

# The IXgen White Paper

## —≡ Fast Marker Creation and Maintenance

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Makers of IXgen for FrameMaker



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please note our new telephone.

## IXgen Whitepaper 2016 Edition

Index and Marker Management tool for use with FrameMaker® documents.

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# Indexing Revisited

## The IXgen White Paper

### Part 1: Introduction

Let's face it — indexing can be painful. The process is often put off until the end of a project, and by then it's likely that not enough time remains to do the kind of job you'd like. And the nagging question remains: does anyone really use an index?

Yes, we all do. And, virtually any document can benefit from some sort of index. One good “find” in an index that saves your reader frustration makes that index worth the effort.

The purpose of an index is simple:

**Lead readers to the detailed information they seek through a list of keywords and phrases, permutations, synonyms, and other references in that list.**

We've all been irritated by documents without indexes; or worse, indexes that sent us on wild goose chases or failed to point to the area we really needed. How do bad indexes happen? That's a broad question with many answers. But from our experience poor indexes often happen when the person or group creating the index is overloaded by the task.

How does such a seemingly simple task become so demanding? One key issue is the amount of time indexing can take.

**Whether generating or maintaining, indexing can be a slow and often incomplete task.**

If we analyze why this is so, we find two main culprits. One is *mechanics* — how the index is assembled. The other is the craft of indexing — how we decide what to index, how entries are interrelated, how we choose synonyms, and so on.

In terms of mechanics, indexing in FrameMaker is greatly simplified and accelerated using the IXgen tools described in this white paper.

In terms of craft, we've observed that when the mechanical aspects are improved, much more time and energy can be devoted to that craft, even by those with little experience. When no time exists to generate an index using traditional FrameMaker methods, IXgen lets you quickly create a simple but useful index.

What needs to be indexed? Probably any document over five pages could benefit from some sort of topical pointer system, whether it's a table of contents, an index, or hypertext links. This of course includes:

- User documentation
- Engineering specifications
- Release or application notes
- Procedure and tutorial information

- Policy documents
- Reports and studies
- Scientific papers

The list is nearly as long as there are types of documents.

**Not only does a good index serve print readers, a good index — or even a specialized secondary index — is *vital* for successful on-line documentation.**

Now we come again to the question of staff resources. Which engineer, technical writer, report author, or researcher has time to do their own index using traditional methods? Not many. Any available time must be leveraged. You'll see how IXgen can do this as we go on.

In many cases, the ideal index would be created as part of the authoring process. Until now, there was no effective way to integrate writing and index creation in FrameMaker.

In a few simple steps, how do you create and maintain a good index?

**If only you could —**

- Collect text from paragraph tags and place that text in index markers.
- Shuffle existing marker text to create new entries.
- Search a document on a list of keywords and insert index markers where those keywords were found. A keyword list, once made, could be used over and over again for most new documents in similar topic areas.
- See all your markers in one place, edit them there, then return the edited markers to the source markers.
- See index markers as in-line body text.

## **Wishlist Fulfilled with IXgen**

At one time, the FrameMaker marker window was adequate for simple marker placement and maintenance. But as indexes demand more sophistication, this interface becomes too slow and is usually not practical. More comprehensive indexes are often built from large numbers of markers, and require on-going maintenance as a document evolves.

The FrameMaker marker window approach for larger indexing is costly. The best possible index *may never be created* because it's too difficult using the marker window. And, to compound the problem, updates to the main body of a document may never get properly reflected into the index markers. Once again, the marker window interface is too narrow to let you quickly and easily apply main source updates to marker text.

Ultimately, your readers are the ones most affected.

## **The New Way to Work with Markers**

IXgen is a *completely new interface* to the FrameMaker marker system. This new interface consists of a number of tools to make marker manipulation direct and simple. The next tables introduce the IXgen tool set and classify tool

applications. Later portions of this white paper describe the IXgen tools in more detail, along with some typical uses.

### IXgen Tool Set

IXgen Tool	Description
<b>Gen Editable Marker List</b> ( <i>page 7</i> )	Generate editable list of markers
<b>Apply Edited Marker List</b> ( <i>page 7</i> )	Apply edited marker list back to source markers (includes the Split and Permute options)
<b>Expand Markers</b> ( <i>page 9</i> )	Place marker text in main body text
<b>Collapse Markers</b> ( <i>page 10</i> )	Return expanded marker text to markers
<b>Permute (rotate) marker text</b> ( <i>page 7</i> )	Rearrange words in marker to form variant entries.
<b>Capitalization</b> ( <i>page 11</i> )	Control capitalization standards
<b>Markers from Keywords</b> ( <i>page 12</i> )	Generate new markers by searching for keywords
<b>Markers from Tags</b> ( <i>page 13</i> )	Generate new markers from selected para tags

### IXgen Tool Uses

Application	IXgen Tool
Creating markers from scratch	<b>Markers from Tags</b>
	<b>Markers from Keywords</b>
	<b>Collapse Markers</b>
Editing Markers	<b>Expand Markers/Collapse Markers</b>
	<b>Gen Editable Marker List</b>
	<b>Capitalization</b>
Enhancing Markers	<b>Permute (rotate) marker text</b>
	<b>Capitalization</b>

Each IXgen tool is described in more detail below in the “Part 2: IXgen Toolset Summary” on page 6.

### Typical IXgen Uses

- General index generation and maintenance
- General marker maintenance, regardless of marker type
- Index enhancement in both quantity and quality
- Language translations greatly simplified because IXgen can elevate marker text into the main body text prior to translation, the be collapsed back into markers following the translation. A “second translation pass” just for marker text is not required
- Marker deletions

- Marker type conversions
- Conditional text deletion
- Performing “make from” operations on old documents to create new documents

## Cost Effectiveness Question & Answer

**Looks like I'll only use IXgen whenever I do indexing — maybe a couple of times a year. How can I justify buying a tool that will have such little use?**

Part of our mission is to show how — with the right tool — indexing can *easily* be an *ongoing* process. The overall quality of your documents can benefit by making indexing part of the *daily* writing process.

IXgen facilitates this kind of daily marker interaction in a way that's virtually invisible to the writer. Indexing and index maintenance can be as immediate as spell checking, proof-reading, formatting, or any other activity. Indexing can even happen *while text is being created*. This is important, because only IXgen is capable of providing this level of support.

**Still, I wonder just how much use these tools will get.**

Remember, IXgen can work on any marker type, not just Index markers. This opens a number of possibilities in working with other types of markers and performing tasks not even related to indexing, such as deleting unwanted conditional text.

**Okay. BOTTOM LINE: How much time can I really save with IXgen? How can I pay for IXgen licenses?**

As an example, let's use a 300 page document spread across 10 chapters. Consider doing the most basic indexing task: indexing each chapter head and each first and second level head. That's a lot of mouse movement, clicking, and trips to the marker window. Shall we say three hours? Maybe four hours? Five? IXgen can do the *same thing* in a few **minutes**.

But at this first step, you've got a rather poor index, by any standard. What about making some typical variants of those entries? If you had energy left over from creating these markers using just the standard FrameMaker marker window, you'd need at least another two or three hours to permute those markers. Use IXgen to intelligently permute the entries in a few *seconds*.

What about the inevitable variations in capitalization, particularly following a permutation? Plan on at least another two hours to correct these by hand; IXgen can do it in *seconds*.

What about “specials” and “tweaks” — in other words, how much time do you spend polishing the index? Where should you add the “see also's”? The page ranges? Doing it manually can run into many more hours. With IXgen, you can *polish in minutes*, not hours.

It's fair to say that with a 300 page document you can do a good start-to-finish index in less than an hour using IXgen. The same index done manually could take 15 hours or more. As you add layers of sophistication and completeness to the index, the time differences to simply manipulate the markers to improve the index become even more pronounced.

Two writers, using two IXgen seats, can more than pay for those seats in a *single day* of use *from the time saved*. Here's how we figure this:

Assume a competent, medium-scale writer is worth \$45/hour, gross pay, including benefits and other non-direct compensation items. If 28 hours are saved between two writers, that's \$1260.00. If you create only three documents like this each year, that's \$3780. Two IXgen Windows licenses cost only \$398!

In this very simple scenario, you've picked up \$3382. Your savings will most certainly be much higher, because we're illustrating a minimal-use case.

Also consider these items in terms of their additional value:

- With IXgen you can afford to spend a little more time to get a true, high-quality index — carefully crafted — because you're not fighting the limits of the FrameMaker marker window and thus settling for “good enough.” If you spend even one of those 14 hours of savings on polishing, you're adding tremendous value to your index.
- Quality indexing means fewer support calls from those who use your documents.
- Quality indexing improves the overall format, flow, and content of your documents.
- Quality indexing — or even the presence of an index — improves the image of you, your company, and your product.
- Certain marker management tasks, such as deleting markers, conversion of marker types, or general clean-up, are virtually impossible with the marker window but easy with IXgen. On a per-writer/per-year basis, the time savings will add up to substantial savings.

## More Q & A

### Who besides writers can use IXgen?

Anyone who creates a document (even a small one) — where an index of any kind would be a good feature to add — can use IXgen.

- Engineers can quickly index their specifications. This is important because during product development many different people with different needs will use those specifications. An index is not typically found in this type of document, but often would be of great value.
- Administrators or managers can index their policy or procedures manuals. Employees can more easily find the desired information.

*Anywhere* you use FrameMaker is probably a good place to use IXgen. And because IXgen is implemented using the Frame API, IXgen “looks and feels” just like FrameMaker because it is part of FrameMaker. This makes IXgen very simple to use even for those who only occasionally use FrameMaker.

### Do documents processed by IXgen have to be read by systems where IXgen is installed?

No! Remember, IXgen is a marker system *interface*. IXgen does not change the underlying marker or document structure. Therefore, documents processed with IXgen remain true FrameMaker documents — nothing more, nothing less. All you've done with IXgen is greatly simplify the *process* of adding and maintaining markers.

## Other IXgen Uses

Note that IXgen can process *any* marker type. You are not restricted to index markers. This opens up some interesting possibilities.

- Maintain any generated list using the tools described in the last few pages — author, subject, glossary, and so on.
- Maintain markers of any user type. Say, for example, you have HTML commands in Type15 markers. Use IXgen to view and edit the HTML text stored in those markers.

## Obtaining a Demo Copy of IXgen

Demo copies of IXgen are available for downloading from our web page. Go to this URL:

<http://www.fsatools.com>

Select “IXgen Central” and follow the instructions there.

## Part 2: IXgen Toolset Summary

IXgen consists of the following tools. Note that these tools can be used in virtually any sequence you’d like. A “normal” sequence depends on the task at hand. The next table shows “typical” usage sequences based on two scenarios: creating an index from scratch and maintaining an index.

Of course, you are not locked into any particular usage sequence. Use the tools as needed in any logical order. (You won’t get much value from the maintenance-oriented IXgen tools unless markers are present. So, you’d want to start by creating markers, either manually or automatically by using **Markers from Keywords** or **Markers from Tags**.)

<b>Index Creation:</b> <i>use...</i>	<b>Index Maintenance:</b> <i>use...</i>
<p><b>Markers from Keywords</b> or <b>Markers from Tags</b> to get initial raw entries.</p> <p><b>Gen Editable Marker List</b> to collect a list of the raw entries. You can make marker edits in the editable marker list file.</p> <p><b>Apply Edited Marker List</b> to reflect any changes made, and to access the <b>Permute (rotate) marker text</b> and <b>Split multiple index entries into separate markers</b> functions.</p>	<p><b>Gen Editable Marker List</b> to collect a list of the current entries. You can make marker edits in the editable marker list file.</p> <p><b>Apply Edited Marker List</b> to reflect any changes made, and to access the <b>Permute (rotate) marker text</b> and <b>Split multiple index entries into separate markers</b> functions.</p> <p><b>Expand Markers</b> to see (and edit) the markers in the textual context of the flow where the marker appears; followed by <b>Collapse Markers</b> to return marker text to actual markers.</p>

## Operational Scope of IXgen

IXgen tools can operate on a highlighted area of a document, an entire document file, or from the book level (all documents in the book are processed). This selectivity lets you optimize IXgen usage for specific tasks, such as initial bulk creation of markers to touch-up maintenance and marker additions for new text blocks.



## Gen Editable Marker List

### Generate editable list of markers

**Purpose:** Generate a sorted list of markers that can be edited and manipulated without using the marker window. In this way, many markers can be edited or manipulated at the same time. You need not use the search and marker windows to change the contents of markers.

**Method:** Text from markers of the selected marker type (or types) is collected into a table and placed in a new document. This is typically a “throw-away” document used only during the current FrameMaker session. However, you can save the file to a name of your choosing, reopen it later, and then continue editing markers, or use the **Apply Edited Marker List** function to reflect the markers back to the source document(s)

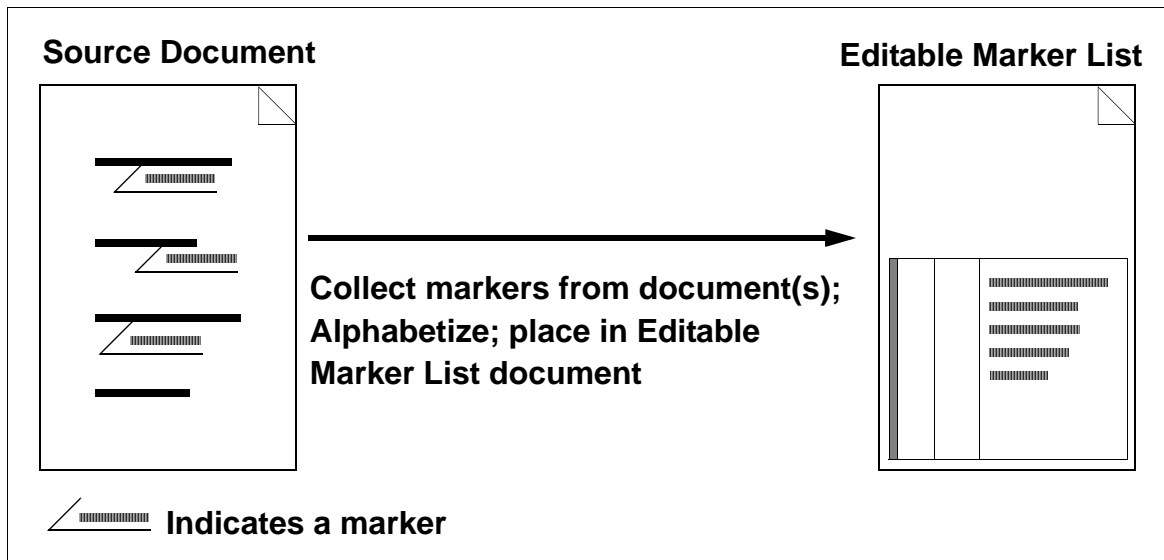


Figure 1 Generating an Editable Marker List

## Apply Edited Marker List

**Apply edited marker list back to source markers (includes the Split and Permute options)**

**Purpose:** Update the source markers from the markers listed in the file created by **Gen Editable Marker List**.

Method: Marker text from the generated marker list file replaces the marker text in the corresponding source markers. Thus, any changes made in the generated marker list file are reflected back to the markers in the source document(s).

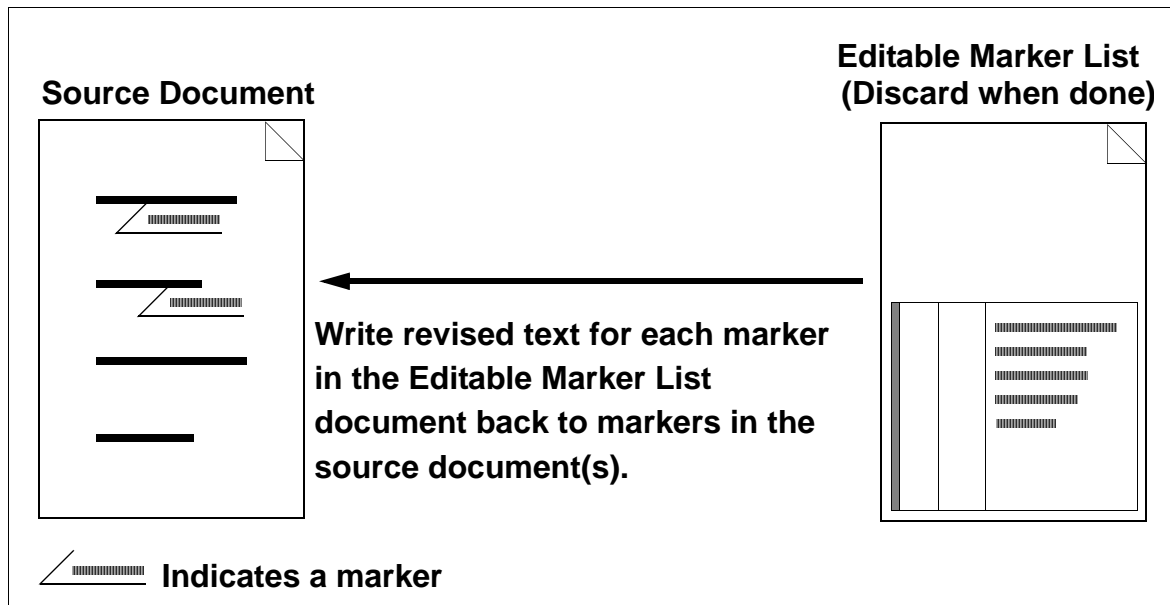


Figure 2 Applying an Edited Marker List

## Using the Split Function

When **Apply Edited Marker List** is selected, two optional apply functions are available. The first option, **Split multiple index entries into separate markers**, is discussed here. The second, **Permute (rotate) marker text**, is explained in the next section.

To select **Split multiple index entries into separate markers**, click the option button in the dialog box which appears when **Apply Edited Marker List** is called.

FrameMaker supports multiple index entries per marker. Individual entries are delimited with a semicolon. If you select **Split multiple index entries into separate markers**, IXgen will check each marker for multiple entries. (Multiple index entries are separated by semicolons within the marker string.) If found, new markers are created as needed so that only one index entry appears in each marker.

Some people find the one entry/one marker approach easier to understand; other people prefer to have related entries in one marker. IXgen simply provides a means to split multiple entry markers. Note that once split, there is no “recombine” utility. Also note that a marker entry has a 255 character limit (imposed by FrameMaker), so the split function can be used to assure the maximum possible marker space for long or complex entries.

## Using the Permute (Rotate) Marker Text Function

A generally useful indexing technique is to do a circular rotation of the word order of an entry. A new entry is created with each rotation. For example, this phrase:

quick brown fox

could be rotated twice to produce two new additional entries:

brown, fox quick  
fox, quick brown

To more clearly see the pattern consider this abstract example:

aa bb cc dd ee ff

permutes into:

ff, aa bb cc dd ee  
ee ff, aa bb cc dd  
dd ee ff, aa bb cc  
cc dd ee ff, aa bb  
bb cc dd ee ff, aa

## Avoiding Nonsense Rotations

To minimize nonsensical, confusing, and useless rotations, IXgen follows some basic rules and offers permutation controls (discussed next). Here are the basic rotation rules:

- Only first-level entries are rotated. Generally, nothing is gained by rotating lower-levels where the rotated entries would appear together in a relatively small sublist.
- If the special control “<\$nopage>” appears in a marker, the marker is excluded from rotation activity.
- Entries with commas are not rotated. When a comma is detected, the assumption is that a rotation has already taken place, either from a previous session with IXgen or from a manual rotation done by the index author at the time of creation. (If you still need a rotation on an entry that was not rotated because of a comma, do the rotation manually.)

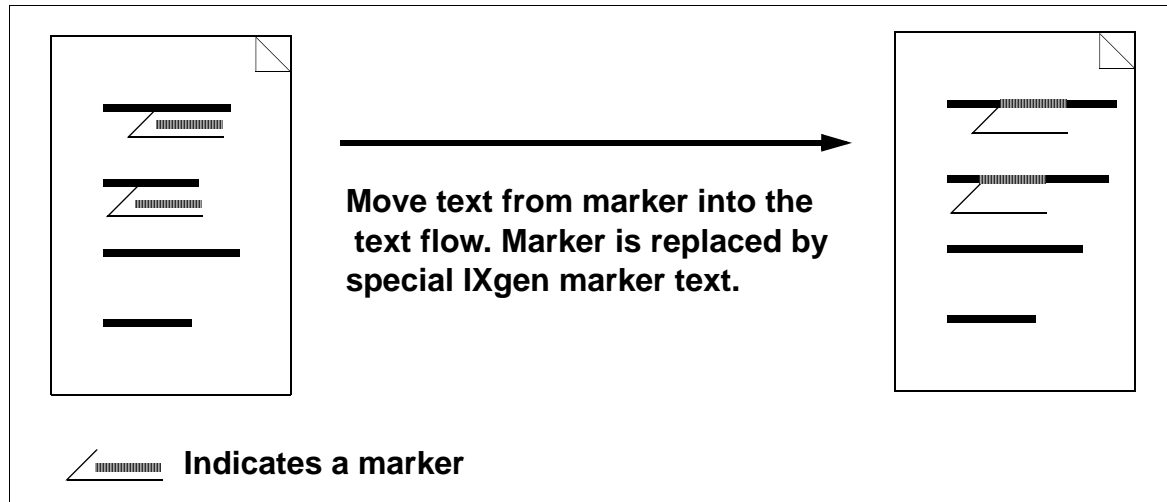
Control list files are provided so that you can extend the definition of what might be considered a “nonsense” rotation in your environment. For example, you can list words or phrase that if found in the marker, mean that the marker should not be rotated. Also, you can list words or phrases that become “atoms” and should not have any rotation points in them, but these can be rotated among other words as if they were a *single* word.

## Expand Markers

### Place marker text in main body text

**Purpose:** Make marker text visible in the current text flow so that markers can be seen in context. You can now freely see and edit marker text as regular body text. This function is useful for language translators or when certain keywords or phrases change in a document. When editing is completed, use **Collapse Markers** (described next) to return the marker text to actual markers.

**Method:** Marker text is extracted from the specified type of markers. The marker text is then placed in the text flow starting at the point where the marker was found. The marker text is assigned a special character tag called `IXgenMarker`. If `IXgenMarker` is not already present in the source file, the character tag is created by IXgen and inserted in the character catalog. The text for the existing marker is modified to indicate that IXgen has expanded the marker. Do not edit this new marker text. When you later collapse the marker text, this special marker text is replaced by the collapsed marker text.



**Figure 3 Expanding Markers**

## Collapse Markers

### Return expanded marker text to markers

**Purpose:** **Collapse Markers** returns text inserted into the a text flow by **Expand Markers** to regular markers.

**Method:** IXgen scans all flows for characters tagged with the `IXgenMarker` character tag. Each segment of text tagged with `IXgenMarker` is removed from the text flow and inserted into a the marker immediately preceding it, if the marker contains the special text resulting from an earlier **Expand Markers** operation.

If no suitable marker precedes IXgenMarker-tagged text, then **Collapse Markers** views the tagged text as “orphaned marker text.” Using the dialog box, you select whether orphaned marker text is skipped over, or collapsed into a newly created marker. You also select what type of marker to create.

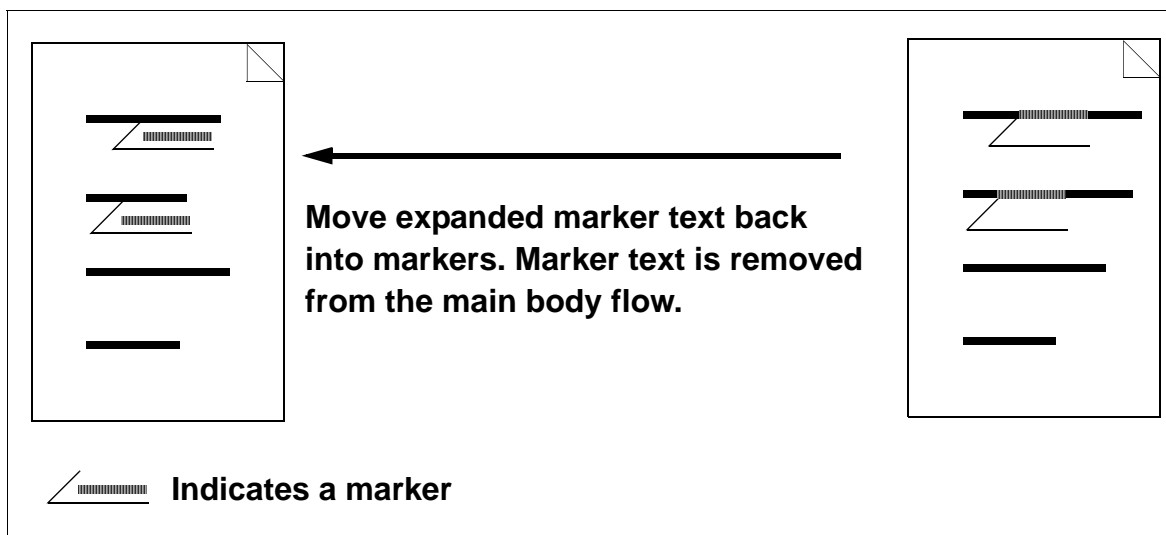


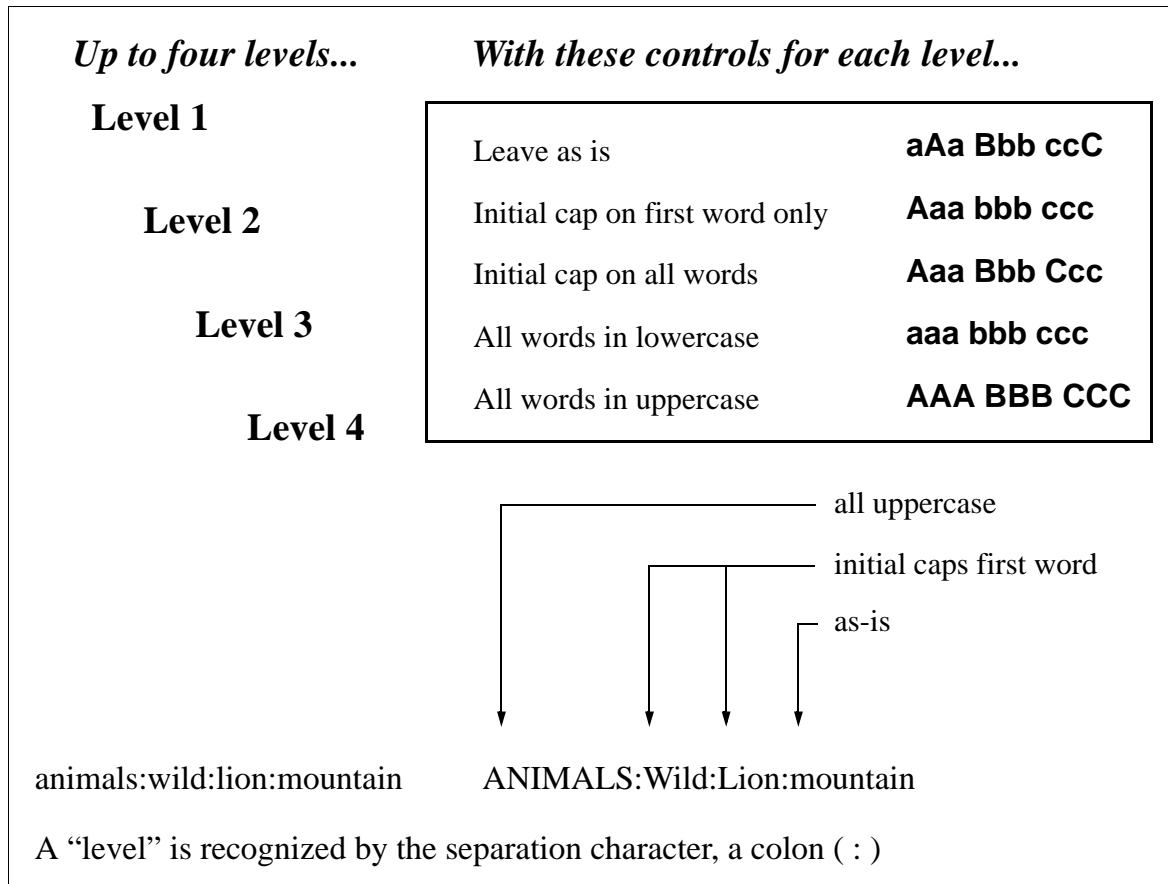
Figure 4 Collapsing Markers

## Capitalization

### Control capitalization standards

**Purpose:** Apply uniform capitalization standards to the markers in a marker list created by **Gen Editable Marker List**.

**Method:** You establish the capitalization standards for each level. IXgen then changes the case as dictated by those standards.



**Figure 5 Capitalization**

## Markers from Keywords

### Generate new markers by searching for keywords

**Purpose:** Find matches in a target document to keywords in a keyword list. At the point where a match is made, a new marker is generated with the keyword text (or text interactively selectable) as the marker text.

**Method:** You establish a list of search words or phrases. You also establish a companion list of marker text alternatives (up to five) to choose from when a keyword match is made. If you elect not to provide alternative companion marker text, the keyword itself is used as the marker text. When you select **Markers from Keywords** from the document menu, you can interactively decide whether to create

markers at matching keywords. If you are operating on a book, the command operates in batch mode, creating markers at all matching keywords without any confirmation from you.

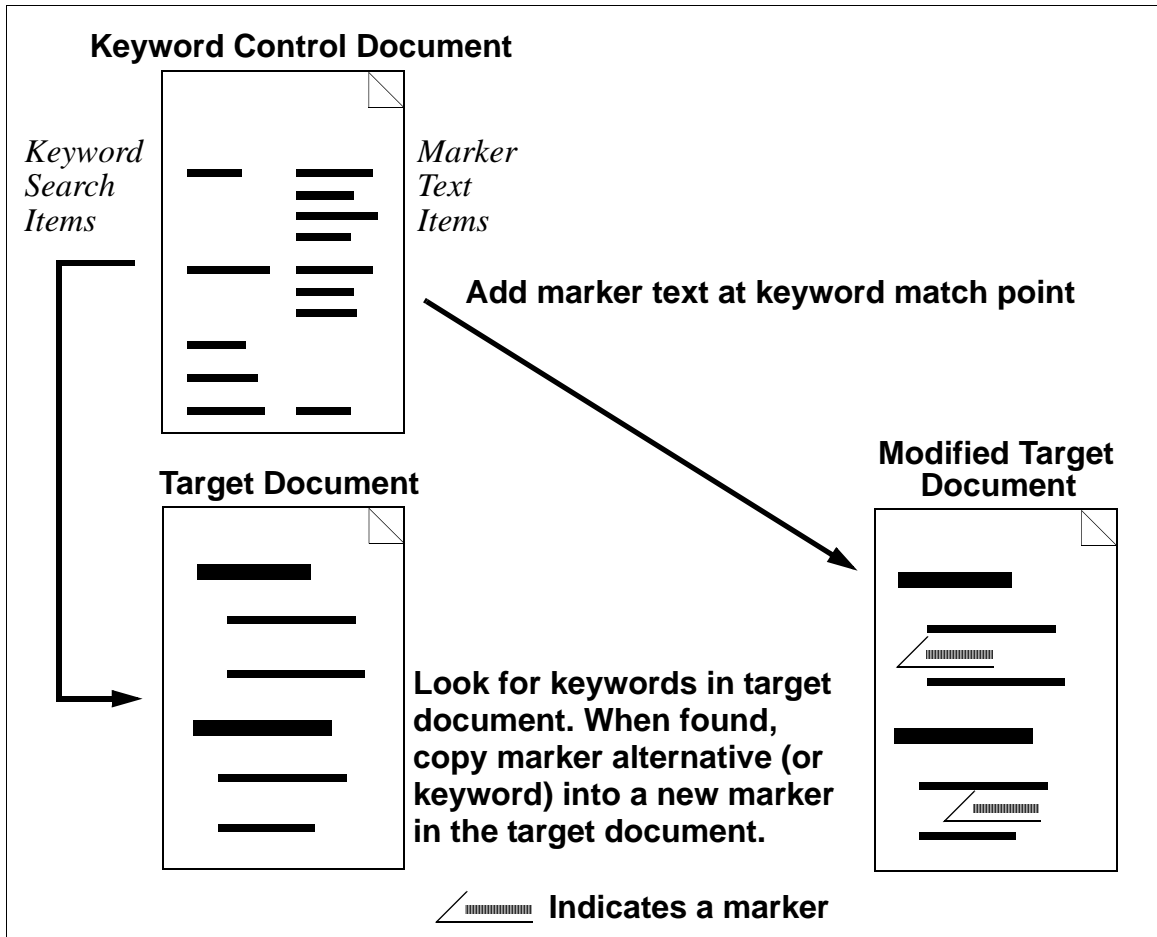


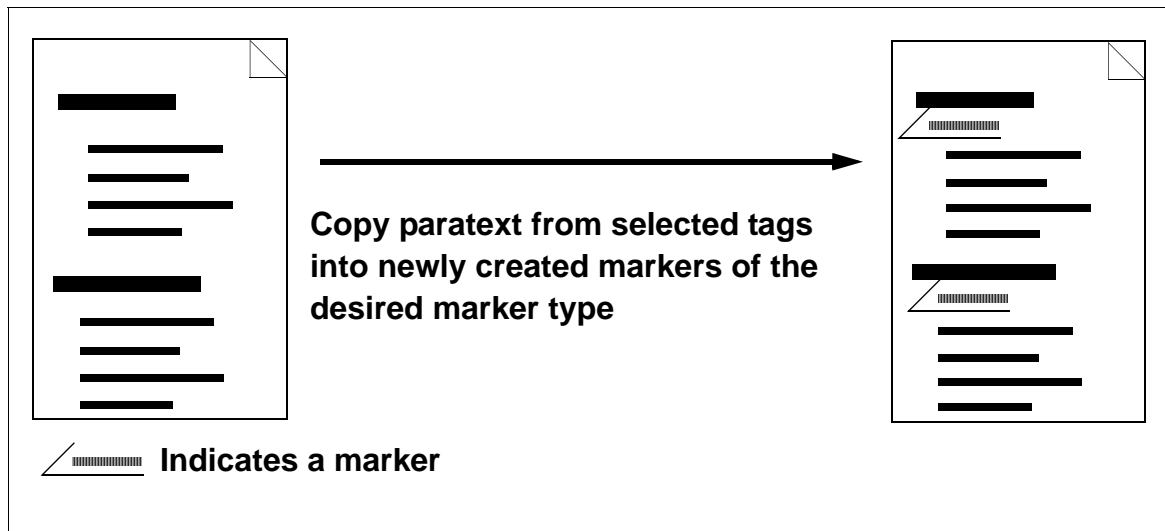
Figure 6 Generating Markers from Keywords

## Markers from Tags

### Generate new markers from selected para tags

**Purpose:** **Markers from Tags** provides an excellent way to introduce an initial starting base of markers into a new document. The text from selected paragraph tags is copied into a new markers. Selected paragraph tag types are usually chapter headings and subsequent first, second, and deeper headings, but you can select any tag type you wish.

**Method:** The document is scanned for the selected paragraph tag(s). When found, the paratext from the paragraph is copied into a new marker of the selected type. The marker is placed at the head of the paragraph.



**Figure 7 Generating Markers from Tags**

## Conclusions

1. IXgen provides a very fast and very efficient interface to the FrameMaker marker system. Time and frustration savings when working with markers, particularly index markers, can be great.
2. Time savings can be large enough to pay for IXgen licenses in a single day.
3. A demonstration version is available from us either by downloading from our web page or by us sending you a diskette (refer to "Obtaining a Demo Copy of IXgen" on page 6).

*FSA has been creating popular add-on productivity tools for FrameMaker since 1990.*



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