

Guide

# soft Xpansion PDF Render Center 5

Integration with Document Management System software

## CONTENTS

DMS integration interfaces .....	2
Data Ports - Connectors .....	3
COM interface .....	3
ISxRcCustomConnector Interface .....	3
ISxRcNotifyConnector Interface .....	4
Web services .....	5
ISxRcCustomConnector Interface .....	5
ISxRcDocumentumConnector Interface .....	7
PDF profile .....	9
Profile\File .....	10
Profile\File\Images .....	10
Profile\File\Fonts .....	10
Profile\File\SaveOptions .....	10
Profile\Document .....	11
Profile\Security .....	11
MS Office profile .....	11
Profile\Word .....	12
Profile\Word\Print .....	13
Profile\Excel .....	14
Profile\Excel\Print .....	15
Profile\PowerPoint .....	15
Profile\PowerPoint\Print .....	16

## DMS INTEGRATION INTERFACES

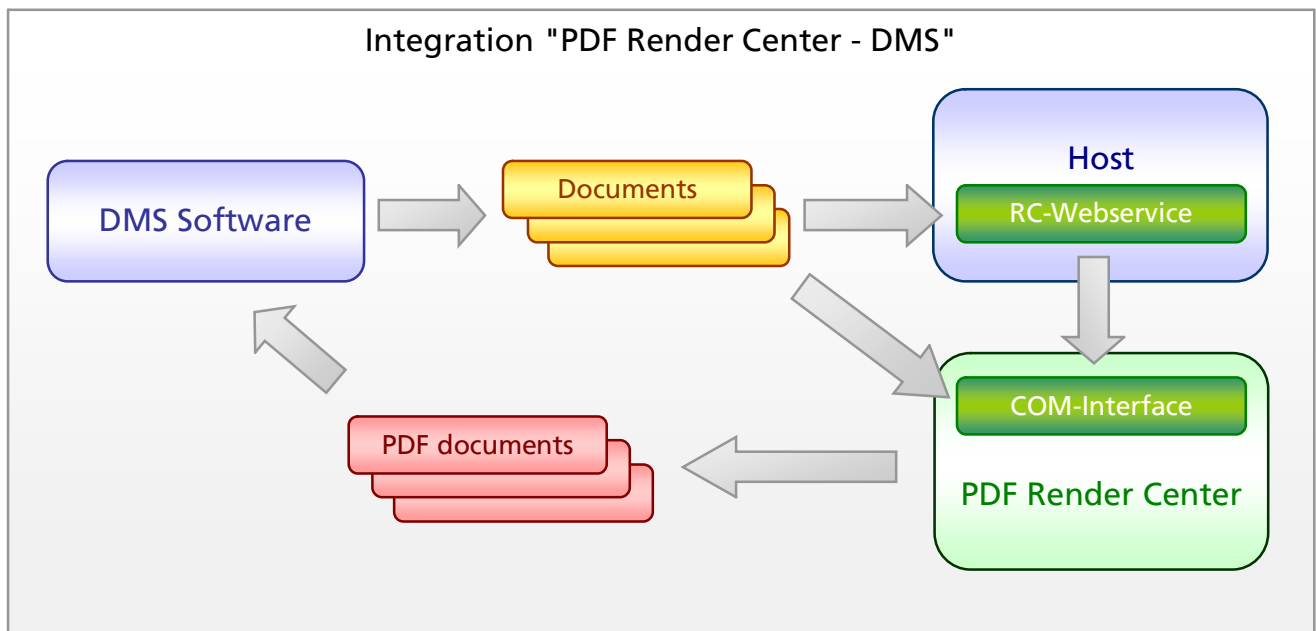
Section "Data interface (incoming data transport)" of the "PDF Render Center" document describes few standard ways supported by PDF RC on receiving by it original files for processing and converting (usually into PDF files).

These ways are not always applicable or effective for PDF Render Center capabilities usage within the DMS solutions. PDF RC has alternative interfaces for integration with various server software.

The most flexible in terms of capabilities is COM interface. PDF RC provides this interface as for transferring of original files for processing so for process completion notifying and transferring processed document (usually PDF file).

COM interface of PDF RC can use processes that were launched not only on the current computer but on any computer in the network.

More common but less flexible is a PDF RC interface that is based on web services. Web services come with PDF RC distribution kit and provide any software based on any platform a way to communicate with PDF RC and to transfer to it the documents for processing and converting.



## DATA PORTS - CONNECTORS

PDF Render Center administrator can create and configure specialized Data Ports that associate with interfaces exported by PDF RC. Such interfaces are called Connectors. Connectors can have specific properties and characteristics. For instance, Connector that serves for integration with DMS solutions made on Documentum platform.

Connectors feature specificity is orientated on distinctive integration with one or another software. Administration and functioning of Connector-objects inside the PDF RC and in "Admin Control Panel" in particular appear to be standard for any Data Port.

## COM INTERFACE

The interface is being registered during the PDF Render Center installation process and if having the necessary licence rights, it is ready to use.

PDF RC administrator only has to configure at least one Connector (Data port) in order to allow PDF RC integration.

### ISxRcCustomConnector Interface

In order to perform PDF RC integration the software has to create a **CSxRcCustomConnector** class COM object that implements **ISxRcCustomConnector** interface. This interface contains the following methods:

```
HRESULT CreateJobFromFile([in] BSTR bstrUrlFilePath, [in] BSTR  
bstrConnectorID, [in] BSTR bstrUrlPDFFilePath, [out] BSTR*  
pbstrTransactionID);
```

Add job for converting the selected file.

*bstrUrlFilePath* – full path to the file which will be converted.

*bstrConnectorID* – object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*bstrUrlPDFFilePath* – full path to the converted file, usually PDF file.

*pbstrTransactionID* – job identifier. It is used for notifying about job processing ending. It can be 'NULL', if the notifying is not required.

```
HRESULT CreateJobFromFiles([in] VARIANT varFiles, [in] BSTR bstrConnectorID, [in] BSTR bstrUrlPDFFilePath, [out] BSTR* pbstrTransactionID);
```

Add job for converting a group of files into one resulting file.

*varFiles* – string array of full paths to the files that will be converted and combined into one file.

*bstrUrlPDFFilePath* - full path to the converted file, usually PDF file.

*bstrConnectorID* - object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*pbstrTransactionID* - job identifier. It is used for notifying about job processing ending. It can be 'NULL', if the notifying is not required.

```
HRESULT CreateJob([in] BSTR bstrServiceName, [in] VARIANT varParamNames, [in] VARIANT varParamValues, [out] BSTR* pbstrTransactionID);
```

This method is used for implementation of specific integrations. It is not recommended for self-using by external integrators.

```
HRESULT Notify([in] ISxRcNotifyConnector* pSxRcNotifyConnector);
```

The method sets an object which will be notified about job processing ending, if business logic requires an additional processing in another process.

*pSxRcNotifyConnector* – class object that implements **ISxRcNotifyConnector** interface.

### **ISxRcNotifyConnector Interface**

The interface is used for notifying about job processing ending in PDF RC, if business logic requires an additional processing in another process. The interface has to be implemented in software integrated with PDF Render Center. This interface contains one method:

```
HRESULT TransactionProcessed( [in] BSTR pbstrTransactionID, [in] IDispatch* pTransactionInfo);
```

Job processing is completed.

*pbstrTransactionID* – identifier assigned to the job at its creation.

*pTransactionInfo* – object that contains an additional information about the processing. It is not recommended for self-using by external integrators.

## WEB SERVICES

PDF Render Center contains such components as **PDF4WSCommon.dll**, **PDF4WSDocumentum.dll** and a host service **PDF5WSHost.exe**. During the installation process these components are copied into a "Web Services" subfolder of the program's folder. Web services activation or their startup settings configuration can be performed in 'Admin Control Panel'. In auto-start mode web services will startup when Windows starts. Web service configuration is also performed in 'Admin Control Panel'.

As an alternative for installed host service it is possible to perform a deployment of the web service into Internet Information Services (IIS), [according to the Microsoft recommendations](#). After that the web service can be used for PDF RC integration.

Web services use ISxRcCustomConnector COM interface described in the previous chapter. The license has to include the necessary rights for web service usage.

### ISxRcCustomConnector Interface

**ISxRcCustomConnector** interface is used for PDF RC integration and converting of single files. This interface is implemented in **PDF4WSCommon.dll** module and contains the following methods:

```
void CreateJob(string sFileUrl, string sConnectorID, string sPDFProfile, string sMSOProfile, string sPDFFileUrl);
```

Add job for converting the selected file.

*sFileUrl* - full path to the file which will be converted.

*sConnectorID* - object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*sPDFProfile* – XML string that contains the necessary settings for converting into PDF format. For more details, refer to "[PDF profile](#)" section. It can be 'NULL'.

*sMSOProfile* – XML string that contains the necessary settings for meta-information import from MS Office documents. For more details, refer to "[MS Office profile](#)" section. It can be 'NULL'.

*sPDFFileUrl* - full path to the converted file, usually PDF file.

```
void CreateJobEx(string sFileUrl, string sConnectorID, string sPDFProfile, string sMSOProfile, string sActProfile);
```

Add job for converting the selected file. The transferring method for result file is set by "sActProfile" parameter.

*sFileUrl* - full path to the file which will be converted.

*sConnectorID* - object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*sPDFProfile* - XML string that contains the necessary settings for converting into PDF format. For more details, refer to "[PDF profile](#)" section. It can be 'NULL'.

*sMSOProfile* - XML string that contains the necessary settings for meta-information import from MS Office documents. For more details, refer to "[MS Office profile](#)" section. It can be 'NULL'.

*sActProfile* – this parameter is reserved.

```
void CreateJobsEx(string[] sFileUrls, string sConnectorID, string sPDFProfile, string sMSOProfile, string sActProfile);
```

Add job for converting a group of files. The transferring method for result files is set by "sActProfile" parameter.

*sFileUrls* - string array of full paths to the files that will be converted.

*sConnectorID* - object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*sPDFProfile* - XML string that contains the necessary settings for converting into PDF format. For more details, refer to "[PDF profile](#)" section. It can be 'NULL'.

*sMSOProfile* - XML string that contains the necessary settings for meta-information import from MS Office documents. For more details, refer to "[MS Office profile](#)" section. It can be 'NULL'.

*sActProfile* - this parameter is reserved.

```
void CombineJobs(string[] sFileUrls, string sConnectorID, string sPDFProfile, string sMSOProfile, string sPDFFileUrl);
```

Add job for converting a group of files into one resulting file.

*sFileUrls* - string array of full paths to the files that will be converted and combined into one file.

*sConnectorID* - object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*sPDFProfile* - XML string that contains the necessary settings for converting into PDF format. For more details, refer to "[PDF profile](#)" section. It can be 'NULL'.

*sMSOProfile* - XML string that contains the necessary settings for meta-information import from MS Office documents. For more details, refer to "[MS Office profile](#)" section. It can be 'NULL'.

*sPDFFileUrl* - full path to the converted file, usually PDF file.

### **ISxRcDocumentumConnector Interface**

**ISxRcDocumentumConnector** interface is used for PDF RC integration and converting of single files. This interface is implemented in **PDF4WSDocumentum.dll** module and contains the following methods:

```
void CreateRendition(string sDocObjectID, string sDocObjectContentType, string sDocBase, string sLoginUser, string sLoginTicket, string sConnectorID, string sPDFProfile, string sMSOProfile);
```

Add job for converting the selected object.

*sDocObjectID* – object identifier in the DocBase.

*sDocObjectContentType* – object content type in the DocBase.

*sDocBase* - DocBase name.

*sLoginUser* - user name for login.

*sLoginTicket* - ticket name for login.

*sConnectorID* - object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*sPDFProfile* - XML string that contains the necessary settings for converting into PDF format. For more details, refer to "[PDF profile](#)" section. It can be 'NULL'. In this case the assigned by the PDF RC administrator profile is used.

*sMSOProfile* - XML string that contains the necessary settings for meta-information import from MS Office documents. For more details, refer to "[MS Office profile](#)" section. It can be 'NULL'. In this case the assigned by the PDF RC administrator profile is used.

```
void CreateRenditionEx(string[] sDocObjectID, string[]  
sDocObjectContentType, string sDocBase, string sLoginUser, string  
sLoginTicket, string sConnectorID, string sPDFProfile, string sMSOProfile);
```

Add job for converting a group of objects.

*sDocObjectID* - string array of group of objects identifiers in the DocBase.

*sDocObjectContentType* – array of group of objects content types in the DocBase.

*sDocBase* - DocBase name.

*sLoginUser* - user name for login.

*sLoginTicket* - ticket name for login.

*sConnectorID* - object connector identifier (Data Port) that will be associated with a job within PDF Render Center. Data Port objects are accessible in the "Admin Control Panel".

*bstrPDFProfile* - XML string that contains the necessary settings for converting into PDF format. For more details, refer to "[PDF profile](#)"

section. It can be 'NULL'. In this case the assigned by the PDF RC administrator profile is used.

*bstrMSOProfile* - XML string that contains the necessary settings for meta-information import from MS Office documents. For more details, refer to "[MS Office profile](#)" section. It can be 'NULL'. In this case the assigned by the PDF RC administrator profile is used.

## PDF PROFILE

PDF Render Center allows setting of various PDF document properties. It also allows management of PDF file characteristics by administrator using "Admin Control Panel" and also by the software that creates jobs for PDF RC. Properties and settings collection in XML format is called profile. PDF RC integrated software creates a necessary profile and passes it as a string parameter to the job creating method. An example of such profile is shown bellow:

```
<?xml version="1.0" encoding="UTF-8" ?>
<Profile>
  <File Version="1.7" PDFA="0" Web="0">
    <Fonts Embedding="0"/>
    <Images Compression="3" Quality="100"/>
    <SaveOptions CompressObj="1" EnableThumb="1" ThumbSize="100"/>
  </File>
  <Document Subject="Form #23406754" Author="Max Mustermann"/>
  <Security Encrypt="0"/>
</Profile>
```

### Profile\File

*Version* – PDF file version. The available values are: "1.4", "1.5", "1.6" and "1.7". It is ignored if **PDFA** is not "0". Default value - "1.7".

*PDFA* – the file has to correspond to PDF/A standard. The available values are: "0" / "1". Default value - "0".

*Web* – optimisation for Internet usage (linearized PDF). The available values are: "0" / "1". Default value - "0".

### Profile\File\Images

*Embedding* – embedding in PDF file all used fonts. The available values are: "0" / "1". Default value - "0".

### Profile\File\Fonts

*Compression* – image compression method. The available values are:  
"1" - without compression;  
"2" - RLE compression;  
"3" - ZIP compression;  
"5" - JPEG compression;  
Default value - "3".

*Quality* – image quality for JPEG compression in percents. The available values are: "10" ... "100". Default value - "100".

### Profile\File\SaveOptions

*CompressObj* – to use compression for every content object (it is not supported by old versions of the Readers). The available values are: "0" / "1". Default value - "1".

*EnableThumb* – saving of page thumbs. The available values are: "0" / "1". Default value - "0".

*ThumbSize* – the maximum thumb size. The available values are: "32" ... "320". Default value - "100".

### **Profile\Document**

*Title* - PDF document title. Default value - "".

*Subject* - PDF document subject. Default value - "".

*Author* - PDF document author. Default value - "".

*Keywords* - PDF document keywords. Default value - "".

*Creator* – the application that created the original document. Default value - "".

### **Profile\Security**

*Encrypt* - PDF file encryption. The available values are:

"0" – without encryption;

"1" – using of RC4 encryption;

"2" – using of AES encryption;

Default value - "0".

*Permissions* – access rights to the encrypted PDF file. They are set as a mask value. Bit mask has the following values:

4 – printing is allowed;

2048 – high quality printing is allowed;

16 – content copying is allowed;

512 – content extraction is allowed;

256 – filling the form fields is allowed;

32 – commenting is allowed;

8 – document editing is allowed;

1024 – document remodeling is allowed;

Default value - "0".

*UPns* – password on PDF file opening (user password). Default value - "".

*OPns* - password on PDF file modifying (owner password). Default value - "".

## **MS OFFICE PROFILE**

PDF Render Center allows importing a high variety of meta-information from MS Office documents (links, forms, TOCs, comments, etc.). The type

of meta-information that needs to be imported for each MS Office application can be managed by the software that creates jobs for PDF RC. Properties and settings collection in XML format is called profile. PDF RC integrated software creates a necessary profile and passes it as a string parameter to the job creating method. An example of such profile is shown below:

```
<?xml version="1.0" encoding="UTF-8" ?>
<Profile>
  <Word Info="0" Security="0" Pages="0" Links="0" TOC="0" Comments="0" Forms="0">
    <Print Background="0" HeaderFooter="0" Hidden="0" Markup="0"/>
  </Word>
  <Excel Info="0" Security="0" Pages="0" Links="0" Comments="0" Forms="0">
    <Print Gridlines="0" HeaderFooter="0" Headings="0"/>
  </Excel>
  <PowerPoint Info="0" Security="0" Pages="0" Links="0" Comments="0">
    <Print Frame="0" Grayscale="0" Hidden="0"/>
  </PowerPoint>
</Profile>
```

### **Profile\Word**

*Info* – importing of the basic document properties, such as Title, Author, etc.:

"0" – to do not import, is defined in PDF profile;

"1" – to import, if is missing in the document than - from PDF profile;

Default value - "0".

*Security* – importing of document security type:

"0" - to do not import, is defined in PDF profile;

"1" – to import, security presence, encryption type, permissions and passwords are set in PDF profile;

Default value - "0".

*Pages* – variety of pages that should be imported:

"0" – all pages;

"1" – group of pages, refer to "PRange" attribute;

"2" – even pages;

"3" – odd pages;

Default value - "0".

*PRange* – sets the number of pages separated with comma or a group of pages – dash separated, for example, "3,7,12,24-31,44-47". If the attribute is missing or contains an error, than the "Pages" attribute works in the 'all pages importing' mode.

*Links* – links importing in the document:

"0" – to do not import;

"1" – importing of internal links;  
"2" – importing of internet and e-mail links;  
Default value - "0".  
This attribute allows a mask value. For example, "3" means importing both link types.

*TOC* - table of content importing:  
"0" - to do not import;  
"1" – to import as links;  
"2" – to import as a hierarchical structure (PDF bookmarks);  
Default value - "0".  
This attribute allows a mask value. For example, "3" means TOC importing as links and as structure.

*Comments* – comments importing:  
"0" - to do not import;  
"1" – comments importing;  
"2" - revisions importing (as PDF comments);  
"4" - footnotes importing (as PDF comments);  
"8" - endnotes importing (as PDF comments);  
Default value - "0".  
This attribute allows a mask value. For example, "3" means comments and revisions importing.

*Forms* – controls and form fields importing:  
"0" - to do not import;  
"1" - form fields importing;  
"2" - controls importing;  
"3" - web-controls importing;  
Default value - "0".  
This attribute allows a mask value. For example, "3" means form fields and controls importing.

### **Profile\Word\Print**

*Background* – background importing, if installed:  
"0" - to do not import;  
"1" – to import;  
Default value - "0".

*HeaderFooter* - import of header and footer, if installed:  
"0" – to do not import;  
"1" – to import;  
Default value - "0".

*Hidden* – importing of hidden text as visible:

"0" – to do not import;

"1" – to import;

Default value - "0".

*Markup* - import a document in an enabled markup mode:

"0" - markup mode is disabled;

"1" - markup mode is enabled;

Default value - "0".

### **Profile\Excel**

*Info* – importing of the basic document properties, such as Title, Author, etc.:

"0" – to do not import, is defined in PDF profile;

"1" – to import, if is missing in the document than - from PDF profile;

Default value - "0".

*Security* – importing of document security type:

"0" - to do not import, is defined in PDF profile;

"1" – to import, security presence, encryption type, permissions and passwords are set in PDF profile;

Default value - "0".

*Pages* – importing of a workbook or a single sheet:

"0" – workbook importing;

"1" - single sheet importing, refer to "Sheet" attribute;

Default value - "0".

*Sheet* – sets the number of the sheet, for example, "3". If the attribute is missing or contains an error, than the "Pages" attribute works in the 'workbook' importing mode.

*Links* – links importing in the document:

"0" – to do not import;

"1" – importing of internal links;

"2" – importing of internet and e-mail links;

Default value - "0".

This attribute allows a mask value. For example, "3" means importing both link types.

*Comments* – comments importing:

"0" - to do not import;

"1" – comments importing;

Default value - "0".

*Forms* – controls and form fields importing:

"0" - to do not import;

"1" - form fields importing;

"2" - controls importing;

Default value - "0".

This attribute allows a mask value. For example, "3" means form fields and controls importing.

### **Profile\Excel\Print**

*Griflines* – visibility of gridlines v PDF:

"0" – not visible;

"1" - visible;

Default value - "0".

*Headings* – column headings importing:

"0" - to do not import;

"1" – to import;

Default value - "0".

*HeaderFooter* - import of header and footer, if installed:

"0" – to do not import;

"1" – to import;

Default value - "0".

### **Profile\PowerPoint**

*Info* – importing of the basic document properties, such as Title, Author, etc.:

"0" – to do not import, is defined in PDF profile;

"1" – to import, if is missing in the document than - from PDF profile;

Default value - "0".

*Security* – importing of document security type:

"0" - to do not import, is defined in PDF profile;

"1" – to import, security presence, encryption type, permissions and passwords are set in PDF profile;

Default value - "0".

*Pages* - variety of slides that should be imported:

"0" – all slides;

"1" - group of slides, refer to "PRange" attribute ";

Default value - "0".

*PRange* – sets the number of slides separated with comma or a group of slides – dash separated, for example, "3,7,12,24-31,44-47". If the attribute is missing or contains an error, than the "Pages" attribute works in the 'all slides importing' mode.

*Links* – links importing in the document:

"0" – to do not import;

"1" – importing of internal links;

"2" – importing of internet and e-mail links;

Default value - "0".

This attribute allows a mask value. For example, "3" means importing both link types.

*Comments* – comments importing:

"0" - to do not import;

"1" – comments importing;

Default value - "0".

### **Profile\PowerPoint\Print**

*Frame* – slides frame:

"0" - hidden;

"1" - visible;

Default value - "0".

*Hidden* – hidden slide importing:

"0" – to do not import;

"1" – to import;

Default value - "0".

*Grayscale* – slides grayscale mode:

"0" - grayscale mode is disabled;

"1" - grayscale mode is enabled;

Default value - "0".