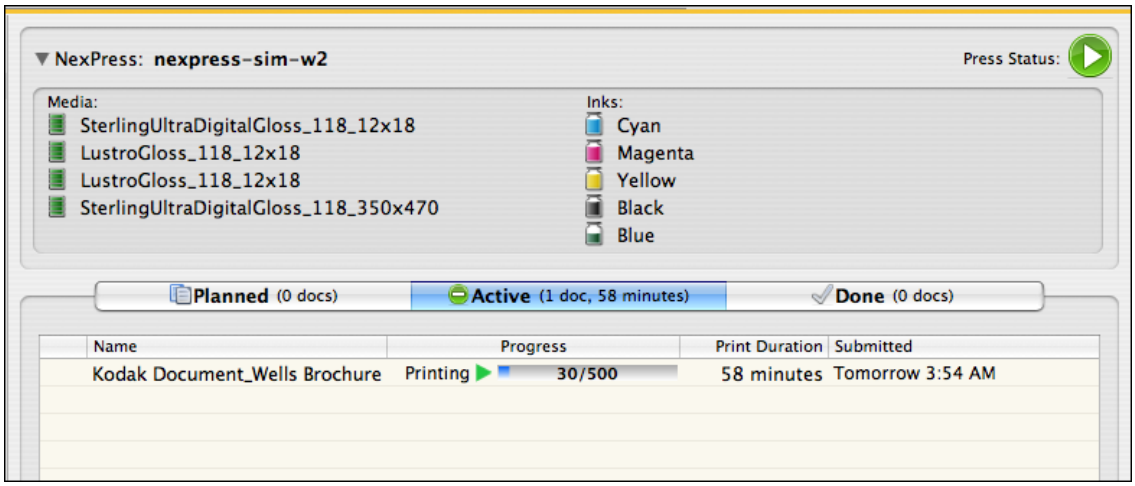

Once organized, the document status is changed to **Plan for Press**.



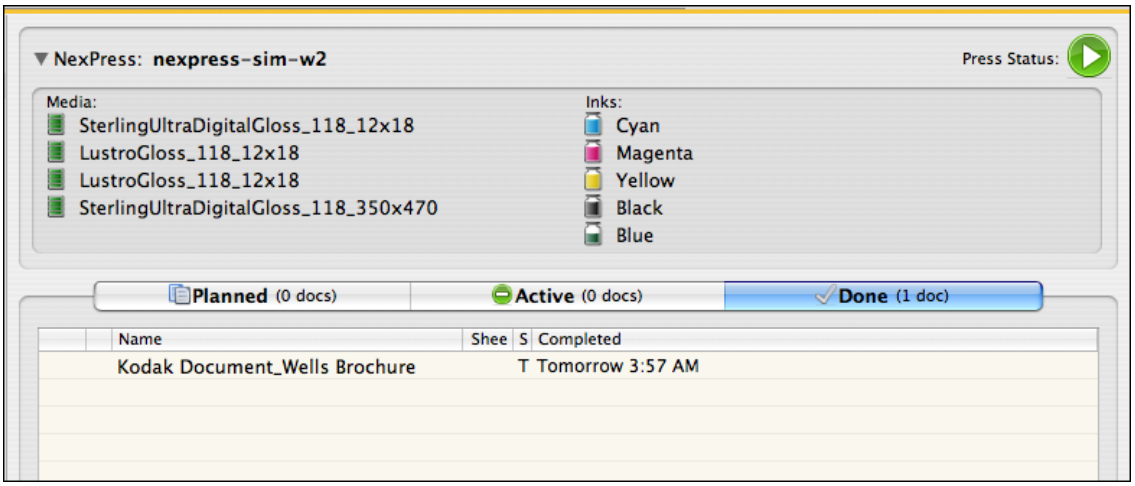

Once the document is planned, the target press is selected from the **Presses** list. In the **Press** view, the document is prioritized and scheduled in the **Planned** tab. Once it is planned and ready for print, the document status is changed to **Submit to Press**.




The submission process is monitored using the **Active** tab. The **Active** tab displays the RIPing, submitting and printing information.



At completion of the printing process, the document appears in the **Done** or **Storage** tab, and can be reprinted, or archived and/or removed. The name of this tab varies depending on the type of digital front end used.




## Supported digital presses

The following tables list all supported static and variable file format types based on the digital press and digital front end used.

- (1) indicates highest functionality (preferred format)
- (2) indicates additional secondary format

The table below lists supported file formats for NexPress, Digimaster, and Versamark presses using Kodak and Creo Color Server front ends.

| **Digital press** | **Static file formats supported** | **Variable file formats supported** |
|---|---|---|
| NexPress S2100/S2500/S3000/M700 with NexPress front end 8.5 (minimum version) or 12 (recommended) | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | (1) PPML /VDX<br>(2) Optimized PDF/PS |
| NexPress S2500/S3000/M700 with Creo Color Server running NexPress Vcs front end 10.231 | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | |
| Digimaster with Digimaster front end 7.01<br>**Note:** Integration with Kodak SmartBoard Document Mastering | (1) LPR | N/A |

| | | |
|---|---|---|
| software is required in order to create SmartBoard job tickets and to enable connectivity. | | |
| Versamark VL2000 with Creo Color Server running Print Manager 710 | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | |

The table below lists supported file formats for Xerox DocuTech, DocuPrint, and DocuColor presses with Xerox, EFI Fiery, and Creo Color Server front ends.

| **Digital press** | **Static file formats supported** | **Variable file formats supported** |
|---|---|---|
| iGen3 with Creo Color Server running Spire 5.0.103 SP1 | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | (1) VPS<br>(2) PPML /GA |
| iGen4 with Creo Color Server running Xerox CX print server 1.0. d292 | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | (1) VPS<br>(2) PPML /GA<br>(2) Optimized PDF/PS |
| DocuColor 7000/8000 with Creo Color Server CX 7000 | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | N/A |
| Any other Xerox press with Creo Color Server running Spire or Xerox CX print server | (1) JDF hot folder<br>(2) PDF hot folder | (1) Optimized PDF/PS |
| Xerox 5000/5252/6060/7000/7000AP/8000/8000AP/DocuPrint B&W/DocuTech B&W/242/252/260 with Xerox running FreeFlow (DocuSP) | (1) JDF hot folder<br>(2) PDF hot folder | |
| Xerox 4112/4127, Xerox Color 550/560 Printer, Xerox Color 800 /1000 Press, Xerox DocuColor 242/252/260, Xerox DocuColor 6060, Xerox DocuColor 7000/8000, Xerox DocuColor 8000AP, Xerox iGen3 90/110, Xerox iGen4 with EFI Fiery | (1) JMF | |

The table below lists supported file formats for the Hewlett-Packard Indigo presses with HP and Creo Color Server front ends.

| Digital press | Static file formats supported | Variable file formats supported |
|---|---|---|
| HP 1050/3050/3500/5000/5500 with Creo Color Server running Production Stream 1.2 | (1) JDF hot folder<br>(2) PDF hot folder | (1) VPS<br>(2) PPML /GA<br>(2) Optimized PDF/PS |
| HP 7000 with Creo Color Server running SmartStream or Production Plus 1.0 | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | (1) VPS<br>(2) PPML /GA<br>(2) Optimized PDF/PS |
| HP 3050/3250/5000/5500/7000 with HP running Production Flow | (1) JDF hot folder<br>(2) PDF hot folder | (1) PPML /GA<br>(2) Optimized PDF/PS |
| HP 3050/3250/5000/5500/7000 with HP running HP Indigo SmartStream Production Pro (minimum version 3.5, recommended version 4.6, for Mac OS X 10.9 support use 4.6.4) or HP Indigo SmartStream Onboard | (1) JMF<br>(2) JDF hot folder<br>(2) PDF hot folder | |

The table below lists supported file formats for the Konica-Minolta BizHub Pro presses with Creo Color Server and EFI Fiery front ends (minimum EFI version is 9 R2; recommended version is 10).

| Digital press | Static file formats supported | Variable file formats supported |
|---|---|---|
| Konica-Minolta bizhub PRO with Creo Color Server running IC-301 | (1) JDF hot folder<br>(2) PDF hot folder | |
| Konica-Minolta bizhub PRO with Creo Color Server running IC-304 | (1) JMF<br>(2) JDF hot | |

| | | |
|---|---|---|
| | folder<br>(2) PDF hot folder | |
| Konica-Minolta bizhub PRESS C7000/C6000, C8000, with EFI Fiery | (1) JMF | |
| Konica-Minolta bizhub PRO C6500/C6501/C5501, C65hc, ColorFORCE 8050 / bizhub PRO C500 with EFI Fiery | (1) JMF | |

The table below lists supported file formats for the Konica Minolta bizhub presses with Konica Minolta front ends

| **Digital press** | **Static file formats supported** | **Variable file formats supported** |
|---|---|---|
| Konica Minolta bizhub PRESS C7000 with IC-601 DFE | (1) JMF<br>(2) JDF hot folder | |

The table below lists supported file formats for the Canon and Ricoh presses with EFI Fiery front ends (minimum EFI version is 9 R2; recommended version is 10).

| **Digital press** | **Static file formats supported** | **Variable file formats supported** |
|---|---|---|
| Canon imagePRESS 1135/1125/1110, C1/C!+, C6000, C6010, C7000VP/C6000VP, C7010VP/C6010VP with EFI Fiery | (1) JMF | |
| Canon imageRUNNER 5050/5055/5065/ 5075/7086/7095 /7105, C3880 (Japan)/ 4080/4580/5180/5185 with EFI Fiery | (1) JMF | |
| Aficio Color 3260C/5560, Aficio MP C550EX/C700EX / Aficio MP C6000/C7500, Aficio MP C6000/7500, imagio MP C6000 /7500 with EFI Fiery | (1) JMF | |
| Ricoh Pro 907EX/1107EX/1357EX, Pro C720/C720S, Pro C751 /C751EX/C651EX, Pro C900/C900S, Pro C901/C901S with EFI Fiery | (1) JMF | |