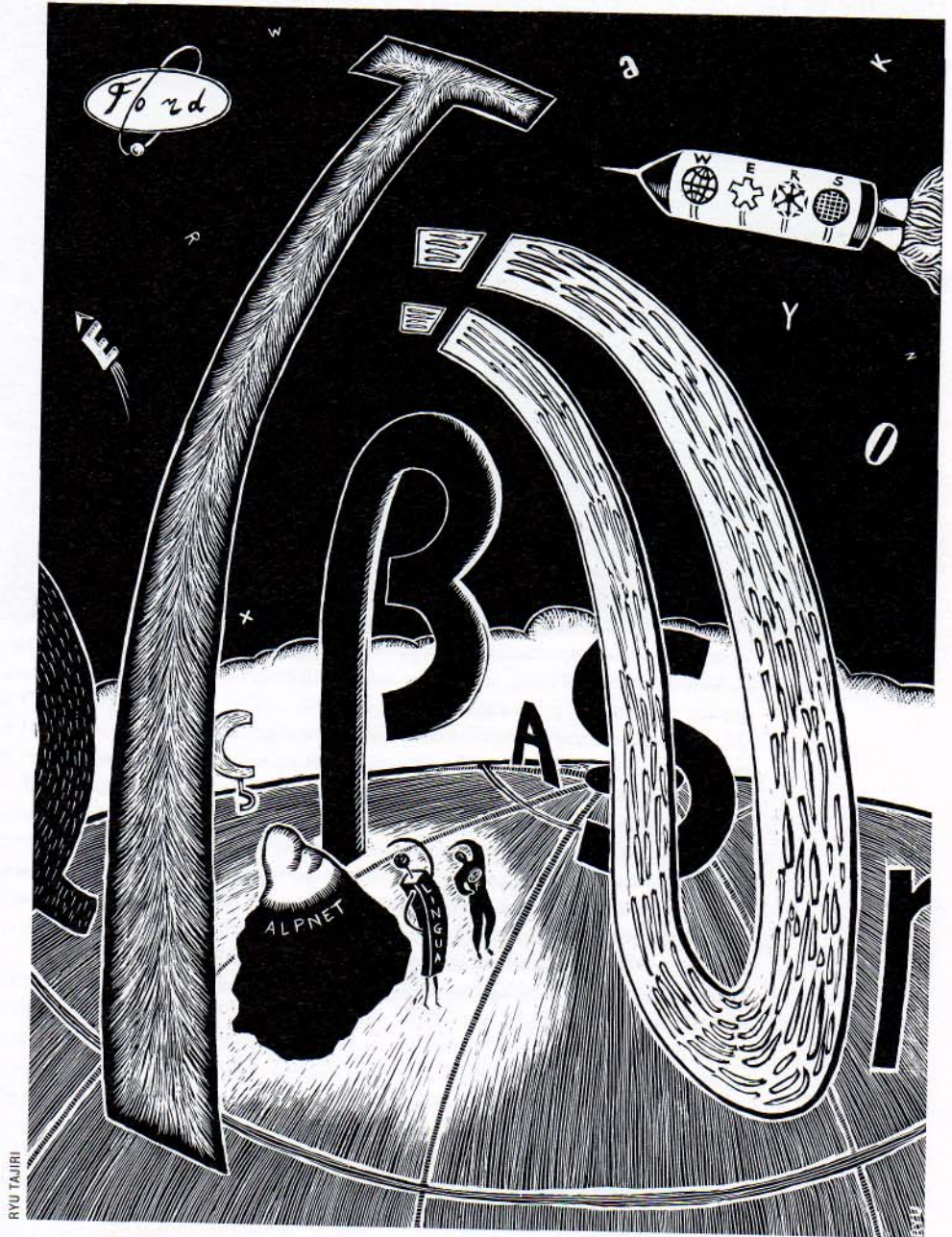


# HELP!

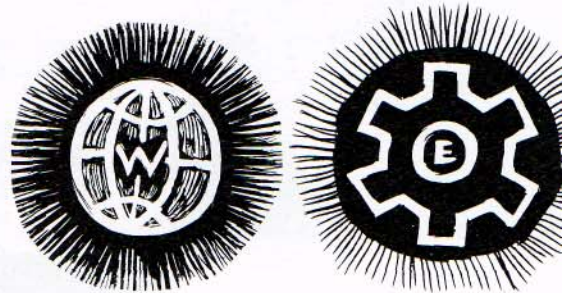
by Colin Brace



## HOW ALPNET HELPED FORD GET ITS EUROPEAN WORKERS ONLINE

**When the Ford Motor Company consolidated its worldwide product design and engineering information into one huge online system (WERS), it created the world's largest private database.**

**In order to get everyone to use it without losing precious production time, Ford created an online help system and interactive training modules for WERS. It then faced the problem of how to translate its 14,000 help screens into four European languages.**



Competing in the global automobile market requires constant innovation, as US auto giants have learned the hard way. Perhaps the company that learned this lesson best is Ford.

Since the beginning of the Japanese invasion in the early 1980s, Ford has fought back with popular new models (like the Ford Taurus), aerodynamic styling (the so-called jelly bean look which has since swept the industry), strategic alliances (its Probe sports sedan is a Ford-designed body sitting on a Mazda-built chassis and engine), making product quality "job number 1" as its advertising proclaims – and becoming a truly global corporation with international design, production and sourcing (its new US Escort model was engineered and developed by Mazda).

Central to the company's global strategy has been the development and implementation of the World Engineering Releasing System (WERS), its massive online information system. And massive is the word. WERS is currently used by 20,000 Ford employees in engineering and production, spread across more than 200 sites in 20 countries, speaking seven different languages. Ford estimates that the number of WERS users should grow to 80,000 within the next five years. System traffic is currently over 400,000 transactions a day.

Ford's main research and development centers are located in Dearborn, Michigan, Ford's corporate headquarters, and its European centers of Dunton (Essex, UK) and Merkenich (Cologne, FRG). This is where new technologies are merged with market trends to develop fresh models of Ford's cars and trucks for manufacturing.

### LIFE-BLOOD

The process of "engineering releasing" is the life-blood of the carmaker. It forms the basis for all activities related to design, release, manufacturing, supply, and assembly of Ford's automotive products. It involves the maintenance, dispersal, and exchange of an enormous amount of engineering data, mostly product and material specifications. Engineering releasing is the crucial underpinning of the complex manufacturing process of a Ford car or truck.

To handle this burden in the 1960s and 1970s, Ford had installed IBM mainframe-based systems at various company locations. But in 1982, Ford management decided that to

compete globally, the company needed one central system to support all of its worldwide activities. So it established a 25-member steering committee, drawn from various plants. Their brief: develop the specifications for a worldwide online system for the releasing and control of engineering information, and implement it as WERS.

Why did Ford feel a worldwide system was so important? Did the company want to build the same car everywhere? Not necessarily. Ford recognized that one of the main obstacles to the design and manufacture of a truly worldwide product was the fact that several different engineering systems were in use simultaneously. Until they were replaced by one system sharing common-code, the engineering centers would be able to communicate only with the manufacturing systems which were compatible with their own systems.

Implementation and enhancement of the WERS online help support system and training materials became the fulltime job of Geoff Cookson, head of the Corporate Training Group of WERS, itself a part of Product & Manufacturing Systems Integration at Ford.

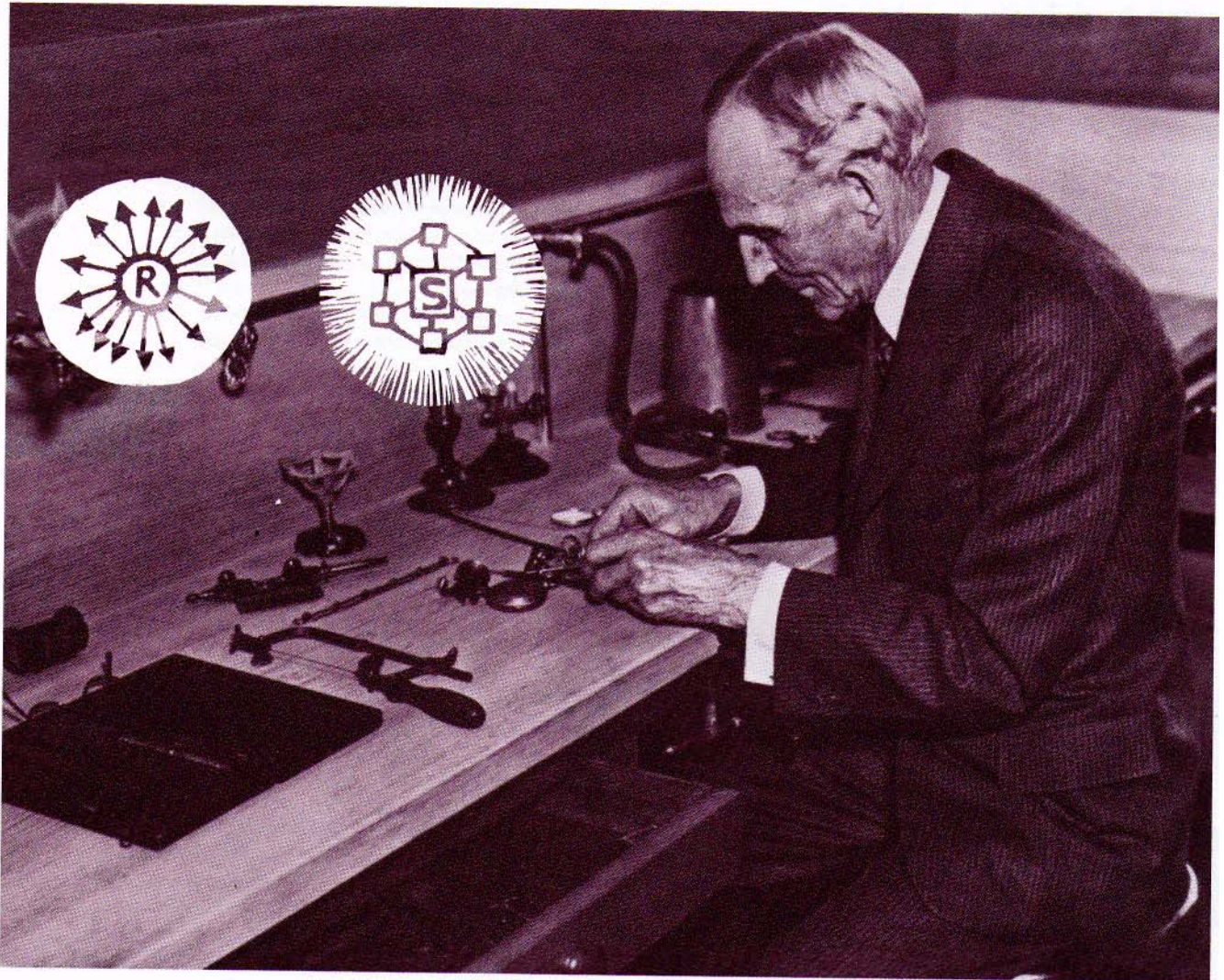
"Some of the six regional systems, like System III in Europe, were highly efficient," says Cookson, explaining why Ford started from scratch with WERS. "But none were suitable for conversion because none were designed with a worldwide capacity or complexity in mind."

### EXCLUSIVE CHANNEL

Once specifications were drawn up and approved, Ford implemented WERS in two major phases. First, North America and the Automotive Components Group were hooked up to WERS in April of 1988. Ford's European Operations followed in January 1989. The central WERS database resides on a mainframe in Dearborn. Communication with the rest of the world is via satellite links, and local telephone lines where necessary.

"WERS," says Geoff Cookson, "is now the exclusive channel of communication between the two Engineering Design Centers (Dearborn and Dunton/Merkerich) and all 'downstream' operations: manufacturing, assembly, and supply services."

Cookson is quick to point out that WERS is "definitely not



a passive reference system." The 400,000 daily transactions the system now handles include data input and update, and the communication worldwide of product specifications and bills of material from engineering to manufacturing. WERS also sports massive data retrieval and reporting facilities with numerous comprehensive and complex cross-referencing features.

Who are the actual users of WERS at Ford? Cookson produces an exhausting list of functionaries at Ford, with titles like Engineering Design and Release, Material Control Purchasing, Accounting, Program Management, Development and Test Engineering, Plant Quality Control and Weight Analysis. Dominating the list, though, are legions of engineers.

#### **CULTURE SHOCK**

Prior to WERS, none of the online systems at Ford had online help. And

whatever training materials available were hardcopy only – manuals and workbooks – and not particularly comprehensive at that. An essential part of WERS, on the other hand, is a massive online help system and a series of 65 interactive training modules. Why did Ford feel substantial user support tools were required for WERS?

As Cookson puts it, Ford was concerned with "the culture shock" users would experience with such a new system. "WERS was replacing several systems in a relatively short timeframe, so it was critical that the transition from old to new went smoothly," he explains. "Business had to go on as usual. No automotive manufacturer wants to lose a minute of production time, as that equates to a serious loss of revenue."

Describing the help system, Geoff Cookson boasts: "WERS has perhaps the most extensive and comprehensive online help support system ever created

for any system. It contains a total of about 75,000 context-sensitive screens of data at various levels within the system. 14,000 screens are in English; the remainder are in French, German, Spanish, and Dutch."

WERS Help offers assistance ranging from general overview of the system at main menu level and descriptions of each of the 30 WERS sub-systems, to field-level help via PF (function) keys in all open fields on WERS's 500 or so functional screens. The Help system also contains a glossary of 1,800 acronyms, abbreviations, and Ford and WERS-specific definitions. These can be retrieved via keyword searches.

Like the Help system, the interactive training modules produced by Cookson's Corporate Training Group at Ford are also intended to help get users up and running with this hydra-headed system. To produce the 55 modules, which simulate the operation of the real

## Alpnet And TSS: A Brief History

Alpnet, formerly Automated Language Processing Systems (ALPS), is a familiar name to language industry observers. The company was founded in 1980 by Eldon Lydle and other members of a Brigham Young University group researching interactive MT. With ALPS, they hoped to bring to market some of their linguistic software smarts.

Ten years later, despite the early associations and lingering connotations of ALPS with academic MT research, their Translation Support System (TSS) has evolved into a resolutely "non-automatic" interactive aid for translators, a "very smart" editor fronting a series of linked linguistic databases.

Original ALPS customers for TSS included Xerox, Hewlett-Packard and IBM, but the company came to the conclusion that it was not worth the effort to sell and support the system. In 1988, in a dramatic change of course, ALPS bought five leading translation companies: Interlingua in London, Interdoc (Paris), W.D. Haehl (Stuttgart) and MultiScript and La Langagerie (both in Montreal).

system, Ford chose Phoenix authoring software from Goal Systems, Ohio USA (not to be confused with Phenix, from Site) which runs on both mainframes and PCs. Depending on their function, Ford allocates anywhere from eight to 80 hours training per employee using these materials.

### ONSCREEN TRANSLATION

The information in the WERS database and the system's functional screens are in English, since it's the official international language of Ford. But a working knowledge of English is a prerequisite only for supervisors and managers within the company. So Ford wanted WERS Help and the training materials translated so that users could be trained to use the system in their own language.

Ford decided to translate the WERS materials into four European languages in 1987, and broke the project down into two separate parts. The first was a translation of the interactive training materials. The second was translation of the massive online help system.

Responsibility for supervising the translation of training materials fell to Ford's Manufacturing Training Group, who turned to management training firm Arthur Andersen for assistance. Together they approached London-based translation and documentation company Interlingua to do the actual translations. At the time, it was still an independent company. It was later bought by Alpnet.

"Interlingua was chosen for the job as being best in the field," says Geoff

Alpnet, as it's now called, is a publicly-owned company with 22 offices worldwide and an annual turnover of US\$23 million.

Currently, the official line from Alpnet is that new licensees for TSS are not being actively sought, but the software is being maintained and enhanced for current users, including Alpnet's own affiliated offices.

TSS offers translators state-of-the-art facilities, including automatic term lookup. It can be configured in a split-screen mode with source/target texts displayed simultaneously. Let loose on text in advance of translation, TSS will "sieve" it for repetitions and generate terminology glossaries.

The TSS system is really geared for big projects, where glossaries and phrase dictionaries can be generated from the source text. In addition, special interfaces are available for automatically transferring Interleaf and Ventura tags from source to target text.

TSS is currently implemented for a number of hardware platforms, including DOS, OS/2, Xenix, Unix V, VMS, AOS, and VMS/CMS. Various source/target versions are available, including French, German, Portuguese, Spanish Italian, Japanese, Korean, and Chinese, but not necessarily on all hardware systems. ■

Cookson. "They really had no competition with their experience in handling big projects." So in July of 1987, Interlingua was asked to tender a bid on the translation of the training materials.

Interlingua's Group Operations Director Ray King, who manages Interlingua's big projects, relates: "It was potentially a massive project, so I took part in the preliminary negotiations. In October of 1987, we got the go-ahead in three languages: French, Dutch, and Spanish." German was added shortly thereafter when the German-based company originally selected by Ford for the translation could not handle the project using Phoenix.

When they began translating, the Interlingua team soon came up against a number of unexpected problems. Interlingua's Corporate Operations Manager Alison St. Clair Baker: "When Arthur Andersen initially approached us for a quote, the firm had a hardcopy printout of the texts to be translated. But it soon became evident that we would be working onscreen, using Phoenix, the authoring software that the designers of the instructional materials in Dearborn had used."

### WORKAROUNDS

"The text and coding of the interactive materials were closely intermingled in Phoenix," Cookson explains. "It wasn't possible to process them outside the system." Because of this, the Interlingua translators had to learn how to use the Phoenix software before proceeding to translate.

And Ray King encountered another problem: "Early on, I inquired whether the IBM mainframe system they were using supported high ASCII (accented) characters. I was told it did. But when we started the project, it appeared that the mainframe didn't support accented characters. We had to devise workarounds for each language."

St. Clair Baker, an Oxford modern languages graduate, was senior project manager for the first phase of the WERS translation project. For St. Clair Baker, the project began with the selection of the translators. "We used UK-based translators from our translator database with whom we had worked on software localization before."

King and St. Clair Baker estimated four to six translators would be needed per language – a total of 24 translators. Taking into consideration the substantial variables involved in translating with unfamiliar software such as Phoenix, Interlingua altered its contract with Arthur Andersen from a price per thousand words to an hourly rate.

Once selected, the translators were trained to use the unfamiliar Phoenix software. Alison St. Clair Baker: "Training took anywhere from a few days to a few weeks, depending on the individuals. Once they had gotten up to speed with Phoenix, they could continue working at home on PCs, uploading files to the company bulletin board via modem."

### SEMINARS

Probably the biggest headache – notorious among software localizers every-



where – was the onscreen physical constraints of the Phoenix software. Words in the target language just didn't fit the spaces in the onscreen display boxes occupied by their original English counterparts. After much debate, Interlingua was told that rather than modifying the boxes to fit the text, the text would have to be made to fit the boxes. This meant extra effort and imagination on the part of translators to come up with shorter variants and alternative spellings.

Review seminars were held regularly at Ford plants in the target countries: Germany, France, Spain, and Belgium. Here, committees of Ford employees reviewed all the materials as they were translated. First under scrutiny were the terminology lists compiled by Interlingua based on keywords they plucked off the screens. Next, the teams reviewed the training modules as they arrived in batches.

"There was a lot of back and forth with terminology," remembers Alison St. Clair Baker. "Members of a review team would validate a given translation, then have second thoughts when they actually saw it flash across the screen. The problem was that very few of Ford's European employees had actually seen the WERS system, yet they were obliged to approve terminology ahead of time."

#### TSS AND THE HELP SYSTEM

The second project – the translation of the help system – ran from May 1988 to March 1989, and was organized slightly differently. While the training materials were being translated in Europe, Geoff Cookson had been negotiating for the translation of the help system in the US.

The Salt Lake City-based worldwide translation network Alpnet was ultimately awarded the contract. But, in an ironical twist, Interlingua had meanwhile become a subsidiary of Alpnet. Control of the second project, then, passed to Alpnet headquarters in Salt Lake City.

That Interlingua became part of the Alpnet network turned out to be fortuitous for all involved. Ford's Corporate Training Group in Dearborn, which was contracting the project, had recourse to Alpnet in Salt Lake City on a corporate level, while Interlingua continued to supervise the day-to-day translation activities from London.

The Help System project took advantage of Alpnet's facilities in a number of significant ways. Rather than

using UK-based freelancers as before, the in-house translators of Alpnet subsidiaries in Stuttgart, Madrid, Paris, and an affiliate in Amsterdam were put to work. They had at their disposal Alpnet's sophisticated Translation Support System (TSS) software, which is particularly well-suited to such large, complex projects (*see sidebar*).

In Salt Lake City, Alpnet's WERS project manager, Eugene Seeley, became the link between Ford and the translation teams supervised by Interlingua. He performed the valuable task of converting the help files via a specially programmed interface between the TSS format the translators were using and the IBM mainframe wordprocessing software package, Mass 11, that the help files were written in.

For this phase of the project, Tess Osborne took over the coordinating role of Interlingua's Alison St. Clair Baker.

Osborne explains the relationship which evolved between Interlingua, Alpnet and Ford: "At the insistence of the WERS Corporate Training Group, Alpnet controlled the project as a whole. But we managed the translation teams because of our experience in coordinating large projects."

Like St. Clair Baker, Osborne was responsible for managing the daily traffic between client and translators. She too expended considerable energy simply seeing that translators were receiving the same information, that they were meeting their deadlines, and that the translations were reviewed on time by Ford's European Divisions. She characterizes her role as "troubleshooting."

A big relief, too, for the team was the use of the TSS software. "We were fortunate to have a 10,000 word lexicon at the start of the Help project," explains Osborne. "It was developed by Alpnet in close cooperation with the Corporate Training Group in Dearborn."

Another responsibility was updating already translated materials – what Interlingua calls "retranslation." In Salt Lake City, Alpnet engineers developed a software tool to flag new information in the WERS system that needed to be updated. This was – and still is – passed on to Tess Osborne in London.

Osborne adds that WERS materials still trickle in sporadically. "Having got it all down pat, updates are simple to handle using the Repetitions Processing facility in our TSS software," she says confidently.

#### ONLINE AND HAPPY

As end users in France, Germany, Spain and Belgium got a taste of WERS, they started begging for more training materials. The Interlingua team found themselves in the curious position of knowing more about the system than the Ford people themselves in those countries. Alison St. Clair Baker remembers Ford people saying: "We don't even understand the original English system." So Interlingua wound up giving seminars to end-users in several countries to familiarize them with the system.

All in all, Ray King estimates Interlingua put in about 50 hours apiece in each of the 65 Phoenix training modules and more than 3000 hours into the 15,000 help screens translated for each of the four languages. This over a period of about 18 months.

The Interlingua team agrees that it would have saved everyone a fair bit of trouble if more translators had been

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sent to Dearborn for hands-on experience with the system to see in advance exactly what the materials they were translating dealt with. St. Clair Baker: "We finally remedied that by flying translators over to Dearborn to get hands-on experience with WERS." For companies venturing along the same path?

"For a start," says St. Clair Baker with a laugh, "we wouldn't recommend Phoenix. It's a difficult environment for translators to work in: no wordwrap, no insert mode, no accented characters – and it's hard to post-edit in."

At Ford, Geoff Cookson is not yet able to report on the overall impact of the system on the company. "It's really too early to make a meaningful judgment. We are due to complete a WERS user survey this August, and only then will we have a better idea of its reception."

Likewise, he's reluctant to talk about the benefits of the WERS system to Ford in economic terms, saying, "It's nearly impossible to estimate." But whatever the initial cost-and-return, WERS is an invaluable addition to Ford's strategy for global rationalization of its information systems.

**Colin Brace is Electric Word's software review editor.**