



Getting started

Fiery JDF, May 2019

This document provides an overview of Fiery JDF (Job Definition Format) and how to set up a Fiery JDF workflow with your Fiery server. Fiery JDF enables integrated, bidirectional communication of JDF product intent and JDF process job tickets between JDF-submitting applications and the Fiery server using JDF's JMF (Job Messaging Format).

Fiery JDF may already be available on your Fiery server (see [Check for Fiery JDF on the Fiery server](#) on page 2). If Fiery JDF is not already available on your Fiery server, you may be able to install the service, provided your Fiery server is Fiery JDF supported.

⚠ Important: The Fiery JDF update is not available for every Fiery server. To see if Fiery JDF can be installed on your Fiery server, check the Supported Printers tab accessed from <http://www.efi.com/fjdf>. If you find your Fiery server listed as Fiery JDF Supported, contact your supplier to install the Fiery JDF update for your system.

JDF jobs submitted to the Fiery server are displayed in Fiery Command WorkStation, where you can view JDF settings and resolve media errors during job processing.

For more technical JDF specifications and JDF/JMF samples, see <https://developer.efi.com/fieryjdf>.

For system requirements, go to <https://www.efi.com/products/fiery-servers-and-software/fiery-integration/fiery-jdf/overview/>.

About Fiery JDF and JMF

Fiery JDF adds support for various JDF intent and process elements. You can use Fiery Command WorkStation to view JDF settings and resolve errors, such as media mismatch, during job processing.

Job Definition Format (JDF) is an open standard, XML-based file format that allows you to automate the print production process by passing data between different applications. By simplifying data exchange, JDF makes digital production faster and more efficient, while also facilitating faster movement of job details. A JDF electronic ticket specifies how a job is to be handled and produced from customer concept to final production.

Think of the JDF file as an electronic version of a customer's specifications for a particular job. For instance, a job ticket with the customer's request for a job with the specifications "100 copies of a 10-page document on 20# letter-size white paper, printed duplex, black-and-white" would be represented in a standardized XML format readable by JDF-enabled devices, in other words, the JDF ticket.

Job Messaging Format (JMF) is the communication protocol used in a JDF workflow. JMF messages contain information about events (start, stop, error), status (available, offline, and so on), results (count, waste, and so on). Fiery JDF turns on integrated, bi-directional communication of JDF intent or JDF process job tickets between JDF-submitting applications a Fiery server using JMF.

Support for JMF allows the Fiery server to provide feedback on the status of the JDF job and production data (such as time of delivery/printing and materials used) to the JDF-submitting application.



Installing and updating Fiery JDF

For information on how to install and update Fiery JDF, see *Upgrading and Installing Fiery JDF/API: Fiery Integration Manager* at <http://help.efi.com/fip/>.

Check for Fiery JDF on the Fiery server

Check to see if Fiery JDF is installed and enabled on your Fiery server.

- 1 Connect to the Fiery server, log on with the Administrator user name and password, and access Configure from Fiery Command WorkStation in one of the following ways:
 - In Device Center, select General Info, then click Configure in the lower right corner.
 - In the Server menu, click Configure.

You can type the IP address of the Fiery server in your browser and access Configure from WebTools.

- 2 From Configure, click Job Submission > JDF Settings.

If JDF is listed and Enable JDF is selected, Fiery JDF is enabled. For information about using Fiery JDF, see [Fiery JDF workflow](#) on page 6.

If JDF is not listed, the Fiery JDF service has not been installed. Contact your supplier to install Fiery JDF, provided your Fiery server is Fiery JDF supported.

Fiery JDF Setup

JDF must be turned on in Configure to allow JDF jobs to be submitted to the Fiery server.

You can specify JDF parameters when you configure the Fiery server.

- **Use Job settings from virtual printer** - Select a virtual printer, if desired.
- (For toner-based printers) **Job action** - Choose from Hold, Print, Print and Hold, and Process and Hold.
- (For L*a*b-based printers) **Job action** - Choose from Hold, Process and Hold, Send to Ready to Print, or Send to Printing Queue.
- **Override JDF job with the above settings** - Override settings specified in the JDF job ticket.
- **Job Closing** - Specify Auto Close or Manual Close to close JDF jobs back to the emitter after they are printed.
- **Required for Closing** - Specify what information is required for closing.
- **Common Global Paths** - Add, edit, or remove file search paths over SMB for common resources.

For information about how to specify JDF settings in Configure, see *Configure Help*.

Fiery Command WorkStation allows you to view the JDF settings and resolve media errors during job processing. For information about managing Fiery JDF in Fiery Command WorkStation, see *Fiery Command WorkStation Help*.

Configure Fiery JDF on the Fiery server

Use Configure to specify JDF settings and to view the Fiery JDF version, the JDF Device ID, and the JMF URL.

Note: If a Fiery server is shipped with Fiery JDF, you must manually enable Fiery JDF in Configure to use it. If Fiery JDF is installed by your supplier, Fiery JDF is automatically enabled.

- 1 Log on as Administrator to WebTools or Fiery Command WorkStation.
- 2 From Configure, click Job Submission > JDF Settings.
- 3 Select Enable JDF to turn on JDF functionality.
- 4 If a virtual printer has been created for your specific workflow and you want to use it as the default for JDF jobs, select it from the Use Job Settings from virtual printer list.
Note: This option only applies to specific workflows and is recommended for advanced users only. Virtual printers are not required for a standard workflow.
- 5 To change the default print queue action, select a setting from the Job action menu.
Note: The default is Hold. We recommend that only advanced users change the default for their specific requirements.
- 6 To override the settings specified in the JDF ticket, select Override JDF job with the above settings.
- 7 Specify how to close JDF jobs back to the emitter after they are printed.
 - Auto Close - Once the job completes printing, Fiery JDF sends a JMF Message for job completion (ReturnQueueEntry) to the original JDF ticket sender and automatically closes the job.
 - Manual Close - The Manual Close dialog box opens and allows you capture waste information, such as media lost to a paper jam, before sending the completed JDF back to the MIS or the JDF application that requested status on the job. Until the job is manually closed, the job completion message (ReturnQueueEntry) will not be sent to the original JDF ticket sender.
- 8 Specify the items required for closing a JDF job. The items you select must be filled out before the job can close automatically or manually.
- 9 Specify the network paths where the Fiery server searches for common resources.
The Fiery server searches the network paths in the order that you specify until it finds the necessary objects. When you type a path, the Fiery server does not verify whether it exists on the network.
Note: Inform users of the paths so that their jobs can access the resources.
- 10 Click Save, and then click Reboot.

Configuring JDF-submitting applications

A JDF job can be submitted from a variety of JDF-submitting applications.

Examples of JDF-submitting applications are as follows:

- Web-to-print (for example, EFI Digital StoreFront)
- MIS systems (for example, EFI PrintSmith Vision, Pace, and Monarch)
- Make-ready and prepress systems

A variety of protocols, including HTTP, MIME, FTP, and Windows file sharing, are used for referencing the content run lists (the actual content files of the job). In most cases, the protocol that you use to reference the content run list of a JDF job is determined by the JDF-submitting application that you use. To submit a job with a JDF ticket to a Fiery server, you need the JMF URL and Device ID of the Fiery server (see Job Submission > JDF Settings in Configure).

Note: With Fiery JDF, the port is set to 8010, therefore the format for the JMF URL of the Fiery server is as follows:

```
http://<host>:<port>
```

(for example, <http://192.168.1.159:8010>)

Referencing content files for JDF job

A JDF file contains references to the content files (the artwork to be processed and printed) and the electronic JDF ticket. JMF is used for bi-directional communication between the Fiery server and the JDF-submitting application.

When you send a JDF job to the Fiery server, the content files must be accessible over the network by the Fiery server, whether the files are sent with the JDF (for instance, as a MIME package) or are located on a remote server.

Protocols for sending JDF job content files

This section discusses the various protocols that are used to send the content files of JDF jobs, and any specific requirements for each.

MIME

A MIME (Multipurpose Internet Mail Extensions) package is perhaps a way of sending JDF jobs to the Fiery server. The MIME package can contain both the JDF and content files, so the content is sent across the network to the Fiery server, as opposed to residing on a remote server.

HTTP

Using the HTTP protocol requires that the content files be shared across the network through an HTTP address. This method should be straightforward, provided a logon is not required to access the site where the content files are located.

FTP

When content files are sent by FTP, any logon information should be included in the path, or, for easier access by the Fiery server, a logon should not be required.

Windows file sharing

If MIME, HTTP, and FTP are unavailable, the content files are very large, or network file transfer speeds are an issue, sharing files from a remote Windows computer may be the best way for the Fiery server to retrieve the content files. However, for the Fiery server to retrieve the files on a Windows share, you must enable Fiery JDF to access files on Windows shares. To do this, the logon for the Fiery JDF service on the Fiery server must match the logon for the Fiery server.

Media workflow for Fiery JDF jobs

Setting up a smooth media handling process for your Fiery JDF jobs is essential for an efficient, unattended workflow. Ideally, you should only have to enter a media once and integrate the various media catalogs of both JDF-submitting applications and Fiery server.

Note: References to Paper Catalog are for toner-based cutsheet printers and Substrate Catalog are for L*a*b-based high-speed inkjet presses with the Fiery XB platform.

In this section, we discuss the strategies for setting up and integrating your media catalog:

- Importing the media database from the JDF-job submitting application.
- Creating a master media catalog on one Fiery server and importing it to another Fiery server, as needed.
- Adding media entries to the Paper Catalog or Substrate Catalog from the JDF jobs.

Importing a media catalog from the JDF-submitting application

In this scenario, you export a media catalog database from the JDF-submitting application, and import it into the Paper Catalog or Substrate Catalog on the Fiery server. This method is dependent on the capability of the JDF-submitting application to export the media database as a JDF media resource in XML format.

In Paper Catalog or Substrate Catalog, you would use the Import function to import the media catalog. The Import function has two selections, displayed by clicking the arrow to the right of the Import button:

- Merge with Existing - The imported media entries are added to the existing entries in the Paper Catalog or Substrate Catalog.
- Replace with Existing - The imported media entries completely override the existing entries in the Paper Catalog or Substrate Catalog.

Creating and importing a master Paper Catalog or Substrate Catalog

In this scenario, you set up a master Paper Catalog or Substrate Catalog on one Fiery server, export it as an XML file, and then import it into the Paper Catalog or Substrate Catalog on any Fiery server.

This method is useful and time-saving in situations where you may use more than one Fiery server to print jobs. The master Paper Catalog or Substrate Catalog may be set up by creating individual entries, importing media entries from the JDF-submitting application as described in the two previous scenarios, or populating the Paper Catalog or Substrate Catalog with media entries set up on the printer. The Paper Catalog or Substrate Catalog may come with a default set of entries. The way in which you set up the master Paper Catalog or Substrate Catalog is determined by the specifics of your environment and the Fiery server. See the documentation that accompanies the Fiery server and your printer.

Add/map media to Paper Catalog or Substrate Catalog from JDF jobs

In this scenario, the Paper Catalog or Substrate Catalog on the Fiery server is populated by adding the media from the JDF jobs that are submitted. This strategy works well when the submitting location (for instance, a print shop) selects from a catalog of 10 to 12 media for most jobs.

When a JDF job is submitted, the Fiery server attempts to automatically map the specified media for the JDF job with a corresponding entry in the Paper Catalog or Substrate Catalog.

If automatic mapping is successful, the media is used for any job containing the same media definition. If automatic mapping fails, you have two options:

- Manually select a media to use for that one media in that one job.
- Manually add the JDF job media definition to Paper Catalog or Substrate Catalog.

- 1 Submit a JDF job to the Fiery server Print or Hold queue from a JDF-submitting application.

If an error occurs in the JDF job, the job is displayed in red with an error icon in the Held queue in Fiery Command WorkStation. If an error does not occur and the job was sent to the Print queue, the job prints without further user intervention.

- 2 Right-click the JDF job and choose JDF Settings.

The Media tab in the JDF Settings window displays the media information for the job.

If the media has been successfully mapped to an entry in the Paper Catalog or Substrate Catalog, the matching Paper Catalog or Substrate Catalog entry media attributes are displayed. In this case, proceed to step 4.

If matching media is not available in Paper Catalog or Substrate Catalog, a warning icon and the “Not Available” message are displayed. In this case, proceed to step 3.

- 3 From the Map to Paper Catalog menu, choose a media entry from the Paper Catalog.

You could select Add/Map to Paper Catalog and the media from the JDF job is added to the Paper Catalog or Substrate Catalog.

As jobs are submitted to the Fiery server, you can add media to the Paper Catalog or Substrate Catalog until it is fully populated with all of the media entries that you commonly use.

- 4 Specify additional print options in the Job Properties window and print the job.

In some cases, the Paper Catalog or Substrate Catalog is read-only. Your Fiery server may require that you set up all media entries on the printer, using the printer touch panel. If so, you must manually enter the media attributes for each media entry on the printer touch panel to populate the Paper Catalog or Substrate Catalog on the Fiery server. For more information, see the documentation that accompanies the Fiery server and your printer.

Resolve media conflicts in JDF jobs

If a JDF ticket uses media that cannot be automatically mapped to the Paper Catalog or Substrate Catalog, Fiery Command WorkStation displays an error for the job. You can add the media for the JDF job to the Paper Catalog or Substrate Catalog to resolve the problem, either by mapping it to an existing media entry or adding it as a new entry.

- 1 Right-click the selected JDF job and select JDF Settings or click Actions > JDF Settings.
- 2 Select Fix the JDF conflict.
- 3 In the Media tab of the JDF Settings window, select a corresponding media entry from the Map to Paper Catalog or Map to Substrate Catalog menu or select Add/Map to Paper Catalog or Add/Map to Substrate Catalog, and click OK.

The parameters of the media specified for the JDF job are listed alongside the parameters of the Paper Catalog or Substrate Catalog media entry selected. You can now print the job.

Fiery JDF workflow

When a job is processed, the Fiery server uses JMF (JDF's Job Messaging Format) to send back status and audit information to the JDF job-submitting application.

When a JDF job is submitted to the Fiery server, the job is checked for any errors or conflicts. If there are none, the operator can select additional print actions from the Actions menu in Fiery Command WorkStation, or choose to print the job directly.

When an error is found, the job is shown with an error in the Job Status column.

You can choose to fix or ignore JDF ticket conflicts in the Job Errors window. If a conflict is ignored, the job may print but with missing JDF information.

After a JDF job is printed, a job completion message is automatically returned to the submitting application if the Fiery server has been configured for Auto Close. For Manual Close, the operator needs to close the job through the Fiery Command WorkStation window after the job has finished printing.

Submit the JDF job

You can submit a JDF ticket through a Hot Folder filter or traditional JDF-submitting application using the JMF URL of the Fiery server.

- 1 Send a job to a Fiery server from a JDF-submitting application.
- 2 The job is sent through JMF (Job Messaging Format). The submitting application sends the job to the JMF URL of the Fiery server.
- 3 Enter the JMF URL of the Fiery server in the following format:
http://<host>:<port> (for example, **http://192.168.1.159:8010**)

Display JDF column headings in Fiery Command WorkStation

When a JDF job has been received by the Fiery server and displayed in the Fiery Command WorkStation Held or Printed queue, you can select a JDF set of column headings to display useful information about the JDF job.

- To display column headings for a JDF job, right-click in the column heading bar and select JDF Set.

The default JDF set of headings is added. Right-click in the column heading bar and click Add New > JDF to see additional JDF categories.

Use Fiery Virtual Printers or Presets as templates for JDF workflow

Fiery Virtual Printers and Presets can be defined on the Fiery server and referenced inside a JDF ticket as a NamedFeature. This is an easy way to automate frequently used job settings while maintaining bi-directional communication between your JDF-submitting application and the Fiery server, such as receiving job status and production data.

To learn more about Virtual Printer and Preset usage through NamedFeature, see <https://developer.efi.com/fieryjdf> and request sample JDF tickets.

Instead of specifying a Virtual Printer or Preset in a JDF ticket, you can also specify a default Virtual Printer or Preset to be used for JDF ticket submission as mentioned in [Fiery JDF Setup](#) on page 2). The job would use the job settings in the selected virtual printer or preset configured in the Fiery server (in the JDF section of Configure). In either case, any additional JDF instructions described in the JDF ticket such as color mode, layout instructions, or finishing can override the corresponding Virtual Printer or Preset settings if these settings are "unlocked" in Fiery Command WorkStation. It provides flexibility to the template-based workflow and allows the JDF-submitting application to utilize any Fiery features available from the Job Properties window in Fiery Command WorkStation.

For more information about virtual printers, see *Fiery Command WorkStation Help*.

Edit JDF settings for a job

You can set options for a JDF job in the JDF Settings window when you select a JDF job in the Held or Printed queue.

- To open the JDF Settings window, right-click and select JDF Settings or click Actions > JDF Settings.

The following tabs are available from the JDF Settings window:

- **Media** - Displays the media attributes of the JDF job next to the corresponding Paper Catalog or Substrate Catalog entry. Media for the JDF job can be mapped manually to a Paper Catalog or Substrate Catalog entry in this tab. For information about adding or mapping media, see [Add/map media to Paper Catalog or Substrate Catalog from JDF jobs](#) on page 5.
- **Job Info** - Displays information found in the JDF ticket. Allows you to specify additional MIS details and add comments.
- **Run List** - Displays the customer-supplied files used to generate the content of the JDF job. Allows you to add, edit, and reorder the files in the window.
- **Close Job** - Allows the job to be manually closed by the operator.

The following actions are available in every tab:

- **Close Job** - Closes the job, according to the parameters set in Configure.
- **View Paper Ticket** - This option is turned on if the JDF-submitting application included a reference to a human-readable copy of the original job ticket.
- **OK** - Saves the settings and closes the window.
- **Cancel** - Closes the window without saving any changes to settings.

Job Info tab

The Job Info tab displays JDF information about the job being submitted.

The Job name, Job ID, and Source fields are automatically populated.

The following areas are automatically populated and are read-only:

- Job Header
- Scheduling
- Customer Info

MIS Details

The MIS Details area allows you to select a setting from the menu for each of the following categories:

- **Chargeable** - Specifies if the job should be charged.
- **Work Type** - Specifies if and how the job should change.
- **Work Type Details** - Specifies the reason for the change. Certain values of Work Type Details are valid only with certain values of Work Type. For example, if Work Type is set to Original, then Work Type Details is ignored.
- **Operation Mode** - Specifies the type of operation mode.

Comments

The Comments area is populated with JDF comments as read-only, but you can add comments by clicking the Add button and typing your comments in the blank field.

The comments appear in the Job notes area in the Job Info tab of the Job Properties window.

Run List tab

The Run List tab displays the location of the PDL files used to generate the content page artwork to populate a JDF job. The file paths are displayed in the order that they are pulled to print the job. Each path supports one file type per job. Different protocols are supported.

- Supported protocols: HTTP, FTP, SMB, MIME, local files
- Supported file types: PDF, PostScript, PPML, VDP, ZIP

Note: Multiple file types are not supported for the same job. If your first entry is connecting to a PDF file, then all files for the job should be PDF.

You can add paths, edit the path names, or remove the path.

Note: You cannot remove validated paths that are required for the job from the Run List. At least one valid entry is required for a job.

If the JDF ticket has the file names, but the files cannot be located in the path defined in Configure, an alert icon is displayed. You can then select Edit and insert the correct path.

Close Job tab

When Manual Close is turned on in Configure, the operator must close jobs in order for the submitting application to receive production information on the job, even if the job was canceled.

Other users can close jobs to record and return the actual completion status of the job to the sender. Print MIS Solution users receive production status during the run, and receive audit detail for costing when the job is closed out of the Fiery server.

You can close a job manually at any time during the Fiery JDF workflow, provided that any required information has been provided.

In Fiery JDF Setup, you specify either auto or manual closing for jobs, and what information, if any, is required to close a job.

The Close Job tab displays the following fields, which are automatically populated:

- Depending on the printer connected to the Fiery server, you will have one of the following:
 - Paper Catalog - Lists the media specified in the JDF ticket. You can change this entry if a different media was used
 - Substrate Catalog - Lists the media specified in the JDF ticket. You can change this entry if a different media was used
- Employee ID - Comes from the login you used when logging in to Fiery Command WorkStation.
- Media Product ID - Refers to the Product ID in Paper Catalog or Substrate Catalog.
- Planned Sheets - Comes from the JDF ticket.
- Actual Sheets - Comes from the Fiery server Job Log.

You can override the entries for these fields if required, except for Media Product ID and Planned Sheets.

Troubleshooting

This section provides information to help you troubleshoot Fiery JDF issues.

What if my JDF job does not appear on the Fiery server?

If your JDF job does not appear on the Fiery server, one of the following reasons may apply:

- Fiery JDF may not be installed on the Fiery server (see [Check for Fiery JDF on the Fiery server](#) on page 2).
- Fiery JDF may be installed, but not enabled on the Fiery server (see [Configure Fiery JDF on the Fiery server](#) on page 2).
- You may have the wrong JMF URL and Device ID for the Fiery server (see [Configure Fiery JDF on the Fiery server](#) on page 2).
- The Fiery server may be offline or network communication has failed. To check if the Fiery server is online and you have a network connection to it, type the JMF URL into an internet browser running on the same computer as the JDF-submitting application. If the Fiery server is online and a network connection exists, the information about the JMF URL and Device ID is displayed in the browser window.
- The Fiery server may not have been able to access the content files at the specified location. This may be indicated by the content run list displaying no content, or the JDF job may have been sent back to the JDF-submitting application without any notification appearing in Fiery Command WorkStation.
- There may be issues with the JDF-submitting application, the JDF job definitions, or the JMF information. To test the separate components in the workflow, create a JDF job and use Alces, a third-party open source testing tool (see [Use the Alces testing tool](#) on page 10).

Use the Alces testing tool

The Alces testing tool can help identify where problems are occurring in the workflow. The procedure describes how to get started with Alces for manual testing of the JDF workflow.

- 1 Download and install the Alces open source software from <https://confluence.cip4.org/display/PUB/Alces>.
- 2 Start Alces using one of the following methods.
 - (Windows) Double-click `alces.bat`.
 - (macOS) Double-click Alces.

- 3 Type a device URL (the JMF URL for the Fiery server) and click Connect.

Note: For the format of the JMF URL, see [Configure Fiery JDF on the Fiery server](#) on page 2.

Buttons representing all messages the Fiery server supports are displayed.

- 4 Click a button to send a message.
- 5 Click `SendFile` to send a file containing a JMF message, for example, one of the files in the “testdata” directory. The message and the response are displayed.
- 6 To submit a JDF job, click `SubmitQueueEntry`.

- 7 Browse to the JDF job file, select the file, and then click Open.

In the middle pane of the Alces window, you can open the menu commands. As you choose each one, information about that process is displayed in the right-hand column.

Automated testing is also possible.

For more information about Alces, see <https://confluence.cip4.org/display/PUB/Alces>.

Enable Fiery JDF debugging

If you are working with unreleased software for submitting JDF jobs, use the following procedure to capture the incoming JDF and the last JMF message.

- 1 To enable the debug log for Fiery CSI Atom service, open E:\EFI\server\system\configuration.txt file (with 'E:' being the drive where the Fiery software is installed) and add the following five lines to the bottom of this text file.

```
[Debug]
DebugLevel =1
[FileLogging]
Enable=1
LogFileFolder= E:\EFI\server\system\
```

Note: For information about JDF logging, see *Upgrading and Installing Fiery JDF/API: Fiery Integration Manager* on <http://help.efi.com/fip/>.

- 2 Restart the Fiery CSI Atom service.

The Fiery CSI Atom service starts writing trace logs to the E:\EFI\server\system\fierycsiatom.log and JDF files to E:\EFI\server\spool\csiatom\cache\

For additional logging on JMF signals, change Enable=2; this will cause the E:\EFI\server\spool\csiatom\cache\latest_jmf.xml to be written any time JMF signals are received.

What if my JDF job errors with missing content?

The simple test is to copy the FileSpec URL from the JDF file and paste it into an internet browser on the Fiery server.

For example, copy the FileSpec URL from <FileSpec MimeType="application/pdf" URL="http://www.google.com/webmasters/docs/search-engine-optimization-starter-guide.pdf"/>

and then paste <http://www.google.com/webmasters/docs/search-engine-optimization-starter-guide.pdf> into your Internet browser to ensure the Fiery server has read access to the content.

Additional information

For more information and resources concerning Fiery JDF, go to the support page at <https://developer.efi.com/fieryjdf>.

For general Fiery support questions, visit the Fiery Digital Print Solutions support page at <http://www.efi.com/fiery/support/>.