Oracle® Outside In PDF Export

Developer's Guide

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Oracle Outside In PDF Export Developer's Guide, Release 8.5.3

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Preface

This document describes the installation and usage of the Outside In PDF Export Software Developer's Kit (SDK).

Audience

This document is intended for developers who are integrating Outside In PDF Export into Original Equipment Manufacturer (OEM) applications.

Related Documents

For more information, go to:

`http://www.oracle.com/technetwork/indexes/documentation/index.html#middleware`

and click on Outside In Technology.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Part I

Getting Started with PDF Export

This section provides an introduction to the SDK.

Part I contains the following chapters:

1

Introduction

This chapter is an introduction to the PDF Export SDK. PDF Export allows an OEM to convert almost any document, spreadsheet or presentation file into a PDF file.

There may be references to other Oracle Outside In Technology SDKs within this manual. To obtain complete documentation for any other Oracle Outside In product, see:

http://www.oracle.com/technetwork/indexes/documentation/index.html#middleware

and click on Outside In Technology.

This chapter includes the following sections:

1.1 What's New in this Release

- The updated list of supported formats is linked from the page http://www.outsideinsdk.com/. Look for the data sheet with the latest supported formats.
- The following new formats are supported:
  - Microsoft Word 2016
  - Microsoft Excel 2016
  - Microsoft PowerPoint 2016
  - MS Outlook 2011 for Mac (OLM and EML)
  - Corel WordPerfect X7
  - Corel Quattro Pro X7
  - Corel Presentations X7
  - Corel Draw X7
  - iWork KeyNote (text only)

  - AutoCAD 2015

- The following new options are introduced:
  - A new option, SCCOPT_PDF_FILTER_MAX_EMBEDDED_OBJECTS, is added that allows you to limit the number of embedded objects produced in PDF files.
  - A new option, SCCOPT_PDF_FILTER_MAX_VECTOR_PATHS, is added that allows you to limit the number of vector paths produced in PDF files.
  - A new option, SCCOPT_PDF_FILTER_WORD_DELIM_FRACTION, is added. This allows you to control the spacing threshold in PDF input documents.
  - The options SCCOPT_ENABLEWATERMARK, SCCOPT_WATERMARKIO and SCCOPT_WATERMARKPOSITION are deprecated and are replaced with SCCOPT_GRAPHIC_WATERMARK_OPACITY, SCCOPT_GRAPHIC_WATERMARK_SCALETYPE and SCCOPT_GRAPHIC_WATERMARK_SCALEPERCENT.
- Support for the following general accuracy and fidelity features is provided:
  - MS Word table styles supported
  - MS Office Chart data label styles extended
  - Font selection algorithm improvements implemented
  - Outlook MSG “best body” algorithm implemented
  - PPTX Master slide Transparency provided
  - Four Color (CMYK) progressive JPEG supported
  - Processing of very large spreadsheets containing large areas of white space are optimized for improved performance supported
  - PowerPoint internal hyperlinks are active in the output
  - PDF Type 3 embedded font supported
  - Watermark API now consistent between the Image Export and PDF Export SDKs and support has been added in the .NET and Java APIs
  - Watermark transparency supported
  - IBM:Linux on System-Z supported
- The following Operating System support is provided:
  - Windows 10
  - SLES 12
- The following .NET API changes are implemented:
  - A new configuration object — OutsideInConfig
  - Get method for options
  - Redirected IO for temp files

- The following Java API changes are implemented:
  - Get method for options
  - Redirected IO for temp files

1.2 Architectural Overview

The basic architecture of Oracle Outside In technologies is the same across all supported platforms.

Filter/Module	Description
Input Filter	The input filters form the base of the architecture. Each one reads a specific file format or set of related formats and sends the data to OIT through a standard set of function calls. There are more than 150 of these filters that read more than 600 distinct file formats. Filters are loaded on demand by the data access module.
Export Filter	Architecturally similar to input filters, export filters know how to write out a specific format based on information coming from the chunker module. The export filter produces the page layout for PDF output.
Chunker	The Chunker module is responsible for caching a certain amount of data from the filter and returning this data to the export filter.
Export	The Export module implements the export API and understands how to load and run individual export filters.
Data Access	The Data Access module implements a generic API for access to files. It understands how to identify and load the correct filter for all the supported file formats. The module delivers to the developer a generic handle to the requested file, which can then be used to run more specialized processes, such as the Export process.

1.3 Definition of Terms

The following terms are used in this documentation.

Term	Definition
Developer	Someone integrating this technology into another technology or application. Most likely this is you, the reader.
Source File	The file the developer wishes to export.
Output File	The PDF file being written.
Data Access Module	The core of Oracle Outside In Data Access, in the SCCDA library.
Data Access Submodule (also referred to as "Submodule")	This refers to any of the Oracle Outside In Data Access modules, including SCCEX (Export), but excluding SCCDA (Data Access).

Term	Definition
Document Handle (also referred to as "hDoc")	A Document Handle is created when a file is opened using Data Access (see Data Access Common Functions). Each Document Handle may have any number of Subhandles.
Subhandle (also referred to as "hItem")	Any of the handles created by a Submodule's Open function. Every Subhandle has a Document Handle associated with it. For example, the hExport returned by EXOpenExport is a Subhandle. The DASetOption and DAGetOption functions in the Data Access Module may be called with any Subhandle or Document Handle. The DARetrieveDocHandle function returns the Document Handle associated with any Subhandle.

1.4 Directory Structure

Each Oracle Outside In product has an sdk directory, under which there is a subdirectory for each platform on which the product ships (for example, px/sdk/px_win-x86-32_sdk). Under each of these directories are the following three subdirectories:

- **redist**: Contains only the files that the customer is allowed to redistribute. These include all the compiled modules, filter support files, .xsd and .dtd files, cmmap000.bin, and third-party libraries.
- **sdk**: Contains the other subdirectories that used to be at the root-level of an sdk (common, lib (windows only), resource, samplefiles, and samplecode (previously samples). In addition, one new subdirectory has been added, demo, that holds all of the compiled sample apps and other files that are needed to demo the products. These are files that the customer should not redistribute (.cfg files, exportmaps, etc.).

In the root platform directory (for example, px/sdk/px_win-x86-32_sdk), there are two files:

- **README**: Explains the contents of the sdk, and that makedemo must be run in order to use the sample applications.
- **makedemo** (either .bat or .sh – platform-based): This script will either copy (on Windows) or Symlink (on Unix) the contents of …/redist into …/sdk/demo, so that sample applications can then be run out of the demo directory.

1.4.1 Installing Multiple SDKs

If you load more than one OIT SDK, you must copy files from the secondary installations into the top-level OIT SDK directory as follows:

- **redist** – copy all binaries into this directory.
- **sdk** – this directory has several subdirectories: common, demo, lib, resource, samplecode, samplefiles. In each case, copy all of the files from the secondary installation into the top-level OIT SDK subdirectory of the same name. If the top-level OIT SDK directory lacks any directories found in the directory being copied from, just copy those directories over.

1.5 How to Use PDF Export

Here's a step-by-step overview of how to export a PDF file.

1. Call DAIniExt to initialize the Data Access technology. This function needs to be called only once per application. If using threading, then pass in the correct ThreadOption.
2. Set any options that require a NULL handle type (optional). Certain options need to be set before the desired source file is opened. These options are identified by requiring a NULL handle type. They include, but aren't limited to:

   - SCCOPT_FALLBACKFORMAT
   - SCCOPT_FIFLAGS
   - SCCOPT_TEMPDIR

   It is also necessary to set the SCCOPT_FONTDIRECTORY option before exporting a document. Files will fail to export unless SCCOPT_FONTDIRECTORY is defined.
3. Open the Source File. DAOpenDocument is called to create a document handle that uniquely identifies the source file. This handle may be used in subsequent calls to the EXOpenExport function or the open function of any other Data Access Submodule, and will be used to close the file when access is complete. This allows the file to be accessed from multiple Data Access Submodules without reopening.
4. Set the Options. If you require option values other than the default settings, call DASetOption to set options. Note that options listed in the Options Guide as having "Handle Types" that accept VTHEXPORT may be set any time before EXRunExport is called. For more information on options and how to set them, see DASetOption.
5. Open a Handle to PDF Export. Using the document handle, EXOpenExport is called to obtain an export handle that identifies the file to the specific export product. This handle will be used in all subsequent calls to the specific export functions. The dwOutputId parameter of this function is used to specify that the output file type should be set to either FI_PDF (for generic PDF 1.5), FI_PDFA (for PDF/A-1a compliance), or FI_PDFA_2 (for PDF/A-2a compliance).
6. Make Any Required Calls to Annotation Functions. This is the point at which any calls to annotation functions (such as EXHiliteText, EXInsertText or EXHideText) should be made.
7. Export the File. EXRunExport is called to generate the output file(s) from the source file.
8. Close the Handle to PDF Export. EXCloseExport is called to terminate the export process for the file. After this function is called, the export handle will no longer be valid, but the document handle may still be used.
9. Close the Source File. DACloseDocument is called to close the source file. After calling this function, the document handle will no longer be valid.
10. Close PDF Export. DADeInit is called to de-initialize the Data Access technology.

2

Implementation Issues

This chapter covers some issues specific to using the PDF Export SDK.

This chapter includes the following sections:

2.1 Running in 24x7 Environments

To ensure robust 24x7 performance in server applications embedding the different export products, it is strongly recommended that the technology be run in a process separate from the server's primary process.

The file filtering technology underlying the technology represents almost a quarter of a million lines of code. This code is expected to robustly deal with any stream of bytes, of any length (any file), in all cases. Oracle has dedicated, and continues to dedicate, significant effort into making this technology extremely robust. However, in real world situations, expect that some small number of malformed files may force the filters into unstable states. This generally results in either a memory exception (which can be trapped and recovered from gracefully), infinite loop or a wild pointer that causes the filter to write into memory that is part of the same process but does not belong to the filter. In the latter situation, this wild pointer condition cannot be trapped.

On the desktop this is not a significant problem since the number of files being dealt with is relatively small. In a 24x7 server environment, however, a wild pointer can be extremely disruptive to the server process and produce serious problems. The best solution for dealing with this problem is to run any application that reads complex file formats in a separate process. This solution protects the application from the susceptibility of filtering technology to the unknown quality of input files.

It must be stressed that files that lead to wild pointers or infinite loops occur very infrequently, usually as a result of a third-party conversion process or beta versions of applications. Oracle is committed to addressing these issues and to updating and expanding its testing tools and corpus of documents to proactively minimize this "garbage in-garbage out" problem.

2.2 Running in Multiple Threads or Processes

On certain platforms, export products may be run in a multi-threaded or multi-processing application. The thing to remember when doing so is that each thread must go through all the steps listed in Introduction.

2.3 PDF Export Issues

The following issues have been identified when using PDF Export:

- There is currently no method of specifying how wide a field in a database should be. Occasionally this will lead to situations where information in a database field will not be included in the output graphic, resulting in a loss of content.
- If multiple pages of garbage output occur when exporting images, it is possible that the default setting of the SCCOPT_FALLBACKFORMAT (FallbackFormatEnum on the server version) option (FI_ASCII-8) is forcing the technology to attempt to read files that it cannot identify as text. Setting the pertinent option to the value FI_NONE (FallbackFormat on the server version) prevents the software from exporting unidentified binary files as though they were text.
- The SCCOPT_FONTDIRECTORY option must be set.
- Only TrueType fonts are supported in PDF Export at this time.

3

Sample Applications

This chapter describes sample applications shipped with the PDF Export SDK. Each of the sample applications included in this SDK is designed to highlight a specific aspect of the technology's functionality. We ship built versions of these sample applications. The compiled executables should be in the root directory where the product is installed.

Note:

To use Transformation Server, you will need to set the TSROOT variable to the location of the Transformation Server installed SDK. For example, for a Linux version of Transformation Server, you would set: TSROOT=/user/jsmith/ts/ts_linux-x86-32_sdk/sdk.

This chapter includes the following sections:

3.1 Building the Samples on a Windows System

Microsoft Visual Studio 2010 files are provided for building each of the sample applications.

Because .vcxproj files may not pick up the right compiler on their own, you need to make sure that you are building with the correct configuration in Visual Studio 2010 or higher.

The project files for the sample applications can be found in the samplecode\win subdirectory of the Oracle Outside In SDK.

For specific information about building the sample applications on your UNIX OS, see UNIX Implementation Details.

3.2 An Overview of the Sample Applications

Here's a quick tour of the sample applications provided with this product. Not all of the sample applications are provided for both the Windows and UNIX platforms. See the heading of each application's subsection for clarification.

This section includes the following sample applications:

- pxsample
- export (Windows Only)
- exsimple
- exredir
- extract_archive
- pxanno

3.2.1 pxsample

The following is a basic implementation that uses the default settings for every option. This sample is provided for instructional value rather than functionality. The fonts for the export are assumed to be in $HOME/fonts for UNIX platforms, and C:\WINDOWS\FONTS for Windows platforms; if the directory does not exist, the export will fail.

```
pxsample Inputfile Outputfile
```

3.2.2 export (Windows Only)

This application was designed to facilitate the testing of the software and should not be assumed to be of commercial quality.

Note:

No default options are set at initial runtime. The time the software is used, click the **Options** button and set the options. Failure to do this generates export errors.

The application allows the user to run a single source file. The user can choose the source file, an output file and set the various options.

3.2.2.1 The export Main Window

The Main Window is composed of several elements, discussed here.

- Output Format menu: This menu allows the user to select the type of output to generate. An entry for the format(s) you license will appear in this drop-down menu
- **Options** button: This opens up a new dialog with one or more tabs exposing the options for the selected product.

- Source document field: This is the document to be exported. Use the Browse button to pick the source file, or type in the path name.
- 'Export to' Field: This is the initial resulting output file. Type in a file name or use the Browse button to choose a file. Other output files are named based on the one chosen here.
- **Delete** button: Clicking this button deletes all files generated by the last export, listed in the Status: field. This is useful when multiple output files are produced because the default naming rules do not overwrite an existing file. If you run Export over and over again with the same output file name, you can produce a large number of files. Pressing **Delete** before each export solves this problem.
- 'After Export, view output file with default application' checkbox: If the export was successful, checking this box launches the initial output file in the application associated with the output flavor's default extension.
- **Export** button: Click this button to start the export process once you've determined the export settings.
- **Exit** button: Close the Export application.

3.2.3 exsimple

This simple command line driven program allows the user to run a single source file through the software. The user can choose the source file, an output file and set the various options.

To run the program, type:

```
exsimple in_file out_file config_file
```

- *in_file* is the input file to be converted
- *out_file* is the output location
- *config_file* is the configuration file that sets the conversion options. If no configuration file is specified, default.cfg in the current directory is used.

The configuration file is a text file used to set the conversion options. We recommend reading through the configuration file for more information about valid options and their values (use of invalid options results in exsimple not producing output).

Follow these instructions to set configurable options.

- Set the Output ID to either FI_PDF (for generic PDF 1.5), FI_PDFA (for PDF/A-1a compliance), or FI_PDFA_2 (for PDF/A-2a compliance) before running the software.
- It is also recommended that you set SCCOPT_FALLBACKFORMAT to FI_NONE. This prevents the export of unidentified binary files as though they were text, which could generate pages of garbage output.
- It is required that the "fontdirectory" section of the configuration file be set to point to a valid font directory.

3.2.4 exredir

This sample application is based on the exsimple sample application. It is designed to demonstrate how to use redirected IO and callbacks when using the software. It takes

the same arguments and command line structure as exsimple and the same configuration files can be used. For more information, see exsimple.

3.2.5 extract_archive

extract_archive demonstrates using the DATree API to extract all nodes in an archive.

The application is executed from the command line and takes two parameters, the name of the input file and the name of an output directory for the extracted files:

```
extract_archive input_file output_directory
```

3.2.6 pxanno

This sample application is provided more for the instructional value its sample code offers than for the functionality it provides when executed. It primarily works as an example of how to integrate Content Access with PDF Export. This particular application does search hit highlighting. However, the general principles of how to get ACC text positions from Content Access should be evident from perusing the source code.

This command takes the following parameters:

- InputFile
- OutputFIle
- HiliteString
- Font Directory (PDF Export only): the location of system fonts.

The following sample command lines demonstrate this command:

```
pxanno InputFile OutputFile HiliteString FontDirectory
```

A license for Content Access or Search Export is required to enable use of any of the annotation features supported by PDF Export. Contact your sales representative for more information.

3.3 Accessing the SDK via a Java Wrapper

The ExJava Java wrapper, working in tandem with the exporter sample application, provides a working example of one method of interfacing with Oracle's C-based SDK products from a Java application. Export.jar is a Java API wrapper used by a Java application to control the exporter executable and set conversion options. exporter is a C-based executable which performs conversions using the modules in the Oracle Outside In SDK.

The exporter executable should be placed in the root directory of the Oracle Outside In SDK being used. If more than one Oracle Outside In SDK is being used, the contents of each SDK should be unpacked to the same root directory. Export.jar should be placed somewhere in your classpath.

On UNIX systems this sample application must be run from the directory containing the Oracle Outside In technology.Java version 1.6 or higher is required to run this sample application.

This section includes the following topics:

- The ExJava Wrapper API

3.3.1 The ExJava Wrapper API

The JavaDocs documentation for the Java API is provided in the /sdk/samplecode/ExJava/docs directory. Conversion options are set using the ExportProperties.

Additionally, the appropriate .cfg file for the ExportTest sample application found in the Examples/ExportTest directory may provide further insight as to what properties are available and how they correspond to options and values for options.

The Export.jar and its source code can be found in the Java API directory. Place Export.jar somewhere in your classpath. In order to use the ExportTest sample application (which demonstrates how a Java application can use the ExJava API) without modifying your system configuration or the ExJava sample application, you should place the Export.jar file in the root directory of the Oracle Outside In SDK product you are using.

3.3.2 The C-Based Exporter Application

This is a standalone executable that runs out of process from the Java API. The Java API controls the conversion through command line parameters that are passed to the executable. After the conversion completes, the executable returns a conversion status code to the Java API. The command line parameters are base-64 encoded to allow for the use of Unicode encoded paths.

As the exporter executable is a C-based application, you will need to make sure the Java API can find the version of exporter appropriate for the platform you are using. Generally, and specifically for the purpose of using the ExportTest sample application, the correct executable should be copied to the root directory of the Oracle export SDK product you are using.

A compiled version of the C exporter program is included in the SDK with the rest of the Oracle Outside In binaries. The source for exporter is located in the samples/ExJava/exporter directory.

The current implementation of ExJava may not produce an error if it cannot find the exporter application. This known issue may be corrected in a future version of ExJava.

3.3.3 Compiling the Executables

A Microsoft Visual Studio 6.0 project file and a UNIX makefile are provided in Exporter/Win and Exporter/Unix, respectively, so that you can modify the Exporter executable or compile it for a platform other than those for which compiled versions of exporter are provided. If you unpacked the ExJava package into the root directory of one of Oracle's export SDK products, you should be able to use the Visual Studio Project and makefile as is. Otherwise, you will need to edit them in order to provide paths to the Oracle export SDK include and library files.

If you are compiling ExJava for use on the Solaris platform, make sure your LD_LIBRARY_PATH contains the Oracle Outside In SDK path before trying to build the Exporter module.

3.3.4 The ExportTest Sample Application

ExportTest is an example of how a Java developer could use the ExJava wrapper to use one of the Oracle Outside In SDKs. The following is a list of the components that should be placed in the root directory of the Oracle Outside In SDK you are using in order to run this sample application:

1. Export.jar (from the Java API directory)
2. Exporter module for the platform you wish to use (located in the /sdk/samplecode/ExJava/Exporter/Win or /sdk/samplecode/ExJava/Exporter/Unix directory, depending on which platform you are using)
3. px.cfg (also in Examples/ExportTest directory)
4. If you are running ExportTest on a UNIX system, make sure to edit the .cfg file so it reflects the correct name of the exporter module you renamed.
5. ExportTest.jar (also in Examples/ExportTest directory)
6. The appropriate batch file to run the ExportTest application (ExportTest.bat for Windows and ExportTest.sh for UNIX, both located in the Examples/ExportTest directory)

Once these files are properly copied, execute the batch file with the name/path of an input file to convert, the name for the base output file and the name of the configuration file to use for setting conversion options.

ExportTest.jar uses the contents of the configuration file to determine what option/value pairs it should use when doing the conversion. It is not necessary to use a configuration file when developing your own application if you so choose not to.

3.3.5 An Example Conversion Using the ExJava Wrapper

This is a simple outline of the steps for using the ExJava wrapper on a Windows system to convert a Word document called MyWordDoc.Doc. If you are using a UNIX system, for information about properly setting up your environment to use the Oracle Outside In SDK, see UNIX Implementation Details.

1. Edit the .cfg file and make sure outputid is set to the FI* value appropriate for the Oracle Outside In product you've licensed. Alter any other parameters in the .cfg file as needed then save the file.
2. Execute the following command. The sample command below assumes HTML as the export type. Change this type accordingly:

```
ExportTest.bat myworddoc.doc output.html hx.cfg
```

Part II

Using the C/C++ API

This section provides details about using the SDK with the C/C++ API.

Part II contains the following chapters:

4

Windows Implementation Details

This chapter describes the implementation of the PDF Export SDK on the Windows platform. The Windows implementation of this software is delivered as a set of DLLs.

For a list of the currently supported platforms, see:

http://www.oracle.com/technetwork/indexes/documentation/index.html#middleware

Click on Outside In Technology, then click the Certification Information PDF.

This chapter includes the following sections:

4.1 Installation

To install the demo version of the SDK, copy the contents of the ZIP archive (available on the web site) to a local directory of your choice.

This product requires the Visual C++ libraries included in the Visual C++ + Redistributable Package available from Microsoft. There is a version of this package for the appropriate platform (x86 or x64) version of Windows. This can be downloaded from www.microsoft.com, by searching on the site for the following package:

- vcredist_x86.exe, or
- vcredist_x64.exe

The required download version is the "Visual C++ Redistributable Packages for Visual Studio 2013."

Oracle Outside In requires the msvcr120.dll redistributable module.

The installation directory should contain the following directory structure.

Directory	Description
\redist	Contains a working copy of the Windows version of the technology.

Directory	Description
\sdk\common	Contains the C include files needed to build or rebuild the technology.
\sdk\demo	Contains the compiled executables of the sample applications.
\sdk\lib	Contains the library (.lib) files needed for the products.
\sdk\resource	Contains localization resource files.
\sdk\samplecode	Contains a subdirectory holding the source code for a sample application.
\sdk\samplefiles	Contains sample input files authored in a variety of popular graphics, word processor, compression, spreadsheet and presentation applications.

4.1.1 NSF Support

Notes Storage Format (NSF) files are produced by the Lotus Notes Client or the Lotus Domino server. The NSF filter is the only Oracle Outside In filter that requires the native application to be present to filter the input documents. Due to integration with an outside application, NSF support will not work with redirected I/O, when an NSF file is embedded in another file, or with IOTYPE_UNICODEPATH. Either Lotus Notes version 8 or Lotus Domino version 8 must be installed on the same machine as OIT. A 32-bit version of the Lotus software must be used if you are using a 32-bit version of OIT. A 64-bit version of the Lotus software must be used if you are using a 64-bit version of OIT. On Windows, SCCOPT_LOTUSNOTESDIRECTORY should be set to the directory containing the nnotes.dll. NSF support is only available on the Win32, Win x86-64, Linux x86-32, and Solaris Sparc 32 platforms.

4.2 Libraries and Structure

The following is an overview of the files in the main installation directory for all five Oracle Outside In export products.

4.2.1 API DLLs

These libraries implement the API. They should be linked with the developer's application. Files with a .lib extension are included in the SDK.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
sccda.dll	Data Access module	X	X	X	X	X	X
sccex.dll	Export module	X	X	X	X	X	X
sccfi.dll	File Identification module (identifies files based on their contents).	X	X	X	X	X	X

The File ID Specification may not be used directly by any application or workflow without it being separately licensed expressly for that purpose.

4.2.2 Support DLLs

The following libraries are used for support.

Library	Description	HTML Export	ImageExport	PDF Export	Search Export	XML Export	Web View Export
ccflex.dll	A data model adapter that converts from stream model utilized by Oracle Outside In filters to the FlexionDoc Tree model used as a basis by XML Export.					X	
libexpatw.dll	A third-part XML parser					X	
ocemul.dll	Output component emulation module	X	X	X	X	X	X
oswin*.dll	Interface to the native GDI implementation oswin32.dll is the 32-bit version, oswin64.dll is the 64-bit version	X	X	X	X	X	
sccanno.dll	The annotation module	X	X				X
sccca.dll	Content Access module (provides organized chunker data for the developer)	X	X	X			X
sccch.dll	Chunker (provides caching of and access to filter data for the export engines)	X	X	X	X	X	X
sccdu.dll	Display Utilities module (includes text formatting)	X	X	X	X	X	X
sccexind.dll	The core engine for all Search Export formats: SearchText, SearchHTML, SearchML and PageML			X	X		
sccfmt.dll	Formatting module (resolves numbers to formatted strings)	X	X		X	X	X
sccfut.dll	Filter utility module	X	X	X	X	X	X
sccind.dll	Indexing engine. In Search Export, it handles common functionality.	X	X	X	X		X
scclo.dll	Localization library (all strings, menus, dialogs and dialog procedures reside here)	X	X	X	X	X	X

Library	Description	HTML Export	ImageExport	PDF Export	Search Export	XML Export	Web View Export
sccole2.dll	OLE rendering module	X	X	X	X	X	X
sccsd.dll	Schema Definition Module Manager (brokers multiple Schema Definition Modules)			X		X	
sccut.dll	Utility functions, including IO subsystem	X	X	X	X	X	X
sccxt.dll	XTree module					X	
sdflex.dll	Schema Definition module (handles conversion of XML string names and attribute values to compact binary representations and vice versa)			X		X	
wvcore.dll	The GDI Abstraction layer	X	X		X	X	X

4.2.3 Engine Libraries

The following libraries are used for display purposes.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
debmp.dll	Raster rendering engine (TIFF, GIF, BMP, PNG, PCX…)			X		X	
devect.dll	Vector/Presentation rendering engine (PowerPoint, Impress, Freelance…)	X	X	X		X	X
dess.dll	Spreadsheet/Database (Excel, Calc, Lotus 123…)		X	X		X	
detree.dll	Archive (ZIP, GZIP, TAR…)		X	X			
dewp.dll	Document (Word, Writer, WordPerfect…)		X	X	X		X

4.2.4 Filter and Export Filter Libraries

The following libraries are used for filtering.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
vs*.dll	Filters for specific file types (there are more than 150 of these filters, covering more than 600 file formats)	X	X	X	X	X	X
oitnsf.id	Support file for the vsnsf filter.	X	X	X	X	X	X
exgdsf.dll	Export filter for GIF, JPEG, and PNG graphics files	X				X	X
eximg.dll	Extended image conversion module		X				
exh5.dll	Export filter for HTML5 files						X
exhtml.dll	Export filter for HTML files	X					
exihtml.dll	Export filter for SearchHTML				X		
exitext.dll	Export filter for SearchText				X		
exixml.dll	Export filters for XML files using the SearchML schema				X		
expage.dll	Export filter for XML files using the PageML schema				X		
expagelayout.dll	Page layout module			X			
exxml.dll	XML Export module					X	
sccimg.dll	Image conversion module	X	X	X		X	X

4.2.5 Premier Graphics Filters

The following are graphics filters.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
i*2.dll	Import filters for premier graphics formats	X	X	X	X	X	X
isgdi32.dll	Interface to premier graphics filters	X	X	X	X	X	X

4.2.6 Additional Files

The following files are also used.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
adinit.dat	Support file for the **vsacad** filter	X	X	X	X	X	X
cmmap000.bin	Tables for character mapping (all character sets)	X	X	X	X	X	X
cmmap000.sbc	Tables for character mapping (single-byte character sets). This file is located in the /sdk/common directory.	X	X	X	X	X	X
cmmap000.dbc	Identical to **cmmap000.bin**, but renamed for clarity (.dbc = double-byte character). This file is located in the /sdk/common directory.	X	X	X	X	X	X
exbf.dll	Internal				X		
pageml.dtd	The Document Type Definition for the PageML schema				X		
pageml.xsd	The Extensible Schema Definition for the PageML schema				X		
searchml3.dtd	The Document Type Definitions for the SearchML schema				X		
searchml3.xsd	The Extensible Schema Definitions for the SearchML schema				X		
flexiondoc.dtd	The DTD version of the Flexiondoc schema					X	
flexiondoc.xsd	The schema version of the Flexiondoc schema					X	

4.3 The Basics

The following is a discussion of some basic usage and installation features.

All the steps outlined in this section are used in the sample applications provided with the SDK. Looking at the code for the **exsimple** sample application is recommended for those wishing to see a real-world example of this process.

4.3.1 What You Need in Your Source Code

Any source code that uses this product should `#include` the file sccex.h and `#define` `WINDOWS` and `WIN32` or `WIN64`. For example, a Windows application might have a source file with the following lines:

```
#define WINDOWS         /* Will be automatically defined if your
                           compiler defines _WINDOWS */
#define WIN32
#include <sccex.h>
```

The developer's application should be linked to the product DLLs through the provided libraries.

4.3.2 Options and Information Storage

When using the Export products, a list of available filters and a list of available display engines are built by the technology, usually the first time the product runs. You do not need to ship these lists with your application. The lists are automatically recreated if corrupted or deleted.

The files used to store this information are stored in an .oit subdirectory in \Documents and Settings*user name*\Application Data.

If an .oit directory does not exist in the user's directory, the directory is created automatically. The files are automatically regenerated if corrupted or deleted.

The files are:

- *.f = Filter lists
- *.d = Display Engine lists
- *.opt = Persistent options

Some applications and services may run under a local system account for which there is no users "application data" folder. The technology first does a check for an environment variable called OIT_DATA_PATH. Then it checks for APPDATA, and then LOCALAPPDATA. If none of those exist, the options files are put into the executable path of the UT module.

These file names are intended to be unique enough to avoid conflict for any combination of machine name and install directory. This allows the user to run products in separate directories without having to reload the files above. The file names are built from an 11-character string derived from the directory the Oracle Outside In technology resides in and the name of the machine it is being run on. The string is generated by code derived from the RSA Data Security, Inc. MD5 Message-Digest Algorithm.

The software still functions if these lists cannot be created for some reason. In that situation, however, significant performance degradation should be expected.

4.3.3 Structure Alignment

Oracle Outside In is built with 8-byte structure alignment. This is the default setting for most Windows compilers. This and other compiler options that should be used are demonstrated in the files provided with the sample applications in samples\win.

4.3.4 Character Sets

The strings passed in the Windows API are Microsoft Code Page 1252 by default.

To optimize performance on systems that do not require DBCS support, a second character mapping bin file, that does not contain any of the DBCS pages, is now included. The second bin file gives additional performance benefits for English documents, but cannot handle DBCS documents. To use the new bin file, replace the cmmap000.bin with the new bin file, cmmap000.sbc. For clarity, a copy of the cmmap000.bin file (cmmap000.dbc) is also included. Both cmmap000.sbc and cmmap000.dbc are located in the \common directory of the technology.

Note:

All of the Search Export flavors produce most text in UTF-8 encoded Unicode. Two exceptions to this are the characters in <unmapped> elements and XMP metadata (which is passed through without character mapping being applied).

4.3.5 Runtime Considerations

The files used by the product must be in the same directory as the developer's executable.

4.4 Default Font Aliases

The technology includes the following default font alias map for Windows. The first value is the original font, the second is the alias.

- Chicago = Arial
- Geneva = Arial
- New York = Times New Roman
- Helvetica = Arial
- Helv = Arial
- times = Times New Roman
- Times = Times New Roman
- Tms Roman = Times New Roman
- itc zapfdingbats = Zapfdinbats
- itc zapf dingbats = Zapfdinbats

4.5 Changing Resources

Oracle Outside In PDF Export ships with the necessary files for OEMs to change any of the strings in the technology as they see fit.

Strings are stored in the lodlgstr.h file found in the resource directory. The file can be edited using any text editor.

Note:

Do not directly edit the scclo.rc file. Strings are saved with their identifiers in lodlgstr.h. If a new scclo.rc file is saved, it will contain numeric identifiers for strings, instead of their #define'd names.

Once the changes have been made, the updated scclo.dll file can be rebuilt using the following steps:

1. Compile the .res file:

   ```
   rc /fo ".\scclo.res" /i "<path to header (.h) files folder>" /d "NDEBUG" scclo.rc
   ```

2. Link the scclo.res file you've created with the scclo.obj file found in the resource directory to create a new scclo.dll:

   ```
   link /DLL /OUT:scclo.dll scclo.obj scclo.res
   ```

   Note:

   Developers should make sure they have set up their environment variables to build the library for their specific architecture. For Windows x86_32, when compiling with VS 2005, the solution is to run vsvars32.bat (in a standard VS 2005 installation, this is found in C:\Program Files\Microsoft Visual Studio 8\Common7\Tools\). If this works correctly, you will see the statement, "Setting environment for using Microsoft Visual Studio 2005 x86 tools." If you do not complete this step, you may have conflicts that lead to unresolved symbols due to conflicts with the Microsoft CRT.

   ---

3. Embed the manifest (which is created in the \resource directory during step 2) into the new DLL:

   ```
   mt -manifest scclo.dll.manifest -outputresource:scclo.dll;2
   ```

If you are not using Microsoft Visual Studio, substitute the appropriate development tools from your environment.

Note:

In previous versions of Oracle Outside In, it was possible to directly edit the SCCLO.DLL using Microsoft Visual Studio. Oracle Outside In DLLs are now digitally signed. Editing the signed DLL is not advisable.

5

UNIX Implementation Details

This chapter describes the implementation of the PDF Export SDK on the UNIX platform. The UNIX implementation of the Export product set is delivered as a set of shared libraries.

For a list of the currently supported platforms, see:

http://www.oracle.com/technetwork/indexes/documentation/index.html#middleware

Click on Outside In Technology, then click the Certification Information PDF.

This chapter includes the following sections:

5.1 Installation

To install the demo version of the SDK, copy the tgz file corresponding to your platform (available on the web site) to a local directory of your choice. Decompress the tgz file and then extract from the resulting tar file as follows:

```
gunzip tgzfile
tar xvf tarfile
```

The installation directory should contain the following directory structure.

Directory	Description
/redist	Contains a working copy of the UNIX version of the technology.
/sdk/common	Contains the C include files needed to build or rebuild the technology.
/sdk/demo	Contains the compiled executables of the sample applications.
/sdk/resource	Contains localization resource files. For more details, see Changing Resources.
/sdk/samplecode	Contains a subdirectory holding the source code for a sample application. For more details, see Sample Applications.
/sdk/samplefiles	Contains sample files designed to exercise the technology.

5.1.1 NSF Support

Notes Storage Format (NSF) files are produced by the Lotus Notes Client or the Lotus Domino server. The NSF filter is the only Outside In filter that requires the native application to be present to filter the input documents. Due to integration with an outside application, NSF support will not work with redirected I/O nor will it work when an NSF file is embedded in another file. Lotus Domino version 8 must be installed on the same machine as OIT. The NSF filter is currently only supported on the Win32, Win x86-64, Linux x86-32, and Solaris Sparc 32 platforms. SCCOPT_LOTUSNOTESDIRECTORY is a Windows-only option and is ignored on Unix.

Additional steps must be taken to prepare the system. It is necessary to know the name of the directory in which Lotus Domino has been installed. On Linux, this default directory is /opt/ibm/lotus/notes/latest/linux. On Solaris, it is /opt/ibm/lotus/notes/latest/sunspa.

- In the Lotus Domino directory, check for the existence of a file called "notes.ini". If the file "notes.ini" does not exist, create it in that directory and ensure that it contains the following single line:

  [Notes]

- Add the Lotus Domino directory to the $LD_LIBRARY_PATH environment variable.
- Set the environment variable $Notes_ExecDirectory to the Lotus Domino directory.

5.2 Libraries and Structure

On UNIX platforms the Oracle Outside In products are delivered with a set of shared libraries. All libraries should be installed to a single directory. Depending upon your application, you may also need to add that directory to the system's runtime search path. For more details, see Environment Variables.

The following is a brief description of the included libraries and support files. In instances where a file extension is listed as .*, the file extension varies for each UNIX platform (**sl** on HP-UX, **so** on Linux and Solaris).

5.2.1 API Libraries

These libraries implement the API. They should be linked with the developer's application.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libsc_da.*	Data Access module	X	X	X	X	X	X
libsc_ex.*	Export module	X	X	X	X	X	X
libsc_fi.*	File Identification module (identifies files based on their contents).	X	X	X	X	X	X

The File ID Specification may not be used directly by any application or workflow without it being separately licensed expressly for that purpose.

5.2.2 Support Libraries

The following libraries are used for support.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libccflex.*	A data model adapter that converts from stream model utilized by Outside In filters to the FlexionDoc Tree model used as a basis by XML Export.					X	
libexpatw.*	A third-party XML parser.					X	
liboc_emul.*	Output component emulation module	X	X	X	X	X	X
libos_gd.*	The internal rendering GDI implementation. **32-bit Linux and Solaris SPARC only.**	X	X		X	X	
libos_pdf.*	PDF generation module			X			
libos_xwin.*	The native GDI implementation	X	X		X	X	
libsc_anno.*	The annotation module	X	X	X			X
libsc_ca.*	Content Access module (provides organized chunker data for the developer)	X	X	X			X

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libsc_ch.*	Chunker (provides caching of and access to filter data for the export engines)	X	X	X	X	X	X
libsc_du.*	Display Utilities module (includes text formatting)	X	X	X	X	X	X
libsc_fmt.*	Formatting module (resolves numbers to formatted strings)	X	X	X	X	X	X
libsc_fut.*	Filter utility module	X	X	X	X	X	X
libsc_ind.*	Indexing engine. In Search Export, it handles common functionality.	X	X	X	X		X
libsc_lo.*	Localization library (all strings, menus, dialogs and dialog procedures reside here)	X	X	X	X	X	X
libsc_sd.*	Schema Definition Module Manager (brokers multiple Schema Definition Modules)					X	
libsc_ut.*	Utility functions, including IO subsystem	X	X	X	X	X	X
libsc_xp.*	XPrinter bridge	X	X		X	X	
libsdflex.*	Schema Definition module (handles conversion of XML string names and attribute values to compact binary representations and vice versa)					X	
libwv_core.*	The Abstraction layer	X	X	X	X	X	X
libwv_gdlib.so	The GDI rendering module. **32-bit Linux and Solaris SPARC only.**	X	X		X	X	

5.2.3 Engine Libraries

The following libraries are used for display purposes.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libde_bmp.*	Raster rendering engine (TIFF, GIF, BMP, PNG, PCX…)			X		X	X

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libde_vect.*	Vector/Presentation rendering engine (PowerPoint, Impress, Freelance)	X	X	X		X	X
libde_ss.*	Spreadsheet/Database (Excel, Calc, Lotus 123)		X	X		X	
libde_tree*	Archive (ZIP, GZIP, TAR…)		X	X			
libde_wp.*	Document (Word, Writer, WordPerfect)		X	X	X		X

5.2.4 Filter and Export Filter Libraries

The following libraries are used for filtering.

libex_gdsf must be linked with libsc_img.* at compile time. This forces the filter to be dependent on libsc_img.* at runtime, even though that module may not be used directly. If you want to reduce your application's physical footprint, you can experiment with unlinking libsc_img.*.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libvs_*.*	Filters for specific file types (there are more than 150 of these filters, covering more than 600 file formats)	X	X	X	X	X	X
libex_gdsf.*	Export filter for GIF, JPEG, and PNG graphics files	X				X	X
libex_h5.*	Export filter for HTML5 files						X
libsc_img.*	Image conversion module	X	X			X	X
libex_itext.*	Export filter for SearchText				X		
libex_html.*	Export filter for HTML files	X					
libex_img.*	Extended image conversion module		X				
libex_xml.*	Export filter for XML files using the Flexiondoc schema					X	
libex_page.*	Export filter for XML files using the PageML schema				X		
libex_pagelayout.*	Page Layout module			X			

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libex_ixml.*	Export filters for XML files using the SearchML schema				X		
libex_ihtml.*	Export filter for SearchHTML				X		

5.2.5 Premier Graphics Filters

The following are graphics filters.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
libi*.*	These files are the import filters for premier graphics formats.	X	X	X	X	X	X
libis_unx2.*	Interface to premier graphics filters	X	X	X	X	X	X

5.2.6 Additional Files

The following files are also used.

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
adinit.dat	Support file for the vsacad and vsacd2 filters	X	X	X	X	X	X
ccbf.so	Internal				X		
cmmap000.bin	Tables for character mapping (all character sets)	X	X	X	X	X	X
cmmap000.sbc	Tables for character mapping (single-byte character sets). This file is located in the /common directory.	X	X	X	X	X	X

Library	Description	HTML Export	Image Export	PDF Export	Search Export	XML Export	Web View Export
cmmap000.dbc	Identical to cmmap000.bin, but renamed for clarity (.dbc = double-byte character). This file is located in the common directory.	X	X	X	X	X	X
exbf.so	Internal				X		
flexiondoc.dtd	The DTD version of the Flexiondoc schema					X	
flexiondoc.xsd	The schema version of the Flexiondoc schema					X	
libfreetype.so.6	TrueType font rendering module for the GD output solution. **32-bit Linux and Solaris Sparc only.**	X	X	X	X	X	
oitnsf.id	Support file for the vsnsf filter.	X	X	X	X	X	X
pageml.dtd	The Document Type Definition for the PageML schema				X		
pageml.xsd	The Extensible Schema Definition for the PageML schema				X		
searchml3.dtd	The Document Type Definitions for the SearchML schema				X		
searchml3.xsd	The Extensible Schema Definitions for the SearchML schema				X		

5.3 The Basics

Sample applications are provided with the SDK. These applications demonstrate most of the concepts described in this manual. For a complete description of the sample applications, see Sample Applications.

5.3.1 What You Need in Your Source Code

Any source code that uses this product should `#include` the file sccex.h and `#define` UNIX. For example, a 32-bit UNIX application might have a source file with the following lines:

```
#define UNIX
#include <sccex.h>
```

and a 64-bit UNIX application might have a source file with the following lines:

```
#define UNIX
#define UNIX_64
#include <sccex.h>
```

5.3.2 Information Storage

This software is based on the Oracle Outside In Viewer Technology (or simply "Viewer Technology"). A file of default options is always created, and a list of available filters and a list of available display engines are also built by the technology, usually the first time the product runs (for UNIX implementations). You do not need to ship these lists with your application.

Lists are stored in the $HOME/.oit directory. If the $HOME environment variable is not set, the files are put in the same directory as the Oracle Outside In Technology. If a /.oit directory does not exist in the user's $HOME directory, the .oit directory is created automatically by the technology. The files are automatically regenerated if corrupted or deleted.

The files are:

- *.f: Filter lists
- *.d: Display engine list
- *.opt: Persistent options

The filenames are intended to be unique enough to avoid conflict for any combination of machine name and install directory. This is intended to prevent problems with version conflicts when multiple versions of the Oracle Outside In Technology and/or other Oracle Outside In Technology-based products are installed on a single system. The filenames are built from an 11-character string derived from the directory the Oracle Outside In Technology resides in and the name of the machine it is being run on. The string is generated by code derived from the RSA Data Security, Inc. MD5 Message-Digest Algorithm.

The products still function if these files cannot be created for some reason. In that situation, however, significant performance degradation should be expected.

5.4 Character Sets

The strings passed in the UNIX API are ISO8859-1 by default.

To optimize performance on systems that do not require DBCS support, a second character mapping bin file, that does not contain any of the DBCS pages, is included. The second bin file gives additional performance benefits for English documents, but cannot handle DBCS documents. To use the new bin file, replace the cmmap000.bin with the new bin file, cmmap000.sbc. For clarity, a copy of the cmmap000.bin file

(cmmap000.dbc) is also included. Both cmmap000.sbc and cmmap000.dbc are located in the /sdk/common directory of the technology.

5.5 Runtime Considerations

The following is information to consider during run-time.

5.5.1 OLE2 Objects

Some documents that the developer is attempting to convert may contain embedded OLE2 objects. There are platform-dependent limits on what the technology can do with OLE2 objects. However, Oracle Outside In attempts to take advantage of the fact that some documents accompany an OLE2 embedding with a graphic "snapshot," in the form of a Windows metafile.

On all platforms, when a metafile snapshot is available, the technology uses it to convert the object. When a metafile snapshot is not available on UNIX platforms, the technology is unable to convert the OLE2 object.

5.5.2 Signal Handling

These products trap and handle the following signals:

- SIGABRT
- SIGBUS
- SIGFPE
- SIGILL
- SIGINT
- SIGSEGV
- SIGTERM

Developers who wish to override our default handling of these signals should set up their own signal handlers. This may be safely done after the developer's application has called DAInitEx().

Note:

The Java Native Interface (JNI) allows Java code to call and be called by native code (C/C++ in the case of OIT). You may run into problems if Java isn't allowed to handle signals and forward them to OIT. If OIT catches the signals and forwards them to Java, the JVMs will sometimes crash. OIT installs signal handlers when DAInitEx() is called, so if you call OIT after the JVM is created, you will need to use libjsig. Refer here for more information:

`http://www.oracle.com/technetwork/java/javase/index-137495.html`

5.5.3 Runtime Search Path and $ORIGIN

Libraries and sample applications are all built with the $ORIGIN variable as part of the binaries' runtime search path. This means that at runtime, OIT libraries will

automatically look in the directory they were loaded from to find their dependent libraries. You don't necessarily need to include the technology directory in your LD_LIBRARY_PATH or SHLIB_PATH.

As an example, an application that resides in the same directory as the OIT libraries and includes $ORIGIN in its runtime search path will have its dependent OIT libraries found automatically. You will still need to include the technology directory in your linker's search path at link time using something like -L and possibly -rpath-link.

Another example is an application that loads OIT libraries from a known directory. The loading of the first OIT library will locate the dependent libraries.

Note:

This feature does not work on AIX and FreeBSD.

5.6 Environment Variables

Several environment variables may be used at run time. Following is a short summary of those variables and their usage.

Variable	Description
$LD_LIBRARY_PATH (FreeBSD, HP-UX Itanium 64, Linux, Solaris) $SHLIB_PATH (HP-UX PA-RISC 32) $LIBPATH (AIX, iSeries)	These variables help your system's dynamic loader locate objects at runtime. If you have problems with libraries failing to load, try adding the path to the Oracle Outside In libraries to the appropriate environment variable. See your system's manual for the dynamic loader and its configuration for details. Note that for products that have a 64-bit PA-RISC, 64-bit Solaris and Linux PPC/PPC64 distributable, they will also go under $LD_LIBRARY_PATH.
$HOME	Must be set to allow the system to write the option, filter and display engine lists. For details, see Information Storage.

5.7 Default Font Aliases

Outside In Technology (OIT) will use the fonts installed on the host system. If a file being converted with OIT uses fonts that are available on the host system, no substitution should occur and the original font from the input file will be used. If the original font used in the input file is not available on the host system, then OIT will first check to see if an alias has been set for the font using the SCCOPT_PRINTFONTALIAS option (see documentation for details on using this option). If there is an alias available, and the alias font is available on the host system, then OIT will use this font. If no alias is set or the alias font is not available on the host system, then a substitution will occur. The first attempt at a substitution will use the default font specified by the SCCOPT_DEFAULTPRINTFONT option. If this font has the glyphs to be rendered, it will be used ahead of all other potential substitutions. In some cases, the default font cannot be used because it does not contain the glyphs required to render the text from the input file.

For example, a default font of Arial may not contain glyphs required to render certain Asian languages. In these cases, OIT will pick another font that does have the glyphs,

if one exists. The mechanism for picking that other font is not very predictable, and often leads to bad results (picking a serifed font for a non-serifed, variable width for a fixed width, etc.). Therefore, the best solution for users is to have as many fonts available to OIT as possible. This will avoid font substitutions and provide the most accurate rendering of the original file.

Note that font substitutions can lead to different wrapping, which can lead to different numbers of pages rendered by OIT versus the native application. This further underscores the importance of a host system with as many fonts as possible.

The technology includes the following default font alias map for UNIX platforms. The first value is the original font, and the second is the alias.

- 61 = Liberation Sans
- Andale Mono = Liberation Sans
- Courier = Liberation Sans
- Courier New = Liberation Sans
- Lucida Console = Liberation Sans
- MS Gothic = Liberation Sans
- MS Mincho = Liberation Sans
- OCR A Extended = Liberation Sans
- OCR B = Liberation Sans
- Agency FB = Liberation Sans
- Arial = Liberation Sans
- Arial Black = Liberation Sans
- Arial Narrow = Liberation Sans
- Arial Rounded MT = Liberation Sans
- Arial Unicode MS = Liberation Sans
- Berline Sans FB = Liberation Sans
- Calibri = Liberation Sans
- Frank Gothic Demi = Liberation Sans
- Frank Gothic Medium Cond = Liberation Sans
- Franklin Gothic Book = Liberation Sans
- Futura = Liberation Sans
- Geneva = Liberation Sans
- Gill Sans = Liberation Sans
- Gill Sans MT = Liberation Sans
- Lucida Sans Regular = Liberation Sans

- Lucida Sans Unicode = Liberation Sans
- Modern No. 20 = Liberation Sans
- Tahoma = Liberation Sans
- Trebuchet MS = Liberation Sans
- Tw Cen MT = Liberation Sans
- Verdana = Liberation Sans
- Albany = Liberation Sans
- Franklin Gothic = Liberation Sans
- Franklin Demi = Liberation Sans
- Franklin Demi Cond = Liberation Sans
- Franklin Gothic Heavy = Liberation Sans
- Algerian = Liberation Serif
- Baskerville = Liberation Serif
- Bell MT = Liberation Serif
- Bodoni MT = Liberation Serif
- Bodoni MT Black = Liberation Serif
- Book Antiqua = Liberation Serif
- Bookman Old Style = Liberation Serif
- Calisto MT = Liberation Serif
- Cambria = Liberation Serif
- Centaur = Liberation Serif
- Century = Liberation Serif
- Century Gothic = Liberation Serif
- Century Schoolbook = Liberation Serif
- Elephant = Liberation Serif
- Footlight MT Light = Liberation Serif
- Garamond = Liberation Serif
- Georgia = Liberation Serif
- Goudy Old Style = Liberation Serif
- Lucida Bright = Liberation Serif
- MS Serif = Liberation Serif
- New York = Liberation Serif

- Palatino = Liberation Serif
- Perpetua = Liberation Serif
- Times = Liberation Serif
- times = Liberation Serif
- Times New Roman = Liberation Serif

5.8 Changing Resources

All of the strings used in the UNIX versions of Oracle Outside In products are contained in the lodlgstr.h file. This file, located in the resource directory, can be modified for internationalization and other purposes. Everything necessary to rebuild the resource library to use the modified source file is included with the SDK.

In addition to lodlgstr.h, the scclo.o object file is provided. This is necessary for the linking phase of the build. A makefile has also been provided for building the library. The makefile allows building on all of the UNIX platforms supported by Oracle Outside In. It may be necessary to make minor modifications to the makefile so the system header files and libraries can be found for compiling and linking.

Standard INCLUDE and LIB *make* variables are defined for each platform in the makefile. Edit these variables to point to the header files and libraries on your particular system. Other make variables are:

- TECHINCLUDE: May need to be edited to point to the location of the Oracle Outside In /common header files supplied with the SDK.
- BUILDDIR: May need to be edited to point to the location of the makefile, lodlgstr.h, and scclo.o (which should all be in the same directory).

After these variables are set, change to the build directory and type make. The libsc_lo resource library is built and placed in the appropriate platform-specific directory. To use this library, copy it into the directory where the Oracle Outside In product is stored and the new, modified resource strings are used by the technology.

Menu constants are included in lomenu.h in the common directory.

5.9 HP-UX Compiling and Linking

The libsc_ex.sl and libsc_da.sl libraries are the only ones that must be linked with your application. They can be loaded when your application starts by linking them directly at compile time or they can be loaded dynamically by your application using library load functions (for example, shl_load).

The following are example command lines used to compile the sample application **exsimple** from the /sdk/samplecode directory. The command lines are separated into sections for HP-UX and HP-UX on Itanium. This command line is only an example. The actual command line required on the developer's system may vary. The example assumes that the include and library file search paths for the technology libraries are set correctly. If they are not set correctly, the search paths for the include and/or library files must be explicitly specified via the -I *include file path* and/or -L *library file path* options, respectively, so that the compiler and linker can locate all required files.

5.9.1 HP-UX on RISC

```
cc -w -o ../exsimple/unix/exsimple ../exsimple/unix/exsimple.c +DAportable -Ae -
I/usr/include -I../../common -L../../demo -L/usr/lib -lsc_ex -lsc_da -Wl,+s,
+b,'$ORIGIN'
```

Note:

aCC, the native compiler for HP-UX PA-RISC, provides two compile time options to specify one of two versions of the C++ runtime libraries to load. -AP, the default option, indicates that the "classic" C++ runtime library should be used; -AA indicates that the "standard" C++ runtime library should be used. Outside In libraries are compiled with the default -AP option. HP warns that using individual components that are compiled with differing options for the C++ runtime libraries could potentially run into conflict when used together. As such, we recommend that all source code be compiled with the default option for the C++ runtime, or explicitly with -AP.

5.9.2 HP-UX on Itanium (64 bit)

```
cc -w -o ../exsimple/unix/exsimple ../exsimple/unix/exsimple.c +DD64 -I../../common -
L../../demo -lsc_ex -lsc_da -DUNIX_64 -Wl,+s,+b,'$ORIGIN'
```

5.10 IBM AIX Compiling and Linking

All libraries should be installed into a single directory and the directory must be included in the system's shared library path ($LIBPATH). $LIBPATH *must* be set and must point to the directory containing the Oracle Outside In Technology.

Oracle Outside In technology has been updated to increase performance, at a cost of using more memory. It is possible that this increased memory usage may cause a problem on AIX systems, which can be very conservative in the amount of memory they grant to processes. If your application experiences problems due to memory limitations with Oracle Outside In, you may be able to fix this problem by using the "large page" memory model.

If you anticipate viewing or converting very large files with Oracle Outside In Technology, we recommend linking your applications with the -bmaxdata flag. For example:

```
xlc -o foo foo.c -bmaxdata:0x80000000
```

If you are currently seeing "illegal instruction" errors followed by immediate program exit, this is likely due to not using the large data model.

The following is an example command line used to compile the sample application exsimple from the /sdk/samplecode directory. This command line is only an example. The actual command line required on the developer's system may vary. The example assumes that the include and library file search paths for the technology libraries are set correctly. If they are not set correctly, the search paths for the include and/or library files must be explicitly specified via the -I *include file path* and/or -L*ibrary file path* options, respectively, so that the compiler and linker can locate all required files. Developers need to pass -brtl to the linker to list libraries in the link command as dependencies of their applications.

Developers may need to use the -qcpluscmt flag to allow C++ style comments.

5.10.1 IBM AIX (32-bit pSeries)

```
xlc -o ../exsimple/unix/exsimple ../exsimple/unix/exsimple.c -w -q32 -I../../common -
Wl,-bmaxdata:0x80000000 -Wl,-bnolibpath -Wl,-blibpath:/usr/lib:lib -L../../demo -
lsc_da -lsc_ex -Wl,-brtl
```

5.11 Oracle Solaris Compiling and Linking

Note:

These products do not support the "Solaris BSD" mode.

All libraries should be installed into a single directory. The libsc_ex.so, and libsc_da.so libraries must be linked with your application. It can be loaded when your application starts by linking them directly at compile time or they can be loaded dynamically by your application using library load functions (for example, **dlopen**).

The command line below is used to compile the sample application **exsimple** from the /sdk/samplecode directory. This command line is only an example. The actual command line required on the developer's system may vary. The example assumes that the include and library file search paths for the technology libraries are set correctly. If they are not set correctly, the search paths for the include and/or library files must be explicitly specified via the -I *include file path*> and/or *-L library file path* options, respectively, so that the compiler and linker can locate all required files.

Developers may need to use the -xcc flag to allow C++ style comments.

5.11.1 Oracle Solaris SPARC

```
cc -w -o ../exsimple/unix/exsimple ../exsimple/unix/exsimple.c -I/usr/include -
I/usr/dt/share/include -I../../common -L../../demo -L/usr/lib -L/lib -lsc_ex -lsc_da
-Wl,-R,../../demo -Wl,-R,'${ORIGIN}'
```

Note: When running the 32-bit SPARC binaries on Solaris 9 systems, you may see the following error:

```
ld.so.1: simple: fatal: libm.so.1: version `SUNW_1.1.1' not found
(required by file ./libsc_vw.so)
```

This is due to a missing system patch. Please apply one of the following patches (or its successor) to your system to correct.

- For Solaris 9: Patch 111722-04

5.12 Linux Compiling and Linking

This section discusses issues involving Linux compiling and linking.

5.12.1 Library Compatibility

This section discusses Linux compatibility issues when using libraries.

5.12.1.1 GLIBC and Compiler Versions

The following table indicates the compiler version used and the minimum required version of the GNU standard C library needed for Oracle Outside In operation.

Distribution	Compiler Version	GLIBC Version
x86 Linux	3.3.2	libc.so.6 (2.3.2 or newer)

5.12.1.2 Other Libraries

In addition to libc.so.6, Oracle Outside In is dependent upon the following libraries:

- libstdc++.so.6
- libgcc_so.1

libgcc_s.so.1 was introduced with GCC 3.0, so any distribution based on a pre-GCC 3.0 compiler does not include libgcc_s.so.1.

5.12.2 Compiling and Linking

The libsc_ex.so and libsc_da.so are the only libraries that must be linked with your applications. They can be loaded when your application starts by linking them directly at compile time or they can be loaded dynamically by your application using library load functions (for example, dlopen).

To use **PDF Export** annotation functions, you must also link to libsc_ca.so, requiring a separate license to Oracle Outside In Content Access or Search Export. Contact your sales representative for more information.

The following are example command lines used to compile the sample application **exsimple** from the /sdk/samplecode directory. This command line is only an example. The actual command line required on the developer's system may vary.

The example assumes that the include and library file search paths for the technology libraries are set correctly. If they are not set correctly, the search paths for the include and/or library files must be explicitly specified via the -I *include file path* and/or -L *library file path* options, respectively, so the compiler and linker can locate all required files.

5.12.2.1 Linux 32-bit

```
gcc -w -o ../exsimple/unix/exsimple ../exsimple/unix/exsimple.c -I/usr/local/include
-I../../common -L../../demo -L/usr/local/lib -lsc_ex -lsc_da -Wl,-rpath,../../demo -
Wl,-rpath,'${ORIGIN}'
```

5.12.2.2 Linux 64-bit

```
gcc -w -o ../exsimple/unix/exsimple ../exsimple/unix/exsimple.c -I/usr/local/include
-I../../common -L../../demo -L/usr/local/lib -lsc_ex -lsc_da -DUNIX_64 -Wl,-
rpath,../../demo -Wl,-rpath,'${ORIGIN}'
```

6

Data Access Common Functions

This chapter describes common Data Access functions. The Data Access module is common to all Oracle Outside In SDKs. It provides a way to open a generic handle to a source file. This handle can then be used in the functions described in this chapter.

This chapter includes the following sections:

6.1 Deprecated Functions

DAInit and DaThreadInit have both been deprecated. DAInitEx now replaces these two functions. All new implementations should use DAInitEX, although the other two functions will continue to be supported.

6.2 DAInitEx

This function tells the Data Access module to perform any necessary initialization it needs to prepare for document access. This function must be called before the first time the application uses the module to retrieve data from any document. This function supersedes the old DAInit and DAThreadInit functions.

Note:

DAInitEx should only be called once per application, at application startup time. Any number of documents can be opened for access between calls to DAInitEx and DADeInit. If DAInitEx succeeds, DADeInit must be called regardless of any other API calls.

If the ThreadOption parameter is set to something other than DATHREAD_INIT_NOTHREADS, then this function's preparation includes setting up mutex function pointers to prevent threads from clashing in critical sections of the technology's code. The developer must actually code the threads after this function has been called. DAInitEx should be called only once per process and should be called before the developer's application begins the thread.

Note:

Multiple threads are supported for all Windows platforms, the 32-bit versions of Linux x86 and Solaris SPARC, Linux x64 and Solaris SPARC 64. Failed initialization of the threading function will not impair other API calls. If threading isn't initialized or fails, stub functions are called instead of mutex functions.

Prototype

```
DAERR DAInitEx(VTSHORT ThreadOption, VTDWORD dwFlags);
```

Parameters

- ThreadOption: can be one of the following values:
  - DATHREAD_INIT_NOTHREADS: No thread support requested.
  - DATHREAD_INIT_PTHREADS: Support for PTHREADS requested.
  - DATHREAD_INIT_NATIVETHREADS: Support for native threading requested. Supported only on Microsoft Windows platforms and Oracle Solaris.
- dwFlags: can be one or more of the following flags OR-ed together
  - OI_INIT_DEFAULT: Options Load and Save are performed normally

- OI_INIT_NOSAVEOPTIONS: The options file will not be saved on exit
- OI_INIT_NOLOADOPTIONS: The options file will not be read during initialization.

Return Values

- DAERR_OK: If the initialization was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.3 DADeInit

This function tells the Data Access module that it will not be asked to read additional documents, so it should perform any cleanup tasks that may be necessary. This function should be called at application shutdown time, and only if the module was successfully initialized with a call to DAInitEx.

Prototype

```
DAERR DADeInit();
```

Return Values

- DAERR_OK: If the de-initialization was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.4 DAOpenDocument

Opens a source file to make it accessible by one or more of the data access technologies. If DAOpenDocument succeeds, DACloseDocument must be called regardless of any other API calls.

The software now allows you to specify a file within an archive as the source for a conversion. A "subdocument specification" has been defined that allows the caller to identify the item within the archive that they wish to convert. The subdocument specification has the form item.number, where number identifies a particular item within the archive (item numbers must be non-zero, positive integers and the enumeration of items in the archive starts with "1"). Nested archives are supported, meaning that if the archived item is itself also an archive, you can specify an item within it as the "true" target file. This is accomplished by appending another number to the subdocument specification, delimited by another dot. For example, to specify item number 3 within an archive, the subdocument specification is item.3. If item number 3 is an archive file itself, and you wish to specify the fourth item within it, the subdocument specification is item.3.4. Any level of nesting is supported, up to the maximum length of a subdocument specification, which is DA_MAXSUBDOCSPEC.

For IO types other than IOTYPE_REDIRECT, the subdocument specification may be specified as part of the file's path. This is accomplished by appending a question mark delimiter to the path, followed by the subdocument specification. For example, to specify the third item within the file c:\docs\file.zip, specify the path c:\docs\file.zip?item.3 in the call to DAOpenDocument. DAOpenDocument always attempts to open the specification as a file first. In the unlikely event there is a file with the same name (including the question mark) as a file plus the subdocument specification, that file is opened instead of the archive item.

To take advantage of this feature when providing access to the input file using redirected IO, a subdocument specification must be provided via a response to an

IOGetInfo message, IOGETINFO_SUBDOC_SPEC. To specify an item in an archive, first follow the standard redirected IO methods to provide a BASEIO pointer to the archive file itself. To specify an item within the archive, a redirected IO object must respond to the IOGETINFO_SUBDOC_SPEC message by copying to the supplied buffer the subdocument specification of the archive item to be opened. This message is received during the processing of DAOpenDocument.

Prototype

```
DAERR DAOpenDocument(
   VTLPHDOC   lphDoc,
   VTDWORD    dwSpecType,
   VTLPVOID   pSpec,
   VTDWORD    dwFlags);
```

Parameters

- lphDoc: Pointer to a handle that will be filled with a value uniquely identifying the document to data access. The developer uses this handle in subsequent calls to data access to identify this particular source file. This is not an operating system file handle.
- dwSpecType: Describes the contents of pSpec. Together, dwSpecType and pSpec describe the location of the source file.

  Note:

  The values used within IOTYPE_ARCHIVEOBJECT, IOTYPE_LINKEDOBJECT, and IOTYPE_OBJECT may change if different options are applied, with different versions of the technology, or after patches are applied.

  Must be one of the following values:

  – IOTYPE_ANSIPATH: Windows only. pSpec points to a NULL-terminated full path name using the ANSI character set and FAT 8.3 (Win16) or NTFS (Win32 and Win64) file name conventions.

  – IOTYPE_UNICODEPATH: Windows only. pSpec points to a NULL-terminated full path name using the Unicode character set and NTFS (Win32 and Win64) file name conventions.

  – IOTYPE_UNIXPATH: UNIX platforms only. pSpec points to a NULL-terminated full path name using the system default character set and UNIX path conventions. Unicode paths can be accessed on UNIX platforms by using a UTF-8 encoded path with IOTYPE_UNIXPATH.

  – IOTYPE_REDIRECT: All platforms. pSpec points to a developer-defined struct that allows the developer to redirect the IO routines used to read the file. For more information, see Redirected IO.

  – IOTYPE_ARCHIVEOBJECT: All platforms. Opens an embedded archive object for data access. pSpec points to a structure IOSPECARCHIVEOBJECT (see IOSPECARCHIVEOBJECT Structure for details) that has been filled with values returned in a SCCCA_OBJECT content entry from Content Access.

  - IOTYPE_LINKEDOBJECT: All platforms. Opens an object specified by a linked object for data access. pSpec points to a structure IOSPECLINKEDOBJECT (see IOSPECLINKEDOBJECT Structure) that has been filled with values returned in an SCCCA_BEGINTAG or SCCCA_ENDTAG with a subtype of SCCCA_LINKEDOBJECT content entry from Content Access.
  - IOTYPE_OBJECT: All platforms. Opens an object (archive, embedded, or linked) for data access. pSpec points to a structure SCCDAOBJECT (see "SCCDAOBJECT Structure") that has been filled with values from Content Access (SCCCA_OBJECT or SCCCA_BEGINTAG with a subtype of SCCCA_LINKEDOBJECT) or from the <document> element in the SearchML flavor of Search Export.

- pSpec: File location specification.
- dwFlags: The low WORD is the file ID for the document (0 by default). If you set the file ID incorrectly, the technology fails. If set to 0, the file identification technology determines the input file type automatically. The high WORD should be set to 0.

  When using **Search Export**, it may also be set to DAOPENDOCUMENT_CONTINUEONFAILURE. Some embeddings may have both an OLE representation and an alternate graphic. When this flag is set for IOTYPE_OBJECT, the technology first tries to access the OLE representation. If there are errors, it then attempts to access the alternate graphic.

Return Values

- DAERR_OK: Returned if the open was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.4.1 IOSPECLINKEDOBJECT Structure

Structure used by DAOpenDocument.

Prototype

```
typedef struct IOSPECLINKEDOBJECTtag
   {
   VTDWORD    dwStructSize;
   VTSYSPARAM hDoc;
   VTDWORD    dwObjectId;  /* Object identifier. */
   VTDWORD    dwType;      /* Linked Object type */
                           /* (SO_LOCATORTYPE_*) */
   VTDWORD    dwParam1;    /* parameter for DoSpecial call */
   VTDWORD    dwParam2;    /* parameter for DoSpecial call */
   VTDWORD    dwReserved1; /* Reserved. */
   VTDWORD    dwReserved2; /* Reserved. */
} IOSPECLINKEDOBJECT,       * PIOSPECLINKEDOBJECT;
```

6.4.2 IOSPECARCHIVEOBJECT Structure

Structure used by DAOpenDocument.

Prototype

```
typedef struct IOSPECARCHIVEOBJECTtag
   {
```

```
   VTDWORD dwStructSize;
   VTDWORD hDoc;        /* Parent Doc hDoc */
   VTDWORD dwNodeId;    /* Node ID */
   VTDWORD dwStreamId;
   VTDWORD dwReserved1; /* Must always be 0 */
   VTDWORD dwReserved2; /* Must always be 0 */
} IOSPECARCHIVEOBJECT,   * PIOSPECARCHIVEOBJECT;
```

6.4.3 SCCDAOBJECT Structure

Structure used by DAOpenDocument.

Prototype

```
typedef struct SCCDAOBJECTtag
{
   VTDWORD   dwSize;         /* sizeof(SCCDAOBJECT) */
   VTHDOC    hDoc;           /* DA handle for the document
                                containing the object */
   VTDWORD   dwObjectType;   /* SCCCA_EMBEDDEDOBJECT,
                                SCCCA_LINKEDOBJECT,
                                SCCCA_COMPRESSEDFILE or
                                SCCCA_ATTACHMENT */
   VTDWORD   dwData1;        /* Data identifying the object */
   VTDWORD   dwData2;        /* Data identifying the object */
   VTDWORD   dwData3;        /* Data identifying the object */
   VTDWORD   dwData4;        /* Data identifying the object */
} SCCDAOBJECT, VTFAR* PSCCDAOBJECT;
```

6.5 DAOpenSubdocumentById

Allows an embedding to be opened using the integer value of the object_id attribute from the locator element.

Prototype

```
DAERR DAOpenSubdocumentById(
   VTHDOC     hDoc,
   VTLPHDOC   lphDoc,
   VTDWORD    pSpec,
   VTDWORD    dwFlags);
```

Parameters

- hDoc: The document handle for the document containing the locator.
- lphDoc: Receives the document handle for the embedding.
- dwSubdocumentId: The integer value of the object_id attribute from the locator.
- dwFlags: Must be set to 0.

6.6 DAOpenNextDocument

Allows an existing Export or Data Access document handle to be used or reused when opening a new document, enabling options to be preserved across multiple exports, or allowing multiple documents to be exported to the same output destination.

This function uses an existing "reference" handle as a starting point for opening another document. The reference handle may be either a document handle (obtained through DAOpenDocument) or an export handle (obtained via a call to EXOpenExport). The difference between using these two handle types is that certain document specification types (subdocuments of the original document) will not be successfully opened when a document handle is used as the reference handle. If an Export handle is used as the reference handle, subdocument specifications are allowed.

Since the same handle is used multiple times, only a single call to DACloseDocument is needed. Each document is actually closed when the next document is opened; successive calls to DAOpenNextDocument free the resources used in previous calls.

Using this function allows developers to make multiple calls to the EX functions, without having to re-set options every time. Options can be set once for the original document, and retained for each subsequent document.

Additionally, some export libraries allow exporting multiple source documents to a single output document. Currently, this is supported for PDF and multi-page TIFF output only. To do this, a developer would export the first document normally, then call DAOpenNextDocument to open the subsequent source documents, followed by a call to EXRunExport. EXOpenExport and EXCloseExport should only be called once each for this type of export.

Prototype

```
DAERR DAOpenNextDocument(
     VTHANDLE hReference,
     VTDWORD  dwSpecType,
     VTLPVOID pSpec,
     VTDWORD  dwFlags );
```

Parameters

- hReference: this VTHANDLE value may be either an hDoc, the VTHDOC document handle obtained through a prior call to DAOpenDocument; or an hExport, the VTHEXPORT handle obtained from a prior call to EXOpenExport. This is not an operating system file handle.
- dwSpecType: Describes the contents of pSpec. The dwSpecType values allowed by DAOpenDocument for this parameter are acceptable, with the exceptions that IOTYPE_ARCHIVEOBJECT and IOTYPE_LINKEDOBJECT are only allowed when hReference is an Export handle, obtained via a call to EXOpenExport.
- pSpec: File location specification.
- dwFlags: The low WORD is the file ID for the document (0 by default). If you set the file ID incorrectly, the technology fails. If set to 0, the file identification technology determines the input file type automatically. The high WORD should be set to 0.

Return Values

- DAERR_OK: Returned if the open was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.
- DAERR_FEATURENOTAVAIL: Returned if the value specified by dwSpecType is not one of the supported spec types for this operation.

6.7 DACloseDocument

This function is called to close a file opened by the reader that has not encountered a fatal error.

Prototype

```
DAERR DACloseDocument(
   VTHDOC hDoc);
```

Parameters

- hDoc: Identifier of open document. Must be a handle returned by the DAOpenDocument function.

Return Value

- DAERR_OK: Returned if close succeeded. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.8 DARetrieveDocHandle

This function returns the document handle associated with any type of Data Access handle. This allows the developer to only keep the value of hItem, instead of both hItem and hDoc.

Prototype

```
DAERR DARetrieveDocHandle(
   VTHDOC     hItem,
   VTLPHDOC   phDoc);
```

Parameters

- hItem: Identifier of open document. May be the subhandle returned by the DAOpenDocument or DAOpenTreeRecord functions in the data access submodule. Passing in an hDoc created by DAOpenDocument for this parameter results in an error.
- phDoc: Pointer to a handle to be filled with the document handle associated with the passed subhandle.

Return Value

- DAERR_OK: Returned if the handle in phDoc is valid. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.9 DASetOption

This function is called to set the value of a data access option.

Prototype

```
DAERR DASetOption(
   VTHDOC      hDoc,
```

```
   VTDWORD     dwOptionId,
   VTLPVOID    pValue,
   VTDWORD     dwValueSize);
```

Parameters

- hDoc: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, or the subhandle returned by the DAOpenDocument or DAOpenTreeRecord functions (VTHCONTENT, VTHTEXT, etc.). Setting an option for a VTHDOC affects all subhandles opened under it, while setting an option for a subhandle affects only that handle.

  If this parameter is NULL, then setting the option affects all documents opened thereafter. Once an option is set using the NULL handle, this option becomes the default option thereafter. This parameter should only be set to NULL if the option being set can take that value.

- dwOptionId: The identifier of the option to be set.
- pValue: Pointer to a buffer containing the value of the option.
- dwValueSize: The size in bytes of the data pointed to by pValue. For a string value, the NULL terminator should be included when calculating dwValueSize.

Return Value

- DAERR_OK: Returned if DASetOption succeeded. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.10 DASetFileSpecOption

This function is called to set the value of an option that takes a spec and spec type as parameters. It is currently only implemented for use in setting the template option in HTML Export. This function only needs to be used if the developer wishes to use Redirected IO on the template files. It may be used to set the template option even if the developer does not wish to use redirected IO, although DASetOption may also be used in this situation.

Prototype

```
DAERR DASetFileSpecOption(
   VTHDOC     hDoc,
   VTDWORD    dwOptionId,
   VTDWORD    dwSpecType,
   VTLPVOID   pSpec);
```

Parameters

- hDoc: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, or the subhandle returned by the DAOpenDocument or DAOpenTreeRecord functions (VTHCONTENT, VTHTEXT, etc.). Setting an option for a VTHDOC affects all subhandles opened under it, while setting an option for a subhandle affects only that handle.
- dwOptionId: The identifier of the option to be set. Currently only implemented for the option SCCOPT_EX_TEMPLATE.

- dwSpecType: The spec type of the file. Should be set to one of the valid spec types.
- pSpec: File location specification.

Return Value

- DAERR_OK: Returned if DASetFileSpecOption succeeded. Otherwise, one of the other DAERR_ values in sccda.h is returned.

6.11 DAGetOption

This function is called to retrieve the value of a data access option. The results of a call to this option are only valid if DASetOption has already been called on the option.

Prototype

```
DAERR DAGetOption(
   VTHDOC    hItem,
   VTDWORD   dwOptionId,
   VTLPVOID  pValue,
   VTLPDWORD pSize);
```

Parameters

- hItem: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, or the subhandle returned by the DAOpenDocument or DAOpenTreeRecord functions (VTHCONTENT, VTHTEXT, etc.). Getting an option for a VTHDOC gets the value of that option for that handle, which may be different than the subhandle's value.
- dwOptionId: The identifier of the option to be returned.
- pValue: Pointer to a buffer containing the value of the option.
- pSize: This VTDWORD should be initialized by the caller to the size of the buffer pointed to by pValue. If this size is sufficient, the option value is copied into pValue and pSize is set to the actual size of the option value. If the size is not sufficient, pSize is set to the size of the buffer needed for the option and an error is returned.

Return Value

- DAERR_OK: Returned if DAGetOption was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.12 DAGetFileId

This function allows the developer to retrieve the format of the file based on the technology's content-based file identification process. This can be used to make intelligent decisions about how to process the file and to give the user feedback about the format of the file they are working with.

Note: In cases where File ID returns a value of FI_UNKNOWN, this function will apply the Fallback Format before returning a result.

Prototype

```
DAERR DAGetFileId(
   VTHDOC      hDoc,
   VTLPDWORD   pdwFileId);
```

Parameters

- hDoc: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, a VTHEXPORT returned by the EXOpenExport function, or the subhandle returned by the DAOpenDocument or DAOpenTreeRecord functions (VTHEXPORT, VTHCONTENT, VTHTEXT, etc.).
- pdwFileId: Pointer to a DWORD that receives a file identification number for the file. These numbers are defined in sccfi.h.

Return Value

- DAERR_OK: Returned if DAGetFileId was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.13 DAGetFileIdEx

This function allows the developer to retrieve the format of the file based on the technology's content-based file identification process. This can be used to make intelligent decisions about how to process the file and to give the user feedback about the format of the file they are working with. This function has all the functionality of DAGetFileID and adds the ability to return the raw FI value; in other words, the value returned by normal FI, without applying the FallbackFI setting.

Prototype

```
DAERR DAGetFileIdEx(
   VTHDOC      hDoc,
   VTLPDWORD   pdwFileId,
   VTDWORD     dwFlags);
```

Parameters

- hDoc: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, or the subhandle returned by the DAOpenDocument or DAOpenTreeRecord functions (VTHEXPORT, VTHCONTENT, VTHTEXT, etc.).
- pdwFileId: Pointer to a DWORD that receives a file identification number for the file. These numbers are defined in sccfi.h.
- dwFlags: DWORD that allows user to request specific behavior.
  - DA_FILEINFO_RAWFI: This flag tells DAGetFileIdEx() to return the result of the File Identification operation before Extended File Ident. is performed and without applying the FallbackFI value.

Return Value

- DAERR_OK: Returned if DAGetFileIdEx was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is

returned. See the following tables for examples of expected output depending on the value of various options.

Values with RAWFI turned off

Input file type	ExtendedFI	FallbackID	DAGetFileId	DAGetFileIdEx
true binary	off	fallback value	fallback value	fallback value
true binary	on	fallback value	fallback value	fallback value
true text	off	fallback value	fallback value	fallback value
true text	on	fallback value	40XX	40XX

Values with RAWFI turned on

Input file type	ExtendedFI	FallbackID	DAGetFileId	DAGetFileIdEx
true binary	off	fallback value	fallback value	1999
true binary	on	fallback value	fallback value	1999
true text	off	fallback value	fallback value	1999
true text	on	fallback value	40XX	1999

6.14 DAGetErrorString

This function returns to the developer a string describing the input error code. If the error string returned does not fit the buffer provided, it is truncated.

```
VTVOID DAGetErrorString(
   DAERR      deError,
   VTLPVOID   pBuffer,
   VTDWORD    dwBufSize);
```

Parameters

- Error: Error code passed in by the developer for which an error message is to be returned.
- pBuffer: This buffer is allocated by the caller and is filled in with the error message by this routine. The error message will be a NULL-terminated string.
- dwBufSize: Size of what pBuffer points to in bytes.

Return Value

- none

6.15 DAGetObjectInfo

This function returns information about the document or object pointed to by hDoc. The object may be an embedded object, a linked object, or a compressed file.

```
DAERR DAGetObjectInfo(
   VTHDOC     hDoc,
   VTDWORD    dwInfoId,
   VTLPVOID   pInfo);
```

Parameters

- hDoc: The handle returned by DAOpenDocument.
- dwInfoId: The identifier of the requested information. Can be any of the following values:
  - DAOBJECT_NAME_A: Retrieves the name of the object, in 8-bit characters. pInfo points to a buffer of size DA_PATHSIZE.
  - DAOBJECT_NAME_W: Retrieves the name of the object in Unicode characters. pInfo points to a buffer of 16 bit characters of size DA_PATHSIZE.
  - DAOBJECT_FORMATID: Retrieves the file ID of the object. pInfo points to a VTDWORD value.
  - DAOBJECT_COMPRESSIONTYPE: Retrieves an identifier of the type of compression used to store the object, if known. pInfo points to a VTDWORD value.
  - DAOBJECT_FLAGS: Retrieves a bitfield of flags indicating additional attributes of the object. pInfo points to a VTDWORD value. Possible flag values include DAOBJECTFLAG_PARTIALFILE (would not normally exist outside the source document), DAOBJECTFLAG_PROTECTEDFILE (encrypted or password protected), DAOBJECTFLAG_LINKTOFILE (indicates that an OLE object is linked to the file and a corresponding file is not found on the host machine), DAOBJECTFLAG_UNIDENTIFIEDFILE (indicates that an object could not be identified), and DAOBJECTFLAG_UNSUPPORTEDCOMP (compressed with an unsupported compression).
- pInfo: Destination of the requested information. The possible types are described in the preceding section about dwInfoId.

Return Values

- DAERR_OK: Returned if the save was successful. Otherwise, one of the other DAERR_ values in sccda.h is returned.

6.16 DAGetTreeCount

This function is called to retrieve the number of records in an archive file.

```
DAERR DAGetTreeCount(
      VTHDOC      hDoc,
      VTLPDWORD   lpRecordCount);
```

Parameters

- hDoc: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, or the subhandle returned by any of the DAOpenDocument or DAOpenTreeRecord functions (VTHCONTENT, VTHTEXT, etc.).

- lpRecordCount: A pointer to a VTLPDWORD that is filled with the number of stored archive records.

Return Value

- DAERR_OK: DAGetTreeCount was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.
- DAERR_BADPARAM: The selected file does not contain an archive section, or the requested record does not exist.

6.17 DAGetTreeRecord

This function is called to retrieve information about a record in an archive file.

```
DAERR DAGetTreeRecord(
      VTHDOC         hDoc,
      PSCCDATREENODE pTreeNode);
```

Parameters

- hDoc: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, or the subhandle by any of the DAOpenDocument or DAOpenTreeRecord functions (VTHCONTENT, VTHTEXT, etc.).
- pTreeNode: A pointer to a PSCCDATREENODE structure that is filled with information about the selected record.

Return Values

- DAERR_OK: DAGetTreeRecord was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.
- DAERR_BADPARAM: The selected file does not contain an archive section, or the requested record does not exist.
- DAERR_EMPTYFILE: Empty file.
- DAERR_PROTECTEDFILE: Password protected or encrypted file.
- DAERR_SUPFILEOPENFAILS: Supplementary file open failed.
- DAERR_FILTERNOTAVAIL: The file's type is known, but the appropriate filter is not available.
- DAERR_FILTERLOADFAILED: An error occurred during the initialization of the appropriate filter.

6.17.1 SCCDATREENODE Structure

This structure is passed by the OEM through the DAGetTreeRecord function. The structure is defined in sccda as follows:

```
typedef struct SCCDATREENODEtag{
   VTDWORD   dwSize;
   VTDWORD   dwNode;
   VTBYTE    szName[1024];
   VTDWORD   dwFileSize;
   VTDWORD   dwTime;
```

```
VTDWORD   dwFlags;
VTDWORD   dwCharSet;
} SCCDATREENODE,   *PSCCDATREENODE;
```

Parameters

- dwSize: Must be set by the OEM to sizeof(SCCDATREENODE).
- dwNode: The number of the record for which information is being retrieved. The first node is node 0.
- szName: A buffer to hold the name of the record.
- dwFileSize: Returns the file size, in bytes, of the requested record.
- dwTime: Returns the timestamp of the requested record, in MS-DOS time.
- dwFlags: Returns additional information about the node. It can be a combination of the following:
  - SCCDA_TREENODEFLAG_FOLDER: Indicating that the selected node is a folder and not a file.
  - SCCDA_TREENODEFLAG_SELECTED: Indicating that the node is selected.
  - SCCDA_TREENODEFLAG_FOCUS: Indicating that the node has focus.
  - SCCDA_TREENODEFLAG_ENCRYPT: Indicating that the node is encrypted and can not be decrypted.
  - SCCDA_TREENODEFLAG_ARCKNOWNENCRYPT: indicating that the node is encrypted with an unknown encryption and can not be decrypted.
  - SCCDA_TREENODEFLAG_BUFFEROVERFLOW: the name of the node was too long for the szName field.
- dwCharSet: Returns the SO_* (charsets.h) character set of the characters in szName. The output character set is either the default native environment character set or Unicode if the SCCOPT_SYSTEMFLAGS option is set to SCCVW_SYSTEM_UNICODE.

6.18 DAOpenTreeRecord

This function is called to open a record within an archive file and make it accessible by one or more of the data access technologies.

Search Export Only: Search Export's default behavior is to automatically open and process the contents of an archive. Use DAOpenTreeRecord and SCCOPT_XML_SEARCHML_FLAGS to change the default behavior if discrete processing of each document in an archive is desired.

```
DAERR DAOpenTreeRecord(
      VTHDOC      hDoc,
      VTLPHDOC    lphDoc,
      VTDWORD     dwRecord);
```

lphDoc is *not* a file handle.

Parameters

- hDoc: Identifier of open document. May be a VTHDOC returned by the DAOpenDocument function, or the subhandle returned by the DAOpenDocument or DAOpenTreeRecord functions (VTHCONTENT, VTHTEXT, etc.).
- lphDoc: Pointer to a handle that is filled with a value uniquely identifying the document to data access. The developer uses this handle in subsequent calls to data access to identify this particular document.
- dwRecord: The record in the archive file to be opened.

Return Value

- DAERR_OK: Returned if DAOpenTreeRecord was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.19 DASaveInputObject

This function saves a copy of the document or object pointed to by **hDoc**. The object may be an embedded object, a linked object or a compressed file.

Some file formats store only partial files as embedded objects. Outside In is not able to create readable files from these objects. You should use use DAGetObjectInfo with dwInfoId set to DAOBJECT_FLAGS to discern which objects Outside In can successfully extract.

```
DAERR DASaveInputObject(
   VTHDOC     hDoc,
   VTDWORD    dwSpecType,
   VTLPVOID   pSpec,
   VTDWORD    dwFlags);
```

Parameters

- hDoc: The handle returned by DAOpenDocument.
- dwSpecType: IOTYPE of data pointed to by pSpec.
- pSpec: File location specification.
- dwFlags: Currently not used. Should be set to 0.

Return Values

- DAERR_OK: Returned if the save was successful. Otherwise, one of the other DAERR_ values in sccda.h is returned.

6.20 DASaveTreeRecord

This function is called to extract a record in an archive file to disk.

```
DAERR DASaveTreeRecord(
      VTHDOC      hDoc,
      VTDWORD     dwRecord,
      VTDWORD     dwSpecType,
```

```
VTLPVOID    pSpec,
VTDWORD     dwFlags);
```

Parameters

- hDoc: Handle that uniquely identifies the document to data access. This is not an operating system file handle.
- dwRecord: The record in the archive file to be extracted.
- dwSpecType: Describes the contents of pSpec. Together, dwSpecType and pSpec describe the location of the source file to which the file will be extracted. Must be one of the following values:
  - IOTYPE_ANSIPATH: Windows only. pSpec points to a NULL-terminated full path name using the ANSI character set and FAT 8.3 (Win16) or NTFS (Win32 and Win64) filename conventions.
  - IOTYPE_REDIRECT: Specifies that redirected I/O will be used to save the file.
  - IOTYPE_UNICODEPATH: Windows only. pSpec points to a NULL-terminated full path name using the Unicode character set and NTFS (Win32 and Win64) file name conventions.
  - IOTYPE_UNIXPATH: UNIX platforms only. pSpec points to a NULL-terminated full path name using the system default character set and UNIX path conventions. Unicode paths can be accessed on UNIX platforms by using a UTF-8 encoded path with IOTYPE_UNIXPATH.
- pSpec: File location specification. See the descriptions for individual dwSpecType values.
- dwFlags: Currently not used. Should be set to 0.

Return Values

- DAERR_OK: Returned if the save was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.
- DAERR_UNSUPPORTEDCOMP: Unsupported Compression Encountered.
- DAERR_PROTECTEDFILE: The file is encrypted.
- DAERR_BADPARAM: The request option is invalid. The record is possibly a directory.

Currently, only extracting a single file is supported. There is a known limitation where files in a Microsoft Binder file cannot be extracted.

6.21 DACloseTreeRecord

This function is called to close an open record file handle.

Search Export Only: Search Export's default behavior is to automatically open and process the contents of an archive. Use DACloseTreeRecord and SCCOPT_XML_SEARCHML_FLAGS to change the default behavior if discrete processing of each document in an archive is desired.

```
DAERR DACloseTreeRecord(
      VTHDOC      hDoc);
```

Parameters

- hDoc: Identifier of open record document.

Return Value

- DAERR_OK: Returned if DACloseTreeRecord was successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.22 DASetStatCallback

This function sets up a callback that the technology periodically calls to verify the file is still being processed. The customer can use this with a monitoring process to help identify files that may be hung. Because this function is called more frequently than other callbacks, it is implemented as a separate function.

Use of the Status Callback Function

An application's status callback function will be called periodically by Oracle Outside In to provide a status message. Currently, the only status message defined is OIT_STATUS_WORKING, which provides a "sign of life" that can be used during unusually long processing operations to verify that Oracle Outside In has not stopped working. If the application decides that it would not like to continue processing the current document, it may use the return value from this function to tell Oracle Outside In to abort.

The status callback function has two return values defined:

- OIT_STATUS_CONTINUE: Tells Oracle Outside In to continue processing the current document.
- OIT_STATUS_ABORT: Tells Oracle Outside In to stop processing the current document.

The following is an example of a minimal status callback function.

```
VTDWORD MyStatusCallback( VTHANDLE hUnique, VTDWORD dwID, VTSYSVAL
pCallbackData, VTSYSVAL pAppData)
{
    if(dwID == OIT_STATUS_WORKING)
    {
        if( checkNeedToAbort( pAppData ) )
            return (OIT_STATUS_ABORT);
    }

    return (OIT_STATUS_CONTINUE);
}
```

Prototype

```
DAERR DASetStatCallback(DASTATCALLBACKFN pCallback,
   VTHANDLE hUnique,
   VTLPVOID pAppData)
```

Parameters

- pCallback: Pointer to the callback function.
- hUnique: Handle that may either be an hDoc or an hExport.
- pAppData: User-defined data. Oracle Outside In never uses this value other than to provide it to the callback function.

The callback function should be of type DASTATCALLBACKFN. This function has the following signature:

```
(VTHANDLE hUnique, VTDWORD dwID, VTSYSVAL pCallbackData, VTSYSVAL pAppData)
```

- hUnique: Handle that may either be an hDoc or an hExport
- dwID: Handle that indicates the callback status.
  - OIT_STATUS_WORKING
  - OIT_STATUS_CONTINUE
  - OIT_STATUS_CANCEL
  - OIT_STATUS_ABORT
- pCallbackData: Currently always NULL
- pAppData: User-defined data provided to DASetStatCallback

Return Values

- DAERR_OK: If successful. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

6.23 DASetFileAccessCallback

This function sets up a callback that the technology will call into to request information required to open an input file. This information may be the password of the file or a support file location.

Use of the File Access Callback

When the technology encounters a file that requires additional information to access its contents, the application's callback function will be called for this information. Currently, only two different forms of information will be requested: the password of a document, or the file used by Lotus Notes to authenticate the user information.

The status callback function has two return values defined:

- SCCERR_OK: Tells Oracle Outside In that the requested information is provided.
- SCCERR_CANCEL: Tells Oracle Outside In that the requested information is not available.

This function will be repeatedly called if the information provided is not valid (such as the wrong password). It is the responsibility of the application to provide the correct information or return SCCERR_CANCEL.

Prototype

```
DAERR DASetFileAccessCallback (DAFILEACCESSCALLBACKFN pCallback);
```

Parameters

- pCallback: Pointer to the callback function.

Return Values

- DAERR_OK: If successful. Otherwise, one of the other DAERR_ values defined in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

The callback function should be of type DAFILEACCESSCALLBACKFN. This function has the following signature:

```
typedef VTDWORD (* DAFILEACCESSCALLBACKFN)(VTDWORD dwID, VTSYSVAL pRequestData,
VTSYSVAL pReturnData, VTDWORD dwReturnDataSize);
```

- dwID: ID of information requested:
  - OIT_FILEACCESS_PASSWORD: Requesting the password of the file
  - OIT_FILEACCESS_NOTESID: Requesting the Notes ID file location
- pRequestData: Information about the file.

```
typedef struct {
      VTDWORD   dwSize;           /* size of this structure */
      VTWORD    wFIId;            /* FI id of reference file */
      VTDWORD   dwSpecType;       /* file spec type */
      VTVOID   *pSpec;            /* pointer to a file spec */
      VTDWORD   dwRootSpecType;   /* root file spec type */
      VTVOID   *pRootSpec;        /* pointer to the root file spec */
      VTDWORD   dwAttemptNumber;  /* The number of times the callback has */
                                  /* already been called for the currently */
                                  /* requested item of information */
} IOREQUESTDATA, * PIOREQUESTDATA;
```

- pReturnData: Pointer to the buffer to hold the requested information – for OIT_FILEACCESS_PASSWORD and OIT_FILEACCESS_NOTESID, the buffer is an array of WORD characters.
- dwReturnDataSize: Size of the return buffer.

Note:

Not all formats that use passwords are supported. Only Microsoft Office binary (97-2003), Microsoft Office 2007, Microsoft Outlook PST 97-2013, Lotus NSF, PDF (with RC4 encryption), and Zip (with AES 128 & 256 bit, ZipCrypto) are currently supported.

Passwords for PST/OST files must be in the Windows single-byte character set. For example, Cyrillic characters should use the 1252 character set. For PST/OST files, Unicode password characters are not supported.

7

Export Functions

This chapter outlines the basic functions used to initiate the conversion of documents using the product API.

This chapter covers the following types of functions:

- General Functions
- Annotation Functions

7.1 General Functions

The following functions are general functions used in most export products.

This section includes the following functions:

- EXOpenExport
- EXCALLBACKPROC
- EXCloseExport
- EXRunExport
- EXExportStatus

7.1.1 EXOpenExport

This function is used to initiate the export process for a file that has been opened by DAOpenDocument. If EXOpenExport succeeds, EXCloseExport must be called regardless of any other API calls.

Note:

SCCOPT_GRAPHIC_TYPE = FI_NONE must be set (via DASetOption) before the call to EXOpenExport. Otherwise, the SCCUT_FILTEROPTIMIZEDFORTEXT speed enhancement for the PDF filter is not set. This will result in slower exports of PDFs when graphic output is not required.

Prototype

```
SCCERR EXOpenExport(
   VTHDOC       hDoc,
   VTDWORD      dwOutputId,
   VTDWORD      dwSpecType,
   VTLPVOID     pSpec,
   VTDWORD      dwFlags,
```

```
VTSYSPARAM   dwReserved,
VTLPVOID     pCallbackFunc,
VTSYSPARAM   dwCallbackData,
VTLPHEXPORT  phExport);
```

Parameters

- hDoc: A handle that identifies the source file, created by DAOpenDocument. Knowledge of this should only affect OEMs under the most unusual of circumstances.
- dwOutputId: File ID of the desired format of the output file. This value must be set to either FI_PDF (for generic PDF 1.5), FI_PDFA (for PDF/A-1a compliance), or FI_PDFA_2 (for PDF/A-2a compliance).

  Note:

  For FI_PDFA exports, raster images with transparency will **not** be produced as transparent due to the explicit exclusion of transparency in the ISO PDF/A-1a specification document.

- dwSpecType: Describes the contents of pSpec. Together, dwSpecType and pSpec describe the location of the initial output file. Must be one of the following values:
  - IOTYPE_ANSIPATH: Windows only. pSpec points to a NULL-terminated full path name using the ANSI character set and FAT 8.3 (Win16) or NTFS (Win32 and Win64) file name conventions.
  - IOTYPE_UNICODEPATH: Windows only. pSpec points to a NULL-terminated full path name using the Unicode character set and NTFS file name conventions.

    Note:

    If you are using IOTYPE_UNICODEPATH as a file spec type, if the calling application is providing an export callback function, you should set the option SCCOPT_EX_UNICODECALLBACKSTR to TRUE. Refer to the documentation on callbacks such as EX_CALLBACK_ID_CREATENEWFILE and the EXURLFILEIOCALLBACKDATAW structure for details

  - IOTYPE_UNIXPATH: UNIX platforms only. pSpec points to a NULL-terminated full path name using the system default character set and UNIX path conventions. Unicode paths can be accessed on UNIX platforms by using a UTF-8 encoded path with IOTYPE_UNIXPATH.
  - IOTYPE_REDIRECT: All platforms. pSpec may be NULL, and all file information specified in the callback routine. This allows the developer to redirect the IO routines used to write the files. For more information, see Redirected IO.
- pSpec: Initial output file location specification. This is either a pointer to a buffer or NULL.

  If the pointer is not NULL, the file referred to by the pSpec is assumed to be already open and the buffer's contents are based on the value of the dwSpecType

parameter. See the descriptions for individual dwSpecType values in the preceding list.

Passing NULL indicates the developer will use the EX_CALLBACK_ID_CREATENEWFILE callback to specify the initial output file instead of specifying it here. When this parameter is NULL, the developer must handle the EX_CALLBACK_ID_CREATENEWFILE callback or EXOpenExport returns an error.

- dwFlags: Must be set by developer to 0.
- dwReserved: Reserved. Must be set by developer to 0.
- pCallbackFunc: Pointer to a function of the type EXCALLBACKPROC. This function is used to give the developer control of certain aspects of the export process as they occur. For more details, see the definition for EXCALLBACKPROC in EXCALLBACKPROC. This parameter may be set to NULL if the developer does not wish to handle callbacks.
- dwCallbackData: This parameter is passed transparently to the function specified by pCallbackFunc. The developer may use this value for any purpose, including passing context information into the callback function.
- phExport: Pointer to a handle that receives a value uniquely identifying the document to the product routines. If the function fails, this value is set to VTHDOC_INVALID. phExport is *not* a file handle.

Return Values

- SCCERR_OK: If the open was successful. Otherwise, one of the other SCCERR_ values in sccerr.h is returned.

7.1.2 EXCALLBACKPROC

Type definition for the developer's callback function.

Prototype

```
DAERR (DA_ENTRYMODPTR EXCALLBACKPROC)(
   VTHEXPORT    hExport,
   VTSYSPARAM   dwCallbackData,
   VTDWORD      dwCommandOrInfoId,
   VTLPVOID     pCommandOrInfoData);
```

Parameters

- hExport: Export handle for the document. Must be a handle returned by the EXOpenExport function.
- dwCallbackData: This value is passed to EXOpenExport in the dwCallbackData parameter.
- dwCommandOrInfoId: Indicates the type of callback. For information about supported callbacks, see Callbacks.
- pCommandOrInfoData: Data associated with dwCommandOrInfoId. For information about supported callbacks, see Callbacks.

Return Values

- SCCERR_OK: Command was handled by the callback function.
- SCCERR_BADPARAM: One of the function parameters was invalid.
- SCCERR_NOTHANDLED: Callback function did not handle the command. This return value must be the default for all values of dwCommandOrInfoId the developer does not handle.

7.1.3 EXCloseExport

This function is called to terminate the export process for a file.

Prototype

```
SCCERR EXCloseExport(
   VTHEXPORT   hExport);
```

Parameters

- hExport: Export handle for the document. Must be a handle returned by the EXOpenExport function.

Return Values

- SCCERR_OK: Returned if the close was successful. Otherwise, one of the other SCCERR_ values in sccerr.h is returned.

7.1.4 EXRunExport

This function is called to run the export process.

Prototype

```
SCCERR EXRunExport(
   VTHEXPORT   hExport);
```

Parameters

- hExport: Export handle for the document. Must be a handle returned by the EXOpenExport function.

Return Values

- SCCERR_OK: Returned if the export was successful. Otherwise, one of the other SCCERR_ values in sccerr.h is returned.

7.1.5 EXExportStatus

This function is used to determine if there were conversion problems during an export. It returns a structure that describes areas of a conversion that may not have high fidelity with the original document.

Prototype

```
SCCERR EXExportStatus(VTHEXPORT hExport, VTDWORD dwStatusType, VTLPVOID pStatus)
```

Parameters

- hExport: Export handle for the document.
- dwStatusType: Specifies which status information should be filled in pStatus.
  - EXSTATUS_SUBDOC – fills in the EXSUBDOCSTATUS structure (only implemented in Search Export and XML Export)
  - EXSTATUS_INFORMATION - fills in the EXSTATUSINFORMATION structure.
- pStatus: Either a pointer to a EXSUBDOCSTATUS or EXSTATUSINFORMATION data structure depending on the value of dwStatusType.

Return Values

SCCERR_OK: Returned if there were no problems. Otherwise, one of the other SCCERR_ values in sccerr.h is returned.

EXSUBDOCSTATUS Structure

The EXSUBDOCSTATUS structure is defined as follows:

```
typedef struct EXSUBDOCSTATUStag
{
VTDWORD dwSize;      /* size of this structure */
VTDWORD dwSucceeded; /* number of sub documents that were converted */
VTDWORD dwFailed;    /* number of sub documents that were not converted */
} EXSUBDOCSTATUS;
```

EXSTATUSINFORMATION Structure

The EXSTATUSINFORMATION structure is defined as follows:

```
typedef struct EXSTATUSINFORMATIONtag
{
VTDWORD dwVersion;              /* version of this structure      */
VTBOOL bMissingMap;             /* a PDF text run was missing the toUnicode table */
VTBOOL bVerticalText;           /* a vertical text run was present */
VTBOOL bTextEffects;            /* unsupported text effects applied (i.e.Word Art)*/
VTBOOL bUnsupportedCompression; /* a graphic had an unsupported compression */
VTBOOL bUnsupportedColorSpace;  /* a graphic had an unsupported color space */
VTBOOL bForms;                  /* a sub documents had forms */
VTBOOL bRightToLeftTables;      /* a table had right to left columns */
VTBOOL bEquations;              /* a file had equations*/
VTBOOL bAliasedFont;            /* A font was missing, but a font alias was used */
VTBOOL bMissingFont;            /* The desired font wasn't present on the system */
VTBOOL bSubDocFailed;           /* a sub document was not converted */
VTBOOL bTypeThreeFont;               /* a Type 3 Font was encountered */
VTBOOL bUnsupportedShading;        /* an unsupported shading pattern was encountered
*/
VTBOOL bInvalidHTML;                 /* An HTML parse error, as defined by the W3C,
was encountered. */
VTBOOL bInvalidAnnotationNotApplied;  /* Unsupported annotation/redaction wasn't
rendered */
VTBOOL bVectorObjectLimit;           /* This flag does not apply to PDF Export */
VTBOOL bInvalidAnnotationNotApplied;  /* Unsupported annotation/redaction wasn't
rendered  */
} EXSTATUSINFORMATION;
```

#define EXSTATUSVERSION1 0X0001

#define EXSTATUSVERSION2 0X0002

Note:

When processing the main document, Search Export, HTML Export, and XML Export never use fonts, so bAliasedFont and bMissingFont will never report TRUE; however, when doing graphics conversions XML Export and HTML Export may use fonts, so bAliasedFont and bMissingFont may report TRUE.

bVectorObjectLimit applies only to WebView Export, and bInvalidAnnotationNotApplied applies only to Image Export, PDF Export, and Web View Export.

7.2 Annotation Functions

Annotations are a way to highlight, insert, or delete text in product output, without modifying the original document. Examples of ways annotations can be used by developers include:

- highlighting search hits
- inserting notes to comment on text in the original document
- deleting sensitive information not intended for viewing

Other Oracle Outside In products are required to ascertain the proper character positions where the developer wishes to make annotations. Currently, only Content Access and the SearchML output format (available in Search Export) can be used to get these positions. Although the Content Access module is included with the product, license to use the Content Access API is not automatically granted with the purchase of the Export software.

A separate license for Content Access or Search Export is required to enable use of any of the annotation features that are supported by PDF Export. Contact your sales representative for more information.

The following notes should be considered when using annotations:

- Processing annotations slows down the conversion process to some extent.
- While other products in the Oracle Outside In family support annotations, not all products support all types of annotations.
- The ACC acronym (Actual Character Count) is used in the following function descriptions. ACCs represent the location of text in the source document data stream. They represent a marker just before the location of text, and this marker is zero-based.

  startACC parameters should be set to an ACC value that represents the position just prior to the first character and endACC parameters should be set to an ACC value that represents the position just past the last character in the range. For this reason, users should make sure endACC values are 1 greater than the ACC of the last character in the desired range of annotation.
- Calling EXCloseExport causes all annotations set so far to be cleared.

This section includes the following functions:

- EXHiliteText
- EXInsertText
- EXHideText
- EXApplyHilites
- EXRedactText

7.2.1 EXHiliteText

This function allows the developer to change foreground and background colors of a range of characters from the input document.

The colors set by this option can be overridden by the equivalent settings in the ExInsertText function.

Prototype

```
DAERR EXHiliteText(
VTHEXPORT           hExport,
PEXANNOHILITETEXT   pHiliteText);
```

Parameters

- hExport: Export handle for the document. Must be the handle returned by the EXOpenExport() function.
- pHiliteText: Pointer to a structure containing the information on what to highlight and how to highlight it.

Structure

A C data structure defined in sccex.h as follows:

```
typedef struct EXANNOHILITETEXTtag
{
   VTDWORD         dwSize;
   VTDWORD         dwStartACC;
   VTDWORD         dwEndACC;     /* Last char to highlight +1 */
   VTDWORD         dwOptions;
   SCCVWCOLORREF   sForeground;
   SCCVWCOLORREF   sBackground;
   VTWORD          wCharAttr;
   VTWORD          wCharAttrMask;
} EXANNOHILITETEXT;
```

- dwSize: Must be set by the developer to sizeof(EXANNOHILITETEXT).
- dwStartACC: The ACC of the first character to be highlighted.
- dwEndACC: ACC of the last character to be highlighted +1. Ranges for annotations have their end point set one past the ACC of the last character in the range. For example, to highlight a single character at ACC position 5, dwStartACC would be set to 5, and dwEndACC would be set to 5+1=6.
- dwOptions: Flags that provide highlight options. The default is all flags set to off. The valid flags are:

- SCCVW_USEFOREGROUND: Indicates that sForeground defines the foreground text color to apply to highlights.
- SCCVW_USEBACKGROUND: Indicates that sBackground defines the background text color to apply to highlights.
- SCCVW_USECHARATTR: Indicates that wCharAttr defines the character attributes to apply to highlights.
- sForeground: Defines the foreground text color to be used if the SCCVW_USEFOREGROUND flag is set in dwOptions. Set this value with the SCCANNORGB(red, green, blue) macro. The red, green and blue values are percentages of the color from 0-255 (with 255 being 100%). There is no default value for this parameter -- if it is set, the color must be specified.
- sBackground: Defines the background text color to be used if the SCCVW_USEBACKGROUND flag is set in dwOptions. Set this value with the SCCANNORGB(red, green, blue) macro. The red, green and blue values are percentages of the color from 0-255 (with 255 being 100%). There is no default value for this parameter. If it is set, the color must be specified.
- wCharAttr: Defines the character attributes to use if SCCVW_USECHARATTR is set in dwOptions. Only bits with the corresponding bits set in wCharAttrMask are affected. To turn off all character attributes, set this to SCCVW_CHARATTR_NORMAL (the default) and set wCharAttrMask to -1. Otherwise, set this to any of the following character attributes OR-ed together:
  - SCCVW_CHARATTR_UNDERLINE
  - SCCVW_CHARATTR_ITALIC
  - SCCVW_CHARATTR_BOLD
  - SCCVW_CHARATTR_STRIKEOUT
  - SCCVW_CHARATTR_SMALLCAPS: Not supported in **PDF Export**.
  - SCCVW_CHARATTR_OUTLINE: Not currently supported.
  - SCCVW_CHARATTR_SHADOW: Not currently supported.
  - SCCVW_CHARATTR_CAPS: Not currently supported.
  - SCCVW_CHARATTR_SUBSCRIPT
  - SCCVW_CHARATTR_SUPERSCRIPT
  - SCCVW_CHARATTR_DUNDERLINE
  - SCCVW_CHARATTR_WORDUNDERLINE
  - SCCVW_CHARATTR_DOTUNDERLINE: Currently supported as single underline.

- wCharAttrMask: Defines which character attributes to change based on the settings of the bits in wCharAttr. Uses the same bit flags defined above for wCharAttr. Only attributes whose flag is set in this mask are modified to match the state specified by wCharAttr. This mask provides a way to distinguish between bits being set in wCharAttr because the developer wants to force a change to the character attributes and bits in wCharAttr that the developer would rather set to

"inherit from the source document." The following are real-world examples of these interactions (all examples assume that SCCVW_USECHARATTR is set in dwOptions):

- Example 1: wCharAttr is set to SCCVW_CHARATTR_BOLD and wCharAttrMask is set to SCCVW_CHARATTR_BOLD. This results in bold being forced on in the annotation.
- Example 2: wCharAttr is set to SCCVW_CHARATTR_BOLD and wCharAttrMask is set to 0. This results in bold being left the way it was in the source document in the annotation.
- Example 3: wCharAttr is set to 0 and wCharAttrMask is set to SCCVW_CHARATTR_BOLD. This results in bold being forced off in the annotation.

  The default value for this is 0, meaning that all the flags in wCharAttr are ignored.

Return Values

- DAERR_OK: Returned if the annotation was successfully added. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

7.2.2 EXInsertText

This function inserts a text string at a specified point in the document. The developer may also change character attributes or foreground or background colors. These settings override any provided by ExHiliteText.

Prototype

```
DAERR EXInsertText(
VTHEXPORT           hExport,
PEXANNOINSERTTEXT   pInsertText);
```

Parameters

- hExport: Export handle for the document. Must be the handle returned by the EXOpenExport() function.
- pInsertText: Pointer to a structure containing the information on the text to insert.

Structure

A C data structure defined in sccex.h as follows:

```
typedef struct EXANNOINSERTTEXTtag
{
   VTDWORD         dwSize;
   VTDWORD         dwTextACC;
   VTLPWORD        pText;
   VTDWORD         dwOptions;
   SCCVWCOLORREF   sForeground;
   SCCVWCOLORREF   sBackground;
   VTWORD          wCharAttr;
   VTWORD          wCharAttrMask;
} EXANNOINSERTTEXT;
```

- dwSize: Must be set by the OEM to sizeof(EXANNOINSERTTEXT).
- dwTextACC: Place to insert the string pointed to by pText. The string is inserted before the character normally at this ACC position. By default, the inserted string inherits the text attributes of the character at this position in the input document.
- pText: The text to be inserted. Specified as a Unicode string.
- dwOptions: This parameter sets flags that provide highlight options. The default is all flags off. The flags are:
  - SCCVW_USEFOREGROUND: Indicates that sForeground defines the foreground text color to apply to highlights.
  - SCCVW_USEBACKGROUND: Indicates that sBackground defines the background text color to apply to highlights.
  - SCCVW_USECHARATTR: Indicates that wCharAttr defines the character attributes to apply to highlights.
- sForeground: Defines the foreground text color to be used if the SCCVW_USEFOREGROUND flag is set in dwOptions. Set this value with the SCCANNORGB(red, green, blue) macro. The red, green and blue values are percentages of the color from 0-255 (with 255 being 100%). There is no default value for this parameter -- if it is set, the color must be specified.
- sBackground: Defines the background text color to be used if the SCCVW_USEBACKGROUND flag is set in dwOptions. Set this value with the SCCANNORGB(red, green, blue) macro. The red, green and blue values are percentages of the color from 0-255 (with 255 being 100%). There is no default value for this parameter. If it is set, the color must be specified.
- wCharAttr: Defines the character attributes to use if SCCVW_USECHARATTR is set in dwOptions. Only bits with the corresponding bits set in wCharAttrMask are affected. To turn off all character attributes, set this to SCCVW_CHARATTR_NORMAL (the default) and set wCharAttrMask to -1. Otherwise, set this to any of the following character attributes OR-ed together:
  - SCCVW_CHARATTR_UNDERLINE
  - SCCVW_CHARATTR_ITALIC
  - SCCVW_CHARATTR_BOLD
  - SCCVW_CHARATTR_STRIKEOUT
  - SCCVW_CHARATTR_SMALLCAPS: Not currently supported in PDF Export.
  - SCCVW_CHARATTR_OUTLINE: Not currently supported.
  - SCCVW_CHARATTR_SHADOW: Not currently supported.
  - SCCVW_CHARATTR_CAPS: Not currently supported.
  - SCCVW_CHARATTR_SUBSCRIPT: SCCVW_CHARATTR_SUPERSCRIPT
  - SCCVW_CHARATTR_DUNDERLINE: Currently supported as single underline.

  - SCCVW_CHARATTR_WORDUNDERLINE:
    SCCVW_CHARATTR_DOTUNDERLINE

- wCharAttrMask: Defines which character attributes to change based on the settings of the bits in wCharAttr. Uses the same bit flags defined above for wCharAttr. Only attributes whose flag is set in this mask are modified to match the state specified by wCharAttr. This mask provides a way to distinguish between bits being set in wCharAttr because the developer wants to force a change to the character attributes, and bits in wCharAttr that the developer would rather set to "inherit from the source document." The following are real-world examples of these interactions (all examples assume that SCCVW_USECHARATTR is set in dwOptions):

  - Example 1: wCharAttr is set to SCCVW_CHARATTR_BOLD and wCharAttrMask is set to SCCVW_CHARATTR_BOLD. This results in bold being forced on in the annotation.

  - Example 2: wCharAttr is set to SCCVW_CHARATTR_BOLD and wCharAttrMask is set to 0. This results in bold being left the way it was in the source document in the annotation.

  - Example 3: wCharAttr is set to 0 and wCharAttrMask is set to SCCVW_CHARATTR_BOLD. This results in bold being forced off in the annotation.

  The default value for this is 0, meaning that all the flags in wCharAttr are ignored.

Return Values

- DAERR_OK: The annotation was successfully added. Otherwise, one of the other DAERR_ values in sccda.h or one of the SCCERR_ values in sccerr.h is returned.

7.2.3 EXHideText

This function removes the selected range of characters in the input document from the output.

The hidden text does not appear in any form in the final converted document.

Prototype

```
SCCERR EXHideText(
VTHEXPORT         hExport,
PEXANNOHIDETEXT   pHideText)
```

Parameters

- hExportL Export handle for the document. Must be the handle returned by the EXOpenExport() function.

- pHideText: Pointer to an EXANNOHIDETEXT structure containing the information on the section of text to hide.

7.2.3.1 EXANNOHIDETEXT Structure

A C data structure defined in sccex.h as follows:

```
typedef struct EXANNOHIDETEXTtag
{
```

```
   VTDWORD    dwSize;
   VTDWORD    dwStartACC;
   VTDWORD    dwEndACC;     /* Last char to hide +1 */
   VTLPCHAR   pBookmark;    /* HTML Export Only */
} EXANNOHIDETEXT;
```

- dwSize: Must be set by the OEM to sizeof(EXANNOHIDETEXT).
- dwStartACC: Position of the first character to be hidden.
- dwEndACC: Position of the last character to be hidden, plus one.

Return Values

- SCCERR_OK: Returned if the annotation was successfully added. Otherwise, one of the other SCCERR_* values in sccerr.h is returned.

7.2.4 EXApplyHilites

```
DAERR EXApplyHilites(HEXPORT hExport, const VTBYTE * pHilites);
```

This function applies a set of highlights from a JSON-encoded text stream previously generated from the Web View Export Javascript library. This function may be called multiple times with different sets of highlights.

- hExport: Export handle
- pHilites: Buffer containing a stream of highlight (and comment) information that was obtained via the Web View Export Javascript API function OIT.highlights.serialize.

7.2.5 EXRedactText

This is an API call to redact text.

Prototype

```
EXRedactTest
DAERR EXRedactText( VTHEXPORT hExport,
   PEXAANNOREDACTTEXT pRedaction )
```

Similar to EXHiliteText, this accepts a data structure that defines the redaction.

```
typedef struct EXANNOREDACTTEXTtag
{
  VTDWORD         dwSize;
  VTDWORD         dwStartACC;
  VTDWORD         dwEndACC;     /* Last char to highlight +1 */
  VTWCHAR         dwLabel[EXANNO_MAXLABEL];
} EXANNOREDACTTEXT;
```

8

Redirected IO

This chapter describes the use of Redirected IO. Anywhere a file specification (dwSpecType and pSpec parameters) is passed to a function in the product, the developer may use Redirected IO to completely take over responsibility for the low level IO calls of that particular file. The source file and all output files can be redirected in this way.

Redirected IO allows the developer great flexibility in the storage of, and access to, converted documents. For example, documents may be stored on file systems not supported natively by the software, or in a unique directory tree structure determined by the type of file.

When using PDF Export, redirected IO can also be used in conjunction with callbacks (discussed in Callbacks).

This chapter includes the following sections:

8.1 Using Redirected IO

A developer can redirect the IO for an input or output file by providing a data structure that contains pointers to custom IO routines for reading and writing. This data structure is passed in place of a typical file specification. The developer must set the dwSpecType parameter of the DAOpenDocument call to IOTYPE_REDIRECT when the DAOpenDocument call is sent.

When dwSpecType is set this way, the pSpec element must contain a pointer to a developer-defined data structure that begins with a BASEIO structure (defined in baseIO.H). The BASEIO structure contains pointers to the basic IO functions for the IO system such as Read, Seek, Tell, etc. The developer must initialize these function pointers to their own functions that perform IO tasks. Beyond the BASEIO element, the developer may place any data he or she likes.

For instance, a developer's structure may be similar to the following:

```
typedef struct MYFILEtag
{
   BASEIO    sBaseIO;       /* must be the first element */
   VTDWORD   dwMyInfo1;
   VTDWORD   dwMyInfo2;
   .
   .
   .
} MYFILE;
```

Because the pSpec passed is essentially the "file handle" used by the software, the developer can redirect the IO on a file-by-file basis while still exporting "regular" disk-based files.

The BASEIO structure is defined as follows:

```
typedef struct BASEIOtag
{
    IOCLOSEPROC pClose;
    IOREADPROC pRead;
    IOWRITEPROC pWrite;
    IOSEEKPROC pSeek;
    IOTELLPROC pTell;
    IOGETINFOPROC pGetInfo;
    IOOPENPROC pOpen; /* pOpen *MUST* be set to NULL. */
#ifndef NLM
    IOSEEK64PROC pSeek64;
    IOTELL64PROC pTell64;
#endif
    VTVOID *aDummy[3];
} BASEIO, * PBASEIO;
```

The developer must implement the Close, Read, Write, Seek, Tell and GetInfo routines. The Open routine must be set to NULL. The first parameter to each of these routines is called hFile and is of the type HIOFILE. HIOFILE is simply the VTLPVOID to your data structure that was passed in the pSpec parameter of the DAOpenDocument call.

The sample source code for a simple implementation of Redirected IO is in the samples directory. This sample redirects the technology's IO through the fopen, fgetc, fseek, ftell and fclose run-time library routines.

Note:

Redirected IO does not cache the whole file. Seeks can occur throughout the file during the course of conversion. If the developer is implementing redirected IO on a slow or sequential link, it is the developer's responsibility to cache the file locally.

8.2 Opening Files

The developer does not see a call to pOpen when using redirected IO. When IOTYPE_REDIRECT is used, the structure passed in pSpec is defined to represent a file that is already open. The software can immediately call the pRead, pSeek, pTell and pWrite functions.

Files specified as using redirected IO must be open by the time they are handed off to the software.

8.3 IOClose

Closes the file identified by hFile and cleans up all memory associated with the file.

If you dynamically allocate your own file structures (MYFILE in the preceding discussion) it is required that the memory allocated be freed inside the call to IOClose or sometime thereafter.

Prototype

```
IOERR IOClose(
   HIOFILE   hFile);
```

Parameters

- hFile: Identifies the file to be closed. Should be cast into a pointer to your data structure (MYFILE in the preceding discussion).

Return Values

- IOERR_OK: Close was successful.
- IOERR_UNKNOWN: Some error occurred on close.

8.4 IORead

Reads data from the current file position forward and resets the position to the byte after the last byte read.

Prototype

```
IOERR IORead(
   HIOFILE         hFile,
   VTBYTE       *  pData,
   VTDWORD         dwSize,
   VTDWORD       * pCount);
```

Parameters

- hFile: Identifies the file to be read. Should be cast into a pointer to your data structure (MYFILE in the preceding discussion).
- pData: Points to the buffer into which the bytes should be read. Will be at least dwSize bytes big.
- dwSize: Number of bytes to read.
- pCount: Points to the number of bytes actually read by the function. This value is only valid if the return value is IOERR_OK.

Return Values

- IOERR_OK: Read was successful. pCount contains the number of bytes read and pData contains the bytes themselves.

- IOERR_EOF: Read failed because the file pointer was beyond the end of the file at the time of the read.
- IOERR_UNKNOWN: Read failed for some other reason.

8.5 IOWrite

Writes data from the current file position forward and resets the position to the byte after the last byte written.

Prototype

```
IOERR IOWrite(
   HIOFILE         hFile,
   VTBYTE       *  pData,
   VTDWORD         dwSize,
   VTDWORD       * pCount);
```

Parameters

- hFile: Identifies the file where the data is to be written. Should be cast into a pointer to your data structure (MYFILE in the preceding discussion).
- pData: Points to the buffer from which the bytes should be written. It must be at least dwSize bytes big. It is good practice to treat the data passed in by pData as "read only." This helps prevent unexpected behavior elsewhere in the system.
- dwSize: Number of bytes to write.
- pCount: Points to the number of bytes actually written by the function. This value is only valid if the return value is IOERR_OK.

Return Values

- IOERR_OK: Write was successful, pCount contains the number of bytes written.
- IOERR_UNKNOWN: Write failed for some reason.

8.6 IOSeek

Moves the current file position.

Prototype

```
IOERR IOSeek(
   HIOFILE   hFile,
   VTWORD    wFrom,
   VTLONG    lOffset);
```

Parameters

- hFile: Identifies the file to be read. Should be cast into a pointer to your data structure (MYFILE in the preceding discussion).
- wFrom: One of the following values:

  - IOSEEK_TOP: Move the file position lOffset bytes from the top (beginning) of the file.
  - IOSEEK_BOTTOM: Move the file position lOffset bytes from the bottom (end) of the file.
  - IOSEEK_CURRENT: Move the file position lOffset bytes from the current file position.

- lOffset: Number of bytes to move the file pointer. A positive value moves the file pointer forward in the file and a negative value moves it backward. If a requested seek value would move the file pointer before the beginning of the file, the file pointer should remain unchanged and IOERR_UNKNOWN should be returned. Seeking past EOF is allowed. In that case IOERR_OK should be returned. IOTell would return the requested seek position and IORead should return IOERR_EOF and 0 bytes read.

Return Values

- IOERR_OK: Seek was successful.
- IOERR_UNKNOWN: Seek failed for some reason.

8.7 IOTell

Returns the current file position.

Prototype

```
IOERR IOTell(
   HIOFILE         hFile,
   VTDWORD       * pOffset);
```

Parameters

- hFile: Identifies the file to be read. Should be cast into a pointer to your data structure (MYFILE in the preceding discussion).
- pOffset: Points to the current file position returned by the function.

Return Values

- IOERR_OK: Tell was successful.
- IOERR_UNKNOWN: Tell failed for some reason.

8.8 IOGetInfo

Returns information about an open file.

Prototype

```
IOERR IOGetInfo(
   HIOFILE        hFile,
   VTDWORD        dwInfoId,
   VTVOID       * pInfo);
```

Parameters

- hFile: Identifies the file to be read. Should be cast into a pointer to your data structure (MYFILE in the previous discussion).
- dwInfoId: One of the following values:
  - IOGETINFO_FILENAME: pInfo points to a string that should be filled with the base file name (no path) of the open file (for example TEST.DOC). If you do not know the file name, return IOERR_UNKNOWN. Certain file types (such as DataEase) must know the original file name in order to open secondary files required to correctly view the original file. If you return IOERR_UNKNOWN, these file types do not convert. For more information, see IOGENSECONDARY and IOGENSECONDARYW Structures.
  - IOGETINFO_PATHNAME: pInfo points to a string that should be filled with the fully qualified path name (including the file name) of the open file. For example, C:\MYDIR\TEST.DOC. If you do not know the path name, return IOERR_UNKNOWN.
  - IOGETINFO_PATHTYPE: pInfo points to a DWORD that should be filled with the IOTYPE of the path returned by IOGETINFO_PATHNAME. For instance, if you return a DOS path name in the Unicode character set, you should return IOTYPE_UNICODEPATH. Even if redirected IO is in use, this should not be set to IOTYPE_REDIRECT. The value should reflect the style of path to be returned or any other values detailed in EXOpenExport.
  - IOGETINFO_ISOLE2STORAGE: Must return IOERR_FALSE. pInfo is not used.
  - IOGETINFO_GENSECONDARY: pInfo points to a structure of type IOGENSECONDARY. Some file types require supporting files to be opened. These supporting files may contain formatting information or extra data. When using HTML Export, templates may link to other templates, and the paths to those templates must be resolved. Correct handling of IOGETINFO_GENSECONDARY is critical to the operation of the Oracle Outside In technology. For a list of these file types, see File Types That Cause IOGETINFO_GENSECONDARY.

    Because the developer is in total control of the IO for the primary file, the technology does not know how to generate a path to these secondary files or even if the secondary files are accessible through the regular file system. The IOGETINFO_GENSECONDARY call gives the developer a chance to resolve this problem by generating a new IO specification for the secondary file in question. The developer gets just the base file name (often embedded in the original document or generated from the primary file's name) of the secondary file.

    The developer may either use one of the standard Oracle Outside In IO types or totally redirect the IO for the secondary file, as well. For more details, see IOGENSECONDARY and IOGENSECONDARYW Structures.
  - IOGETINFO_SUBDOC_SPEC: This message should be handled only if the currently open file is an archive and a particular item within the archive is intended to be specified as the input file in a call to DAOpenDocument. In this case, pInfo points to a single-byte character string that should be filled with the subdocument specification of an item within the open file. For example, item.2 specifies item 2 within the archive file. When specifying a subdocument

specification, return IOERR_OK. Any other return values cause the results of this message to be ignored.

– IOGETINFO_64BITIO: For redirected I/O that wishes to use 64-bit seek/tell functions, your IOGetInfo function must respond IOERR_TRUE to this dwInfoId. In addition, the pSeek64/pTell64 items in the baseio structure must be valid pointers to the proper function types.

– IOGETINFO_DPATHNAME: pInfo points to a structure of type DPATHNAME, which should be filled with the fully qualified path name (including the file name) of the open file, for example, C:\MYDIR\TEST.DOC. If you do not know the path name, return IOERR_UNKNOWN. The dwPathLen element contains the size of the buffer pointed to by the pPath element. If the buffer size is too small to contain the full path, modify dwPathLen to be the correct size of the buffer required to hold the path name in its IOTYPE character width including the NULL terminator and return IOERR_INSUFFICIENTBUFFER.

  The following is a C data structure defined in SCCIO.H:

```
typedef struct DPATHNAMEtag
{
    VTDWORD  dwPathLen;
    VTVOID  *pPath;
} DPATHNAME, * PDPATHNAME;
```

  Parameters

  dwPathLen: Will be set to the number of bytes in the buffer pointed to by pPath. If the size of the buffer is insufficient, reset this element to the number of bytes required and return IOERR_INSUFFICIENTBUFFER.

  pPath: Points to the buffer to be filled with the path name.

– IOGETINFO_GENSECONDARYDP: pInfo points to a structure of type IOGENSECONDARYDP. The dwSpecLen element contains the size of the buffer pointed to by the pSpec element. If the buffer size is too small to contain the spec, modify dwSpecLen to be the correct size of the buffer required to hold the path in its IOTYPE character width including the NULL terminator and return IOERR_INSUFFICIENTBUFFER.

  The following is a C data structure defined in SCCIO.H:

```
typedef struct IOGENSECONDARYDPtag
{
    VTDWORD         dwSize;
    VTVOID *        pFileName;
    VTDWORD         dwSpecType;
    VTVOID *        pSpec;
    VTDWORD         dwSpecLen;
    VTDWORD         dwOpenFlags;
} IOGENSECONDARYDP, * PIOGENSECONDARYDP;
```

  Parameters

  dwSize: Will be set to sizeof (IOGENSECONDARYDP)

  pFileName: A pointer to a string representing the file name of the secondary file that the technology requires. It is usually a name stored in the primary file (such as MYSTYLE.STY for a Word for DOS file) or a name generated from the primary file name. The primary file for a DataEase database has a .dba extension. The secondary name is the same file name but with a .dbm extension.

dwSpecType: The developer must fill this with the IOSPEC for the secondary file.

pSpec: On entry, this pointer points to an array of bytes or may be NULL (see dwSpecLen below). If the dwSpecType is set a regular IOTYPE such as IOTYPE_ANSIPATH, the developer may fill this array with the path name or structure required for that IOTYPE. If the developer is redirecting access to the secondary file, then dwSpecType will be IOTYPE_REDIRECT and the developer should replace pSpec with a pointer to a developer-defined structure that begins with the BASEIO structure (see Using Redirected IO).

The file is supposed to be opened by the OEM's redirected IO code by the time they return the BASEIO struct. This is because the pOpen routine in the BASEIO struct is supposed to be NULL.

dwSpecLen: On entry, this is set to the size of the pSpec buffer. If the size of the buffer is insufficient, replace the value with the number of bytes required and return IOERR_INSUFFICIENTBUFFER.

dwOpenFlags: Set by the technology. A set of bit flags describing how the secondary file should be opened. Multiple flags may be used by bitwise OR-ing them together. The following flags are currently used:

- IOOPEN_READ: The secondary file should be opened for read.

- IOOPEN_WRITE: The secondary file should be opened for write. If the specified file already exists, its contents are erased when this flag is set.

- IOOPEN_CREATE: The secondary file should be created (if it does not already exist) and opened for write.

Any other value should return IOERR_BADINFOID.

- pInfo: The size of the pInfo buffer depends on the **dwInfoId** selected. For IOGETINFO_FILENAME and IOGETINFO_PATHNAME, the buffer is of size MAX_PATH characters (each character is either one byte or two, depending on PATHTYPE). The IOGETINFO_PATHTYPE buffer is the size of a VTDWORD.

Return Values

- IOERR_OK: GetInfo was successful.
- IOERR_TRUE: Affirmative response from a true or false GetInfo.
- IOERR_FALSE: Negative response from a true or false GetInfo.
- IOERR_BADINFOID: dwInfoId can not be handled by this file type.
- IOERR_INVALIDSPEC: The file spec is bad for this type.
- IOERR_UNKNOWN: GetInfo failed for some other reason.

8.8.1 IOGENSECONDARY and IOGENSECONDARYW Structures

These structures are passed to the developer through the IOGetInfo function. They allow the developer to tell the technology where a secondary file, needed by the conversion process, is located.

The SpecType of the original file determines which of these two structures is used. If the SpecType is IOTYPE_UNICODEPATH, IOGENSECONDARYW is used. pFileName points to a Unicode string terminated with a NULL WORD. For all other

SpecTypes, IOGENSECONDARY is used and pFileName points to a string terminated with a NULL BYTE.

When using HTML Export, consider the situation where the software must access a secondary template file. In that case, the SpecType of the original template specified by the option SCCOPT_EX_TEMPLATE determines which of the two structures is used.

The following is a C data structure defined in SCCIO.H:

```
typedef struct
{
   VTDWORD     dwSize;
   VTLPBYTE    pFileName;
   VTDWORD     dwSpecType;
   VTLPVOID    pSpec;
   VTDWORD     dwOpenFlags
} IOGENSECONDARY, * PIOGENSECONDARY;

typedef struct
{
   VTDWORD     dwSize;
   VTLPWORD    pFileName;
   VTDWORD     dwSpecType;
   VTLPVOID    pSpec;
   VTDWORD     dwOpenFlags
} IOGENSECONDARYW, * PIOGENSECONDARYW;
```

Parameters

- dwSize: Will be set to sizeof (IOGENSECONDARY) or sizeof (IOGENSECONDARYW) (both of these values are the same).
- pFileName: A pointer to a string representing the file name of the secondary file that the technology requires. It is usually a name stored in the primary file (such as MYSTYLE.STY for a Word for DOS file) or a name generated from the primary file name. The primary file for a DataEase database has a .dba extension. The secondary name is the same file name but with a .dbm extension.
- dwSpecType: The developer must fill this with the IOSPEC for the secondary file.
- pSpec: On entry, this pointer points to an array of 1024 bytes. If the dwSpecType is set a regular IOTYPE such as IOTYPE_ANSIPATH, the developer may fill this array with the path name or structure required for that IOTYPE. If the developer is redirecting access to the secondary file, then dwSpecType will be IOTYPE_REDIRECT and the developer should replace pSpec with a pointer to a developer-defined structure that begins with the BASEIO structure (see Using Redirected IO).

  The file is supposed to be opened by the OEM's redirected IO code by the time they return the BASEIO struct. This is because the pOpen routine in the BASEIO struct is supposed to be NULL.
- dwOpenFlags: Set by the technology. A set of bit flags describing how the secondary file should be opened. Multiple flags may be used by bitwise OR-ing them together. The following flags are currently used:
  - IOOPEN_READ: The secondary file should be opened for read.

- IOOPEN_WRITE: The secondary file should be opened for write. If the specified file already exists, its contents are erased when this flag is set.
- IOOPEN_CREATE: The secondary file should be created (if it does not already exist) and opened for write.

8.8.2 File Types That Cause IOGETINFO_GENSECONDARY

The following file types cause IOGETINFO_GENSECONDARY:

- Microsoft Word for DOS Versions 4, 5 and 6: Used to open and read the style sheet file associated with the document. The filter degrades if the style sheet is not present.
- Harvard Graphics DOS 3.x: Used to open and read the individual slides within ScreenShow and palette files. Files with the extension .ch3 are individual graphics or slides that can be opened using no secondary files. Files with the extension .sy3 are ScreenShows that reference a list of .ch3 files via the secondary file mechanism. There is also an optional palette file that can be referenced from a .ch3 file, but the filter degrades if the palette file is not present.
- R:Base: Used to open and read required schema file. The R:Base data files are named ????2.rbf but the data is useless without the schema file named ????1.rbf. There is also a ????3.rbf file associated with each database, but it is not used.
- Paradox 4.0 and Above: Used to open and read memo field data file. Paradox uses a separate file for all memo field data larger than 32 bytes.
- DataEase: Used to open and read the data file. DataEase databases include a .dba file that contains the schema (the file that the technology can identify as DataEase) and a .dbm file that contains the actual data.
- Templates (HTML Export): Any template that contains a `{## link}` will need to open the linked files. Additionally, when the root template is opened using redirected IO, each `{## copy}` macro in the template will result in a IOGETINFO_GENSECONDARY call, as well.

8.9 IOSEEK64PROC / IOTELL64PROC

These functions are for seek/tell using 64-bit offsets. These functions are not used by default. Rather, they are used if the IOGETINFO_64BITIO message returns IOERR_TRUE. This is so redirected I/O using strictly 32-bit I/O is unaffected.

8.9.1 IOSeek64

Moves the current file position.

Prototype

```
IOERR IOSeek64(
HIOFILE hFile,
VTWORD wFrom,
VTOFF_T offset);
```

Parameters

The parameter information is the same as for IOSeek(). However, the size of the VTOFF_T offset for IOSeek64() is 64-bit unlike the 32-bit offset in IOSeek().

8.9.2 IOTell64

Returns the current file position.

Prototype

```
IOERR IOTell64(
HIOFILE hFile,
VTOFF_T * pOffset);
```

Parameters

The parameter information is the same as for IOTell(). The only change is the use of a pointer to a 64-bit parameter for returning the offset.

9

Callbacks

This chapter describes the use of callbacks in PDF Export. Callbacks allow the developer to intervene at critical points in the export process.

Read more about the callback procedure and the EXOpenExport function call in EXOpenExport. Each heading in this chapter is a possible value for the dwCommandOrInfoId parameter passed to the developer's callback.

The new SCCOPT_EX_CALLBACKS option allows developers to enable or disable some or all of these callbacks. See the Options documentation for details.

This section describes callbacks set in EXOpenExport. A second callback function, DASetStartCallback, can provide information about the progress of a file conversion. For more details, see Data Access Common Functions.

This chapter includes the following callbacks:

- EX_CALLBACK_ID_CREATENEWFILE
- EX_CALLBACK_ID_NEWFILEINFO
- EX_CALLBACK_ID_PAGECOUNT
- EX_CALLBACK_ID_BEGINPAGE

9.1 EX_CALLBACK_ID_CREATENEWFILE

This callback is made any time a new output file needs to be generated. This gives the developer the chance to execute routines before each new file is created.

It allows the developer to override the standard naming for a file or to redirect entirely the IO calls for a file. This callback is made for all output files that are created. It does not include the already open initial file passed to EXOpen Export, unless of course redirected IO is in use with a pSpec of NULL.

If redirected IO is being used on output files, this callback must be implemented.

For this callback, the pCommandOrInfoData parameter points to a structure of type EXFILEIOCALLBACKDATA:

```
typedef struct EXFILEIOCALLBACKDATAtag
{
   HIOFILE    hParentFile;
   VTDWORD    dwParentOutputId;
   VTDWORD    dwAssociation;
   VTDWORD    dwOutputId;
   VTDWORD    dwFlags;
   VTDWORD    dwSpecType;
   VTLPVOID   pSpec;
   VTLPVOID   pExportData;
```

```
    VTLPVOID   pTemplateName;
} EXFILEIOCALLBACKDATA;
```

- hParentFile: Handle to the initial output file with which the new file is associated. The dwAssociation describes the relationship. This handle is not intended for use by the developer. Set by caller.
- dwParentOutputId: Set by caller. The type of the parent file. This value is either FI_PDF (for generic PDF 1.5), FI_PDFA (for PDF/A-1a compliance), or FI_PDFA_2 (for PDF/A-2a compliance).
- dwAssociation: One of the following values:
  - CU_ROOT: For the initial output file.
  - CU_SIBLING: For new files that are not somehow owned by the parent file.
- dwOutputId: The type of the new file. This value is either FI_PDF (for generic PDF 1.4), FI_PDFA (for PDF/A-1a compliance), or FI_PDFA_2 (for PDF/A-2a compliance).
- dwFlags: Reserved
- dwSpecType: IO specification type. For details about IO specifications, see DAOpenDocument.

  This member in conjunction with pSpec allows the developer to choose any location for the new file or even redirect its IO calls entirely. For more details, see Redirected IO. When the developer receives this callback, the value of this element is undefined. Must be set by developer if this callback returns SCCERR_OK.
- pSpec: This field holds the IO specification of the output file to be created. pSpec points to a buffer that is 1024 bytes in size. If your application needs to set the specification of the output file, it may do so by either writing new data into this buffer, or by changing the value of pSpec to point to memory owned by your application. If pSpec is set to a new value, then your application must ensure that this memory stays valid for an appropriate length of time, at least until the next callback message is received, or EXRunExport returns.

  If the current export operation is using redirected IO, your application must create a redirected IO data structure for the new file and set pSpec to point to it. This pointer must stay valid until the structure's pClose function is called.

  If your application sets dwSpecType to IOTYPE_UNICODEPATH, the specification must contain UCS-2 encoded Unicode characters.

  When your application receives this callback, the contents of the buffer pointed to by pSpec are undefined. A specification must be defined by your application if this callback returns SCCERR_OK.
- pExportData: Pointer to data specific to the individual export. In this case, always a pointer to either an EXURLFILEIOCALLBACKDATA structure or an EXURLFILEIOCALLBACKDATAW structure. The EXURLFILEIOCALLBACKDATAW struct is only used when the SCCOPT_UNICODECALLBACKSTR option is set to TRUE. These two structures are defined in EXURLFILEIOCALLBACKDATA / EXURLFILEIOCALLBACKDATAW Structures. Set by caller.
- pTemplateName: NULL

9.1.1 EXURLFILEIOCALLBACKDATA / EXURLFILEIOCALLBACKDATAW Structures

The EXURLFILEIOCALLBACKDATA and EXURLFILEIOCALLBACKDATAW structures are defined as follows:

```
typedef struct EXURLFILEIOCALLBACKDATAtag
{
   VTDWORD   dwSize;
   VTBYTE    szURLString[VT_MAX_URL];
   VTDWORD   dwFileID;
} EXURLFILEIOCALLBACKDATA;

typedef struct EXURLFILEIOCALLBACKDATAWtag
{
   VTDWORD   dwSize;
   VTWORD    wzURLString[VT_MAX_URL];
   VTDWORD   dwFileID;
} EXURLFILEIOCALLBACKDATAW;
```

- dwSize: Set to sizeof(EXURLFILEIOCALLBACKDATA) or sizeof(EXURLFILEIOCALLBACKDATAW).
- szURLString / wzURLString: This parameter can be set by the developer to a new URL that references the newly created file. This parameter is optional unless the pSpec provided by the developer points to something that cannot be used as a URL (as when using redirected IO, for example). In that case, this parameter must be set.

  This string is written into any output file that needs to reference the newly created file, with appropriate conversions between single and double byte output. Because this parameter is a URL, it is assumed to be URL encoded. When used in conjunction with dwSpecType and pSpec, this parameter can be used to generate almost any structure or location for the output files, including things like writing the output files into a database and then using a CGI mechanism to retrieve them.

  The current size limitation is 2048 characters. If the size exceeds this limit, the URL will be truncated and rendered useless.
- dwFileID: Set by the product. This is used as a unique identifier for each output file generated. It may be used for an OEM-specific purpose.

Return Value

- SCCERR_OK: dwSpecType, pSpec and szURLString (or wzURLString) have been populated with valid values.
- SCCERR_NOTHANDLED: Default naming should be used.
- SCCERR_FILEOPENFAILED: Some error was encountered creating a new output.

9.2 EX_CALLBACK_ID_NEWFILEINFO

This informational callback is made just after each new file has been created. Like the EX_CALLBACK_ID_CREATENEWFILE callback, the pExportData parameter points to an EXURLFILEIOCALLBACKDATA or an EXURLFILEIOCALLBACKDATW structure, but in this case the structure should be treated as read-only and the dwSpecType, pSpec and szURLString (or wzURLString) will be filled in.

This callback occurs for every new file. If the developer has used the EX_CALLBACK_ID_CREATENEWFILE notification to change the location of (or to set up redirected IO for) the new file, the data structure echoes back the information set by the developer during the EX_CALLBACK_ID_CREATENEWFILE callback.

Return Value

Must be either SCCERR_OK or SCCERR_NOTHANDLED. Return value is currently ignored.

9.3 EX_CALLBACK_ID_PAGECOUNT

PDF Export uses this callback message to return a count of all of the output pages produced during an export operation. This count reflects the number of pages created by Oracle Outside In's processing of the input document, which in some cases may differ slightly from the number of pages as seen in the document's original application.

This callback occurs during the execution of EXRunExport.

Data Type

VTDWORD

9.4 EX_CALLBACK_ID_BEGINPAGE

This callback message allows the margin text to be supplied for each page. This callback indicates that a new page of output is about to be created. Within the scope of this callback, the host application is able to set margin text to new values for the current page. For this callback, the pCommandOrInfoData parameter points to a zero-based count of the page about to be created.

Data Type

VTDWORD

Return Value

Must be either SCCERR_OK or SCCERR_NOTHANDLED

10

PDF Export C/C++ Options

Options are parameters affecting the behavior of an export or transformation. This chapter presents the C/C++ options relevant to the PDF Export product.

Options are set using the DASetOption call. It is recommended that developers familiarize themselves with all of the options available.

Options may be Local, in which case they only affect the handle for which they are set, or Global, in which case they automatically affect all handles associated with the hDoc and must be set before the call to DAOpenDocument.

While default values are provided, users are encouraged to set all options for a number of reasons. In some cases, the default values were chosen to provide backwards compatibility. In other cases, the default values were chosen arbitrarily from a range of possibilities.

This chapter covers the following types of options:

10.1 Character Mapping

This section discusses character mapping options.

10.1.1 SCCOPT_DEFAULTINPUTCHARSET

This option is used in cases where Oracle Outside In cannot determine the character set used to encode the text of an input file. When all other means of determining the file's character set are exhausted, Oracle Outside In will assume that an input document is encoded in the character set specified by this option. This is most often used when reading plain-text files, but may also be used when reading HTML or PDF files. The possible character sets are listed in charsets.h.

When "extended test for text" is enabled (see SCCOPT_FIFLAGS), this option will still apply to plain-text input files that are not identified as EBCDIC or Unicode.

This option supersedes the SCCOPT_FALLBACKFORMAT option for selecting the character set assumed for plain-text files. For backwards compatibility, use of deprecated character-set -related values is still currently supported for SCCOPT_FALLBACKFORMAT, though internally such values will be translated into equivalent values for the SCCOPT_DEFAULTINPUTCHARSET. As a result, if an application were to set both options, the last such value set for either option will be the value that takes effect.

Handle Types

NULL, VTHDOC

Scope

Global

Data Type

VTDWORD

Default

- Windows Code Page 1252 on Windows and ISO 8859-1 (Latin 1) on UNIX

Data

The data types are listed in charsets.h.

10.1.2 SCCOPT_UNMAPPABLECHAR

This option selects the character used when a character cannot be found in the output character set. This option takes the Unicode value for the replacement character.

Handle Types

VTHDOC

Scope

Local

Data Type

VTWORD

Data

The Unicode value for the character to use.

Default

- 0x002a = "*"

10.2 Input Handling

This section discusses input handling options.

10.2.1 SCCOPT_FALLBACKFORMAT

This option controls how files are handled when their specific application type cannot be determined. This normally affects all plain-text files, because plain-text files are generally identified by process of elimination, for example, when a file isn't identified as having been created by a known application, it is treated as a plain-text file.

It is recommended that FI_NONE be set to prevent PDF Export from exporting unidentified binary files as though they were text, which could generate many pages of "garbage" output.

This option must be set for an hDoc before any subhandle has been created for that hDoc.

A number of values that were formerly allowed for this option have been deprecated. Specifically, the values that selected specific plain-text character sets are no longer to be used. Instead, applications should use the SCCOPT_DEFAULTINPUTCHARSET option for such functionality.

Handle Types

NULL, VTHDOC

Scope

Global

Data Type

VTDWORD

Data

The high VTWORD of this value is reserved and should be set to 0, and the low VTWORD must have one of the following values:

- FI_TEXT: Unidentified file types will be treated as text files.
- FI_NONE: Oracle Outside In will not attempt to process files whose type cannot be identified. This will include text files. When this option is selected, an attempt to process a file of unidentified type will cause Oracle Outside In to return an error value of DAERR_FILTERNOTAVAIL (or SCCERR_NOFILTER).

Default

- FI_TEXT

10.2.2 SCCOPT_FIFLAGS

This option affects how an input file's internal format (application type) is identified when the file is first opened by the Oracle Outside In technology. When the extended test flag is in effect, and an input file is identified as being either 7-bit ASCII, EBCDIC, or Unicode, the file's contents will be interpreted as such by the export process.

The extended test is optional because it requires extra processing and cannot guarantee complete accuracy (which would require the inspection of every single byte in a file to eliminate false positives.)

Handle Types

NULL, VTHDOC

Scope

Global

Data Type

VTDWORD

Data

One of the following values:

- SCCUT_FI_NORMAL: This is the default value. When this is set, standard file identification behavior occurs.
- SCCUT_FI_EXTENDEDTEST: If set, the File Identification code will run an extended test on all files that are not identified.

Default

- SCCUT_FI_EXTENDEDTEST: The technology will attempt an extra test after the file is first opened to see if it is 7-bit text or EBCDIC.

10.2.3 SCCOPT_FORMATFLAGS

This option allows the developer to set flags that enable options that span multiple export products.

Handle Types

VTHDOC

Scope

Local

Data Type

VTDWORD

Data

- SCCOPT_FLAGS_ALLISODATETIMES: When this flag is set, all Date and Time values are converted to the ISO 8601 standard. This conversion can only be performed using dates that are stored as numeric data within the original file.
- SCCOPT_FLAGS_STRICTFILEACCESS: When an embedded file or URL can't be opened with the full path, OIT will sometimes try and open the referenced file from other locations, including the current directory. When this flag is set, it will prevent

OIT from trying to open the file from any location other than the fully qualified path or URL.

Default

0: All flags turned off

10.2.4 SCCOPT_SYSTEMFLAGS

This option controls a number of miscellaneous interactions between the developer and the Outside In Technology.

Handle Type

VTHDOC

Scope

Local

Data Type

VTDWORD

Data

- SCCVW_SYSTEM_UNICODE: This flag causes the strings in SCCDATREENODE to be returned in Unicode.

Default

0

10.2.5 SCCOPT_IGNORE_PASSWORD

This option can disable the password verification of files where the contents can be processed without validation of the password. If this option is not set, the filter should prompt for a password if it handles password-protected files.

As of Release 8.4.0, only the PST and MDB Filters support this option.

Scope

Global

Data Type

VTBOOL

Data

- TRUE: Ignore validation of the password
- FALSE: Prompt for the password

Default

FALSE

10.2.6 SCCOPT_LOTUSNOTESDIRECTORY

This option allows the developer to specify the location of a Lotus Notes or Domino installation for use by the NSF filter. A valid Lotus installation directory must contain the file nnotes.dll.

Note:

Please see section 2.1.1 for NSF support on Win x86-32 or Win x86-64 or section 3.1.1 for NSF support on Linux x86-32 or Solaris Sparc 32.

Handle Types

NULL

Scope

Global

Data Type

VTLPBYTE

Data

A path to the Lotus Notes directory.

Default

If this option isn't set, then OIT will first attempt to load the Lotus library according to the operating system's PATH environment variable, and then attempt to find and load the Lotus library as indicated in HKEY_CLASSES_ROOT\Notes.Link.

10.2.7 SCCOPT_PDF_FILTER_REORDER_BIDI

This option controls whether or not the PDF filter will attempt to reorder bidirectional text runs so that the output is in standard logical order as used by the Unicode 2.0 and later specification. This additional processing will result in slower filter performance according to the amount of bidirectional data in the file.

Handle Types

VTHDOC, NULL

Scope

Global

Data Type

VTDWORD

Data

- SCCUT_FILTER_STANDARD_BIDI

- SCCUT_FILTER_REORDERED_BIDI

Default

SCCUT_FILTER_STANDARD_BIDI

10.2.8 SCCOPT_REORDERMETHOD

This option controls how the technology reorders bidirectional text.

Data Type

VTDWORD

Data

One of the following values:

- SCCUT_REORDER_UNICODE_OFF: This disables any processing for bidirectional characters. This option is the default.
- SCCUT_REORDER_UNICODE_LTOR: Characters displayed using the Unicode bidirectional algorithm assuming a base left-to-right order. Use this option to enable bidirectional rendering.
- SCCUT_REORDER_UNICODE_RTOL: Characters displayed using the Unicode bidirectional algorithm assuming a base right-to-left order. Use this option to force starting bidirectional rendering in the right-to-left order.

10.2.9 SCCOPT_TIMEZONE

This option allows the user to define an offset to GMT that will be applied during date formatting, allowing date values to be displayed in a selectable time zone. This option affects the formatting of numbers that have been defined as date values. This option will not affect dates that are stored as text.

Note:

Daylight savings is not supported. The sent time in msg files when viewed in Outlook can be an hour different from the time sent when an image of the msg file is created.

Handle Types

NULL, VTHDOC

Scope

Global

Data Type

VTLONG

Data

Integer parameter from -96 to 96, representing 15-minute offsets from GMT. To query the operating system for the time zone set on the machine, specify SCC_TIMEZONE_USENATIVE.

Default

- 0: GMT time

10.2.10 SCCOPT_HTML_COND_COMMENT_MODE

Some HTML includes a special type of comment that will be read by particular versions of browsers or other products. This option allows you to control which of those comments are included in the output.

Handle Type

VTHDOC

Scope

Local

Data Type

VTDWORD

Data

- One or more of the following values OR-ed together:
- HTML_COND_COMMENT_NONE: Don't output any conditional comments. Note: setting any other flag will negate this.
- HTML_COND_COMMENT_IE5: include the IE 5 comments
- HTML_COND_COMMENT_IE6: include the IE 6 comments
- HTML_COND_COMMENT_IE7: include the IE 7 comments
- HTML_COND_COMMENT_IE8: include the IE 8 comments
- HTML_COND_COMMENT_IE9: include the IE 9 comments
- HTML_COND_COMMENT_ALL: include all conditional comments including the versions listed above and any other versions that might be in the HTML.

Default

HTML_COND_COMMENT_NONE

10.2.11 SCCOPT_ARCFULLPATH

In the Viewer and rendering products, this option tells the archive display engine to show the full path to a node in the szNode field in response to a SCCVW_GETTREENODE message. It also causes the name fields in

DAGetTreeRecord and DAGetObjectInfo to contain the full path instead of just the archive node name.

Data Type

VTBOOL

Data

- TRUE: Display the full path.
- FALSE: Do not display the path.

Default

FALSE

10.2.12 SCCOPT_PDF_FILTER_MAX_EMBEDDED_OBJECTS

PDF files sometimes have a very large number of embedded objects. This option allows the user to limit the number of embedded objects that are produced in a PDF file. Setting this option to 0 produces an unlimited number of embedded objects.

Handle Types

VTHDOC

Scope

Local

Data Type

VTDWORD

Data

The maximum number of embedded objects to produce in PDF output.

Default

0

10.2.13 SCCOPT_PDF_FILTER_MAX_VECTOR_PATHS

PDF files sometimes have a very large number of vector paths. This option allows the user to limit the number of vector paths that are produced in a PDF file. Setting this option to 0 produces an unlimited amount of vector paths.

Handle Types

VTHDOC

Scope

Local

Data Type

VTDWORD

Data

The maximum number of vector paths to produce in PDF output.

Default

0

10.2.14 SCCOPT_PDF_FILTER_WORD_DELIM_FRACTION

This option controls the spacing threshold in PDF input documents. Most PDF documents do not have an explicit character denoting a word break. The PDF filter calculates the distance between two characters to determine if they are part of the same word or if there should be a word break inserted. The space between characters is compared to the length of the space character in the current font multiplied by this fraction. If the space between characters is larger, then a word break character is inserted into the text stream. Otherwise, the characters are considered to be part of the same word and no word break is inserted.

Handle Types

NULL, VTHDOC

Scope

Local

Data Type

VTFLOAT

Data

A fraction representing the percentage of the space character used to trigger a word break. Valid values are 0<value<=2.

Default

0.85

10.3 Compression

This section discusses compression options.

10.3.1 SCCOPT_APPLYFILTER

This option determines if ZLIB compression will be applied to all object streams when generating the PDF output file.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Data

- TRUE: ZLIB compression is applied to all output streams.
- FALSE: ZLIB compression is not applied to any output stream.

Default

TRUE

10.3.2 SCCOPT_FILTERJPG

This option can disable access to any files using JPEG compression, such as JPG graphic files or TIFF files using JPEG compression, or files with embedded JPEG graphics. Attempts to read or write such files when this option is enabled will fail and return the error SCCERR_UNSUPPORTEDCOMPRESSION if the entire file is JPEG compressed, and grey boxes for embedded JPEG-compressed graphics.

The following is a list of file types affected when this option is disabled:

- JPG files
- Postscript files containing JPG images
- PDFs containing JPEG images

Handle Types

VTHDOC, HEXPORT

Scope

Global

Data Type

VTDWORD

Data

- SCCVW_FILTER_JPG_ENABLED: Allow access to files that use JPEG compression
- SCCVW_FILTER_JPG_DISABLED: Do not allow access to files that use JPEG compression

Default

SCCVW_FILTER_JPG_ENABLED

10.3.3 SCCOPT_FILTERLZW

This option can disable access to any files using Lempel-Ziv-Welch (LZW) compression, such as .GIF files, .ZIP files or self-extracting archive (.EXE) files containing "shrunk" files. Attempts to read or write such files when this option is enabled will fail and return the error SCCERR_UNSUPPORTEDCOMPRESSION.

The following is a list of file types affected when this option is disabled:

- GIF files
- TIF files using LZW compression
- PDF files that use internal LZW compression
- ZIP and self-extracting archive (.EXE) files containing "shrunk" files
- Postscript files using LZW compression

PDF Export will not be affected by this option when processing formats that compress subfile contents but not subfile names, such as TAR and ZIP.

Although this option can disable access to files in ZIP or EXE archives stored using LZW compression, any files in such archives that were stored using any other form of compression will still be accessible.

Handle Types

VTHDOC, HEXPORT

Scope

Global

Data Type

VTDWORD

Data

- SCCVW_FILTER_LZW_ENABLED: LZW compressed files will be read normally.
- SCCVW_FILTER_LZW_DISABLED: LZW compressed files will not be read.

Default

SCCVW_FILTER_LZW_ENABLED

10.4 Graphics

This section discusses graphics options.

10.4.1 SCCOPT_GRAPHIC_OUTPUTDPI

This option allows the user to specify the output graphics device's resolution in DPI and only applies to images embedded in a PDF whose size is specified in physical units (in/cm). For example, consider a 1" square, 100 DPI graphic that is to be

rendered on a 50 DPI device (SCCOPT_GRAPHIC_OUTPUTDPI is set to 50). In this case, the size of the resulting PDF will be 50 x 50 pixels.

In addition, the special #define of SCCGRAPHIC_MAINTAIN_IMAGE_DPI, which is defined as 0, can be used to suppress any dimensional changes to an image. In other words, a 1" square, 100 DPI graphic will be converted to an image that is 100 x 100 pixels in size. This value indicates that the DPI of the output device is not important. It extracts the maximum resolution from the input image with the smallest exported image size.

Setting this option to SCCGRAPHIC_MAINTAIN_IMAGE_DPI may result in the creation of extremely large images. Be aware that there may be limitations in the system running this technology that could result in undesirably large bandwidth consumption or an error message. Additionally, an out of memory error message will be generated if system memory is insufficient to handle a particularly large image.

Also note that the SCCGRAPHIC_MAINTAIN_IMAGE_DPI setting will force the technology to use the DPI settings already present in raster images, but for all other content the resolution used internally by PDF Export will be in effect.

For some output graphic types, there may be a discrepancy between the value set by this option and the DPI value reported by some graphics applications. The discrepancy occurs when the output format uses metric units (DPM, or dots per meter) instead of English units (DPI, or dots per inch). Depending on how the graphics application performs rounding on meters to inches conversions, the DPI value reported may be 1 unit more than expected.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

The DPI to use when exporting graphic images. The maximum value allowed is SCCGRAPHIC_MAX_SANE_BITMAP_DPI, which is currently defined to be 2400 DPI.

Default

- SCCGRAPHIC_DEFAULT_OUTPUT_DPI: Currently defined to be 72 dots per inch.

10.4.2 SCCOPT_GRAPHIC_SIZEMETHOD

This option determines the method used to size graphics. The developer can choose among three methods, each of which involves some degree of trade off between the quality of the resulting image and speed of conversion.

Using the quick sizing option results in the fastest conversion of color graphics, though the quality of the converted graphic will be somewhat degraded. The smooth sizing option results in a more accurate representation of the original graphic, as it uses anti-aliasing. Antialiased images may appear smoother and can be easier to read,

but rendering when this option is set will require additional processing time. The grayscale only option also uses antialiasing, but only for grayscale graphics, and the quick sizing option for any color graphics.

The smooth sizing option does not work on images which have a width or height of more than 4096 pixels.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

One of the following values:

- SCCGRAPHIC_QUICKSIZING: Resize without antialiasing
- SCCGRAPHIC_SMOOTHSIZING: Resize using antialiasing
- SCCGRAPHIC_SMOOTHGRAYSCALESIZING: Resize using antialiasing for grayscale graphics only (no antialiasing for color graphics)

Default

SCCGRAPHIC_SMOOTHSIZING

10.4.3 SCCOPT_IMAGE_PASSTHROUGH

This feature is used to allow certain input files to circumvent the normal filtering process and to be 'wrapped' in a PDF output file directly. This allows for much faster exporting of the supported file formats, which for release 8.4 are JPEG, JPEG2000, and TIFF.

Data Type

VTBOOL

Default

TRUE

10.4.4 SCCOPT_RENDER_ENABLEALPHABLENDING

This option allows the user to enable alpha-channel blending (transparency) in rendering vector images when using an X-Windows output solution. This may improve fidelity on documents that use these transparent images, but will result in performance degradation. his option does not affect Microsoft Windows or Unix implementations where SCCOPT_RENDERING_PREFER_OIT is set to TRUE.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Default

False

10.5 Spreadsheet and Database File Rendering

This section discusses spreadsheet and database options.

10.5.1 SCCOPT_DBPRINTFITTOPAGE

This option scales a spreadsheet file to a certain percent or to a page width or height. However, in an effort to preserve readability after scaling, PDF Export will not shrink a database document to under approximately one-third of its original size.

It should be noted that when this option is set to SCCVW_DBPRINTFITMODE_NOMAP, the pages of the database file are printed down first and then across.

Please note that any margins applied as a result of settings for the SCCOPT_DEFAULTPRINTMARGINS option will be included in any scaling that is applied to the output image as a result of settings for this option.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

One of the following values:

- SCCVW_DBPRINTFITMODE_NOMAP: This will not do any scaling of the database image. It will render in its original size onto as many pages as are required to fit the data.
- SCCVW_DBPRINTFITMODE_FITTOPAGES: This will fit the database to one page, scaling to the image width or height depending on the page size and database size.
- SCCVW_DBPRINTFITMODE_FITTOWIDTH: This will scale the database on the rendered image so it is no larger than one page wide.

- SCCVW_DBPRINTFITMODE_FITTOHEIGHT: This will scale the database on the rendered image so it is no larger than one page high.

Default

SCCVW_DBPRINTFITMODE_FITTOPAGES

10.5.2 SCCOPT_DBPRINTGRIDLINES

If this option is TRUE, lines are generated between cells in the rendered images.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Default

TRUE

10.5.3 SCCOPT_DBPRINTHEADINGS

If this option is TRUE, field headings will be generated along with the data.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Default

TRUE

10.5.4 SCCOPT_MAXSSDBPAGEHEIGHT

Normally, the size of pages generated from spreadsheet worksheets and database tables is limited to the size of the page defined by the input document's page size information and how the SCCOPT_USEDOCPAGESETTINGS option is set. If, after scaling is factored in, the resulting image is too large to fit on a single page, it is split up into multiple pages.

The SCCOPT_MAXSSDBPAGEWIDTH and SCCOPT_MAXSSDBPAGEHEIGHT options are used to change the size of a page to match the scaled size of the page being rendered - within limits. The key reason for those limits is that rendering very large

pages can easily overwhelm the memory available on the system. When using this feature, a calculation should be made to be sure that the values passed in work within said memory limits. The values for these two options will override the current page dimensions if necessary.

The memory needed may be calculated based on the following:

```
memory = [max. worksheet/table height (in inches)]  x  [max. worksheet/table width
(in inches)]  x  [dpi setting]2  x  3 bytes/pixel  +  a bit extra for the needs of
the rest of the conversion
```

By default, these options are set to the current page dimensions. Users may choose to set only one of the two options if desired. If, for example, only the SCCOPT_MAXSSDBPAGEWIDTH is set, then the height of the page will be based on the normal page height.

When a worksheet or table is larger than the maximum values specified by these options, then the file is rendered on multiple pages, with the requested (larger) page dimensions.

These new options grow the page size (if needed) to match the size of the worksheet or table.

Please see Figure 10-1 for a diagram which clarifies the interactions of all of the options mentioned in this discussion.

If text in cells ends up extending past the edge of the cell and beyond the edge of the page, PDF Export writes one or more additional pages for the overflow text.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

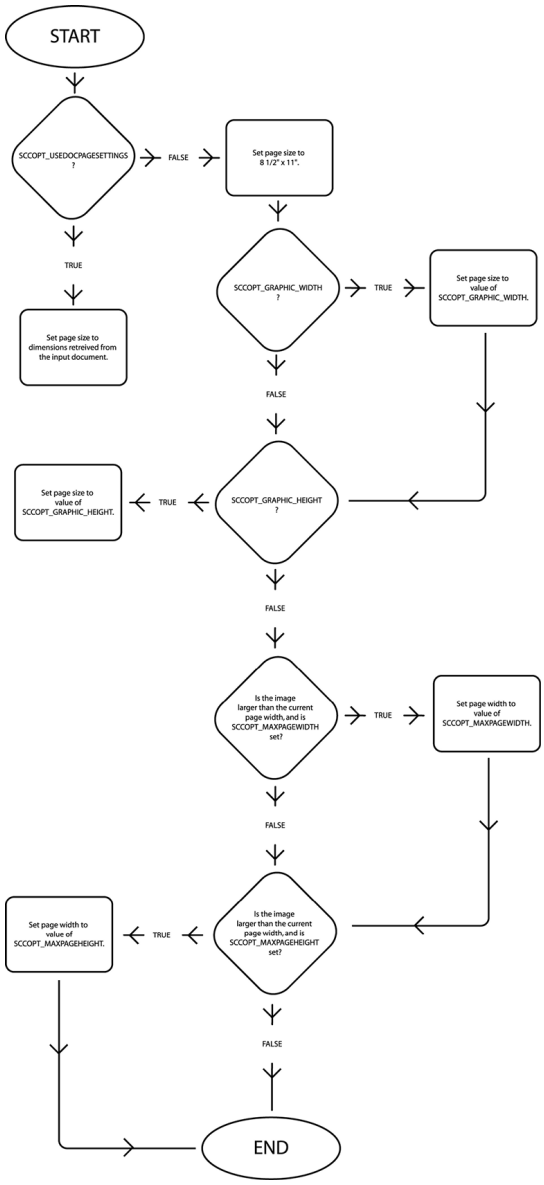
Data

The maximum page height (including margins) specified in twips (1440 twips are in 1 inch). If the value specified is smaller than the page height, then this option will be ignored.

Default

- 0: Use the page height defined by the input document's page size information and by the SCCOPT_USEDOCPAGESETTINGS.

Figure 10-1 Logic Flow for Determining the Page Size of Spreadsheet and Database Pages



10.5.5 SCCOPT_MAXSSDBPAGEWIDTH

See the documentation for SCCOPT_MAXSSDBPAGEHEIGHT for a full discussion of how this option works and interacts with other options affecting the page size of images generated from spreadsheet and database pages.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Size

VTDWORD

Data

The maximum page width (including margins) specified in twips (1440 twips are in 1 inch). If the value specified is smaller than the page width, then this option will be ignored.

Default

- 0: Use the page width defined by the input document's page size information and by the SCCOPT_USEDOCPAGESETTINGS option.

10.5.6 SCCOPT_SSPRINTDIRECTION

This option controls the pattern in which the pages are rendered, either across first and then down, or down first and then across.

This option is overridden when the SCCOPT_USEDOCPAGESETTINGS option is set to TRUE and print direction is specified in the input document.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

One of the following values:

- SCCVW_SSPRINTDIRECTION_ACROSS: Will specify that pages are printed across first and then down.
- SCCVW_SSPRINTDIRECTION_DOWN: Will specify that pages are printed down first and then across.

Default

SCCVW_SSPRINTDIRECTION_DOWN

10.5.7 SCCOPT_SSPRINTFITTOPAGE

This option requests that the spreadsheet file be fit to one page.

Please note that any margins applied as a result of settings for the SCCOPT_DEFAULTPRINTMARGINS option will be included in any scaling that is applied to the output image as a result of settings for this option.

This option is overridden when the SCCOPT_USEDOCPAGESETTINGS option is set to TRUE and fitting the page to the printer's image limits is specified in the input document.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

One of the following values:

- SCCVW_SSPRINTFITMODE_NOMAP: No scaling is performed on the spreadsheet image. It will render in its original size onto as many pages as are required to fit the data.
- SCCVW_SSPRINTFITMODE_FITTOPAGES: Will scale the spreadsheet in the rendered image to fit to the number of pages specified in the SCCOPT_SSPRINTSCALEXHIGH and SCCOPT_SSPRINTSCALEXWIDE options. Since aspect ratio is maintained, the lesser of the two dimensions (width or height) will determine the scale factor. Note that if either SCCOPT_SSPRINTSCALEXHIGH or SCCOPT_SSPRINTSCALEXWIDE is set to 0, the value in the other option will be nullified.
- SCCVW_SSPRINTFITMODE_FITTOWIDTH: Will scale the spreadsheet in the rendered image so it is no larger than one page wide.
- SCCVW_SSPRINTFITMODE_FITTOHEIGHT: Will scale the spreadsheet in the rendered image so it is no larger than one page high.
- SCCVW_SSPRINTFITMODE_SCALE: Will scale the spreadsheet in the rendered image using the scale value stored in the SCCOPT_SSPRINTSCALEPERCENT option.

Default

- SCCVW_SSPRINTFITMODE_SCALE: Scales the rendered image of the spreadsheet using the scale value stored in the SCCOPT_SSPRINTSCALEPERCENT option (which is 100 by default).

10.5.8 SCCOPT_SSPRINTGRIDLINES

If this option is TRUE, a line is generated between cells in the rendered images.

This option is overridden when the SCCOPT_USEDOCPAGESETTINGS option is set to TRUE and printing grid lines between cells is specified in the input document.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Default

TRUE

10.5.9 SCCOPT_SSPRINTHEADINGS

If this option is TRUE, row and column headings will be rendered along with the data.

This option is overridden when the SCCOPT_USEDOCPAGESETTINGS option is set to TRUE and printing column and row headers is specified in the input document.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Default

FALSE

10.5.10 SCCOPT_SSPRINTSCALEPERCENT

This option will scale spreadsheet pages by the percentage specified. The option has no effect unless the SCCOPT_SSPRINTFITTOPAGE option is set to SCCVW_SSPRINTFITMODE_SCALE.

This option must take a value between 1 and 100. If any value outside of this range is used, the option will be ignored.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Default

100

10.5.11 SCCOPT_SSPRINTSCALEXHIGH

This option will fit the spreadsheet image to the number of vertical pages specified. The setting for this option will have no effect unless the SCCOPT_SSPRINTFITTOPAGE option is set to SCCVW_SSPRINTFITMODE_FITTOPAGES.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Default

1

10.5.12 SCCOPT_SSPRINTSCALEXWIDE

This option will fit the spreadsheet image to the number of horizontal pages specified. The setting for this option will have no effect unless the SCCOPT_SSPRINTFITTOPAGE option is set to SCCVW_SSPRINTFITMODE_FITTOPAGES.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Default

1

10.5.13 SCCOPT_SSSHOWHIDDENCELLS

This option lets you determine whether or not to show hidden rows or columns when rendering spreadsheets. It is used to expand the widths of cells that are hidden by virtue of having their row height or column width reduced to 0. This is a BOOLEAN option that will leave the data hidden when it is FALSE, and show all hidden rows and columns when it is TRUE, displayed using the default row width or default column height.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Data

- TRUE: Displays hidden cells.
- FALSE: Does not display hidden cells.

Default

FALSE

10.5.14 SCCOPT_EX_SHOWHIDDENSSDATA

The setting for this option determines whether or not hidden sheets in a spreadsheet will be included in the output. When set to FALSE (the default), the hidden elements are not written. When set to TRUE, they are placed in the output in the same manner as regular spreadsheet data.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Data

- TRUE: Allow hidden data to be placed in the output.
- FALSE: Prevent hidden data from being placed in the output.

Default

FALSE

10.5.15 SCCOPT_FILTERNOBLANK

If this option is TRUE, blank spreadsheet pages will not be produced when printing a file or rendering it.

Data Type

VTBOOL

Default

False

10.6 Page Rendering

This section discusses page rendering options.

10.6.1 SCCOPT_DEFAULTPAGESIZE

This option allows the developer to specify the size of each page in the generated PDF output file. The size may be specified in inches, points, centimeters or picas. This option is only valid when SCCOPT_USEDOCPAGESETTINGS is set to FALSE.

1 inch = 6 picas = 72 points = ~ 2.54 cm

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

DEFAULTPAGESIZE Structure

Data

Structure containing the height and width of the page, and a field indicating the units used.

Default

8.5 inches by 11 inches

10.6.1.1 DEFAULTPAGESIZE Structure

```
typedef struct DEFAULTPAGESIZEtag
{
   VTFLOAT fHeight;
   VTFLOAT fWidth;
   VTDWORD wUnits;
}DEFAULTPAGESIZE,  *LPDEFAULTPAGESIZE;
```

Parameters

Note: You must define a value for both fHeight and fWidth in wUnits. If you define only height or only width, the image is not scaled.

- fHeight: Height of the page. Default is 11 inches.
- fWidth: Width of the page. Default is 8.5 inches.

- wUnits: One of the following (SCCGRAPHIC_INCHES is the default):
  - SCCGRAPHIC_INCHES
  - SCCGRAPHIC_POINTS
  - SCCGRAPHIC_CENTIMETERS
  - SCCGRAPHIC_PICAS

10.6.2 SCCOPT_DEFAULTPRINTMARGINS

This option specifies the top, left, bottom and right margins in twips from the edges of the page. For instance, setting all the values to 1440 creates a 1-inch margin on all sides. Page margins will only be applied when formatting word processing, database and spreadsheet files.

Please note all margins are applied before scaling with the SCCOPT_DBPRINTFITTOPAGE or SCCOPT_SSPRINTFITTOPAGE options.

This option is overridden when the SCCOPT_USEDOCPAGESETTINGS option is set to TRUE and print margins are specified in the input document.

This option does not affect the output of bitmap, presentation, vector or archive files.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

The SCCVWPRINTMARGINS structure.

10.6.2.1 SCCVWPRINTMARGINS Structure

This structure is used by the SCCOPT_DEFAULTPRINTMARGINS option to specify margin settings.

SCCVWPRINTMARGINS is a C data structure defined in sccvw.h as follows:

```
typedef struct SCCVWPRINTMARGINStag
   {
   VTDWORD  dwTop;
   VTDWORD  dwBottom;
   VTDWORD  dwLeft;
   VTDWORD  dwRight;
} SCCVWPRINTMARGINS,  * PSCCVWPRINTMARGINS;
```

Parameters

- dwTop: Margin from the top edge of the page (in twips). Default is 1 inch.
- dwBottom: Margin from the bottom edge of the page (in twips). Default is 1 inch.
- dwLeft: Margin from the left edge of the page (in twips). Default is 1 inch.
- dwRight: Margin from the right edge of the page (in twips). Default is 1 inch.

10.6.3 SCCOPT_PRINTENDPAGE

This option indicates the page that rendering should end on. It is only valid if the option SCCOPT_WHATTOPRINT has the value SCCVW_PRINT_PAGERANGE.

Note that page range settings are one-based and inclusive. Therefore, specifying a range with SCCOPT_PRINTENDPAGE equal to 5 and SCCOPT_PRINTSTARTPAGE equal to 3 would export any of the three pages that follow, if they exist: 3, 4 and 5.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Default

- 0: The last page at the end of the document.

10.6.4 SCCOPT_PRINTSTARTPAGE

This option indicates the page rendering should start on. It is only valid if the option SCCOPT_WHATTOPRINT has the value SCCVW_PRINT_PAGERANGE.

Note that page range settings are one-based and inclusive. Therefore, specifying a range with SCCOPT_PRINTENDPAGE equal to 5 and SCCOPT_PRINTSTARTPAGE equal to 3 would export any of the three pages that follow, if they exist: 3, 4 and 5.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Default

- 0: Printing will begin with the first page of the document.

10.6.5 SCCOPT_USEDOCPAGESETTINGS

This option is used to select the document's page layout information when rendering.

If TRUE, the document's native (or author selected) page margins, paper size, page scaling and page orientation are used when available from the filter.

The values of the SCCOPT_DEFAULTPAGESIZE, SCCOPT_DEFAULTPRINTMARGINS, SCCOPT_SSPRINTGRIDLINES,SCCOPT_SSPRINTHEADINGS, SCCOPT_SSPRINTHEADINGS, SCCOPT_SSPRINTDIRECTION, and SCCOPT_SSPRINTFITTOPAGE options are overridden if this option is set to TRUE and the properties associated with those options are specified in the input document. Additionally, print area and page breaks in spreadsheet documents are ignored unless this option is set to TRUE.

If FALSE, the page margins, size, orientation and scaling are set to specific values rather than those in the native document. The page size is forced to 8 1/2" x 11" in portrait orientation, but this may be changed by setting the SCCOPT_DEFAULTPAGESIZE option. The margins are forced 1" all around, but may be changed by setting the SCCOPT_DEFAULTPRINTMARGINS option. The scaling for the document will be set to 100%, although this may be changed by setting any of the various scaling options.

It should be noted that this option also affects page orientation for both input spreadsheets and word processing documents.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Default

TRUE

10.6.6 SCCOPT_WHATTOPRINT

This option indicates whether the whole file or a selected range of pages should be rendered.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

One of the following values:

- SCCVW_PRINT_PAGERANGE: The pages in the one-based, inclusive range from SCCOPT_PRINTSTARTPAGE to SCCOPT_PRINTENDPAGE will be printed.
- SCCVW_PRINT_ALLPAGES: The entire document will be printed.

Default

SCCVW_PRINT_ALLPAGES

10.6.7 SCCOPT_NUMBERFORMAT

This option is used to control the formatting of numbers. It is useful for setting environment dependent variables related to international support. The default values are retrieved from the operating system for the Windows platform, and are set to logical U.S. defaults on all other platforms.

Data Type

SCCVWNUMBERFORMAT and SCCVWNUMBERFORMAT775 structures

10.6.7.1 SCCVWNUMBERFORMAT775 and SCCVWNUMBERFORMAT Structures

These structures are used to set the SCCID_NUMBERFORMAT option. The fields of the structures allow the developer to control variables related to international support. Please note that the SCCVWNUMBERFORMAT775 structure always assumes 2-digit year data, whereas the SCCVWNUMBERFORMAT structure allows for both 2- and 4-digit year data.

These are C data structures defined in sccvw.h as follows:

```
typedef struct SCCVWNUMBERFORMAT775tag
   {
   VTTCHAR   cDecimalSep;
   VTTCHAR   cThousandSep;
   VTTCHAR   cDateSep;
   VTTCHAR   cTimeSep;
   VTTCHAR   szCurrencySymbol[8];
   VTTCHAR   szAM[8];
   VTTCHAR   szPM[8];
   VTDWORD   dwNumBytesAM;
   VTDWORD   dwNumBytesPM;
   VTWORD    wCurrencyPosition;
   VTWORD    wShortDateOrder;
   } SCCVWNUMBERFORMAT775,  * PSCCVWNUMBERFORMAT775;

typedef struct SCCVWNUMBERFORMATtag
   {
   VTTCHAR   cDecimalSep;
   VTTCHAR   cThousandSep;
   VTTCHAR   cDateSep;
   VTTCHAR   cTimeSep;
   VTTCHAR   szCurrencySymbol[8];
   VTTCHAR   szAM[8];
   VTTCHAR   szPM[8];
   VTDWORD    dwNumBytesAM
   VTDWORD   dwNumBytesPM;
   VTWORD    wCurrencyPosition
   VTWORD    wShortDateOrder;
   VTWORD    wShortDateYearDigits;
   VTWORD    wShortDateMonthDigits;
```

```
VTWORD    wShortDateDayDigits;
VTWORD    wShortDateFlags;
} SCCVWNUMBERFORMAT,  * PSCCVWNUMBERFORMAT;
```

Parameters

- cDecimalSep: The character used for the decimal separator when formatting currency.
- cThousandSep: The character used for the thousands separator when formatting currency.
- cDateSep: The character used to separate years, months, and days when formatting dates. This option only works on variable formats. For example, only one of the several date formats in Microsoft Excel is variable.
- cTimeSep: The character used to separate hours, minutes, and seconds when formatting times. This option only works on variable formats. For example, only one of the several time formats in Microsoft Excel is variable.
- szCurrencySymbol: The string used for the currency symbol when formatting currency.
- szAM: The string used to indicate "AM" when formatting times.
- szPM: The string used to indicate "PM" when formatting times.
- dwNumBytesAM: Number of bytes of the string stored in szAM.
- dwNumBytesPM: Number of bytes of the string stored in szPM.
- wCurrencyPosition: Flags that indicate the positioning of the currency symbol when formatting currency. Only six specific filters are supported: SOC6, WG2, WK4, WK6, WPW, and VISO.
  - SCCVW_CURRENCY_LEADS: The currency symbol is placed before the amount.
  - SCCVW_CURRENCY_TRAILS: The currency symbol is placed after the amount.
  - SCCVW_CURRENCY_SPACE: A space is placed between the currency and the amount.
  - SCCVW_CURRENCY_NOSPACE: A space is not placed between the currency and the amount.
- wShortDateOrder: Indicates the order used when formatting short dates (numeric dates). This option only works on variable formats. For example, only one of the several date formats in Microsoft Excel is variable. One of the following:
  - SCCVW_DATEORDER_MDY: Month, Day, Year
  - SCCVW_DATEORDER_DMY: Day, Month, Year
  - SCCVW_DATEORDER_YMD: Year, Month, Date
- wShortDateYearDigits: This parameter is specific to the SCCVWNUMBERFORMAT structure. This is the number of digits in the year as specified by the Windows registry entry sShortDate. This option only works on

variable formats. For example, only one of the several date formats in Microsoft Excel is variable.

- wShortDateMonthDigits: This parameter is specific to the SCCVWNUMBERFORMAT structure. This is the number of digits in the month as specified by the Windows registry entry sShortDate.
- wShortDateDayDigits: This parameter is specific to the SCCVWNUMBERFORMAT structure. This is the number of digits in the day as specified by the Windows registry entry sShortDate.
- wShortDateFlags: This parameter is specific to the SCCVWNUMBERFORMAT structure. It is reserved for internal use.

10.6.8 SCCOPT_DOLINEARIZATION

Linearization is a method by which PDF renderers are able to render pages of the PDF file before the entire document is loaded. Linearized output is both larger and takes longer to produce; this option allows you to produce non-linearized PDF so that the export process will be quicker and result in a smaller output file.

Type

VTBOOL

Default

FALSE

10.6.9 SCCOPT_WPEMAILHEADEROUTPUT

The former option SCCOPT_WPMIMEHEADEROUTPUT has been deprecated. This option controls rendering of email headers.

Scope

Global

Data Type

VTDWORD

Data

One of these values:

- SCCUT_WP_EMAILHEADERSTANDARD: Displays "To," "From," "Subject," "CC," "BCC," "Date Sent," and "Attachments" header fields only. The filter outputs any fields not listed above as hidden fields, so they will not display.
- SCCUT_WP_EMAILHEADERNONE: Displays no email header fields.
- SCCUT_WP_EMAILHEADERALL: Displays all available email headers.

Default

SCCUT_WP_EMAILHEADERSTANDARD

10.6.10 SCCOPT_MAILHEADERVISIBLE

Along with SCCOPT_MAILHEADERHIDDEN, these options exist to allow the developer fine-grained control over what email headers are rendered. These options modify which email headers are displayed, and are based on the most recent setting of SCCOPT_WPEMAILHEADEROUTPUT. To implement a fully customized set of email headers for display, your code should first set the SCCOPT_WPEMAILHEADEROUTPUT option to select a baseline set of headers, then use these options to selectively add or remove headers from that set.

Setting a header to be visible means that it will be rendered when that header is found in a document of the appropriate type. Selected headers that are not present in the input file will not have any corresponding output created for them (no 'empty' headers will be created). Setting a header to be hidden means that it will not be rendered for the document types specified.

Scope

Global

Data Type

SCCUTEMAILHEADERINFO structure

SCCUTEMAILHEADERINFO structure

This structure is used by the SCCOPT_WPMAILHEADERVISIBLE/ SCCOPT_WPMAILHEADERHIDDEN options to specify the headers to show or hide.

```
typedef struct SCCUTEMAILHEADERINFOtag
{
    VTDWORD    dwHeaderID;
    VTDWORD    dwSubtypeID;
    VTWORD     wsMimeHeaderName[SCCUT_MAIL_NAMELENGTH];
    VTWORD     wsMimeHeaderLabel[SCCUT_MAIL_NAMELENGTH];
} SCCUTEMAILHEADERINFO, *PSCCUTEMAILHEADERINFO;
```

Parameters:

- dwHeaderID

  Either the ID of a predefined email header field, found in sccca.h (for example SCCCA_MAIL_TO), or an identifer between NONSTANDARD_HEADER_ID_BASE and NONSTANDARD_HEADER_ID_TOP for tracking a user-defined header.

- dwSubTypeID

  The type(s) of documents in which to either show or hide this header. These can be joined with a bitwise OR operator. Available subtypes are:

  SCCUT_MAILTYPE_EMAIL

  SCCUT_MAILTYPE_JOURNAL

  SCCUT_MAILTYPE_CONTACT

  SCCUT_MAILTYPE_NOTE

  SCCUT_MAILTYPE_APPOINTMENT

SCCUT_MAILTYPE_TASK

SCCUT_MAILTYPE_POST

SCCUT_MAILTYPE_DISTROLIST

- wsMimeHeaderName

  A Unicode string containing the value of a user-specified MIME header name. This value is only used when the dwHeaderId field contains a user-defined ID value between NONSTANDARD_HEADER_ID_BASE and NONSTANDARD_HEADER_ID_TOP.

- wsMimeHeaderLabel

  Unicode string that will be used as the label for a user-defined MIME header. This value is only used for user-defined headers.

Note:

Support for user-defined MIME headers is intended to allow Outside In to selectively display MIME headers that are not included in the predefined set of email headers known to Outside In. It is likely that most developers using Outside In will not need to specify user-defined MIME headers. Knowledge of the particular MIME headers present in the input email files is necessary in order to take advantage of this capability.

Default

Not used

10.6.11 SCCOPT_MAILHEADERHIDDEN

Along with SCCOPT_MAILHEADERVISIBLE, these options exist to allow the developer fine-grained control over what email headers are rendered. These options modify which email headers are displayed, and are based on the most recent setting of SCCOPT_WPEMAILHEADEROUTPUT. To implement a fully customized set of email headers for display, your code should first set the SCCOPT_WPEMAILHEADEROUTPUT option to select a baseline set of headers, then use these options to selectively add or remove headers from that set.

Setting a header to be visible means that it will be rendered when that header is found in a document of the appropriate type. Selected headers that are not present in the input file will not have any corresponding output created for them (no 'empty' headers will be created). Setting a header to be hidden means that it will not be rendered for the document types specified.

Scope

Global

Data Type

See SCCUTEMAILHEADERINFO structure under SCCOPT_MAILHEADERVISIBLE.

Default

Not used

10.6.12 SCCOPT_EXPORTEMAILATTACHMENTS

This option toggles whether or not email attachments will be output as PDF. For input files in all OIT-supported email formats that contain attachments, this option instructs the PDF Export process to export the contents of the attachments to PDF. The contents of the export are attached to the end of the email message so that only one PDF output file is produced. In addition, hyperlinks are provided that link to bookmarks marking the beginning of each attachment in the resulting PDF.

Data Type

VTBOOL

Data

- TRUE: Email attachments are output as PDF.
- FALSE: Email attachments are not included in the PDF.

Default

FALSE

10.6.13 SCCOPT_MARGIN_TEXT_FONT_NAME

This option lets you set the font to use for margin text.

Data Type

VTCWSTR (string for any valid CSS font name)

Default

Arial

10.6.14 SCCOPT_MARGIN_TEXT_FONT_SIZE

This option lets you set the font size to use for margin text.

Data Type

VTDWORD (increments of one-half point)

Default

9 pt.

10.6.15 SCCOPT_MARGIN_TEXT_LINE

This option lets you specify a text string to use for margin text.

Data Type

SCCEX_MARGINTEXTLINE

Default

None

10.6.16 SCCOPT_REDACTION_COLOR

This option provides the ability to specify the color used for a redaction rectangle (black or white) as well as the color used (black or white) for the redaction code. When the colors match, the redaction code will effectively be invisible. Settings should default to Black redactions with White codes if not explicitly set. The values may be set on each redaction individually, both in the UI and in the rendered output.

Data Type

SCCVWCOLORREF

Data

Any valid CSS color

10.6.17 SCCOPT_REDACTION_LABEL_FONT_NAME

This option sets the font name to be used for the redaction label.

Data Type

VTCWSTR (string for any valid CSS font name)

Default

Default display font

10.6.18 SCCOPT_REDACTION_LABEL_FONT_SIZE

This option lets you set the size of font to use for redaction labels. The font size may be reduced to allow text to fit within a redaction rectangle.

Data Type

DWORD (size in half points)

Default

9 pts.

10.6.19 SCCOPT_REDACTIONS_ENABLED

This option tells the export to format the output to be redaction-capable. In practical terms what this means is that all embeddings will be rasterized (routed through sccimg) so that a rectangle in an embedding is consistent across all output formats.

Data Type

Boolean

Default

False

10.6.20 SCCOPT_SHOW_REDACTION_LABELS

This option allows you to display redaction labels in your output.

Data Type
VTBOOL

Default

False (no labels)

10.7 Font Rendering

This section discusses font rendering options.

10.7.1 SCCOPT_DEFAULTPRINTFONT

This is an advanced option that casual users of PDF Export may ignore.

This option sets the font to use when the chunker-specified font is either excluded by SCCOPT_FONTFILTER or is not available on the system. It is also the font used when the font in the source file is not available on the system performing the conversion.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

SCCVWFONTSPECstructure

10.7.1.1 SCCVWFONTSPEC Structure

This structure is used by various options to specify a font.

SCCVWFONTSPEC is a C data structure defined in sccvw.h as follows:

```
typedef struct
   {
   VTTCHAR  szFace[40];
   VTWORD   wHeight;
   VTWORD   wAttr;
   VTWORD   wType;
   } SCCVWFONTSPEC,  * LPSCCVWFONTSPEC;
```

Parameters

- szFace: The name of the font. For example, "Helvetica Compressed." The default is "Arial", however this default is constrained by the fonts available on the system.
- wHeight: Size of the font in half points. For example, a value of 24 will produce a 12-point font. This size is only applied when the font size is not known. The default is 10-point, however this default is constrained by the font sizes available on the system.

- wAttr: The attributes of the font. This parameter is used primarily by the Oracle Outside In Viewer Technology and is currently ignored by PDF Export.
- wType: Should be set to 0.

10.7.2 SCCOPT_EMBEDFONTS

This option allows the developer to specify whether or not fonts should be embedded in the file. In order to comply with the PDF/A-1a spec, this option is forced to a value of TRUE when FI_PDFA is selected for the output type.

Handle Type

VTHDOC, VTHEXPORT

Scope

local

Data Type

VTBOOL

Data

A Boolean value indicating if fonts should be embedded.

Default Value

TRUE

10.7.3 SCCOPT_FONTDIRECTORY

This option allows the developer to specify one or more font directories where fonts are located for use by PDF Export. If multiple font directories are specified, they should be delimited by a colon on Linux and UNIX systems and a semi-colon on Windows systems.

This option must be set prior to performing any exports. Please note that PDF Export supports single TrueType fonts (*.ttf, *.TTF) and TrueType collections (*.ttc, *.TTC), not Windows bitmap fonts (*.fon, *.FON), or any other type of font. Also, PDF Export does not require case-sensitive font filenames on UNIX systems.

Note:

Please note that the maximum path size is 256 characters - paths longer than this will be truncated and will result in fonts not being discovered by PDF Export.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTLPBYTE

Data

A path to the fonts.

Default

NONE - the option must be set.

10.7.4 SCCOPT_FONTFILTER

This option allows the developer to specify a list of fonts to be included or excluded during the export process.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

FONTFILTERLIST Structure

Data

A structure containing the list of fonts and an attribute indicating whether the list is an inclusion list or exclusion list.

Default

All fonts included during the export process.

10.7.4.1 FONTFILTERLIST Structure

```
typedef struct FONTFILTERLISTtag
{
   BOOL            bExclude;
   PFONTNAMELIST   pFontList;
}FONTFILTERLIST;
```

Parameters

- bExclude: If true, then the accompanying font list is an exclusion list. If false, the list is an inclusion list.
- pFontList: Pointer to a FONTNAMELIST structure (see FONTNAMELIST Structure) that contains the names of the fonts to include or exclude.

10.7.4.2 FONTNAMELIST Structure

```
typedef struct FONTNAMELISTtag *PFONTNAMELIST;
typedef struct FONTNAMELISTtag
```

```
{
   BYTE            szFontName[SCCUT_FILENAMEMAX];
   PFONTNAMELIST   pNextFont;
}FONTNAMELIST;
```

Parameters

- szFontName: Name of font to include or exclude.
- pNextFont: Pointer to a FONTNAMELIST structure that contains the name of the next font to include or exclude. The pointer in the final structure in this linked list should point to NULL.

10.7.5 SCCOPT_PRINTFONTALIAS

This option sets or gets printer font aliases according to the SCCVWFONTALIAS structure.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

The SCCVWFONTALIAS structure.

10.7.5.1 SCCVWFONTALIAS Structure

This structure is used in the SCCOPT_PRINTFONTALIAS option.

SCCVWFONTALIAS is a C data structure defined in sccvw.h as follows:

```
typedef struct SCCVWFONTALIAStag
{
    VTDWORD dwSize;
    VTDWORD dwAliasID;
    VTDWORD dwFlags;
    VTWORD szwOriginal[ SCCVW_FONTNAMEMAX ];
    VTWORD szwAlias[ SCCVW_FONTNAMEMAX * SCCVW_MAXALIASES ]
} SCCVWFONTALIAS, * PSCCVWFONTALIAS;
```

Parameters

- dwSize: Must be set by the developer to sizeof(SCCVWFONTALIAS).
- dwAliasID: ID of the aliasing in the current list of aliases. In PDF Export, the default is that no alias is applied.
- dwFlags: The usage of these flags depends on whether this structure is being used with the DASetOption or DAGetOption message. It should be set to one of the following:
  - SCCVW_FONTALIAS_COUNT (DAGetOption): dwAliasID will be filled with the count of current font aliases for that device.

- SCCVW_FONTALIAS_ALIASNAME (DASetOption): The alias of szwAlias for szwOriginal will be used when szwOriginal is not available on the device. When a font alias is added to the list, this can affect the alias count. If an alias already exists for szwOriginal, the new szwAlias will replace it.
- SCCVW_FONTALIAS_ALIASNAME (DAGetOption): szwAlias will be filled if there is an alias in the alias list for the font in szwOriginal on that device.
- SCCVW_FONTALIAS_GETALIASBYID (DAGetOption): szwAlias and szwOriginal will be filled by the technology for the alias in the numbered slot identified by the ID.
- SCCVW_FONTALIAS_GETALIASID (DAGetOption): dwAliasID will be set for the font in szwOriginal. If none exists, the dwAliasID will be 0xFFFFFFF.
- SCCVW_FONTALIAS_REMOVEALIASBYID (DASetOption): The alias in that slot will be removed if one exists. When a font alias is removed from the list, this can affect the other alias IDs.
- SCCVW_FONTALIAS_REMOVEALIASBYNAME (DASetOption): The alias for the font szwOriginal will be removed from the alias list if one exists. When a font alias is removed from the list, this can affect the other alias IDs.
- SCCVW_FONTALIAS_REMOVEALL (DASetOption): The alias list will be cleared out and the count will be zero.
- SCCVW_FONTALIAS_USEDEFAULTS (DASetOption): This clears the existing alias list and sets it to a list of default aliases that is variable by platform.

- szwOriginal: This represents the original name of a font that will be mapped when this font is not available. This name should be a Unicode string.
- szwAlias: This represents the new name of a font that will be used as a replacement for the unmapped font named in szwOriginal. This name should be a Unicode string.

Data

A structure containing the font aliasing information.

Defaults

For defaults, please see Default Font Aliases for Windows defaults, and Default Font Aliases for UNIX defaults.

10.7.6 SCCOPT_FONTEMBEDPOLICY

This option determines whether or not to automatically embed Adobe Standard Base 14 fonts.

Handle Type

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

Value indicating which embedding policy to use. Must be one of the following:

- SCCFONTS_REDUCESIZE: do not embed Adobe Standard 14 fonts
- SCCFONTS_EMBEDALL: embed all fonts, including Adobe Standard 14 fonts

Default Value

SCCFONTS_REDUCESIZE

10.7.7 SCCOPT_RENDER_EMBEDDED_FONTS

This option allows you to disable the use of embedded fonts in PDF input files. If the option is set to TRUE, the embedded fonts in the PDF input will be used to render text; if the option is set to FALSE, the embedded fonts will not be used and the fallback is to use fonts available to Outside In to render text.

Handle Type

VTHDOC, VTHEXPORT

Scope

local

Data Type

VTBOOL

Data

A Boolean value indicating if embedded fonts should be rendered.

Default Value

TRUE

10.7.8 SCCOPT_STROKE_TEXT

This option is used to stroke out (display as graphical primitives) text in an AutoCAD file. Setting this option to FALSE would improve performance, but the visual fidelity may be compromised.

- If the export for the conversion is text only, text is never stroked out.
- If the export is not text only, and the drawing is perspective, text will always be stroked out (regardless of this option). This is due to the fact that in non-text only situations visual fidelity is of importance, and handling of textual objects in perspective drawings is more accurate with stroked out text. If the conversion is non-text only and the drawing is not perspective, this option determines if text should be stroked.

Note that when this option is TRUE, some special characters appear as asterisks or question marks due to limited support of characters for stroking out text.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTBOOL

Default

TRUE

10.8 Watermarks

This section discusses watermark options.

You can use any raster formats supported by OIT as watermarks. By default, the watermark image is centered in the middle of the target image.

10.8.1 SCCOPT_GRAPHIC_WATERMARK_OPACITY

This option must be set and defined to turn on watermarking support. A value of 0 is default and turns watermarking off. Values (1 to 255) specify a level of transparency. 255 is fully opaque. 1 is very transparent.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

A value between 1 and 255. The value of 0 turns watermarking off.

Default

0

10.8.2 SCCOPT_GRAPHIC_WATERMARK_SCALETYPE

Indicates whether to scale the watermark image or not. A value of SCCGRAPHIC_WATERMARK_SCALETYPE_NONE means that we blend the watermark onto the original graphic with the original watermark height and width. This is the default value. A value of

SCCGRAPHIC_WATERMARK_SCALETYPE_PERCENT means that we will scale the watermark to be a certain percentage of the output page size.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

- SCCGRAPHIC_WATERMARK_SCALETYPE_NONE: When set means no scaling of the watermark image is to be done.
- SCCGRAPHIC_WATERMARK_SCALETYPE_PERCENT: When set means that the watermark image is to be scaled to a percentage of its size. The percentage that is used is set by the SCCOPT_GRAPHIC_WATERMARK_SCALEPERCENT option.

Default

SCCGRAPHIC_WATERMARK_SCALETYPE_NONE

10.8.3 SCCOPT_GRAPHIC_WATERMARK_SCALEPERCENT

Active when SCCOPT_GRAPHIC_WATERMARK_SCALETYPE is set to SCCGRAPHIC_WATERMARK_SCALETYPE_PERCENT. Values (1 to 100) scale the watermark to be a specified percent of its original size. A value of 100 (default) overlays the target image with the watermark image at its original size; e.g., if the original graphic watermark is 4x4 and the target image is 6x8, the graphic watermark will be scaled to 4x4 to overlay the target image.

Handle Types

VTHDOC, VTHEXPORT

Scope

Local

Data Type

VTDWORD

Data

Values of 1 to 100 scale the watermark image to a percentage of the watermark image's size.

Default

100

10.9 Callbacks

This section discusses callback options.

10.9.1 SCCOPT_EX_CALLBACKS

This is an advanced option that casual users of PDF Export may ignore.

This option is used to disable callbacks being made from PDF Export. Callbacks that are disabled will behave as if they were made and the developer had returned SCCERR_NOTHANDLED.

The option takes a VTDWORD field of flags. When the flag is set, the callback is enabled. By default, all callbacks are enabled. You can activate multiple callbacks by bitwise OR-ing them together. You can also disable multiple callbacks by bitwise &-ing the SCCEX_CALLBACKFLAG_ALLENABLED value with the one's complement of the corresponding callback flags. The following #defines are to be used for enabling the various callbacks:

In addition, the following two special values are available:

- SCCEX_CALLBACKFLAG_ALLDISABLED: Disables the receipt of all callbacks. Additionally, bitwise OR-ing this value with one or more flags enables the corresponding callbacks. For example, SCCEX_CALLBACKFLAG_ALTLINK | SCCEX_CALLBACKFLAG_CREATENEWFILE enables the ALTLINK and CREATENEWFILE callbacks, but disables all others.
- SCCEX_CALLBACKFLAG_ALLENABLED: Enables the receipt of all callbacks. Additionally, bitwise &-ing this value with the one's complement of one or more flags disables the corresponding callbacks. For example, SCCEX_CALLBACKFLAG_ALLENABLED& (~SCCEX_CALLBACKALTLINK & ~SCCEX_CALLBACKFLAG_CREATENEWFILE) disables the ALTLINK and CREATENEWFILE callbacks, but enables all others.

Handle Types

VTHDOC

Scope

Local

Data Type

VTDWORD

Data

One or more of the valid flags, bitwise OR-ed together

Default

- SCCEX_CALLBACKFLAG_ALLENABLED: All callbacks are available to the developer.

10.9.2 SCCOPT_EX_UNICODECALLBACKSTR

This option determines the format of strings used in the callback functions. For those structures that contain a field of type BYTE or LPBYTE, a comparable structure has been added which has a similar field of type WORD or LPWORD. These structures will have the same name as the original structure, with the addition of a "W" at the end.

When this option is set to TRUE, any time a callback uses a structure with a string, it will use the new structure. Also, any strings that the callback function returns will be expected to follow the same guidelines. If the option is set to FALSE, all callbacks will use single-byte character strings.

For example, if this option is set to TRUE, and the EX_CALLBACK_ID_CREATENEWFILE callback is called, the pExportData parameter to the callback will point to an EXURLFILEIOCALLBACKDATAW structure. If the option is set to FALSE, the pCommandOrInfoData parameter will point to an EXURLFILEIOCALLBACKDATA structure.

This option should be set before EXOpenExport is called.

Handle Types

VTHDOC

Scope

Local

Data Type

VTBOOL

Data

One of the following values:

- TRUE: Use Unicode strings in callbacks.
- FALSE: Do not use Unicode strings in callbacks.

Default

FALSE

10.10 File System

This section discusses file system options.

10.10.1 SCCOPT_IO_BUFFERSIZE

This set of three options allows the user to adjust buffer sizes to tailor memory usage to the machine's ability. The numbers specified in these options are in kilobytes. These are advanced options that casual users of PDF Export may ignore.

Handle Type

NULL, VTHDOC

Scope

Global

Data Type

SCCBUFFEROPTIONS Structure

Data

A buffer options structure

10.10.1.1 SCCBUFFEROPTIONS Structure

```
typedef struct SCCBUFFEROPTIONStag
{
   VTDWORD dwReadBufferSize;    /* size of the I/O Read buffer
                                in KB */
   VTDWORD dwMMapBufferSize;    /* maximum size for the I/O
                                Memory Map buffer in KB */
   VTDWORD dwTempBufferSize;    /* maximum size for the memory-
                                mapped temp files in KB */
   VTDWORD dwFlags;             /* use flags */
} SCCBUFFEROPTIONS, *PSCCBUFFEROPTIONS;
```

Parameters

- dwReadBufferSize: Used to define the number of bytes that will read from disk into memory at any given time. Once the buffer has data, further file reads will proceed within the buffer until the end of the buffer is reached, at which point the buffer will again be filled from the disk. This can lead to performance improvements in many file formats, regardless of the size of the document.
- dwMMapBufferSize: Used to define a maximum size that a document can be and use a memory-mapped I/O model. In this situation, the entire file is read from disk into memory and all further I/O is performed on the data in memory. This can lead to significantly improved performance, but note that either the entire file can be read into memory, or it cannot. If both of these buffers are set, then if the file is smaller than the dwMMapBufferSize, the entire file will be read into memory; if not, it will be read in blocks defined by the dwReadBufferSize.
- dwTempBufferSize: The maximum size that a temporary file can occupy in memory before being written to disk as a physical file. Storing temporary files in memory can boost performance on archives, files that have embedded objects or attachments. If set to 0, all temporary files will be written to disk.
- dwFlags
  - SCCBUFOPT_SET_READBUFSIZE 1
  - SCCBUFOPT_SET_MMAPBUFSIZE 2
  - SCCBUFOPT_SET_TEMPBUFSIZE 4

  To set any of the three buffer sizes, set the corresponding flag while calling dwSetOption.

Default

The default settings for these options are:

- #define SCCBUFOPT_DEFAULT_READBUFSIZE 2: A 2KB read buffer.
- #define SCCBUFOPT_DEFAULT_MMAPBUFSIZE 8192: An 8MB memory-map size.
- #define SCCBUFOPT_DEFAULT_TEMPBUFSIZE 2048: A 2MB temp-file limit.

Minimum and maximum sizes for each are:

- SCCBUFOPT_MIN_READBUFSIZE 1: Read one Kbyte at a time.
- SCCBUFOPT_MIN_MMAPBUFSIZE 0: Don't use memory-mapped input.
- SCCBUFOPT_MIN_TEMPBUFSIZE 0: Don't use memory temp files
- SCCBUFOPT_MAX_READBUFSIZE 0x003fffff:
  SCCBUFOPT_MAX_MMAPBUFSIZE 0x003fffff
- SCCBUFOPT_MAX_TEMPBUFSIZE 0x003fffff: These maximums correspond to the largest file size possible under the 4GB DWORD limit.

10.10.2 SCCOPT_TEMPDIR

From time to time, the technology needs to create one or more temporary files. This option sets the directory to be used for those files.

It is recommended that this option be set as part of a system to clean up temporary files left behind in the event of abnormal program termination. By using this option with code to delete files older than a predefined time limit, the OEM can help to ensure that the number of temporary files does not grow without limit.

Note:

This option will be ignored if SCCOPT_REDIRECTTEMPFILE is set.

Handle Types

NULL, VTHDOC

Scope

Global

Data Type

SCCUTTEMPDIRSPEC structure

10.10.2.1 SCCUTTEMPDIRSPEC Structure

This structure is used in the SCCOPT_TEMPDIR option.

SCCUTTEMPDIRSPEC is a C data structure defined in sccvw.h as follows:

```
typedef struct SCCUTTEMPDIRSPEC
{
   VTDWORD   dwSize;
```

```
   VTDWORD   dwSpecType;
   VTBYTE    szTempDirName[SCCUT_FILENAMEMAX];
} SCCUTTEMPDIRSPEC,  * LPSCCUTTEMPDIRSPEC;
```

There is currently a limitation. dwSpecType describes the contents of szTempDirName. Together, dwSpecType and szTempDirName describe the location of the source file. The only dwSpecType values supported at this time are:

- IOTYPE_ANSIPATH: Windows only. szTempDirName points to a NULL-terminated full path name using the ANSI character set and FAT 8.3 (Win16) or NTFS (Win32 and Win64) file name conventions.
- IOTYPE_UNICODEPATH: Windows only. szTempDirName points to a NULL-terminated full path name using the Unicode character set and NTFS file name conventions. Note that the length of the path name is limited to SCCUT_FILENAMEMAX bytes, or (SCCUT_FILENAMEMAX / 2) double-byte Unicode characters.
- IOTYPE_UNIXPATH: UNIX platforms only. szTempDirName points to a NULL-terminated full path name using the system default character set and UNIX path conventions.

Specifically not supported at this time is IOTYPE_REDIRECT.

Users should also note that temporary files created by the technology are not subject to callbacks (such as EX_CALLBACK_ID_CREATENEWFILE) normally made when files are created.

Parameters

- dwSize: Set to sizeof(SCCUTTEMPDIRSPEC).
- dwSpecType: IOTYPE_ANSIPATH, IOTYPE_UNICODEPATH, or IOTYPE_UNIXPATH
- szTempDirName: The path to the directory to use for the temporary files. Note that if all SCCUT_FILENAMEMAX bytes in the buffer are filled, there will not be space left for file names.

Default

The system default directory for temporary files. On UNIX systems, this is the value of environment variable $TMP. On Windows systems, it is the value of environment variable %TMP%.

10.10.3 SCCOPT_DOCUMENTMEMORYMODE

This option determines the maximum amount of memory that the chunker may use to store the document's data, from 4 MB to 1 GB. The more memory the chunker has available to it, the less often it needs to re-read data from the document.

Handle Types

NULL, VTHDOC

Scope

Global

Data Type

VTDWORD

Parameters

- SCCDOCUMENTMEMORYMODE_SMALLEST (4MB)
- SCCDOCUMENTMEMORYMODE_SMALL (16MB)
- SCCDOCUMENTMEMORYMODE_MEDIUM (64MB)
- SCCDOCUMENTMEMORYMODE_LARGE (256MB)
- SCCDOCUMENTMEMORYMODE_LARGEST (1 GB)

Default

SCCDOCUMENTMEMORYMODE_LARGE (256MB)

10.10.4 SCCOPT_REDIRECTTEMPFILE

This option is set when the developer wants to use redirected IO to completely take over responsibility for the low level IO calls of the temp file.

Handle Types

NULL, VTHDOC

Scope

Global (not persistent)

Data Type

VTLPVOID: pCallbackFunc

Function pointer of the redirect IO callback.

Redirect call back function:

```
typedef
{
     VTDWORD (* REDIRECTTEMPFILECALLBACKPROC)
     (HIOFILE *phFile,
     VTVOID *pSpec,
     VTDWORD dwFileFlags);
```

There is another option to handle the temp directory, SCCOPT_TEMPDIR. Only one of these two can be set by the developer. The SCCOPT_TEMPDIR option will be ignored if SCCOPT_REDIRECTTEMPFILE is set. These files may be safely deleted when the Close function is called.

Part III

Using the Java API

This section provides details about using the SDK with the Java API.

Part III contains the following chapters:

11

Introduction to the Java API

This chapter provides an introduction to the Java API for PDF Export.

The Java API is an add-on to the Outside In Export SDKs that enables developers to use Java to create applications using Outside In Technology.

This chapter covers the following topics:

11.1 Requirements

To use the API, the following set of modules and tools are required:

- Java JDK 6 or later
- The Outside In developer's redistributable modules for your product(s)
- The API libraries:
  - oilink.jar - The Java library to access the Outside In technologies
  - oilink (on Unix)/oilink.exe (on Windows) - The bridge modules between Java and the C-APIs.

All of the Outside In modules should be in the same directory as oilink.jar.

The SDK includes sample source code to demonstrate how such web applications may be written. These sample applications are written as simply and generically as possible, and will not fill all of the needs of your particular application. They are intended for instructional purposes only.

11.2 Getting Started

There are two steps in developing applications using the APIs. In the first step, you configure the environment to create your application (typical programming tasks not directly related to these APIs); and in the second step, you generate code to utilize the functionality of these libraries.

11.2.1 Configure the Environment

To set up the environment to create a Java application, you need to add the oilink.jar library to your project. (This can be done in Eclipse in the Project Properties dialog by selecting *Java Build Path properties > Libraries tab > Add external JARs > browse to oilink.jar*.)

11.2.2 Generate Code

Sample application code included with the SDK, OITSample, is a minimal demonstration of how to use this API.

All the functionality required to perform a conversion is provided in an Exporter object. The basic process of exporting a file involves the following tasks:

1. Create an Exporter object.
2. Configure the export.
3. Set the source and primary destination files.
4. Set the output type.
5. (Optional) Provide a callback handler.
6. Run the export.

Tasks 2 through 5 can be done in any order between the first and last task.

11.2.2.1 Create an Exporter Object

To obtain access to the Outside In functionality, you should call the utility function in the "OutsideIn" class. This will provide you an instance of an Exporter Object.

```
Exporter exporter = OutsideIn.newLocalExporter();
```

11.2.2.2 Configure the Output

The Outside In API is highly configurable, and presents numerous options to fine-tune the way a document is exported. Each option has a "set" and "get" method to set or retrieve the currently set value.

```
exporter.setPerformExtendedFI(true);
int timezoneOffset = exporter.getTimeZoneOffset();
```

11.2.2.3 Set the Source and Primary Destination Files

You are required to specify the source file and the destination file. This is done similarly to setting options using "set" methods.

```
exporter.setSourceFile(inputFile);
exporter.setDestinationFile(outputFile);
```

There are other options that can be set at this time to specify the way to handle the input file, such as providing a SourceFormat to provide a mechanism to handle the input file in a different format than that which it is identified as.

The API also supports opening certain types of embedded documents from within an input file. For example, a .zip file may contain a number of embedded documents; and an email message saved as a .msg file may contain attachments. The API provides the means of opening these types of embedded documents. This can be done by opening the parent document and then the embedded document can be opened through this exporter object.

```
// subdocId is the sequential number of the node in the archive file
Exporter exporterNode = exporter.newArchiveNodeExporter(subdocId);
```

11.2.2.4 Set the Output Type

In this step, you specify the output format.

```
exporter.setDestinationFormat(FileFormat.FI_PDF);
```

11.2.2.5 Provide a Callback Handler

Outside In Technology provides callbacks that allow the developer to intervene at critical points in the export process. To respond to these callbacks, you have to subscribe to any messages that you are interested in by overriding the message handlers from the Callback class. After creating an object of this class, set the callback option to this object and the messages will be passed to your object.

```
class CallbackHandler extends Callback
{
  … // implementation of messages to handle - described in the API documentation
}
CallbackHandler callback = new CallbackHandler();
exporter.setCallbackHandler(callback);
```

11.2.2.6 Run the Export

After all the previous steps are completed, you can produce the desired output.

```
exporter.export();
```

12

PDF Export Java Classes

This chapter describes the PDF Export Java classes.

The following classes are covered:

12.1 Annotation Class

Annotation is an abstract base class for the Annotation objects.

Namespace

com.oracle.outsidein.annotations

Accessors

- Height (long) Height of area in coordinates or rows

```
void setHeight(long)
long getHeight()
```

- Left (long) Leftmost coordinate or column

```
void setLeft(long)
long getLeft()
```

- Opacity (float) Opacity of the annotation. Range 0.0 - 1.0; setting opacity to 0 makes the annotation invisible

```
void setOpacity(float) throws OutsideInException
float getOpacity()
```

- SectionIndex (long) 0-based page/sheet/image/slide index

```
void setSectionIndex(long)
long getSectionIndex()
```

- Top (long) Top coordinate or row

```
void setTop(long)
long getTop()
```

- Units (Annotation.UnitTypeValue) Unit type

```
void setUnits(Annotation.UnitTypeValue)
Annotation.UnitTypeValue getUnits()
```

- UserId (long) User Data

```
void setUserId(long)
long getUserId()
```

- Width (long) Width of area in coordinates or columns

```
void setWidth(long)
long getWidth()
```

Annotation.UnitTypeValue Enumeration

The UnitTypeValue is an enumeration of the various unit types that annotation positions can be described in.

- Pixels: Units specified in Pixels
- Twips: Units specified in Twips (1/1440th of an inch)
- Cells: Units specified in cell positions

12.2 ArchiveNode Class

ArchiveNode provides information about an archive node. This is a read-only class where the technology fills in all the values.

Namespace

com.oracle.outsidein

Accessors

- boolean isFolder() - A value of true indicates that the record is an archive node.
- int getFileSize() - File size of the archive node
- java.util.Date getTime() - Time the archive node was created
- int getNodeNum() - Serial number of the archive node in the archive
- String getNodeName() - The name of the archive node

12.3 Callback Class

Callback messages are notifications that come from Outside In during the export process, providing information and sometimes the opportunity to customize the generated output.

Namespace

com.oracle.outsidein

To access callback messages, your code must create an object that inherits from Callback and pass it through the API's SetCallbackHandler method. Your object can implement methods that override the default behavior for whichever methods your application is interested in.

Callback has two methods that you can override: createNewFile and newFileInfo.

12.3.1 createNewFile

```
CreateNewFileResponse createNewFile( FileFormat parentOutputId,  FileFormat outputId,
   AssociationValue association, String path)  throws IOException
```

This callback is made any time a new output file needs to be generated. This gives the developer the chance to affect where the new output file is created, how it is named, and the URL (if any) used to reference the file.

Parameters

- parentOutputId: File format identifier of the parent file
- outputId: File format identifier of the file created
- association: An AssociationValue that describes relationship between the primary output file and the new file.
- path: Full path of the file to be created

Return Value

To take action in response to this notification, return a CreateNewFileResponse object with the new file information. If you wish to accept the defaults for the path and URL, you may return null.

12.3.1.1 CreateNewFileResponse Class

This is a class to define a new output file location in response to a CreateNewFile callback. If you do not wish to change the path to the new output file, you may use the

path as received. If you do not wish to specify the URL for the new file, you many specify it as null.

Constructor

```
CreateNewFileResponse(File file, String url) throws IOException
```

- file: File object containing the full path to the new file
- url: A new URL that references the newly created file. This parameter can be null.

```
CreateNewFileResponse(SeekableByteChannel6 redirect, String url) throws IOException
```

- redirect: Object that will be written to as the destination of the transform
- url: A new URL that references the newly created file.This parameter can be null.

AssociationValue Enumeration

This enumeration defines, for a new file created by an export process, the different possible associations between the new file and the primary output file. Its value may be one of the following:

- ROOT - indicates the primary output file
- CHILD - a new file linked (directly or indirectly) from the primary output file
- SIBLING - indicates new files not linked from the primary output file
- COPY - the file was copied as a part of a template macro operation.
- REQUIREDNAME - not used

Note that some of these relationships will not be possible in all Outside In Export SDKs.

12.3.2 newFileInfo

```
void newFileInfo( FileFormat parentOutputId, FileFormat outputId,
    AssociationValue association, String path, String url) throws IOException
```

This informational callback is made just after each new file has been created.

Parameters

- parentOutputId: File format identifier of the parent file
- outputId: File format identifier of the file created
- association: An AssociationValue that describes relationship between the primary output file and the new file.
- path: Full path of the file created
- url: URL that references the newly created file

Example

Here is a basic callback handler that notifies an application that it has received newFileInfo notifications.

```
public static class CallbackHandler extends Callback
{
  myApplication m_theApp;

  public CallbackHandler( myApplication app )
  {
    m_theApp = app;
  }

  public void newFileInfo(FileFormat parentOutputId,
      FileFormat outputId, AssociationValue association,
      String path, String url) throws IOException
  {
    if( association == AssociationValue.ROOT )
      m_theApp.primaryOutputIsReady(true);

    m_theApp.newOutputFile(path);
  }
}
```

12.3.3 openFile

```
OpenFileResponse openFile(FileTypeFalue fileType, String fileName) throws
IOException
```

This callback is made any time a new file needs to be opened.

Parameters

- fileType: Type of file being requested to be opened
- fileName: Name of the file to be opened

Return Value

To take action in response to this method, return an OpenFileResponse object.

FileTypeValue Enumeration

This enumeration defines the type of file being requested to be opened. Its value may be one of the following:

- INPUT: File to be opened (path unknown)
- TEMPLATE: Template file to be opened
- PATH: Full file name of the file to be opened
- OTHER: Not used

12.3.3.1 OpenFileResponse Class

This is a class to define a new file or redirected I/O object in response to an openFile() callback.

Constructors

```
OpenFileResponse(File file)
```

- file: File object with full path to the new file

```
OpenFileResponse(SeekableByteChannel6 redirect)
```

- redirect: A redirected I/O object to which the file data will be written

12.3.4 createTempFile

```
CreateTempFileResponse createTempFile() throws IOException
```

This callback is made any time a new temporary file needs to be generated. This gives the developer the chance to handle the reading and writing of the temporary file.

Return Value

To take action in response to this notification, return a CreateTempFileResponse object with the temporary file information.

12.3.4.1 CreateTempFileResponseClass

This is a class to define a new redirected I/O object in response to a createTempFile() callback.

Constructors

```
CreateTempFileResponse(SeekableByteChannel6 redirect)
```

- redirect: A redirected I/O object to which the file data will be written and read from

12.4 ColorInfo Class

ColorInfo is a class to define a color or to use a default color in appropriate cases.

Namespace

com.oracle.outsidein

Constructors

```
ColorInfo()
```

Initializes a ColorInfo object to use the default color.

```
public ColorInfo(byte red,
   byte green,
   byte blue)
```

Initializes a ColorInfo object with the specified RGB values.

Accessors

- byte getBlue() - Blue component of the color
- byte getGreen() - Green component of the color

- byte getRed() - Red component of the color
- boolean isDefaultColor() - Returns true if the default color is used

12.5 Exporter Interface

This section describes the properties and methods of Exporter.

All of Outside In's Exporter functionality can be accessed through the Exporter Interface. The object returned by OutsideIn class is an implementation of this interface. This class derives from the Document Interface, which in turn is derived from the OptionsCache Interface.

Namespace

com.oracle.outsidein

Methods

- **getExportStatus**

  ```
  ExportStatus getExportStatus()
  ```

  This function is used to determine if there were conversion problems during an export. The ExportStatus object returned may have information about sub-document failures, areas of a conversion that may not have high fidelity with the original document. When applicable the number of pages in the output is also provided.

- **newSubDocumentExporter**

  ```
  Exporter newSubDocumentExporter(
        int SubDocId,
        SubDocumentIdentifierTypeValue idType
  ) throws OutsideInException
  ```

  Create a new Exporter for a subdocument.

  SubDocId: Identifier of the subdocument

  idType: Type of subdocument

  SubDocumentIdentifierTypeValue: This is an enumeration for the type of subdocument being opened.

  – XMLEXPORTLOCATOR: Subdocument to be opened is based on output of XML Export (SubdocId is the value of the object_id attribute of a locator element.)

  – ATTACHMENTLOCATOR: Subdocument to be opened is based on the locator value provided by the one of the Export SDKs.

  – EMAILATTACHMENTINDEX: Subdocument to be opened is based on the index of the attachment from an email message. (SubdocId is the zero-based index of the attachment from an email message file. The first attachment presented by OutsideIn has the index value 0, the second has the index value 1, etc.)

  Returns: A new Exporter object for the subdocument

- **newSubObjectExporter**

```
Exporter newSubObjectExporter(
      SubObjectTypeValue objType,
      int data1,
      int data2,
      int data3,
      int data4
) throws OutsideInException
```

Create a new Exporter for a subobject.

objType: Type of subobject

data1: Data identifying the subobject from SearchML

data2: Data identifying the subobject from SearchML

data3: Data identifying the subobject from SearchML

data4: Data identifying the subobject from SearchML

Returns: A new Exporter object for the subobject

SubObjectTypeValue: An enumeration to describe the type of SubObject to open.

– LinkedObject

– EmbeddedObject

– CompressedFile

– Attachment

- **newArchiveNodeExporter**

```
Exporter newArchiveNodeExporter(
      int dwRecordNum
) throws OutsideInException
```

Create a new Exporter for an archive node. You may get the number of nodes in an archive using getArchiveNodeCount. The nodes are numbered from 0 to getArchiveNodeCount -1.

dwRecordNum: The number of the record to retrieve information about. The first node is node 0 and the total number of nodes may be obtained from getArchiveNodeCount.

Returns: A new Exporter object for the archive node

- **newArchiveNodeExporter with Search Export Data**

```
Exporter newArchiveNodeExporter(
      int flags,
      int params1,
      int params2
) throws OutsideInException
```

Create a new Exporter for an archive node. To use this function, you must first process the archive with Search Export and save the Node data for later use in this function.

Flags: Special flags value from Search Export

Params1: Data1 from Search Export

Params2: Data2 from Search Export

Returns: A new Exporter object for the archive node

- **export**

```
void export() throws OutsideInException
```

Perform the conversion and close the export process keeping the source document open.

```
void export(boolean bLeaveSourceOpen) throws OutsideInException
```

Perform the conversion and keep the source document open or close it based on the value of bLeaveSourceOpen.

bLeaveSourceOpen: If set to true, keeps the source document open for next export process.

Note: Before Release 8.5.3, calling Export() with no parameters, would leave the source document open. The default behavior starting with Release 8.5.3 is to close the document after exporting the file. If you would like to keep the file open for other conversions, use this method with "bLeaveSourceOpen" set to true.

---

setDestinationFile

```
OptionsCache setDestinationFile(
      String filename
) throws OutsideInException
```

Set the location of the destination file

filename: Full path to the destination file

Returns: The updated options object

- **setExportTimeout**

```
OptionsCache setExportTimeout(int millisecondsTimeout)
```

This method sets the time that the export process should wait for a response from the Outside In export engine to complete the export of a document, setting an upper limit on the time that will elapse during a call to export(). If the specified length of time is reached before the export has completed, the export operation will be terminated and an OutsideInException will be thrown. If this option is not set, the default timeout is 5 minutes.

- **newLocalExporter**

```
static Exporter newLocalExporter(Exporter source)
```

This method creates and returns an instance of an Exporter object based on the source Exporter. All the options of source are copied to the new Exporter. The source and destination file information will not be copied.

12.5.1 Annotatable Interface

All of the Outside In annotation-related methods are accessed through the Annotatable Interface.

NameSpace

com.oracle.outsidein.annotations

Methods

- **addTextHighlight**

```
void addTextHighlight(
      HighlightTextAnnotation textanno
)
```

Highlight text in a document.

textanno: A HighlightTextAnnotation object with information about the text to highlight

- **addTextHighlight and Add Annotation Properties**

```
void addTextHighlight(
      HighlightTextAnnotation textanno,
      Map<String, String> Properties
)
```

Highlight text in a document and associate properties with the annotation.

textanno: A HighlightTextAnnotation object with information about the text to highlight

Properties: Key value pairs of name/value of properties associated with this annotation

- **addTextHighlight and Associate a Comment**

```
void addTextHighlight(
      HighlightTextAnnotation textanno,
      String Comment
)
```

Highlight text in a document and associate a comment with the highlight.

textanno: A HighlightTextAnnotation object with information about the text to highlight

Comment: Comment text to associate with the annotation

- **addTextHighlight with Comment and Properties to Annotation**

```
void addTextHighlight(
      HighlightTextAnnotation textanno,
      String Comment,
      Map<String, String> Properties
)
```

Highlight text in a document and provide comment text and properties to be associated with the annotation.

textanno: A HighlightTextAnnotation object with information about the text to highlight

Comment: Comment text to associate with the annotation

Properties: Key value pairs of name/value of properties associated with this annotation

12.5.2 Document Interface

All of the Outside In document-related methods are accessed through the Document Interface.

Namespace

com.oracle.outsidein

Methods

- **close**

```
void close()
```

Closes the currently open document.

- **getArchiveNodeCount**

```
int getArchiveNodeCount() throws OutsideInException
```

Retrieves the number of nodes in an archive file.

Returns the number of nodes in the archive file or 0 if the file is not an archive file.

- **getFileId**

```
FileFormat getFileId(FileIdInfoFlagValue dwFlags) throws OutsideInException
```

Gets the format of the file based on the technology's content-based file identification process.

dwFlags: Option to retrieve the file identification pre-Extended or post-Extended Test

Returns the format identifier of the file.

- **getArchiveNode**

```
ArchiveNode getArchiveNode(int nNodeNum) throws OutsideInException
```

Retrieves information about a record in an archive file. You may get the number of nodes in an archive using getArchiveNodeCount.

nNodeNum: The number of the record to retrieve information about. The first node is node 0.

Return Value: An ArchiveNode object with the information about the record

- **saveArchiveNode**

```
void saveArchiveNode(
      int nNodeNum,
      File file) throws OutsideInException
```

Extracts a record in an archive file to disk.

nNodeNumType: The number of the record to retrieve information about. The first node is node 0.

file: The destination file to which the file will be extracted.

- **saveArchiveNode with Search Export Flags**

```
void saveArchiveNode(
      int flags,
      int params1,
      int params2,
      File file) throws OutsideInException
```

Extracts a record in an archive file to disk without reading the data for all nodes in the archive in a sequential order. To use this function, you must first process the archive with Search Export and save the Node data for later use in this function.

flagsType: Special flags value from Search Export

params1: Data1 from Search Export

params2: Data2 from Search Export

file: The destination file to which the file will be extracted

- **setSourceFile**

```
OptionsCache setSourceFile( String filename) throws OutsideInException
```

Set the source document.

filename: Full path of the source document

Returns: The options cache object associated with this document

12.5.3 SeekableByteChannel6 Interface

Enables API users to handle I/O for the source and destination documents. Implement this interface to control I/O operations such as reading, writing, and seeking. This interface mimics the java.nio.channels.SeekableByteChannel interface which is only available in Java 7 and later. Note that SeekableByteChannel6 will be removed in favor of java.nio.channels.SeekableByteChannel if support for Java 6 is dropped in a future release of the Outside In Java API. Until then, this interface must be used if redirected I/O is required.

Namespace

com.oracle.outsidein

Methods

- **Get position**

```
long position()
```

Returns this channel's position.

- **Set position**

```
SeekableByteChannel6 position(long newPosition)
```

Sets this channel's position.

- **read**

```
int read(java.nio.ByteBuffer dst)
```

Reads a sequence of bytes from this channel into the given buffer. Bytes are read starting at this channel's current position, and then the position is updated with the number of bytes actually read.

- **size**

```
long size()
```

Returns the current size of the entity to which this channel is connected.

- **truncate**

```
SeekableByteChannel6 truncate(long size)
```

Truncates the entity, to which this channel is connected, to the given size. Never invoked by Outside In and may be implemented by just returning this.

- **write**

```
int write(java.io.nio.ByteBuffer src)
```

Writes a sequence of bytes to this channel from the given buffer. Bytes are written starting at this channel's current position. The entity to which the channel is connected is grown, if necessary, to accommodate the written bytes, and then the position is updated with the number of bytes actually written.

- **close**

```
void close()
```

Closes this channel. If this channel is already closed then invoking this method has no effect.

- **isOpen**

```
boolean isOpen()
```

Tells whether or not this channel is open.

12.5.4 OptionsCache Class

This section describes the OptionsCache class.

The options that configure the way outputs are generated are accessed through the OptionsCache class.

All of the options described in the following subsections are available through this interface. Other methods in this interface are described below.

Namespace

com.oracle.outsidein.options

Methods

- OptionsCache setSourceFile(File file) throws OutsideInException

  Sets the source document to be opened.

  file: Full path to source file

- OptionsCache setSourceFile(SeekableByteChannel6 redirect) throws OutsideInException

  Sets an object that implements SeekableByteChannel6 to be used as the source document. Exporting a file using this method may have issues with files that require the original name of the file (examples: if the extension of the file is needed for identification purposes or if the name of a secondary file depends on the name/path of the original source file).

  redirect: Object implementing SeekableByteChannel6 to be used to read the source data containing the input file

- OptionsCache setSourceFile(SeekableByteChannel6 redirect, String filename) throws OutsideInException

  Sets an object that implements SeekableByteChannel6 to be used as the source document and provides information about the filename.

  redirect: Object implementing SeekableByteChannel6 to be used to read the source data containing the input file

  filename: A fully qualified path or file name that may be used to derive the extension of the file or name of a secondary file that is dependent on the name/path of the source file

- OptionsCache addSourceFile(File file) throws OutsideInException

  Sets the next source document file to be exported in sequence. This allows multiple documents to be exported to the same output destination.

  file: Full path to source file

- OptionsCache addSourceFile(SeekableByteChannel6 redirect)

  Set a redirected channel as the next source document to be exported to the original destination file. This method has the same limitations as the similar setSourceFile(SeekableByteChannel6 redirect) method.

- OptionsCache addSourceFile(SeekableByteChannel6 redirect, String Filename)

  Set a redirected channel as the next source document to be exported to the original destination file. The file name provided is used as in the method setSourceFile(SeekableByteChannel6 redirect, String Filename)

- OptionsCache setSourceFormat(FileFormat fileId)

  Sets the source format to process the input file as, ignoring the algorithmic detection of the file type.

  fileId: the format to treat the input document as.

- OptionsCache setDestinationFile(File file) throws OutsideInException

  Sets the location of the destination file.

  file: Full path to the destination file

- OptionsCache setDestinationFile(SeekableByteChannel6 redirect) throws OutsideInException

  Sets an object that implements SeekableByteChannel6 to be used as the destination document. An Exporter.export() operation will write the output data to the provided SeekableByteChannel6 object.

  redirect: Object implementing SeekableByteChannel6 to be used as the destination document written during an Exporter.export() operation

- OptionsCache setDestinationFormat(FileFormat fileId)

  Sets the destination file format to which the file should be converted.

  fileId: the format to convert the input document(s) to.

- OptionsCache setCallbackHandler(Callback callback)

  Sets the object to use to handle callbacks.

  callback: the callback handling object.

- OptionsCache setPasswordsList(List<String> Passwords)

  Provides a list of strings to use as passwords for encrypted documents. The technology will cycle through this list until a successful password is found or the list is exhausted.

  Passwords: List of strings to be used as passwords.

- OptionsCache setLotusNotesId(String NotesIdFile)

  Sets the Lotus Notes ID file location.

  NotesIdFile: Full path to the Notes ID file.

- OptionsCache setOpenForNonSequentialAccess(boolean bOpenForNonSequentialAccess)

  Setting this option causes the technology to open archive files in a special mode that is only usable for non-sequential access of nodes.

  bOpenForNonSequentialAccess : If set to true would open the archive file in the special access mode. Note that turning this flag on a non-archive file will throw an exception at RunExport time.

12.5.4.1 AppendEMailAttachments

This option toggles whether or not email attachments will be output as PDF. For input files in all OIT-supported email formats that contain attachments, this option instructs the PDF Export process to export the contents of the attachments to PDF. The contents of the export are attached to the end of the email message so that only one PDF output file is produced. In addition, hyperlinks are provided that link to bookmarks marking the beginning of each attachment in the resulting PDF.

Data Type

boolean

Data

- true: Email attachments are output as PDF.

- false: Email attachments are not included in the PDF.

Default

false

12.5.4.2 ApplyZLIBCompression

OIT Option ID: SCCOPT_APPLYFILTER

This option determines if ZLIB compression will be applied to all object streams when generating the PDF output file.

Data Type

boolean

Data

- true: ZLIB compression is applied to all output streams.
- false: ZLIB compression is not applied to any output stream

Default

true

12.5.4.3 BiDiReorderMethod

OIT Option ID: SCCOPT_REORDERMETHOD

This option controls how the technology reorders bidirectional text.

Data Type

- BiDiReorderMethodValue

BiDiReorderMethodValue Enumeration

One of the following values:

- UNICODEOFF: This disables any processing for bidirectional characters. This option is the default.
- UNICODELTOR: Characters displayed using the Unicode bidirectional algorithm assuming a base left-to-right order. Use this option to enable bidirectional rendering.
- UNICODERTOL: Characters displayed using the Unicode bidirectional algorithm assuming a base right-to-left order. Use this option to force starting bidirectional rendering in the right-to-left.

Default

UNICODEOFF

12.5.4.4 DefaultInputCharacterSet

OIT Option ID: SCCOPT_DEFAULTINPUTCHARSET

This option is used in cases where Outside In cannot determine the character set used to encode the text of an input file. When all other means of determining the file's character set are exhausted, Outside In will assume that an input document is encoded in the character set specified by this option. This is most often used when reading plain-text files, but may also be used when reading HTML or PDF files.

Data Type

DefaultInputCharacterSetValue

DefaultInputCharacterSetValue Enumeration

DefaultInputCharacterSetValue can be one of the following enumerations:

SYSTEMDEFAULT

UNICODE

BIGENDIANUNICODE

LITTLEEENDIANUNICODE

UTF8

UTF7

ASCII

UNIXJAPANESE

UNIXJAPANESEEUC

UNIXCHINESETRAD1

UNIXCHINESEEUCTRAD1

UNIXCHINESETRAD2

UNIXCHINESEEUCTRAD2

UNIXKOREAN

UNIXCHINESESIMPLE

EBCDIC37

EBCDIC273

EBCDIC274

EBCDIC277

EBCDIC278

EBCDIC280

EBCDIC282

EBCDIC284

EBCDIC285

EBCDIC297

EBCDIC500

EBCDIC1026

DOS437

DOS737
DOS850
DOS852
DOS855
DOS857
DOS860
DOS861
DOS863
DOS865
DOS866
DOS869
WINDOWS874
WINDOWS932
WINDOWS936
WINDOWS949
WINDOWS950
WINDOWS1250
WINDOWS1251
WINDOWS1252
WINDOWS1253
WINDOWS1254
WINDOWS1255
WINDOWS1256
WINDOWS1257
ISO8859_1
ISO8859_2
ISO8859_3
ISO8859_4
ISO8859_5
ISO8859_6
ISO8859_7
ISO8859_8
ISO8859_9
MACROMAN
MACCROATIAN
MACROMANIAN
MACTURKISH

MACICELANDIC

MACCYRILLIC

MACGREEK

MACCE

MACHEBREW

MACARABIC

MACJAPANESE

HPROMAN8

BIDIOLDCODE

BIDIPC8

BIDIE0

RUSSIANKOI8

JAPANESEX0201

Default

SYSTEMDEFAULT

12.5.4.5 DefaultPageSize

This option allows the developer to specify the size of each page in the generated output file. The size may be specified in inches, points, centimeters or picas. This option is only valid when UseDocumentPageSettings is set to false. 1 inch = 6 picas = 72 points = ~ 2.54 cm.

Data Type

PageInfo

Data

A PageInfo object with the page size information.

Default

8.5 inches by 11 inches

12.5.4.6 DefaultRenderFont

OIT Option ID: SCCOPT_DEFAULTPRINTFONT

This option sets the font to use when the chunker-specified font is not available on the system. It is also the font used when the font in source file is not available on the system performing the conversion.

Class members:

string strFaceName

UInt16 FontHeight

12.5.4.7 DefaultPageMargins

This option specifies the top, left, bottom and right margins in twips from the edges of the page. For instance, setting all the values to 1440 creates a 1-inch margin on all sides. Page margins will only be applied when formatting word processing, database and spreadsheet files.

Please note all margins are applied before scaling with the PageFitMode option. This option is overridden when the UseDocumentPageSettings option is set to true and print margins are specified in the input document. This option does not affect the output of bitmap, presentation, vector or archive files.

Data Type

Margins

Data

A Margins object with the margins on the 4 sides defined.

Default

1 inch for all margins (1440, 1440, 1440, 1440)

12.5.4.8 DocumentMemoryMode

OIT Option ID: SCCOPT_DOCUMENTMEMORYMODE

This option determines the maximum amount of memory that the chunker may use to store the document's data, from 4 MB to 1 GB. The more memory the chunker has available to it, the less often it needs to re-read data from the document.

Data

- SMALLEST: 1 - 4MB
- SMALL: 2 - 16MB
- MEDIUM: 3 - 64MB
- LARGE: 4 - 256MB
- LARGEST: 5 - 1 GB

Default

SMALL: 2 - 16MB

12.5.4.9 EmailHeaders

OIT Option ID: SCCOPT_WPEMAILHEADEROUTPUT

This option controls rendering of email headers.

Data

- ALL: Displays all available email headers.

- STANDARD: Displays "To," "From," "Subject," "CC," "BCC," "Date Sent," and "Attachments" header fields only. The filter outputs any fields not listed above as hidden fields, so they will not display.
- NONE: Displays no email header fields.
- CUSTOM

Default

STANDARD

12.5.4.10 EmbedFonts

This option allows the developer to specify whether or not fonts should be embedded in the file. In order to comply with the PDF/A-1a spec, this option is forced to a value of ALL when PDF/A is selected for the output type.

Data Type

EmbedFontsValue

EmbedFontsValue Enumeration

- REDUCESIZE: Do not embed base fonts
- ALL: Embed all fonts
- NONE: Do not embed base fonts

Default

REDUCESIZE

12.5.4.11 EnableAlphaBlending

This option allows the user to enable alpha-channel blending (transparency) in rendering vector images. This is primarily useful to improve fidelity when rendering with a slower graphics engine, such as X-Windows over a network when performance is not an issue.

Data

Boolean

Default

False

12.5.4.12 FallbackFormat

This option controls how files are handled when their specific application type cannot be determined. This normally affects all plain-text files, because plain-text files are generally identified by process of elimination, for example, when a file isn't identified as having been created by a known application, it is treated as a plain-text file. It is recommended that None be set to prevent the conversion from exporting unidentified binary files as though they were text, which could generate many pages of "garbage" output.

Data Type

FallbackFormatValue

FallbackFormatValue Enumeration

- TEXT: Unidentified file types will be treated as text files.
- NONE: Outside In will not attempt to process files whose type cannot be identified

Default

TEXT

12.5.4.13 FitHeightToPages

OIT Option ID: SCCOPT_SSPRINTSCALEXHIGH

This option will fit the spreadsheet image to the number of vertical pages specified. The setting for this option will have no effect unless the SSPrintFitToPage option is set to FitToPages.

Data Type

long

Default

1

12.5.4.14 FitWidthToPages

OIT Option ID: SCCOPT_SSPRINTSCALEXWIDE

This option will fit the spreadsheet image to the number of horizontal pages specified. The setting for this option will have no effect unless the SSPrintFitToPage option is set to FitToPages.

Data Type

long

Default

1

12.5.4.15 FontAliasList

This option enables the capability to specify which font on the system should be used when a specific font referenced in the original file is not available. A different alias can be set for each font desired to be mapped.

Data Type

FontAliases

Data

A FontAliases object with a list of font matchings.

Default

Windows and Unix PrintAlias defaults

12.5.4.16 FontDirectories

This option allows the developer to specify one or more font directories where fonts are located for use by the technology. If multiple font directories are specified, they should be delimited by a colon on Linux and UNIX systems and a semi-colon on Windows systems.

Data Type

List<File>

Data

A list of directories where fonts are located.

Default

None

12.5.4.17 FontFilter

This option allows the developer to specify a list of fonts to be included or excluded during the export process.

Data Type

FontList

Data

A FontFilter object describing the inclusion or exclusion list.

Default

None

12.5.4.18 GraphicOutputDPI

OIT Option ID: SCCOPT_GRAPHIC_OUTPUTDPI

This option allows the user to specify the output graphics device's resolution in DPI and only applies to images whose size is specified in physical units (in/cm). For example, consider a 1" square, 100 DPI graphic that is to be rendered on a 50 DPI device (GraphicOutputDPI is set to 50). In this case, the size of the resulting TIFF, BMP, JPEG, GIF, or PNG will be 50 x 50 pixels.

In addition, the special #define of SCCGRAPHIC_MAINTAIN_IMAGE_DPI, which is defined as 0, can be used to suppress any dimensional changes to an image. In other words, a 1" square, 100 DPI graphic will be converted to an image that is 100 x 100 pixels in size. This value indicates that the DPI of the output device is not important. It extracts the maximum resolution from the input image with the smallest exported image size.

Setting this option to SCCGRAPHIC_MAINTAIN_IMAGE_DPI may result in the creation of extremely large images. Be aware that there may be limitations in the system running this technology that could result in undesirably large bandwidth

consumption or an error message. Additionally, an out of memory error message will be generated if system memory is insufficient to handle a particularly large image.

Also note that the SCCGRAPHIC_MAINTAIN_IMAGE_DPI setting will force the technology to use the DPI settings already present in raster images, but will use the current screen resolution as the DPI setting for any other type of input file.

For some output graphic types, there may be a discrepancy between the value set by this option and the DPI value reported by some graphics applications. The discrepancy occurs when the output format uses metric units (DPM, or dots per meter) instead of English units (DPI, or dots per inch). Depending on how the graphics application performs rounding on meters to inches conversions, the DPI value reported may be 1 unit more than expected. An example of a format which may exhibit this problem is PNG.

The maximum value that can be set is 2400 DPI; the default is 96 DPI.

Data Type

long

12.5.4.19 GridMaxPageHeight

OIT Option ID: SCCOPT_MAXSSDBPAGEHEIGHT

Normally, the size of images generated from spreadsheet worksheets and database tables is limited to the size of the page defined by the input document's page size information and how the UseDocumentPageSettings, GraphicWidth and GraphicHeight options are set. If, after scaling is factored in, the resulting image is too large to fit on a single page, it is split up into multiple pages.

The GridMaxPageWidth and GridMaxPageHeight options are used to change the size of a page to match the scaled size of the page being rendered - within limits. The key reason for those limits is that rendering very large pages can easily overwhelm the memory available on the system. When using this feature, a calculation should be made to be sure that the values passed in work within said memory limits. The values for these two options will override the current page dimensions if necessary.

Data Type

long

Data

The maximum page height (including margins) specified in twips (1440 twips are in 1 inch). If the value specified is smaller than the page height, then an error will be returned.

12.5.4.20 GridMaxPageWidth

OIT Option ID: SCCOPT_MAXSSDBPAGEWIDTH

See the documentation for GridMaxPageHeight for a full discussion of how this option works and interacts with other options affecting the page size of images generated from spreadsheet and database pages.

Data Type

long

Data

The maximum page width (including margins) specified in twips (1440 twips are in 1 inch). If the value specified is smaller than the page width, then Image Export will return an error.

12.5.4.21 IECondCommentMode

OIT Option ID: SCCOPT_HTML_COND_COMMENT_MODE

Some HTML input files may include "conditional comments", which are HTML comments that mark areas of HTML to be interpreted in specific versions of Internet Explorer, while being ignored by other browsers. This option allows you to control how the content contained within conditional comments will be interpreted by Outside In's HTML parsing code.

Data

- NONE: Don't output any conditional comment
- IE5: Include the IE5 comments
- IE6: Include the IE6 comments
- IE7: Include the IE7 comments
- IE8: Include the IE8 comments
- IE9: Include the IE9 comments
- ALL: Include all conditional comments

12.5.4.22 IgnorePassword

OIT Option ID: SCCOPT_IGNORE_PASSWORD

This option can disable the password verification of files where the contents can be processed without validation of the password. If this option is not set, the filter should prompt for a password if it handles password-protected files.

Data Type

boolean

12.5.4.23 ImagePassthrough

This feature is used to allow certain input files to circumvent the normal filtering process and to be 'wrapped' in a PDF output file directly. This allows for much faster exporting of the supported file formats, which currently are JPEG, JPEG2000, and TIFF.

Data Type

boolean

Default

false

12.5.4.24 ISODateTimes

OIT Option ID: SCCOPT_FORMATFLAGS

When this flag is set, all Date and Time values are converted to the ISO 8601 standard. This conversion can only be performed using dates that are stored as numeric data within the original file.

Data Type

boolean

Default

false

12.5.4.25 JPEGQuality

OIT Option ID: SCCOPT_JPEG_QUALITY

This option allows the developer to specify the lossyness of JPEG compression. The option is only valid if the dwOutputID parameter of the EXOpenExport function is set to FI_JPEGFIF, FI_PDF, FI_PDFA, or FI_PDFA_2.

Data Type

long

Data

A value from 1 to 100, with 100 being the highest quality but the least compression, and 1 being the lowest quality but the most compression.

Default

100

12.5.4.26 LinearizePDFOutput

Linearization is a method by which PDF renderers are able to render pages of the PDF file before the entire document is loaded. Linearized output is both larger and takes longer to produce; this option allows you to produce non-linearized PDF so that the export process will be quicker and result in a smaller output file.

Data Type

boolean

Default

false

12.5.4.27 LotusNotesDirectory

OIT Option ID: SCCOPT_LOTUSNOTESDIRECTORY

This option allows the developer to specify the location of a Lotus Notes or Domino installation for use by the NSF filter. A valid Lotus installation directory must contain the file nnotes.dll.

Type (Common): String

Data

A path to the Lotus Notes directory.

Default

If this option isn't set, then OIT will first attempt to load the Lotus library according to the operating system's PATH environment variable, and then attempt to find and load the Lotus library as indicated in HKEY_CLASSES_ROOT\Notes.Link.

12.5.4.28 MarginText

This option lets you specify a text string for margin text.

Data Type

MarginText

Default

None

12.5.4.29 MarginTextFont

This option lets you set the font and font size for margin text.

Data Type

FontInfo

Default

Arial, 9 pt.

12.5.4.30 PageDirection

OIT Option ID: SCCOPT_SSPRINTDIRECTION

This option controls the pattern in which the pages are rendered, either across first and then down, or down first and then across.

This option is overridden when the UseDocumentPageSettings option is set to TRUE and print direction is specified in the input document.

Data

- PageDirectionValue.ACROSS: Specifies that pages are printed across first and then down.
- PageDirectionValue.DOWN: Specifies that pages are printed down first and then across.

Default

PageDirectionValue.DOWN

12.5.4.31 PageFitMode

OIT Option ID: SCCOPT_DBPRINTFITTOPAGE

OIT Option ID: SCCOPT_SSPRINTFITTOPAGE

This option scales a spreadsheet file or database image to a certain percent or to a page width or height. However, in an effort to preserve readability after scaling, Image Export will not shrink a database document to under approximately one-third of its original size.

It should be noted that when this option is set to NOMAP, the pages of the database file are printed down first and then across.

Please note that any margins applied as a result of settings for the DefaultPageMargins option will be included in any scaling that is applied to the output image as a result of settings for this option.

This option is overridden when the UseDocumentPageSettings option is set to TRUE and fitting the page to the printer's image limits is specified in the input document.

Data

- NOMAP: No scaling is performed on the spreadsheet or database image. It will render in its original size onto as many pages as are required to fit the data.
- FITTOWIDTH: Scale the spreadsheet or database image in the rendered image so it is no larger than one page wide.
- FITTOHEIGHT: Scale the spreadsheet or database image in the rendered image so it is no larger than one page high.
- SCALE: Scale the spreadsheet or the database image in the rendered image using the scale value stored in the PageScalePercent option.
- FITTOPAGES: Scale the spreadsheet or the database image in the rendered image to fit to the number of pages specified in the FitHeightToPages and FitWidthToPages options. Since aspect ratio is maintained, the lesser of the two dimensions (width or height) will determine the scale factor. Note that if either FitHeightToPages or FitWidthToPages is set to 0, the value in the other option will be nullified.

Default

- SCALE: Scales the rendered image of the spreadsheet or database image using the scale value stored in the PageScalePercent option (which is 100 by default).

12.5.4.32 PageRange

OIT Option ID: SCCOPT_WHATTOPRINT

OIT Option ID: SCCOPT_PRINTSTARTPAGE

OIT Option ID: SCCOPT_PRINTENDPAGE

This option indicates whether the whole file or a selected range of pages should be rendered. When selecting a range, the start and ending pages are specified.

Data Type

PageRange

Data

The page range to be exported.

Default

All pages are printed

12.5.4.33 PageScalePercent

OIT Option ID: SCCOPT_SSPRINTSCALEPERCENT

This option will scale spreadsheet pages by the percentage specified. The option has no effect unless the SSPrintFitToPage option is set to Scale.

This option must take a value between 1 and 100. If any value outside of this range is used, the option will be ignored.

Data Type

long

Default

100

12.5.4.34 PDFInputMaxEmbeddedObjects

This option allows the user to limit the number of embedded objects that are produced in a PDF file.

Data Type

long

Data

The maximum number of embedded objects to produce in PDF output. Setting this to 0 would produce an all embedded objects in the input document.

Default

0 – produce all objects.

12.5.4.35 PDFInputMaxVectorPaths

This option allows the user to limit the number of vector paths that are produced in a PDF file.

Data Type

long

Data

The maximum number of paths to produce in PDF output. Setting this to 0 would produce an all vector objects in the input document.

Default

0 – produce all vector objects.

12.5.4.36 PDFReorderBiDi

OIT Option ID: SCCOPT_PDF_FILTER_REORDER_BIDI

This option controls whether or not the PDF filter will attempt to reorder bidirectional text runs so that the output is in standard logical order as used by the Unicode 2.0 and later specification. This additional processing will result in slower filter performance according to the amount of bidirectional data in the file.

PDFReorderBiDiValue Enumeration

This enumeration defines the type of Bidirection text reordering the PDF filter should perform.

- STANDARDBIDI: Do not attempt to reorder bidirectional text runs.
- REORDEREDBIDI: Attempt to reorder bidirectional text runs.

12.5.4.37 PDFWordSpacingFactor

This option controls the spacing threshold in PDF input documents. Most PDF documents do not have an explicit character denoting a word break. The PDF filter calculates the distance between two characters to determine if they are part of the same word or if there should be a word break inserted. The space between characters is compared to the length of the space character in the current font multiplied by this fraction. If the space between characters is larger, then a word break character is inserted into the text stream. Otherwise, the characters are considered to be part of the same word and no word break is inserted.

Data Type

float

Data

A value representing the percentage of the space character used to trigger a word break. Valid values are positive values less than 2.

Default

0.85

12.5.4.38 PerformExtendedFI

OIT Option ID: SCCOPT_FIFLAGS

This option affects how an input file's internal format (application type) is identified when the file is first opened by the Outside In technology. When the extended test flag is in effect, and an input file is identified as being either 7-bit ASCII, EBCDIC, or Unicode, the file's contents will be interpreted as such by the export process.

The extended test is optional because it requires extra processing and cannot guarantee complete accuracy (which would require the inspection of every single byte in a file to eliminate false positives.)

Data Type

boolean

Data

One of the following values:

- false: When this is set, standard file identification behavior occurs.
- true: If set, the File Identification code will run an extended test on all files that are not identified.

Default

- true

12.5.4.39 RedactionColor

This option provides the ability to specify the color used for a redaction rectangle (black or white) as well as the color used (black or white) for the redaction code. When the colors match, the redaction code is effectively invisible. Settings should default to Black redactions with White codes if not explicitly set. The values may be set on each redaction individually, both in the UI and in the rendered output.

Value

ColorInfo

Data

Any valid CSS color

12.5.4.40 RedactionLabelFont

This option sets the name and size of font to use for redaction labels. The font size may be reduced to allow text to fit within a redaction rectangle.

Data Type

FontInfo

Default

Default display font, 9 pt.

12.5.4.41 RedactionLabelsVisible

This option allows you to display redaction labels in your output.

Data Type

boolean

Default
False (no labels)

12.5.4.42 RedactionsEnabled

This option tells the export to format the output to be redaction-capable. In practical terms what this means is that all embeddings will be rasterized (routed through sccimg) so that a rectangle in an embedding is consistent across all output formats.

Data Type

boolean

Default

False

12.5.4.43 RenderEmbeddedFonts

This option allows you to disable the use of embedded fonts in PDF input files. If the option is set to true, the embedded fonts in the PDF input are used to render text; if the option is set to false, the embedded fonts are not used and the fallback is to use fonts available to Outside In to render text.

Data Type

boolean

Default

true

12.5.4.44 RenderGridlines

OIT Option ID: SCCOPT_DBPRINTGRIDLINES

OIT Option ID: SCCOPT_SSPRINTGRIDLINES

If this option is TRUE, a line is generated between cells in the rendered image.

This option is overridden when the UseDocumentPageSettings option is set to TRUE and printing grid lines between cells is specified in the input document.

Data Type

boolean

Default

true

12.5.4.45 RenderHeadings

OIT Option ID: SCCOPT_DBPRINTHEADINGS

OIT Option ID: SCCOPT_SSPRINTHEADINGS

If this option is TRUE, field, row and column headings will be generated along with the data.

This option is overridden when the UseDocumentPageSettings option is set to TRUE and printing column and row headers is specified in the input document.

Data Type

boolean

Default

true

12.5.4.46 ShowArchiveFullPath

OIT Option ID: SCCOPT_ARCFULLPATH

This option causes the full path of a node to be returned in "GetArchiveNodeInfo" and "GetObjectInfo".

Data Type

boolean

Data

- true: Provide the full path.
- false: Do not provide the path.

Default

false

12.5.4.47 ShowHiddenCells

OIT Option ID: SCCOPT_SSSHOWHIDDENCELLS

This option lets you determine whether or not to show hidden rows or columns when rendering spreadsheets. It is used to expand the widths of cells that are hidden by virtue of having their row height or column width reduced to 0. This is a Boolean option that will leave the data hidden when it is FALSE, and show all hidden rows and columns when it is TRUE, displayed using the default row width or default column height.

Data Type

boolean

Default

false

12.5.4.48 ShowHiddenSpreadSheetData

The setting for this option determines whether or not hidden data (hidden columns, rows or sheets) in a spreadsheet will be included in the output. When set to false (the default), the hidden elements are not written. When set to true, they are placed in the output in the same manner as regular spreadsheet data.

Data Type

boolean

Default

false

12.5.4.49 StrictFile

When an embedded file or URL can't be opened with the full path, OutsideIn will sometimes try and open the referenced file from other locations, including the current directory. When this option is set, it will prevent OutsideIn from trying to open the file from any location other than the fully qualified path or URL.

Data Type

boolean

Default

false

12.5.4.50 TimeZoneOffset

OIT Option ID: SCCOPT_TIMEZONE

This option allows the user to define an offset to GMT that will be applied during date formatting, allowing date values to be displayed in a selectable time zone. This option affects the formatting of numbers that have been defined as date values. This option will not affect dates that are stored as text.

Note:

Daylight savings is not supported. The sent time in msg files when viewed in Outlook can be an hour different from the time sent when an image of the msg file is created.

Data Type

long

Data

Integer parameter from -96 to 96, representing 15-minute offsets from GMT. To query the operating system for the time zone set on the machine, specify SCC_TIMEZONE_USENATIVE.

Default

- 0: GMT time

12.5.4.51 UnmappableCharacter

OIT Option ID: SCCOPT_UNMAPPABLECHAR

This option selects the character used when a character cannot be found in the output character set. This option takes the Unicode value for the replacement character. It is left to the user to make sure that the selected replacement character is available in the output character set.

Data Type

int

Data

The Unicode value for the character to use.

Default

- 0x002a = "*"

12.5.4.52 UseDocumentPageSettings

OIT Option ID: SCCOPT_USEDOCPAGESETTINGS

This option is used to select the document's page layout information when rendering.

If true, the document's native (or author selected) page margins, paper size, page scaling and page orientation are used when available from the filter.

The values of the DefaultPageMargins, RenderGridlines, RenderHeadings, PageDirection, and PageFitMode options are overridden if this option is set to TRUE and the properties associated with those options are specified in the input document. Additionally, print area and page breaks in spreadsheet documents are ignored unless this option is set to true.

If false, the page margins, size, orientation and scaling are set to specific values rather than those in the native document. The page size is forced to 8 1/2" x 11" in portrait orientation, but this may be changed by setting the GraphicHeight and/or GraphicWidth options. The margins are forced 1" all around, but may be changed by setting the defaultMargins option. The scaling for the document will be set to 100%, although this may be changed by setting any of the various scaling options.

It should be noted that this option also affects page orientation for both input spreadsheets and word processing documents.

Data Type

boolean

Default

true

12.6 ExportStatus Class

The ExportStatus class provides access to information about a conversion. This information may include information about sub-document failures, areas of a conversion that may not have high fidelity with the original document. When applicable the number of pages in the output is also provided.

Namespace

com.oracle.outsidein

Accessors

- long getPageCount() - A count of all of the output pages produced during an export operation.
- EnumSet<ExportStatusFlags> getStatusFlags() - Gets the information about possible fidelity issues with the original document.
- long getSubDocsFailed() - Number of sub documents that were not converted.
- long getSubDocsPassed() - Number of sub documents that were successfully converted.

ExportStatusFlags Enumeration

This enumeration is the set of possible known problems that can occur during an export process.

- NoInformationAvailable: No Information is available
- MissingMap: A PDF text run was missing the toUnicode table
- VerticalText: A vertical text run was present
- TextEffects: A run that had unsupported text effects applied. One example is Word Art
- UnsupportedCompression: A graphic had an unsupported compression
- UnsupportedColorSpace: A graphic had an unsupported color space
- Forms: A sub documents had forms
- RightToLeftTables: A table had right to left columns
- Equations: A file had equations
- AliasedFont: The desired font was missing, but a font alias was used
- MissingFont: The desired font wasn't present on the system
- SubDocFailed: a sub-document was not converted
- TypeThreeFont: A type 3 font was encountered.
- UnsupportedShading: An unsupported shading pattern was encountered.
- InvalidHTML: An HTML parse error, as defined by the W3C, was encountered.
- bInvalidAnnotationNotApplied: Unsupported annotation/redaction wasn't rendered.

12.7 FileFormat Class

This class defines the identifiers for file formats.

Namespace

com.oracle.outsidein.options

Methods

- GetDescription

  ```
  String GetDescription()
  ```

  This method returns the description of the format.

- GetId

  ```
  int GetId()
  ```

  This method returns the numeric identifier of the format.

- ForId

  ```
  FileFormat ForId(int id)
  ```

  This method returns the FileFormat object for the given identifier.

  id: The numeric identifier for which the corresponding FileFormat object is returned.

12.8 FontAliases Class

FontAliases is a class for providing font matching of unknown fonts.

Namespace

com.oracle.outsidein.options

Constructor

```
FontAliases(boolean  clearDefaults, Map<String, String> aliasList)
   useDefaults    Option whether to initialize the list to a set of platform-
specific default aliases (true) or to an empty list (false)
   aliasList      Aliases list as a key-value pair with original name as key
```

Accessors

- Map<String, String> getAliasList() - List of font aliases set.
- Map<String, String> getDefaultAliases() - List of platform-specific default font aliases that are applied when "true" is passed as the first argument of the constructor.

12.9 FontInfo Class

FontInfo is a class to define a font for use in the OutsideIn API.

Namespace

com.oracle.outsidein.options

Constructors

```
FontInfo(String fontface, int height)
   fontface  The name of the font
   height    Size of the font in half points

FontInfo()
```

Constructs a FontInfo object with a 10 point Arial Font.

Accessors

- String getFontface() - The name of the font
- int getHeight() - Size of the font in half points

12.10 FontList Class

FontList is a class for inclusion or exclusion of fonts in exported documents.

Namespace

com.oracle.outsidein.options

Constructor

```
FontList(boolean  isExclusion, String[] fonts)
   IsExclusion  If set then accompanying list is an exclusion list
   fonts        List of fonts to include or exclude
```

Accessors

- boolean isExcludeList() - If set, then accompanying list is an exclusion list.
- String[] getFontsList - List of fonts to include or exclude.

12.11 HighlightTextAnnotation Class

HighlightTextAnnotation is a class for defining Text highlighted Annotations. This class derives from the Annotation class.

Namespace

com.oracle.outsidein.annotations

Constructors

```
HighlightTextAnnotation(long StartCharCount,
                long  EndCharCount,
                EnumSet<CharAttributeValues> CharAttrs,
                Enumset<CharAttributeValues> CharMask)
HighlightTextAnnotation(long StartCharCount,
                long EndCharCount,
                ColorInfo Foreground,
                ColorInfo Background)
HighlightTextAnnotation(long StartCharCount,
                long EndCharCount,
                ColorInfo Foreground,
                ColorInfo Background,
                EnumSet<CharAttributeValues> CharAttrs,
                EnumSet<CharAttributeValues> CharMask)
StartCharCount  The character count of the starting position
EndCharCount    The character count of the end position
Foreground      The text color of the highlight
Background      The background color of the highlight
```

```
CharAttrs       the character attributes to use
CharMask        character attributes to change
```

Initializes a new instance of the HighlightTextAnnotation class.

Accessors

- **StartCharCount**: The character count of the starting position
- **EndCharCount**: The character count of the end position
- **Foreground**: The text color of the highlight
- **Background**: The background color of the highlight
- **CharAttrs**: The character attributes to use
- **CharMask**: Character attributes to change

CharAttributeValues Enumeration

This enumeration is the list of all character attributes to apply for the text highlight.

- NORMAL: Normal text - All attributes off
- UNDERLINE: Underline attribute
- ITALIC: Italic attribute
- BOLD: Bold attribute
- STRIKEOUT: Strike out text
- SMALLCAPS: Small caps
- OUTLINE: Outline Text
- SHADOW: Shadow text
- CAPS: All Caps
- SUBSCRIPT: Subscript text
- SUPERSCRIPT: Superscript text
- DUNDERLINE: Double Underline
- WORDUNDERLINE: Word Underline
- DOTUNDERLINE: Dotted Underline
- DASHUNDERLINE: Dashed Underline
- ALL: All attributes

12.12 MailHeaders Class

MailHeaders class is a class describing the Mail Headers to be displayed, hidden or modified.

Namespace

com.oracle.outsidein.options

Constructors

```
MailHeaders()
```

Constructs a MailHeaders object with standard headers only.

```
MailHeaders(MailHeaders.BaselineValue baseline)
   baseline  The starting point to add or delete headers.
```

Accessors

```
void setBaseline(MailHeaders.BaselineValue)
MailHeaders.BaselineValue getBaseline()
```

The starting point to add or delete headers.

Methods

```
MailHeaders excludeHeader(MailHeaders.MailTypeValue mtype,
MailHeaders.MailHeaderValue mhdr)
```

This method adds a standard header to the hidden list.

- mtype: The type of documents in which to hide this header
- mhdr: The header to hide

This method returns a reference to the updated MailHeaders object.

```
MailHeaders excludeHeader(MailHeaders.MailTypeValue mtype, String Exclusion)
```

This method adds a custom header to be the hidden list.

- mtype: The type of documents in which to hide this header
- Exclusion: User-specified MIME header name to be excluded

This method returns a reference to the updated MailHeaders object.

```
MailHeaders includeHeader(MailHeaders.MailTypeValue mtype,
MailHeaders.MailHeaderValue mhdr)
```

This method adds a standard header to the visible list.

- mtype: The type of documents in which to show this header
- mhdr: The header to hide

This method returns a reference to the updated MailHeaders object.

```
MailHeaders  includeHeader(MailHeaders.MailTypeValue mtype, String Original, String
Replacement)
```

This method adds a custom header to the visible list.

- mtype: The type of documents in which to show this header
- Original: User-specified MIME header name
- Replacement: String that will be used as the label for the user-defined MIME header

This method returns a reference to the updated MailHeaders object.

```
void setVisibleHeaders(Map<MailHeaders.MailTypeValue, Map<String, String>> headers)
```

This method sets a series of custom headers to the visible headers list.

- headers: A key value pair of user-specified MIME headers and their replacement strings

```
void setHiddenHeaders(Map<MailHeaderValue.MailTypeValue, List<String>> headers)
```

This method sets a series of custom headers to the hidden headers list.

- headers: A list of user-specified MIME headers to be hidden

MailHeaders.BaselineValue Enumeration

The BaselineValue is an enumeration of the possible baselines (starting points to add or exclude headers).

MailHeaders.MailTypeValue Enumeration

The MailTypeValue is an enumeration of the types of mail documents.

12.13 Margins Class

The Margins Class is used to describe the page margins.

Namespace

com.oracle.outsidein.options

Constructors

```
Margins()
```

Constructs a Margins object with a 1 inch margins for top, bottom, left and right margins.

```
Margins(long top,
       long bottom,
       long left,
       long right)
top    Margin from the top edge of the page (in twips)
bottom Margin from the bottom edge of the page (in twips)
left   Margin from the left edge of the page (in twips)
right  Margin from the right edge of the page (in twips)
```

Accessors

- long getTop() - Margin from the top edge of the page (in twips)

- long getBottom() - Margin from the bottom edge of the page (in twips)
- long getLeft() - Margin from the left edge of the page (in twips)
- long getRight() - Margin from the right edge of the page (in twips)

12.14 MarginText Class

This class provides a mechanism to define the Margin text to be applied to a page/ document.

Namespace

OutsideIn

Constructors

```
MarginText(Map<MarginText.Location, String>)
```

Constructs a Margin text object with a list of lines.

```
MarginText(MarginText.Location, String)
```

Constructs a Margin text object with a single line.

Methods

```
void addMarginText(Map<MarginText.Location, String>)
```

Adds a set of Margin text lines.

```
void addMarginText(MarginText.Location, String)
```

Adds a line of Margin text.

Location Enumeration

This enumeration is the list of all the locations margin text can be applied to.

- TOPLEFTLINE1: Line 1 of Top Left Corner of page
- TOPLEFTLINE2: Line 2 of Top Left Corner of page
- TOPLEFTLINE3: Line 3 of Top Left Corner of page
- TOPCENTERLINE1: Line 1 of Top Center of page
- TOPCENTERLINE2: Line 2 of Top Center of page
- TOPCENTERLINE3: Line 3 of Top Center of page
- TOPRIGHTLINE1: Line 1 of Top Right Corner of page
- TOPRIGHTLINE2: Line 2 of Top Right Corner of page
- TOPRIGHTLINE3: Line 3 of Top Right Corner of page
- BOTTOMLEFTLINE1: Line 1 of Bottom Left Corner of page

- BOTTOMLEFTLINE2: Line 2 of Bottom Left Corner of page
- BOTTOMLEFTLINE3: Line 3 of Bottom Left Corner of page
- BOTTOMCENTERLINE1: Line 1 of Bottom Center of page
- BOTTOMCENTERLINE2: Line 2 of Bottom Center of page
- BOTTOMCENTERLINE3: Line 3 of Bottom Center of page
- BOTTOMRIGHTLINE1: Line 1 of Bottom Right Corner of page
- BOTTOMRIGHTLINE2: Line 2 of Bottom Right Corner of page
- BOTTOMRIGHTLINE3: Line 3 of Bottom Right Corner of page

12.15 Option Interface

The Option Interface provides the methods and properties to retrieve information about an Outside In Option.

Package

com.oracle.outsidein.options

Accessors

- String getName() — Gets the name of the option
- String getDescription() — Gets the description of the option
- Class<?> getDataType() — Gets the type of the option value.
- Class<?>[] getItemTypes() — Gets the type parameters for option values that are generics
- EnumSet<Option.OutsideInProducts> getSupportingProducts() — Gets the list of products that support this option

Methods

```
void set(OptionsCache exporter, Object objValue) throws OutsideInException;
```

This method sets the option to the exporter object and returns the exporter object itself.

- exporter — The exporter object
- objValue — Value of the option

Note:

If the type of objValue cannot be converted to the data type the option is expecting, an OutsideInException is thrown.

```
Object get(OptionsCache exporter)
```

This method gets the currently set value for the option.

- exporter: The exporter object who's option value is requested.

OutsideInProducts Enumeration

- HTMLEXPORT — Outside In HTML Export
- IMAGEEXPORT — Outside In Image Export
- PDFEXPORT — Outside In PDF Export
- SEARCHEXPORT — Outside In Search Export
- WEBVIEWEXPORT — Outside In Web View Export
- XMLEXPORT — Outside In XML Export

12.16 OutsideIn Class

This is a utility class that creates an instance of an Exporter object on request.

Namespace

com.oracle.outsidein

Methods

```
static Exporter newLocalExporter()
```

This method creates an instance of an Exporter object. It returns a newly created Exporter object.

```
static Exporter newLocalExporter(Exporter source)
```

This method creates and returns an instance of an Exporter object based on the source Exporter. All the options of source are copied to the new Exporter. The source and destination file information will not be copied.

```
OutsideInVersion getCoreVersion()
```

This static method returns an OutsideInVersion object with information describingthe Outside In Core Technology used.

```
void setLocation(File oilinkDir)
```

Sets an explicit path to the native Outside In libraries and oilink.exe. If used, this method must be called prior to any other Outside In method or this method will throw an exception. If setLocation() is not used, the location will be determined by searching for the Outside In libraries in the following order:

1. the location specified in the 'OILinkLocation' Java property
2. the 'oit' subdirectory under the directory containing oilink.jar
3. the directory containing oilink.jar

12.17 OutsideInVersion Class

The OutsideIn Class is used to describe the version of the Outside In Core Module.

Namespace

com.oracle.outsidein

Methods

```
String GetVersion()
```

This method returns the version information as a string in the format of "MajorVersion.MinorVersion.DotVersion".

```
int getMajorVersion()
```

The major version component.

```
int getMinorVersion()
```

The minor version component.

```
int getDotVersion()
```

The dot version component.

12.18 OutsideInException Class

This is the exception that is thrown when an Outside In Technology error occurs.

This class derives from the Exception class. This class has no public methods or properties except those of the parent Exception class.

Namespace

com.oracle.outsidein

12.19 PageInfo Class

PageInfo is a class for defining page dimensions.

Namespace

com.oracle.outsidein.options

Constructor

```
PageInfo(PageInfo.PageSizeUnitsValue units,
             float width,
             float height)
units    Units used to specify width and height
width    Width of the page
height   Height of the page
```

Accessors

- PageInfo.PageSizeUnitsValue getUnits() - Units used to specify width and height
- float getWidth() - Width of the page
- float getHeight() - Height of the page

PageInfo.PageSizeUnitsValue Enumeration

PageSizeUnitsValue is an enumeration of the various units that can be used to specify the width and height of a page.

- Inches: Units are in Inches
- Points: Units are in Points (1/72th of an inch)
- Centimeters: Units are in Centimeters
- Picas: Units are in Picas (1/6th of an inch)

12.20 Watermark Class

This class describes the watermark to be applied to a document.

Namespace

com.oracle.outsidein.options

Constructors

```
Watermark(File file) throws OutsideInException
```

Creates a watermark object with the image to be used.

file: A File object with the image file to be used as a watermark.

```
Watermark(SeekableByteChannel6 redirect) throws OutsideInException
```

Creates a watermark object with the image to be used.

redirect: A redirected I/O object with the image to be used as a watermark.

```
Watermark(File file, int opacity, int percent, AnchorPosition anchor, int
vertOffset, int horzOffset) throws OutsideInException
```

file: A File object with the image file to be used as a watermark.

opacity: The opacity of the watermark. Opacity is in the range of 1-255.

percent: The percentage the watermark image is scaled by. A value of 0 indicates no scaling.

anchor: The position from which the watermark image is offset.

vertOffset: The vertical offset to shift the image by

horzOffset: The horizontal offset to shift the image by.

```
Watermark(SeekableByteChannel6 redirect, int opacity, int percent, AnchorPosition
anchor, int vertOffset, int horzOffset) throws OutsideInException
```

redirect: A redirected I/O objectwith the image to be used as a watermark.

opacity: The opacity of the watermark. Opacity is in the range of 1-255.

percent: The percentage the watermark image is scaled by. A value of 0 indicates no scaling.

anchor: The position from which the watermark image is offset.

vertOffset: The vertical offset to shift the image by.

horzOffset: The horizontal offset to shift the image by

Methods

```
AnchorPosition getAnchorPosition()
```

Retrieves the Watermark's Anchor position. This is the position from which the horizontal and vertical offsets are applied.

```
void setAnchorPosition(AnchorPosition position)
```

Sets the Watermark's Anchor position. This is the position from which the horizontal and vertical offsets are applied.

```
int getHorzOffset()
```

Gets the horizontal offset to shift the image by.

```
void setHorzOffset(int offset)
```

Sets the horizontal offset to shift the image by.

```
int getOpacity()
```

Gets the opacity of the watermark. Opacity is in the range of 1-255. 0 disables the watermark.

```
void setOpacity(int opacity)
```

Sets the opacity of the watermark. Opacity is in the range of 1-255. 0 disables the watermark.

```
int getPercent()
```

Gets the percentage amount by which the image is to be scaled. A value of 0 indicates no scaling.

```
void setPercent(int percent)
```

Sets the percentage amount by which the image is to be scaled. A value of 0 indicates no scaling.

```
int getVertOffset()
```

Gets the vertical offset to shift the image by.

```
void setVertOffset(int offset)
```

Sets the vertical offset to shift the image by.

12.21 PageRange Class

PageRange is a class for defining page ranges for exporting purposes.

Namespace

com.oracle.outsidein.options

Constructors

```
PageRange()
```

Creates an instance of the PageRangeObject for printing all pages.

```
PageRange(long StartPage)
StartPage  Starting page number of the print range
```

Creates an instance of the PageRangeObject for printing from a page until end of document.

```
PageRange(
           long  StartPage,
           long  StopPage) throws OutsideInException
StartPage  Starting page number of the print range
StopPage   End page number of the print range
```

Creates an instance of the PageRangeObject for printing a range of pages.

Accessors

- boolean getPrintAll() - If set to true, all pages of the document will be printed
- long getStartPage() - The start page of the print range. 0 indicates printing will begin with the first page of the document.
- long getStopPage() - The last page of the print range. 0 indicates the last page at the end of the document.

Part IV

Using the .NET API

This section provides details about using the SDK with the .NET API.

Part IV contains the following chapters:

13

Introduction to the .NET API

This chapter is an introduction to the .NET API for PDF Export.

Outside In .NET is a set of class libraries and Windows DLLs that provides developers an easy interface to create .NET applications using Outside In Technology.

The following topics are covered:

13.1 Requirements

To develop applications using the .NET APIs, the following set of modules and tools are required:

- The Outside In Technology (OIT) developer's redistributable modules for your product
- Visual Studio 2010 or later
- NET Framework 4.0 or later
- The API libraries:

  outsidein.dll - The .NET libraries to access the Outside In technologies

  oilink.dll and oilink.exe- The bridge modules between .NET and the C-APIs.

  Google.ProtocolBuffers.dll - The cross language binary serialization provider.

13.2 Getting Started

There are two steps in developing applications using the APIs. In the first step, you would need to configure the environment to create your application (typical programming tasks not directly related to these APIs) and in the second step you would generate code to utilize the functionality of these libraries.

13.2.1 Configuring your Environment

To setup the environment to create a .NET application, you would need to add references to all the libraries. In order to use the Outside In components in your application, the following component should be referenced: outsidein.dll. (This can be done by using the Add Reference dialog box in Visual Studio.)

13.2.2 Generate Code

The sample application included with the SDK, OITsample, is a minimal demonstration of how to use this API.

All the functionality required to perform a conversion is provided in an Exporter object. The basic process of exporting a file involves the following tasks:

1. Create an Exporter object. To obtain access to the Outside In functionality, you should call the utility function in the "OutsideIn" class. This will provide you an instance of an Exporter Object.
2. Configure the export. The Outside In API is highly configurable, and presents numerous options to fine-tune the way a document is exported. Each option has a "set" and "get" method to set or retrieve the currently set value.
3. Set the source and primary destination files. You are required to specify the source file and the destination file. This is done similar to setting options using "set" methods.
4. Set the output type. In this step, you specify the output format.
5. (Optional) Provide a callback handler. The Outside In Technology provides callbacks that allow the developer to intervene at critical points in the export process. To respond to these callbacks, you would have to subscribe to any messages that you are interested in by overriding the message handlers from the "Callback" class. After creating an object of this class, set the callback option to this object and the messages will be passed to your object.
6. Run the export. After all the previous steps are completed, you can produce the desired output.

13.2.2.1 Create an Exporter Object

To obtain access to the Outside In functionality, you should call the utility function in the "OutsideIn" class. This will provide you an instance of an Exporter Object.

```
Exporter exporter = OutsideIn.OutsideIn.NewLocalExporter();
```

13.2.2.2 Configure the Output

The Outside In API is highly configurable, and presents numerous options to fine-tune the way a document is exported. Each option has a "set" and "get" method to set or retrieve the currently set value.

```
exporter.SetPerformExtendedFI(true);
int timezoneOffset = exporter.GetTimeZoneOffset();
```

13.2.2.3 Set the Source and Primary Destination Files

You are required to specify the source file and the destination file. This is done similarly to setting options using "set" methods.

```
exporter.SetSourceFile(inputFilename);

exporter.SetDestinationFile(outputFilename);
```

There are other options that can be set at this time to specify the way to handle the input file, such as providing a SourceFormat to provide a mechanism to handle the input file in a different format than that which it is identified as.

The API also supports opening certain types of embedded documents from within an input file. For example, a .zip file may contain a number of embedded documents; and an email message saved as a .msg file may contain attachments. The API provides the means of opening these types of embedded documents. This can be done by opening the parent document and then the embedded document can be opened through this exporter object.

```
// subdocId is the sequential number of the node in the archive file

Exporter exporterNode = exporter.NewTreeNodeExporter(subdocId);
```

13.2.2.4 Set the Output Type

In this step, you specify the output format.

```
exporter.SetDestinationFormat(FileFormat.FI_PDF);
```

13.2.2.5 Provide a Callback Handler

Outside In Technology provides callbacks that allow the developer to intervene at critical points in the export process. To respond to these callbacks, you have to subscribe to any messages that you are interested in by overriding the message handlers from the Callback class. After creating an object of this class, set the callback option to this object and the messages will be passed to your object.

```
class CallbackHandler : Callback

{

  … // implementation of messages to handle - described in the next section

}

CallbackHandler callback = new CallbackHandler();

exporter.SetCallbackHandler(callback);
```

13.2.2.6 Run the Export

After all the previous steps are completed, you can produce the desired output.

```
exporter.Export();
```

13.2.3 Redirected I/O Support in .NET

Support for redirected I/O is supported through .NET Streams. Streams that are readable and seekable can be used as input files, while streams that are readable, writable and seekable can be used for output.

Using streams is very similar to using standard I/O in the .NET API. To use streams, the stream object is passed as a parameter to the "SetSourceFile" or "SetDestinationFile". When using Output streams, handling callbacks is mandatory when secondary files are expected to be generated.

14

PDF Export .NET Classes

This chapter describes PDF Export .NET classes.

The following classes are covered:

14.1 Annotation Class

Annotation is an abstract base class for the Annotation objects.

Namespace

OutsideIn.Annotations

Properties

- Height (Int64) Height of area in coordinates or rows
- Left (Int64) Leftmost coordinate or column
- Opacity (Single) Opacity of the annotation. Range 0.0 - 1.0; setting opacity to 0 makes the annotation invisible
- SectionIndex (Int64) 0-based page/sheet/image/slide index
- Top (Int64) Top coordinate or row
- Units (Annotation.UnitTypeValue) Type of units in which Height, Width, Left and Top are described
- UserId (Int64) User Data
- Width (Int64) Width of area in coordinates or columns

Annotation.UnitTypeValue Enumeration

The UnitTypeValue is an enumeration of the various unit types that annotation positions can be described in.

- Pixels: Units specified in Pixels. This Unit type should be used for Graphic files.
- Twips: Units specified in Twips (1/1440th of an inch). This Unit type should be used for Word Processing documents.
- Cells: Units specified in cell positions. This Unit type should be used for Spreadsheets.

14.2 ArchiveNode Class

ArchiveNode provides information about an archive node. This is a read-only class where the technology fills in all the values.

Namespace

OutsideIn

Properties

- IsDirectory (Boolean) A value of true indicates that the record is an archive node.
- FileSize (Int32) File size of the archive node
- NodeTime (Int32) Time the archive node was created
- NodeNum (Int32) Serial number of the archive node in the archive
- NodeName (String) The name of the archive node

14.3 Callback Class

Callback messages are notifications that come from Outside In during the export process, providing information and sometimes the opportunity to customize the generated output.

Namespace

OutsideIn

To access callback messages, your code must create an object that inherits from Callback and pass it through the API's SetCallbackHandler method. Your object can implement methods that override the default behavior for whichever methods your application is interested in.

Callback has three methods: OpenFile, CreateNewFile and NewFileInfo.

14.3.1 OpenFile

```
OpenFileResponse OpenFile(
      FileTypeValue fileType,
      string fileName
)
```

This callback is made any time a new file needs to be opened.

Parameters

- fileType: Type of file being requested to be opened.
- filename: Name of the file to be open

Return Value

To take action in response to this method, return an OpenFileResponse object.

FileTypeValue Enumeration

This enumeration defines the type of file being requested to be opened. Its value may be one of the following:

- Input: File to be opened (path unknown)
- Template: Template file to be opened
- Path: Full file name of the file to be opened.
- Other: Not used.

14.3.1.1 OpenFileResponse Class

This is a class to define a new file or stream object in response to an OpenFile callback.

Constructor

```
OpenFileResponse(FileInfo file)
```

File: File object with full path to the new file.

```
OpenFileResponse(Stream file)
```

File: A stream to which the file data will be written.

14.3.2 CreateNewFile

```
CreateNewFileResponse CreateNewFile( FileFormat ParentOutputId,  FileFormat OutputId,
   Association Association, string Path)
```

This callback is made any time a new output file needs to be generated. This gives the developer the chance to affect where the new output file is created, how it is named, and the URL (if any) used to reference the file.

Parameters

- ParentOutputId: File format identifier of the parent file.
- OutputId: File format identifier of the file created.
- Association: An Association that describes relationship between the primary output file and the new file.
- Path: Full path of the file to be created.

Return Value

To take action in response to this notification, return a CreateNewFileResponse object with the new file information. If you wish to accept the defaults for the path and URL, you may return null.

14.3.2.1 CreateNewFileResponse Class

This is a class to define a new output file location in response to a CreateNewFile callback. If you do not wish to change the path to the new output file, you may use the path as received. If you do not wish to specify the URL for the new file, you many specify it as null.

Constructor

```
CreateNewFileResponse(FileInfo File, string URL)
```

- File: File object with full path to new file.
- URL: A new URL that references the newly created file. This parameter can be null.

Association Enumeration

This enumeration defines, for a new file created by an export process, the different possible associations between the new file and the primary output file. Its value may be one of the following:

- Root - indicates the primary output file
- Child - a new file linked (directly or indirectly) from the primary output file
- Sibling - indicates new files not linked from the primary output file
- Copy - the file was copied as a part of a template macro operation.
- RequiredName - not used

Note that some of these relationships will not be possible in all Outside In Export SDKs.

14.3.3 NewFileInfo

```
void NewFileInfo( FileFormat ParentOutputId, FileFormat OutputId,
    Association Association, string Path, string URL)
```

This informational callback is made just after each new file has been created.

Parameters

- ParentOutputId: File format identifier of the parent file
- OutputId: File format identifier of the file created
- Association: An Association that describes relationship between the primary output file and the new file.
- Path: Full path of the file created
- URL: URL that references the newly created file

14.3.4 CreateTempFile

```
CreateTempFileResponse CreateTempFile()
```

This callback is made any time a new temporary file needs to be generated. This gives the developer the chance to handle the reading and writing of the temporary file.

Return Value

To take action in response to this notification, return a CreateTempFileResponse object with the temporary file information.

14.3.4.1 CreateTempFileResponse Class

This is a class to define a new file or stream object in response to an CreateTempFile callback.

Constructor

```
CreateTempFileResponse (Stream file)
```

File: A stream to which the file data will be written and read from.

14.4 ColorInfo Class

ColorInfo is a class to define a color or to use a default color in appropriate cases.

Namespace

OutsideIn

Constructors

```
ColorInfo()
```

Initializes an ColorInfo object to use the default color.

```
public ColorInfo(Byte red,
   Byte green,
   Byte blue)
```

Initializes an ColorInfo object with the specified RGB values.

Properties

- Blue (Byte) - Blue component of the color
- Green (Byte) - Green component of the color
- Red (Byte) - Red component of the color
- UseDefault (Byte) - Set to true if the default color is used

14.5 Exporter Interface

This section describes the properties and methods of Exporter.

All of Outside In's Exporter functionality can be accessed through the Exporter Interface. The object returned by OutsideIn class is an implementation of this interface. This class derives from the Document Interface, which in turn is derived from the OptionsCache Interface.

Namespace

OutsideIn

Methods

- **GetExportStatus**

  ```
  ExportStatus GetExportStatus()
  ```

  This function is used to determine if there were conversion problems during an export. The ExportStatus object returned may have information about sub-document failures, areas of a conversion that may not have high fidelity with the original document. When applicable the number of pages in the output is also provided.

- **NewSubDocumentExporter**

  ```
  Exporter NewSubDocumentExporter(
        int SubDocId,
        SubDocumentIdentifierTypeValue idType
  )
  ```

  Create a new Exporter for a subdocument.

  SubDocId: Identifier of the subdocument

  idType: Type of subdocument

  SubDocumentIdentifierTypeValue: This is an enumeration for the type of subdocument being opened.

- IDTYPE_XX: Subdocument to be opened is based on output of XML Export (SubdocId is the value of the object_id attribute of a locator element.)
- IDTYPE_ATTACHMENT_LOCATOR: Subdocument to be opened is based on the locator value provided by the one of the Export SDKs.
- IDTYPE_ATTACHMENT_INDEX: Subdocument to be opened is based on the index of the attachment from an email message. (SubdocId is the zero-based index of the attachment from an email message file. The first attachment presented by OutsideIn has the index value 0, the second has the index value 1, etc.)

Returns: A new Exporter object for the subdocument

- **NewSubObjectExporter**

```
Exporter NewSubObjectExporter(
      SubObjectTypeValue objType,
      uint data1,
      uint data2,
      uint data3,
      uint data4
)
```

Create a new Exporter for a subobject.

objType: Type of subobject

data1: Data identifying the subobject from SearchML

data2: Data identifying the subobject from SearchML

data3: Data identifying the subobject from SearchML

data4: Data identifying the subobject from SearchML

Returns: A new Exporter object for the subobject

SubObjectTypeValue: An enumeration to describe the type of SubObject to open.

- LinkedObject
- EmbeddedObject
- CompressedFile
- Attachment

- **NewArchiveNodeExporter**

```
Exporter NewArchiveNodeExporter(
      int dwRecordNum
)
```

Create a new Exporter for an archive node. You may get the number of nodes in an archive using getArchiveNodeCount. The nodes are numbered from 0 to getArchiveNodeCount -1.

dwRecordNum: The number of the record to retrieve information about. The first node is node 0 and the total number of nodes may be obtained from GetArchiveNodeCount.

Returns: A new Exporter object for the archive node

- **NewArchiveNodeExporter with Search Export Data**

```
Exporter NewArchiveNodeExporter(
      uint flags,
      uint params1,
      uint params2
)
```

Create a new Exporter for an archive node. To use this function, you must first process the archive with Search Export and save the Node data for later use in this function.

Flags: Special flags value from Search Export

Params1: Data1 from Search Export

Params2: Data2 from Search Export

Returns: A new Exporter object for the archive node

- **Export**

```
void Export()
```

Perform the conversion and close the Export process keeping the source document open.

```
void Export(bool bLeaveSourceOpen)
```

Perform the conversion and close the Export process keep the source document open or close it based on the value of bLeaveSourceOpen.

bLeaveSourceOpen: If set to true, keeps the source document open for next export process.

Note: Before Release 8.5.3, calling Export() with no parameters, would leave the source document open. The default behavior starting with Release 8.5.3 is to close the document after exporting the file. If you would like to keep the file open for other conversions, please use this method with "bLeaveSourceOpen" set to true.

- **SetExportTimeout**

```
OptionsCache SetExportTimeout(int millisecondsTimeout);
```

This method sets the time that the export process should wait for a response from the Outside In export engine to complete the export of a document, setting an upper limit on the time that will elapse during a call to Export(). If the specified length of time or the default timeout amount is reached before the export has completed, the export operation is terminated and an OutsideInException is thrown. If this option is not set, the default timeout is 5 minutes.

- **Close**

```
Close()
```

This function closes the current Export process.

- **NewLocalExporter**

```
static Exporter NewLocalExporter(Exporter source)
```

This method creates and returns an instance of an Exporter object based on the source Exporter. All the options of source are copied to the new Exporter. The source and destination file information will not be copied.

14.5.1 IAnnotatable Interface

All of the Outside In annotation-related methods are accessed through the IAnnotatable Interface.

NameSpace

OutsideIn.Annotations

Methods

- **AddTextHighlight**

```
void AddTextHighlight(
      HighlightTextAnnotation textanno
)
```

Highlight text in a document.

textanno: A HighlightTextAnnotation object with information about the text to highlight

- **AddTextHighlight and Add Annotation Properties**

```
void AddTextHighlight(
      HighlightTextAnnotation textanno,
      Dictionary<string, string> Properties
)
```

Highlight text in a document and associate properties with the annotation.

textanno: A HighlightTextAnnotation object with information about the text to highlight

Properties: Key value pairs of name/value of properties associated with this annotation

- **AddTextHighlight and Associate a Comment**

```
void AddTextHighlight(
      HighlightTextAnnotation textanno,
      string Comment
)
```

Highlight text in a document and associate a comment with the highlight.

textanno: A HighlightTextAnnotation object with information about the text to highlight

Comment: Comment text to associate with the annotation

- **AddTextHighlight with Comment and Properties to Annotation**

```
void AddTextHighlight(
      HighlightTextAnnotation textanno,
      string Comment,
      Dictionary<string, string> Properties
)
```

Highlight text in a document and provide comment text and properties to be associated with the annotation.

textanno: A HighlightTextAnnotation object with information about the text to highlight

Comment: Comment text to associate with the annotation

Properties: Key value pairs of name/value of properties associated with this annotation

14.5.2 Document Interface

All of the Outside In document-related methods are accessed through the Document Interface.

Namespace

OutsideIn

Methods

- **Close**

```
void Close()
```

Closes the currently open document

- **GetArchiveNodeCount**

```
Int32 GetArchiveNodeCount()
```

Retrieves the number of nodes in an archive file.

Returns the number of nodes in the archive file or 0 if the file is not an archive file.

- **GetFileId**

```
FileFormat GetFileId(FileIdInfoFlagValue dwFlags)
```

Gets the format of the file based on the technology's content-based file identification process.

dwFlags: Option to retrieve the file identification pre-Extended or post-Extended Test

Returns the format identifier of the file.

- **GetArchiveNode**

```
TreeRecord GetArchiveNode(Int32 nNodeNum)
```

Retrieves information about a record in an archive file. You may get the number of nodes in an archive using getArchiveNodeCount.

nNodeNum: The number of the record to retrieve information about. The first node is node 0.

Return Value: An ArchiveNode object with the information about the record

- **SaveArchiveNode**

```
void SaveArchiveNode(
      Int32 nNodeNum,
      FileInfo fileinfo)
void SaveArchiveNode(
      Int32 nNodeNum,
      string strFileName)
```

Extracts a record in an archive file to disk.

nNodeNumType: The number of the record to retrieve information about. The first node is node 0.

strFileNameType/fileinfo: Full path of the destination file to which the file will be extracted

- **SaveArchiveNode with ArchiveNode**

```
void SaveArchiveNode(
      ArchiveNode arcNode,
      FileInfo fileinfo)
void SaveArchiveNode(
      ArchiveNode arcNode,
      string strFileName)
```

Extracts a record in an archive file to disk.

arcNode: An ArchiveNode object retrieved from GetArchiveNodeInfo with information about the node to extract

strFileNameType/fileinfo: Full path of the destination file to which the file will be extracted

- **SaveArchiveNode with Search Export Flags**

```
void SaveArchiveNode(
      uint flags,
      uint params1,
      uint params2,
      FileInfo fileinfo)
void SaveArchiveNode(
      uint flags,
      uint params1,
      uint params2,
      string strFileName)
```

Extracts a record in an archive file to disk without reading the data for all nodes in the archive in a sequential order. To use this function, you must first process the archive with Search Export and save the Node data for later use in this function.

flagsType: Special flags value from Search Export

params1: Data1 from Search Export

params2: Data2 from Search Export

strFileNameType/fileinfo: Full path of the destination file to which the file will be extracted

14.5.3 OptionsCache Class

This section describes the OptionsCache class.

The options that configure the way outputs are generated are accessed through the OptionsCache class.

All of the options described in the following subsections are available through this interface. Other methods in this interface are described below.

Namespace

OutsideIn.Options

Methods

- OptionsCache SetSourceFile(FileInfo file)

  Sets the source document to be opened.

  file: Full path to source file

- OptionsCache SetSourceFile(string filename)

  Set the source document.

  filename: Full path of the source document

  Returns: The options cache object associated with this document

- OptionsCache AddSourceFile(FileInfo file)

  Sets the next source document file to be exported in sequence. This allows multiple documents to be exported to the same output destination.

  file: Full path to source file

- OptionsCache AddSourceFile(string filename)

  Set the next source document file to be exported in sequence. This allows multiple documents to be exported to the same output destination.

  filename: Full path to the source file

  returns: The updated options object

- OptionsCache SetSourceFormat(FileFormat fileId)

  Sets the source format to process the input file as, ignoring the algorithmic detection of the file type.

  fileId: the format to treat the input document as.

- `OptionsCache SetDestinationFile(FileInfo file)`

  Sets the location of the destination file.

  file: Full path to the destination file

- OptionsCache SetDestinationFile(string filename)

  Set the location of the destination file.

  filename: Full path to the destination file

  returns: The updated options object

- OptionsCache SetDestinationFormat(FileFormat fileId)

  Sets the destination file format to which the file should be converted to.

fileId: the format to convert the input document(s) to.

- OptionsCache SetCallbackHandler(Callback callback)

  Sets the object to use to handle callbacks.

  callback: the callback handling object.

- OptionsCache SetPasswordsList(List<String> Passwords)

  Provides a list of strings to use as passwords for encrypted documents. The technology will cycle through this list until a successful password is found or the list is exhausted.

  Passwords: List of strings to be used as passwords.

- OptionsCache SetLotusNotesId(String NotesIdFile)

  Sets the Lotus Notes ID file location.

  NotesIdFile: Full path to the Notes ID file.

- OptionsCache SetOpenForNonSequentialAccess(bool bOpenForNonSequentialAccess)

  Setting this option causes the technology to open archive files in a special mode that is only usable for non-sequential access of nodes.

  bOpenForNonSequentialAccess : If set to true would open the archive file in the special access mode. Note that turning this flag on a non-archive file will throw an exception at RunExport time.

- OptionsCache SetSourceFile(Stream file)

  Set an input stream as the source document. Exporting a file using this method may have issues with files that require the original name of the file (example: extension of the file for identification purposes or name of a secondary file dependent on the name/path of this file).

- OptionsCache SetSourceFile(Stream file, String Filename)

  Set an input stream as the source document and provide information about the filename (fully qualified path or file name that may be used to derive the extension of the file or name of a secondary file dependent on the name/path of this file).

- OptionsCache SetNextSourceFile(Stream file)

  Set an input stream as the next source document to be exported to the original destination file. This method has the same limitations as the similar SetSourceFile(Stream file) method.

- OptionsCache SetNextSourceFile(Stream file, String Filename)

  Set an input stream as the next source document to be exported to the original destination file. The file name provided is used as in the method SetSourceFile(Stream file, String Filename)

- OptionsCache SetNextSourceFile(FileInfo file)

  Set an input stream as the next source document to be exported to the original destination file.

- OptionsCache SetDestinationFile(Stream file)

  Set an output stream as the destination for an export.

14.5.3.1 AppendEMailAttachments

This option toggles whether or not email attachments will be output as PDF. For input files in all OIT-supported email formats that contain attachments, this option instructs the PDF Export process to export the contents of the attachments to PDF. The contents of the export are attached to the end of the email message so that only one PDF output file is produced. In addition, hyperlinks are provided that link to bookmarks marking the beginning of each attachment in the resulting PDF.

Data Type

bool

Data

- true: Email attachments are output as PDF.
- false: Email attachments are not included in the PDF.

Default

false

14.5.3.2 ApplyZLIBCompression

OIT Option ID: SCCOPT_APPLYFILTER

This option determines if ZLIB compression will be applied to all object streams when generating the PDF output file

Data Type

bool

Data

- true: ZLIB compression is applied to all output streams.
- false: ZLIB compression is not applied to any output stream

Default

true

14.5.3.3 BiDiReorderMethod

OIT Option ID: SCCOPT_REORDERMETHOD

This option controls how the technology reorders bidirectional text.

Data Type

- BiDiReorderMethodValue

BiDiReorderMethodValue Enumeration

One of the following values:

- UnicodeOff: This disables any processing for bidirectional characters. This option is the default.
- UnicodeLToR: Characters displayed using the Unicode bidirectional algorithm assuming a base left-to-right order. Use this option to enable bidirectional rendering.
- UnicodeRToL: Characters displayed using the Unicode bidirectional algorithm assuming a base right-to-left order. Use this option to force starting bidirectional rendering in the right-to-left.

Default

UnicodeOff

14.5.3.4 DefaultInputCharacterSet

OIT Option ID: SCCOPT_DEFAULTINPUTCHARSET

This option is used in cases where Outside In cannot determine the character set used to encode the text of an input file. When all other means of determining the file's character set are exhausted, Outside In will assume that an input document is encoded in the character set specified by this option. This is most often used when reading plain-text files, but may also be used when reading HTML or PDF files.

Data Type

DefaultInputCharacterSetValue

DefaultInputCharacterSetValue Enumeration

DefaultInputCharacterSetValue can be one of the following enumerations:

SystemDefault

Unicode

BigEndianUnicode

LittleEndianUnicode

Utf8

Utf7

Ascii

UnixJapanese

UnixJapaneseEuc

UnixChineseTrad1

UnixChineseEucTrad1

UnixChineseTrad2

UnixChineseEucTrad2

UnixKorean

UnixChineseSimple

Ebcdic37

Ebcdic273

Ebcdic274

Ebcdic277

Ebcdic278

Ebcdic280

Ebcdic282

Ebcdic284

Ebcdic285

Ebcdic297

Ebcdic500

Ebcdic1026

Dos437

Dos737

Dos850

Dos852

Dos855

Dos857

Dos860

Dos861

Dos863

Dos865

Dos866

Dos869

Windows874

Windows932

Windows936

Windows949

Windows950

Windows1250

Windows1251

Windows1252

Windows1253

Windows1254

Windows1255

Windows1256

Windows1257

Iso8859_1

Iso8859_2

Iso8859_3

Iso8859_4

Iso8859_5

Iso8859_6

Iso8859_7

Iso8859_8

Iso8859_9

MacRoman

MacCroatian

MacRomanian

MacTurkish

MacIcelandic

MacCyrillic

MacGreek

MacCE

MacHebrew

MacArabic

MacJapanese

HPRoman8

BiDiOldCode

BiDiPC8

BiDiE0

RussianKOI8

JapaneseX0201

Default

SystemDefault

14.5.3.5 DefaultPageSize

This option allows the developer to specify the size of each page in the generated output file. The size may be specified in inches, points, centimeters or picas. This option is only valid when UseDocumentPageSettings is set to false. 1 inch = 6 picas = 72 points = ~ 2.54 cm.

Data Type

PageInfo

Data

A PageInfo object with the page size information.

Default

8.5 inches by 11 inches

14.5.3.6 DefaultRenderFont

OIT Option ID: SCCOPT_DEFAULTPRINTFONT

This option sets the font to use when the chunker-specified font is not available on the system. It is also the font used when the font in source file is not available on the system performing the conversion.

Class members:

string strFaceName

int FontHeight

14.5.3.7 DefaultPageMargins

This option specifies the top, left, bottom and right margins in twips from the edges of the page. For instance, setting all the values to 1440 creates a 1-inch margin on all sides. Page margins will only be applied when formatting word processing, database and spreadsheet files.

Please note all margins are applied before scaling with the PageFitMode option. This option is overridden when the UseDocumentPageSettings option is set to true and print margins are specified in the input document. This option does not affect the output of bitmap, presentation, vector or archive files.

Data Type

Margins

Data

A Margins object with the margins on the 4 sides defined.

Default

1 inch for all margins (1440, 1440, 1440, 1440)

14.5.3.8 DocumentMemoryMode

OIT Option ID: SCCOPT_DOCUMENTMEMORYMODE

This option determines the maximum amount of memory that the chunker may use to store the document's data, from 4 MB to 1 GB. The more memory the chunker has available to it, the less often it needs to re-read data from the document.

Data

- SMALLEST: 1 - 4MB
- SMALL: 2 - 16MB
- MEDIUM: 3 - 64MB
- LARGE: 4 - 256MB
- LARGEST: 5 - 1 GB

Default

SMALL: 2 - 16MB

14.5.3.9 EmailHeaders

OIT Option ID: SCCOPT_WPEMAILHEADEROUTPUT

This option controls rendering of email headers.

Data

- ALL: Displays all available email headers.
- STANDARD: Displays "To," "From," "Subject," "CC," "BCC," "Date Sent," and "Attachments" header fields only. The filter outputs any fields not listed above as hidden fields, so they will not display.
- NONE: Displays no email header fields.
- CUSTOM

Default

STANDARD

14.5.3.10 EmbedFonts

This option allows the developer to specify whether or not fonts should be embedded in the file. In order to comply with the PDF/A-1a spec, this option is forced to a value of All when PDF/A is selected for the output type.

Data Type

EmbedFontsValue

EmbedFontsValue Enumeration

- ReduceSize: Do not embed base fonts
- All: Embed all fonts
- None: Do not embed base fonts

Default

ReduceSize

14.5.3.11 FallbackFormat

This option controls how files are handled when their specific application type cannot be determined. This normally affects all plain-text files, because plain-text files are generally identified by process of elimination, for example, when a file isn't identified as having been created by a known application, it is treated as a plain-text file. It is recommended that None be set to prevent the conversion from exporting unidentified binary files as though they were text, which could generate many pages of "garbage" output.

Data Type

FallbackFormatValue

FallbackFormatValue Enumeration

- Text: Unidentified file types will be treated as text files.
- None: Outside In will not attempt to process files whose type cannot be identified

Default

Text

14.5.3.12 FitHeightToPages

OIT Option ID: SCCOPT_SSPRINTSCALEXHIGH

This option will fit the spreadsheet image to the number of vertical pages specified. The setting for this option will have no effect unless the SSPrintFitToPage option is set to FitToPages.

Data Type

Int32

Default

1

14.5.3.13 FitWidthToPages

OIT Option ID: SCCOPT_SSPRINTSCALEXWIDE

This option will fit the spreadsheet image to the number of horizontal pages specified. The setting for this option will have no effect unless the SSPrintFitToPage option is set to FitToPages.

Data Type

Int32

Default

1

14.5.3.14 FontAliasList

This option enables the capability to specify which font on the system should be used when a specific font referenced in the original file is not available. A different alias can be set for each font desired to be mapped.

Data Type

FontAliases

Data

A FontAliases object with a list of font matchings

Default

Windows PrintAlias default

14.5.3.15 FontDirectories

This option allows the developer to specify one or more font directories where fonts are located for use by the technology. If multiple font directories are specified, they should be delimited by a semi-colon on Windows systems.

Data Type

List<DirectoryInfo>

Data

A list of directories where fonts are located.

Default

None

14.5.3.16 FontFilter

This option allows the developer to specify a list of fonts to be included or excluded during the export process.

Data Type

FontList

Data

A FontFilter object describing the inclusion or exclusion list.

Default

None

14.5.3.17 GraphicOutputDPI

OIT Option ID: SCCOPT_GRAPHIC_OUTPUTDPI

This option allows the user to specify the output graphics device's resolution in DPI and only applies to images whose size is specified in physical units (in/cm). For example, consider a 1" square, 100 DPI graphic that is to be rendered on a 50 DPI device (GraphicOutputDPI is set to 50). In this case, the size of the resulting TIFF, BMP, JPEG, GIF, or PNG will be 50 x 50 pixels.

In addition, the special #define of SCCGRAPHIC_MAINTAIN_IMAGE_DPI, which is defined as 0, can be used to suppress any dimensional changes to an image. In other words, a 1" square, 100 DPI graphic will be converted to an image that is 100 x 100 pixels in size. This value indicates that the DPI of the output device is not important. It extracts the maximum resolution from the input image with the smallest exported image size.

Setting this option to SCCGRAPHIC_MAINTAIN_IMAGE_DPI may result in the creation of extremely large images. Be aware that there may be limitations in the system running this technology that could result in undesirably large bandwidth

consumption or an error message. Additionally, an out of memory error message will be generated if system memory is insufficient to handle a particularly large image.

Also note that the SCCGRAPHIC_MAINTAIN_IMAGE_DPI setting will force the technology to use the DPI settings already present in raster images, but will use the current screen resolution as the DPI setting for any other type of input file.

For some output graphic types, there may be a discrepancy between the value set by this option and the DPI value reported by some graphics applications. The discrepancy occurs when the output format uses metric units (DPM, or dots per meter) instead of English units (DPI, or dots per inch). Depending on how the graphics application performs rounding on meters to inches conversions, the DPI value reported may be 1 unit more than expected. An example of a format which may exhibit this problem is PNG.

The maximum value that can be set is 2400 DPI; the default is 96 DPI.

Data Type

Int32

14.5.3.18 GridMaxPageHeight

OIT Option ID: SCCOPT_MAXSSDBPAGEHEIGHT

Normally, the size of images generated from spreadsheet worksheets and database tables is limited to the size of the page defined by the input document's page size information and how the UseDocumentPageSettings, GraphicWidth and GraphicHeight options are set. If, after scaling is factored in, the resulting image is too large to fit on a single page, it is split up into multiple pages.

The GridMaxPageWidth and GridMaxPageHeight options are used to change the size of a page to match the scaled size of the page being rendered - within limits. The key reason for those limits is that rendering very large pages can easily overwhelm the memory available on the system. When using this feature, a calculation should be made to be sure that the values passed in work within said memory limits. The values for these two options will override the current page dimensions if necessary.

Data Type

Int32

Data

The maximum page height (including margins) specified in twips (1440 twips are in 1 inch). If the value specified is smaller than the page height, then an error will be returned.

14.5.3.19 GridMaxPageWidth

OIT Option ID: SCCOPT_MAXSSDBPAGEWIDTH

See the documentation for GridMaxPageHeight for a full discussion of how this option works and interacts with other options affecting the page size of images generated from spreadsheet and database pages.

Data Type

Int32

Data

The maximum page width (including margins) specified in twips (1440 twips are in 1 inch). If the value specified is smaller than the page width, then Image Export will return an error.

14.5.3.20 IECondCommentMode

OIT Option ID: SCCOPT_HTML_COND_COMMENT_MODE

Some HTML input files may include "conditional comments", which are HTML comments that mark areas of HTML to be interpreted in specific versions of Internet Explorer, while being ignored by other browsers. This option allows you to control how the content contained within conditional comments will be interpreted by Outside In's HTML parsing code.

Data

- NONE: Don't output any conditional comment
- IE5: Include the IE5 comments
- IE6: Include the IE6 comments
- IE7: Include the IE7 comments
- IE8: Include the IE8 comments
- IE9: Include the IE9 comments
- ALL: Include all conditional comments

14.5.3.21 IgnorePassword

OIT Option ID: SCCOPT_IGNORE_PASSWORD

This option can disable the password verification of files where the contents can be processed without validation of the password. If this option is not set, the filter should prompt for a password if it handles password-protected files.

Data Type

bool

14.5.3.22 ImagePassthrough

This feature is used to allow certain input files to circumvent the normal filtering process and to be 'wrapped' in a PDF output file directly. This allows for much faster exporting of the supported file formats, which currently are JPEG, JPEG2000, and TIFF.

Data Type

bool

Default

false

14.5.3.23 ISODateTimes

OIT Option ID: SCCOPT_FORMATFLAGS

When this flag is set, all Date and Time values are converted to the ISO 8601 standard. This conversion can only be performed using dates that are stored as numeric data within the original file.

Data

bool

Default

false

14.5.3.24 JPEGQuality

OIT Option ID: SCCOPT_JPEG_QUALITY

This option allows the developer to specify the lossyness of JPEG compression. The option is only valid if the dwOutputID parameter of the EXOpenExport function is set to FI_JPEGFIF, FI_PDF, FI_PDFA, or FI_PDFA_2.

Data Type

Int32

Data

A value from 1 to 100, with 100 being the highest quality but the least compression, and 1 being the lowest quality but the most compression.

Default

100

14.5.3.25 LinearizePDFOutput

Linearization is a method by which PDF renderers are able to render pages of the PDF file before the entire document is loaded. Linearized output is both larger and takes longer to produce; this option allows you to produce non-linearized PDF so that the export process will be quicker and result in a smaller output file.

Data Type

bool

Default

false

14.5.3.26 LotusNotesDirectory

OIT Option ID: SCCOPT_LOTUSNOTESDIRECTORY

This option allows the developer to specify the location of a Lotus Notes or Domino installation for use by the NSF filter. A valid Lotus installation directory must contain the file nnotes.dll.

Data

A path to the Lotus Notes directory.

Default

If this option isn't set, then OIT will first attempt to load the Lotus library according to the operating system's PATH environment variable, and then attempt to find and load the Lotus library as indicated in HKEY_CLASSES_ROOT\Notes.Link.

14.5.3.27 MarginText

This option lets you specify a text string for margin text.

Data Type

MarginText

Default

None

14.5.3.28 MarginTextFont

This option is used to set the margin text font and font size.

Data Type

FontInfo

Default

Arial, 9 pt.

14.5.3.29 PageDirection

OIT Option ID: SCCOPT_SSPRINTDIRECTION

This option controls the pattern in which the pages are rendered, either across first and then down, or down first and then across.

This option is overridden when the UseDocumentPageSettings option is set to true and print direction is specified in the input document.

Data Type

PAGEDIRECTION_VALUES

Default

PageDirectionDown

14.5.3.30 PageFitMode

OIT Option ID: SCCOPT_DBPRINTFITTOPAGE

OIT Option ID: SCCOPT_SSPRINTFITTOPAGE

This option scales a spreadsheet file or database image to a certain percent or to a page width or height. However, in an effort to preserve readability after scaling, Image

Export will not shrink a database document to under approximately one-third of its original size.

It should be noted that when this option is set to NoMap, the pages of the database file are printed down first and then across.

Please note that any margins applied as a result of settings for the DefaultPrintMargins option will be included in any scaling that is applied to the output image as a result of settings for this option.

This option is overridden when the UseDocumentPageSettings option is set to true and fitting the page to the printer's image limits is specified in the input document.

Data

- NoMap: No scaling is performed on the spreadsheet or database image. It will render in its original size onto as many pages as are required to fit the data.
- FitToWidth: Scale the spreadsheet or database image in the rendered image so it is no larger than one page wide.
- FitToHeight: Scale the spreadsheet or database image in the rendered image so it is no larger than one page high.
- Scale: Scale the spreadsheet or the database image in the rendered image using the scale value stored in the PageScalePercent option.
- FitToPages: Scale the spreadsheet or the database image in the rendered image to fit to the number of pages specified in the FitHeightToPages and FitWidthToPages options. Since aspect ratio is maintained, the lesser of the two dimensions (width or height) will determine the scale factor. Note that if either FitHeightToPages or FitWidthToPages is set to 0, the value in the other option will be nullified.

Default

- Scale: Scales the rendered image of the spreadsheet or database image using the scale value stored in the PageScalePercent option (which is 100 by default).

14.5.3.31 PageRange

OIT Option ID: SCCOPT_WHATTOPRINT

OIT Option ID: SCCOPT_PRINTSTARTPAGE

OIT Option ID: SCCOPT_PRINTENDPAGE

This option indicates whether the whole file or a selected range of pages should be rendered. When selecting a range, the start and ending pages are specified.

Data Type

PageRange

Data

The page range to be exported.

Default

All pages are printed

14.5.3.32 PageScalePercent

OIT Option ID: SCCOPT_SSPRINTSCALEPERCENT

This option will scale spreadsheet pages by the percentage specified. The option has no effect unless the SSPrintFitToPage option is set to Scale.

This option must take a value between 1 and 100. If any value outside of this range is used, the option will be ignored.

Data Type

Int32

Default

100

14.5.3.33 PDFInputMaxEmbeddedObjects

This option allows the user to limit the number of embedded objects that are produced in a PDF file.

Data Type

UInt32

Data

The maximum number of embedded objects to produce in PDF output. Setting this to 0 would produce an all embedded objects in the input document.

Default

0 – produce all objects.

14.5.3.34 PDFInputMaxVectorPaths

This option allows the user to limit the number of vector paths that are produced in a PDF file.

Data

The maximum number of paths to produce in PDF output. Setting this to 0 would produce an all vector objects in the input document.

Default

0 – produce all vector objects.

14.5.3.35 PDFReorderBiDi

OIT Option ID: SCCOPT_PDF_FILTER_REORDER_BIDI

This option controls whether or not the PDF filter will attempt to reorder bidirectional text runs so that the output is in standard logical order as used by the Unicode 2.0 and later specification. This additional processing will result in slower filter performance according to the amount of bidirectional data in the file.

PDFReorderBiDiValue Enumeration

This enumeration defines the type of Bidirection text reordering the PDF filter should perform.

- StandardBiDi: Do not attempt to reorder bidirectional text runs.
- ReorderedBiDi: Attempt to reorder bidirectional text runs.

14.5.3.36 PDFWordSpacingFactor

This option controls the spacing threshold in PDF input documents. Most PDF documents do not have an explicit character denoting a word break. The PDF filter calculates the distance between two characters to determine if they are part of the same word or if there should be a word break inserted. The space between characters is compared to the length of the space character in the current font multiplied by this fraction. If the space between characters is larger, then a word break character is inserted into the text stream. Otherwise, the characters are considered to be part of the same word and no word break is inserted.

Data Type

float

Data

A value representing the percentage of the space character used to trigger a word break. Valid values are positive values less than 2.

Default

0.85

14.5.3.37 PerformExtendedFI

OIT Option ID: SCCOPT_FIFLAGS

This option affects how an input file's internal format (application type) is identified when the file is first opened by the Outside In technology. When the extended test flag is in effect, and an input file is identified as being either 7-bit ASCII, EBCDIC, or Unicode, the file's contents will be interpreted as such by the export process.

The extended test is optional because it requires extra processing and cannot guarantee complete accuracy (which would require the inspection of every single byte in a file to eliminate false positives.)

Data Type

bool

Data

One of the following values:

- false: When this is set, standard file identification behavior occurs.
- true: If set, the File Identification code will run an extended test on all files that are not identified.

Default

true

14.5.3.38 RedactionColor

This option provides the ability to specify the color used for a redaction rectangle (black or white) as well as the color used (black or white) for the redaction code. When the colors match, the redaction code is effectively invisible. Settings should default to Black redactions with White codes if not explicitly set. The values may be set on each redaction individually, both in the UI and in the rendered output.

Value

ColorInfo

Data

Any valid CSS color

14.5.3.39 RedactionLabelFont

This option sets the name and size of font to use for redaction labels. The font size may be reduced to allow text to fit within a redaction rectangle.

Data Type

FontInfo

Default

Default display font, 9 pt.

14.5.3.40 RedactionLabelsVisible

This option allows you to display redaction labels in your output.

Data Type

Boolean

Default

False (no labels)

14.5.3.41 RedactionsEnabled

This option tells the export to format the output to be redaction-capable. In practical terms what this means is that all embeddings will be rasterized (routed through sccimg) so that a rectangle in an embedding is consistent across all output formats.

Data Type

Boolean

Default

False

14.5.3.42 RenderEmbeddedFonts

This option allows you to disable the use of embedded fonts in PDF input files. If the option is set to true, the embedded fonts in the PDF input are used to render text; if the option is set to false, the embedded fonts are not used and the fallback is to use fonts available to Outside In to render text.

Data Type

bool

Default

true

14.5.3.43 RenderGridlines

OIT Option ID: SCCOPT_DBPRINTGRIDLINES

OIT Option ID: SCCOPT_SSPRINTGRIDLINES

If this option is true, a line is generated between cells in the rendered image.

This option is overridden when the UseDocumentPageSettings option is set to true and printing grid lines between cells is specified in the input document.

Data Type

bool

Default

true

14.5.3.44 RenderHeadings

OIT Option ID: SCCOPT_DBPRINTHEADINGS

OIT Option ID: SCCOPT_SSPRINTHEADINGS

If this option is true, field, row and column headings will be generated along with the data.

This option is overridden when the UseDocumentPageSettings option is set to true and printing column and row headers is specified in the input document.

Data Type

bool

Default

true

14.5.3.45 ShowArchiveFullPath

OIT Option ID: SCCOPT_ARCFULLPATH

This option causes the full path of a node to be returned in "GetArchiveNodeInfo" and "GetObjectInfo".

Data Type

bool

Data

- true: Provide the full path.
- false: Do not provide the path.

Default

false

14.5.3.46 ShowHiddenCells

OIT Option ID: SCCOPT_SSSHOWHIDDENCELLS

This option lets you determine whether or not to show hidden rows or columns when rendering spreadsheets. It is used to expand the widths of cells that are hidden by virtue of having their row height or column width reduced to 0. This is a Boolean option that will leave the data hidden when it is false, and show all hidden rows and columns when it is true, displayed using the default row width or default column height.

Data Type

bool

Default

false

14.5.3.47 ShowHiddenSpreadSheetData

The setting for this option determines whether or not hidden data (hidden columns, rows or sheets) in a spreadsheet will be included in the output. When set to false (the default), the hidden elements are not written. When set to true, they are placed in the output in the same manner as regular spreadsheet data.

Data Type

bool

Default

false

14.5.3.48 StrictFile

When an embedded file or URL can't be opened with the full path, OutsideIn will sometimes try and open the referenced file from other locations, including the current directory. When this option is set, it will prevent OutsideIn from trying to open the file from any location other than the fully qualified path or URL.

Data Type

bool

Default

false

14.5.3.49 TimeZoneOffset

OIT Option ID: SCCOPT_TIMEZONE

This option allows the user to define an offset to GMT that will be applied during date formatting, allowing date values to be displayed in a selectable time zone. This option affects the formatting of numbers that have been defined as date values. This option will not affect dates that are stored as text. To query the operating system for the time zone set on the machine, specify TimeZoneOffset_UseNative.

Note:

Daylight savings is not supported. The sent time in msg files when viewed in Outlook can be an hour different from the time sent when an image of the msg file is created.

Data Type

Int32

Data

Integer parameter from -96 to 96, representing 15-minute offsets from GMT. To query the operating system for the time zone set on the machine, specify SCC_TIMEZONE_USENATIVE.

Default

- 0: GMT time

14.5.3.50 UnmappableCharacter

OIT Option ID: SCCOPT_UNMAPPABLECHAR

This option selects the character used when a character cannot be found in the output character set. This option takes the Unicode value for the replacement character. It is left to the user to make sure that the selected replacement character is available in the output character set.

Data Type

UShort

Data

The Unicode value for the character to use.

Default

- 0x002a = "*"

14.5.3.51 UseDocumentPageSettings

OIT Option ID: SCCOPT_USEDOCPAGESETTINGS

This option is used to select the document's page layout information when rendering.

If true, the document's native (or author selected) page margins, paper size, page scaling and page orientation are used when available from the filter.

The values of the DefaultPrintMargins, RenderGridlines, RenderHeadings, PageDirection, and PageFitMode options are overridden if this option is set to true and the properties associated with those options are specified in the input document. Additionally, print area and page breaks in spreadsheet documents are ignored unless this option is set to true.

If false, the page margins, size, orientation and scaling are set to specific values rather than those in the native document. The page size is forced to 8 1/2" x 11" in portrait orientation, but this may be changed by setting the GraphicHeight and/or GraphicWidth options. The margins are forced 1" all around, but may be changed by setting the defaultMargins option. The scaling for the document will be set to 100%, although this may be changed by setting any of the various scaling options.

It should be noted that this option also affects page orientation for both input spreadsheets and word processing documents.

Data Type

bool

Default

true

14.6 ExportStatus Class

The ExportStatus class provides access to information about a conversion. This information may include information about sub-document failures, areas of a conversion that may not have high fidelity with the original document. When applicable the number of pages in the output is also provided.

Namespace

OutsideIn

Properties

- PageCount (Int32) - A count of all of the output pages produced during an export operation.
- StatusFlags (ExportStatusFlags) - Gets the information about possible fidelity issues with the original document.
- SubDocsFailed (Int32) - Number of sub documents that were not converted.
- SubDocsPassed (Int32) - Number of sub documents that were successfully converted.

ExportStatusFlags Enumeration

This enumeration is the set of possible known problems that can occur during an export process.

- NoInformationAvailable: No Information is available

- MissingMap: A PDF text run was missing the toUnicode table
- VerticalText: A vertical text run was present
- TextEffects: A run that had unsupported text effects applied. One example is Word Art
- UnsupportedCompression: A graphic had an unsupported compression
- UnsupportedColorSpace: A graphic had an unsupported color space
- Forms: A sub documents had forms
- RightToLeftTables: A table had right to left columns
- Equations: A file had equations
- AliasedFont: The desired font was missing, but a font alias was used
- MissingFont: The desired font wasn't present on the system
- SubDocFailed: a sub-document was not converted
- TypeThreeFont: A type 3 font was encountered.
- UnsupportedShading: An unsupported shading pattern was encountered.
- InvalidHTML: An HTML parse error, as defined by the W3C, was encountered.
- bInvalidAnnotationNotApplied: Unsupported annotation/redaction wasn't rendered.

14.7 FileFormat Class

This class defines the identifiers for file formats.

Namespace

OutsideIn

Methods

- getDescription

  ```
  String getDescription()
  ```

  This method returns the description of the format.

- getId

  ```
  int getId()
  ```

  This method returns the numeric identifier of the format.

- forId

  ```
  FileFormat forId(int id)
  ```

  This method returns the FileFormat object for the given identifier.

  id : The numeric identifier for which the corresponding FileFormat object is returned.

14.8 FontAliases Class

FontAliases is a class for providing font matching of unknown fonts.

Namespace

OutsideIn.Options

Constructor

```
FontAliases(Dictionary<string, string> aliasList)
   aliasList      Aliases list as a key-value pair with original name as key
```

Properties

- AliasList (Dictionary<String, String>) - List of font aliases set.

14.9 FontInfo Class

FontInfo is a class to define a font for use in the OutsideIn API.

Namespace

OutsideIn.Options

Constructor

```
FontInfo()
```

Constructs a FontInfo object with a 10 point Arial Font.

```
FontInfo(String fontface, Int16 height)
   fontface  The name of the font
   height    Size of the font in half points
```

Properties

- Fontface (String) - The name of the font
- Height (Int16) - Size of the font in half points

14.10 FontList Class

FontList is a class for inclusion or exclusion of fonts in exported documents.

Namespace

OutsideIn.Options

Constructor

```
FontList(Boolean  IsExclusion, String[] fonts)
   IsExclusion  If set then accompanying list is an exclusion list
   fonts        List of fonts to include or exclude
```

Properties

- IsExclusion (Boolean) - If set, then accompanying list is an exclusion list.
- FontsList (String[]) - List of fonts to include or exclude.

14.11 HighlightTextAnnotation Class

The HighlightTextAnnotation class applies to characteristics of a highlighted text annotation. This class derives from the Annotation class.

Namespace

OutsideIn.Annotations

Constructors

```
HighlightTextAnnotation(Int64 StartCharCount,
      Int64 EndCharCount,
      CharAttributeValues CharAttrs,
      CharAttributeValues CharMask)
HighlightTextAnnotation(Int64 StartCharCount,
      Int64 EndCharCount,
      ColorInfo Foreground,
      ColorInfo Background)
HighlightTextAnnotation(Int64 StartCharCount,
      Int64 EndCharCount,
      ColorInfo Foreground,
      ColorInfo Background,
      CharAttributeValues CharAttrs,
      CharAttributeValues CharMask)
```

Initializes a new instance of the HighlightTextAnnotation class.

Parameters

- **StartCharCount**: The character count of the starting position
- **EndCharCount**: The character count of the end position
- **Foreground**: The text color of the highlight
- **Background**: The background color of the highlight
- **CharAttrs**: The character attributes to use
- **CharMask**: Character attributes to change

CharAttributeValues Enumeration

This enumeration is the list of all character attributes to apply for the text highlight.

- Normal: Normal text - All attributes off
- Underline: Underline attribute
- Italic: Italic attribute
- Bold: Bold attribute

- StrikeOut: Strike out text
- SmallCaps: Small caps
- Outline: Outline Text
- Shadow: Shadow text
- Caps: All Caps
- Subscript: Subscript text
- Superscript: Superscript text
- DoubleUnderline: Double Underline
- WordUnderline: Word Underline
- DottedUnderline: Dotted Underline
- DashedUnderline: Dashed Underline
- All: All attributes

14.12 MailHeaders Class

MailHeaders class is a class describing the Mail Headers to be displayed, hidden or modified.

Namespace

OutsideIn.Options

Constructors

```
MailHeaders()
```

Constructs a MailHeaders object with a standard headers only.

```
MailHeaders(MailHeaders.BaselineValue baseline)
```

baseline: The starting point to add or delete headers.

Properties

Baseline (MailHeaders.BaselineValue) The starting point to add or delete headers.

Methods

```
MailHeaders ExcludeHeader(MailHeaders.MailTypeValue mtype,
MailHeaders.MailHeaderValue mhdr)
```

This method adds a standard header to the hidden list.

- mtype: The type of documents in which to hide this header
- mhdr: The header to hide

This method returns a reference to the updated MailHeaders object.

```
MailHeaders ExcludeHeader(MailHeaders.MailTypeValue mtype, String Exclusion)
```

This method adds a custom header to be the hidden list.

- mtype: The type of documents in which to hide this header
- Exclusion: User-specified MIME header name to be excluded

This method returns a reference to the updated MailHeaders object.

```
MailHeaders  IncludeHeader(MailHeaders.MailTypeValue mtype,
MailHeaders.MailHeaderValue mhdr)
```

This method adds a standard header to the visible list.

- mtype: The type of documents in which to show this header
- mhdr: The header to hide

This method returns a reference to the updated MailHeaders object.

```
MailHeaders  IncludeHeader(MailHeaders.MailTypeValue mtype, String Original, String
Replacement)
```

This method adds a custom header to the visible list.

- mtype: The type of documents in which to show this header
- Original: User-specified MIME header name
- Replacement: String that will be used as the label for the user-defined MIME header

This method returns a reference to the updated MailHeaders object.

```
void SetHeader(Dictionary<MailHeaders.MailTypeValue, Dictionary<String, String>>
headers)
```

This method sets a series of custom headers to the visible headers list.

- headers: A key value pair of user-specified MIME headers and their replacement strings

```
void SetHeader(Dictionary<MailHeaders.MailTypeValue, List<String>> headers)
```

This method sets a series of custom headers to the hidden headers list.

- headers: A list of user-specified MIME headers to be hidden

MailHeaders.BaselineValue Enumeration

The BaselineValue is an enumeration of the possible baselines (starting points to add or exclude headers).

MailHeaders.MailTypeValue Enumeration

The MailTypeValue is an enumeration of the types of mail documents.

14.13 Margins Class

The Margins Class is used to describe the page margins.

Namespace

OutsideIn.Options

Constructors

```
Margins()
```

Constructs a Margins object with a 1 inch margins for top, bottom, left and right margins.

```
Margins(Int64 top,
       Int64 bottom,
       Int64 left,
       Int64 right)
top    Margin from the top edge of the page (in twips)
bottom Margin from the bottom edge of the page (in twips)
left   Margin from the left edge of the page (in twips)
right  Margin from the right edge of the page (in twips)
```

Properties

- Top (Int64) Margin from the top edge of the page (in twips)
- Bottom (Int64) Margin from the bottom edge of the page (in twips)
- Left (Int64) Margin from the left edge of the page (in twips)
- Right (Int64) Margin from the right edge of the page (in twips)

14.14 MarginText Class

This class provides a mechanism to define the Margin text to be applied to a page/ document.

Namespace

OutsideIn

Constructors

```
MarginText(Map<MarginText.Location, String>)
```

Constructs a Margin text object with a list of lines.

```
MarginText(MarginText.Location, String)
```

Constructs a Margin text object with a single line.

Methods

```
void AddMarginText(Map<MarginText.Location, String>)
```

Adds a set of Margin text lines.

```
void AddMarginText(MarginText.Location, String)
```

Adds a line of Margin text.

Location Enumeration

This enumeration is the list of all the locations margin text can be applied to.

- TopLeftLine1: Line 1 of Top Left Corner of page
- TopLeftLine2: Line 2 of Top Left Corner of page
- TopLeftLine3: Line 3 of Top Left Corner of page
- TopCenterLine1: Line 1 of Top Center of page
- TopCenterLine2: Line 2 of Top Center of page
- TopCenterLine3: Line 3 of Top Center of page
- TopRightLine1: Line 1 of Top Right Corner of page
- TopRightLine2: Line 2 of Top Right Corner of page
- TopRightLine3: Line 3 of Top Right Corner of page
- BottomLeftLine1: Line 1 of Bottom Left Corner of page
- BottomLeftLine2: Line 2 of Bottom Left Corner of page
- BottomLeftLine3: Line 3 of Bottom Left Corner of page
- BottomCenterLine1: Line 1 of Bottom Center of page
- BottomCenterLine2: Line 2 of Bottom Center of page
- BottomCenterLine3: Line 3 of Bottom Center of page
- BottomRightLine1: Line 1 of Bottom Right Corner of page
- BottomRightLine2: Line 2 of Bottom Right Corner of page
- BottomRightLine3: Line 3 of Bottom Right Corner of page

14.15 Option Interface

The Option Interface provides the methods and properties to retrieve information about an Outside In Option.

Namespace

Outside In

Properties

- Name — Name of the option
- Description — Description of the option

- DataType — The type of the option value
- SupportingProducts — The list of products that support this option

Methods

```
void Set(OptionsCache exporter, Object objValue);
```

This method sets the option to the exporter object.

- exporter — The exporter object
- objValue — Value of the option

> **Note:**
>
> If the type of objValue cannot be converted to the data type the option is expecting, an OutsideInCastException is thrown.

```
void Get(OptionsCache exporter)
```

This method gets the currently set value for the option.

- exporter — The exporter object who's option value is requested.

OutsideInProducts Enumeration

- HTMLExport — Outside In HTML Export
- ImageExport — Outside In Image Export
- PDFExport — Outside In PDF Export
- SearchExport — Outside In Search Export
- WebViewExport — Outside In Web View Export
- XMLExport — Outside In XML Export
- AllExports — All Outside In export products

14.16 OutsideIn Class

This is a utility class that creates an instance of an Exporter object on request.

Namespace

OutsideIn

Methods

```
static Exporter NewLocalExporter()
```

This method creates an instance of an Exporter object. It returns a newly created Exporter object.

```
static Exporter NewLocalExporter(Exporter source)
```

This method creates and returns an instance of an Exporter object based on the source Exporter. All the options of source are copied to the new Exporter. The source and destination file information will not be copied.

```
OutsideInVersion GetCoreVersion()
```

This static method returns an OutsideInVersion object with information of the Outside In Core Technology used.

14.17 OutsideInVersion Class

The OutsideIn Class is used to describe the version of the Outside In Core Module.

Namespace

OutsideIn

Methods

```
String GetVersion()
```

This method returns the version information as a string in the format of "MajorVersion.MinorVersion.DotVersion".

Properties

- int MajorVersion: The major version component
- int MinorVersion: The minor version component
- int DotVersion: The dot version component

14.18 OutsideInConfig Class

The OutsideInConfig Class is used to describe the Outside In Configuration Options.

Namespace

OutsideIn

Constructors

```
OutsideInConfig()
```

Creates a OutsideInConfig instance with default values.

```
OutsideInConfig(DirectoryInfo InstallLocation, UInt32 IdleWorkerTimeout, UInt32
MinimumWorkerCount)
```

Creates a OutsideInConfig instance with specified values.

Properties

DirectoryInfo InstallLocation: The Location of the technology directory.

UInt32 IdleWorkerTimeout: value indicating the number of milliseconds that an idle process in excess of the minimum worker count is kept alive before being terminated.

This timeout only applies to worker processes created beyond the number of MinimumWorkerCount processes.

UInt32 MinimumWorkerCount: Specifies the minimum number of running worker processes kept available for export operations. If there is a higher number of exporter objects performing simultaneous export operations, additional worker processes will be created. Those additional worker processes will be terminated according to the IdleWorkerTimeout setting. If any of these processes are terminated due to errors, they will be replaced by a new process to maintain this minimum count of loaded worker processes.

14.19 OutsideInException Class

This is the exception that is thrown when an Outside In Technology error occurs.

This class derives from the Exception class. This class has no public methods or properties except those of the parent Exception class.

Namespace

OutsideIn

14.19.1 OutsideInCastException Class

This exception is thrown when an invalid value is provided as an option value.

This class derives from the OutsideInException class. This class has no public methods or properties except those of the parent Exception class.

Namespace

OutsideIn

14.20 PageInfo Class

PageInfo is a class for defining page dimensions.

Namespace

OutsideIn.Options

Constructor

```
PageInfo(PageInfo.PageSizeUnitsValue units,
             Single width,
             Single height)
units    Units used to specify width and height
width    Width of the page
height   Height of the page
```

Properties

- Units: Units used to specify width and height
- Width: Width of the page
- Height: Height of the page

PageInfo.PageSizeUnitsValue Enumeration

PageSizeUnitsValue is an enumeration of the various units that can be used to specify the width and height of a page.

- Inches: Units are in Inches
- Points: Units are in Points (1/72th of an inch)
- Centimeters: Units are in Centimeters
- Picas: Units are in Picas (1/6th of an inch)

14.21 PageRange Class

PageRange is a class for defining page ranges for exporting purposes.

Namespace

OutsideIn.Options

Constructors

```
PageRange()
```

Creates an instance of the PageRangeObject for printing all pages.

```
PageRange(Int32 StartPage)
StartPage  Starting page number of the print range
```

Creates an instance of the PageRangeObject for printing from a page until end of document.

```
PageRange(
          Int32  StartPage,
          Int32  StopPage)
StartPage  Starting page number of the print range
StopPage   End page number of the print range
```

Creates an instance of the PageRangeObject for printing a range of pages.

Properties

- PrintAll (Boolean) - If set to true, all pages of the document will be printed
- StartPage (Int32) - The start page of the print range. 0 indicates printing will begin with the first page of the document.
- StopPage (Int32) - The last page of the print range. 0 indicates the last page at the end of the document.

14.22 Watermark Class

This class describes the watermark to be applied to a document.

Namespace

OutsideIn.Options

Constructors

```
Watermark (FileInfo file)
```

Creates a watermark object with the image to be used.

- file: A FileInfo object with the image file to be used as a watermark

```
Watermark (String  filename)
```

Creates a watermark object with the image to be used.

- filename: The name of the image file to be used as a watermark

```
Watermark (Stream  stream)
```

Creates a watermark object with the image to be used.

- stream: A stream with the image to be used as a watermark

```
Watermark (FileInfo file, int Opacity, int Percent, ANCHORPOSITION Anchor, int
VerticalOffset, int HorizontalOffset)
```

- file: A FileInfo object with the image file to be used as a watermark
- Opacity: The Opacity of the watermark. Opacity is in the range of 1-255
- Percent: The Percentage the watermark image is scaled by. A value of 0 indicates no scaling
- Anchor: The position from which the watermark image is offset
- VerticalOffset: vertical offset to shift the image by
- HorizontalOffset: horizontal offset to shift the image by

```
Watermark (String  filename, int Opacity, int Percent, ANCHORPOSITION Anchor, int
VerticalOffset, int HorizontalOffset)
```

- filename: The name of the image file to be used as a watermark
- Opacity: The Opacity of the watermark. Opacity is in the range of 1-255
- Percent: The Percentage the watermark image is scaled by. A value of 0 indicates no scaling
- Anchor: The position from which the watermark image is offset
- VerticalOffset: vertical offset to shift the image by
- HorizontalOffset: horizontal offset to shift the image by

```
Watermark (Stream  stream, int Opacity, int Percent, ANCHORPOSITION Anchor, int
VerticalOffset, int HorizontalOffset)
```

- stream: A stream with the image to be used as a watermark
- Opacity : The Opacity of the watermark. Opacity is in the range of 1-255
- Percent: The Percentage the watermark image is scaled by. A value of 0 indicates no scaling
- Anchor: The position from which the watermark image is offset

- VerticalOffset: vertical offset to shift the image by
- HorizontalOffset: horizontal offset to shift the image by

Properties

- AnchorPosition: Watermark's Anchor position. This is the position from which the Horizontal and Vertical offsets are applied
- HorzOffset: Gets or sets the horizontal offset to shift the image by
- Opacity: Gets or sets the Opacity of the watermark. Opacity is in the range of 1-255. 0 disables the watermark
- Percent: Gets or sets the percentage amount by which the image is to be scaled. A value of 0 indicates no scaling
- VertOffset: Gets or sets the vertical offset to shift the image by

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