Installing Document Processing Features

Version 3.6.0

Overview
Planning for installation
Installing features
Reference
Accessibility

For information not in this manual, refer to the Help System in your product.

Read this manual carefully and keep it handy for future reference.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important</td>
<td>3</td>
</tr>
<tr>
<td>Cautions regarding this guide</td>
<td>3</td>
</tr>
<tr>
<td>Publications for this product</td>
<td>3</td>
</tr>
<tr>
<td>How to read the documentation</td>
<td>4</td>
</tr>
<tr>
<td>Before installing a document processing feature</td>
<td>4</td>
</tr>
<tr>
<td>How to use the manuals</td>
<td>4</td>
</tr>
<tr>
<td>Related information</td>
<td>6</td>
</tr>
<tr>
<td>Symbols</td>
<td>6</td>
</tr>
<tr>
<td>Abbreviations</td>
<td>6</td>
</tr>
<tr>
<td>Trademarks</td>
<td>7</td>
</tr>
<tr>
<td>1 Overview</td>
<td></td>
</tr>
<tr>
<td>Documents</td>
<td>10</td>
</tr>
<tr>
<td>Document properties file</td>
<td>10</td>
</tr>
<tr>
<td>Document database</td>
<td>10</td>
</tr>
<tr>
<td>2 Planning for installation</td>
<td></td>
</tr>
<tr>
<td>Planning to install document processing features</td>
<td>11</td>
</tr>
<tr>
<td>Software requirements</td>
<td>11</td>
</tr>
<tr>
<td>Gathering your document requirements</td>
<td>11</td>
</tr>
<tr>
<td>Performance and capacity considerations with document processing features</td>
<td>12</td>
</tr>
<tr>
<td>Hardware and software requirements for Ricoh ProcessDirector Plug-in for Adobe Acrobat</td>
<td>16</td>
</tr>
<tr>
<td>Migrating from Adobe Acrobat Professional version X or XI to version DC</td>
<td>17</td>
</tr>
<tr>
<td>3 Installing features</td>
<td></td>
</tr>
<tr>
<td>Installing the feature on the Ricoh ProcessDirector primary computer</td>
<td>19</td>
</tr>
<tr>
<td>Installing document processing features using Feature Manager</td>
<td>19</td>
</tr>
<tr>
<td>Defining custom document properties</td>
<td>20</td>
</tr>
<tr>
<td>Naming custom document properties in more than one language</td>
<td>24</td>
</tr>
<tr>
<td>Updating custom document properties</td>
<td>27</td>
</tr>
<tr>
<td>Installing Ricoh ProcessDirector Plug-in for Adobe Acrobat</td>
<td>28</td>
</tr>
<tr>
<td>Running the installation program</td>
<td>28</td>
</tr>
<tr>
<td>Loading Ricoh ProcessDirector document properties</td>
<td>29</td>
</tr>
<tr>
<td>Loading media objects</td>
<td>30</td>
</tr>
<tr>
<td>Uninstalling Ricoh ProcessDirector Plug-in for Adobe Acrobat</td>
<td>31</td>
</tr>
</tbody>
</table>
4 Reference

Installation and configuration checklist ................................................................. 33

docCustomDefinitions.xml file ............................................................................... 34

docCustomDefinitions.properties file ................................................................. 45

Document properties template file ...................................................................... 47

Document properties file ....................................................................................... 48

Property conditions file ......................................................................................... 49

5 Accessibility
Introduction

Important

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this product, losses of documents or data, or the use or non-use of this product and operation manuals provided with it.

Make sure that you always copy or have backups of important documents or data. Documents or data might be erased due to your operational errors or malfunctions of the software. Also, you are responsible for taking protective measures against computer viruses, worms, and other harmful software.

In no event will the manufacturer be responsible for any documents created by you using this product or any results from the data executed by you.

Cautions regarding this guide

- Some illustrations or explanations in this guide could differ from your product due to improvement or change in the product.
- The contents of this document are subject to change without notice.
- No part of this document may be duplicated, replicated, reproduced in any form, modified, or quoted without prior consent of the supplier.
- Throughout this publication, references to directory paths indicate the default paths only. If you install Ricoh ProcessDirector or Ricoh ProcessDirector Plug-in for Adobe Acrobat in a different location, including a different drive, you must adjust the paths accordingly.
  For example, if you install Ricoh ProcessDirector Plug-in for Adobe Acrobat on the D: drive of a computer running a Windows operating system, replace C:\ with D:\ in the directory paths.

Publications for this product

The following publications are available for Ricoh ProcessDirector document processing features.

Instruction manuals

These instruction manuals are included:

- **Ricoh ProcessDirector: Installing Document Processing Features** in PDF format
  This guide explains how to install Ricoh ProcessDirector document features that control both jobs and the individual documents in jobs. The guide includes instructions for installing Ricoh ProcessDirector Plug-in for Adobe Acrobat, which is included with the PDF Document Support feature.

- **Ricoh ProcessDirector: Using Ricoh ProcessDirector Plug-in for Adobe Acrobat** in PDF format
  This guide explains how to use Ricoh ProcessDirector Plug-in for Adobe Acrobat. You can use the Adobe Acrobat plug-in to define text, barcodes, images, and other enhancements in a PDF file.
After you save your enhancements in a control file, Ricoh ProcessDirector workflows can use the control file to make similar enhancements to PDF files.

You can download English publications in PDF format from the Ricoh Production Print Information Center (http://info.rpp.ricoh-usa.com/help/index.jsp).

**Ricoh ProcessDirector Information Center**

The Ricoh ProcessDirector Information Center contains topics that help administrators, supervisors, and operators learn about and use Ricoh ProcessDirector document features. The Information Center is available from the Ricoh ProcessDirector user interface and provides quick navigation and search features.

**Ricoh ProcessDirector Help**

Field help is available on many screens for Ricoh ProcessDirector document processing features to provide information for specific tasks and settings.

**Ricoh ProcessDirector Plug-in for Adobe Acrobat help system**

On many screens, you can click Help to see a help topic that provides information for a specific task or a group of settings. After you display a topic, you can go to other topics in the help system.

**How to read the documentation**

**Before installing a document processing feature**

This manual contains instructions and cautions for correct installation of document processing features. Before installing a document processing feature, read this manual thoroughly and completely. Keep this manual handy for future reference.

**How to use the manuals**

Use the instruction manuals according to your needs.

**To learn how to install a document processing feature:**

See *Ricoh ProcessDirector: Installing Document Processing Features*.

**To learn how to use the functions and operations of a document processing feature:**

See the Ricoh ProcessDirector Information Center.

**To learn how to use the functions and operations of Ricoh ProcessDirector Plug-in for Adobe Acrobat:**

See *Ricoh ProcessDirector: Using Ricoh ProcessDirector Plug-in for Adobe Acrobat*. This information is also available in the Acrobat plug-in help system and the Ricoh ProcessDirector Information Center.
Displaying the publications

*Ricoh ProcessDirector: Installing Document Processing Features* and other publications are available on the Ricoh ProcessDirector publications CD, so you can access them before you install the application.

**Note**

- A PDF viewer, such as Adobe Acrobat Reader, is required to view the publications.

To access the Ricoh ProcessDirector publications CD on Windows:

1. Insert the CD in the CD drive.
   - If the Windows system is configured to autorun CDs, Windows Explorer opens automatically to show the contents of the CD.
2. If Windows Explorer does not start automatically, open it and display the contents of the CD drive.
3. Open the `readme.txt` file for information about the contents of the CD, including instructions for launching the Ricoh ProcessDirector Information Center from the CD.

Displaying the Ricoh ProcessDirector Information Center

The Ricoh ProcessDirector Information Center is available from the Ricoh ProcessDirector user interface.

In version 3.5, Ricoh ProcessDirector introduced an updated user interface with a streamlined appearance and modern capabilities. The updated user interface supports many of the functions that are available in the legacy user interface.

- To display the Information Center for the updated user interface:
  - On the top menu bar of the Ricoh ProcessDirector user interface, click the `?` button and select Help.
  - If you are not logged in to Ricoh ProcessDirector, enter this URL in the address bar of your browser:
    `http://hostname:15080/pdhelp/index.jsp`
    - In the URL, `hostname` is the host name or IP address of the computer where Ricoh ProcessDirector is installed.

- To display the Information Center for the legacy user interface:
  - On the top menu bar of the Ricoh ProcessDirector user interface, click the `?` button and select Help.
  - If you are not logged in to Ricoh ProcessDirector, enter this URL in the address bar of your browser:
    `http://hostname:15080/help/index.jsp`
    - In the URL, `hostname` is the host name or IP address of the computer where Ricoh ProcessDirector is installed.

In addition, you can bookmark the location of the Information Center in your browser and open it at any time outside of Ricoh ProcessDirector.
Information about use the functions and operations of features are available only when the features are installed in the system.

**Related information**

For information about our products, see:

- Ricoh web site (http://rpp.ricoh-usa.com)
- Ricoh Production Print Information Center (http://info.rpp.ricoh-usa.com/help/index.jsp)

**Symbols**

The following symbols are used in this manual to help you to identify content quickly.

- **This symbol indicates points to pay attention to when using the product. Be sure to read these explanations.**
- **This symbol indicates information about restraints or restrictions when using the product. Be sure to read these explanations.**
- **This symbol indicates helpful supplementary information that is not essential to completing a task.**

**Bold**

**Bold type** indicates the names of dialogs, menus, menu items, settings, field labels, buttons, and keys.

**Italic**

**Italic type** indicates the titles of manuals and variables that you must replace with your own information.

**Monospace**

**Monospace type** indicates computer input and output.

**Abbreviations**

**AFP**

Advanced Function Presentation

**CSV**

Comma-Separated Values

**HTTP**
Hyper Text Transfer Protocol

IP
Internet Protocol

PDF
Portable Document Format

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The proper names of the Windows operating systems are as follows:

- The product names of Windows 7 are as follows:
  Microsoft Windows 7 Professional
  Microsoft Windows 7 Ultimate
  Microsoft Windows 7 Enterprise

- The product names of Windows 8 are as follows:
  Microsoft Windows 8 Pro
  Microsoft Windows 8 Enterprise

- The product names of Windows 8.1 are as follows:
  Microsoft Windows 8.1 Pro
Microsoft Windows 8.1 Enterprise

• The product names of Windows 10 are as follows:
  Microsoft Windows 10 Pro
  Microsoft Windows 10 Enterprise

• The product names of Windows Server 2012 are as follows:
  Microsoft Windows Server 2012 Standard
  Microsoft Windows Server 2012 Datacenter

• The product names of Windows Server 2012 R2 are as follows:
  Microsoft Windows Server 2012 R2 Standard
  Microsoft Windows Server 2012 R2 Enterprise

• The product names of Windows Server 2016 are as follows:
  Microsoft Windows Server 2016 Standard
  Microsoft Windows Server 2016 Datacenter

Other product names used herein are for identification purposes only and might be trademarks of their respective companies. We disclaim any and all rights to those marks.
1. Overview

• Documents
• Document properties file
• Document database

Document processing features expand the concept of controlling and tracking print jobs to controlling and tracking individual documents in a print job. Additional installation tasks are required to install these features.

Two features add basic functions and objects for processing documents. Installing one of these features is a prerequisite for installing the other document processing features:

• PDF Document Support adds functions and objects for processing documents in PDF jobs. This no-charge feature is provided with the base product but is not installed by default.
• AFP Support adds functions and objects for processing documents in AFP jobs.

The other document processing features add functions and objects for specialized needs such as archiving document information in a repository or inserting documents into envelopes. Before installing these features, you install PDF Document Support, AFP Support, or both. If you install PDF Document Support, the other document processing features work with PDF files. If you install AFP Support, they work with AFP files. If you install both, they work with both types of files. Examples of these document processing features are:

• Archive
• Automated Verification
• Electronic Presentment
• Inserter
• Postal Enablement
• Preference Management

Installing a document processing feature involves:

• Planning for the installation
• Installing the feature
• Defining custom document properties
• Updating custom document properties

Installing the PDF Document Support feature also involves:

• Installing Ricoh ProcessDirector Plug-in for Adobe Acrobat for PDF document processing
• Loading Ricoh ProcessDirector document properties
• Loading Ricoh ProcessDirector media objects for PDF document processing

Important

Examples, lists of step templates, and lists of properties sometimes refer to objects in specific document processing features. If you do not have these features installed, the objects do not exist on your system.
Documents

A document is the smallest unit that can be tracked by a workflow. For example, a document can be a set of pages that make up one bill, one statement, or one mailpiece.

A print file can contain thousands of documents. If the print file is in AFP format, each document is bounded by the Begin Page Group and End Page Group AFP structured fields.

Document properties file

The document properties file (DPF) can contain properties of documents in a job. The file is stored in the spool directory for the job.

The document properties file is created automatically by the step templates IdentifyPDFDocuments, IdentifyDocuments, ReadDocumentsFromDatabase, CreateJobsFromDocuments, and CreateAFPJobsFromDocuments. The file is structured like a table; the first line identifies the properties that are in the file, and each additional line contains the property values for each document. Ricoh ProcessDirector uses the information in the document properties file to keep track of the documents associated with each job.

Document database

The document database is an internally managed database that stores and manages the properties of individual documents in the system. You do not do actions directly on the document database, but on the documents that it contains.

During the configuration process, you work with your Ricoh support representative to decide whether to define document properties as database properties or as limited properties.
2. Planning for installation

- Planning to install document processing features
- Hardware and software requirements for Ricoh ProcessDirector Plug-in for Adobe Acrobat
- Migrating from Adobe Acrobat Professional version X or XI to version DC

When you install Ricoh ProcessDirector document processing features, you install the Ricoh ProcessDirector components on the primary server. If you install the PDF Document Support feature, you also install Ricoh ProcessDirector Plug-in for Adobe Acrobat onto a computer with a Windows operating system and Adobe Acrobat Professional.

Planning to install document processing features

All document processing features include Ricoh ProcessDirector components that you install on an existing Ricoh ProcessDirector server. Before installing a feature, make sure your system meets the following requirements.

Software requirements

Make sure that your system has the required software before installing any document processing features. In addition to the required software described in this section, we recommend that you use an XML editor to edit the required XML configuration files. The installer does a schema-based validation of XML files but does not validate all syntax.

IBM C++ Runtime and Utilities Components

This section applies only to features installed with Ricoh ProcessDirector for AIX.


Make sure you download both the Runtime Environment package and the Utilities package.

You can download them from this Web site:


Follow the installation instructions on the site.

Gathering your document requirements

Determine what document properties are relevant for the workflows that you want to create.

1. Ask yourself questions like these:
   - What document properties will you use to distinguish your documents? (What makes one document different from another?)
   - What document properties do you need to identify to make use of data defined in the document properties in your PDF file?
What document properties do you need to identify to make use of data defined in the index tags (also called Tagged Logical Elements (TLEs)) in your Advanced Function Presentation (AFP) file?

What properties do you want to use as criteria for tracking documents? For example, you could define a property called “account number” so that you can track documents according to account number.

If you have a feature that includes the InsertJobs step template, what information do you want to include in inserter barcodes or in inserter control files? For example, to include the document's ZIP code in the inserter control file, you could define a document property called “ZIP code”.

If you have a feature used for postal processing, what information does your postal software require about each document?

If you have a feature that is used to add barcodes, what document properties do you need to include in the barcode data?

If you have the Archive feature, what document properties do you want to use to retrieve documents from the repository where they are stored?

If you have the Preference Management feature, what document properties do you need to define to handle preference information in Ricoh ProcessDirector?

2. From your answers, decide what properties to define. Some properties that you might want to define are:
   - Account number
   - Address line
   - Postal keyline
   - Data that you want to put into a barcode that is unique for each document
   - ZIP code
   - Dispatch type, such as express or regular mail
   - Encloser type, such as flat or fold

Performance and capacity considerations with document processing features

Keep these performance and system capacity considerations in mind as you configure and use document processing features.

Document properties and document management

Use these document management tips to help you optimize system performance.

Carefully assess your document management needs before you define document properties. Not only must you control the number of properties, but also consider their size. A 1024-character property uses more storage space than a 32-character property.
Limited document properties do not need database table space; however, they occupy space for each document in each document properties file that contains the property.

Using database document properties lets you display document information in the user interface and lets you process documents globally (without knowing which job contains each document), but putting document information in the database has a performance cost. Document properties in the database use space in the database tables. Updates to properties increase logging activity and create possible database contention. The database caches information in memory. With fewer and smaller-sized properties, the database can cache more records in memory and provide better system performance.

Several steps and actions process documents in the database. The database system locks database rows during processing. As more document processing occurs, the impact on system resources increases. You might want to tune your step templates to limit the number of concurrent steps that process documents in the database.

These steps and user-interface actions do database processing:

- **WriteDocumentsToDatabase** adds entries for each document to the database and assigns each such entry a document identifier.
- **ReadDocumentsFromDatabase** retrieves document information from the database and stores it in a document properties file. No updates are done on the database.
- **CompleteDocuments** changes the state of all documents in the job to Complete.
- **CreateJobsFromDocuments** and **CreateAFPJobsFromDocuments** create a new association between documents and the child jobs that are created.
- **RemoveJobs** notifies Ricoh ProcessDirector when jobs are deleted. When Ricoh ProcessDirector deletes a job that has documents in the database, it deletes the documents from the database.
- **UpdateDocumentsInDatabase** updates the document properties in the database using the values from the document properties file.
- The **Process Again** action requires approval from document processing features. Document processing features do not let Ricoh ProcessDirector process an original job again if the documents for that job are also associated with other jobs.
- Opening the Document properties notebook from the Documents table of the legacy user interface retrieves document property values from the database. Only properties that are stored in the database appear in the property notebook.

This list shows steps and actions in order according to how many database resources they use. The most resource-intensive items are at the top.

1. RemoveJobs
2. CompleteDocuments
3. WriteDocumentsToDatabase
4. CreateJobsFromDocuments or CreateAFPJobsFromDocuments
5. Displaying the Documents table in the user interface
6. ReadDocumentsFromDatabase
7. Process Again
8. Opening the Documents property notebook from the Documents table
Use in old UI. The system and user interface work best with the Documents portlet minimized. When the portlet is not minimized, the system must load document information each time the user interface is refreshed. View the Documents table only when you need to see information about specific documents.

**Memory usage**

Keep these memory usage considerations in mind as you configure and use document processing features.

**Note**

Document processing features might not include all of the step templates discussed in this section.

Some steps might need a lot of memory to process a job.

For example, steps based on the CreateJobsFromDocuments, CreateAFPJobsFromDocuments, BuildPDFFromDocuments, BuildAFPFromDocuments, IdentifyPDFDocuments, and IdentifyDocuments step templates read information into memory to do their processing. The system keeps a record for each document in memory.

Steps based on the GroupDocuments, SortDocuments, and SplitDocuments step templates also read information into memory to do their processing. The system keeps a record for each document in memory. The amount of memory needed by GroupDocuments and SortDocuments varies depending on which properties you use for grouping and sorting. When more data exists for those properties, the system uses more memory.

**Note**

If you process jobs using any of these step templates, increase the amount of memory that the Java Virtual Machine (JVM) can use for Ricoh ProcessDirector steps to at least 6 GB of memory:

- BuildAFPFromDocuments
- BuildPDFFromDocuments
- BuildPDFFromZip
- CreateAFPJobsFromDocuments
- CreateJobsFromDocuments
- GroupDocuments
- IdentifyDocuments
- IdentifyPDFDocuments
- SortDocuments
- SplitDocuments
- ReadDocumentsFromDatabase
- UpdateDocumentsInDatabase
- WriteDocumentsToDatabase

See *Defining the JVM memory pool allocation, p. 16* for additional information.

By default, steps are tuned to run on the primary computer, which uses up to 2000 MB of memory when it runs. The primary computer uses the memory for system management, user interface and Web
service requests, printer management, input device management, and running steps. Jobs with many documents that sort or group using many properties can use a significant amount of memory.

You can optimize step tuning to minimize memory usage:

1. Define one or more Ricoh ProcessDirector secondary servers on the primary server. The secondary servers should not be in the general server pool. The servers should allow only one step to run at a time.

2. Change the tuning of these step templates to run only on the secondary servers:
   - BuildAFPFromDocuments
   - BuildPDFFromDocuments
   - CreateAFPJobsFromDocuments
   - CreateJobsFromDocuments
   - GroupDocuments
   - IdentifyDocuments
   - IdentifyPDFDocuments
   - SortDocuments
   - SplitDocuments

### Setting the maximum number of open files (optional)

This section is not applicable to Windows. The system setting for the maximum number of open files prevents an uncontrolled process from taking over your system, but you might need a higher limit than the default if you are processing jobs with many files. Changing the open file limit lets your document processing feature use more system resources. This task is optional, but if File Not Found errors frequently appear in the job log during job processing, you should do this task.

To set the open file limit:

1. Log in to your system as the root user, or use `sudo` or the `su` command to become the root user.
2. On AIX: Open the file `/etc/security/limits`.
3. On Linux: Open the file `/etc/security/limits.conf`.
4. Find the line in the file that sets the open file limit. For example, on a Linux system it might look like this: `aiw1 - nofile 4096`. If the line does not exist, add it in the next step.
5. Edit the line, or add a new line if needed, to set a higher limit for the Ricoh ProcessDirector system user (`aiw1` is the default). This example sets the limit to 15,000 on Linux: `aiw1 - nofile 15000`. This example sets the limit to 15,000 on AIX: `aiw1 - nofiles 15000`.
   
   Check with your system administrator to determine a reasonable upper limit for the number of open files.
6. Log out as root and log in to make the change take effect.
Defining the JVM memory pool allocation

Depending on the size of your production files, processing a workflow can involve several memory-intensive operations. If you do not allocate enough memory to these processes in Ricoh ProcessDirector, you might encounter processing errors or slow processing.

You can configure the Java Virtual Machine memory pool allocation by editing the `/aiw/aiw1/config/jvmsettings.cfg` (UNIX-based operating systems) or `C:\aiw\aiw1\config\jvmsettings.cfg` (Windows) file. If you change the settings in this configuration file, you need to reset the system using the `stopaiw` and `startaiw` commands for the change to take effect.

The primary setting defines the maximum amount of memory allocated to a Java Virtual Machine process. You can change that setting to match your memory usage needs. The default is 2 GB, and you want to allocate at least 6 GB. In the `jvmsettings.cfg` file you change:

```
primary=-Xmx2048m
```
to
```
primary=-Xmx6144m
```

You change the Ricoh ProcessDirector Plug-in for Adobe Acrobat JVM memory allocation by clicking `Ricoh → Preferences` from the Adobe Acrobat menu bar.

Hardware and software requirements for Ricoh ProcessDirector Plug-in for Adobe Acrobat

This section describes the hardware and software requirements for the computer that you install Ricoh ProcessDirector Plug-in for Adobe Acrobat on. The plug-in is included with the PDF Document Support feature.

Hardware requirements

The system hardware requirements for the computer that Ricoh ProcessDirector Plug-in for Adobe Acrobat is installed on are:

- Monitor resolution of 1024 by 768 pixels or higher
- A minimum of 2 GB RAM

Depending on the number of documents you process, additional free hard-drive space and memory might be required.

Operating system and software requirements

Ricoh ProcessDirector Plug-in for Adobe Acrobat requires one of these operating systems:

- Windows 7 Professional or above with Service Pack 1 (32 or 64 bit)
- Windows 10
- Windows Server 2012
- Windows Server 2016
Ricoh ProcessDirector Plug-in for Adobe Acrobat requires this software:

- Java Runtime Environment (JRE) (Version 1.8) as your system default version of JRE

  **Note**

  - When both 32-bit and 64-bit versions of JRE are installed, Ricoh ProcessDirector Plug-in for Adobe Acrobat uses the 64-bit version. If the 64-bit version is JRE 1.7 and the 32-bit version is JRE 1.8, you see an error message because the 1.7 version of the JRE is invalid. Install the 64-bit version of JRE 1.8.

- Adobe Acrobat X (Version 10.1.1 or higher), XI, or DC Professional

  **Note**

  - Acrobat cannot be installed in a directory path that contains non-English Unicode characters.

**Migrating from Adobe Acrobat Professional version X or XI to version DC**

If you have installed Ricoh ProcessDirector Plug-in for Adobe Acrobat on Adobe Acrobat X or XI Professional, follow this process to install Ricoh ProcessDirector Plug-in for Adobe Acrobat on Adobe Acrobat DC Professional.

To migrate to Adobe Acrobat DC Professional:

1. Uninstall Ricoh ProcessDirector Plug-in for Adobe Acrobat from Adobe Acrobat X or XI Professional.
   
   See [Uninstalling Ricoh ProcessDirector Plug-in for Adobe Acrobat, p. 31](#) for more information.

   
   See [Installing Ricoh ProcessDirector Plug-in for Adobe Acrobat, p. 28](#) for more information.

   Your plug-in settings for Adobe Acrobat Professional version X or XI are retained on version DC.
3. Installing features

- Installing the feature on the Ricoh ProcessDirector primary computer
- Installing Ricoh ProcessDirector Plug-in for Adobe Acrobat

To install document processing features, you install Ricoh ProcessDirector components, including workflows and step templates. If you have the PDF Document Support feature, you also install Ricoh ProcessDirector Plug-in for Adobe Acrobat.

Installing the feature on the Ricoh ProcessDirector primary computer

You install the document processing feature on a server on which you have already installed the Ricoh ProcessDirector base product.

Installing document processing features using Feature Manager

Follow these steps to install document processing features using the Ricoh ProcessDirector Feature Manager.

**Notes**

- Features are installed in trial mode. After the features are installed in trial mode, you can download and install the license key for it using the instructions in the Ricoh ProcessDirector: Planning and Installing guide.

- To see whether a feature is running in trial mode, open the Ricoh ProcessDirector Feature Manager and look at the **License State** column. To see how many days remain for the feature in trial mode, select **View log** in the Ricoh ProcessDirector System Summary portlet to open the system log.

To install one or more document processing features:

1. Log in to Ricoh ProcessDirector as a user authorized to use Feature Manager.
2. Click the **Administration** tab.
3. In the left pane, choose **System → Features**.
4. If the feature that you want to install is not listed, you must import it.
   1. Make sure that you have either downloaded the feature package from the Ricoh website or that you have a CD or DVD that contains the package inserted in the drive.
   
   If you download the feature package file, download it onto the primary computer and remember where you put it so you can browse to it. Additionally, you must extract the file in that location so Ricoh ProcessDirector can see the EPK file within the downloaded file.

   2. Click **Import package**.

   3. Navigate to the location that holds the feature package.

   4. Find the EPK file for the feature and select it.

      For example, if you downloaded the Automated Verification feature, find the file AutomatedVerification.epk.

   5. Click **Open**.
5. If the feature that you want to install is in the list, select the check box next to it.
6. In the **Action** column, select the version of the feature you want to install.
7. Click **Apply**.
8. Review the information in the confirmation window, then click **OK** to continue.

The feature or features are installed and Ricoh ProcessDirector is restarted to finish the install process.

**Note**

If you see error messages during the installation process, you can review the logs located in `/path/extensions/doc1` (AIX and Linux) or `\path\extensions\doc1` (Windows). For example, on AIX or Linux, the path is `/opt/infoprint/ippd`. On Windows, the path is `C:\Program Files\Ricoh\ProcessDirector`.

### Defining custom document properties

You use custom document properties to extract data from each document in a job. First you define the custom document properties in Ricoh ProcessDirector, and then you map data in the documents to the document properties. As a job goes through the workflow, the **IdentifyPDFDocuments** step (PDF files) or **IdentifyDocuments** step (AFP files) extracts the data.

Identify data that you want to extract from documents. If Ricoh ProcessDirector supplies an appropriate document property, use it instead of defining a custom document property.

For example, you want to extract account number, customer name, email address, and statement date from each document in a job. Ricoh ProcessDirector supplies a document property, **Email address**, for extracting email addresses. You define custom document properties for account number, customer name, and statement date.

To define custom document properties:

1. Choose the type of custom document property:
   - Database property
   - Limited property

   For more information about the `docCustomDefinitions.xml` file, see `docCustomDefinitions.xml` file, p. 34.

2. Choose a database (internal) name for the custom document property.

   For example, define a custom document property with the database name **Doc.Custom. AccountNumber**.
• We recommend that the database names of your custom document properties start with **Doc. Custom**. If you do not use this naming convention, verify that none of your custom document properties have the same database name as a document property supplied with Ricoh ProcessDirector.

• Do not use a number immediately after the period (.) in the database name. For example, the database name `Doc.3rdLineAddress` is not valid.

• Do not delete custom document properties after you add them to the `docCustomDefinitions.xml` file.

• Do not change the **name** (database name), **dataType**, or **dbType** of a custom document property. The system lets you change **caption** (user interface name), **shortCaption**, **description**, and **access**.

3. Choose a user interface name (**caption**) for the custom document property.

   For example, define a custom document property with the user interface name **Account number**.

   **Note**

   • We recommend that you do not define a custom document property with the same user interface name as a document property supplied by Ricoh ProcessDirector.

4. Choose a datatype (**dataType**) for the custom document property.

   Examples include **String**, **Integer**, **IntegerNonNeg**, and **Timestamp**.

5. For database properties:

   1. Choose a database type (**dbType**).

      For the **String** datatype, database types are `char`, `varchar`, and `long varchar`.

      For the **Integer** datatype, database types are `smallint`, `bigint`, and `integer`.

      For the **Timestamp** datatype, the database type is **Timestamp**.

   2. **Optional**: Choose the level of access that users have to the custom document property:

      • **attrWriteAdmin**
        Members of the Administrator security group have write access. Members of the Monitor, Operator, and Supervisor security groups have read access.

      • **attrWriteAdminSuper**
        Supervisors and Administrators have write access. Monitors and Operators have read access.

      • **attrWriteAdminSuperOper**
        Operators, Supervisors, and Administrators have write access. Monitors have read access.

      If you do not specify an access level, Administrators have write access. Monitors, Operators, and Supervisors have read access.
If you created your own security groups, they receive the same access to custom document properties as the Ricoh ProcessDirector security groups that you copied to create your groups.

3. Choose a short caption.

The short caption is displayed in table column headings.

For example, define a custom document property with the short caption **Acct Nmbr**.

4. Choose a description.

The user interface displays the description as help for the custom document property.

For example, define a custom document property with the description **Customer account number**.

6. Edit the document properties configuration file:

   - The first time that you define custom document properties, make a copy of the supplied sample file. Go to this directory:
     - `/aiw/aiw1/samples/config` on AIX and Linux
     - `C:\aiw\aiw1\samples\config` on Windows
   - When you define more document properties, make a copy of the active file. Go to this directory:
     - `/aiw/aiw1/config` on AIX and Linux
     - `C:\aiw\aiw1\config` on Windows

7. Copy the `docCustomDefinitions.xml` file to a working directory, and edit the file.

   Keep a backup copy of the edited file for recovery purposes.

   For example, these lines add two database document properties with the database names `Doc.Custom.AccountNumber` and `Doc.Custom.StatementDate` to the file:

   ```xml
   <docProperty name="Doc.Custom.AccountNumber"
                datatype="String"
                dbType="varchar (32)"
                access="attrWriteAdmin"
                shortCaption="Account number"
                caption="Account number"
                description="Customer account number"/>
   <docProperty name="Doc.Custom.StatementDate"
                datatype="Timestamp"
                dbType="Timestamp"
                access="attrWriteAdmin"
                shortCaption="Statement date"
                caption="Statement date"
                description="The date the statement was created"/>
   ```
• The name line defines the database name. The caption line defines the user interface name.

These lines add two limited document properties with the internal names Doc.Custom.SSNumber and Doc.Custom.CheckAmt to the file:

```xml
<limitedProperties>
  <docProperty name="Doc.Custom.SSNumber" datatype="String" caption="Social Security number"/>
  <docProperty name="Doc.Custom.CheckAmt" datatype="String" caption="Check total"/>
</limitedProperties>
```

8. Use an XML editor to validate your syntax.

9. Copy the edited file to:
   - /aiw/aiw1/config/docCustomDefinitions.xml (AIX and Linux)
   - C:\aiw\aiw1\config\docCustomDefinitions.xml (Windows)

10. Make the custom document properties that you have defined available to Ricoh ProcessDirector:

    1. Run the **docCustom** utility.

        The first time that you run the **docCustom** utility, it creates the Custom Document Properties feature and adds it to Feature Manager. When you run the utility again, it adds an updated Custom Document Properties feature to Feature Manager.

    2. Use Feature Manager to install or update the Custom Document Properties feature.

11. Load the Ricoh ProcessDirector updated custom document properties to the tool you use to configure document properties:

    • If you have the PDF Document Support feature, load Ricoh ProcessDirector document properties to Ricoh ProcessDirector Plug-in for Adobe Acrobat. For more information, see the related topic in the information center.

    • If you have the AFP Support feature, use one of these methods to start Ricoh Visual Workbench:
      - Start Ricoh Visual Workbench from the Ricoh ProcessDirector server.
      - Replace the Ricoh Visual Workbench application on your desktop:
        ♦ Delete the **VisualWorkbench.zip** file and all of the unzipped files.
        ♦ Download the **VisualWorkbench.zip** file from the Ricoh ProcessDirector user interface.
        ♦ Unzip the file, and start the new Ricoh Visual Workbench desktop application. The document properties are loaded automatically.
Naming custom document properties in more than one language

To define user interface names and descriptive information for your custom document properties in more than one language, you edit a language-specific version of the docCustomDefinitions.properties file for each language. After you update your custom document properties, Ricoh ProcessDirector displays the user interface names and descriptive information for the custom document properties in each language.

In a single-language environment, the preferred method of defining user interface text for custom document properties is to use the caption and description attributes of the docProperty element in the docCustomDefinitions.xml file. If you are using a single language and all custom document property descriptive text is defined in docCustomDefinitions.xml, do not edit the docCustomDefinitions.properties file.

For more information about the format of the docCustomDefinitions.properties file, see docCustomDefinitions.properties file, p. 45.

To name custom document properties in more than one language:

1. Make a working copy of the docCustomDefinitions.properties file for each language:
   - The first time that you name custom document properties in more than one language, make one copy of the sample docCustomDefinitions.properties file for each language except your default language. Navigate to this directory:
     - /aiw/aiw1/samples/config on AIX and Linux
     - C:\aiw\aiw1\samples\config on Windows
   - Copy the docCustomDefinitions.properties file to a working directory.
   - Name each file docCustomDefinitions_language.properties. For example:
     - docCustomDefinitions_de.properties (German)
     - docCustomDefinitions_en.properties (English)
     - docCustomDefinitions_es.properties (Spanish)
     - docCustomDefinitions_fr.properties (French)
     - docCustomDefinitions_it.properties (Italian)
     - docCustomDefinitions_ja.properties (Japanese)
     - docCustomDefinitions_pt.properties (Brazilian Portuguese)

   **Important**
   - Do not create a docCustomDefinitions_language.properties file for your default language.
   - Make sure each file is owned by the Ricoh ProcessDirector system user and group (aiw1 and aiwgrp1 are the defaults).
   - When you name additional document properties in more than one language, navigate to this directory:
2. Edit each file to add your new custom document properties.

The entry for each custom document property has three lines:

- Short caption
- User interface name
- Description

These lines add two custom document properties with the database names `Doc.Custom.AccountNumber` and `Doc.Custom.StatementDate` to the `docCustomDefinitions_es.properties` file:

`Doc.Custom.AccountNumber.Short=Número de cuenta
Doc.Custom.AccountNumber=Número de cuenta
Doc.Custom.StatementDate=Fecha de extracto
Doc.Custom.StatementDate.Description=Fecha en que se creó el extracto`

Keep a backup copy of each edited file for recovery purposes.

3. If you did not create the file in Latin-1 or Unicode format, run the `native2ascii` utility to convert the file to Unicode Latin-1 format.

- On AIX and Linux, the `native2ascii` utility is at `/opt/infoprint/ippd/jre/bin`.
- On Windows, the `native2ascii.exe` utility is at `C:\Program Files\Ricoh\ProcessDirector\jre\bin`.

For detailed information, see Considerations for a system with more than one language, p. 26.

4. Make sure that each `docCustomDefinitions_language.properties` file uses the ISO-8859-1 character encoding format (codepage). If your files use a different format, such as Shift JIS or UTF-8, convert them to ISO-8859-1 format before placing them in the configuration directory.

5. Copy each edited file to the configuration directory:

- `/aiw/aiw1/config` on AIX and Linux
- `C:\aiw\aiw1\config` on Windows

**Important**

Do not delete the `docCustomDefinitions.properties` file. The system requires a file with that name in the configuration directory.

6. Make the custom document properties that you have named in multiple languages available to Ricoh ProcessDirector:

1. Run the `docCustom` utility.

   The first time that you run the `docCustom` utility, it creates the Custom Document Properties feature and adds it to Feature Manager. When you run the utility again, it adds an updated Custom Document Properties feature to Feature Manager.

2. Use Feature Manager to install or update the Custom Document Properties feature.
7. Load the Ricoh ProcessDirector updated custom document properties to the tool you use to configure document properties:

- If you have the PDF Document Support feature, load Ricoh ProcessDirector document properties to Ricoh ProcessDirector Plug-in for Adobe Acrobat. For more information, see the related topic in the information center.
- If you have the AFP Support feature, use one of these methods to start Ricoh Visual Workbench:
  - Start Ricoh Visual Workbench from the Ricoh ProcessDirector server.
  - Replace the Ricoh Visual Workbench application on your desktop:
    - Delete the VisualWorkbench.zip file and all of the unzipped files.
    - Download the VisualWorkbench.zip file from the Ricoh ProcessDirector user interface.
    - Unzip the file, and start the new Ricoh Visual Workbench desktop application.

The document properties are loaded automatically.

Considerations for a system with more than one language

If you are using a language other than English on your system, or if you want to let users see user interface text for custom document properties in more than one language, you might need to do these tasks.

Identifying the code page in docCustomDefinitions.xml

At the top of the docCustomDefinitions.xml file, make sure you correctly identify the code page so that the file can be processed correctly when you update configuration files. Here are some examples of valid code page declarations:

- `<?xml version="1.0" encoding="UTF-8"?>` (specified in the sample file)
- `<?xml version="1.0" encoding="iso-8859-1"?>` (Latin-1)
- `<?xml version="1.0" encoding="shift_jis"?>` (Japanese)

Making sure the document properties names files are in ISO-8859-1 format

The docCustomDefinitions.properties file and docCustomDefinitions_\_language.properties files must contain only Latin-1 or Unicode-encoded (\udddd notation) characters. If you created your docCustomDefinitions.properties and docCustomDefinitions_\_language.properties files in a different format (such as Shift JIS or UTF-8), you must convert each file to ISO-8859-1 before placing it in the /aiw/aiwl/config (UNIX-based operating systems) or C:\aiw\aiwl\config (Windows) directory. Although you can convert the files using whatever method you choose, this section describes one possible method: using the native2ascii utility.

The native2ascii utility converts text to Unicode Latin-1. It is shipped with Ricoh ProcessDirector.

- On AIX and Linux, the native2ascii utility is at /opt/infoprint/ippd/jre/bin.
- On Windows, the native2ascii.exe utility is at C:\Program Files\Ricoh\ProcessDirector\jre\bin.
The utility is also provided with the Java Development Kit, which you can download from this site:
http://www.oracle.com/technetwork/java/javase/downloads
Instructions for using the utility (for Java 6) are here:
http://download.oracle.com/javase/6/docs/technotes/tools/#intl
For example, to convert a UTF-8 file named docCustomDefinitions-UTF8.properties, you can use this command:
native2ascii -encoding UTF-8 docCustomDefinitions-UTF8.properties >
docCustomDefinitions.properties

Updating custom document properties

Whenever you define new custom document properties or name custom document properties in more than one language, you update custom document properties to make your changes available to Ricoh ProcessDirector.

Note

• You must use the legacy user interface for this procedure.

Before doing this task, verify that the syntax in the docCustomDefinitions.xml file is correct.

To update custom document properties:

1. Log in to the primary server as the Ricoh ProcessDirector system user.
   • For Linux/AIX, aiw1 is the default.
   • For Windows, log in to the Administrator account.
2. Open a command line.
3. Change directories.
   • For Linux/AIX, use cd /aiw/aiw1/bin.
   • For Windows, use C:\aiw\aiw1\bin.
4. Enter this command to run the utility:
   docCustom
5. Close the command line.
7. Click Administration → System → Features.
8. Select the check box for the Custom Document Properties feature.
9. In the Action column for the feature, select the most recent date and time.
10. Click Apply.
11. When the Confirm actions window appears, click OK to restart the system and install or upgrade the Custom Document Properties feature.
The **Update in progress** window appears.

12. When the update completes, click **Finish**.

The **Custom Document Properties** feature is installed or upgraded, and you are redirected to the login page.

13. Check that your new document properties are defined on the system:

   1. Log in to Ricoh ProcessDirector.
   2. Open **Property Search** on the Documents portlet and scroll through the **Property** list to see if it includes your new properties.

If you have the PDF Document Support feature installed and you change document property names in Ricoh ProcessDirector, load a new document properties list into Ricoh ProcessDirector Plug-in for Adobe Acrobat. See **Loading Ricoh ProcessDirector document properties**, p. 29 for more information.

If you have the AFP Support feature installed and you change document property names in Ricoh ProcessDirector, access Ricoh Visual Workbench from the Ricoh ProcessDirector user interface. New document properties are loaded to Ricoh Visual Workbench when it opens on your workstation.

### Installing Ricoh ProcessDirector Plug-in for Adobe Acrobat

This section describes how to install and uninstall Ricoh ProcessDirector Plug-in for Adobe Acrobat. The plug-in is included with the PDF Document Support feature.

Make sure the system on which you install Ricoh ProcessDirector Plug-in for Adobe Acrobat meets the hardware and software requirements. See **Planning for installation**, p. 11 for more information. If you have a previous version of Ricoh ProcessDirector Plug-in for Adobe Acrobat on the system, uninstall it.

#### Running the installation program

Follow these steps to install Ricoh ProcessDirector Plug-in for Adobe Acrobat using the plug-in installer file that is copied to the primary computer during installation of the PDF Document Support feature.

The installer file that comes with the PDF Document Support feature is placed here:

- **On Windows**: `C:\aiw\aiw1\share\Ricoh-ProcessDirector-Plug-in-for-AdobeAcrobat-Setup.exe`.
- **On Linux or AIX**: `/aiw/aiw1/share/Ricoh-ProcessDirector-Plug-in-for-AdobeAcrobat-Setup.exe`.

Follow the appropriate steps depending on the type of system where the PDF Document Support feature is installed:

1. **On a Linux or AIX primary computer:**
   
   1. Log in to the primary computer as the Ricoh ProcessDirector system user (**aiw1** is the default), or with a user ID that is a member of the Ricoh ProcessDirector system group (**aiwgrp1** is the default).

2. **On a Windows primary computer:**
1. Log in as an administrator. Close all open applications that could be using Adobe Acrobat Professional, Distiller, or Reader. Many Web browsers use Adobe Acrobat Reader, so make sure to close all Web browsers.

2. Navigate to the plug-in installer file: C:\aiw\aiw1\share\Ricoh-ProcessDirector-Plug-in-for-AdobeAcrobat-Setup.exe.

3. Copy the plug-in installer file to a location on the client Windows computer.

4. On the client Windows computer: log in as an administrator, navigate to the location of the installer file, and double-click it.

5. **Optional**: For setup information including hardware and software requirements, click **Setup Guide**.

Adobe Acrobat must be closed during the installation process. Print these instructions if you want to view them during installation.

6. Follow the prompts to complete the installation.

7. Depending on your current configuration, the installer might ask to update some Microsoft libraries.

8. Verify the installation by opening a PDF file using Adobe Acrobat. The Acrobat menu bar should include the **Ricoh** menu.

Before you start using the plug-in to enhance PDF files, open Adobe Acrobat and click **Ricoh → Help**. Review the topics about preferences, loading document properties, and adding the plug-in icon to the Acrobat quick launch bar. These topics describe how to tailor the plug-in to your environment.

---

### Loading Ricoh ProcessDirector document properties

To use Ricoh ProcessDirector Plug-in for Adobe Acrobat to define text in a PDF file as a Ricoh ProcessDirector document property, you must import the list of Ricoh ProcessDirector document properties.

You must do this task:

- After you install Ricoh ProcessDirector Plug-in for Adobe Acrobat.
- After changes are made to property definition files, you have run the **docCustom** utility, and you have installed or upgraded the **Custom Document Properties** feature.

1. Close Adobe Acrobat Professional.

2. Retrieve the `definitions.zip` file from this directory on the Ricoh ProcessDirector server that processes your PDF files:
   - Unix-based systems, `/aiw/aiw1/share`
   - Windows, `C:\aiw\aiw1\share`

This file is generated when you install one of the document processing features and is updated when you run the **docCustom** utility and install or upgrade the **Custom Document Properties** feature.
3. On the system where you installed Ricoh ProcessDirector Plug-in for Adobe Acrobat, place the \_definitions.zip file in the \<user_home_directory\>\AppData>\Roaming \InfoPrint\InfoPrintPlugin\ directory.  

For \<user_home_directory\>\AppData>, substitute the name of the home directory application data directory for the current user.

**Note**

You can view the application data directory location for the current user by typing \%appdata% in the Windows Run command line and clicking OK.

4. Restart Adobe Acrobat Professional and click Ricoh → Select to activate Ricoh ProcessDirector Plug-in for Adobe Acrobat. The list of Ricoh ProcessDirector document properties in the definitions.zip file is automatically imported into the areas of the plug-in that use document properties.

The definitions.zip file contains document properties and limited document properties. Limited document properties are not saved to a database, but they are stored in the document properties file that contains the property. For more information about both types of properties, see the topics related to document properties in the information center, for example see the topic on editing the sample document properties template.

## Loading media objects

After installing Ricoh ProcessDirector Plug-in for Adobe Acrobat, load Ricoh ProcessDirector media objects. After you load them, you can use them to define media and finishing options for specific pages in a PDF file.

Whenever you change Ricoh ProcessDirector media objects, do this task to load them into Ricoh ProcessDirector Plug-in for Adobe Acrobat.

To load media objects:

1. Close Adobe Acrobat Professional.
2. On the Ricoh ProcessDirector primary server, go to this directory:
   - /aiw/aiw1/share on AIX and Linux
   - C:\aiw\aiw1\share on Windows
3. Copy the media.zip file to the \<user_home_directory\>\AppData>\Roaming \InfoPrint\InfoPrintPlugin\ directory on the system where you installed Ricoh ProcessDirector Plug-in for Adobe Acrobat.

   For \<user_home_directory\>\AppData>, substitute the name of the home directory application data directory for the current user.
• You can view the application data directory location for the current user by typing \%
appdata\% in the Windows Run command line and clicking OK.

• If the directory includes both a media.zip file and a media.xml file, Ricoh
ProcessDirector Plug-in for Adobe Acrobat uses the media.zip file to load the media
objects.

4. Restart Adobe Acrobat Professional and click Ricoh → Select.

The media objects now are available in Ricoh ProcessDirector Plug-in for Adobe Acrobat for defining
media and finishing options.

If your Ricoh ProcessDirector system includes the Preprinted Forms Replacement feature, the electronic
forms defined for media objects also are available.

Uninstalling Ricoh ProcessDirector Plug-in for Adobe Acrobat

If you need to uninstall Ricoh ProcessDirector Plug-in for Adobe Acrobat, use your system’s method to
remove programs.

To uninstall Ricoh ProcessDirector Plug-in for Adobe Acrobat:

1. Close all instances of Adobe Acrobat.
2. Log in to Windows as an administrator.
3. Locate Ricoh ProcessDirector Plug-in for Adobe Acrobat in your installed program list.
4. Select it and remove it.
This section includes format information and examples of configuration files.

## Installation and configuration checklist

This checklist can help you plan your installation and configuration process.

<table>
<thead>
<tr>
<th>Task</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decide which document properties you want to use for all the applications that you process.</td>
<td></td>
</tr>
<tr>
<td>Define custom document properties in the document properties configuration file (docCustomDefinitions.xml).</td>
<td></td>
</tr>
<tr>
<td>Optional: To name custom document properties in more than one language, edit the associated docCustomDefinitions.properties file.</td>
<td></td>
</tr>
<tr>
<td>Optional: Edit the sample document properties template file.</td>
<td></td>
</tr>
<tr>
<td>Run the <strong>docCustom</strong> utility and install or update the <strong>Custom Document Properties</strong> feature.</td>
<td></td>
</tr>
<tr>
<td>If you have the PDF Document Support feature, load Ricoh ProcessDirector document properties to Ricoh ProcessDirector Plug-in for Adobe Acrobat.</td>
<td></td>
</tr>
<tr>
<td>If you have the PDF Document Support feature, use Ricoh ProcessDirector Plug-in for Adobe Acrobat to define the document properties and map them to document data.</td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>If you have the AFP Support feature, use the AFP Indexer mode of Ricoh Visual Workbench to create index tags in AFP files. Use the Document Property Designer mode to link custom document properties to the index tags.</td>
<td></td>
</tr>
<tr>
<td>Create or edit step templates and workflows as needed.</td>
<td></td>
</tr>
<tr>
<td>Optional: If you have the AFP Support feature, create the Enhance AFP control file.</td>
<td></td>
</tr>
</tbody>
</table>

**docCustomDefinitions.xml file**

The document properties configuration file (docCustomDefinitions.xml) defines properties that are used to manage documents. The installation process places a sample file in /aiw/aiw1/samples/config on UNIX-based operating systems, and in C:\aiw\aiw1\samples\config on Windows.

**Note**

If you change the docCustomDefinitions.xml file after installing AFP Support or PDF Document Support:

- Run the docCustom utility and install or upgrade the Custom Document Properties feature.
- For the PDF Document Support feature, load the document properties to Ricoh ProcessDirector Plug-in for Adobe Acrobat.
- For the AFP Support feature, access Ricoh Visual Workbench from the Ricoh ProcessDirector user interface. New document properties are loaded to Ricoh Visual Workbench when it opens on your workstation.

**Database properties and limited properties**

You can define two types of document properties:

- Database properties
- Limited properties

You can store and manipulate both types of properties in a document properties file, but only database properties are stored in the database.

You can work with both types of properties in these ways:

- You can use them with steps in a workflow to group or sort documents (for example, with the SortDocuments step template).
• You can link them to AFP index tags using the Ricoh Visual Workbench Document Property Designer.

• You can map document data in PDF jobs to them using Ricoh ProcessDirector Plug-in for Adobe Acrobat.

• If you have the Archive feature, you can store them in a repository. After you store them, you can use them to search the repository and retrieve jobs, documents, and history information. The values of the properties appear on the Properties tab when you click Show details on the Results table.

• If you have the Preference Management feature, you can use an external preferences file to set the values of the properties.

You can work with database properties, but not limited properties, in these ways:

• You can use them to search for documents on the Documents portlet on the Main page of the user interface.

• When you select a document on the Documents portlet, the values of database properties are displayed.

• You can use them to search for documents to display in the viewer.

• You can determine their values in one job, update their values in another job, and use the updated values in the original job.

• If you have the Automated Verification or Inserter feature, you can use database properties to search for documents to reconcile or reprint.

• If you have the Document Pool extended feature, you can use selectors to manipulate documents based on their property values.

Limited properties offer these advantages:

• You can use them to avoid displaying sensitive property values in the user interface, such as Social Security numbers or check amounts.

• They maximize system performance. Database property manipulation can degrade performance if you process a significant number of documents.

Work with your support representative to determine your needs for database and limited document properties.

Sections in sample file

The sample docCustomDefinitions.xml file contains several sections. This table summarizes them.

Sections in the docCustomDefinitions.xml file

<table>
<thead>
<tr>
<th>Section</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schema</td>
<td>The schema section identifies the schema and the unique character string for the custom document properties. Only the support representative should edit this section.</td>
</tr>
<tr>
<td>Database properties</td>
<td>This section defines database document properties.</td>
</tr>
</tbody>
</table>
### Section Purpose

<table>
<thead>
<tr>
<th>Section</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited properties</td>
<td>This section defines limited document properties.</td>
</tr>
<tr>
<td>User authorization properties</td>
<td>This section is optional. User authorization properties specify custom authority groups for access to database properties.</td>
</tr>
</tbody>
</table>

### Schema section

The **Schema** section contains one `docCustomDefinitions` element and one `schema` element. Only support representatives should edit the schema section.

### Database properties section

The **Database properties** section contains the `docProperty` element.

- Do not define a property as both a database property and a limited property. Unexpected behavior might occur.
- Do not define a document property with the same name as a property that Ricoh ProcessDirector defines automatically. For a list, see *Automatically defined document properties*, p. 41.

<docProperty>

Defines document properties that are in the database.

### Attributes for the docProperty element

<table>
<thead>
<tr>
<th>docProperty attribute</th>
<th>Required?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Yes</td>
<td>The database name (internal name) for the property. Programs that read or write properties use this name. We recommend that you use a consistent naming convention for your custom property names, so they are unique across the entire system. For example, the sample docCustomDefinitions.xml file uses the prefix Doc.Custom to make its properties unique from those of the base product. Do not use any special characters (such as @, #, $, %, or - (dash)) or spaces in the property name. You can use periods and underscores. Do not use a number immediately after the period (.) in the property database name. For example, the property Doc.3rdLineAddress is not valid.</td>
</tr>
<tr>
<td>access</td>
<td>No</td>
<td>The user access level for the property. You can use an access level that is already defined in the product, or you can create a custom access level if an existing one does not meet your needs. See the <strong>Access</strong> section for more information.</td>
</tr>
<tr>
<td>docProperty attribute</td>
<td>Required?</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>datatype</td>
<td>Yes</td>
<td>The data type to use for the property. See the next table.</td>
</tr>
<tr>
<td>dbType</td>
<td>Yes</td>
<td>A database parameter that specifies the type of data. See the next table.</td>
</tr>
<tr>
<td>caption</td>
<td>Yes</td>
<td>The user interface name (default caption) for the property. If you are setting up captions in only one language, define them in this file. If you are setting up user interface names in more than one language, create additional document properties names files (docCustomDefinitions_language.properties) for the other languages. For more information, see docCustomDefinitions.properties file, p. 45.</td>
</tr>
<tr>
<td>shortCaption</td>
<td>Yes</td>
<td>The default short caption displayed for this property where required, such as in table column headings. If you are setting up short captions in only one language, define them in this file. If you are setting up short captions in more than one language, create additional document properties names files (docCustomDefinitions_language.properties) for the other languages. For more information, see docCustomDefinitions.properties file, p. 45.</td>
</tr>
<tr>
<td>description</td>
<td>Yes</td>
<td>The default description of the document property, which displays in the user interface as help text. If you are setting up descriptions in only one language, define them in this file. If you are setting up descriptions in more than one language, create additional document properties names files (docCustomDefinitions_language.properties) for the other languages. For more information, see docCustomDefinitions.properties file, p. 45.</td>
</tr>
</tbody>
</table>

You can use these data types and database types in database property definitions. Keep in mind that the database definition might further restrict the values that can be stored, in addition to the validation rules shown in this table. For example, a SMALLINT can store integers from 0 to 32,767 and a VARCHAR(12) does not permit strings longer than 12 characters. Database type values are not case-sensitive.
Data types and database types for docProperty definitions

<table>
<thead>
<tr>
<th>Data type</th>
<th>Database type (used in SQL)</th>
<th>Validation for data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>CHARVARCHAR-</td>
<td>CHAR: fixed length, 1-254 characters VARCHAR: variable length, 1-32,672 characters LONG VARCHAR: variable length, 1-32,700 characters</td>
</tr>
<tr>
<td></td>
<td>LONG VARCHAR</td>
<td></td>
</tr>
<tr>
<td>IntegerNonNeg</td>
<td>SMALLINTBIGINT-</td>
<td>SMALLINT: 2 bytes BIGINT: 4 bytes INTEGER: 8 bytes minimum=0</td>
</tr>
<tr>
<td></td>
<td>TINTEGER</td>
<td></td>
</tr>
<tr>
<td>Timestamp</td>
<td>TIMESTAMP</td>
<td>TIMESTAMP: Must contain values for day (D), month (M), and year (Y). Those components can appear in one of these formats: MM DD YYYY DD MM YYYYYY MM DDDay and month must be represented by a two-digit number. You can add a time of day in this format: hh:mm:ss</td>
</tr>
</tbody>
</table>

Limited properties section

The Limited properties section contains one or more docProperty elements.

Note

- Do not define a property as both a database property and a limited property. Unexpected behavior might occur.
- Do not define a document property with the same name as a property that Ricoh ProcessDirector defines automatically. For a list, see Automatically defined document properties, p. 41.

<docProperty>

Defines document properties that are manipulated only in the document properties file and not in the database.
Attributes for the docProperty element

<table>
<thead>
<tr>
<th>docProperty attribute</th>
<th>Required?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Yes</td>
<td>We recommend that you use a consistent naming convention for your custom property names, so that they are unique across the entire system. For example, the sample docCustomDefinitions.xml file uses the prefix Doc.Custom to make its properties unique from the base product. Do not use any special characters (such as @, #, $, %, or - (dash)) or spaces in the property name. You can use periods and underscores. Do not use a number immediately after the period (.) in the property database name. For example, the property Doc.3rdLineAddress is not valid.</td>
</tr>
<tr>
<td>datatype</td>
<td>No</td>
<td>See the next table.</td>
</tr>
<tr>
<td>caption</td>
<td>No</td>
<td>The caption displayed in drop-down lists in the user interface for this property. If you are setting up captions in only one language, define them in this file. If you are setting up captions in more than one language, create a document properties names file (docCustomDefinitions_.language.properties) for the other languages. See the related information center topic for details.</td>
</tr>
</tbody>
</table>

You can use these data types in docProperty definitions:

Data types for the docProperty element

<table>
<thead>
<tr>
<th>Data type</th>
<th>Validation for data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>String</td>
<td>None</td>
</tr>
<tr>
<td>IntegerNonNeg</td>
<td>Integer between 0 and 2147483647</td>
</tr>
<tr>
<td>Timestamp</td>
<td>TIMESTAMP: Must contain values for day (D), month (M), and year (Y). Those components can appear in one of these formats: MM DD YYYYDD MM YYYYMM DD Day and month must be represented by a two-digit number. You can add a time of day in this format: hh:mm:ss</td>
</tr>
</tbody>
</table>

User authorization properties section

The User authorization properties section is optional. User authorization properties specify custom authority groups for access to database properties. This section contains one or more access elements.

<access>
Used to define the ability to read or edit custom properties. You use these access levels in the `docProperty` element. You can use one of the default security groups that Ricoh ProcessDirector provides, or define your own. These are the attributes:

**Attributes for the access element**

<table>
<thead>
<tr>
<th>access attribute</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>Name of the access level.</td>
</tr>
<tr>
<td>groupAttributeAccess</td>
<td>Ability of the user group to read or edit the attribute.</td>
</tr>
</tbody>
</table>

These are the default access levels and authorizations that Ricoh ProcessDirector provides:

**Default access levels and authorizations**

<table>
<thead>
<tr>
<th>Access name</th>
<th>Group name</th>
<th>Access level</th>
</tr>
</thead>
<tbody>
<tr>
<td>generic</td>
<td>AnyAuthenticated</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Operator</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Attribute access: write</td>
</tr>
<tr>
<td>attrWriteAdmin</td>
<td>Operator</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Attribute access: write</td>
</tr>
<tr>
<td></td>
<td>Everyone</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Monitor</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td>attrWriteAdminSuper</td>
<td>Operator</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>Attribute access: write</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Attribute access: write</td>
</tr>
<tr>
<td></td>
<td>Everyone</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Monitor</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td>attrWriteAdminSuperOper</td>
<td>Operator</td>
<td>Attribute access: write</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>Attribute access: write</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Attribute access: write</td>
</tr>
<tr>
<td></td>
<td>Everyone</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td></td>
<td>Monitor</td>
<td>Attribute access: read</td>
</tr>
<tr>
<td>actionAdmin</td>
<td>Operator</td>
<td>Action access: false</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>Action access: false</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Action access: true</td>
</tr>
<tr>
<td></td>
<td>Everyone</td>
<td>Action access: false</td>
</tr>
<tr>
<td>Access name</td>
<td>Group name</td>
<td>Access level</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>actionAdminSuper</td>
<td>Monitor</td>
<td>Action access: false</td>
</tr>
<tr>
<td></td>
<td>Operator</td>
<td>Action access: false</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>Action access: true</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Action access: true</td>
</tr>
<tr>
<td></td>
<td>Everyone</td>
<td>Action access: false</td>
</tr>
<tr>
<td></td>
<td>Monitor</td>
<td>Action access: false</td>
</tr>
<tr>
<td>actionAdminSuperOper</td>
<td>Operator</td>
<td>Action access: true</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>Action access: true</td>
</tr>
<tr>
<td></td>
<td>Administrator</td>
<td>Action access: true</td>
</tr>
<tr>
<td></td>
<td>Everyone</td>
<td>Action access: false</td>
</tr>
<tr>
<td></td>
<td>Monitor</td>
<td>Action access: false</td>
</tr>
</tbody>
</table>

**Automatically defined document properties**

This table lists document properties that Ricoh ProcessDirector automatically defines during installation. Do not define these properties in the docCustomDefinitions.xml file.

**Automatically defined document properties**

<table>
<thead>
<tr>
<th>Property database name</th>
<th>Packaged with...</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doc.Address.1</td>
<td>Postal Enablement</td>
<td>Specifies the first line of the address block in the document.</td>
</tr>
<tr>
<td>Doc.Address. Company</td>
<td>Postal Enablement</td>
<td>Specifies the company name in the document.</td>
</tr>
<tr>
<td>Doc.AV.ScanCount</td>
<td>Automated Verification</td>
<td>Shows the number of times the barcode on a document is scanned.</td>
</tr>
<tr>
<td>Doc.ChildJobID</td>
<td>All document processing features</td>
<td>A grouping identifier for child jobs. Although the value is initially defined in IdentifyDocuments or IdentifyPDFDocuments, it can be updated by any step that changes the document properties file, such as SplitDocuments or CreateJobsFromDocuments.</td>
</tr>
<tr>
<td>Doc.CurrentFirstPage</td>
<td>All document processing features</td>
<td>The page number of the first page of the document in the current print file.</td>
</tr>
<tr>
<td>Property database name</td>
<td>Packaged with...</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Doc.CurrentJobID</td>
<td>All document processing features</td>
<td>The associated job number.</td>
</tr>
<tr>
<td>Doc.CurrentPages</td>
<td>All document processing features</td>
<td>The number of pages for the document in the current job.</td>
</tr>
<tr>
<td>Doc.CurrentSequence</td>
<td>All document processing features</td>
<td>The sequence of the document in the current job.</td>
</tr>
<tr>
<td>Doc.CurrentSheets</td>
<td>All document processing features</td>
<td>The number of sheets for the document in the current job.</td>
</tr>
<tr>
<td>Doc.Custom.MemberLevel</td>
<td>Electronic Presentment</td>
<td>The customer’s level of membership at the time the statement was created.</td>
</tr>
<tr>
<td>Doc.Custom.PURL</td>
<td>Electronic Presentment</td>
<td>A personalized URL linking to the location where the customer can retrieve the statement.</td>
</tr>
<tr>
<td>Doc.Custom.StatementDate</td>
<td>Electronic Presentment</td>
<td>The date of when the statement was first issued.</td>
</tr>
<tr>
<td>Doc.DataLen</td>
<td>All document processing features</td>
<td>The length (in bytes) of the document in the print file.</td>
</tr>
<tr>
<td>Doc.DataOffset</td>
<td>All document processing features</td>
<td>The byte offset of the document in the print file of the original job. This value is used by BuildAFPFromDocuments and CreateAFPJobsFromDocuments to locate the AFP to extract from the original job.</td>
</tr>
<tr>
<td>Doc.DocSize. PieceThickness</td>
<td>Postal Enablement</td>
<td>Specifies the thickness of a mail piece when the mail pieces in a job have different thicknesses.</td>
</tr>
<tr>
<td>Doc.DocSize. PieceWeight</td>
<td>Postal Enablement</td>
<td>Specifies the weight of a mail piece when the mail pieces in a job have different weights.</td>
</tr>
<tr>
<td>Doc.Email.Sent</td>
<td>All document processing features</td>
<td>Specifies whether an email with an attached document has been created and delivered to the SMTP server by the EmailDocuments step in a workflow.</td>
</tr>
<tr>
<td>Doc.EmailAddress</td>
<td>All document processing features</td>
<td>The email address associated with the document.</td>
</tr>
<tr>
<td>Doc.ID</td>
<td>All document processing features</td>
<td>A unique identifier for the document.</td>
</tr>
<tr>
<td>Doc.Insert.BinTriggers</td>
<td>Inserter</td>
<td>The inserter bins that should deliver inserts for this document.</td>
</tr>
<tr>
<td>Doc.Insert.DivertBin</td>
<td>Inserter</td>
<td>The number of the inserter output bin to which the document is diverted after insertion.</td>
</tr>
<tr>
<td>Property database name</td>
<td>Packaged with...</td>
<td>Notes</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Doc.Insert. RecipientName</td>
<td>Inserter</td>
<td>The name of the person to whom this document is mailed.</td>
</tr>
<tr>
<td>Doc.Insert. ReprintJobId</td>
<td>Inserter</td>
<td>For an inserter reprint job, the parent job ID that created the job.</td>
</tr>
<tr>
<td>Doc.Member.Number</td>
<td>Archive</td>
<td>Specifies the member number in the document. The RepositorySample supplied workflow uses this property.</td>
</tr>
<tr>
<td>Doc.OriginalFirstPage</td>
<td>All document processing features</td>
<td>The page number of the first page of the document.</td>
</tr>
<tr>
<td>Doc.OriginalJobID</td>
<td>All document processing features</td>
<td>The job ID of the original job.</td>
</tr>
<tr>
<td>Doc.OriginalPages</td>
<td>All document processing features</td>
<td>The number of pages in the document.</td>
</tr>
<tr>
<td>Doc.OriginalSequence</td>
<td>All document processing features</td>
<td>The sequence of the document in the original job. The system gives the first document the sequence value 1, the next document has the sequence value 2, and so on.</td>
</tr>
<tr>
<td>Doc.OriginalSheets</td>
<td>All document processing features</td>
<td>The number of sheets needed to print the document.</td>
</tr>
<tr>
<td>Doc.Postal.AddressProcessingRC</td>
<td>Postal Enablement</td>
<td>A value returned from postal software to indicate if an address change is available for the document.</td>
</tr>
<tr>
<td>Doc.Postal.Category</td>
<td>Postal Enablement</td>
<td>Specifies the pallet break mark for the document.</td>
</tr>
<tr>
<td>Doc.Postal.ChangeAddressRC</td>
<td>Postal Enablement</td>
<td>Specifies the pallet number for the document.</td>
</tr>
<tr>
<td>Doc.Postal.ContainerNumber</td>
<td>Postal Enablement</td>
<td>Specifies the container number for the document.</td>
</tr>
<tr>
<td>Doc.Postal.HandlingUnitBreakMark</td>
<td>Postal Enablement</td>
<td>Specifies the package break mark for the document.</td>
</tr>
<tr>
<td>Doc.Postal.HandlingUnitNumber</td>
<td>Postal Enablement</td>
<td>Specifies the package number for the document.</td>
</tr>
<tr>
<td>Doc.Postal.PackageBreakMark</td>
<td>Postal Enablement</td>
<td>Specifies the postage rate for the document.</td>
</tr>
<tr>
<td>Property database name</td>
<td>Packaged with...</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Doc.Postal. PackageNumber</td>
<td>Postal Enablement</td>
<td>Specifies the postage rate code for the document.</td>
</tr>
<tr>
<td>Doc.Postal. PostageRate</td>
<td>Postal Enablement</td>
<td>Specifies the presort sequence number for the document.</td>
</tr>
<tr>
<td>Doc.Postal. PostageRateCode</td>
<td>Postal Enablement</td>
<td>A value returned from postal sorting software to indicate the result of its processing.</td>
</tr>
<tr>
<td>Doc.Postal. SequenceNumber</td>
<td>Postal Enablement</td>
<td>The sequence of the document in the child job.</td>
</tr>
<tr>
<td>Doc.Pref.Member</td>
<td>Preference Management</td>
<td>Can be used with a property mapping object to identify the documents in a job. The DelimitedSample supplied property mapping object and PreferencesSample supplied workflow use this property.</td>
</tr>
<tr>
<td>Doc.Pref.Output</td>
<td>Preference Management</td>
<td>Can be used with a property mapping object to indicate the output type (such as Email, Print, or Suppress) for a document. The DelimitedSample supplied property mapping object and PreferencesSample supplied workflow use this property.</td>
</tr>
<tr>
<td>Doc.Pull</td>
<td>All document processing features</td>
<td>Can be used with the SetDocPropsFromList step template to indicate that a document should be removed from a job. The PullPDFSample and PullAFPSample supplied workflows use this property.</td>
</tr>
<tr>
<td>Doc.PullProp</td>
<td>All document processing features</td>
<td>Can be used with the SetDocPropsFromList step template to identify which document property determines the documents to be removed from a job. The PullPDFSample and PullAFPSample supplied workflows use this property.</td>
</tr>
<tr>
<td>Doc.SequenceInChild</td>
<td>All document processing features</td>
<td>The sequence of a document in a child job. Although the value is initially defined in IdentifyDocuments, it can be updated by any step that changes the document properties file, such as SortDocuments or CreateJobsFromDocuments.</td>
</tr>
</tbody>
</table>
### Property database name

<table>
<thead>
<tr>
<th>Property database name</th>
<th>Packaged with...</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doc.SourceFileName</td>
<td>All document processing features</td>
<td>The name of the input file that contained the document.</td>
</tr>
<tr>
<td>Doc.State</td>
<td>All document processing features</td>
<td>The current state of the document.</td>
</tr>
<tr>
<td>Doc.TT. BarcodeStatus1</td>
<td>Automated Verification</td>
<td>Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.</td>
</tr>
<tr>
<td>Doc.TT. BarcodeStatus2</td>
<td>Automated Verification</td>
<td>Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.</td>
</tr>
<tr>
<td>Doc.TT. BarcodeStatus3</td>
<td>Automated Verification</td>
<td>Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.</td>
</tr>
<tr>
<td>Doc.TT. BarcodeStatus4</td>
<td>Automated Verification</td>
<td>Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.</td>
</tr>
<tr>
<td>Doc.TT. BarcodeStatus5</td>
<td>Automated Verification</td>
<td>Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.</td>
</tr>
<tr>
<td>Doc.Verification. Recipient</td>
<td>Automated Verification</td>
<td>Specifies information, such as account name, that helps you to identify a document.</td>
</tr>
</tbody>
</table>

### docCustomDefinitions.properties file

The document properties names file (docCustomDefinitions.properties) defines user interface information for custom document properties. The entries in the docCustomDefinitions.properties file correspond to the docProperty elements in the docCustomDefinitions.xml file.
If you change the docCustomDefinitions.properties file or any docCustomDefinitions_language.properties files after installing the feature:

- Run the docCustom utility and install or upgrade the Custom Document Properties feature.
- For PDF document processing features, load the document properties to Ricoh ProcessDirector Plug-in for Adobe Acrobat.
- For AFP document processing features, access Ricoh Visual Workbench from the Ricoh ProcessDirector user interface. New document properties are loaded to Ricoh Visual Workbench when it opens on your workstation.

The entries in the docCustomDefinitions.properties file are used in the Ricoh ProcessDirector user interface when you select custom document properties from lists, or when you view field help for a custom document property. A sample file is in the /samples directory on the feature CD, and the installation process places a sample file in /aiw/aiw1/samples/config on AIX or Linux, and in C:\aiw\aiw1\samples\config on Windows.

Create a separate docCustomDefinitions_language.properties file for each additional language that you want to support, using a language identifier in each file name. For example:

- docCustomDefinitions_de.properties (German)
- docCustomDefinitions_en.properties (English)
- docCustomDefinitions_es.properties (Spanish)
- docCustomDefinitions_fr.properties (French)
- docCustomDefinitions_it.properties (Italian)
- docCustomDefinitions_ja.properties (Japanese)
- docCustomDefinitions_pt.properties (Brazilian Portuguese)

You create a stanza of caption and description values for every document property.

[property]

The full property name.

[property].Description

A description of the property. Use HTML tags if you want to format the text. This content appears in the field help when the user clicks the ? button.

For example:

Doc.Custom.Zip=ZIP code
Doc.Custom.Zip.Description=The ZIP code of an address
• Do not rename the default docCustomDefinitions.properties file; a file with this name must exist in your configuration directory (/aiw/aiw1/config). Copy the file and name the copy with the appropriate language identifier as needed.

• The docCustomDefinitions.properties file and any docCustomDefinitions_language.properties files must use the ISO-8859-1 character encoding (code page). If you create your docCustomDefinitions.properties files in a different format (such as Shift JIS or UTF-8), you must convert the file to ISO-8859-1 when placing it in the /aiw/aiw1/config directory.

Document properties template file

The document properties template file, if it exists, determines which properties go into the document properties file for each job. The template file lets you control the number of document properties to be used, as well as the order of the columns in the document properties file. If you need to maximize performance on your system by assigning only a subset of document properties, make sure that any properties needed by your workflow steps are listed in the document properties template file.

A sample document properties template file is located on the product CD in the /samples directory. After installation, you can find it in the directory /path/extensions/doc/samples/. For example, on AIX or Linux, the path is /opt/infoprint/ippd. On Windows, the path is C:\Program Files\Ricoh\ProcessDirector.

The document properties template file lists the database names of document properties. You can include all entries on a single line with a space or a tab character between each property, or you can place each entry on a separate line. When a step based on the ReadDocumentsFromDatabase step template creates the document properties file, it copies the first line from the template file. Then the step creates a separate line for each document associated with the job. Each document description line lists the property values, separated by a tab or space character, in the same order that they appear in the first line. If a value is Not set, an empty string ("") is placed in the file.

Using a document properties template file is optional, but recommended if you need to maximize performance. If you do not use it, all document properties are included in the generated document properties file.

The document properties template file must include all the properties needed by steps that process the document properties file. In addition, the document properties template file must include certain properties, depending on the step that is using the template file. These properties are required by BuildPDFFromDocuments, CreateAFPJobsFromDocuments, and BuildAFPFromDocuments:

• Doc.ChildJobID (*)
• Doc.OriginalJobID (*)
• Doc.OriginalSequence (*)
• Doc.SequenceInChild (*)
• Doc.OriginalSheets
• Doc.DataOffset (for AFP jobs)
• Doc.DataLen (for AFP jobs)

Document properties marked with an asterisk (*), as well as the Doc.ID property, are automatically included in the document properties file whether or not they are defined in the template.
Document properties file

Your feature uses information from the document properties file in these processes:

- Steps that sort, group, and split documents. For example, if you want to use a step to sort documents by ZIP code, a property such as Doc.Custom.ZipCode must be in the document properties file.

- External programs that process document properties.

- Steps that process document properties files for use with postal software. The Postal Enablement feature provides these steps: BuildExternalDocPropsFile, MapExternalResultsFileToDocProps, and UpdateDocPropsFromExtResultsFile. For these steps to run successfully, the Doc.ID or Doc.SequenceInChild property must be included in the document properties file.

- Steps that process document properties files for use with values from external files. All document processing features provide the SetDocPropsFromList and EmailDocuments steps. The Preference Management feature provides the ApplyPreferences step.

- Steps that process AFP documents, such as steps based on the CreateAFPJobsFromDocuments and BuildAFPFromDocuments step templates. For either the CreateAFPJobsFromDocuments or BuildAFPFromDocuments steps to run successfully, these properties must be included in the document properties file:
  - Doc.OriginalJobID
  - Doc.ChildJobId
  - Doc.SequenceInChild
  - Doc.OriginalSequence
  - Doc.OriginalSheets
  - Doc.DataOffset
  - Doc.DataLen

- Steps that process PDF documents, such as steps based on the BuildPDFFromDocuments step template. For the BuildPDFFromDocuments steps to run successfully, these properties must be included in the document properties file:
  - Doc.OriginalJobID
  - Doc.ChildJobId
  - Doc.SequenceInChild
  - Doc.OriginalSequence
  - Doc.OriginalSheets

The first line in the document properties file contains the information from the document properties template file. Each additional line contains values for each of the properties from one document.

These steps automatically create the document properties file:

- A step based on the IdentifyDocuments step template creates the document properties file using the Visual Workbench control file as a guide.

A step based on the ReadDocumentsFromDatabase step template creates the document properties file using a document properties template file as a guide.

A step based on the CreateJobsFromDocuments or CreatePDFJobsFromDocuments step template creates the document properties file for child jobs using the document properties file of the parent (current) job as a guide.

The GroupDocuments, SortDocuments, SplitDocuments, SetDocPropsFromList, ApplyPreferences (Preference Management only), and UpdateDocPropsFromExtResultsFile (Postal Enablement only) steps can manipulate the document properties file. The document properties file might also be used by an external program or a custom step that you create.

A document properties file always contains the properties Doc.ChildJobId and Doc.SequenceInChild. If a step (such as GroupDocuments) that creates document groups runs, the document properties file will contain more than one value for Doc.ChildJobId.

Ricoh ProcessDirector provides methods, including getFileName and getAbsoluteFileName, that let you provide access for external programs to read and write spool files in the spool directory for the job. For more information, see “Using Ricoh ProcessDirector methods such as getFileName”.

The document properties file is stored in the spool directory for the job. When the IdentifyDocuments or IdentifyPDFDocuments step creates the file, the file name is in the format: jobid.original.dpf (for example, 10000009.original.dpf). When the WriteDocumentsToDatabase step runs, it copies the file and adds additional properties, including Doc.ID. The new file is saved with a file name in this format: jobid.document.dpf (for example, 10000009.document.dpf). The values are in UTF-8 format and separated by tabs.

Some information in the document properties file is not stored in the database but is used only during the processing of steps. This information, for example, is in the document properties file but not in the database:

**Doc.DataOffset**
- The offset of the print data for the document in the original job's AFP print file.

**Doc.DataLen**
- The length of the print data for the document in the original job's AFP print file.

### Property conditions file

Steps based on the SetDocPropsFromConditions step template set document properties or job properties in the current job using a property conditions file. The conditions defined in the file use a comma-separated value (CSV) format. A sample property conditions file is in /aiw/aiw1/samples/doc/DocPropConditions.csv. If you have the Postal Enablement feature, more sample files are in /aiw/aiw1/samples/control_files/postal.

**Important**
- When you edit the property conditions file, open it in a text editor. Do not edit the file in Microsoft Excel.

You can use the property conditions file to set values for properties with conditions or without conditions. You can also use a separate include file to define properties using a property = value format.
Setting values using conditions

The first line in the property conditions file is a header row that lists the database names of document or job properties, separated by commas. Normally the leftmost part of the header row specifies the properties to test for one or more conditions, although this order is not required.

The header row is followed by one or more condition rows that define the conditions, and the property values to be set when all the conditions in that row are true. You can think of each condition row as representing an if-then statement. All specified conditions in a row are logically ANDed together and must all be true. If any of the conditions in a row are not true, none of the values in that row are set. The values in the condition rows are separated by commas.

This example shows the contents of a property conditions file that sets property values based on conditions:

```
=USPS.,Yes
=USPS.,~XYZ*,No
=NonUSPS.,No
=Exception.,No
```

The first if-then condition specifies that if a mailpiece category is USPS, Ricoh ProcessDirector sets the Doc.Run.PAVE property to Yes. The second row sets the value of Doc.Run.PAVE to No when the job name begins with XYZ.

We recommend that you place all properties that are part of conditions to the left of the properties that are receiving values.

Properties that are part of conditions use condition characters from this set:

### Condition characters in the conditions file

<table>
<thead>
<tr>
<th>Condition characters</th>
<th>Condition</th>
<th>Example/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>![value]</td>
<td>equal to</td>
<td>=Fir</td>
</tr>
<tr>
<td>![value]</td>
<td>not equal to</td>
<td>&lt;&gt;Fir</td>
</tr>
<tr>
<td>![value]</td>
<td>less than</td>
<td>&lt;4900000</td>
</tr>
<tr>
<td>![value]</td>
<td>greater than</td>
<td>&gt;61000</td>
</tr>
<tr>
<td>![value]</td>
<td>less than or equal to</td>
<td>&lt;=61207</td>
</tr>
<tr>
<td>![value]</td>
<td>greater than or equal to</td>
<td>&gt;=61207</td>
</tr>
<tr>
<td>![value]</td>
<td>like</td>
<td>~INSURE*.PDF</td>
</tr>
<tr>
<td>![value]</td>
<td>not like</td>
<td>!~*.PDF</td>
</tr>
<tr>
<td>&quot;([val1],[val2],...)&quot;</td>
<td>in (must start and end with parentheses surrounded by quotation marks)</td>
<td>&quot;(PRTA, PRTB)&quot;</td>
</tr>
</tbody>
</table>
### Condition characters

<table>
<thead>
<tr>
<th>Condition characters</th>
<th>Condition</th>
<th>Example/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;!(val1),[val2],...&quot;</td>
<td>not in (must start and end with parentheses surrounded by quotation marks)</td>
<td>&quot;!(PRTA, PRTB)&quot;</td>
</tr>
<tr>
<td>(blank)</td>
<td>wildcard (*)</td>
<td>When a condition is blank, it is considered always true.</td>
</tr>
</tbody>
</table>

#### Note

- You can use the pound sign (#) to add comments. Only complete lines can be comments; the # character must be in the first position in the line.
- Spaces can separate keyword characters from condition values.
- When setting positional properties, you can choose one of these two formats: `property-name [process-name][phase-name][step-name]` or `[phase-name][step-name]`. You cannot use positional properties to set other properties.
- The ? and * characters are wildcard characters used with the like and not like conditions. The question mark matches single characters and the asterisk matches any number of characters.
- You can use Ricoh ProcessDirector symbol notation in the conditions file to set conditions or assign values based on the current value of a particular document or job property. See the topic titled `Ricoh ProcessDirector symbol notation` in the Information Center for a description of symbol notation syntax. You can also use symbol notation with literal string values; see below for more information.
- If a condition field has an equal sign (=) without a value, the condition is true if the job's property value is null. If a field has an empty value, the property is ignored for that row; it is not part of any condition and its value is not changed. Because of this rule, the step cannot set a job property to null. To set a property to null manually, use the expression `${null}`.
- Each row is evaluated independently.
- All rows with conditions that match a job's or document's properties are applied. The rows are applied in the order that they occur in the conditions file. Within each row, property values are applied from left to right.
- Leading and trailing blanks are removed from field values before any comparison or set operation takes place. Blanks within a value (not leading or trailing) are retained.

### Using a segment of a property value with symbol notation and the substring specifier

If you want to use only a portion of a property in a condition - such as using only the first 5 characters of a property's value - you can use the substring specifier to indicate the portion of the property that you want to use.

The syntax is:

```
${property_name;substr;start;length}
```

where:

- `property_name` is the name of the property, such as `Job.Name`.
- `start` is the position in the string that you want to start from.
Length is the number of characters to use in the condition; if you enter a length that is more than the number of characters in the property, the rest of the property is used.

**Note**

- The string is zero-base indexed; for example, the first character is in position 0 and the fifth character is in position 4.

This table shows some examples:

### Examples of substring values

<table>
<thead>
<tr>
<th>Property conditions file contains...</th>
<th>Property value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>${Job.Name;substr;0;4}</td>
<td>Job.Name = USPS-FullService</td>
<td>USPS</td>
</tr>
<tr>
<td>${Job.Name;substr;5;8}</td>
<td>Job.Name = USPS-OversizeFlat</td>
<td>Oversize</td>
</tr>
</tbody>
</table>

### Creating concatenated values with symbol notation

In addition to using symbol notation to set conditions or assign values based on the current value of a particular property, you can combine symbols to create a concatenated single value, or use them with literal strings.

This table shows some examples:

### Examples of concatenating property values

<table>
<thead>
<tr>
<th>Property conditions file contains...</th>
<th>Actual property values</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Job Custom.Z = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Job Name=Oversize Flat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Doc Run.PAVE=No</td>
</tr>
</tbody>
</table>

### Setting values without defining conditions

The format of the conditions file is the same, with a header row that contains property database names and a second row that lists property values. However, the conditions file contains only two rows. If you include more than one row of property values, only the values specified in the last row are saved.

This example shows the contents of a property conditions file that sets property values without using conditions:

<table>
<thead>
<tr>
<th>Property conditions file contains...</th>
<th>Result</th>
</tr>
</thead>
</table>
Setting values with a separate include file

If you have a collection of properties that remain the same for several workflows, you can define those properties in a separate include file that you refer to in the property conditions file.

To refer to a separate include file, put `@include` in the header row of the property conditions file, and specify the relative or absolute path to the include file in the second row of the property conditions file.

**Important**

- Use the Linux delimiting character (`/`) to specify the absolute directory path to the include file on a Windows system. For example, if the include file on a Windows system is at `C:\Projects\data.txt`, specify `/Projects/data.txt`.

This example shows the contents of a property conditions file that contains `@include` and a path to a separate include file:

```plaintext
Doc.Custom.MailCategory,Job.Name,@include
USPS,Priority,.../prop-assignments/usps-properties.txt
```

In this example, the Mail Category property is assigned the value of USPS, the Job Name property is assigned the value Priority, and the relative path to the include file `usps-properties.txt` is specified.

The include file defines property values using the format `Property name = Value`. This example shows the format of the include file:

```plaintext
Doc.Insert.RecipientName=George Rogers
Job.CustomerName=CerbCo
```

The conditions file is processed from left to right and from top to bottom. This table contains examples to show how the property conditions file and the include file can override properties that were previously set. (These examples are for illustration only and are not intended as actual uses of the conditions file.)

### Examples of processing order for the conditions file and include file

<table>
<thead>
<tr>
<th>Property conditions file contains...</th>
<th>Include file contains...</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job.Name,@include=,.../prop-assignments/usps-properties.txt</td>
<td>Job.Name=FlatFold</td>
<td>If the Job Name is not already defined, the include file defines it as FlatFold.</td>
</tr>
<tr>
<td>Doc.Custom.Zip, Doc.Custom.Location, Doc.Custom.Location, @include&lt;50000, EAST, NEW HAMPSHIRE, /Projects/data.txt</td>
<td>Doc.Custom.Location = CONCORDJob. CityPopulation = 42400</td>
<td>If Zip is &lt;50000, the conditions file sets Location = EAST, then the conditions file sets Location = NEW HAMPSHIRE, then the include file /Projects/data.txt sets CityPopulation = 42400.</td>
</tr>
</tbody>
</table>
### Property conditions file contains...

<table>
<thead>
<tr>
<th>Include file contains...</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doc.Custom.Location = CONCORDJob.CityPopulation = 42400</td>
<td></td>
</tr>
</tbody>
</table>

**Doc.Custom.Zip, Doc.Custom.Location, @include, Doc.Custom.Location<50000, EAST, /Projects/data.txt, NEW HAMPSHIRE**

<table>
<thead>
<tr>
<th>Doc.Custom.Location = CONCORDJob. CityPopulation = 42400</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Zip is &lt;50000, the conditions file sets Location = EAST, then the include file /Projects/data.txt sets Location = CONCORD and CityPopulation = 42400, then the conditions file sets Location = NEW HAMPSHIRE. Doc.Custom.Location = NEW HAMPSHIREJob. CityPopulation = 42400</td>
</tr>
</tbody>
</table>

**Doc.Custom.Zip, Doc.Custom.Location, @include, @include<50000, EAST, /Projects/data.txt, /Projects/data2.txt**

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>If Zip is &lt;50000, the conditions file sets Location = EAST, then the include file /Projects/data.txt sets Location = CONCORD and Population = 42400, then the include file /Projects/data2.txt sets Location = US ROUTE 202 and CityPopulation = 52400. Doc.Custom.Location = US ROUTE 202Job. CityPopulation = 52400</td>
</tr>
</tbody>
</table>

### Note

- You can use Ricoh ProcessDirector symbol notation as part of the include file name. For example, if you use the include file name `${Job.RequestedPrinter}.equipmentprops.txt`, the system can choose the correct set of properties to define for each requested printer (for each value of Job.RequestedPrinter). See the related Reference topic for a description of symbol notation syntax.
5. Accessibility

Ricoh strives to provide products with usable access for everyone, regardless of age or ability.

For more information about the commitment that we have made to accessibility, refer to the Accessibility page on the Ricoh web site.

Accessibility features

Accessibility features help users who have disabilities, such as restricted mobility or limited vision, use information technology products successfully.

The major accessibility features in this product let you:

- Use screen readers, screen magnifiers, and other assistive technologies.
- Use a keyboard instead of a mouse.
- Change attributes such as volume, color, contrast, and font size.
- Distinguish keys by touch without activating them.
- Attach alternative input and output devices such as special pointing devices and Braille displays.

In addition, the information center and the publications for the product are in an accessible format.

Ricoh ProcessDirector Plug-in for Adobe Acrobat Markup Navigator shortcut keys

When a markup object that you defined has focus in the Markup Navigator, you can use these shortcut keys:

**Markup Navigator shortcut keys**

<table>
<thead>
<tr>
<th>Description</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opens the Edit dialog</td>
<td>Enter</td>
</tr>
<tr>
<td>Deletes a markup object</td>
<td>Delete</td>
</tr>
</tbody>
</table>

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.