Introduction and Overview

Description of the SLIP:td offering and general explanation of included components

Contents

Document History

Date	Description
September 1, 2011	Started document.
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February 28, 2012	Added information on CAS: Upgrade Word Document converter.

Introduction

This document describes what the SLIP:td offering is and which components are included. This is merely an overview of what is available. Please see the remaining documentation for details on how to install, configure and use the various components.

What is SLIP:td?

SLIP:td provides an infrastructure for publishing content on intranet and Internet platforms. The system integrates with your existing document management system to ensure that the content is made available for content consumers in an accessible way in a web site, an asset repository or both.

The backbone of SLIP:td is based in Microsoft SharePoint. SharePoint provides a feature rich platform for both document management and web content publishing. By building upon these features SLIP:td offers a comprehensive set of components to enable you to publish your content in various ways and control how and where your content is made available.

Originally SLIP was an acronym for SharePoint List Item Publisher. Historically it was only a component for uploading files and creating pages in SharePoint libraries. Later, it has been extended with transformation and deployment features among other things – hence the current name SLIP:td.

Why SLIP:td?

The need to produce quality web content is self-evident today. This is usually achieved with web content editors that enable direct web authoring of content. Another approach is to simply post the source documents on the web for download.

The motivation for the latter approach is that authors much prefer the capabilities and richness that comes with regular word processors like Microsoft Word. The downside is, of course, that a source document works very poorly for web content consumers.

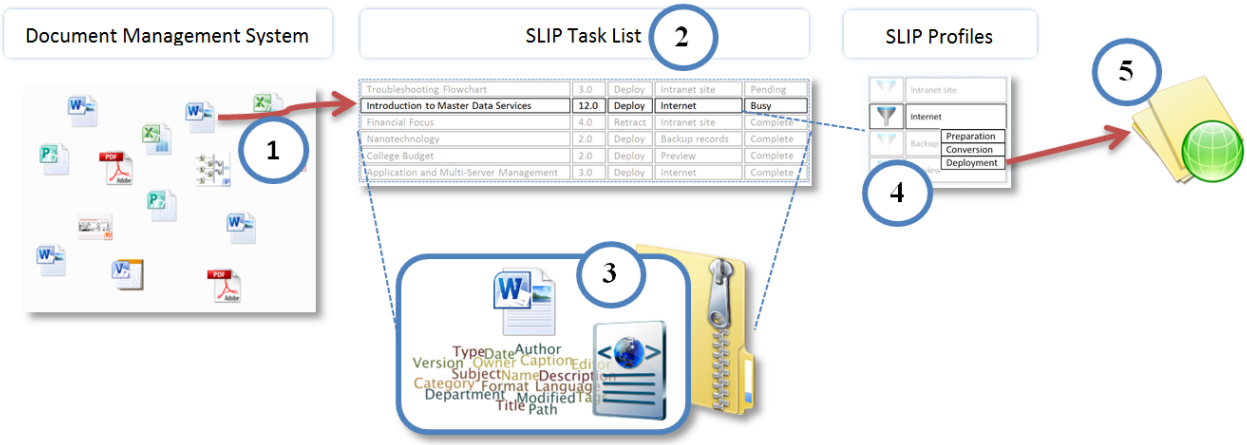
There are also instances where hybrid approaches have been attempted; when the author completes his work in the word processor, he would copy-paste or use some sort of save-as-HTML feature to bring the content into the web site. This kind of process is rather cumbersome and error-prone.

Microsoft SharePoint does offer an attempt to fill this need, the Document Converter Services. Unfortunately that solution falls short in several key areas: Office Open XML format only, lost images, footnotes.

SLIP:td allows the authors to write content in their favorite editor, the word processor, while taking advantage of the advanced document management capabilities of SharePoint document libraries. It gives you a flexible framework for displaying your content in web sites along with a series of related features designed to make the flow of content painless.

Overview

At the core SLIP:td operates with a queue of tasks, the *SLIP Task List*, that are processed according to matching profiles which are defined in the *SLIP Profiles* list. The *SLIP Task List* is a container for packages of source files and metadata properties. Such a package is named a *Task*. Each task is automatically associated with a given profile and has information on when it should be processed, its priority, whether it is a deployment or retraction task and its current status.



1. SLIP connects to your existing document management system where it listens for changes to the source documents. When a relevant change is made, a SLIP Task is generated. It is also possible to generate tasks for items in a list or library on demand. This is useful for migration and previews.

2. In the *Task List* each task is inspected sequentially and assigned a profile based on the source document metadata properties. The metadata includes information about where the document is stored.

3. Each task contains the source file and a set of metadata properties.

4. Each profile contains a filter that determines which tasks it applies to. The processing of each task is logically separated into three phases: Preparation, conversion and deployment.

5. The last phase of processing is deployment where the output is written to the web front-end, a file system or some other deployment target.

Feature set

SLIP:td includes a wide range of components that can be configured to suit most enterprise needs. The sections below describe some of the components that are available for each of the basic operation working areas.

Document management system integration

SLIP SharePoint Connector

The *SharePoint Connector* listens for events in your SharePoint libraries and lists and creates tasks for appropriate events.

Use this component to SLIP enable your SharePoint based document management system.

SLIP Create Tasks

This feature provides a button for generating a batch of SLIP Tasks from the source documents in a document library. Occasionally it is useful to be able to initiate publishing for a set of existing documents without modifying them in any way. Using the SLIP Create Tasks feature, you can create SLIP tasks for a set of documents in a document library.

Content conversion, transformation and manipulation

Word Automation Services conversions

SLIP:td includes converters that utilize *Word Automation Services* (WAS) to produce PDF, XPS and MHTML files from Word documents. The WAS is also used for upgrading binary Word documents to the newer *Office Open XML* formats. This is useful for migration and when the documents must be processed further by the *SLIP HTML Converter* for instance.

- The *Upgrade Word Document Converter* upgrades a Word document to the latest Office Open XML version.
- The *Word Document To MHTML Converter* saves the document as MHTML.
- The *Word Document To PDF Converter* saves the document as PDF.
- The *Word Document To XPS Converter* saves the document as XPS.

The WAS converters are only available on the SharePoint 2010 platform because SharePoint 2007 does not include WAS. SharePoint 2007 installations can instead use the SLIP Client Automation Service (see below).

Task management preparators

The core SLIP infrastructure includes a few preparators that allow you to manipulate tasks before the actual processing starts.

- The *Task Action Preparator* allows you to override the task action; whether it deploys or retracts content can be controlled with metadata properties.
- The *Task Expiration Preparator* generates a task for future processing that will retract the content being deployed by the current task.
- The *Task Filter Preparator* will remove a task. Sometimes this is the only way to prevent automatically generated tasks to be processed.
- The *Load Source Preparator* will attach a source file to an existing task. This is useful when tasks are batch-generated because the time it takes to transfer the binary source files may be inconvenient to the UI. That way the source file transfer is done only when required. Also, the watermark construction uses this to load its template.
- The *Assign Task Priority* preparator controls the task priority.
- The *Define Task Scheduling* preparator controls when the task should be processed.

Special core converters

There are also a few specialized converters included in the core SLIP infrastructure.

- The *XML Source Reference Splitter* takes a task that must contain an XML document with a list of URLs to documents that should be published. This is similar in function to the *Create Tasks* button mentioned above. In addition the task may contain a user token that limits the source document versions to only major versions; usually one does not want to publish draft items.
- The *XSL Transformation 1.0 Converter* allows you to perform an XSL transformation upon one or more source XML files. The output can be HTML, XML or plain text.
- The *Ensure Subtask Preconverter* simply verifies that a set of subtasks have completes successfully. This is useful when performing operations that include several source documents that need a final joining action like PDF compounding for instance.

SLIP Client Automation Service

While the WAS enables us to process Word documents on a SharePoint 2010 platform, there may still be a requirement to process other office formats like Visio, Excel, PowerPoint and Publisher files. Also, since the WAS is not available on a SharePoint 2007 platform, there is a need to be able to process Word documents in another way.

SLIP:td provides the *Client Automation Service* (CAS), which is a Windows service that automates Microsoft Word, Excel, PowerPoint and Publisher enabling SLIP to generate PDF, XPS and MHTML files and upgrading binary formats to the newer Office Open XML format.

It is recommended to allocate a separate server for the CAS, in order to optimize throughput and reliability. The service hosts its own web server, so IIS is not required. CAS can work with either Office 2007 or Office 2010 but the best results are to be expected with an Office 2010 64-bit installation.

While the CAS performs the actual conversion work, the actual control elements are the CAS converters that are configured on the SLIP profiles:

- The *Word Client Automation Service Converter* which handles documents that can be opened by Word.
- The *CAS: Upgrade Word Document* converter which saves documents in the latest Word document format available.
- The *PowerPoint Client Automation Service Converter* which handles PowerPoint presentations.
- The *Publisher Client Automation Service Converter* which handles Publisher files.
- The *Visio Client Automation Service Converter* which handles Visio drawings.
- The *Excel Client Automation Service Converter* which handles Excel spreadsheets.

The primary function of these converters is to generate PDF files although, depending on the application, they each have some specialized options. They must be configured to point to a CAS server.

SLIP HTML Converter

SLIP:td provides a converter that can produce contemporary standards-compliant XHTML from an Office Open XML Word document (DOCX/DOCM/DOTX/DOTM). Since the conversion result, besides the HTML document, usually also contains images, the entire result set is packaged into a ZIP-file. The *SLIP Page Deployer* and the *SLIP Template Page Deployer* include special handling of such HTML-packages.

Special Office Open XML converters

The Office Open XML format enables programmatic manipulation without the use of Office client applications. SLIP:td includes some special purpose converters that manipulate Word documents using the *Open XML SDK 2.0 for Microsoft Office*:

- The *Office Open XML Content Control Update* can populate Word Content Controls with metadata properties from the SLIP task.
- The *Office Open XML Document Header Footer Removal* can remove headers and/or footers from Word documents.
- The *Office Open XML Lock Fields* sets the lock flag on Word fields. This is necessary when saving as PDF/XPS with WAS because that will update all fields in the document and that is not always desired (e.g. FILE fields).
- The *Office Open XML Document Repair* corrects some errors that may emerge when Word documents are upgraded from binary format to Office Open XML format and may prevent the documents from being processed using the Office Open XML SDK.

Converters for PDF manipulation

SLIP:td includes a series of converters that create and manipulate PDF document using PDFsharp:

- The *Image to PDF Converter* generates a single-page PDF document with an image from a GIF, JPEG, PNG or TIFF file.
- The *PDF Compound Converter* generates one big PDF document from several smaller ones. It can optionally create an outline (navigation bookmarks) in the resulting document.
- The *PDF Page Number Converter* stamps page numbers onto the pages of an existing PDF document. This can be done in many different ways to suit the actual requirement.
- The *PDF Label Converter* stamps free text onto the pages of an existing PDF document. The styling as well as the content can be controlled in detail.
- The *PDF Watermark Converter* can stamp a PDF document with the contents from another PDF document. Like the *PDF Page Number Converter*, this converter also has many options to fine-tune the result.
- The *PDF Label Converter* stamps an arbitrary label onto the pages of an existing PDF document. This works very much like the *PDF Page Number Converter* except that the *PDF Label Converter* can use Task metadata properties and metadata mapping values in the label.

Content deployment and display

In Windows SharePoint Services 3.0 and SharePoint Foundation 2010 there are no SharePoint publishing sites or SharePoint publishing features. Therefore the set of SLIP deployers are structured as a core set that works with the limited editions. This core set is then extended in a separate package that includes a Page deployer for publishing sites as well as other components necessary for display.

When displaying HTML content, SLIP offers a unique way of dynamically slicing the content into manageable chunks.

Core deployers

The core deployers provide basic deployment.

- The *List Deployer* simply deploys items to a list or document library.
- The *Work Library Deployer* deploys to a special document library that acts as a temporary storage. This is used in PDF compounding for instance.
- The *Template Page Deployer* creates basic web pages, possibly with HTML content, by copying an existing template page and filling out properties. This is opposed to proper SharePoint publishing pages which use a page layout, but requires a publishing site.
- The *File System Deployer* will write output to a file system. Due to the multi-server architecture of a SharePoint farm it usually only makes sense to write to a network share.

Publishing resources

For publishing sites SLIP:td offers the SLIP SharePoint Publishing Foundation which includes:

- The *Page Deployer* that deploys publishing pages.
- A sample page layout with an associated content type that provides a starting point for viewing SLIP content in publishing pages.
- Several SharePoint controls for HTML content navigation and display.

Search integration via indexer module

The built-in SharePoint search supports adding custom modules known as protocol handlers or search connectors. Through this each SLIP page and section can be indexed and thus made available in SharePoint search results without further customization. The search module is installed via a farm scoped feature named *SLIP Search Infrastructure*.

Getting started

Hopefully this document has given you a good outline impression about the features and capabilities of SLIP:td. To learn more about the details of each of the components, please see the SLIP:td Components Reference Guide. The SLIP:td Configuration Guide provides information on how to use the core SLIP components.

If you are ready to start installing the software, please refer to the SLIP:td Installation Guide.