



DOCUMENT AUTOMATION SOFTWARE

## ACTIVEDOCS MULTI-LANGUAGE

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Audience: ActiveDocs Evaluators and Users

Abstract: This document provides an overview of the multi-language capabilities of ActiveDocs and examines some of the uses of multi-language features for users of ActiveDocs and for consumers of the documents which it creates.

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# 1 Introduction

Every business in the global marketplace faces multi-language challenges from the users of its IT systems and from the consumers of communications which those IT systems generate.

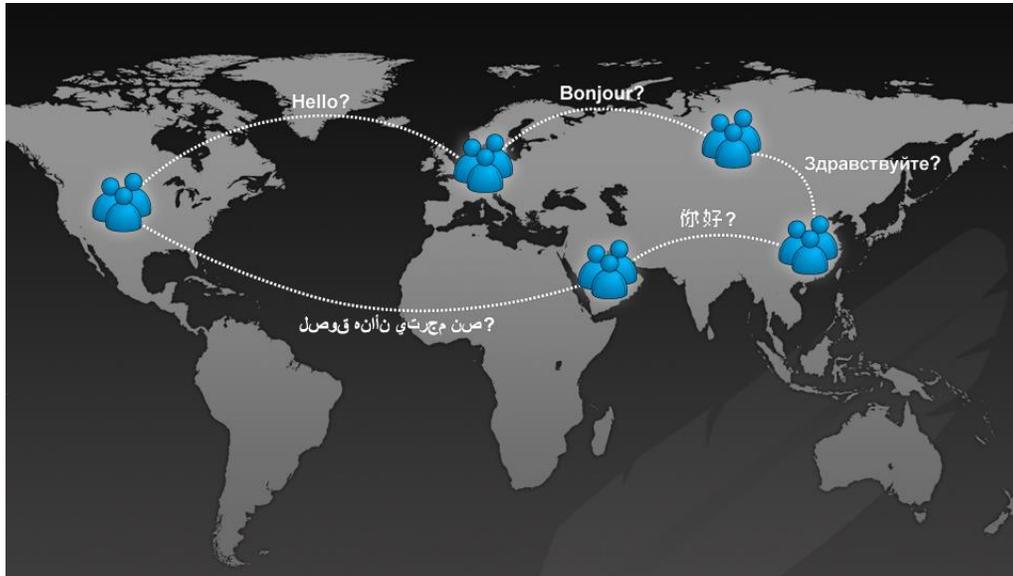


FIGURE 1 MULTI-LANGUAGE COMMUNICATION IN A GLOBAL MARKETPLACE

ActiveDocs is a document creation and automation system. At its core is a simple concept: merging data with Templates to create documents. To support this simple concept ActiveDocs Designer provides advanced Template design technology to enable the business to create and maintain its own ActiveDocs Templates in a Microsoft Word based environment.

ActiveDocs Templates may be used interactively to create documents through the browser-based ActiveDocs Express Wizard and ActiveDocs Document Wizard, and may also be used in Automated mode to create documents through the ActiveDocs Composition Server's web service.

The first multi-language challenge, before a single document is created, is from users of ActiveDocs Designer, Client, Express Wizard, and Document Wizard. The challenge is to adapt the interfaces of these products to match the preferred languages of their end users – Template Designers and Document Creators.

The second challenge comes with the creation of documents. The clear challenge here is to match the language and presentation of the document to the expectations of the intended recipient – the Document Consumer.

There is a third challenge too, where the language requirements of Document Creators and Document Consumers meet. An example is a simple list of options where the Document Creator expects to see the available options in his or her own language, but the document must contain a representation of the selected option in the Document Consumer's language.

This white paper looks at how ActiveDocs meets these challenges.

## 2 The User Interface Challenge

ActiveDocs has built-in multi-language support designed to meet the User Interface Challenge. All textual content of the ActiveDocs Designer, Client, Express Wizard, and Document Wizard user interfaces is resourced. A default resource file provides the basic English version of the textual content.

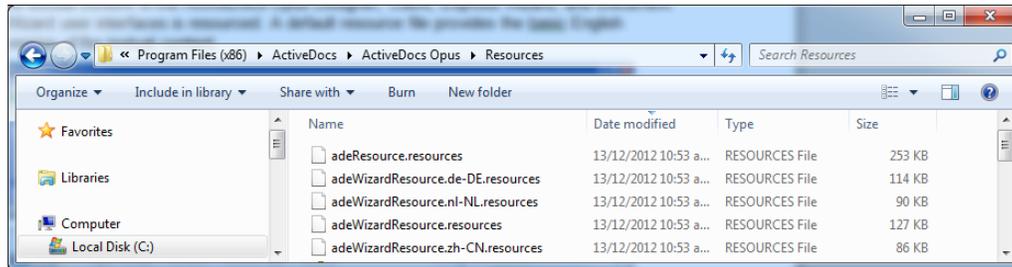


FIGURE 2 A WINDOWS EXPLORER WINDOW SHOWING ACTIVEDOCS RESOURCE FILES

The usual process for multi-language adaptation is to copy and rename the default .resx file using the standard language-culture intermediate extension (e.g. en-US, nl-NL, zh-CN etc) and then use an appropriate tool like Visual Studio 2005 to make the required changes to the file.

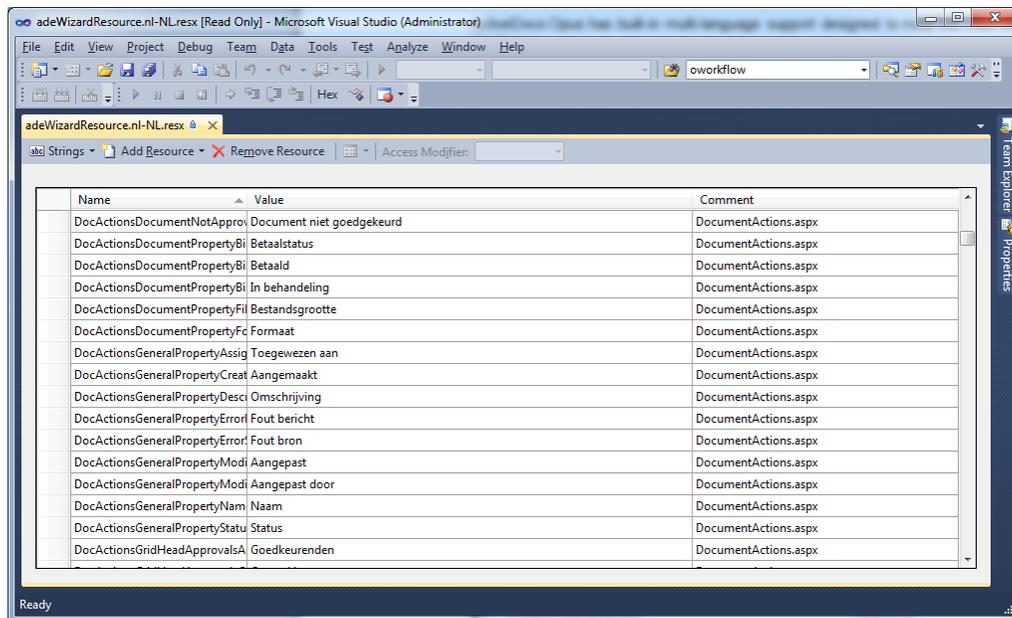


FIGURE 3 USING MICROSOFT VISUAL STUDIO 2005 TO EDIT A RESX FILE

The final step is to process the .resx file and create a .resources version that the software can use, for which ActiveDocs supplies a batch program.

### 2.1 ActiveDocs Designer and ActiveDocs Client

For users of ActiveDocs Designer and ActiveDocs Client, the resource file resides on the client machine and can be copied and adapted as described above. ActiveDocs on the client machine looks for a resource file with the user's language-culture extension and will use that in place of the default file.

## 2.2 ActiveDocs Composition Server

The web-based user interfaces for ActiveDocs Composition Server – Express Wizard and Document Wizard – use resource files stored on the server. Language-culture versions are copied, edited, and converted as described above.

Most ActiveDocs Composition Server installations consist of a single site with one or more subsites, each with a language setting. In the browser-based web environment, ActiveDocs Express Wizard and Document Wizard pages are presented using the language/culture setting of the Express Wizard subsite.

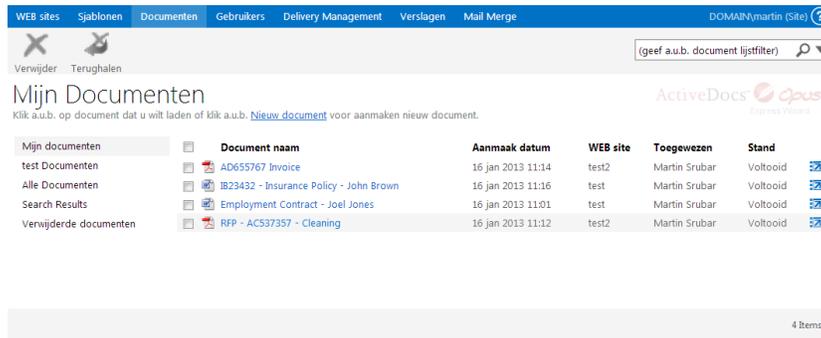


FIGURE 4 AN ACTIVEDOCS EXPRESS WIZARD PAGE SHOWING TRANSLATION INTO DUTCH



FIGURE 5 AN ACTIVEDOCS DOCUMENT WIZARD PAGE SHOWING PARTIAL TRANSLATION INTO CHINESE (SIMPLIFIED HAN)

## 2.3 Template Design for the ActiveDocs Document Wizard

The ActiveDocs Document Wizard’s textual content that is determined by the resource files doesn’t include the Prompts and Tips created by the Template Designer, as these are specific to each Template and to the ActiveDocs markers used in the Template.

The ActiveDocs Design Tools provide for single-field Prompts and Tips, so the Template Designer can be creative with Prompts and Tips to ensure they can be understood if the Template is used in multiple Document Creator languages. Tips may contain hyperlinks which can, for example, point to multi-language help pages.

## 2.4 Configuring ActiveDocs

As noted above, most ActiveDocs Composition Server installations consist of a single site with one or more subsites. Each subsite may share Templates with other subsites and/or use its own Templates, and each subsite has a language setting.

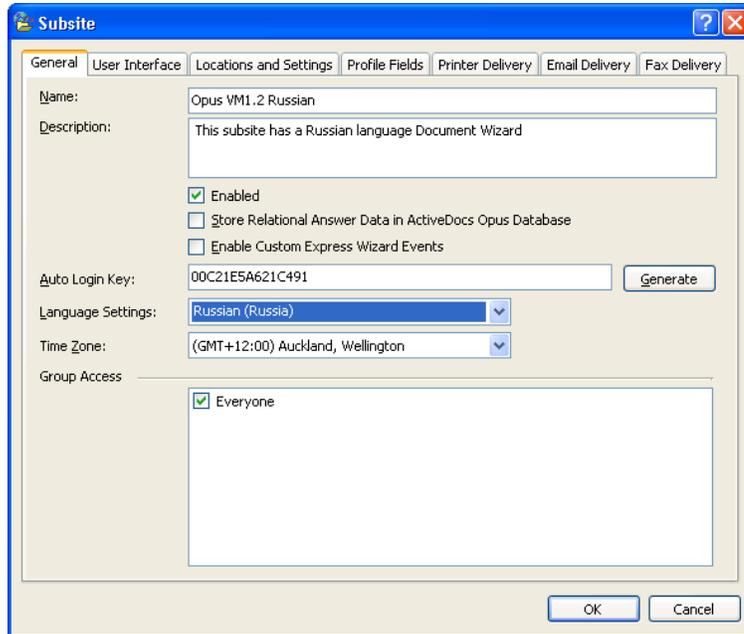


FIGURE 6 ACTIVEDOCS COMPOSITION SERVER SUBSITE LANGUAGE SETTING

Users belong to User Groups which are granted specific functions and access to particular subsites.

Thus, a single ActiveDocs Composition Server installation can have as many language-specific subsites as are needed to serve the multi-language requirements of its Document Creators.

Subsites can share Templates, and/or have their own Templates; designed to meet the language needs of both Document Creators and Document Consumers.

## 2.5 Best Practices

Standard language resources for both the server and the client should mean lower administrative effort.

Multi-language ActiveDocs Designer and ActiveDocs Client installations reflect the individual users' language and culture settings, so if the correct resource files are on the client machine then a user will see the ActiveDocs software using their choice of language. It is worth considering a language pack of resource files to be bundled and rolled out to all client machines.

If a multi-language ActiveDocs Express Wizard installation is required then the design of the user-subsite relationship must consider language as language is specified on a per-subsite basis.

Templates can be designed with Prompts and Tips containing text in several languages. Multiple Templates, reference documents, and hyperlinks to customized help pages can all be considered.

## 3 The Document Challenge

The concept of presenting a document in the preferred language/culture of the Document Consumer is one of the fundamentals of good communications.

In practice there are many ways of achieving it. Finding the right solution to the Document Content Challenge means looking at Template Design, the Template maintenance effort, and the way in which Templates will be accessed and used by Document Creators.

This section considers the case of a single type of document (a Welcome Letter to a new customer, the Document Consumer) and assumes that the Template Designer knows the content that is required in all of the languages being supported.

### 3.1 The Multiple Template, Single Language Solution

In this solution, the Template Designer creates multiple Templates for the Welcome Letter, each with the same content but in a different language.

The advantages of this approach are:

While working with each Template, the Template Designer needs only to work in one language.

Culture settings, including date presentation and other variables, can be applied to the entire Template at will and without affecting presentation in other languages.

There are also disadvantages to this solution. There are more Templates to work with, and whenever the general content needs to be amended, several Templates need to be changed. The effort is multiplied when considerations of Version Control, testing, and Approval are factored in. There is also the non-trivial issue of ensuring that the Document Creator selects the correct Template.

As the number of Templates grows with more document types being brought into the system, the Multiple Template solution leads to a proliferation of Templates with significant consequences for the maintenance effort and a greater risk of Templates being missed in upgrade work.

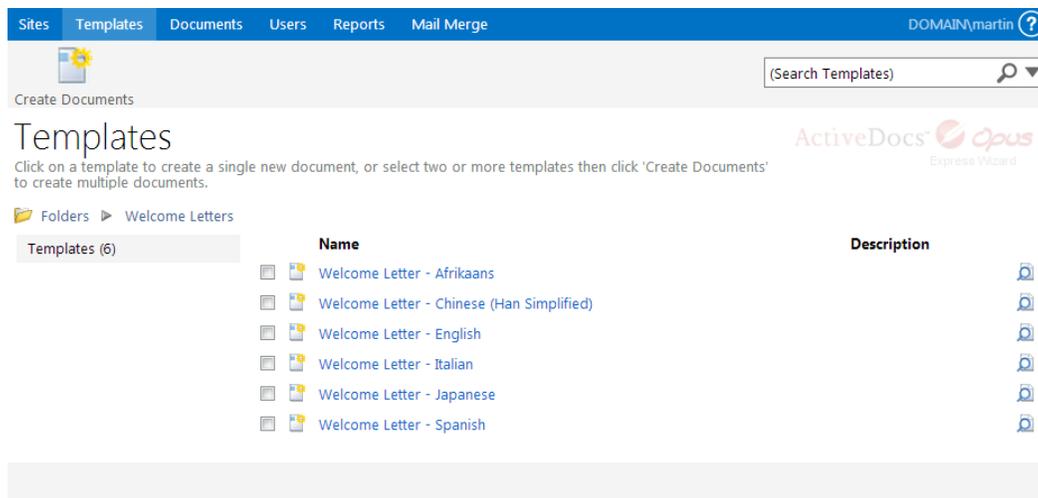


FIGURE 7 THE MULTI TEMPLATE SOLUTION

### 3.2 The Single Template, Multi-Language Solution

In this solution, the Template Designer creates a single Template for the Welcome Letter. Each paragraph (or other appropriate sub part) is repeated in the required languages. Only one version of the sub part is selected for the final document, based on Rules that consider the “required output language”, which can be chosen by the Document Creator, or can be determined automatically by reference to an attribute of the Document Consumer – in this case, the customer. Within each sub part, language/culture settings like date presentation can be set appropriately using standard Microsoft Word techniques, as ActiveDocs Templates are created and maintained in the Microsoft Word environment.

The advantages of this approach are:

- There are fewer Templates to manage overall.
- There is only one Welcome Letter Template to be changed if the general content must be changed.
- The risk of overlooking individual Templates during general content update work is significantly reduced.
- There is only one Template for the Document Creator to choose.

Of course this approach also means that the Template is complex to look at and has more Rules. However, extending this approach to Templates for a wider range of document types should mean that the advantages multiply and the number of Templates does not become unmanageable, while the fact of dealing with more complex Templates is simply business as usual.

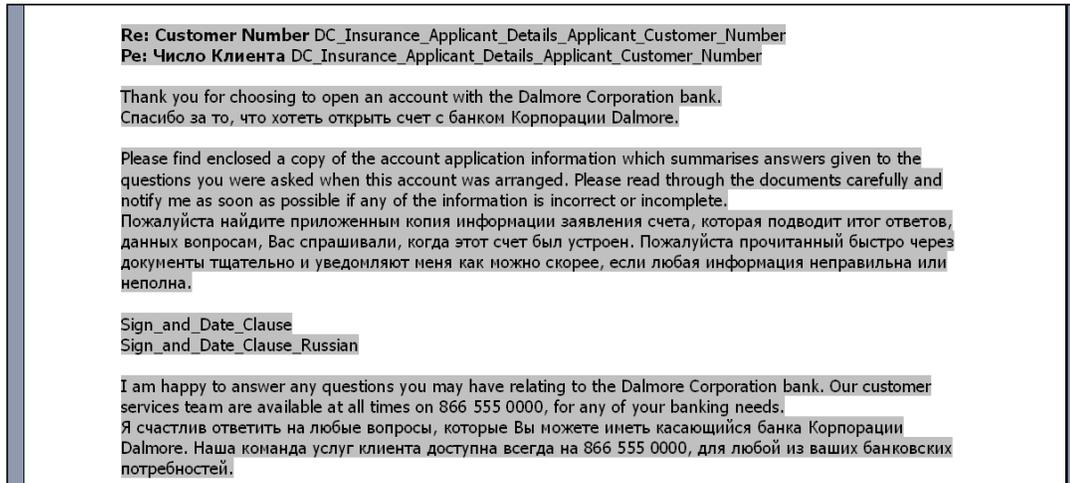


FIGURE 8 TEMPLATE WITH ALTERNATIVE LANGUAGES

### 3.3 Filtered Snippets

ActiveDocs Opus Viper introduces the ability to dynamically filter selectable Snippets. Snippets are ActiveDocs technology for encapsulating reusable static and dynamic content, like Terms & Conditions or Signature Blocks. The Selectable Snippets feature means Templates can be designed to allow end-users to select a Snippet, for insertion to the final document, from a Category; for example, a sign-off paragraph for a letter. The new ActiveDocs Opus Viper feature allows the category itself to be dynamically altered based on other data. In a multi-language scenario, this feature could be used to alter the category to match the required language of the document.

### 3.4 Best Practices

Fewer Templates should mean less administration effort, less risk, and similar levels of Template Design effort when compared to the multiple Templates approach.

Where Document Consumers are known to the organization, information about them is likely to come from a corporate data source. A language/culture attribute may already be part of the information or can be added at relatively low cost, so is available to the Template (and its Rules) for 'automatic' output language control.

If Document Consumer language preferences cannot be automatically determined then the relevant Templates can be designed to allow the Document Creator to choose the output language.

The ActiveDocs Opus Viper "Filtered Selectable Snippets" feature can add flexibility to any multi-language solution.



## 4 The Data Presentation Challenge

The third challenge for multi-language document creation extends the first and second challenges. The third challenge is about data presentation, to ensure that the Document Creator see choices in his or her language, while the option chosen is presented in the final document in the language selected for the Document Consumer.

As an example, an English-speaking Document Creator is preparing an Employment Contract for a Chinese-speaking Document Consumer through the Document Wizard. One of the selections offered through the Document Wizard is a Job Title obtained from a Value List (a list of possible values, determined by the Template Designer). The Document Creator must see the option list in English to ensure the correct selection, but the Job Title must be rendered on the final document in Chinese.

### 4.1 The Rule-based Solution

The Template Designer creates a series of Rules that reflect the Document Creator's choices and what was selected ("Job Title Is Managing Director"; "Job Title Is Personal Assistant", etc). The Chinese language equivalents are all expressed as Chinese text content in the Template, and the Rules are used to include the relevant one while excluding the remainder.

This is a complex solution and creates a significant maintenance workload. Any additions or changes to the selection of job titles require additional or changed Rules and content. Expanding the scope of the Template to allow for different Document Creator languages and/or Document Consumer languages multiplies the complexity and the maintenance workload.

### 4.2 The Value List Solution

ActiveDocs Designer allows the Template Designer to specify two values for each item in the Value List. One specifies the data values that the Document Creator sees in the ActiveDocs Document Wizard and the second specifies what data values is used in the final document; this may also be seen by the Document Creator. In this way, the Value List works well for a single combination of Document Creator language and Document Consumer language.

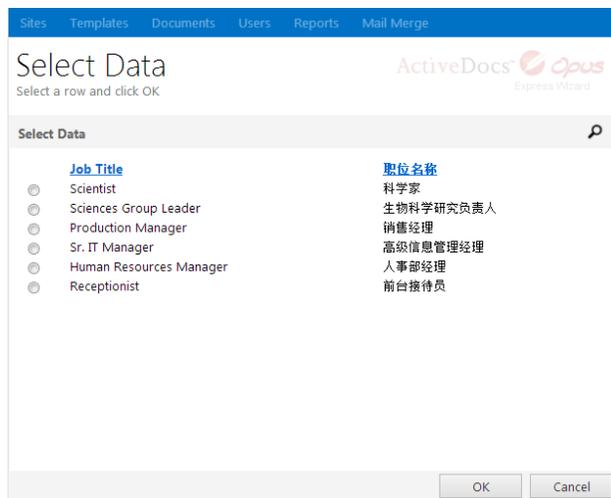


FIGURE 9 AN ACTIVEDOCS DOCUMENT WIZARD DATA SELECTION PAGE SHOWING A SELECTABLE DATA ITEM IN ENGLISH AND CHINESE

Beyond the single known combination, the Template Designer is still challenged to support multiple Document Creator languages. Such a scenario can be supported in the way suggested

for Prompts and Tips, i.e. including as many required language variations as possible in the first value of the list item.

### 4.3 The Dynamic Data Filtering Solution

A carefully designed multi-language environment for ActiveDocs would have Templates designed to know the Document Creator's language (from ActiveDocs Composition Server Profile fields) and the Document Consumer's language (as a standard item included in data sources wherever they might be used to provide Document Consumer information, or prompted for in the ActiveDocs Document Wizard). This opens up the possibility of using dynamically filtered data from other external sources to refine and define the content of Value Lists.

ActiveDocs Data Views provide links into external data sources and can be used instead of hard coded lists to provide option lists for Document Creators to choose from. These lists can be dynamically filtered, so if the Document Creator's language is known, a set of single value items in that language may be presented; for example, Job Titles in English.

The chosen result can then be combined with the name of Document Consumer's language to dynamically filter another list and produce a single result – in this example there should only be one result where “Job Title is Managing Director” and “Document Consumer Language is Chinese”.

The appeal of this solution is that the selectable option lists are populated from data sources, thus reducing the fixed content in the Template and providing elegant extensibility. As there is a likelihood that the same or similar logic maybe used in many Templates, the design may be replicated, extended, and even re-used as a Design Item Set, in other Templates.

## 5 Conclusion

### 5.1 The User Interface Challenge

ActiveDocs provides excellent multi-language support for its own user interfaces by resourcing all of the textual content and facilitating the use of multi-language resources.

Beyond the resourced content, Template Designers are encouraged to pay careful attention to Prompts, Tips, Value Lists, and other aspects of Template Design where language is a consideration.

Between resourced content and Template Design, ActiveDocs provides the means for meeting the User Interface Challenge.

### 5.2 The Document Content Challenge

The Document Content Challenge is about providing document content in the language of the Document Consumer.

ActiveDocs Templates have powerful optional content capability using Rules, thus supporting the concept of multi-language Templates which also benefit from efficient Template Design and management.

Because ActiveDocs Templates are created using Microsoft Word, all of the powerful language and culture support provided in that environment can be incorporated in the Template and thus into the output document.

ActiveDocs also supports multi-language Value Lists and dynamic filtering that can be used to excellent advantage to provide content in both the Document Creator's language and the Document Consumer's language.

With Rules, with support for multi-language Value Lists and data presentation, and by leveraging Microsoft Word's powerful language and culture capabilities, ActiveDocs provides the means for meeting the Document Content Challenge.

The ActiveDocs Opus Viper "Filtered Selectable Snippets" feature can add flexibility to any multi-language solution.

### 5.3 The Data Presentation Challenge

The Data Presentation Challenge is about meeting two potentially different language expectations – those of the Document Creator and the Document Consumer – in one Template, where these expectations affect the presentation of data.

The touch points for the Data Presentation Challenge are Value Lists and external data, both of which need to be understood by the Document Creator (to facilitate selection of the correct option) and the Document Consumer (by being correctly presented on the output document).

ActiveDocs supports multi-language Value Lists and dynamic filtering of data from external sources. These advanced data presentation features, combined with attention to the design of data sources and the ways they are accessed, can be used to excellent advantage to provide content in the language of the Document Creator and of the Document Consumer.

With advanced data presentation features and good data design, ActiveDocs provides the means to meet the Data Presentation Challenge.

## 5.4 The Big Picture

Every business in the global marketplace faces multi-language challenges from the users of its IT systems and from the consumers of communications which those IT systems generate.

ActiveDocs provides the means to meet the multi-language challenge.

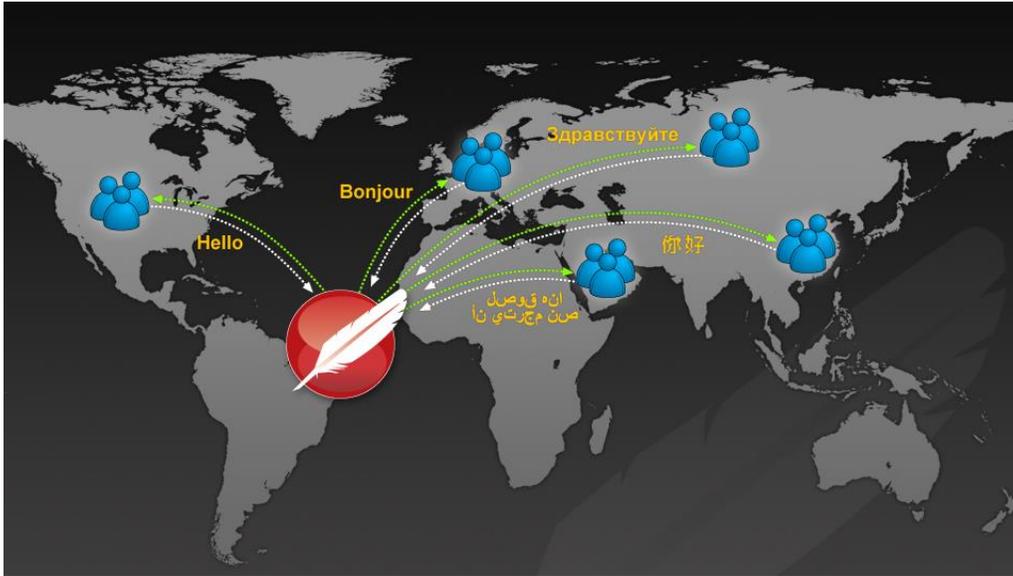


FIGURE 10 MULTI-LANGUAGE COMMUNICATION THROUGH ACTIVEDOCS