High above the cloud(s)? Visual software localization 2.0 at SAP

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SAP is the world leader in enterprise applications in terms of software and software-related service revenue. Based on market capitalization, SAP is world’s third largest independent software manufacturer.

- More than 291,000 customers in 190 countries
- More than 74,500 employees
- Locations in more than 130 countries [headquarters in Walldorf near Heidelberg]
- A 43-year history of innovation and growth as a true industry leader
- Annual revenue (IFRS) of € 17.56 billion
Our journey

Where we started from

What challenges did we encounter with Cloud Mergers & Acquisitions (M&As)

What we did to “climb the M&A mountain”

What the solution looks like (demo)

What we are heading to next
Where we started from
How SAP handled translation so far – where we started from

SAP Language Services as the SAP-internal language services provider

• Works with internal translators for English and German (directly located in development units) and certified single-language vendors
• Hosts the translation environment
• Uses a proprietary software solution for translating UI short texts
• Uses an industry standard Translation Memory system – SDL Trados Studio for translating long texts (system long texts, documentation, training...)
• Focused on developments done in SAP programming language ABAP (including transport mechanisms from development to translation environments)
• Extensive training effort
Challenges with Cloud M&As*

*Mergers and Acquisitions
What challenges did we encounter with Cloud M&As

Wide *variety of formats* in all shapes and forms, complex formats → They don’t care about ABAP…. 😊

**Reuse of legacy translations** from other vendors required (ID-based!)

(Non-)availability of properly defined *terminology*

Short turnaround times and **agile** development

High number of **drops** from development, often with low volume

Quite a few languages and **language variants** that SAP did not offer before (e.g. Welsh and Bosnian)

**Localization readiness:** Often US-based companies who developed software mainly with the English-speaking market in mind
Often US-based companies who developed software mainly with the English-speaking market in mind?

Features of the software that work fine for English but not for the target languages

An example: **Text substitution keys** (plain text is replaced with a technical key)

- **Resolve source key**
  - Translator needs to know with which English term the key is replaced with at runtime
  - Example: My $(Direct_reports) → My Direct Reports

- **Show available target variants**
  - Translator needs to know what target term variants there are for their respective target language
  - Example:
    - English: $(Direct_reports) = Direct Reports
    - German $(Direct_Reports) = Direkt unterstellte Mitarbeiter
    - German $(direct_reports) = direkt unterstellte Mitarbeiter
    - German: $(direct_reports_accusative) = direkt unterstellten Mitarbeiter

- **Resolve target key**
  - Translator needs a preview of what the target translation looks like
  - Example: Meine $(direct_reports_accusative) = Meine direkt unterstellten Mitarbeiter
Existing tools did not offer the flexibility needed

Proprietary short text editor

- High training effort for new languages
- Too much focused on ABAP
- No support for wide range of M&A formats

Industry-standard long text editor (Trados Studio)

- Made for translation of continuous text like documentation, not UI
- Only text-based leveraging of existing translations → time consuming and error-prone

We needed to choose a different path to climb the M&A mountain!
Climb the M&A mountain
What we did to “climb the M&A mountain”

Looking for a new solution that offered

- **ID-based** leveraging/alignment
- **Automated checks** specifically designed for software translation
- Easy and quick project **setup and update**
- **Adaptability** to support source text specifics like text substitution keys
- **Visual localization** (WYSIWYG) to avoid translation mistakes
Showcase – SuccessFactors web applications

Demo of the website
Cloud solutions for Human Resources

- Core HR
- Talent solutions
- Analytics solutions
- Social collaboration
Web application
Initial localization process
How the process used to be

**Development**
- Implement features
- Create localization kit
- Create build with correct source texts
- Correct source texts
- Quality check
- Produce language packs
- Internal review
- Linguistic tests
- Feedback
- Release!

**Tech writers**
- Localize/Translate
- Feedback

**Translation**

**Testers**

Errors
Project specifics
Facts

84,000 UI texts → 371,000 words

38 target languages

Agile development → bi-weekly drops

Proprietary file format with software texts

Highly dynamic application

Access to content depends on role
Goal – ID-based leveraging + handling text substitution
The approach

Roadmap and implementation
Roadmap and implementation

Workshop (collection of requirements)

Proof of concept

Pilot
- Drops
- Continuous learning
- Direct feedback channel for translators on tool and process
- Continuous improvement

Evaluation – go/no go decision

Roll-out/productive use
Results of pilot project

Translation of main product of SuccessFactors within timeframe of a regular release with four translation suppliers

- **Project setup** (including reuse of legacy material): from 5 days to 5 minutes
- **Project update** (6 drops): 5 minutes for each drop
- **Throughput**: between 1200 and 2500 words per day and translator
- **Positive feedback from translators**

German supplier

„Passolo seems like the right tool for the project. The Rigi plug-in solves the very specific challenges the project presents to translation, and our translators really like the tool, specifically the features added by Rigi. The rollout process has been very smooth, and the SAP team supported us every step of the way. We feel that our feedback is always appreciated, and we would love to continue using this process going forward.“

French supplier

„The general feedback is that the solution is definitely workable. As soon as the preview function will be made available our impression is that we really have the right solution here – notwithstanding the fact that apparently the throughput is rather good (more than 2500 words per day in a pilot phase).“
Implementation: SDL Passolo + Rigi

Live website

Actual strings used on the live web page
### Visual localization of a live website – pros and cons

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation right within live environment – navigation between different screens</td>
<td>Live website is not always available</td>
</tr>
<tr>
<td>Useful for new languages starting from scratch</td>
<td>Difficult and time-consuming for delta languages to find the new/delta strings (Where do I need to click? Which user do I need?)</td>
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Integration of screenshots

Screenshots are taken with specific tool (browser) and can then be integrated into the translation environment:

- Similar behavior to live website
- Continuous availability (even in offline mode)
Ideal localization process with screenshots

Development:
- Implement features
- Create localization kit
- Create build with correct source texts

Tech. writers:

Translation:
- Correct source texts
- Create build with correct source texts
- Produce language packs

Testers:
- Previews for 95% of strings

Translation + review are independent of development

Quality check is handled by Passolo

Take websnaps™ (e.g. 95% coverage)
What we are heading to next
What are we heading to next

Optimize screenshot approach

• Broaden coverage
• Ideally automate screenshot generation

Broaden use of screenshots for Language Acceptance Tests

• Tests outside of productive system
• Identical test scope guaranteed

Investigate use in documentation (multilingual screenshots)
Time for your questions
Thank you

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Real costs of quality software translations

Henk Boxma

One of the major criteria for selecting a language service provider (LSP) is the translation cost per word. This makes sense for the translation of a "flowing text" where the full context is available. In that case, it is quite straightforward to perform an assessment and select the LSP that has the optimal quality/cost ratio. But is this also the case for software localization?

Having a background in engineering, I have always wondered why the cost per word is still one of the major selection criteria when an LSP is selected for software localization. The cost of translating software itself is just a fraction of the real cost. The process is quite different compared to translating a flowing text, and software localization should be an integral part of the software development process. In many cases, software localization is treated as a post-development activity, which has significant consequences regarding time, cost and quality.

How general requirements for software translations are implemented by the engineers during the development process. Hence, engineers have more impact on the final translation attributes than the LSP.

In order to steer each of the three attributes towards our preferred direction, we also should focus on prevention of costs. Today’s focus is more on reducing them. The three factors in product development remain in constant tension: time, cost and quality. The theory is that you should pick two attributes. For example, quality in time will result in higher costs. Reducing costs and maintaining high quality result in a longer development cycle. This is true if you do not want to change and want to keep the current patterns.

However, it is possible to save significant costs on software localization and at the same time to reduce the engineering efforts (time) and improve the quality of translations. This can be achieved by working smarter. Therefore, we need to define what software localization costs are exactly.

Characteristics of software localization

Why does software localization differ from translating flowing text? Software contains labels (strings), which are stored in one or more resource files – for example, .raw files. Each label has a unique identifier. The software uses a label by referencing its identifier. Translating basically means that the

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