

# *A Single-Source Process: FrameMaker to ForeHelp*

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with assistance from Ed Rush

**A Strategy for Single-Source Conversion  
Using FrameMaker and ForeHelp**

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This article centers on a single-source documentation process developed by Deborah Snavelly and Ed Rush at SmallFirm Technology in 1996.\* The process depended heavily on Adobe FrameMaker templates for its effectiveness. I present it for this audience in hopes that the ideas embodied in the process will help others find documentation solutions in tools that are within the budget of smaller companies and Publications groups.

This article presumes you understand how to use FrameMaker templates and book files, and have some knowledge of online help projects. It also presents some ForeHelp procedures but no knowledge of ForeHelp is required, though exposure to one or more help-authoring tool will aid in comprehension. No FrameMaker templates are presented but discussions of template comparisons touch on aspects of template design.

## *Write Once, Read Many*

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With the advent of Web publishing, Internet software, and e-commerce, traditional software development cycles of up to a year are shortening to as little as three months per release, especially in young companies. At the same time, constant management pressures to limit headcount overlaps a shortage of talent in all technical specialties, leaving many Publications departments intensifying their efforts to write content only once per product and release, and deliver the content in as many formats as required.†

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\*. Special acknowledgments are due Ed Rush for three things: his mentoring over the past decade, his teamwork when we invented the single-source process discussed here, and most recently his help unearthing the procedure in Table 1.

## Conversions & Output

As every Publications department sooner or later learns, converting content from one authoring application to another carries an overhead cost. It's never as simple or straightforward as even the best of such tools might represent in its marketing literature. When such conversions occur routinely, as part of the usual work-flow rather than as once-only efforts that bring the documentation library over to use a more productive doc-development tool, then the limitations of both products tend to apply to the resulting process.

From MS Word to FrameMaker, from FrameMaker to Adobe Acrobat, from FrameMaker to HTML, even from FrameMaker to MS Word—all demand multiple trials to learn the best settings for routine conversions. They also require some significant compromises before or after conversion: of format, of writing style, of graphics handling. The following procedure describes how one small company used FrameMaker's native capabilities and ForeHelp's flexibility to support a single-source strategy for its software documentation.

### *Description of a Single-Source Process*

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As a two-person Pubs department at SmallFirm Technology, Ed Rush and I collaborated in developing a way to develop SmallFirm Technology software documentation in FrameMaker and convert it to ForeHelp just in time to build the first beta online help system for a given product release. Of course, this method demanded that we structure and write the document from the outset in ways that supported the planned conversion:

- develop structure first
- use standard mini-structures (procedures, reference content, and introductions) to create parallelism among sections (topics) and between writers
- create bulleted cross-reference lists to introduce subordinate content
- divide product features and commands into task-oriented sections (which become individual help topics)
- write “chunked” content to keep topics appropriately brief
  - no heading without a paragraph
  - no paragraph without a heading
  - only one topic per heading (one paragraph or “chunk,” which might include a note, tip, bullet list, procedure, figure, or table)

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†. Such a write-once, read-many goal has been possible for years, of course—with a huge investment outside the normal documentation stream—using SGML and the tools that support it. Since darn few companies are willing to invest in the front-loaded costs required to convert and maintain their documentation in SGML, the rest of us keep working with the more accessible tools at hand.

## Process Outline

As with most conversions, success comes as much from what you do before you export the files as with what you do with the exported files. The following outline describes both ends of the FrameMaker-to-ForeHelp conversion process in two major sections:

- Working in FrameMaker
- Working in ForeHelp

## Working in FrameMaker

Several steps that take advantage of FrameMaker's capabilities are the basis for the time saved after the initial conversion:

1. Set up the FrameMaker book at the outset of the project, including the generated files: table of contents, lists of figures and tables, index, and a list of references file that contains only imported graphics.  
(Note that this technique requires imported graphics and was designed for a file in which graphics were largely uncommented screen shots.)
2. Print the book for later reference during the import process. Print a copy of the list of references to the graphics.
3. Update the book as if for production: create or update the generated files, eliminate unresolved cross-references, and so on.
4. Archive a copy of the project directory for backup before you start the conversion, just in case (if you routinely work on a server, make a local copy for the conversion process).
5. Export the glossary file into RTF format.
6. Import the following properties from the conversion-prep template into each file you need to export, including the glossary: paragraph formats, character formats, table formats, cross-reference formats, and color definitions.
7. Check each graphic in the book for Frame-added callouts; for those graphics only, make adjustments to layout, hide text symbols and borders, zoom in so that figure fills the available screen space, take a screen shot, and crop and save as a bitmap file.
8. Open each file and, using the Find command, search and replace all anchored frames with a text string "INSERT PICTURE HERE."
9. Export each file into RTF format. (If you exported the glossary in step 5 for a reference topic, then name the glossary RTF file this time "glossary-pop-ups.RTF" to keep the two versions separate. You'll need both to import into ForeHelp.)

## Working in ForeHelp

ForeHelp's import capabilities, when used with forethought, enable a great deal of automation in the conversion.

1. Create a new help project from the template project in ForeHelp. (You've already set up the style names, styles, and default project settings in a template project in ForeHelp.)
2. Open the import file dialog box and make sure the following settings are correct:
  - Create new topic at style: [Heading2, Heading3, glossary-term, chapter]

- Overwrite existing topic is turned off.
  - Map tagged styles to ForeHelp styles is turned on.
3. Working from the printed copy of the FrameMaker table of contents (TOC), import each file in the book into the help project in turn. With the TOC in hand, you can adjust the heading at which to start new topics for particularly dense files if needed.  
**Note:** As with any such effort, save your work early and often. No operating system or application is always stable.
  4. Import the glossary file as a whole topic.
    - Set the import dialog to start the new topic with the glossary’s chapter-level paratag.
  5. Import the glossary file a second time to create all the project’s popup definitions, setting the ForeHelp import dialog box to start a new topic with the glossary-term paratag.
  6. Use ForeHelp’s Find command to search all topics and make needed adjustments to the text:
    - Find each instance of “DELETE TABLE TITLE” and delete the paragraph and review table layout for online-help purposes.\*
    - Find each instance of “CREATE JUMP HERE,” delete the reminder text, and examine the cross-reference (x-ref) and either delete the x-ref text or create the needed jump.
    - Find each instance of “definition\_” and (turn off Whole Word preference) and replace with nothing (deletes the FrameMaker-supplied autonumber text from the beginning of each glossary term’s paragraph).
  7. To replace the graphics, capture or convert all your screen captures as you decide is needed for your audience’s requirements. Put them in a separate directory.
  8. Find each instance of “INSERT PICTURE HERE” and replace with the BMP file that corresponds to the graphic used in the FrameMaker book. Your printed list of references file (LOR) is your bible for this effort.

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### *The SmallFirm Technology Procedure*

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At a late milestone in the development process—usually just in time to build first-draft online help into a late alpha-release build, the SmallFirm Technology Publications group converted the draft into a Forehelp online help project for the Windows Help engine.

**Note:** The process that follows relies on three templates:

- FrameMaker template for print manuals
- FrameMaker conversion-preparation template, modified from the SmallFirm standard template to expedite post-conversion work
- ForeHelp help-project template, with default conversion preferences configured in the import dialog box

## The Details

When it came time to do these conversions, we never tackled them without a copy of the procedure in hand. While the procedure is conceptually simple, many of the apparently petty details save considerable work when done in the correct order—and demand some additional work when done in the wrong order. (Even done wrong, the conversion process takes less work than writing manuals and online help in parallel.)

The following table presents a copy of the SmallFirm conversion “bible,” including notes and explanations to writers that are embedded in the procedure.

**TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure**

Strategically, SmallFirm Technology writers draft SmallFirm Technology software manuals in a format organized along the structure of the software. This technique allows the manual to convert to a reasonable draft of the online help after it is converted to WinHelp.

SmallFirm Technology uses the ForeHelp authoring software to assemble a project, so the procedures below describe how to move FrameMaker files into ForeHelp and how to work with the resulting files in ForeHelp.

### Preparing FrameMaker Files for ForeHelp

ForeHelp cannot import FrameMaker files directly. To convert an existing FrameMaker manual into ForeHelp requires first exporting an RTF file from each of the files in a manual. Several steps are involved in preparing each file for ForeHelp:

- importing ForeHelp-prepared styles
- capturing FrameMaker-created graphics as screen captures
- replacing graphics with text placeholders
- exporting the RTF file
- The glossary file is exported twice, once to create glossary popup topics, and once to create the glossary reference topic.

### *Importing ForeHelp-Ready Styles.*

SmallFirm Technology uses a conversion-preparation template file (FHimport.tag) that contains paragraph tags, character tags, cross-reference definitions, and color definitions that are especially defined for files that are to be imported into ForeHelp. These tags and definitions have the same names as those in our FrameMaker templates. When you import them from FHimport.tag into a content file from a manual, you change the file to make it more suitable for exporting to ForeHelp.

After importing styles, the file will lengthen significantly and will not look very attractive on screen. Apparent errors either resolve after conversion or provide search markers in ForeHelp.

**TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure**

The FHimport.tag file includes, for reference, examples of some of its own changes, most particularly a table of all cross-reference formats and their definitions and appearance. Here is a list of some of the major changes effected when you import from the FHimport.tag file:

- Every heading starts a new page.
- All cross-references change to omit page numbers and include the text string “XREF”.
- Notes, cautions, and warnings start with the text string “Note:”, “Caution:”, or “Warning:” (because the frame above the graphic does not convert when exported).
- Figure callouts are formatted for readability at 72 dpi, to allow quality screen captures of illustrations compounded in FrameMaker of an imported graphic and FrameMaker text and graphics.
- Color definitions include “Windows brown” to support the figure callouts format.
- Chapter and Appendix titles omit the autonumbering to provide clean topic names (which ForeHelp automatically uses to build the help Contents topic).

#### *Capturing FrameMaker Graphics as Screen Captures.*

To save work in re-creating both FrameMaker graphics and screen captures or other images with added FrameMaker callouts, the preparation template adjusts figure callouts to a large size font and color definition chosen to contrast with Windows screen colors while using one of the 256 standard Windows colors.

**Note:** Before you can import these screen captures into the resulting ForeHelp project, you must open the captures in Photoshop, crop them to size (4.5 inches wide maximum), and save them as 8-bit color bitmaps (\*.BMP) files in the appropriate graphics directory for the project using names that match the list of references for each figure. Refer to the printed LOR file for appropriate file names for each figure.

To capture the needed FrameMaker graphics:

1. Hide the format and toolbar in FrameMaker.
2. Using FrameMaker’s zoom feature, enlarge the graphic to fill the screen for best quality.
3. Adjust any callout frames as needed to fit in the available space.
4. Hide borders, text symbols, and rulers.
5. Place your cursor well out of the way of the image to capture.
6. Use FullShot to do a screen capture of the graphic, or press Shift-Control-3.

#### *Replacing Graphics with Text Placeholders.*

Because FrameMaker’s RTF exporting utility removes both placed (imported) and FrameMaker-created graphics, you need to substitute placeholder text for each graphic beforehand. Use FrameMaker’s search function to find each anchored frame and replace it with the text string “xxxPutFrameHere.”

This is especially useful for icons, keycaps, and similar images that do not have figure titles to act as placeholders.

TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure

*Exporting the RTF File.*

Once the changes (importing styles and marking graphics) are applied to a body file of a manual, you are ready to create an RTF file.

*Exporting Chapter and Appendix Files.*

To create the RTF file, use the Save As... command and select RTF Export as the format. Give the file an MS-DOS-style 8.3 file name ending in ".RTF" such as "CH1.RTF." Beware that the conversion process can take several minutes, even for a smallish chapter.

*Exporting the Two Versions of Glossary.*

Before exporting the glossary as popup topics:

1. Add the string ", **definition**" after each glossary term *in a copy* of the glossary file.
2. Be sure each glossary term *does* start a new page.
3. Before exporting the glossary as a single reference topic:
4. Be sure all glossary terms do *not* start new pages.
5. Be sure to give the two glossary files names that let you tell which is which:
  - glossref.RTF = RTF file for glossary reference; single help topic
  - glosspop.RTF = RTF file for glossary popups; many help topics
6. Save the RTF files to the OnLinSrc directory for the ForeHelp project on the file server.
7. When you import into ForeHelp, import the glosspop.RTF file first, and then import the glossref.RTF after it, because ForeHelp will overwrite the first Glossary topic.

**Using ForeHelp Style (Tag) Definitions**

The names of SmallFirm Technology's ForeHelp paragraph styles are matched to the FrameMaker paragraph tag names, to speed the process of importing text.

When you import an RTF file into ForeHelp, the software lets you "map" the transition between FrameMaker tags, which it recognizes in the RTF file, and the ForeHelp styles defined in the help project you are importing into. SmallFirm Technology's existing ForeHelp "template" (essentially an empty help project) has this mapping set to our usual selections. However, if new tags have been added to the template, you might need to adjust the mapping.

*Mapping Glossary RTF Files.*

When you import the two versions of the glossary that you exported from FrameMaker:

For the glossary reference file (glossref.RTF), be sure you do *not* set the tag "gt Glossary Term" to become a new topic (topic checkbox empty).

**TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure**

For the glossary popup file (glosspop.RTF), be sure you set the tag “gt Glossary Term” to become a new topic (topic checkbox checked).

In both cases, only the keyword checkbox below the topic checkbox should be checked.

*Creating a Help Project.*

To start a new ForeHelp project, the procedure is:

1. In ForeHelp’s File menu, select New/Open.
2. Select C:\OnLinHlp\*product* as the location and name for the new project, where *product* indicates the name of the SmallFirm Technology software product.
3. Use the Open Template checkbox to bring in the project template \PUBS\OnLinHlp\TEMPLATE.DBA.
4. Save the new project using the product name as a base: *product.dba*.
5. Place the cursor at the bottom of the contents topic. Type one blank line under any existing contents lines, to separate the chapters.
6. Select the first (or next) RTF file to import.
7. In the upper part of the RTF Import Options window, set import options.
8. In the lower part of the RTF Import Options window, map the RTF styles to ForeHelp. Ensure that:
  - each FrameMaker tag (in the RTF Styles list) is checked
  - each of the chapter and appendix tags — and *no other tag* — is set to map to the topic-heading style
9. Create the browsing sequences within that chapter or appendix, as described in “Setting Up Browsing Sequences” on page 9. Doing it now helps you ensure that each topic is in some sequence; as each topic goes into a sequence, ForeHelp dims (grays) it in the list of available topics.
10. Repeat step 5 through step 9 for each chapter and appendix.
11. Import the glossary popup file (glosspop.RTF). Set the tag “gt Glossary Term” to become a new topic (topic checkbox checked) but not to add a ToC entry, banner, or topic keyword.

**Note:** It is important to import *glosspop.RTF* before *glossref.RTF* because the second one replaces the defined *Glossary* topic created by the first import.

12. When finished with the chapter and appendix files, import the glossary reference file (glossref.RTF). Be sure you reset the tag “gt Glossary Term” *not* to become a new topic (topic checkbox empty).

**Note:** Because the glossary popup topics (definitions) are not included in any browsing sequence, you can simplify the process of creating browsing sequences by waiting until they are completed before importing the glossary popup file (*glosspop.RTF*).

13. Use ForeHelp’s Find command to change all instances of “ , definition ” to null, in all topics. The “ , definition ” string remains in the topic names and context strings, making index reference easier.



**TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure**

### Using Contents as a Guide

Use the table of contents as a guide while working through the project. The contents topic can become both an outline of your progress and a reference page for working notes. Once you've set up all the contents entries as jumps to their topics, you can use the contents page as a navigation aid through logical series of topics; it provides links (Ctrl+Alt lets you use any link while you're editing) to all topics in logical order, and ForeHelp includes a built-in shortcut to the contents topic (Topic⇒Contents—Alt+C). Consider entering any working notes or "where was I?" notes next to the last topic you edited to help keep track of to-do items.

#### *Working with Contents.*

1. Set up the contents topic in a simple indented outline format, leaving an extra line between chapters as a visual guide.
2. One entry at a time, select the text of each contents line, then make it a jump to the topic of that title (Text⇒Make Jump—Alt + J).
3. Repeat until all contents entries are linked to their topics and indented to the appropriate level.
4. Check against the printed table of contents before you continue.
5. Set up browsing sequences before you delete any links from the contents topic.

#### *Setting Up Browsing Sequences.*

Browsing sequences in help files enable users to move through a series of related topics linked in an order determined by the help developer (writer). Each topic may be used in only one browsing sequence in a project. SmallFirm Technology creates browsing sequences for each content heading that has subheadings by linking all of the subheadings under that heading. For example, a first-level heading's browsing sequence will include all the second-level heading topics—but not any subordinate third- or fourth-level headings.

When linking browsing sequences, each topic used in a sequence is grayed out in the list of all topics, thus allowing you to check your project for any orphaned topics.

To create browsing sequences in a project:

1. Print a copy of the completed contents listing either from the help project or from the FrameMaker manual.
2. Open the Project Browse Sequences window (Project⇒Browse Sequences—Control + Alt + Q).
3. Click on the Sequences... button to create new sequences.
4. In the Sequences field, type a sequence name that matches every contents heading which has subheadings.
5. Sequence names cannot contain capital letters. ForeHelp will automatically shift any upper-case letters you type into lower case.
6. Once you've created (named) all the browsing sequences in the project, click on Done to close the Sequences window.

**TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure**

7. Link the desired topics into each browsing sequence.
8. In the Sequence field, select a sequence from the popup menu.
9. In the All Topics list, select the desired topic (the first subheading under the sequence's heading in your printed table of contents). You can make multiple selections using Windows-standard key-and-mouse controls.
10. Click on Add to move the topic or topics selected into the list of topics in that sequence.
11. When all the topics in that sequence have been added, put them into the correct order using the Up and Down buttons next to the topics list.
12. When all sequences have their linked topics correct, the only remaining topics in the All Topics list should be chapter-level headings. Research and correct any orphaned topics and link them into their correct sequence.

**Note:** If you have already imported the glossary popup definitions, your correct remaining list of All Topics will also include all glossary definition topics such as "RSSI, definition".

*Moving Contents Links to Appropriate Sublevel Topics.*

SmallFirm Technology's standard for the online help contents topic is to include only two levels of headings in the final version. However, rather than deleting the subordinate third- or fourth-level subheadings, we move them into a reference list at the end of the appropriate topic. For example, if your contents list looks like the one on the left, you'll shorten it significantly in the online contents page.

<i>Printed contents</i>	<i>Online contents</i>
Computing	Computing
Hardware	Hardware
Firmware	Firmware
Software	Software
Operating systems	Writing
System extensions	Audience
Control panels	Purpose
Application programs	Scope
Utility programs	Format
Writing	Process
Audience	Illustrating
Purpose	Hyperlinking
Scope	
Format	
Process	
Prewrite	
Research	
Brainstorm	
Outline	
Draft	
Write	
Review	
Revise	
Proofread	
Print	
Illustrating	
Hyperlinking	

TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure

*Reducing Contents to Online Length.*

1. Before moving any contents links, use the contents links to jump to each topic within (at least) that sub-heading level, make any online adjustments required to those topics, then return to the table of contents.
2. Once that is accomplished, copy the lowest-level headings from the table of contents, jump to their superior level topic, and paste the list of links at the bottom of the topic. Type in a standard lead phrased, approximately:
  - See these additional topics for details about (*fill in the blank*):
3. After you've completed the paste and saved the change in the project, then delete those entries from the contents topic.
4. If desired, you can perform this process one chapter at a time, especially in cases where multiple authors are working on help files.

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**Importing Graphics**

To import a graphic:

1. Make sure you have a BMP copy of the graphic in the same directory as the help project (or a subdirectory of it).
2. Put the cursor where you want the graphic to go.
3. Use the Insert Picture command (or click the Picture icon) to import the graphic, specifying Best for Speed wherever possible.
4. For large window graphics, reduce the size to 1 <sup>1</sup>/<sub>4</sub> to 1 <sup>1</sup>/<sub>2</sub> inches and use the SHG editor to make a full-size popup of the same graphic:
5. Put the cursor at the start of the paragraph. (Note a that a left-justified picture in ForeHelp aligns its *top* with the text of the paragraph, but a character-justified picture aligns its *bottom* with the text.)
6. Use the Insert Picture command (or click the Picture icon) to import the graphic, specifying left alignment.
7. Click once on the graphic, then select its lower-right corner and reduce its size.
8. Double-click the graphic to summon the SHG editor.
9. Draw a selection rectangle within the graphic and drag the rectangle's corners to make it as large as possible.
10. Use the Make Popup command (or the Popup icon).
11. In the Topic Properties window, title the new topic windows:*description*, where *description* is the window's name or a descriptive word or two.
12. Click on OK.
13. Click outside the graphic, to summon the Save SHG File window.

**TABLE 1. 1996 FrameMaker-to-ForeHelp Conversion Procedure**

14. Save the SHG with the same forename as the original graphic.
15. In the paragraph containing the cross-reference to the graphic, insert this text: "Click on the figure to see its details."

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### Replacing Jumps

The FrameMaker template used to prepare a FrameMaker file for export to ForeHelp adds a standard text to every cross-reference definition: INSERT XREF HERE. Search to each and create the needed jump to the appropriate topic, then delete the added text "INSERT XREF HERE."

#### *Adding Overhead Lines to Topic Headings.*

Every topic banner below the Chapter or Appendix level should have an overhead line to help the reader understand the context of the help topic:

Introduction

### **Product Description**

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After you have copied the partial contents into each parent topic, a relatively easy way to add the overhead lines is:

1. Open the ForeHelp Navigator, centered on the parent topic.
2. Copy the text of the parent topic ("Introduction" in the example above). Do not include the end-of-paragraph marker.
3. Use the Navigator to jump to the first (or next) subordinate topic.
4. Put the cursor in the top left corner of the banner.
5. Press RETURN and then UP-ARROW.
6. Paste (Ctrl-V) the text into the blank line.
7. Apply the Ov Overhead style.
8. Copy the text of the overhead line, again without the end-of-paragraph marker.
9. Repeat step 3 through step 6 for each subordinate topic. Notice that step 7 and step 8 are unnecessary after the first subordinate topic, because the Ov Overhead style is carried with the text.

When we finished such a conversion, we had a pretty solid late-draft help project. If the schedule allowed, the authoring writer printed it and gave it to the other for a peer edit and sanity check. If, as usual, it didn't, we built the help project, gave it to Software to be linked into the next software build, and edited content while QA kicked that build around.

## *After Conversion*

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From that point on, one would assume, every change had to be made in both places: the print documentation and the online help project. Not so. Significant content changes within a given section (heading) could be made in the FrameMaker document, copied into a separate Frame document if part of a larger file, then exported as RTF and imported into ForeHelp to replace the existing topic. Repeated export-import steps seemed slightly time-consuming but we learned by experience that they wasted much less time and produced more accurate help than trying to make duplicate changes in parallel, especially when it came to complex procedures.

Most importantly, we learned that we could design and export an entire outline using this process, and give the resulting (empty) help project to Software for linking into the code early in development. Then when we reached the relevant milestone, we would re-import the document content using the same process and could give Software updated files that were already linked to the code.

In our post-conversion writing, we did choose to export smaller chunks than a whole chapter, as a rule, when we needed to repeat ourselves. As long as we kept the same heading text in the FrameMaker document, when we re-imported the RTF into ForeHelp, ForeHelp recognized the existing topic headings and replaced them one-for-one. New content was no problem; it simply created a new topic. Removing a topic took more editing in the help than in the book because of the multi-level linking we used in help, but ForeHelp's features supported rapid identification of broken jumps that enabled equally fast fixes.

## *Where Do We Go From Here?*

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The winds of technological change continue to blow through Publications departments. HTML-based help was a new proposal in 1996, with Microsoft and Netscape beginning one of their many battles over standards. All three of the Windows-world help authoring tools released add-on HTML features in 1996 or 1997. At the same time, WebWorks Publisher, which began solely as an HTML-conversion tool, added support for converting into WinHelp. FrameMaker's Acrobat conversion support improved. And the dream of single-source documentation has moved from tentative experiments attempted by individual departments to an industry trend that will go on shaping our future.