

Bulletin

Systran Enables Multilingual Customer Support for Autodesk

Analysts: Mary Flanagan and Steve McClure

IDC Opinion

What is the significance of Autodesk's innovative use of machine translation technology in its customer support operations?

Autodesk's deployment of Systran's machine translation (MT) technology is an early example of enterprise machine translation for multilingual customer support. IDC believes the implementation of MT by a company of Autodesk's scale and global reach represents the beginning of new commercial opportunities for Systran and other MT vendors. The return on investment (ROI) for applications that substitute self-service for a live agent are usually significant.

While brand-conscious large organizations will always use human translators for the primary content on their Web sites, the cost of translation and the sheer amount of content prohibits the exclusive use of human translators. MT offers a more cost-effective alternative for the immediate comprehension of the rest of the content. In Autodesk's implementation of Systran for customer support IDC sees a blending of the elements of traditional and Internet MT applications.

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MT: In Search of Elusive Commercial Success

Since its earliest days, machine translation has searched for a validating business application that would create widespread usage and significant revenue. Early positioning of commercial MT technology focused on the translation industry and the corporations that had translation needs. The application of MT to the Internet at CompuServe in 1993, and later at AltaVista and elsewhere, marked a paradigm shift within the MT industry. Traditional uses of MT in translation houses positioned the technology as a step in the human process of creating high-quality translations.

The Internet refocused MT as a tool for gaining a quick, partial understanding of perishable texts in high-volume environments without human involvement in the translation process. Since then, the two uses of MT have been viewed as opposing applications, governed by different requirements and economics. The bifurcating path of MT applications was even the subject of a recent workshop at the Association for Machine Translation in the Americas. Traditional uses of MT did not die with its deployment on the Internet, and Internet applications have not yet produced the widespread adoption and revenue that MT sought to achieve.

Both types of MT deployments will probably continue, but the search for a commercially successful MT application has begun once again. In Autodesk's implementation of Systran for customer support, IDC sees the dial being tuned to a middle ground, blending elements of traditional and Internet MT applications. As the first Autodesk applications begin to roll out in July, MT observers will be watching closely the reaction of users.

Systran

Company Background

Systran was founded in 1968 by enigmatic MT legend Dr. Peter Toma. The company was for decades the sole provider of machine translation technology to U.S. government agencies and to the Commission of European Communities.

Many in the MT developer community have viewed Systran as a sort of emeritus member: revered and experienced, but not at the forefront of innovation and change. The AltaVista deployment in December 1997 changed that perception somewhat.

However, Systran's image makeover was hindered by the company's continued reliance on its traditional core business (i.e., the U.S.

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government), its entrenched 30-year-old corporate culture, and the remaining legacy features of the system.

The launch of the Autodesk application — coupled with the formation of a new technical development group based in Paris, the re-engineering of the legendary Systran dictionaries, and the introduction of finite state-based translation technology — will allow Systran to finally overcome its staid image.

Systran Technology

Systran's MT engine runs on the Windows 95, Windows 98, Windows NT, Linux, HP UX, Sun Solaris, Sun OS, and Digital Equipment Corp. Unix platforms. The Unix and Linux solutions have proven particularly important for Systran's enterprise deployments because Linux and Unix are not offered by other MT vendors, and these platforms are often used in large-scale server applications. Systran offers enterprise, professional, and personal MT products aimed at the corporate, small business, and consumer markets.

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Autodesk's Evaluation Process

Autodesk conducted an informal but comprehensive evaluation of MT products before selecting Systran for its application. A test suite of representative technical articles was provided to potential MT providers, and the results were reviewed by Autodesk's linguists and technical support staff. The review focused on identifying translation results that were useful and understandable, despite the stylistic and grammatical errors that MT systems inevitably produce.

Autodesk followed a software-development approach to evaluating Systran. Errors were reported back to the Systran team. Systran then fixed the errors and submitted revised versions of the system to Autodesk for verification that the changes had been made. This process allowed Autodesk to observe both the responsiveness of the Systran team and the enhancement potential of the technology.

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Autodesk cited three factors in the selection of Systran from a field of competitors. The first was that Systran's output quality reached the threshold of intelligibility that Autodesk felt was needed to make its deployment successful. The AltaVista deployment of Systran for multilingual Web page browsing gave Autodesk confidence in Systran's scalability. Less tangible, but equally important, was the impression that Systran understood Autodesk's needs better than other providers and could work with Autodesk to tune the system to its unique texts.

Systran CEO Dimitris Sabatakakis also believes Systran's ongoing extensive development work was an important factor. The system is

undergoing a major revamping of its dictionary structure that will allow it to leverage its enormous lexical resources more quickly and efficiently.

Autodesk's Multilingual Customer Support Application

Autodesk Background

Autodesk is the developer of AutoCAD, a computer-assisted design (CAD) software platform. Most of the company's applications for specific design requirements, such as architectural and mechanical design, multimedia, manufacturing, construction, and geographic information systems, rest on the AutoCAD platform. Autodesk products are used by more than 4 million design professionals. Based in San Rafael, California, Autodesk has offices in 60 other locations worldwide. John Walker founded the company in 1982. The company will have revenue of approximately \$1 billion in 2001.

Business Rationale

With more than 60% of its business conducted outside the United States, supporting customers across many languages in a cost-efficient manner is one of Autodesk's most pressing challenges. Autodesk provides customer support through a database of more than 10,000 articles that are accessible from its Web site, all of which are in English.

With more than 60% of its business conducted outside the United States, Autodesk is a case study for the challenges of information dissemination and management in a multilingual environment. One of Autodesk's most pressing challenges is supporting customers across many languages in a cost-efficient manner. Autodesk provides customer support through a database of more than 10,000 articles that are accessible from its Web site. The articles, which average 1,000 words in length, are written in English only, are highly technical, and are specific to design issues for various industries.

Unlike the highly dynamic content in chat, email, and message boards that has been the focus of previous Internet MT applications, Autodesk's content is relatively stable. Once posted, the text of articles rarely changes, and only a few hundred new articles are added each month. The database receives an average of 500,000 hits per business day.

Although the percentage of hits that require translation is unknown, the potential volume of translation is very large given the size of the database and the number of users and languages. Frequently requested articles will be pretranslated and cached to allow instant delivery to customers and to reduce the load on the translation servers.

"The specific machine translation solution developed by Systran maximizes the benefit our customers get from the Product Support Web site and further increases the quality of service provided by Autodesk," said Mirko Plitt, an Autodesk process analyst.

Autodesk acknowledges that without MT it would not be able to deliver multilingual customer support comparable to what it provides to English-speaking customers. Mirko Plitt, process analyst in Autodesk's Worldwide Localization department, states that Systran's "innovative customization approach was the only answer to our international customers' need for a multilingual product support knowledge base: translations produced by general-purpose MT systems are of little use to our non-English-speaking clients, and a translation workflow involving human intervention was not a realistic option. The specific machine translation solution developed by Systran maximizes the benefit our customers get from the

Product Support Web site and further increases the quality of service provided by Autodesk.”

Implementation

Autodesk expects the system will be able to produce a usable quality level, with no postediting.

Systran will host the translation servers and develop the specialized lexicons, glossaries, and graphs for the highly technical Autodesk vocabulary. Although Autodesk intends to take over lexical development eventually, it is a specialized task that the company is not currently staffed to perform. Systran’s computational linguists have analyzed the Autodesk technical articles to identify terminology for the lexicons. Autodesk’s in-house glossaries, used in its localization process, have been incorporated as well. Autodesk expects the system will be able to produce a usable quality level, with no postediting.

The User’s View

In July 2001, Autodesk will launch multilingual access to the database articles using Systran (see Figure 1). French and Spanish translations of database articles will be provided. German and Italian translations are under development, and a Japanese translation is expected to follow.

Figure 1
Autodesk’s Product Support Home Page



Source: Autodesk, 2001

Customers will use Autodesk's familiar AnswerWorks user interface to query the database by topics.

Customers will use Autodesk's familiar AnswerWorks user interface to query the database by topics. Articles returned by the search can be provided in French or Spanish, according to the user's request. The obvious drawback of this arrangement, however, is that the user is still required to enter English search terms to find an article. Using the appropriate English search terms may pose a significant challenge for some of Autodesk's customers. Nonetheless, this problem has no easy solution. Translating search terms using translation software is notoriously inaccurate due to the absence of context. Autodesk is studying solutions to this problem separate from its MT efforts.

Autodesk expects the translation service will benefit its non-English-speaking users, who will now enjoy immediate Web-based access to technical articles in their local language. Autodesk expects to reduce its costs for telephone customer support, as more customers will have access to Web-based technical information.

Autodesk will need to educate its users about the utility of the multilingual support system as well as its potential drawbacks in translation quality.

Because the database content is relatively stable, articles can be pretranslated and cached, giving users instant access to the translated versions. Autodesk aims to deliver usable-quality translations without any human editing. Technical texts tend to be less ambiguous than general texts, and thus they are well suited for machine translation. Nonetheless, the success or failure of the application will hinge on the usefulness of the translations to Autodesk's customers. Autodesk will need to educate its users about the utility of the multilingual support system as well as its potential drawbacks in translation quality.

Conclusion

Regardless of its results, Autodesk's MT deployment will be a milestone in the evolution of MT commercialization. Autodesk is the first company of its size and stature to deploy MT for a large-scale, mission-critical function such as customer support. Further, customer support represents a still-untapped market for MT. As its first major entrant, Autodesk's service may stimulate other companies to develop similar services. If Autodesk and Systran are successful, the floodgates may open for the use of MT for multilingual customer support.

Autodesk's selection of Systran for its service validates Systran's evolving status from legacy system to innovator, providing much-deserved recognition of its new stature.

Whether Autodesk is successful at satisfying its global customers and cutting the cost of multilingual support will depend almost exclusively on the quality of the translations that are delivered. Systran, widely perceived as a leader in MT translation quality, has a better chance than other MT providers of meeting the quality threshold that will satisfy users. Finally, Autodesk's selection of Systran for its service validates Systran's evolving status from legacy system to innovator, providing much-deserved recognition of its new stature.

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