



DOCUMENT AUTOMATION SOFTWARE

## DOCUMENT AUTOMATION WITH DOCUMENT SETS

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Abstract: What are Document Sets, and why are Document Sets the leading must-have in document automation?

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## 1 Summary

Beyond a particular level of transactional complexity, business communications in an organisation will typically involve more than one document. Beyond that level, the organisation finds itself needing to manage Document Sets.

Deploying a document generation process or application without support for Document Sets means the organisation must build and implement an overarching application to co-ordinate and control the generation of Document Sets.

Given that most organisations have document generation needs beyond single standalone documents, and will be unwilling or unable to invest in custom software to manage Document Sets, it is reasonable to conclude that:

**“Document automation products cannot address document generation needs without support for Document Sets”.**



## 2 Introduction to Document Sets

### 2.1 A brief history of Document Automation

Software-driven document generation has developed in tandem with the use of software in most spheres of business and commerce. For example, most if not all accounting solutions – the commonest class of business application software – were and still are capable of producing and reproducing printed output for internal and external consumption, including statements, ledgers, orders, invoices, receipts, payments, and even basic letters. Regardless of the class of application software, the ability to generate documents is an embedded function.

Embedded document generation within software applications came with significant limitations in three major areas. Firstly, the print-centric, proprietary-format, monolithic output was essentially unsuitable for archiving, searching, recovery, human viewing, and other primarily document-centric activities. Secondly, the same output was unsuitable for delivery as multiple discrete documents or by other channels, as first fax and then email and then SMS changed the business environment. Thirdly, the software code itself determined the structure and content of the output, making change or adaptation to other uses difficult and expensive.

Embedded functions eventually addressed the first issue with the generation of document files in non-proprietary formats that enabled easy archival, search, recovery, and general re-use. The adoption of standard file formats also went some way to addressing elements of the second issue of delivery.

A truly radical change – the availability and adoption of standalone applications for document automation – allowed organisations to return embedded functions to their intended uses, or replace them, and to address the third issue of specialised document requirements independently of the output capabilities of other business applications.

Ironically, those same document automation applications frequently fell short – and still do – in their approach to delivery channels and multi-document delivery. In all but the simplest use cases, these shortcomings are due to lack of support for **Document Sets**.

### 2.2 What is a Document Set?

A Document Set is a collection of two or more documents related to a particular event or transaction. A familiar use case would be a cover letter and policy document for a new or renewed insurance policy. For a more complex example, an engineering proposal might comprise an introductory letter, a proposal document with materials and services lists, a set of technical diagrams, and a spreadsheet that would allow the recipient to experiment with selected parameters of the proposal.

### 2.3 Why are Document Sets necessary?

Beyond a particular level of transactional complexity, business communications will typically involve more than one document. Often, this takes the form of an introductory document like a cover letter, and a high value document like a sales proposal, contract, cover note, or order. More documents – product brochures, prospectuses, company introductions, and similar – can supplement the set.

A particular use case that may not be immediately obvious is the use of emails with one or more attachments. In this case, the email body itself is the first document, with the attachments forming the remainder of the set.

### 2.4 What are the downsides of Document Sets?

Document Sets are inherently more risky than standalone Documents. The risks are compounded linearly by the addition of more documents, and exponentially by the relationships between documents; document A requires document B, must not have document C, and must have version X of document D.



## 3 Using and Improving Document Sets

### 3.1 Unmanaged Document Set Generation

It is not difficult to envisage a person within an organisation using a number of means to generate – or otherwise acquire – and then deliver multiple documents for a customer communication:

- a letter generated in an ad-hoc fashion using MS Word
- a sales quotation generated using a dedicated sales application and/or a document automation application
- some brochures from a network drive or SharePoint Library or other repository
- delivery via
  - a few submissions to a print queue and a visit to the physical printer and post room, or
  - the quick generation of an email with all of the other documents as attachments

This process lacks a number of key elements that determine the risk, effort, and quality profiles of the documents:

- Efficiency, as the processes are standalone and performed separately
- Control over the content and presentation of the letter and of the email if used
- Alignment of information and content between the documents
- A means of ensuring that the brochures are current
- Capacity for peer or management review or approval
- General enforcement of business rules and procedures for compliance
- Checks on the completeness and integrity of the set of documents as a whole
- Delivery management that would ensure integrity of the set at the delivery stage

Failure in any of the above will have some consequences for the organisation, ranging from wasted effort and resources, through to legal action and potential direct impact on key personnel, public image, and profitability.

### 3.2 Improving Document Set Generation

In the basic scenario described above, it is possible to restore some of the missing elements with document automation. The letter is a good candidate in any case, and may be able to use the same information sources as the sales quotation. The brochures may likewise be good candidates even if their content is entirely static; document automation solutions should not be limited to dynamic documents and should still offer benefits of authoring and publishing control for static documents.

If the document automation solution is of a particular level of capability then it may also offer email body generation, and may even offer document review, approval, and delivery processing.

However, if the document automation solution lacks support for Document Set creation and management, then the generation, review, and delivery of the documents happens without overall coordination as a set. This leaves the major issues of alignment, enforcement, and integrity unresolved, and the organisation remains wide open to the negative consequences.

**Implementing a document automation application without support for Document Sets means the organisation must build and implement an overarching application to co-ordinate and control the generation of a document set.**

**Given that most organisations have document generation needs beyond single standalone documents, and will be unwilling or unable to invest in custom software to manage document sets, it is reasonable to say that document automation products cannot address document generation needs without support for Document Sets.**



### 3.2.1. Document Sets not supported in document automation product

When Document Sets are not supported within the document automation product, an additional, often custom-developed, orchestration application needs to be employed to coordinate generation of Document Sets and the associated review and delivery workflows. Figure 1 shows a possible deployment option for a document automation product that doesn't natively support Document Sets.

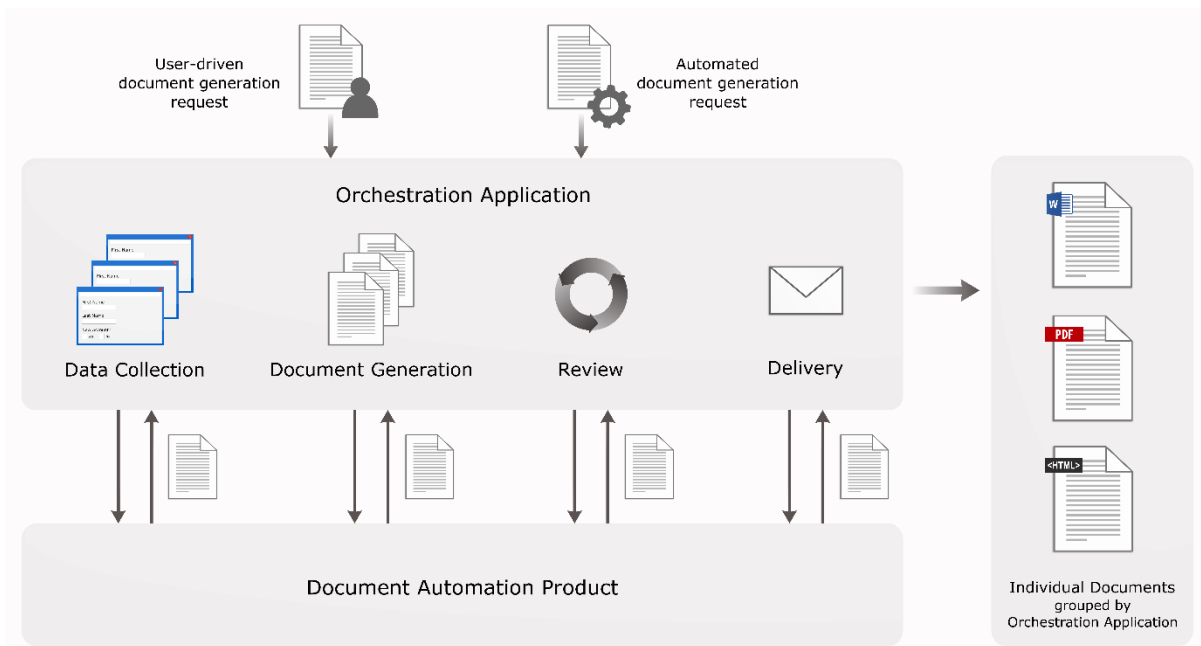


FIGURE 1: DEPLOYMENT OF A DOCUMENT AUTOMATION PRODUCT WITHOUT SUPPORT FOR DOCUMENT SETS

### 3.2.1. Document Sets natively supported in document automation product

Document automation products that natively support Document Sets can significantly simplify the deployment, as they can handle production Document Sets and their review and delivery internally. Figure 2 shows a possible deployment option for a document automation product that supports Document Sets natively.

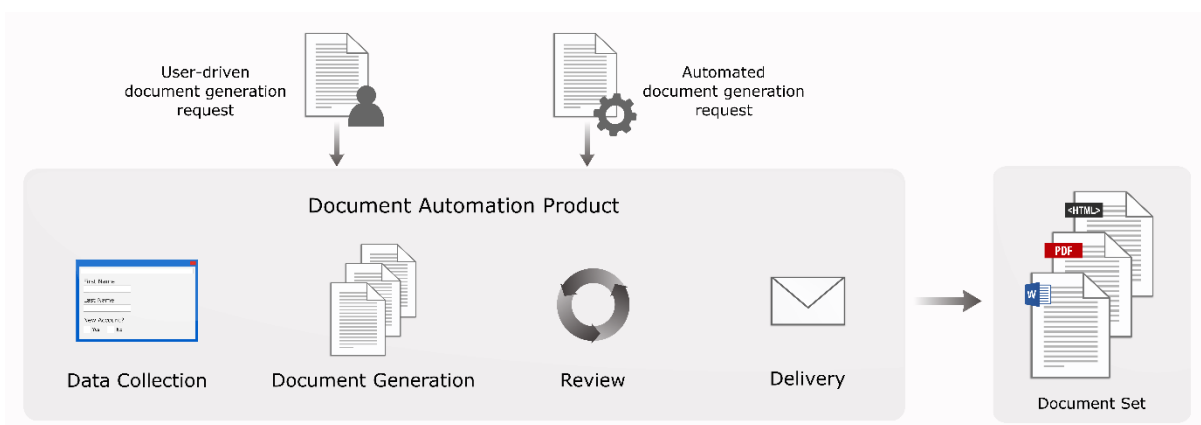


FIGURE 2: DEPLOYMENT OF A DOCUMENT AUTOMATION PRODUCT WITH SUPPORT FOR DOCUMENT SETS



## 4 Optimal Document Automation for Document Sets

### 4.1 How Document Automation Applications support Document Sets

Comprehensive document automation applications provide Document Set support through these critical primary features:

- Single-session, efficient generation of base Document Sets of multiple documents, in industry-standard formats, using core document automation. In particular, efficiency means using existing data wherever applicable and without requiring duplicate or redundant information from users or other systems.
- The ability to add non-generated documents to a Document Set.
- Application of workflow features such as drafting, review, approval, finalisation, and e-signing to the Document Set or to its component documents, as required.
- Application of delivery and storage features to the Document Set.

It is essential to implement the above features for secure and controlled use by the appropriate user communities and – if needed – other applications, with end-to-end management of the process. Supporting these features, in turn, will be a collection of other features that will include:

- Alignment of content and functionality across dynamic and static templates through content reuse and integrated control of approval and publishing.
- Template functionality that enables generation of multiple documents in a single session.
- Smart wizard-driven forms and web services that can efficiently utilise the template functionality to generate Document Sets.
- Workflow, storage, and delivery setup and management functions.
- Robust document format conversion.
- Strong integration capabilities that allow interaction with external workflow, storage, and delivery processing.

The result is an optimised process that addresses all of the shortcomings of the manual ad-hoc process described above:

- Efficiency, as the processes are combined
- Control and alignment of information and content between the documents
- A means of ensuring that the brochures are current
- Capacity for peer or management review or approval
- General enforcement of business rules and procedures for compliance
- Checks on the completeness and integrity of the set of documents as a whole
- Delivery management ensuring integrity of the set at the delivery stage





### 4.1.1. Example Document Set generation process with ActiveDocs

An example of a Document Set generation process, including production of documents, inclusion of external attachments, review, and delivery is shown in Figure 3.

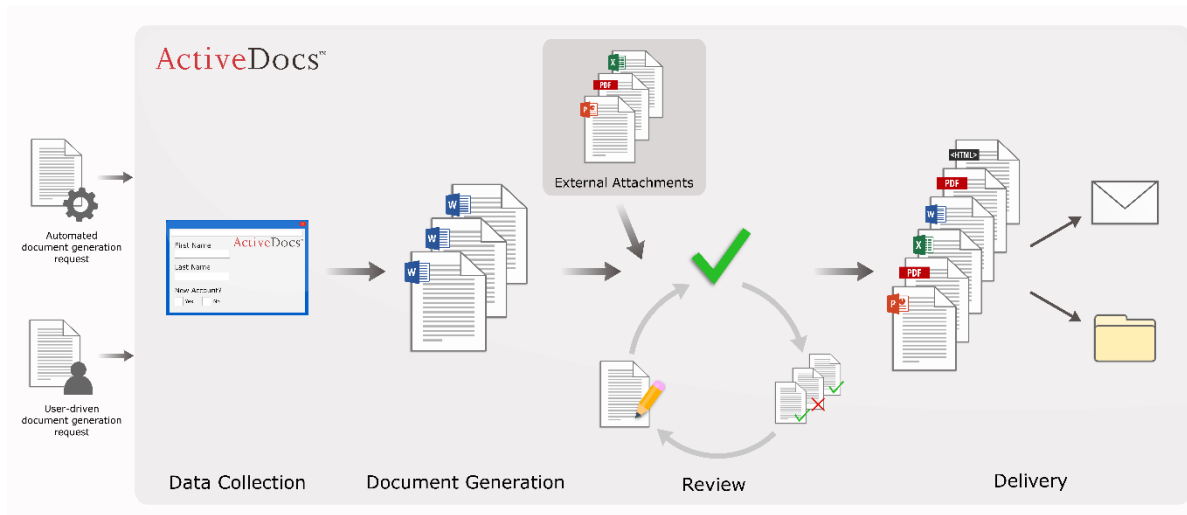


FIGURE 3: EXAMPLE DOCUMENT SET GENERATION PROCESS WITH ACTIVEDOCS

## 4.2 The email use case

Email is an ideal delivery channel. Combining document automation with Document Sets and Email Delivery requires a specific and complete set of features within the document automation application:

- Creation of rich email body content in the same way as the creation of rich content for other document types. It is not enough to create the email body in plain text.
- Template functionality that allows the simultaneous creation of the email body content and other documents in the set.
- Extension of the resulting Document Set with additional documents when required.
- Document Set management that supports review and approval of the set when required. This does not necessarily mean that all of the documents in the set need individual review and approval. This part of the process needs to be flexible so that the set can be approved based on a specified subset of its documents.
- Integration with email delivery systems so that the email can be assembled automatically with the appropriate subject line, body content, and attachment files, and with the correct sender and receiver information and other parameters that will ensure its successful delivery.
- Merging of specified documents when delivering the set. For example, unless separate individual PDFs are a business necessity, merging them simplifies the document set for its recipients.



## 5 Conclusion

The rationale for Document Sets is simple enough: beyond a particular level of transactional complexity, business communications will naturally tend to involve more than one document.

Most organisations will therefore encounter the need to manage Document Sets.

The risks associated with Document Sets are more challenging than those of standalone Documents. The risks are compounded linearly by the addition of more documents, and exponentially by the relationships between documents: document A requires document B, must not have document C, must have version X of document D.

There is a choice of approaches for managing creation and handling of Document Sets:

- Decide that the risk vs. cost tradeoff is acceptable, rely on individuals to do their jobs, and hope for the best
- Utilise any available tools – such as automated generation of individual documents – where possible but accept the risks of partial management of Document Sets
- Utilise available tools, and build and maintain a supplementary overarching application to manage the collation and management of the tool-generated outputs and other documents
- Use a document automation product that is fit for purpose

ActiveDocs has a unique combination of class-leading features that makes it an inherently fit-for-purpose, Document Set capable, document automation solution.