

Translation Automation

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“If you would think that the quality of the MT-post-editing output is perhaps not so good, then you are wrong”

Jeff Allen

Machine Translation Pilot

by Jaap van der Meer

Few professionals in the world never give up praising the merits of MT. One of them is Jeff Allen, an American in Paris, working at Mycom International, a business intelligence telecommunications software company. In a case study published in the proceedings of the 6th Conference of the Association for Machine Translation in the America's (Springer, 2004) he reports on his achievement at Mycom to attain production rates that are 25% to 30% of the time necessary and expected via traditional translation methods. How? By using a Machine Translation system. He records the time spent on each individual process step, including the creation of a

customer specific dictionary, reviews of the machine output and post-editing of the machine-translated text. He concludes that his translator using MT produces approximately three times more in a day than the average translator without MT. If you would think that the quality of the MT-post-editing output is perhaps not so good, then you are wrong. The final translations were evaluated by several teams at Mycom before being used for three different customer acceptance test plans for key accounts; Jeff Allen thus insists that they are a hundred percent correct and adequate. In this Newsletter Jeff writes about his experiences in post-editing.

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What is Post-editing?

by Jeff Allen

So, what really is this concept of Machine Translation (MT) Post-editing (PE) that we keep hearing about in the translation software field. And does it really provide a significant enough return on investment?

PE is the task of editing pre-translated text that has been processed by an MT system from a source language into (a) target language(s). PE has been

used to play a role in both Inbound (i.e. content gisting) and Outbound (i.e. Translation for Publication) focused translation system implementations. The success rate is dependent on several factors that have been described previously.

Different levels of PE have been previously defined as minimal PE, rapid PE, partial PE, maximum PE, full PE. Several organizations (Caterpillar Inc,

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“Machine Translation Pilot” (continued from page 1)

Another MT advocate is Lorena Guerra. She wrote her master's thesis at Dublin City University in 2003 on the subject of comparing human translation with Machine Translation and post-editing. Applying the MT process and working with experienced translators she discovered that the same productivity increases of 60% to 70% could be attained even on marketing texts. Lorena Guerra was so excited, she has now started her own company specializing in post-editing MT output: Euromix. She finds only a few competitors in the translation agency world. Like Delta in Bonn who have been specialists in this field for years.

The translation and localization industry at large does not like MT-technology. MT is regarded as a threat rather than an opportunity. But companies in need of translation services are locked in translation processes that are slow and very costly.

To overcome this impasse Cross Language has helped many companies to learn about the benefits of new translation technology in *pilot projects*.

The MT pilot is organized as follows. First a translation project is identified. Most of the time the source material is user information or service literature in English source language. Size of the pilot project may be from 20,000 to 200,000 words or larger. One or two

target languages are chosen. Cross Language receives the translation memories and glossaries, if they are available, and starts the customization process by extracting terminology and flagging errors in the MT output. After sufficient customization is done the machine-translated text is post-edited by professional translators with subject matter knowledge. Cross Language has built up a network of agencies and translators who regard MT an opportunity more than a threat. The final translation is delivered to the client for validation.

Most important in the MT pilot is to learn from the experience. Cross Language logs the time on every step in the process. We apply a quality metric on the review cycle. We facilitate interviews with the translators. The result is a full quantitative and qualitative report, which is shared with the client in a full-day workshop at the end of the pilot project.

An MT pilot does not represent an investment for companies. All of the tasks involved can be performed for the cost that would otherwise be spent on conventional translation with external vendors. No downside, but the upside is potentially significant. In all MT pilot projects we have learned that the process of MT and post-editing can be twice as fast as conventional translation.<<

“What is Post-editing?” (continued from page 1)

General Motors, SAP, PAHO, EC Translation Service, CLS, ABLEinnovations, DTB, Linguistic Systems, Carnegie Mellon University) have conducted internal studies with regard to the human effort exerted in the PE process. Some of these have resulted in internal reports and PE guidelines. Two published books treat the topic and there were also several articles by Muriel Vasconcellos in the 1970s-80s that provide MT PE results using the PAHO Spanam system. However, user studies, results and information about the used PE methodology have rarely been made available publicly.

A Post-editing methodology

My work on MT for 10 years has included several industrial and commercial MT system projects involving PE guidelines in real translation-user settings. Having read all accessible papers, presentations, articles and books appearing on the topic for 30 years has also helped understand the various approaches taken and how PE needed to be adapted to the MT system used. Also as a regular daily user of MT software for several years, I've applied PE to MT in a variety of fields (computer software, telecom, automotive, heavy-machinery, business intelligence, speech technologies, legal, human resources, education, sports, marketing, hermeneutics).

From this experience, it seems that the majority of currently published descriptions on PE principles are either 1) linked to older generation MT systems that have limited PE environments, and/or are 2) too specific to a given MT system that has been used, and/or 3) specific to a language direction. Such PE principles are often closely linked to the specific MT system being used because

they are based on the presence or absence of dictionary entries or grammar rules in that system. Yet, when we compare MT PE to traditional human translation (HT) – which all post-editors have been involved in previously – we are faced with a few essential facts:

1) HT is not a basic data conversion process which is based on stable constant figures (i.e. size, volume, distance, area, etc) nor a conversion based on a single changing variable (i.e. currency);

2) HT is not simply a list of rules that a translator follows step-by-step in an assembly line manner to complete the translated product. It requires understanding the text better than the author in order to convey the meaning of the text to readers of another language group who use different expression;

3) HT is not just a product of a mechanical process, but rather often perceived by the translator like a piece of art that represents their best ability to deliver the highest quality product with regard to meaning and style before the agreed upon deadline (often very short at the end of the chain).

The feedback loop

Although there have been ideas and initiatives in the past to create language-specific MT PE guidelines, these seem to have been attempts to make collections of back-end workarounds by post-editors to help them deal with the imperfect output of the MT engine. Unfortunately, if those corrections and workarounds do not get reported as bugs in a user feedback channel to the MT development team, then the users simply become experts on volume-intensive back-end workarounds.

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To remedy this feedback loop issue without needing to create a new version of any given MT system, an automated post-editor (APE) module was created that could identify all the post-editing changes in groups of completed post-edited texts, and then automatically apply the changes to MT output. Although it was created based on output from the European Commission - SYSTRAN system, it was however designed to function with any MT system.

Post-editing as a mindset

Over past two years I have spent time more focused on creating a full-cycle MT PE process methodology that is software/system independent, yet which can be customized to a given system, when necessary. The new PE guidelines and rules are based on the use of several MT systems which now provide improved interfaces for translation environments, including up-to-date commercial MT software packages. It presents PE as a mindset and approach to translation rather than just simply a list of translation inversion rules. The overall generic principles can apply to various MT software and systems. Some of these principles have been presented in conference tutorials and training courses in working with different user groups coming from several fields. This methodology goes beyond what has been presented in other generic PE descriptions by demonstrating the MT PE task workflow as a set of processes, with defined steps, within an overall translation cycle by using several commercial MT packages.

The resulting set of generic MT principles for both dictionary building and post-editing have been used by other MT post-editors for at least one other language pair with successful output production rates.

Benchmarking the Post-editing results

Before making any MT PE productivity claims, it is important to determine a measure benchmark against the HT process. Let us keep in mind that an average professional human translator produces approximately 2,400 words of translated text per day based on a recent survey. This equals approximately 300 words per hour at non-burst pace.

Post-editing case studies

So, how fast is high quality, full PE on marketing brochures? Although other PE projects in the past have focused on technical documents, a few years ago I used a commercial MT software product to translate product marketing information. Below are some statistics on a set of four marketing brochures that were prepared for a range of products during a period of a couple of weeks. These timed tests were specifically conducted on the PE process (from French to English) for translating all four of these related marketing brochures.

- Brochure 1: 559 target language words: full PE in 22 minutes with 56 changes
- Brochure 2: 496 target language words: full PE in 20 minutes with 38 changes
- Brochure 3: 486 target language words in 20 minutes with 57 changes
- Brochure 4: 241 words in 8 minutes with 25 changes

About two years ago I conducted another user study by creating a French version of one of my own technology articles (original in English) of approximately 6,000 words. This French version was also intended to be published on line. Carefully time-logged measurements were kept:



Our customers are looking for translators or agencies who are interested in post-editing MT. If you like to find out more, please write to Marie Laure Poëte at
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- Translation time with MT software: 1 minute
- total of 3100 words of text post-edited in 3 hours
- 5020 words of text post-edited in 5 hours
- 5488 words of text post-edited in 5.5 hours
- 5964 words of text post-edited (including time to research and insert existing French equivalent texts of the cited English originals) in a total of 6 hours

Thus, 6000 words of text were minimally post-edited in 6 hours by an expert on the subject matter. This "minimally" post-edited version reflected the meaning of the original, without focusing too much on style. The minimally post-edited document was sent to another translator for review. Only 11% additional changes were made to the already post-edited text. Finally,

45 minutes was spent to conduct a final review of the translated text and corrected inaccurate technical terminology inserted at the second editing level stage. The original English and final French translation have been published respectively on-line at: <http://www.multilingual.com/allen51.htm> & <http://www.editionsacle.com/bol/presse/article1/allen-mltc51-fr.htm>

The list of references about PE cited in this newsletter article are listed at: <http://www.geocities.com/mtpostediting/tausfeb2005refs>

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Just Translate Please: a message to the industry

by Jaap van der Meer

Ah, life in the localization industry ain't easy. For twenty years now we have been preaching and proclaiming how important and precious our profession is. And still our customers won't listen. They keep driving the prices down and now they also want everything to be done quicker and quicker. Where does this end?

For twenty years the translation industry has fought hard to prove its value. First by inventing new names for its activities, like *localization*, *globalization* and *multilingual communications*. Then by adding features of all sorts and means, to impress the customer. And it seemed to work, customers kept coming and sending the projects...

Now, it's not so easy to impress customers anymore. "Specialized in software localization"... yeah, yeah, everybody is. "Certified project managements"... well, I have heard that before, but I was terribly let down anyway. "One stop shopping"... yes, but I want to be free to select my own translators.... "Technology, technology"... well, does it really work, besides we do not want be locked into one system.

The first lesson in marketing is: *the customer is always right*. It does not matter how valuable the supplier thinks his work is. If the customers don't buy, there is no value and no market.

This simple truth marks a turning point in the evolution of the translation

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industry. Translation vendors realize that customers are much harder to impress. The roles are changing, and more than ever before vendors hear the words: "Just translate please." Customers take all the features of specialization, translation tools, project control, etceteras... for granted, and focus on the bottom line. They need their documents translated as fast as possible and at lower cost. No more stories.

Call this "commoditization" and the end of the localization industry, or be less dramatic and look for the new opportunities. After all, we could have seen this coming a long time ago, perhaps as long ago as twenty years. Rates for translation services have always varied widely. A translator of a novel receives between three and six Eurocents per word, while a free lancer working on a software manual is charging at least double that rate. All things being equal, it is only natural that the software translator sees her earnings going down. Agencies and MLV companies are forced to buy the work at much sharper prices from free lance translators, but at the same time they will have to analyze the cost and value of their management process. Customers will be less willing to accept the doubling or tripling of base translation rates as compensation for the man-

agement services. If the added cost outweighs the added value, customers will be inclined to set up an efficient, internally managed process and 'insource' the translation activities. We should be grateful for the luxurious years we have had - and now prepare ourselves for the new challenges.

"Just translate please..." The customer is always right. Listen to the customer. Lower cost, faster turnaround. Not superb quality and beautiful style, but just consistent and adequate quality and accurate terminology. Does this spell the end of the localization industry or new opportunities? I would say "new opportunities" that lead to a shifting of roles and the emergence of new leaders. It is finally time for technology to be used, not just TM Workbenches, but also workflow, Machine Translation, source control, terminology management. If you think about it, the translation industry has not progressed very much in terms of efficiency improvement. The vendors who realize this most effectively will be the winners.

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Cross Language is a consulting and system integration company specialized in translation automation. The company provides upfront business analysis, ROI modeling, pilot installations, customization and implementation and ongoing support and maintenance. **Cross Language** offers solutions for:

- cross-lingual customer support
- real-time translation on company Intranets
- hybrid machine translation to support translation and localization organizations
- globalization workflow
- cross-lingual search and automated translation

Activities are managed out of offices in Belgium and The Netherlands for international customers. **Cross Language** works for customers in the financial, information technology, telecom, life sciences and heavy industries.