

Case Study: Machine Translation Comes to

CORNING

Cable Systems

by Sarah Grip

The Internet is one of the forces behind globalization and has become the primary vehicle used by companies to use reach foreign markets quickly. Although geographical borders do not exist on the Internet, language is still a major barrier to international communication. According to the most recent statistics (www.euromktg.com/globstats), of the 288 million people who access the Internet, only 155 million do so from English-speaking countries. Realizing that half of the Internet audience does not access the Internet in English, many corporations now offer their Web site content in more than one language. In addition to reaching international customers, many corporations support workforces located throughout the world and are also confronted with the challenge of how to enable cross-language communication and collaboration between them.

Corning Cable Systems identified a similar language problem within their internal communication systems and has begun integrating an innovative technology solution that will enable real-time cross-language communication among all employees within the organization.

Corning Cable Systems

Corning Cable Systems is a global company providing fiberoptic and copper cable as well as hardware communications solutions to customers around the world. In February 2000, Corning Incorporated acquired Siecor (a joint venture of Corning and Siemens) and all of the worldwide Siemens' telecommunication businesses, thereby evolving into a global company virtually overnight. Currently Corning Cable Systems is operating in more than 20 countries and employs over 14,000 people, less than half of whom speak English as a native language. Thus, cross-language communication has become a significant issue for the company.

Challenges Facing Corning as Global Company

Before the acquisition, Corning Cable Systems was primarily a NAFTA company employing a few bilingual associates. Now, as employees around the world communicate with one another via Corning Cable Systems' Lotus Notes and Microsoft Outlook infrastructure, understanding foreign-language email has become critical. In addition, the company also wants to provide employees access to the many technical documents created by their various operations around the world. Employees must be able to access documents in a language they understand, or vital information is at risk of being misinterpreted, delayed, or even overlooked.

The Solution: The Enterprise Translation Server

The Enterprise Translation Server solution (from vendor Transparent Language) which Corning has acquired provides instantaneous, draft-quality on-the-fly translations of Web pages, email, instant messaging, and plain text or document files while maintaining the formatting of the original document. The server can translate over three million words per hour from English to and from French, German, and Spanish as well as from English to Italian and Portuguese. The dictionary-editing tools included with the server allow translation administrators to create business-specific dictionaries that can further enhance accuracy.

Why the Enterprise Translation Server? The standardized translation protocol of the Enterprise Translation Server allows Corning Cable Systems to modify its Lotus Notes, Lotus Sametime, and Microsoft Outlook architecture so that end users can request translations from their desktop.

Corning Cable Systems conducted an evaluation of the Enterprise Translation Server's capabilities. Two groups of bilingual em-

ployees, English and German, and English and Spanish, evaluated the program for its linguistic value. Accuracy and the integrity of the translation were the main criteria used to evaluate the system.

Steve Kelly, Information Services manager at Corning Cable Systems, is charged with implementation of the server component. "We are not looking for a perfect translation, just one that will give employees the gist of what the messages say. We will also use it to translate documents into a rough draft form for the translators to use," explains Mr. Kelly. "We realize that machine translation can never match a human translator. However, we are hoping to speed up the process with the Enterprise Translation Server as well as produce rough drafts of documents that will give a human translator a head start," states Kelly.

The Technology

The Enterprise Translation Server is a machine-translation (MT) system that interprets the structure of sentences in the source language (the language the user is translating from) and generates a translation based on the rules of the target language (the language the user is translating to). The process involves breaking down complex and varying sentence structures, identifying parts of speech, resolving ambiguities, and synthesizing the information into the components and structure of the new language.

Traditionally, human translators have always been responsible for translation. However, the use of the Internet and electronic communication by global organizations and e-businesses has created new demands for translation that cannot be solved by human translators alone.

The first is the assimilation of translated foreign-language information for one's own purposes, allowing users to quickly determine the relevance and meaning of various content to their business or interests. The second is the dissemination of translated

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native-language information for receipt by a foreign-language speaker allowing users to communicate in real-time as well as for use as a productivity tool for human translators. According to the *2000 Language Translation World Market Forecasts, Industry Drivers and E-Solutions* report from Allied Business Intelligence, productivity gains of 30 percent or more are possible using an MT system for initial translation, allowing the human translator to spend more time on post-editing and stylistic concerns.

Deploying Cross-Language Communication

As with any new product, the Enterprise Translation Server has been through an implementation and trial process. "Although it's not fully implemented yet, there is a strong interest within the company and it's being pushed by the end users to get it up and running," says Kelly. According to Kelly, the planned roll-out for the new server component is late summer 2000. In the meantime, the new software is being tested and Corning Cable Systems claims to be pleased with the results.

The system worked particularly well translating trial email messages until it ran across technical jargon. To overcome this problem, Corning Cable Systems has begun building a customized dictionary of industry terminology and technical terms that allows the Enterprise Translation Server to more accurately translate company-specific language.

To create a custom dictionary, various sample documents were processed through the Enterprise Translation Server, producing a log of words and phrases that appeared in the documents but not in the Enterprise Translation Server dictionaries. This log was evaluated by linguists and translators, and built into a dictionary. In the future, the company will be able to update and augment the dictionary regularly by adding technical words, their translations, and grammatical information. For Corning Cable Systems, the ability to customize dictionaries is a key component, adding to the value of the Enterprise Translation Server.

Cross-Language Communication Goals

Besides the obvious and immediate benefit of bridging the language gap between employees at Corning Cable Systems, the Enterprise Translation Server will also enhance communications with people outside the company. With the ability to translate email messages, instant messaging notes, and internal documents, employees can easily request clarifications and respond to questions appropriately.

The integration of the translation capability into the Corning Cable Systems communication environment should help every

employee in starting to come to grips with foreign-language text. Kelly says there will be a button on the screen within Lotus Notes that employees can use to instantly translate a document or message. Using the Enterprise Translation Server technology, centralized company documents will be accessible to all employees. Upon receiving a message or document in another language, an employee will simply click a button and the information will appear in the selected language. The original message will appear below the translation for reference.

Looking Ahead

By integrating the Enterprise Translation Server into their communication system, Corning Cable Systems hopes to open new communication channels as well as significantly improve current communication and collaboration efforts between their global workforce. Presently the company has purchased two bidirectional language modules from Transparent, namely English to German/German to English and English to Spanish/Spanish to English. "Right now we are focusing on German and Spanish, the two languages spoken by the majority of our international employees. If we are pleased with the results we will then look into adding more languages," says Kelly.

Summary

In today's fast-paced global business world, communication and collaboration across languages is happening in more and more businesses. The immediacy of email and instant messaging, and the vast amount of information generated by global organizations, compel organizations to look at ways that the translation process can be augmented with automated means. The need for a "gisted" translation has arrived and the way we communicate with our international colleagues and customers seems poised to undergo a dramatic transformation.

Corning Cable Systems includes Siecor Corporation, Corning Cables, Siemens Communications Cables, and Siemens RXS. These operations have sales of US\$ 2.2 billion with 14,000 employees worldwide.

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