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# Single-Sourcing and Localization: 7 Best Practices to Creating Global Content

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# Overview

Localization can be a daunting task for any organization. Single-sourcing gives technical communicators an advantage in the localization process by letting them reuse content across languages for significant cost savings.

However, for all its benefits, single-sourcing with localization brings some additional challenges for the technical communicator. This white paper provides seven best practices for single-sourcing and localization that will help streamline your workflow and facilitate the process of creating global content.

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# Definitions

Before going into best practices, it is important to get a firm understanding of what defines single-sourcing and localization.

## Single-Sourcing

Single-sourcing is the use of a single document or set of files to produce multiple variations in the output. Adopting a single-source publishing methodology allows for content to be reused in a variety of ways, while making updates from a single, master document.



This illustration represents a single-sourcing system for two different products, with multiple outputs such as PDF manuals, online help, and responsive design for mobile devices.

## Globalization

Globalization is the business strategy for expanding to multiple markets in various regions throughout the world.

## Internationalization

Internationalization is the design of a product or service to be readily adaptable to different languages and locations. It is particularly applicable to software infrastructure, but also applies to single-sourcing systems for documentation.

In localization-speak, internationalization is often abbreviated to "i18n", representing the 18 letters in between the I and the N. This includes the technical aspect of creating software or documentation systems to be ready for localization.

## Localization

Localization includes both translating the actual words into a new language plus the technical and linguistic aspects of adapting the product or documentation to a new location. It is often abbreviated to "L10n", representing the 10 letters between L and N.

Localization includes the use of Translation Memory (TM) to reuse content consistently. Language Service Providers (LSPs) use Translation Memory to reuse content for cost savings, such that once a sentence is translated, it doesn't require resources to be translated again. Using Translation Memory also allows the translation process to be more efficient and streamlined.

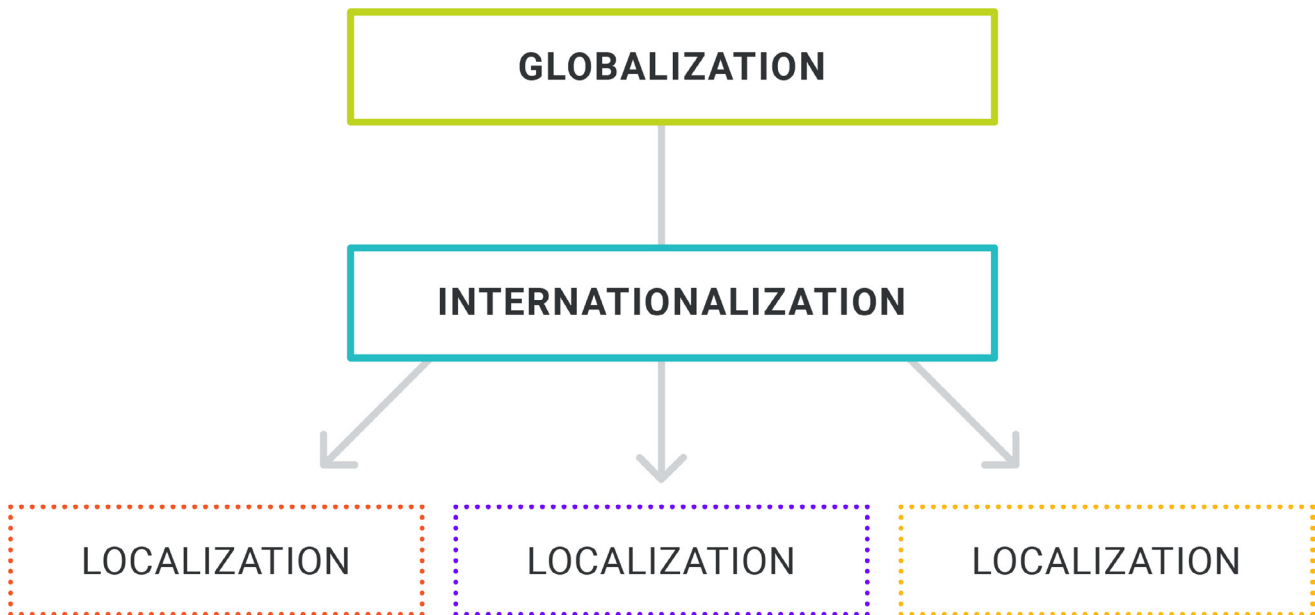
## Transcreation

Transcreation means recreating the original emotional message in a new language and culture, rather than translating the words literally. Oftentimes it is associated as a part of marketing rather than creating a new product, as transcreation can involve the creation of emotional appeal, targeting the culture and local market.

# The Connection Between Globalization, Internationalization, and Localization

The term “localization” can be confusing because you may think, “I want to go global – why are you talking local?” In order to do business globally, you must adapt your product to each language and location. Ideally, you want customers in each country to believe that the product is designed specifically for them.

These three components work together in a company’s strategy for “going global”.



This diagram shows the interrelation of globalization, internationalization, and localization. Once a company determines a strategy for “going global”, or “globalization”, the next step is internationalization - preparing the software or documentation for translation into other languages. Then the product can be translated - go through localization - to be adapted for each new language and region.

# Locale

A locale is the combination of the language and location, such as French spoken in France, or French spoken in Canada.

The word "locale" is also used as a technical term, usually referring to the files themselves that contain the translated language. The international community uses standard abbreviations, such as fr-FR for French-France, or fr-CA for French-Canada.

There can be subtle to overt differences between spoken or written languages in different countries. For example, certain words can be instantly identified as American or British English by the spelling or terminology:

<b>AMERICAN ENGLISH (en-US)</b>	<b>BRITISH ENGLISH (en-BR)</b>
localize	localise
color	colour
truck	lorry

Other languages have even wider differences when spoken in different locations. For example, Portuguese spoken in Brazil uses significantly different grammar from Portuguese in Portugal.

A user would know instantly if a piece of text or software is designed for their country. That's the premise of localization: you want your customers or your clients to think of your product as designed for them.

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# Why Use Single-Sourcing and Localization?

When used together, single-sourcing and localization together can extend the benefits of single-sourcing alone.

## Benefits of Single-Sourcing

The following are a few examples of the benefits from implementing single-sourcing into your documentation workflow:

- Cost savings – multiple outputs from one master
- Ease of maintenance – update all versions at once
- Quality control – all documents in sync

## Benefits of Single-Sourcing and Localization

When you combine single-sourcing and localization, the benefits multiply. In addition to the benefits of single-sourcing, users also take advantage of the following:

- Cost savings multiplied – translate once for all variations
- Ease of maintenance – update all languages (translate updates)
- Quality control – all languages in sync

The cost savings multiply when you write once, translate many times, and create multiple outputs for each language, as opposed to translating five different documents separately. You translate your single-sourcing system once and create all the outputs for each language. Outputs are easy to maintain and the quality is kept in sync across all languages. As a result, this process allows you to obtain multiple translations for the effort and price of one.



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# Challenges

While single-sourcing with localization provides significant benefits, it introduces some new challenges to be aware of when creating a single-sourcing system with localization in mind.

## Linguistic

There are a number of linguistic challenges with translations. Particularly, given grammar differences between languages, it is important to understand how these differences affect the way that variables and conditionals are used. See "Note: Using Variables in Localization" on page 14 for details and examples.

## Formatting

Formatting issues arise in localization because of the difference in length of the text in different languages. For instance, the word length could expand greatly in German.

Formatting issues apply especially in software, with limited screen real estate. If you have tightly-spaced layouts either in your software or your documentation, that could run into big trouble in localization.

Paper sizes vary as well; for example, all of Europe uses A4, while the U.S. uses a 8.5 x 11 format. Therefore, it is advised that you use a A4 master size format, and adjust the spacing so that it also works for 8.5 x 11.

## Quality

Ideally, in-country review should be performed to verify the quality of your translations; even better, by subject matter experts in the target country. Oftentimes in-country partners are happy to provide linguistic review, as they care about the quality of the product they are offering and have in-depth knowledge of the local market. A Language Service Provider (LSP) may be able to provide independent review if resources are not available. Work with an LSP to discover the most appropriate level and process for assuring the level of quality you need.

The level of quality required for the translated output can vary depending on the target market and the nature of the document.

- Machine Translation (MT): In some cases straight-out machine translation may be adequate. For instance, rough translation may suffice when a large chunk of content needs to be displayed rapidly.
- Machine Translations plus human editing presents a higher level of quality, as it combines the speed of machine translation with the accuracy of human revision.
- Human professional translation is by far the preferred method, as translators have the discernment to recreate accurate expression in another language. Translators can use specific tools to leverage the word count so previously translated content doesn't need to be re-translated.
- Transcreation is needed to adapt the message to a new market, rather than recreating the same words in a new language. In-country marketers may be the best experts to rely on when creating a message that appeals to their local audience.

## Cultural and Legal Issues

Cultural differences are very important to consider in localization, as failing to do so can lead to embarrassing mistakes or even legal issues in the target market.

- **Cultural:** different values, emotional responses, symbolism
- **Legal:** linguistic requirements, such as the European Union requiring the European version of each language

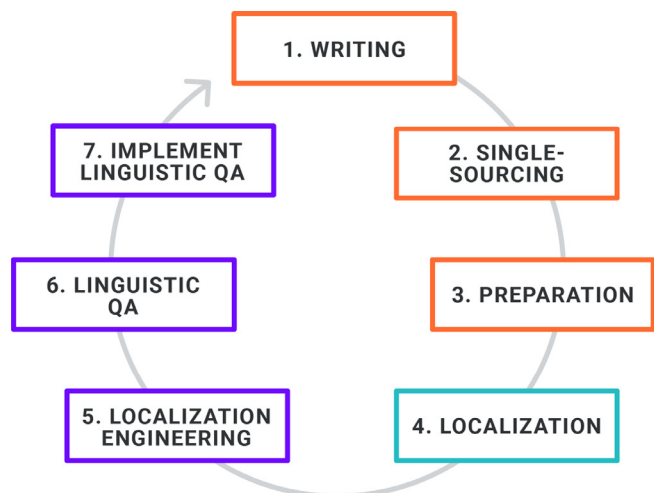
For example, consider Portuguese from Portugal or Brazil. Not only can the audience tell instantly which version of the language the text is in (think American vs. British English, but much more different); there are also legal and cultural reasons for using one or the other. In the European Union, the laws require the use of the European version of the language; however, Brazil is the much larger market, and they could be offended by the use of European Portuguese. With two distinct languages, or two different locales, it may be difficult to ensure that a product or document works for both audiences.

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# Seven Best Practices in the Localization Process

Localization is a cyclical process, with a sequence of often overlapping steps that is repeated for updates and improvements. With the following best practices, you can avoid common issues that arise with localization, while improving translation quality and reducing the time it takes to deliver content to market.

1. Writing
2. Single-Sourcing
3. Preparation - also known as Internationalization
4. Localization
5. Localization Engineering
6. Linguistic QA
7. Implement Linguistic QA



Steps 1 to 3 are performed by the author. Step 4 is best handled by an experienced Language Service Provider, who has a firm understanding of terminology as well as technical aptitude. Steps 5 to 7 are performed either by the author or the LSP, depending on expertise and how your organization is set up.

While the author or LSP can outsource any step in the process to other providers, it is recommended that linguistic QA is performed by an in-country native speaker. Finally, it is up to the author or the LSP to implement the linguistic QA through feedback and the cycle of writing updates, keeping track of what is changed as well as translating new content.

# 1. Write with Localization in Mind

More than ever, your writing needs to be clear, concise, and direct when you are preparing for localization. When writing with localization in mind, it facilitates the process when content is sent to LSPs or undergoes linguistic QA. When done properly, there will be fewer words to translate. And the clearer the content, the more easily it can be translated.

Simplified Technical English is a discipline that can be beneficial for localization, as it constrains the writing to an approved set of words with standardized usage. Another option is to write natural English while keeping the terminology consistent and grammar as simple as possible.

When writing for localization, consider the following:

- Avoid noun stacks. In English, nouns bundled in the same sentence can also serve as adjectives, such as “system administrator trouble-shooting manual”. However, other languages may not have the same grammar mechanic, so it is vital to be aware of potential errors.
- Gerunds can be slightly problematic because other languages do not use them as consistently. Gerunds are frequently used in English, including “-ing” verb forms such as “getting started”, “using this software”, “getting help” and so on. But most translators (if you do use that as a natural form) can change it to an infinitive, or whatever works in that language.
- It is best to avoid the use of idioms and cultural references. For example, a “ball-park estimate” isn’t going to make much sense to somebody without knowledge of the American game of baseball. The same goes for cultural references to movies and other culturally localized phenomena, which may not translate well to other countries.

# 2. Create a Single-Sourcing System

A single-sourcing system is any set of files or data that lets you create multiple outputs from a single set of content. Having a single-sourcing system in place gives the author the ability to repurpose content for different audiences and mediums, making it especially useful for international audiences. A well-designed single-sourcing system will typically have the following features and capabilities:

- Topic-based structured content
- Project-level elements, such as:
  - **Variables:** Variables are non-formatted pieces of content (such as company name, phone number, etc.) that can be edited in one place but used in various

places throughout your content. Variables typically consist of single elements with discrete options, such as <productname>.

- **Conditions:** Conditions are typically used for longer passages, such as sentences. They may apply to different areas of your content, and appear in some outputs but not others.
  - **Snippets:** An important element in single-sourcing, a snippet may consist of standalone elements, such as paragraphs, tables, and images.
- Graphics with easy localization of callouts
  - Rich content: audio, video, animation

When applied to documentation, single-sourcing can be used to take a single piece of content and publish for various formats and devices. The diagram below represents what can be generated with a single-sourcing system.

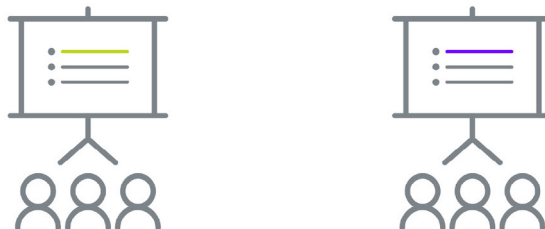
**DOCUMENTATION**



**SUPPORT**



**TRAINING**



Your content can be reused across your organization, provided you can get organizational buy-in. Content reuse is leveraged when combining the online help and the support or knowledge base and training materials across different products.

## Note: Using Variables in Localization

When preparing to localize content produced from a single-sourcing system, it is important to note issues that may arise with variations in content, such as variables. A good rule when writing for localization is to avoid the use of variables within sentences or for generic words, since in other languages the grammar around these variables can change. It is preferable to conditionalize a whole sentence, rather than create variables of words within the sentence. One option is to flatten the variables into plain text and localize several variations of the sentence.

Here are a couple of guidelines to keep in mind when using variables:

### Word Order

A common issue with variables is when they are strung together to create a sentence, as in <adjective> <noun>, or <subject> <verb> <object>. This does not work because Latin languages often put the noun first, followed by the adjective that modifies it. <Subject> <verb> does not work in German or in Japanese where the verb is at the end. As such, it's best to stay away from concatenating strings.

### Articles

Articles can cause problems with variables. For example, in English, "a apple" versus "a banana" can pose an issue for variables, as it changes the grammar in that context. Issues with articles are pronounced in other languages where the article changes depending on gender, and with combined forms such as the following example in French: instead of "le esample", the correct French is "l'esample", (with an elision at the apostrophe).

### Gender

Many languages have changes based on gender, which can cause issues with variables. For example, in Spanish, the sentence "The <variable> is tall" would translate differently based on gender:

"The boy is tall" would be "El niño es alto."

"The girl is tall" would be "La niña es alta."

The article and adjective change based on the gender of the variables. This shows why variables within sentences (for common words) are generally not a good idea, or very risky at least.

## Number

Numbers can even cause problems in some languages. For example, Russian has small plurals where the form of the noun changes depending on the number: X-number of students registered could change depending on whether it's one, three, or five.

## Example: Articles

Here's an example to illustrate issues of using articles – a, an, the – with variables, which you can start to see even in English:

<p><b>Install a &lt;brandname&gt;.</b></p>	<p><b>Install a A-brand.</b> <b>Install a B-brand.</b></p>
<p><b>Install &lt;a-brand&gt; &lt;brandname&gt;.</b></p> <p><b>Set &lt;a-brand&gt; = &lt;an&gt; for A-brand, &lt;a&gt; for B-brand.</b></p>	<p><b>Install an A-brand.</b> <b>Install a B-brand.</b></p>

In English, if you see text saying “a apple” or in this case “a A-brand”, the article preceding the variable should change to “an” if the result of the variable starts with a vowel.

If the use of variables are unavoidable, there are workarounds. A variable for the article “a” or “an” can be used before the variable for brandName. This goes to show that even in English, there are issues of words going together with or without a consonant before the vowel. That issue is greatly magnified in most other languages.



For example, articles in French (translation of “the”) often use an apostrophe before a vowel:

<p>Installer le &lt;brandname&gt;.</p>	<p><b>Installer le A-brand.</b>  <b>Installer le B-brand.</b></p>
<p>Installer &lt;Fr-the-brand&gt; &lt;brandname&gt;.</p> <p>Set a variable for the article:          &lt;Fr-the-brand&gt; = <b>l'</b> for A-brand,  <b>le</b> for B-brand.</p> <p>OR, include the article in the variable:          &lt;the-brand&gt; = “<b>l’A-brand</b>” or “<b>le B-brand</b>”</p>	<p><b>Installer l’A-brand.</b>  <b>Installer le B-brand.</b></p>

Better yet, rewrite the source text to remove the localization issues:

<p>English: Install the &lt;brandname&gt; device.</p>	<p>Install the A-brand device.          Install the B-brand device.</p>
<p>French: Installer l’unité &lt;brandname&gt;.</p>	<p>Installer l’unité A-brand.          Installer l’unité B-brand.</p>

The source text (the English) can be rewritten to remove the article issues by saying “the <brandname> device” or “the <brandname> product”. This is good practice when using trademarks, since trademarks are best used as adjectives instead of nouns. For example, instead of “Hand me a Kleenex.” Hand me a Kleenex \* Tissue.

In the French example above, combination forms in French (such as the word “unité”) does not need to change, since it becomes an adjective and is placed after the noun.

## 3. Preparation for Localization

After content is written and ready, the next step is the process of “internationalization”, or preparing software or documentation to be localized into each new language. The internationalization process consists of preparing the software and the documentation to be localized, ensuring that it is clean, without concatenated strings or embedded variables in sentences. For software, it is important to ensure that the text is separate from the code, ideally stored in locale files you can send to localization.

At any point, authors can review the source content, or the English language content that will be translated. By writing with localization in mind in previous steps, it saves the time and effort to prepare documents for localization. At this stage, it is helpful to establish a standard for the following:

### International Standards

Think about international date formats: what does the date 3/4/17 mean? Is that March 4th or April 3rd? Names and addresses can vary across regions or countries, as can measuring units. Use metric if possible; if not you'll need to have variables embedded.

### Word Length

Allow room for text to expand, especially on screens but also in documents. Pagination can be thrown off by the different word lengths. German can grow up to 50%, Spanish up to 30%. That also depends on the size of the original text and how tightly it's laid out.

### Page Formats

Determine whether content will use 8.5 x 11 inch pages versus A4 size, which is metric and has slightly different ratios.

## Prepare for Localization

To prepare text for localization, coordinate with the LSP to establish the following:

### Glossaries

Localized glossaries are very important. The terminology should be defined in the predominant language, followed by translating the glossary, so that the terminology can be used consistently throughout the software or document.

## Style Guides

Create a style guide for each language that's more than just a cascading style sheet. A style guide will help create consistency throughout content, and provide authors and LSPs with a single point of reference. Determine the tone and style by addressing questions such as: "Do we use contractions or not?" or "Do we use the formal or informal "you" in this language?"

## Context

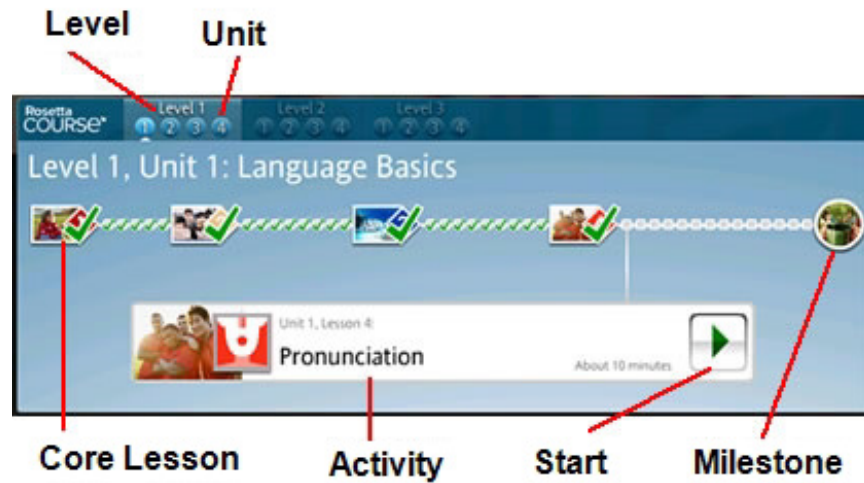
Provide plenty of context for the translators. When sending content to the LSP, add notes to explain the meaning of the text, as well as screenshots and video references. Live or virtual training can also be a helpful resource.

## Prepare for Globalization

The internationalization of graphics creates some issues, particularly for callouts that need to be localized.

One of the most time-consuming tasks of starting a new documentation system is creating the screen shots. One suggestion is to take screen shots of the language - in English, or in multiple languages if the software is localized - and place call-outs with the screen shots for context. Allow for text expansion.

First of all, if the software itself is localized, you'll need to take screen shots in each language. Next, you'll need to consider localizing callouts. Notice how the neatly lined-up callouts at the bottom in English...



... need to be staggered in other languages in order to fit:



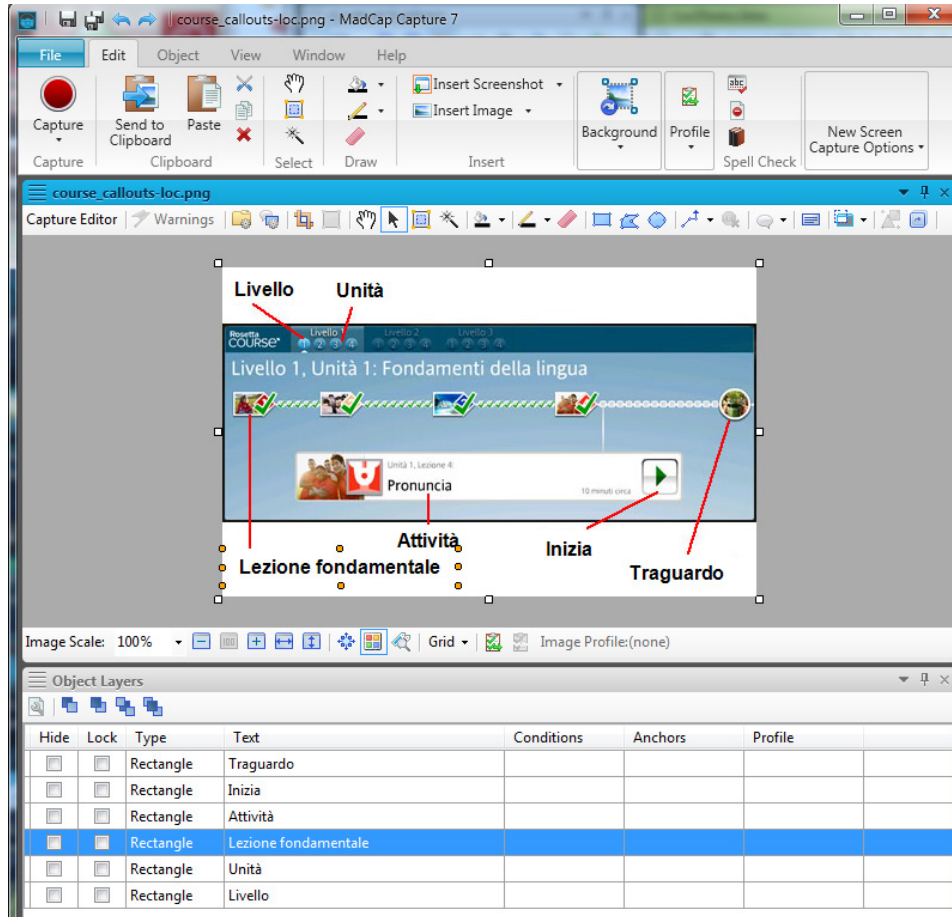
Consider where the callouts will be positioned beforehand, to allow for text expansion.



## Note: Using MadCap Capture for Localization

MadCap Capture has excellent integration with MadCap Flare. MadCap Capture stores the text in separate properties files (.props) that can be easily sent to localization. When you copy the images and .props files back into the Flare folder structure, Flare generates localized callouts.

Here's how this looks in MadCap Capture:



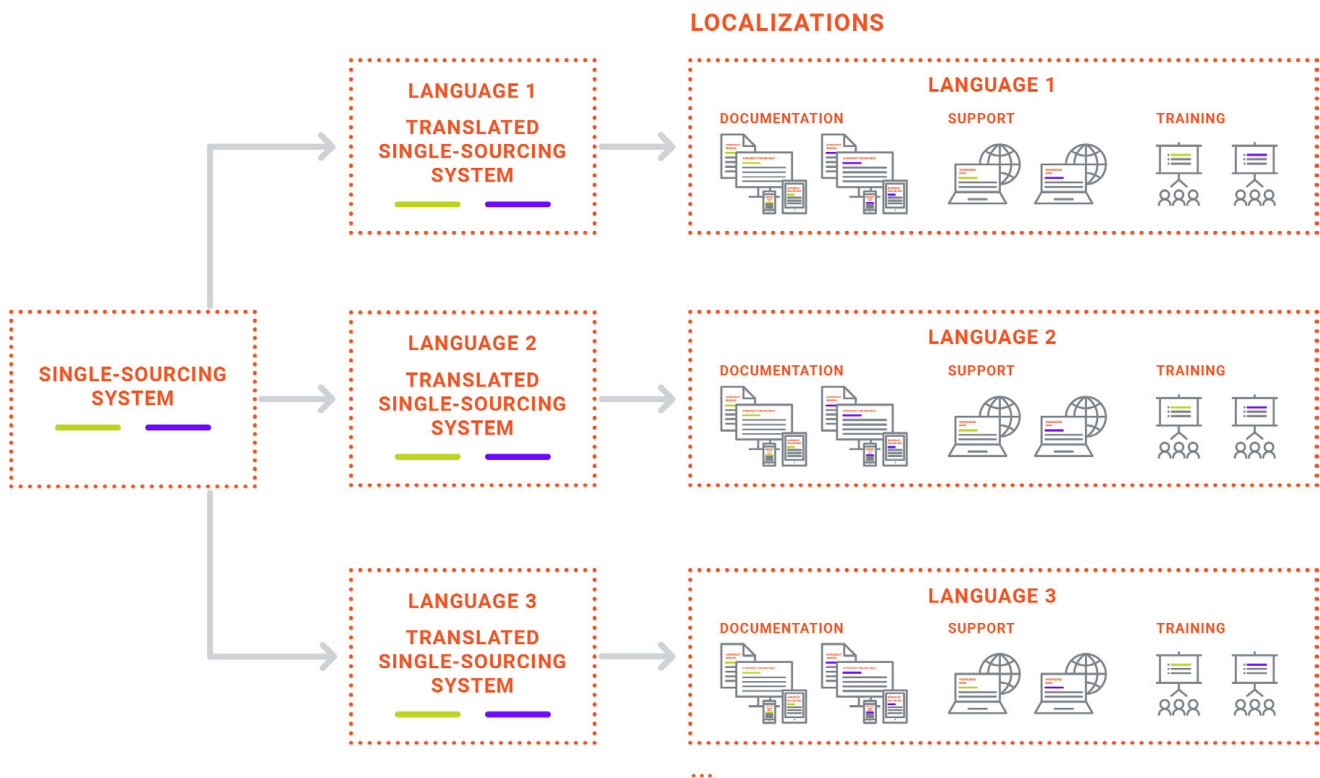
Each one of these rectangles is a text box that can be edited or placed, and is derived from the properties (.props) file. The text box on the screen has yellow handles that can be dragged to expand the box so that all the text displays. In addition, there is a small plus sign to indicate when more text is hidden and that the text box can be expanded.

## 4. Send Content for Localization

Once the single-sourced content is sent to the Language Service Provider (LSP), they typically manage the process of translating the content, such as the following:

- Translation of text
- Adaptation of files and formats
- International dates, measurements, conventions
- Translation Memory (TM) - the repository of your translated content

The benefit of a localized single-sourcing system is that a variety of outputs can be created for multiple languages. Once the single-sourcing system is set up, the system itself can be localized into as many languages as needed. In each language, multiple outputs can be generated and customized.



The single-sourcing system is sent to your Language Service Provider for localization. It's best to select an LSP with expertise in the software you use, so they can work with the rich feature set of your single-sourcing system.

## 5. Perform Localization Engineering

Localization Engineering is the technical task of the behind-the-scenes process of adapting the code or files to accommodate the localized content, and can be handled by either the author or the LSP.

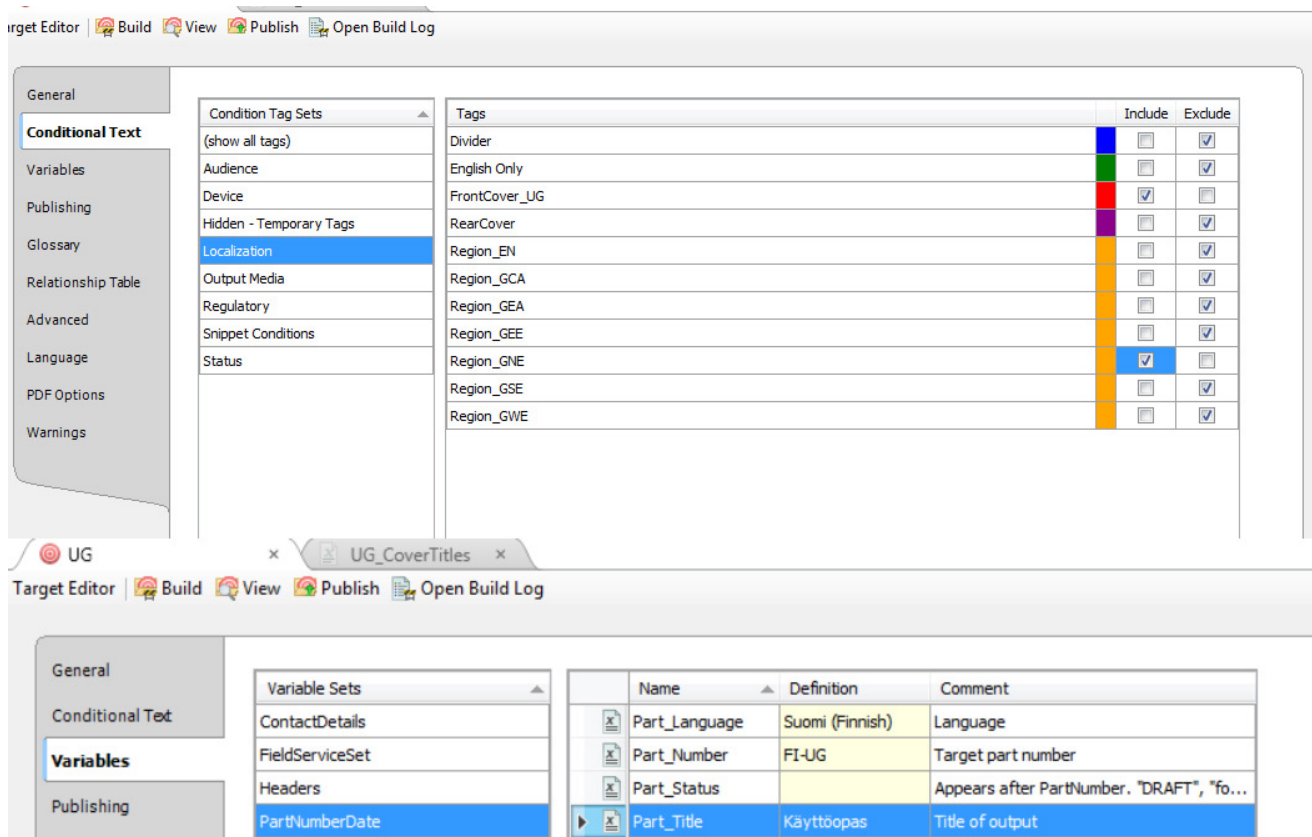
In general, the workflow of localization engineering is as follows:

- Import translated files into single-sourcing system
- Reformat as needed
- Create outputs

The first step is to import the translated files into the single-sourcing system. Once imported, the outputs are created by building the targets in the desired language and format. As a result, you end with the same five outputs in different languages, with tweaking required in most cases.

Here's an example of some of the behind-the-scenes work you might see in the localization engineering stage. In the target file below, you can see the tabs for Conditional Text and for Variables.





In the Conditional Text tab, check the conditions to include and exclude, according to the region or language for which the target is being produced. In the example above, the guide is intended for all of northern Europe, so only "Region\_GNE" is included.

Next in the target are Variables, such as part number, date, and so on. In this case, the variable for Language is set to Finnish, and the Part\_title variable uses the Finnish for User's Guide.

## 6. Perform Linguistic QA

All localized content should be reviewed by a native speaker for linguistic issues. Either the author or the LSP can manage the linguistic QA. Once all the work is performed in the single-sourcing system, the output should be sent to in-country reviewers, who are experts in the language and ideally in the subject matter.

Give specific directions for how to make changes or give feedback, using either Computer Assisted Translation (CAT) tools or marked-up outputs (PDFs). Usually translators have "CAT" tools on their

desk or give feedback in some other format such as PDF markups. Keep in mind that in some cases, the reviewers cannot modify text because of a variable or a conditional in your single-sourcing system that the translator cannot access.

## 7. Implement Linguistic QA

When the language expert has reviewed the content, incorporate the feedback into the finished product. The following is an example of the linguistic QA process:

- Import updated translations into the single-sourcing system
- Receive feedback and revise within the single-sourcing system
- Snippets, variables, and conditionals: revise what the translator couldn't
- Re-create final outputs

After receiving linguistic feedback, either the author or the LSP can implement post-QA revisions. First, import the updated translation and revise in the single-sourcing system as needed. Some of the fixes are for features embedded in the coding which translators can't get to, so you then revise anything that was bypassed by the translator, and recreate the final output.

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# Conclusion

As more and more organizations expand into international markets, reaching audiences all over the world, localization becomes an increasingly important step in documentation. By combining the power of single-sourcing with localization, content can be selected and published in a variety of outputs, allowing for flexibility and significant cost savings.

While there are challenges to any translation process, single-sourcing gives technical writers and LSPs the ability to write once, translate, and create multiple outputs for as many languages as needed. By implementing the best practices detailed in this white paper, you can minimize conflicts and maximize the benefits throughout the various stages of the localization process.

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## Additional Resources

Here are some valuable resources to continue your exploration into single-sourcing and localization.

### Flare Webinars:

- “Using MadCap Flare to Support Your International Content Strategy”  
<http://www.madcapsoftware.com/webinars/using-madcap-flare-to-support-your-internationalstrategy/>
- “A Case Study in Translation Management – How to Reduce Costs by 90% While Enabling New Markets”  
<http://www.madcapsoftware.com/webinars/case-study-in-translation-management-how-to-reduce-cost-by-while-enabling-new-markets/>
- “Case Study: How Hewlett Packard Enterprise Leverages MadCap Lingo to Reduce Translation Costs by 50%”  
<https://www.madcapsoftware.com/webinars/case-study-hewlett-packard-enterprise-leverages-madcap-lingo-reduce-translation-costs/>
- Jennifer Schudel, Advanced Language Translations: Presentation, “Five Things to Consider When Developing Multilingual Content”  
<http://www.madcapsoftware.com/webinars/madcap-flare-and-translation-five-things-to-consider-when-developing-multilingual-content/>

### e-Books and Sites

- Venga Global – eBook: “Single-Sourcing: Translate Once, Reuse Many Times”  
<http://blog.vengaglobal.com/single-sourcing-translate-once-reuse-many-times>
- Val Swisher, Content Rules  
<http://contentrules.com>

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## About the Author

**Laura Dent** is a freelance technical writer specializing in single-sourcing and localization. Her clients include translation agencies and product companies, including Rosetta Stone where she serves as UX Content Strategist and implements localized software and documentation. She is MAD Certified (MadCap Advanced Developer), and works with clients in localization engineering in Flare. She teaches Technical Communication for Computer Science at James Madison University.

Laura knew she wanted to be a writer since she was 5 - the technical part was a discovery along the way. She is a language geek from way back; she started speaking Spanish at 6 on a trip to Mexico, and majored in Russian at Harvard.

Now she realizes her passion for writing and languages in her work and her travels.

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