ActiveDocs

DOCUMENT AUTOMATION SOFTWARE

DOCUMENT AUTOMATION FOR SAP

Prepared by: Martin Srubar

Product Manager

Audience: System Architects

ActiveDocs Evaluators

Copyright

Information in this document is subject to change without notice. Companies, names, and data used in examples herein are fictitious unless otherwise noted. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of ActiveDocs Limited.

Copyright © ActiveDocs^{TM} Limited. All rights reserved.

Microsoft is a registered trademark and Microsoft SQL Server, Microsoft Access, Microsoft Outlook, and Microsoft Windows are trademarks of Microsoft Corporation in the United States and/or other countries.

Other product and company names herein may be the trademarks of their respective owners.

Disclaimer: While ActiveDocs has taken care to ensure the accuracy and quality of this document, all content including fitness for a particular purpose are provided without any warranty whatsoever, either expressed or implied. In no event shall ActiveDocs, or its employees, be liable for any direct, indirect, incidental or consequential, special or exemplary damages resulting from the use of this document or from the use of any products described in this guide. Any persons or businesses mentioned within this document are strictly fictitious. Any resemblances to existing or deceased persons, or existing or defunct businesses, are entirely coincidental. This document will be updated regularly and changes will be included in later versions. If you experience any discrepancies in the content of this document, please e-mail info@activedocs.com.

Contents

1   Summary

The highest return on investment in document automation for SAP can be achieved by careful selection of a best-of-breed document automation product that satisfies the requirements for rapid deployment and low maintenance cost. The functionality of the document automation solution should include the template management and auditing capabilities that are crucial for risk exposure reduction in every organisation.

2 Introduction

Business processes and solutions managed in SAP systems frequently require generation of communications and documents based on SAP data and data stored in other systems. A document generation solution must be flexible, easy and quick to deploy, and easy to integrate, and must provide support for existing templates and comprehensive template management. A document automation solution needs to have these characteristics to be able to give organizations competitive advantage, the ability to react quickly to the rapidly changing business environment, and high return on investment.

A seamless and flexible integration of document generation into SAP managed processes requires a document automation solution to be attentive to the nuances of individual SAP deployments and customers' needs. These often include:

- Automatic document generation
- User-driven document generation
- Low cost of template editing and maintenance
- Leveraging existing templates (MS Word, PDF...)
- Utilization of SAP managed data and data in other external, cloud based, or legacy systems
- Fast response to legislative changes
- Template management and compliance auditing

This document will focus on the challenges and benefits of document automation for SAP. Best practice approaches to common issues will be discussed.

3 Requirements of Document Automation for SAP

Organizations typically introduce document automation to increase productivity and mitigate risks associated with the creation and release of inaccurate documents. This is the case for both internal and external communication. To achieve high return on investment with a short payback period, it is essential that a document automation solution for SAP is deployed rapidly, has low maintenance cost, allows easy import of existing templates, and does not require high level IT skills for template design and administration.

To reduce the risk associated with deployment of any IT solution, a document automation solution for SAP needs to be scalable, so that it can be deployed on a small, "proof-of-concept", scale with immediate benefit to the most pressing document automation issues, and later grown through the organization as production of more documents is automated. The ability to deploy document automation in stages without disruption to current business processes is crucial for a successful deployment of document automation for SAP.

Specific requirements of automated document generation and document template management for SAP will be discussed in this section.

3.1 Rapid Deployment of a Document Automation Solution

Costs associated with prolonged deployment of document automation solutions hinder return on investment. Extensive customization may introduce scope creep and further increase the "cost to market". When an organization decides to automate document processes in SAP, it can decide to pursue one of these directions:

1) Custom development of document automation
2) Implementation of SAP modules aiding document automation
3) Deployment of a document automation product

Each of these directions has its pros and cons.

Custom development	
Pros	**Cons**
- Tailor made solution	- High cost of custom development
	- Time consuming development process
	- High maintenance costs
	- Difficult to scale
	- High risk of scope creep
	- Dependency on developers, IT experts, for maintenance
	- Vendor lock-in

SAP Modules	
Pros	**Cons**
- Leveraging investment in SAP - Good connectivity to SAP data	- May not fully meet functional requirements - Requires SAP experts for maintenance - High complexity of template development environment, IT experts required - Difficult to use by/from other systems - Dependency on SAP - High initial investment - Typically requires customization - No template management and compliance auditing capabilities - SAP does not provide a simple template design environment

Document Automation Products	
Pros	**Cons**
- Out-of-the box document automation solution - Rapid deployment - Low maintenance cost - Low skill set required for template creation - The best examples have template management and compliance auditing capabilities - Fixed cost	- May not fully meet functional requirements

It is generally recommended to stay away from custom development of document automation solutions for SAP (and indeed in almost all circumstances) as it increases the organization's risk exposure through dependency on individuals familiar with the custom solution, scope creep, and poor scalability.

SAP modules, such as SAP Document Builder, can leverage the current investment into SAP and provide a satisfactory solution to document automation needs. However deployment of these modules is time-consuming, requires SAP experts for installation and maintenance, and template creation requires IT experts with highly technical profiles. In addition, these modules typically do not provide the comprehensive template management and compliance auditing tools that are crucial for maintenance of legislative compliance and monitoring of document automation.

The strength of good document automation products is rapid deployment of an out-of-the-box solution which comes with the undisputable benefit of a known price for the product. The best document automation products have been developed based on years of experience focused on the document automation space to provide a level of document generation functionality that cannot be matched by custom development or by an SAP module. In addition, the best template design environments are designed to make the design and maintenance process simpler and to thereby allow template design to be carried out by users in business units, rather than IT experts as is the case with SAP modules or custom developed solutions. The template management and compliance auditing capabilities of document automation products further reduce companies' risk exposure.

3.2   Data Connectivity

To provide maximum benefit, any document automation solution needs to leverage corporate data repositories. These may be SAP data silos, data in legacy systems and databases, cloud-based data repositories, and a variety of other disparate data sources on different platforms across an organization or in external repositories. A document automation solution should be able to access all of these to gather the data required for creation of a document. It is beneficial if the solution supports a wide range of data connectivity out-of-the-box, so an orchestration layer can be used as an option if it is desirable, but it is not a requirement. Custom developed document automation solutions usually suffer from nearly hard-wired connection to data sources. SAP modules provide a greater level of flexibility in accessing data from SAP silos, but accessing data in non-SAP systems or in external repositories would typically require extensive custom development due to the disparate platforms and authentication methods used.

Document automation products typically provide a wide range of connectivity tools that allow them to securely use data from SAP, other internal systems and repositories, external systems, and cloud repositories alike. This reduces the need for user input / copy-paste, eliminating the risk of introduction of human error.

3.3   Template Design and Maintenance

To achieve rapid deployment and a short response time to changes in the business and legal environments, a user-friendly interface should be provided for template design and maintenance. Having a simple but highly functional template design environment allows authorized users to create templates or adapt them to changing needs. It is becoming increasingly less realistic to expect modern businesses to go through the hurdles of a software-development style of template change request process, and to wait days, weeks, or even months, until a change is carried out.

Business units need to be able to control their templates and make changes within appropriate timeframes. This, however, imposes additional requirements on the template management and compliance auditing capabilities of document automation solutions.

Template designers should be able to create simple automated templates in a matter of minutes, more complex templates in a matter of hours. Editing of the content should be done in seconds. If business rules are to be mapped to the content or formatting of a template, this should not require knowledge of the syntax of any programming language; rule definition in natural language is strongly preferred. It is important that template designers can easily use highly functional presentation elements such as tables, images, repeated structures, pieces of reusable content (logos, address details), and charts, and connect these to dynamic data sources.

3.4   Template Management and Compliance Auditing

To complement the transfer of control of template design and maintenance to business units, a document automation solution must be able to define strict security policies and segregation of duties amongst all users and business units. Template management is fundamentally different from management of documents due to the nature of the document template creation process, template approval, continuous improvements, updates, changes to business logic, and use of the template by automated systems and users alike.

Compliance auditing tools need to keep up with the specifics of template management, allowing detailed monitoring, publishing, and approval management.

3.5   Leveraging Existing Templates

To quickly achieve document automation goals and to retain some value from existing investments in automation, it is often desirable that existing templates can be carried over and don't have to be re-created from scratch in the document automation solution. The most common document template format is MS Word followed by PDF and proprietary formats.

PDF templates are typically used only as a format that allows proprietary template design systems to insert basic automation, and are not suitable for complex documents with conditional sections and text of variable length as it is difficult to manage overflow of text onto another page and preserve the desired formatting.

Proprietary template formats can be functional; however, an organization is locked into a format, specific to one system, which can't be used by other applications, and provides an effective lock-in into one document automation solution with ever increasing barrier for change.

MS Word templates are a de-facto standard in document creation. Automating MS Word templates is supported even for highly complex documents. The best document automation products allow the template designer to fully utilize this environment, one that is familiar to users in business units as a standard word processor used daily for the creation and editing of documents.

It is beneficial if a document automation solution supports management of non-automated and automated templates in a single environment. The benefit of this capability is twofold. Firstly, the management of non-automated templates under the umbrella of a single template management solution makes it possible to automate the templates in the order of their importance to the business, without disruption to the production of documents with non-automated templates. Secondly, both types of templates can be subjected to the same rigorous template management and compliance auditing procedures in a single repository.

3.6   Ease of integration

A document automation solution for SAP should be able to be utilized from non-SAP systems as well. This is particularly important in any enterprise where multiple disparate systems are used. SAP may be used as an ERP solution, while a non-SAP CRM system may be used for sales management and marketing, and another system may be used for call center management, etc. Each of these systems can benefit from, and requires, document automation.

It is difficult to satisfy this requirement with a document solution based solely in the SAP environment. Document automation products that do not require the support of the SAP infrastructure and which have a good integration toolkit can be hosted in, and/or used from, various disparate environments, thus reducing the overall cost of document automation across the enterprise and providing a unified platform for template management and compliance auditing.

3.7 Scalability

Scalability is an important factor in reduction of risk exposure caused by the deployment of any IT solution. If a document automation solution is scalable, it makes it possible to keep the initial deployment small and successful by, for example, automating the creation of selected document types within a pilot business area. Later, as more document types are automated and more business areas adopt automated document generation, the solution must be able to scale-up and scale-out seamlessly and with resilience and failover capacity to ensure there is no disruption to document automation services

4 SAP Document Builder

SAP provides a variety of tools that allow the creation of simple pieces of communication, such as notifications. If the need arises for creation of documents of greater complexity, the SAP suite provides the option of SAP Document Builder implementation. This module provides document generation capabilities based on WordML, and Adobe(R) Document Server or Apache/FOP as options for assembly of PDF output.
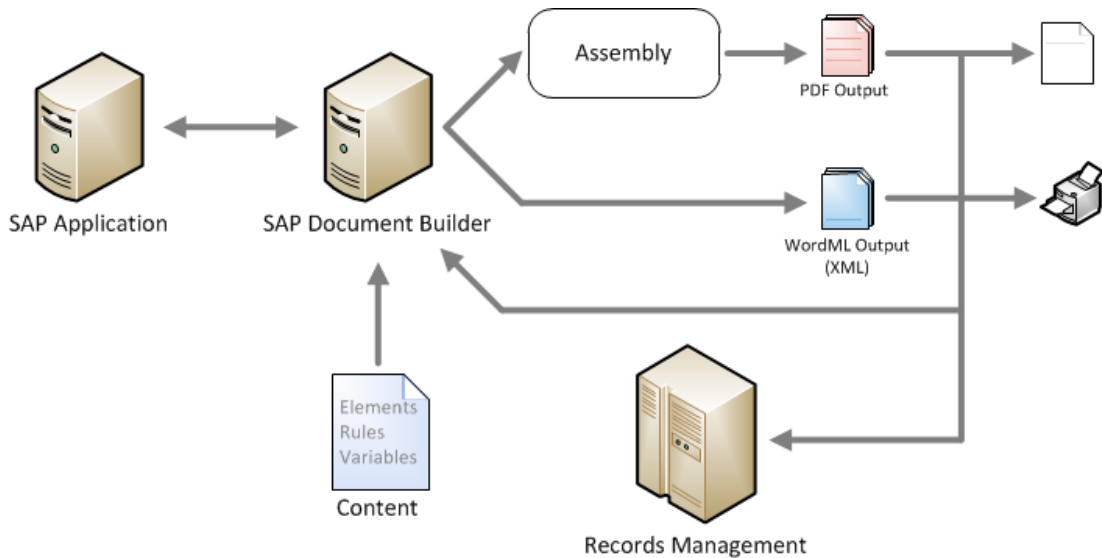

FIGURE 1: DIAGRAM OF SAP DOCUMENT BUILDER ARCHITECTURE (SOURCE: HELP.SAP.COM)

4.1 Document Automation with SAP Document Builder

Document automation with SAP Document Builder is based on a modular approach where a final document is assembled from sections with appropriate fields populated with data from SAP or with interactively inserted data.

Administration, data connectivity management, and template creation tasks in SAP Document Builder require IT experts with a highly technical profile. The modular approach to template creation can result in exponentially increasing levels of complexity of template creation and maintenance for documents with interdependent sections, complex business logic, and multiple data source connectivity requirements. Due to the nature of the document template creation approach in SAP Document Builder, the creation of well-presented documents of variable length, and/or using functions like the incorporation of personalized graphics, can pose challenges that are difficult to overcome without a large amount of development tailored to individual templates.

The individual document modules are edited using Microsoft DSO Framer Active X module for Internet Explorer. DSO Framer module provides the text editing capabilities of Word 2003, but the module and its technology has been deprecated by Microsoft without providing any successor or a viable alternative. This makes Windows with MS Office 2003 and Internet Explorer the only platform that can be used for the creation of documents that may require text editing.

4.2 Document format support in SAP Document Builder

The production of documents from SAP Document Builder is based on WordML, which is a proprietary document format, with Adobe(R) Document Server or Apache/FOP module options for PDF output. This architecture limits the document output formats to WordML (XML document) and PDF. Production of documents in DOCX/DOCM or DOC or RTF or Open Document Format or HTML or TIFF or other standard formats requires additional conversion beyond the native functionality of SAP Document Builder.

4.3 SAP Document Builder Summary

When utilizing SAP Document Builder for document automation, the ROI can be hindered by resource-consuming template development, maintenance, and change processes. In addition, the module runs within the SAP environment which makes it more difficult to establish data source connectivity outside SAP. The lack of highly functional template management and compliance auditing can lead to the promotion of inaccuracies in template design into finalized documents, thus reducing or eliminating any productivity and risk mitigation gains that can be obtained by implementing this document automation solution.

In addition, SAP Document Builder's dependency on the SAP platform makes it difficult, and arguably near-impossible, to leverage this document automation investment from within other systems on different platforms.

5 ActiveDocs

ActiveDocs is an all-round out-of-the-box product that has an exceptional integration capability and can easily scale from a single business unit to become the enterprise-wide document automation solution. ActiveDocs supports all three modes of automated document creation: (1) User-driven (interactive), (2) On-demand, and (3) Automated (mass document production). The support of all three modes of document automation makes it possible to implement document generation processes into SAP applications working in any of these modes or a hybrid mode, where the appropriate document creation mode is selected based on the business logic criteria and data availability.
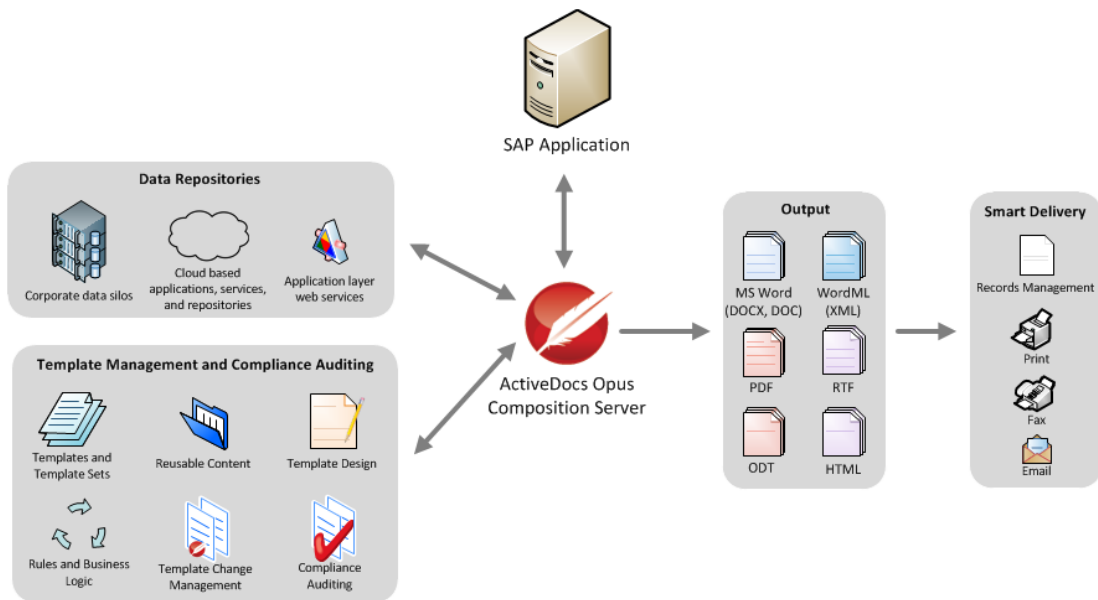
FIGURE 2: ACTIVEDOCS DOCUMENT CREATION ARCHITECTURE WHEN USED FROM AN SAP APPLICATION (SOURCE: ACTIVEDOCS)

5.1 Document Automation with ActiveDocs

Document automation with ActiveDocs is based on a standalone document automation engine that is based on, and supports, standard Open XML (Microsoft Word 2007 onwards) file formats. The solution can be used to store, manage, and serve existing Word templates, and to create ActiveDocs templates from scratch or from existing Word templates and documents while preserving existing content and formatting. Most importantly, Microsoft Word is used as the template design environment. Use of this familiar interface dramatically widens the available skills base by reducing the skill level required to create and manage templates. This makes it possible for authorized users in business units to carry out template creation and maintenance, tasks that in other solutions would typically be done by IT experts.

The template management and compliance auditing functionality of ActiveDocs dramatically reduces the organization's risk exposure. For example, an individual template designer might only have access to the templates in his or her business unit or a single template, or a single section of a template. User privileges and access rights can be defined with high granularity to meet the most demanding data safety and security standards.

5.2   Document format support in ActiveDocs

ActiveDocs' document automation based on MS Word brings the benefits associated with the use of Open XML standard format, and the use of MS Word as the template design environment brings the advantages of that familiar interface with its powerful editing and formatting tools. Documents are assembled in the Open XML format to preserve the formatting exactly as defined in the template, and converted automatically for output in formats including MS Word, PDF, print (PLC etc.), RTF, ODT and many more. ActiveDocs can automatically create batches of documents and supports delivery management that integrates with existing fax, email, and print infrastructure to enable documents to be delivered at scheduled times under manual or automatic control.

5.3   ActiveDocs Summary

ActiveDocs is a **product** providing an out-of-the-box document automation **solution**. The template design environment allows users in business units to create, edit, and manage templates without the need for assistance from IT. Template management and compliance auditing further reduce the risk exposure associated with document creation. Document creation works through web browsers or web services under secure permissions-based control and with detailed field-level data validation and integration with existing systems. The combination of these characteristics can significantly increase return on investment by reducing the costs of deployment, take-up, and maintenance; by improving the efficiency of the document generation process itself; and by reducing or eliminating the costs associated with imperfect documents and their downstream implications for the organization.

6 Conclusions

Nearly every deployment of an SAP system can benefit from a document automation solution that further leverages the investment in SAP and other enterprise systems. Document automation solutions reduce the risk of human error and increase productivity.

For a document automation initiative in an organization to be successful a solution has to provide a high return on investment or another equivalent benefit. These are achieved through rapid deployment, an efficient template design / maintenance / management process that does not require a high level of IT skills, efficiency in document generation, and the ability to mitigate external and internal risk through better documents and comprehensive compliance auditing capabilities.

6.1 Custom Development

Generally it is not recommended to engage in custom development of document automation solutions unless the number of documents to be automated is very low, the automated documents are very simple, and the scope of automation is narrow and very well defined. Otherwise organizations can face increased, rather than reduced, risk exposure caused by scope creep, lock-in and dependency on custom development, prolonged time to deployment, and the future costs of an inflexible and non-scalable solution.

6.2 SAP Document Automation Modules

Document automation modules such as SAP Document Builder provide document generation capabilities within SAP and can leverage data residing in SAP systems easily. However, access to data in non-SAP systems may prove difficult and may require extensive customizations. The modules do not provide template management and compliance capabilities. Return on investment is typically lowered by the fact that deployment requires SAP experts, and the process of template creation / editing / maintenance requires IT experts of a highly technical profile. This means that users in business units cannot make changes to templates and these tasks need to be passed on to IT, with the usual implications for control procedures and delays. Any lack of provision for business users to create and modify templates dramatically reduces the benefits that can be derived from document automation. Solutions based on SAP modules may in fact be seen as inflexible and irresponsive to business needs.

In addition, the investment into a document automation solution based on an SAP module is difficult to utilize from non-SAP systems, further reducing return on investment.

6.3 Document Automation Products

The best document automation **products** provide an out-of-the-box solution with rapid deployment time. It is recommended to look for products that provide a user-friendly template creation, editing and management environment where business users can create, edit, and manage their templates without the IT department's involvement. Only by giving business users the ability to adapt their document templates to quickly changing business environment can the maximum benefit be derived from a document automation solution. Document automation products providing an exceptional data connectivity and integration capabilities increase the speed of deployment and take-up and dramatically reduce integration costs. It is essential that the product has credible template management and compliance auditing which can dramatically reduce the risk exposure of an organization. The best document automation products can be utilized by other systems that are not based on SAP and thereby improve the investment into document automation solution.

The highest return on investment, the shortest deployment time, and the highest flexibility of a document automation solution can be achieved by carefully selecting a best of breed document automation product that meets the functional requirements of the organization's document generation processes. The flexibility and low maintenance costs can contribute to wide adoption of document automation, thus helping to increase the value an organization as a whole can gain from a document automation solution.