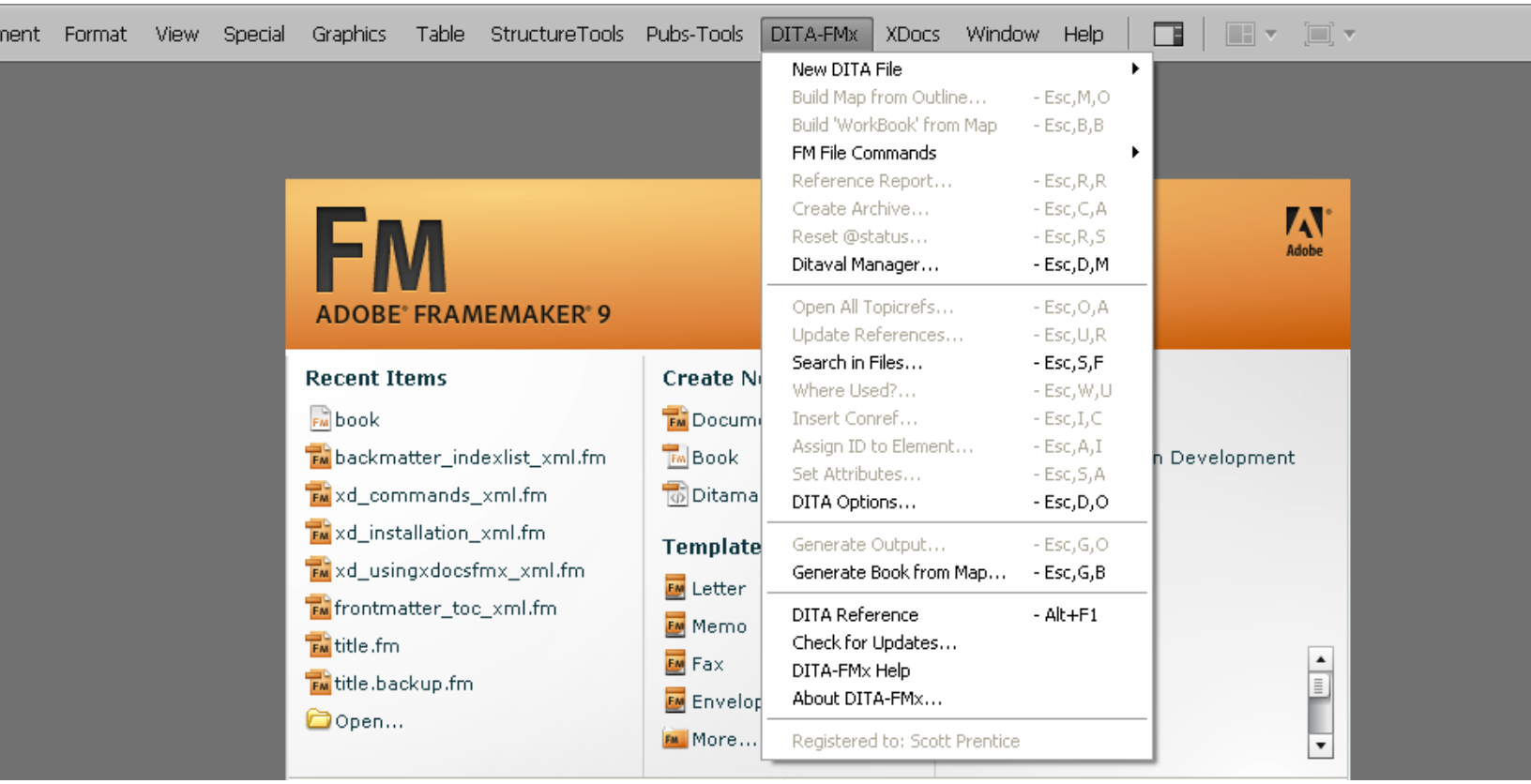

DITA-FMx User Guide

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Leximation, Inc.

DITA-FMx User Guide.
by Scott Prentice, Leximation, Inc.

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The most current version of this guide is available on the Internet at
http://docs.leximation.com/dita-fmx/1.1/

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1 Using DITA-FMx

Documentation last updated: 3 October 2010

Updated for plugin versions: authoring support client v.1.1.09; import/export client v.1.1.09.

RELATED LINKS:

"Features" on page 1
"Installation and Setup" on page 37
"DITA-FMx Commands" on page 81

Features

Describes the DITA map and topic authoring commands as well as the enhanced DITA publishing features.

DITA-FMx is a plugin and set of structure applications that let you create and edit DITA XML files in FrameMaker. DITA-FMx 1.1 supports DITA 1.1 and is available for FrameMaker versions 7.2, 8, and 9. DITA-FMx is provided by a collaboration of efforts from Leximation and Silicon Publishing.

For a complete list of changes between versions of DITA-FMx, see Revision History. The following describes the general features provided by DITA-FMx.

DITA Map and Bookmap Support

A Map structure application is provided that allows for creation and editing of both DITA map and bookmap files. When saved to disk, the resulting DITA map file is completely DITA-compliant, although within the FrameMaker authoring environment some additional elements are added to provide a more efficient authoring experience. This Map application also provides complete support for relationship tables.

The **Build Map from Outline** command creates a DITA map and optionally DITA topic stub files from a simple FrameMaker file.

The **Build WorkBook from Map** command creates a FrameMaker book file that contains all of the files referenced in the current DITA map and all submaps. This "work book" is not intended to be used for publishing, but facilitates the use of FrameMaker's built-in book processing commands such as spell checking and searching at the book level. In order to use these book processing commands on the work book you must first open all of the files in the book. This can be done with the **Open All XML Files in Book** command which provides the option to resolve references in each file, or open the files without resolving references.

Ditaval Support

Conditional filtering based on ditaval files can be applied to FrameMaker-based content (in books or files) using the **Apply Ditaval as Conditions** command. Ditaval files can also be specified for output generated through the Open Toolkit (using the **Generate Output** command). The **Ditaval Manager** provides an easy to use interface for creating and managing ditaval files. A ditaval file can also be specified when generating a FrameMaker book using the **Generate Book from Map** command.

Conref Support

Content references can be placed to reuse elements from the same file or other files on the same file system. If enabled (through the **Options** command) on the opening of a file, the content of any conrefed elements is resolved and displayed as a locked text range (similar to a text inset). The **Flatten Conref** command is available to "unlock" conrefs when saved as FM binary files.

Xref and Link Support

On the opening of a file, all xref and link elements are resolved and displayed as a locked text range. The auto-loading functionality may be enabled/disabled with the **Options** command.

When an xref or link element is inserted (from the element catalog), the Reference Manager dialog displays allowing you to select the target element for that element. Unless you enter text in the **Alternate Xref Text** field, the xref or link text will match that of the target element. The **External Xref** button lets you create an xref or link to an external file.

The **Xref to Hyperlink** command converts DITA-based xrefs and links into live hyperlinks in generated FM files.

DITA-FMx handles both DITA-based and FM-based cross-refs as both xref and link elements, for more information see Setting Up to Use Cross-References .

Attribute Management

The **Set Attributes** command provides quick and easy access to setting attributes on elements. This command makes use of the FrameMaker "Strings" attribute type and allows you to select one or more default values

that are applied to the attribute. This is particularly useful with the DITA filtering attributes. This command also makes use of attributes defined as the "String" type and allows you to predefine a list of available values that are displayed as a scrolling list.

Output Support

The **Generate Book from Map** command builds a FrameMaker book from a DITA map or bookmap. It creates aggregated FM files from the top-level topic references and their child topicrefs (appropriate FM files are created from "part" files as well as frontmatter and backmatter files). Also offers the ability to include FM binary files in the generated book so you can mix DITA and unstructured FM files as needed. This allows you to generate a PDF book of an entire map. Numerous options are available to automate portions of the book build, including the following:

- Add related-links from reltables as link or fm-link elements
- Reload variables (if previously "prepared")
- Convert xrefs/links into Hyperlinks
- Move indexterms in prolog to the topic title
- Apply ditaval as conditions to perform ditaval-based filtering
- Move fig/title elements to the end of a fig element
- Enable table title elements so they are used for tables that span multiple pages
- Flatten conrefs
- Assign numbering to the book component files based on their map element type
- In a bookmap, replace the "list" files with generated FM lists
- Apply templates to the book component files based on their map element type
- Run one or more custom FDK clients or FrameScripts
- Update the generated book and files

The **Generate Output** command provides the ability to run a specific target in an Ant script to generate output through the DITA Open Toolkit. One option lets you use a provided Ant script to generate output based on the current file (a topic or map), or another option lets you select a target in an Ant script that you provide. Using the Current File option, you can specify a ditaval file for filtering. For more information see, Generate Output.

Locating Content in Files

The **Search in Files** command lets you search for content in files within a folder (and sub-folders) or in files referenced by a DITA map. The search criteria can be a mix of textual content, element or attribute names, or attribute value.

The **Where Used** command generates a report listing all files that reference the selected element or current topic.

File Management

The **Reference Report** command generates a report of all referenced files in a DITA map or topic file (as well as all references in all referenced files). This report can list unresolved and/or resolved references, as well as specific reference types (topicref, xref/link, conref, and image).

The **Create Archive** command generates a ZIP archive of the current file and all referenced files.

Support for FrameMaker Variables

The **Prepare Variables** and **Rebuild Variables** commands make it possible to use variables in DITA files and have those variables available in the generated FrameMaker book files.

The "book-build" process provides the ability to import metadata (attributes and content values) from the map into the generated FM files as variables. This lets you update variables in the headers and footers as well as variables in binary FM files (like those used for the title page and other frontmatter).

Support for Graphic Overlay Objects in Anchored Frames

Textual callouts and graphic objects within an anchored frame will now round-trip from FrameMaker to DITA and back. The data to define these objects is stored in the DITA data element.

Options

An **Options** command provides the ability to specify the structure applications for DITA map and topic file authoring, the structure application used for the book processing, as well as control of various DITA-FMx options.

Context-Sensitive Help on DITA Elements

You can get context-sensitive help for DITA authoring by pressing Alt+F1. The DITA Reference displays the topic that relates to the element currently selected. If you have added elements through specialization, you can add information about your elements to the CHM file (the source is provided in the DITA Open Toolkit).

Specialization

DITA-FMx should fully support specialization (or at least not hinder it). If you have a specialized data model, you will need to make the parallel changes to your DITA EDD and r/w rules. The only effect of specialized elements is with regard to element names, and the only place DITA-FMx operates solely on element names is with the processing of tables (and in this case, additional table elements can be defined in the *ditafmx.ini* file). In all other cases, DITA-FMx processes elements based on their class name, so it should properly handle specialized elements. Since the conref feature only operates at the attribute level, it shouldn't care if an element has been specialized or not. The processing of xref and topicref elements is done based on the class value, so those should be fine.

Table Support

DITA-FMx pre-parses the DITA file on file open to count the number of columns in tables that have no column number attribute (required by FrameMaker to display a table). By default this supports reltable and simpletable elements, but can be extended to handle other table elements as specified by the user (via the Element Mapping button in the Options dialog). The column number data is used during file open to properly display those tables.

Indexterm Support

On file open, DITA-FMx converts indexterm elements to a FrameMaker-compatible syntax within Index markers. DITA specifies that index subentries are defined by nested indexterm elements. This feature collapses nested indexterm elements into a single semi-colon-delimited string within the top-level indexterm element which can be properly interpreted by FrameMaker and converted into an Index marker. This functionality keys off of the value of the class attribute, allowing it to work for specialized instances of the indexterm element. On file save, the Index markers are converted back to valid nested indexterm elements. DITA-FMx also supports the additional indexing elements introduced with DITA 1.1. If necessary, in order to support more complex element structures within indexterm elements, you can disable the conversion to markers.

Reference Support

All textual references (topic references, conrefs, xrefs, and links) are represented in FrameMaker as locked text ranges similar to text insets. These text ranges are not linked to text flows but are used as a means to lock a region of text and allow the user to click on the object. In order to maintain valid DITA files, DITA-FMx converts these text ranges to the appropriate XML structure on file save.

CMS Support

DITA-FMx seamlessly integrates with two content management systems: Bluestream XDocs and SDL Trisoft. DITA-FMx can also be used successfully with other systems. To learn more about this support and options visit www.leximation.com/dita-fmx/cms-support.php.

RELATED LINKS:
"DITA-FMx Commands" on page 81
"Revision History" on page 145
"Limitations" on page 6

Limitations

Known limitations in the current version of DITA-FMx.

The following list describes the currently known issues that apply to using DITA-FMx on all supported versions of FrameMaker (see below for version-specific issues):

- When generating an FM book from a map, you may get the following messages in the FrameMaker Log file:
  - XML Parser Message: **"ID '*TOPICID*' has already been used"**

    This message is caused when your topic files contain duplicate IDs. This can happen when you clone a topic file to create a new topic file or if you include the same topic in multiple places in the map. Both of these situations are valid as far as DITA is concerned, but FrameMaker doesn't like to see duplicate IDs in a single book. This is just a warning and can generally be ignored.

    The only situation where this duplicate ID issue will cause problems or possibly unexpected results, is when you have xrefs or related links to a topic where the ID exists in multiple places in a given chapter file. The reference will always end up pointing at the first instance of the ID in a generated FM chapter file.
  - XML Read Message: **"Cannot find the file (*FILENAME*) containing the imported graphic."**

    This message is caused when the target location for the generated book is a different relative location to the images than that of the source DITA file. When the book files are initially created, the images may not be resolved. After the files are created, a process runs

that relinks the topic files to the image files. Assuming that the image files are actually available, you should be able to ignore this message.

- The **Apply Ditaval as Conditions** command does not necessarily result in conditional filtering that matches that of the DITA Open Toolkit. The conditions are applied properly based on the filtering attribute values, but the default hide/show logic of FrameMaker conditions is not the same as the used by the OT. We plan to provide an additional command that will apply filtering that matches the OT logic in a future version of DITA-FMx. In the mean time, it may be possible to achieve this filtering through the use of Boolean conditional expressions.
- Indexterms with multiple child elements that are siblings, will not round-trip properly. On import, the sibling indexterms are incorrectly converted into FM index syntax, which means the exported indexterms will be nested rather than siblings. A workaround is to disable indexterm conversion on import and export (although this will not allow you to generate a FM index). This may be fixed in a future update.
- Xrefs within the link/desc element will not resolve properly on file open. After file open, running the Update References command will resolve these references. This may be fixed in a future update.
- Backslashes used in an external xref (either in the link text or in the @href value) will not render as expected. You should use forward slashes if at all possible. This is due to a FrameMaker limitation and cannot be resolved.
- The Generate Book From Map command disallows the building of a book from a DITA map that references files on multiple disk drives. This appears to be a core FrameMaker limitation (but this probably isn't a good idea anyway).
- If an XML file is "pretty-printed" and a line breaks after an inline element (such as a <ph>), when opened in Frame the space between that element and the following word will be lost.
- Child elements within an xref or link are lost on import if the Auto-Load Xrefs option is enabled. If your xrefs contain child elements, disable this option.
- For the Apply Ditaval as Conditions command, currently only the "prop" ditaval element is supported. Other elements may be recognized in a future release if that is seen as beneficial.
- Conrefs within titles won't be included when you run the Update References command in a DITA map unless the target file is already open. If you have conrefs in your titles, you should open the file first before running the Update References command.

- Deleting an fm-reflabel element from a DITA map file without deleting the entire topicref, may result in the "plus" symbol being left in the map. This is a temporary issue and will go away the next time you open the file; it has no effect on the ability to process the files.
- When using the Spelling Checker in DITA (or any XML) files, the "Allow in Document" option will only be valid for the time that the document is open. When you save, close, and reopen the file, those "allowed" words will be lost. This is due to a FrameMaker limitation which stores the allowed words in FM binary documents only. Using the "Learn" option will add the word to the user dictionary for future sessions.

Issues that relate to using DITA-FMx with FrameMaker 9:

- FrameMaker 9 includes a number of "Save Ditamap As" options that are not functional when DITA-FMx is installed (because the FM9 DITA support is uninstalled). The following SaveAs options are not supported:
  - Composite Document
  - Book with FM Components
  - PDF
- The four left-most buttons on the Resource Manager (map editor) toolbar are non-functional when DITA-FMx is installed. We are looking into options for enabling them, but for now you must use the element catalog to insert topic referencing elements (topicref, chapter, appendix, etc.).

Issues that relate to using DITA-FMx with FrameMaker 8:

- A bug exists in FrameMaker 8 (and FM7.2) that causes it to crash if more than approximately 350 XML files are opened in the same session. In normal authoring use this limitation does not cause any problems, but if you are publishing a book that contains more than 300 topics, it is very likely that you'll run into this problem. The only workaround is to convert your maps into a book in multiple segments and assemble the final book once all of the components have been built (restarting FrameMaker in between each build). DITA-FMx displays a warning after opening more than 300 files to remind you to restart FrameMaker. This bug has been fixed in FrameMaker 9.

Issues that relate to using DITA-FMx with FrameMaker 7.2:

- In the FM7.2 version of DITA-FMx, double-byte characters are garbled in the fm-topicreflabel elements, and don't update properly.

Using DITA-FMx for DITA authoring in binary FrameMaker files is not recommended. Many of the features of DITA-FMx rely on the files being XML (allowing them to be parsed on disk). The following are reported issues, but there may be others:

- A file that can't be opened due to missing fonts or images and it is the target of a conref or xref, the Reference Manager won't display when the conref or xref is double-clicked. This can be resolved by opening the referenced file before double-clicking the conref or xref.
- Double-clicking a conref then choosing Update, will delete the conref.

Please send any problems or suggestions to <ditafmx-help AT leximation DOT com>.

RELATED LINKS:
"DITA-FMx Commands" on page 81
"Features" on page 1

Tips and Troubleshooting

Tips for making the most efficient use of DITA-FMx.

The following list describes common and useful tips for working with DITA-FMx. For additional information, please visit the FrameMaker/DITA Community KB at kb.leximation.com/dfm/.

If you have tips or suggestions you'd like to share, please send them to <ditafmx-help AT leximation DOT com>.

Do you often choose the wrong application when opening a map?

Because both the Book and Map applications use the "map" doctype, it is easy to mistakenly choose the Book app when opening a map file. The applications are listed in the "disambiguator" dialog in the order that they are entered in the structure applications definitions file. If you move the Map app so it is before the Book app, you'll reduce the chance of choosing the wrong app.

NOTE: *The default DITA-FMx Book application no longer references the topic or map doctypes. This application is still used for book publishing, but will no longer show up in the Use Application dialog.*

Supporting round-tripping of image sizes.

To support the proper sizing and placement of image elements, certain read/write rules must be defined. If you're using a custom or older structure application, the height and width rules may not be properly defined. Refer to the image topic for the proper rules.

Making use of page-wide tables.

If you want a table to extend to the full width of the text frame, set the table/@pgwide attribute to 1.

Using FrameMaker variables with DITA

User variables will round-trip properly in topic files provided the following points are observed (system variables will not round-trip):

- Do not name your variable with other than alphanumeric, underscore, or hyphen characters, and do not use a numeric character as the first character in the name.
- Be sure to add the variable definitions to the application's template file, to ensure that any character formatting is properly applied. Note that this formatting will only be visible in print (or PDF) output from FrameMaker since it has no element structure.
- Variables will not live through the map to book process. If you want to have live variables in your generated FM files, you need to use the Prepare Variables command.
- If you use the Prepare Variables command and feel inclined to set attributes on the <ph> elements that wrap the variables, don't do it. The <ph> wrappers are temporary and are deleted each time the Prepare Variables command is run. If you want to apply filtering or other attributes to variables, wrap them in a <ph> element and apply the attributes on that element.

NOTE: *Using FrameMaker variables is not really considered to be a "best practice" although there may be situations where it is an ideal solution for a particular problem. The proper DITA way to use "variables" is that of a conref to a phrase element.*

Heavy use of references slowing things down?

If you make heavy use of references (conrefs or xrefs), you may find it more efficient to open the target files first (those that are the destination of an xref or the source of a conref). If the target files are already open when you open topic files, the referencing process will go much faster.

Reference problems while converting unstructured content to DITA

While converting an existing set of unstructured files into DITA, you may want to disable the auto-loading of xrefs and conrefs. If auto-loading is enabled you may get a lot of referencing errors when opening files if the target of those references is not a completely valid file.

Conrefs in title elements

If you have titles that contain conrefs, be sure to have that file open when updating the DITA map file, otherwise the conref content will not appear in the topicref label.

Use of inline formatting within "preformatted" elements (like codeblock)

FrameMaker uses the read/write rule "preserve line breaks" to allow the line breaks within code or preformatted elements to round trip between XML and the authoring view. The use of inline child elements such as <b> or <i> within a preformatted element poses a particular problem since you generally don't want line breaks preserved for those child elements when used in non-code situations. There are a number of ways to handle this problem, but the easiest is to only apply these inline elements within a line (don't tag multiple lines), and don't let the child element start at the beginning of the line (allow at least a leading space before the inline element starts and ends). What appears to be a Frame bug causes the preserved line break to be lost if a child element starts or ends a line.

Use of draft-comments inline

If you make use of the draft-comment element within running text, be sure to wrap a trailing (or leading) space within the element so that when (or if) you conditionalize these elements so they are hidden in Frame, you don't end up with a double space.

Quick way to add a row to tables

Place the cursor anywhere in a row, press Ctrl+Enter and a new row is added after the current row.

Spell checking XML files

When spell checking XML files, the Allow in Document option has no effect once you close the current file. The "document dictionary" is not saved in XML files. If you want Frame to remember a particular spelling you should use the Learn option.

RELATED LINKS:

"image" on page 63
"Working with Images" on page 17
"DITA Options" on page 102
"INI-Only Settings" on page 74
"Prepare Variables" on page 85
"Rebuild Variables" on page 86

Using the Reference Manager

Lets you select a conref, xref, or link target by specifying the file, element type, and element.

The Reference Manager is displayed when inserting a conref, xref, or link. To insert a conref, choose **Insert Conref** from the DITA menu, to insert an xref or link, use the Element Catalog. Note that the Reference Manager is only displayed for xref or link elements if they are defined as a "Container" rather than a "Cross-Reference" element in your EDD.

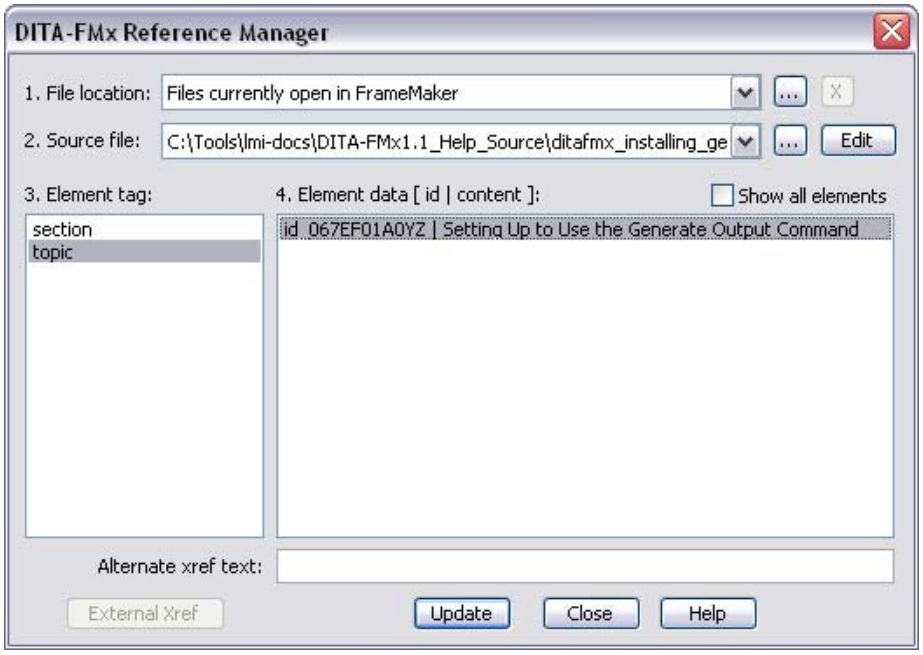


Figure 1-1: DITA-FMx Reference Manager

To insert a reference of any kind, first specify the file that contains the reference source. To select a source file, specify the file location using the File Location list. This list will initially only contain the label "Files Currently Open in FrameMaker" but you can choose the Browse button ("...") to add additional folders to this list for quick access to files in those locations. Selecting "Files Currently Open in FrameMaker" will display those files in the Source File list. Selecting another file location will list all ".xml" and ".dita" files in that folder. If you want to place a reference to a file that is not open, use the Browse button ("...") to open another file.

By default the Element Tag list displays only elements that have id attribute values in the source file. For conrefs, this list is further restricted by displaying only elements that are valid at the current insertion point. If you want to limit the xref or link targets to a specific list of elements, use the XrefElements parameter in the *ditafmx.ini* file (for details, see INI-Only Settings). When you select

an element tag name from the list, the available target elements display in the Element Data list. By default, only elements that have an 'id' value are available, but if you select the Show All Elements option, you will be able to select from all available elements of the selected type (this option is only available if the "Files Currently Open in FrameMaker" file location is selected). The elements are listed with their 'id' and textual content. To place the reference, select an element and choose the Insert button. If you have selected an element that does not have an 'id' value, you will be prompted to provide an 'id' for that element (the 'id' is written to the source file, so be sure to save that file before exiting). If you want to specify text for the xref that is different than that of the target element, enter that text in the Alternate Xref Text field. To insert an xref to an external file, choose the External Xref button.

If you double-click a conref or xref, the Reference Manager displays with the current reference selected. Choosing the Replace button inserts a new reference using the selected criteria in place of the old reference.

NOTE: *Replacing an existing reference removes any existing locally applied attribute data.*

Conrefs are inserted as a locked range of text (like a text inset) and are tagged with the "DITA-Conref" color. By default this color is defined as blue, but because it is defined in the template, you can change it to suit your needs.

Xrefs and links are also inserted as a locked range of text, but no coloring or formatting is applied other than that specified by your structure application (EDD or template). When an xref or link is created or modified, the type attribute is set to the name of the target element, the format attribute is set to "dita," and the scope attribute is set to "local."

TIP: *If you'd like more of the title text visible in the Reference Manager, enable the "Use Wide Reference Manager" option in the DITA-FMx Options dialog.*

External Xref

Choose the External Xref button in the Reference Manager dialog to insert an xref or link that references files outside of the documentation set. Specify the xref target (the href attribute value) and the xref link text (the content of the xref element), as well as the value for the scope attribute ("external" or "peer"). For URLs, the format attribute is set to "html," but for other types of file references the format attribute is set to the value of the file extension. For example, if you set the href attribute to "InstallGuide.pdf" the format attribute will be set to "pdf".

Once an external reference has been created you can modify it by double-clicking the xref.

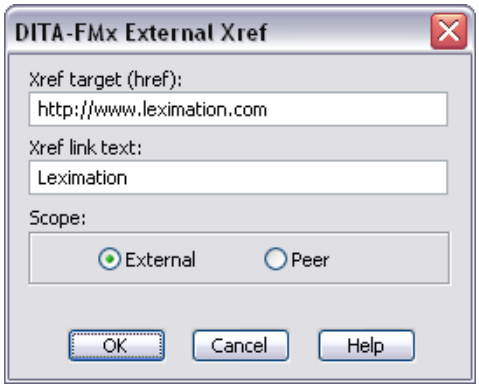


Figure 1-2: DITA-FMx External Xref dialog box

RELATED LINKS:

"INI-Only Settings" on page 74
"Update References" on page 93
"Insert Conref" on page 97
"Setting Up to Use Cross-References" on page 70

Filtering Content

Tips for filtering and conditionalizing content in topic files or maps.

DITA-FMx provides many ways to filter the content in your DITA files. The auto-conditionalizing options apply conditions to elements each time you open a file, and the **Apply Ditaval as Conditions** command can approximate the effect of applying a ditaval file to a topic file or book. You can also achieve filtering when generating a FM book from a DITA map by modifying the Book application's read-write rules file.

Auto-Conditionalizing Elements

There are four options for applying conditions to elements on file open. The **Conditionalize Prolog on File Open** and **Conditionalize Comments on File Open** options apply the DITA-Prolog and DITA-Comment conditions to the respective elements each time you open a topic file. The **Conditionalize data and data-about on File Open** option applies the DITA-Data condition to data and data-about elements when opening a topic file or DITA map file.The **Conditionalize Topicmeta and Bookmeta on File Open** option applies the DITA-Topicmeta to the topicmeta element when opening a DITA map file. On

file save, these conditions are stripped (all other conditions you may apply will honor the Conditional Text setting in the structure application definition).

The term "Conditionalize" does not necessarily mean to "hide," it just means that the associated condition will be applied to the elements. It is up to you to set the hide/show state as well as the color and style for these conditions (in the structure application template).

When any of these options are enabled, the plugin does a "show all" then a "hide" of the appropriate conditions when the XML or FM file is opened. If the file makes extensive use of conditions, this may result in the addition of blank pages at the end of the document. For XML files, this is not a problem since the blank pages are not saved, but if you're working on generated FM files, you may end up with extra blank pages that you can't get rid of (each time you save then reopen, the blank pages will reappear). If this is the case, you should disable the auto-conditionalizing options when doing final pagination on generated FM files.

Ditaval Filtering

In order to filter content in FM files based on a ditaval file, you should use the **Apply Ditaval as Conditions** command. Before using this command you need to first create the ditaval file (using the **Ditaval Manager** or other means), then register it with the **Ditaval Manager**. Once the ditaval file has been registered with DITA-FMx, you can use it with the **Apply Ditaval as Conditions** command. Detailed information about using this command is available in the Using the Apply Ditaval as Conditions Command topic.

Although, not a requirement, it is best to use this command only on generated FM files, not on your DITA XML files. If you use it on the XML files, the conditions are saved to the XML as processing instructions (PIs) and will persist in the state set the next time you open the file (this persistence is dependent on the Conditional Text setting in the associated structure application definition).

When you generate an FM book from a DITA map, these PIs are filtered out during the import XSLT processing and not included in the generated FM files. However, any conditions that have been applied to content that is the source of a conref, will appear in the generated FM files because the conref source is not passed through the import XSLT processing, but pulled in by the conref resolution process which happens after the initial topic file aggregation. This results in an FM file with some conditions that appear to have survived the conversion while other have not. This confusing situation can be avoided by not applying conditions to the XML files.

Regardless of whether you have applied conditions to the XML files or not, you can still run the **Apply Ditaval as Conditions** command to apply conditions based on the properties in a ditaval file.

Filtering with the Read-Write Rules File

If there are certain elements that you want to exclude from your generated FM book files, use the "drop" rule. For example, if you want to exclude the shortdesc element from your generated files, add the following rule to the Book application's rules file:

```
element "shortdesc" drop;
```

This results in the shortdesc element being removed from the generated FM files while it remains in the source topic files.

RELATED LINKS:

"DITA Options" on page 102
"Ditaval Manager" on page 92
"Apply Ditaval as Conditions" on page 88
"Using the Apply Ditaval as Conditions Command" on page 16

Using the Apply Ditaval as Conditions Command

Steps for using a ditaval file to apply conditional filtering to topics.

PREREQUISITE

The ditaval file must be registered with DITA-FMx. To create a new ditaval file or register an existing ditaval file, use the Ditaval Manager.

TASK

1. Open the document or book to apply the condtions.
2. Run the **DITA-FMx > Apply Ditaval as Conditions** command.
3. In the Apply Conditions dialog, select the ditaval file to use from the list box.
4. For each "action" type defined in the ditaval file, set up the options in the appropriate "action=" section.

   ADDITIONAL INFORMATION: For example, if your ditaval file contains two prop elements where each action attribute is set to "exclude", you need to decide if the condition to apply to the matching elements should be a specific name (one name for all "excluded" elements) or if you want it to apply a unique name for each prop element. If you're OK with using a single condition name, just select the radio button under Condition Name and enter that name in the text box. If you'd like a unique name for each prop element, select the "<attri-

bute>=<value>" radio button. This will make two conditions (one for each prop element), and apply each to the corresponding elements.

Select the visibility option for the condition. You can always change the visibility after applying the conditions using the standard FrameMaker condition management commands.

5. Choose the OK button to apply the conditions.

RELATED LINKS:

"Apply Ditaval as Conditions" on page 88

Working with Images

Information and tips regarding the image handling features.

When an image is added by inserting an image or fig element, the anchored frame is "shrink-wrapped" to the size of the image. The relative path to the image file is added to the href attribute and the height/width in pixels is added to the height and width attributes. When an image is added the initial value of the placement attribute matches that specified as the default in the EDD, unless the image is auto-inserted as the result of inserting a fig element in which case the placement attribute is set to "break." For images where the placement attribute value is "break," the initial alignment is set to match that of the default value of the align attribute as defined in the EDD; no alignment value is set for "inline" images.

You can change the alignment after inserting the image by editing the value of the align attribute or by selecting an alignment option in the Anchored Frame dialog (**Special > Anchored Frame**). The height and width cannot be set through the attribute value; they can only be changed by re-importing the image using a different scaling, or by changing the properties through the Object Properties dialog. The href attribute also cannot be changed through the attribute value.

If you do not want any height/width values associated with an image, deleting those attributes in the XML or Frame document will result in the image element being written with no values for height and width which uses the "native" (default) size of the image. This is often desirable for output being generated as HTML.

If you want to use the native size of raster images for output generated through the Open Toolkit but want to use a specific DPI for output generated from FrameMaker, add an "fmdpi:<DPI>" attribute value to the image/@otherprops attribute, where <DPI> is the DPI value. Adding this value to the otherprops

attribute allows the DPI setting to round trip from XML to Frame and it will only be used by FrameMaker; other output processes will see no height and width values and will use the native image size. Adding this value to the other-props attribute deletes any value set to the height or width attributes.

If you want to use the fmdpi feature for all raster images, enable the "Use fmdpi" setting in the Options dialog. This will set the fmdpi value to the DPI value you select when importing the image. The fmdpi value is only set for raster images; this feature is not avalable for vector images.

NOTE: *If your images sizes are not round-tripping properly, your read/write rules file probably needs to be updated. Refer to the image topic for the proper rules, especially with regard to the height and width attribute definitions.*

Baseline Offset of Inline Images

By default, the baseline offset for inline images is set to "2pts" (this shifts the image 2 pts below the baseline of the surrounding text). If you want to set this property to a different value, set the value of the BaselineOffset key in the INIOnly section of the *ditafmx.ini* file to the appropriate value. This property is only applied to inline images. Setting the "baseline offset" property in the read/write rules file has no effect.

Special Handling of Alternative Text (image/alt)

Content of an image/alt element is stored in the image/@alt attribute while being edited in FrameMaker. To modify the alt element content edit the @alt attribute. Because this content is stored in an attribute, any attributes on the alt element or child elements of the alt attribute are discarded when the file is opened in FrameMaker.

Graphic Overlay Objects

As of DITA-FMx 1.1, you can now include callouts and other graphic overlay objects in your DITA files. Although this is not specifically supported in DITA, the data to round-trip these objects is stored in nested data elements immediately following the image element within a fig. This support is only available for images that are child elements of a fig element.

DITA-FMx supports the following types of graphic objects as overlay objects within an anchored frame:

- Line

- Arc
- Polyline
- Rectangle
- Rounded Rectangle
- Oval
- Polygon
- Text Line
- Text Frame (limited support)

Note that a Text Frame can only contain a single paragraph and the only property that will be saved is the horizontal alignment. Other types of nested frames are not currently supported. Additionally, the object grouping mechanism is not supported.

If you plan to edit callouts as XML (for localization or other purposes) you should not use the Text Line object. The dimensions of the text are stored in the data elements and will not update when you change the actual text. The result will be that the callout remains the same size with the text stretched or compressed to fit into the same area. If you plan to edit the callout text as XML, you should use the Text Frame object which defines the bounds of a region in which the text will flow.

The data stored in the nested data elements is very FrameMaker-specific, but can be translated into other formats such as SVG with a little effort. If your image element is within a fig element and contains graphic overlay objects, a data element will be inserted immediately following the image element. This data element will have the @datatype attribute set to "fm:imagedata". Within this data element will be a child data element for each of the graphic overlay objects, and each will have a @datatype attribute set to a value appropriate for the object type (e.g. "fm:textline" for a TextLine object and "fm:polyline" for a Polyline object).

When written to XML, all of these data elements will be empty elements (just specifying @name and @value attribute values) except for the text of a Text Frame object. Because this content is likely to be modified for localization purposes, it is written to XML as content of the data element. On import to FrameMaker, this is converted to a data/@value.

Within each of the child data elements will be additional data elements that represent the properties of that object. The @name attribute will be set to the property name and the @value attribute will be set to the proper value. For some properties the value may be a very large numeric value, this is a FrameMaker "MetricT" value (this has nothing to do with the metric measurement system).

When used for linear measurement, value of 65536 is equal to a point (1/72 inch).

RELATED LINKS:

"image" on page 63
"INI-Only Settings" on page 74

Working with Tables

DITA provides tables for many situations. Learn how to make them look the way you want.

If you are using the default DITA-FMx structure applications, all tables regardless of their type are set to use proportional widths. This means that the table will expand to fill the width of the current column and all cells within the table will proportionally fill the table based on the widths you assign.

If you want to be able to specify absolute widths for tables, you need to comment out or delete the `writer use proportional widths` rule in the read/write rules files (*topic_1.1.rules.txt* and *book_1.1.rules.txt*). After commenting this line out it will look like the following:

```
/* writer use proportional widths; */
```

NOTE: *This setting affects all tables of all types that use the rule file's structure application. You cannot have some tables that are proportional and some that are absolute.*

You will also need to edit the *ditafmx.ini* file and change the value of ForceTablesWide from 1 to 0. A setting of 0 disables this feature and a setting of 1 enables it, forcing all tables to fill the column width. This setting is used to overcome an apparent bug in FrameMaker where under certain circumstances a table would not always fill the width of the column. Setting this to 0 disables this feature and lets FrameMaker work as it does by default.

```
[INIOnly]
ForceTablesWide=0
```

If you'd like a specific table to fill the width of the text frame (overriding the margins or indents), set the table element's pgwide attribute to 1. This attribute is only available for tables of type table.

A number of the DITA table types are specializations of the simpletable element. When simpletable-based elements are encountered during the import process, FrameMaker needs to be able to count the number of columns in each table. This information is typically stored in attributes within the table element,

but the DITA specification does not provide this type of attribute for simpletable-based tables. The DITA-FMx Options dialog provides access to the Element Mapping dialog which defines the structure of the default simpletable-based tables, and allows you to define the structure of any specializations you create.

RELATED LINKS:

"Element Mapping" on page 114
"INI-Only Settings" on page 74

Working with Indexterms

Special issues regarding the creation of index entries (indexterm and fm-indexterm elements).

With DITA 1.1 came the introduction of some additional indexing elements. The indexterm element can now contain the index-see, index-see-also, and index-sort-as elements which provide additional indexing features.

DITA-FMx supports the use of these elements in FrameMaker by mapping them to the appropriate Index marker syntax, if the Indexterm to fm-indexterm option is enabled (in the Options dialog). When the Indexterm to fm-indexterm option is enabled, you must use the fm-indexterm element rather than indexterm.

In general, the process of creating an index entry works as it does in unstructured FrameMaker. Inserting an fm-indexterm element displays the Insert Marker dialog where you type the index entry using the standard FrameMaker index syntax. On file save, this marker syntax is converted into the proper DITA indexterm structure. When opened again in FrameMaker, this is converted to the FrameMaker marker syntax as an fm-indexterm element. When creating an index entry, feel free to enter multiple entries in a single Index marker (separated by semicolons and using the standard FrameMaker marker syntax). When you reopen the file in frameMaker, you'll see multiple fm-indexterm elements, because he single Index marker is converted into separate indexterm elements.

In order to properly round-trip the "see" and "see-also" index entries, you need to include specific character styles within the marker syntax. For example to make a "see" entry, you would use the following syntax that uses the "ix-see" character style:

```
<$nopage>ONE:TWO. <ix-see>See</> SOMEWHERE, ELSE
```

To make a "see-also" entry, you would use the following syntax that uses the "ix-seealso" character style:

```
ONE:TWO;<$nopage>ONE:TWO:<ix-seealso>See also</>
SOMEWHERE, ELSE
```

These character style names are defined in the Index Options dialog, so you can change them as needed. However, if you do change them, be sure to create the appropriate styles in the Topic and Book templates (“ix-see” and “ix-seealso” are the defaults).

The only way for DITA-FMx to know when you want an index entry to be a “see” or “see-also” is by entering the marker text in a specific way and to use these predefined character styles. If you enter the marker text differently, it may not properly convert into the DITA indexterm structure. Also note that after being saved to DITA and re-opened in FrameMaker, the marker text may vary slightly from what you entered (just punctuation and structure, not content). The Index Options dialog provides a number of options that allow you to define the way the indexterm content converts into the FrameMaker marker syntax.

The DITA indexterm structure allows for elements that have no direct parallel in FrameMaker. If you need to work with very complex indexterm structures, you should disable the “Indexterm to fm-indexterm conversion” option in the Options dialog. This will give you access to the full array of elements provided by DITA and you'll be able to insert an indexterm element (as a container object, not a marker) and enter the specific DITA elements that you need. This is required if you want to use any non-index elements as children of an indexterm.

RELATED LINKS:
"Index Options" on page 115

Working with Maps

General information on creating maps and bookmaps, and how they work in FrameMaker.

The default Map structure application (DITA-FMx-Map-1.1) allows for creation and editing of both DITA map and bookmap files. When saved to disk, the resulting DITA map file is completely DITA-compliant, although within the FrameMaker authoring environment some additional elements are added to provide a more efficient authoring experience. These elements have an “fm-” prefix.

DITA maps are the fundamental mechanism provided by DITA for organizing topics into deliverables (PDFs, online Help, HTML, etc.). A separate map can be created for each deliverable type or a single map can be used for multiple deliverables. Maps organize the topics into a logical hierarchy using topic referencing

elements (topicref for a "map" and chapter, appendix, topicref, and others for a "bookmap"). A topic referencing element can also reference other maps, allowing you to create multiple levels of nested maps as appropriate for your topic organization and workflow.

All DITA map files (both map and bookmap) must use the ".ditamap" file extension. This is a requirement enforced by the DITA Open Toolkit and is also required by DITA-FMx.

On the opening of a DITA map file, all topic referencing elements are updated to include a child fm-reflabel element that displays a label within a locked text range. This label is the target topic's title (based on the value of the navtitle attribute), filename, or both. If the referenced file is not available, the label "FILE NOT FOUND" is displayed. When you double click the label, the referenced file opens for editing. These labels are formatted with a character style named "DITA-Topicref," you can change the color and formatting of topic references by modifying the character style definition in the template file.

Basic Map Structure

The DITA map file uses the map element as the root node. This type of map was the only map type available in DITA 1.0. In DITA 1.0, the map title was defined by the map/@title attribute, but with DITA 1.1, the map element can now include a child title element instead of the title attribute. DITA-FMx will honor either type of map title.

Following the title is an optional topicmeta element which can contain various elements that define metadata for the map. This metadata may define copyright or other legal information regarding the publication, as well as keywords or online Help IDs. The type of metadata used in a map will generally be defined by the deliverable format and the method the output is generated.

The only topic referencing element in a map is topicref. Insert a topicref element and associate it with the target topic. To create a topic hierarchy, insert new topicref elements as children of a parent topicref. If you are creating a FrameMaker book from a map, keep in mind that the "top-level" topicrefs (those that are immediate children of the map element) will become chapter FM files. Any child topicrefs will be added to the chapter files as sub-topics.

One or more relationship tables can be added after the group of topicrefs. A relationship table defines relationships between topics, and is the preferred method for defining topic linking (over the use of inline cross-references). Relationship tables are defined by the reltable element (which is represented by a standard FrameMaker table), and topicref elements within the table cells. You can create relationship tables with any number of columns, but typically they will use two or three columns.

The simplest and easiest to understand is the 2-column uni-directional reltable, where the topics (defined by topicrefs) in the left column will link to the topics in the right column. To create this type of reltable, insert a reltable with two columns (the number of rows doesn't matter, you can add more as needed). Then locate the first relcolspec element (this will control the first column's specifications), and set the linking attribute to "sourceonly." Locate the second relcolspec element and set the linking attribute to "targetonly." The selected values will display in the table heading (along with the value of the relcolspec/@type attribute if provided). Insert topicref elements in the table cells to create related-links between the specified topics. If you create a reltable without setting the relcolspec/@linking attributes, the resulting links will be bi-directional.

Bookmaps

The bookmap is a new type of a DITA map that was introduced with DITA 1.1. It allows you to create a hierarchy of topic references that resembles the structure of a printed book. The general order of elements in a bookmap is similar to that of the map, although in many cases the element names will be different. The title of a bookmap can be bookmap/title or bookmap/booktitle. The bookmap's metadata is stored in the bookmeta element (very similar to the topicmeta of the map).

The most significant difference between the map and bookmap are the topic referencing elements. A bookmap provides many specialized topic referencing elements for book-specific purposes that group topicrefs into logical sections.

The first logical grouping is the frontmatter element. The frontmatter element can contain a number of topic referencing elements (including topicref) that specify topics that are part of a book's frontmatter. A similar backmatter element can be added at the end of the book. One of the special elements in the frontmatter and backmatter is the booklists element.

The booklists element (a child of the frontmatter and backmatter elements) can contain one or more "list" elements that are intended to provide generated lists (similar to the FrameMaker generated list files like a "toc" or "index"). Using DITA-FMx, when you insert an element that is a child of booklists, you are not prompted for a target file name. Instead you are prompted for the folder that will contain a placeholder topic file that defines the location that the generated list file will be created. DITA-FMx creates a simple topic file in the specified folder using the file name *frontmatter_<elemname>.<extension>* or *backmatter_<elemname>.<extension>*. Where <elemname> is the name of the inserted "list" element and <extension> is "dita" or "xml" depending on what you've specified in the Options dialog as default file type. The name of the list element is used as the @navtitle value, and the element is inserted into the map.

If you'd like to see a different label in the map, modify the @navtitle attribute value.

Following the frontmatter element can be a number of topic grouping elements such as part, chapter, and appendix. The part element can be used to organize chapter and appendix elements into parts, and the chapter and appendix elements are used to organize topicrefs. After the last part, chapter, or appendix can be the backmatter element, similar to the frontmatter element described above.

A bookmap can also make use of relationship tables in the same way they are used in a map. Note that even though your bookmap may make use of part, chapter, and appendix topic referencing elements, the reltable can only contain topicref elements.

Best Practice for Book Assembly

When setting up a map or bookmap that will be used to define a book-like deliverable (either as a PDF or online format that breaks topics into sections or chapters), it is common to create a root map with submaps (or chapter-maps). The root map would, at a minimum, contain topicref (or chapter, appendix, etc.) elements that point to each submap (chapter). If your root map is a bookmap, it would also contain the frontmatter and backmatter along with the appropriate child elements. It might also contain a relationship table, but depending on your structure, you might want to maintain relationship tables in the submaps.

The submaps should be standard DITA maps (not a bookmap). If you are using the default DITA-FMx XSLT import script that is provided with the Book application, your chapter maps should contain a single root topicref element which defines the chapter title and any optional content that would appear before the first H1-level heading in the generated FM file. Any topicref elements that are children of the root topicref become the H1, H2, and so on, headings within the chapter.

If you want to be able to use the titles from the submaps as the chapter titles, you'll need to modify the XSLT import script to pull that content from the map and insert it into the proper location in the output.

This method of creating chapter maps makes it very convenient to assign a "chapter" to a specific writer. Note that it is perfectly reasonable to take this nested map concept to further levels. You may have components within a chapter that make sense to group into a map. This is especially useful if you reuse these components in other maps or deliverables.

Recommended Directory/File Structure

Although, in theory, you should be able to use any directory structure for your maps and topic files, the default DITA-FMx Book application's XSLT import script (as of version 1.1.09) is set up to work best with a specific structure as described below.

- First and foremost, all files must be on the same "drive," and should be referenced with relative path names.
- Your root map should be in a parent directory or the same directory as topic or map files it references; a map should never reference a topic through a directory "above" itself (the @href attribute should never start with "../").
- Any submaps should also be in the same top-level folder as the root map. This isn't a hard requirement, and will work in most cases, but if the directory structure is very complex, the reference resolving process may fail.
- Any topics or images referenced by topics in the project should be in directories that are siblings or children of the root map's directory.

RELATED LINKS:

"Generate Book from Map" on page 131
"Book Build Settings" on page 118
"Setting up Book Builds (PDF)" on page 26

Setting up Book Builds (PDF)

Issues and options regarding the generation of a FrameMaker book file from a DITA map or bookmap.

DITA-FMx provides numerous options for controlling the features and properties of a book and its components when using the Generate Book from Map command. There are three areas that affect the way a book is created, the Book structure application, the Book Build Settings, and the *ditafmx-bookbuild.ini* file.

RELATED LINKS:

"Book Build Settings" on page 118
"Book-Build INI file" on page 121
"Generate Book from Map" on page 131
"Developing Custom Structure Applications" on page 50
"Customizing the Formatting in the Default Structure Applications" on page 52

"Working with Maps" on page 22

The Book Structure Application

The Book structure application defines the fundamental structure and formatting that is applied to the topic files as they are aggregated into FM chapter files through the book-build process. This structure application must contain element definitions for all possible elements and structures that are included in the book. If you are using "ditabase" (the DTD that supports all topic types in a single DTD), it will be virtually identical to the Topic structure application. However, if you are using the "Doctype/Application Mapping" option which lets you use individual DTDs (and structure applications) for each topic type, you will need to create a special Book application that supports all of the topic types in a single EDD. The default Book application files would typically be found at *C:\Program Files\FrameMaker\Structure\xml\DITA-FMx_1.1\Book*.

The Book structure application definition (**StructureTools > Edit Application Definitions**) also specifies an "Import" XSLT file which is the first step of the conversion process. This XSLT is the piece that does the aggregation of DITA XML files into chapter-based FM files. It processes the root map, any sub maps, and all topic files to properly build a single XML file that is opened in FrameMaker and becomes the book and components. If you look through this file (*bookmap2fmbook.xsl*), you'll see that it adds FM-specific processing instructions that tell FrameMaker where the book file starts and where each of the chapter FM files start. You can modify this XSLT to accomplish additional custom processing as needed. One XSLT modification that may prove easy and useful is to pass metadata from the map or bookmap so it is added to the fm-ditabook element as attributes. These attribute values can then be used in various ways in the resulting generated book and chapter files. For more information on this see, Passing Map-level Metadata to the FM Book.

The resulting generated FM book and components is set up so that each XML file is represented by an "fm-ditafile" element. This element is used to provide a container on which to hang file-specific attributes, specifically the href attribute which is the path and filename to the original DITA topic file. This is needed for later processes to properly resolve references. Another attribute that is found on the fm-ditafile element is the mapelemtype attribute. The mapelemtype attribute is set on the top-level fm-ditafile elements and will have the value of the element name of the associated topic referencing element in the map. For example, a bookmap/chapter element will result in an fm-ditafile element with a mapelemtype attribute set to 'chapter'.

The Book Build Settings Dialog and the ditafmx-bookbuild.ini File

The Book Build Settings dialog (in **DITA-FMx > Options**) provides a number of options that control the processes that are run on the generated book file and components after the initial aggregation has taken place. If all of the options are deselected, you'll end up with an unprocessed book file and FM files. This is typically not what's needed (since any references will not be resolved, among other things), but if you have special processing needs, this may be a viable option.

The first option in the Book Build Settings dialog is "Normalize Reference Paths." This option processes all elements that contains an href or conref attribute and converts them into absolute paths based on the new relationship of content due to the file aggregation. If this option is selected, the "Add Related Links" and "Reload References" are also available. If "Add Related Links" is selected, any related links defined in reltable elements will be built and added to the bottom of each topic as appropriate. The "Reload References" option reloads and updates the references based on the updated reference locations.

Other options are described in detail in the Book Build Settings topic. Three of these options rely on properties that can be specified in a *ditafmx-bookbuild.ini* file. This INI file must be created manually and placed in either, the folder that contains the generated book file, or the main *FrameMaker\DITA-FMx* folder. This file is initially checked for in the book folder, if it does not exist there one will be used from the *DITA-FMx* folder. This lets you maintain properties and templates that are specific to each book. The details of this INI file are provided in the Book-Build INI file topic.

The "Assign Numbering and Pagination" option enables the "NumberingFirst" and "NumberingDefault" sections of the *ditafmx-bookbuild.ini* file. This INI file can contain either or both of these "Numbering" sections for each mapelemtype attribute (each unique topic referencing element in the map file). Within each section are options that mirror the standard FrameMaker book numbering and pagination options. A simple bookmap that contains a "toc", a few chapters, and an index (indexlist) would need the following four "Numbering" sections:

- NumberingFirst-toc
- NumberingFirst-chapter
- NumberingDefault-chapter
- NumberingFirst-indexlist

If only one element of any given map element type exists in the bookmap, you only need the NumberingFirst section for that element type, otherwise you should include both the NumberingFirst and NumberingDefault sections. These numbering options can be used for both DITA maps and bookmaps.

If enabled, the "Replace List Files with Generated Files" option will replace the placeholder files in the frontmatter and backmatter elements with FrameMaker generated lists. This uses the "GeneratedFile" sections in the *ditafmx-book-build.ini* file. You should create a GeneratedFile section for each of the unique list files. These sections specify the component type and the tags that are used for the generated list. Additionally the General section specifies the BookTemplatesDir option which specifies the folder that contains the template to use for each of the generated lists. The BookTemplatesDir location can be an absolute or relative path, if relative, it is relative to the book folder. For example, a book with a toc and index would specify two GeneratedFile sections:

- GeneratedFile-toc
- GeneratedFile-indexlist

The INI code would look something like the following:

```
[GeneratedFile-toc]
ComponentType=Toc
NumTags=3
1=title.0
2=title.1
3=title-index

[GeneratedFile-indexlist]
ComponentType=IndexStandard
NumTags=1
1=Index
```

The valid ComponentType values are specified in the Book-Build INI file topic. The generated list templates in the BookTemplatesDir folder must be named with the file naming convention of *gentpl~<mapelemtype>.fm* (that's the string "gentpl" followed by a tilde, then the associated map element type name, with a ".fm" file extension). The "Replace List Files..." option is only valid with DITA bookmaps. (Sample templates are available in the *DITA-FMx_1.1\Book\component-templates* folder.)

The default XSLT import script makes the book title (from map/title, map/@title, bookmap/title, or bookmap/booktitle/mainbooktitle) available as a header/footer variable in files generated from DITA topic files. If you want to include the book title in generated list files, create a variable named "FMxBookTitle" and insert it into the appropriate location in your generated list template file. The variable will be updated when the generated lists are added to the book. If you'd like to use a different variable name, you can specify that name in the BookTitleVariableName parameter in the INIOnly section of the *ditafmx.ini* file.

The "Apply templates" option applies component templates to the other (non-list) files. It also uses the folder specified by the BookTemplatesDir option. The file naming convention for component templates is *tpl~<mapelemtype>.fm*. This option is also only applicable for DITA bookmaps. (Sample

templates are available in the *DITA-FMx_1.1\Book\component-templates* folder.)

If you'd like to perform additional automated processing to the generated book and component files, you can use the "Run Custom Script" option to specify one or more FrameScript or FDK clients to run at the end of the processing.

Variable values and condition states can be defined by values in the DITA map. These are controlled by fm-ditabook attribute values. For more information, see Adding New fm-ditabook Attributes.

There are a number of other book-build settings that are controlled by the *ditafmx-bookbuild.ini*; please review the Book-Build INI file topic for more details.

A sample *ditafmx-bookbuild.ini* is provided in the *DITA-FMx* installation folder. This file is also provided in the *DITA-FMx_Help_Source.zip* file along with the working templates.

Using the outputclass attribute as a "mapelemtype" value

You can set the outputclass attribute on topicrefs or topicref-based elements in a map and that value will be assigned to the outputclass attribute on the associated fm-ditafile element. This mapping is used when the UseOutputclassForType parameter is set to 1 in the book-build INI file. When this feature is enabled, this value will be used instead of the fm-ditafile/@mapelemtype attribute that is set based on the type of the associated map element. For additional information see "UseOutputclassForType" in the Book-Build INI file topic.

Passing Map-level Metadata to the FM Book

In DITA-FMx 1.1.09 a number of features were added to make it easier to use map-level metadata in the generated book and chapter files. Attribute values on the fm-ditabook element (the root of the generated book file) can be used to set the values of variables, and to set the show/hide state of conditional text in the generated chapter files. Attribute values at the book level can also be used by running header/footer variables as well as element definition context rules.

By making fairly simple modifications to the import XSLT that is part of the Book structure application, you can extract element and attribute values from the map and apply them to the fm-ditabook element as attributes. The default import XSLT file (as of DITA-FMx 1.1.09) contains some sample code that can be copied to include additional map data. The sample code is included in the map and bookmap templates and is marked with the XML comments, "custom topicmeta/bookmeta data passed to fm-ditabook attributes." When adding new

attributes to the fm-ditabook element, you must also add those attributes to the fmxbook.dtd file and the Book EDD (then import that EDD into the template).

The default XSLT file includes code to add the creation and revision dates from the map into the generated book file. In the first block below, the XSL code below creates an attribute named "created", then uses the value of the date attribute of the first "critdates/created" element. In this case specifying the "first" element is not completely necessary since there can only be one, but it's a good practice to set up your code to select the first (or last) element since you don't want to add two attributes of the same name. The second block creates a "revised" attribute with the value of the modified attribute from the last "critdates/revised" element.

```
<xsl:attribute name="created">
    <xsl:value-of select="//critdates/created[1]/@date"/>
</xsl:attribute>
<xsl:attribute name="revised">
    <xsl:value-of select="//critdates/revised[position() =
last()]/@modified"/>
</xsl:attribute>
```

With these additions, the fm-ditabook element will have two attributes, created and revised, that contain the values of the like-named elements in the map. These values can be accessed and used by context rules in the EDD or by header/footer variables in the chapter files of the book. They can also be used as variables in included binary files or generated list files (TOC, Index, etc.) if the General/ImportAttrsAsVars parameter is set to "1" in the book-build INI file.

Another feature allows you to leverage these attribute values to specify the show/hide state of conditional text. Setting the General/ImportAttrsAsConds book-build INI parameter to "1" enables this feature. Then you need to set up a ConditionMap section which contains a mapping of condition descriptors and the show/hide state. A condition descriptor follows a specific naming convention which starts with "fmx-" and is followed by the attribute name and value separated by a hyphen. For example, if you wanted to be able to control the show/hide state of a condition that exposed some information available only to beta testers, you might set up an othermeta attribute named "docstate" with a value of "beta". You would modify the XSLT to pass that value into the book as an attribute named "docstate" and the condition map section would be as follows:

```
[ConditionMap]
fmx-docstate-beta=Show
```

The "fmx-docstate-beta" condition must exist in the structure application template prior to running the book build process. The default state of this condition would be "Hide", but when the map has other-meta/@name='docstate' set to "beta" the condition would be set to "Show" instead.

Using Templates to Define Alternate TOC Entries

By default, the paragraph styles applied to all titles in all generated FM files are the same (title.0, title.1, etc., as defined by the Book structure application). When pulled into a TOC file, they become "title.0TOC", "title.1TOC", and so on. Your TOC generated list template ("*gentpl~toc.fm*") defines the handing for these styles on the "TOC" reference page. If you want to be able to support multiple types of entries, such as "Chapter", "Appendix", and "Part", you'll need to do the following.

NOTE: *As of DITA-FMx 1.1.09, the component-templates folder in the default Book application folder contains component templates for appendix and part, and the default TOC template is set up to handle chapter, appendix, and part TOC entries.*

Create a custom EDD and template for each TOC type

The component template (*tpl~<mapelemtype>.fm*) will apply alternate formatting to the specific book component, but if you want the underlying paragraph styles to change, you need to create a modified EDD that applies the alternate style, and update the template to support that style. The actual style may look the same, but the name needs to be different so it can be handled separately in the TOC template. For example, if you want to add support for the appendix element and have your TOC include both Chapter and Appendix labels, you could do the following:

a) Copy the default Book EDD (*book_1.1.edd.fm*) to a new name, perhaps *book_1.1_appendix.edd.fm*.

b) Copy the default Book template (*book_1.1.template.fm*) to a new name, perhaps *book_1.1_appendix.template.fm*.

c) Edit the *book_1.1_appendix.edd.fm* file and change all instances of "title.0" to "title-appendix.0", then save the EDD.

d) In the appendix template (*book_1.1_appendix.template.fm*) rename the "title.0" style to "title-appendix.0" and modify its appearance as needed.

e) Import the EDD into the appendix template, then save and close both files.

f) Copy the appendix template to the proper component template name (from *book_1.1_appendix.template.fm* to *tpl~appendix.fm*, then copy this file into the appropriate component template folders (defined by the BookTemplatesDir parameter in the *ditafmx-book-build.ini* file).

When a book is generated and this template is applied, this will apply the title-appendix.0 style to the top-level heading in the appendix files.

Add the new paragraph style to the GeneratedFile-toc section

For each new TOC entry type, you'll need to add that paragraph style to the GeneratedFile-toc section of the *ditafmx-bookbuild.ini* file. Be sure to update the NumTags parameter to match the number of paragraph tags used to generate the TOC.

Add support for the new TOC styles in the TOC template

In the TOC generated list template ("*gentpl~toc.fm*"), add support for the "title-appendix.0TOC" style on the TOC reference page (it would look just like the title.0TOC style but use the new style name and prepend "Appendix" instead of "Chapter." It should also probably use an alpha numbering style instead of Roman.

You can use the method described above to handle as many alternate TOC entry types that you need in your book.

Including FM Files in a Generated Book

There may be times that you'll want to include FrameMaker binary (*.fm*) files in a book that's created by the **Generate Book from Map** command. One particular situation is for the addition of a title page but there may be other uses as well. For example, you may have content that you want to include in a book that has not yet been converted to DITA. With this feature you can build a book that contains some DITA-sourced chapters as well as some conventional, unstructured chapters.

DITA-FMx provides an "Include Files" feature that is implemented through the *ditafmx-bookbuild.ini* file. These files are added to the book at the beginning of the book-build process, just after the DITA files have been aggregated into FM files. To include FM files you'll specify their file name and position in the book (where a position of "1" is the first file in the book). You can also optionally define a "mapelemtype" value to be associated with this file so you can control the pagination properties. To include a title page in the book as the first file and to define this as a type of "titlepage," the following sections should be added to the *ditafmx-bookbuild.ini* file:

```
[IncludeFiles]
1=title.fm

[IncludeFileTypes]
1=titlepage
```

The IncludeFiles section specifies the position and file name, where the file name is relative to the book file. You can specify that multiple files are added to the book, just make sure that the "position" values are always unique, and the files are ordered from the lowest position to the highest. The IncludeFileTypes section defines the "mapelemtype" value for the files at each position. You can

use values that match those that are map element types in DITA (such as "chapter" or "appendix") and you can create your own values (such as "titlepage"). Be sure to define the NumberingFirst and NumberingDefault sections as needed to assign numbering and pagination values to these mapelemtype values.

Setting Up PDF Bookmarks

When generating a PDF from a book, the default list of paragraph styles used to create the bookmarks contains all paragraph styles that exist in all files in the book, but the include/exclude settings are defined by those in the first file in the book. If you want the bookmark list to be ready to use (without needing to move items over to the exclude list every time), you must make sure that the first file in the book contains all of the styles in all files, as well as being set up with the proper include/exclude settings.

If the first file in the book is generated from a DITA topic, you'll need to set up the app's template file as described below. If the first file in the book is a generated file, you'll need to perform this setup on the generated list template. Or if the first file is a title page, that file needs to be set up accordingly.

1) Import all paragraph styles from all possible documents into the file. It's OK to have more styles than are used, but any that are in files other than the "first" file will show up in the "included" bookmark list.

2) Open the file and run the **Format > Document > PDF Setup** command.

3) In the PDF Setup dialog, on the **Bookmarks** tab, select **Generate PDF Bookmarks** and "Paragraphs" as the **Bookmark Source**, then set up the "Include" and "Don't Include" styles and adjust the bookmark level as needed.

4) Set any other properties as needed in the PDF Setup dialog, then choose the **Set** button. This saves the PDF setup data to the file.

NOTE: *This process will only work for FM binary files, you cannot save this setup data to an XML file.*

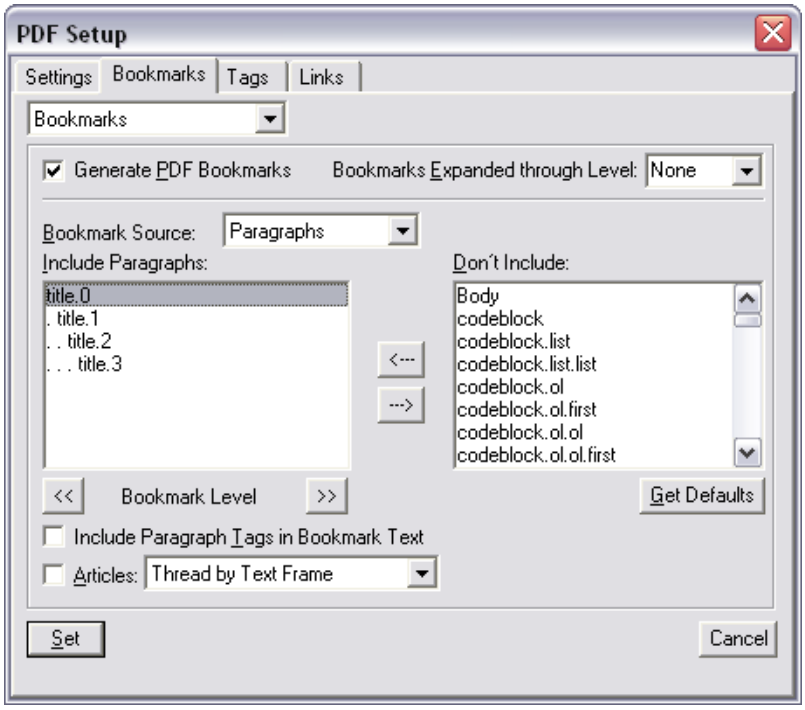


Figure 1-3: PDF Setup dialog box

2 Installation and Setup

Detailed information about installing DITA-FMx.

DITA-FMx version 1.1 supports DITA 1.1 on FrameMaker versions 7.2, 8, and 9 and can be downloaded from www.leximation.com/dita-fmx/.

DITA-FMx is made up of two plugin components, one that provides import/export processing and one that provides general authoring support. DITA-FMx also provides three structure applications (DTD, EDD, template, and read/write rules files), two for DITA topic and map authoring and one for book publishing. The EDD and rules files have been set up to allow proper interaction with DITA-FMx. If you want to build your own DITA structure applications, you should clone these files and modify them as needed. For more information see Developing Custom Structure Applications.

If you have any installation problems or questions, please contact us at <ditafmx-help AT leximation DOT com>.

RELATED LINKS:
"Using DITA-FMx" on page 1
"DITA-FMx Commands" on page 81
"Extending DITA-FMx" on page 135

Before Running the Installer

Be sure to address all appropriate pre-installation tasks before running the installer application.

RELATED LINKS:
"Run the Installer Application" on page 44

Upgrading from DITA-FMx 1.0

Tips for a painless migration from DITA-FMx 1.0 to DITA-FMx 1.1.

DITA-FMx 1.1 is designed to work well with your existing DITA-FMx 1.0 structure applications. When using an older app, some of the new features that rely on specific structure application settings may not work. But you should be able to install the update and continue working, and expect the same level of functionality that you're used to. When you are ready to migrate the new features into your structure application, you should review the Required Element Definitions topic.

TIP: *The changes made to the structure applications from DITA-FMx 1.0 to DITA-FMx 1.1 are documented in the Structure Application Updates section of the Revision History. It may be useful to review these changes when upgrading your custom structure application.*

When upgrading form DITA-FMx 1.0 it's best to have a "fresh" install. To do this you should perform the following steps:

1) Rename the existing *FrameMaker\DITA-FMx* folder (perhaps to something like *DITA-FMx.1.0*) before running the new installer.

2) Run the installer. This will give you a completely new installation of files, and will let you compare the new files to the old files and allow you to "roll back" to the previous version if needed.

3) Start FrameMaker, then exit. This will create the new *ditafmx.ini* file.

4) Manually migrate any manually entered settings in the *ditafmx.ini* file (such as items related to OT build settings). In particular, you'll need to migrate the info in the Registration section. Just copy and paste the entire Registration section into the new *ditafmx.ini* file after it is created. (You can also re-enter your registration information and authorization code through the DITA-FMx menu.)

5) Install the new DITA-FMx 1.1 structure applications as described in Installing the Structure Applications.

The DITA-FMx 1.1 structure applications follow a similar naming convention and file structure as before, but include a "_1.1" suffix. This lets you install the new 1.1 apps along side of your existing apps and switch between them as needed.

NOTE: *DITA-FMx 1.1 no longer uses the ditafmx_book client (its functionality has been folded in to the ditafmx client). The installer should remove this entry from the maker.ini file, but if you get an error when starting FrameMaker that mentions the ditafmx_book client, you may need to remove it manually.*

RELATED LINKS:

"Installing a DITA-FMx Update" on page 39
"Required Element Definitions" on page 59

Installing a DITA-FMx Update

Basic options for upgrading your DITA-FMx 1.1 installation to the latest point release.

To reinstall or update DITA-FMx over an existing installation, you've got two basic options.

Quick and simple, but unable to revert to the previous version

When installing an interim update, or you don't care about being able to roll back to the previous version, this approach is for you.

Just run the installer. No backup or uninstall is required. The installer will overwrite all like-named files in the *DITA-FMx* folder. It will not overwrite the *ditafmx.ini* file, so your settings will not be lost.

Fresh install, and able to revert to the previous version

If you'd like to get a "fresh" install, you should rename the existing DITA-FMx folder (perhaps to something like *DITA-FMx.<oldversion>*) before running the new installer. This will give you a completely new installation of files, and will let you compare the new files to the old files and allow you to "roll back" to a previous version if needed. If you choose this approach, you will need to manually migrate any manually entered settings in the *ditafmx.ini* file. In particular, you'll need to migrate the info in the Registration section. Just copy and paste the entire Registration section into the new *ditafmx.ini* file after it is created, then restart FrameMaker. (Otherwise, you'll need to enter your registration information and auth code in order to initialize the application.)

After reinstalling, you may want to copy the new structure applications to the *FrameMaker\Structure\xml* folder so you can take advantage of any changes that have been made.

Migrating from FM-DITA to DITA-FMx

Tips for migrating from FrameMaker 8/9 DITA to DITA-FMx.

In general, there should be very little migration effort going from the default DITA support in FrameMaker 8 or 9 (FM-DITA) to DITA-FMx. Because both DITA authoring environments create valid DITA files, you can open and edit files created by the other environment just as you can open and edit files created in different authoring tools such as XMetaL or Oxygen.

If you've customized the default FM8 or FM9 structure applications and want to continue using those customizations in DITA-FMx, there may be some work required to migrate the apps since DITA-FMx provides features that do not

exist in FM-DITA. For a complete listing and description of the DITA-FMx structure application requirements, refer to the Required Element Definitions topic.

If you want to just "give it a try" to see what breaks, that's fine (you're not going to break anything). The only thing that's absolutely required is that you change the "Use API Client" node in the application definition so it uses the "ditafmx_app" client name instead of "ditafm_app." You'll need to do this for any structure application that you want to use with DITA-FMx. (If you try to use these apps without changing the UseApiClient node, you will get the following error message when opening a DITA file: "Translator client (ditafm_app) was not found.") Once this is done, change the application names in the DITA Options dialog, and give it a whirl.

If you're migrating from FM8-DITA, which supports DITA 1.0, keep in mind that because DITA-FMx 1.1 supports DITA 1.1, there will be significant differences in the EDDs. You can continue to use DITA 1.0 apps in DITA-FMx 1.1 as long as you provide certain element definitions (described below).

If you're migrating from FM9-DITA, the general EDD structure will be virtually identical to the DITA-FMx structure, other than the special "fm-*" elements. Some of these elements are required and others are more of a convenience.

Also, it may be useful to note that FM8-DITA provided a Book application (for building a book from a map), while the FM9-DITA does not. In FM9-DITA the book-building process uses the Topic application when building a book. DITA-FMx requires a separate Book application.

The following items are significant migration points, refer to the Required Element Definitions topic for a complete list of elements specific to DITA-FMx.

The fm-indexterm element is required.

In the DITA-FMx Topic and Book applications the fm-indexterm element is required to exist and be defined as a marker element type. You should be able to rename your FM-DITA indexterm to fm-indexterm since by default the FM-DITA indexterm is a Marker element. You'll also need to rename all references to indexterm in the general rule of other element definitions. If you want to be able to use the DITA-FMx feature that lets you switch between an fm-indexterm Marker and an indexterm Container, you'll need to create an indexterm element that is defined as a Container. This should be added to all general rules at the same location as the fm-indexterm.

For more information, refer to the indexterm and fm-indexterm topic.

The topic referencing label in Maps.

The DITA-FMx Map application uses the fm-reflabel element to provide a clickable label for navigation in a map or bookmap. In DITA-FMx 1.0 as well as in FM-DITA, this element is named fm-topicreflabel. Because

bookmaps can contains topic referencing elements other than topicref, it was decided that this element name should be changed. DITA-FMx 1.1 is designed to work properly with either element name.

For more information, refer to the fm-reflabel and Topic References topic.

Special Book application elements.

The DITA-FMx Book application includes three required elements, fm-ditabook, fm-ditafile, and fm-bookcomponent. The fm-ditabook element makes use of href and title attributes, and the fm-ditafile element uses the href and mapelemtype attributes. The Book application will also use the fm-tabletitle element if you enable the "Move table/title ..." book-building option. If you plan to take advantage of the enhanced DITA-FMx book-building functionality, you should make sure your Book application includes these elements.

For more information, refer to the Special Book Application Elements topic.

The simpletable-based table structures.

All of the DITA-FMx applications make use of simpletable-based tables. In Topic and Book applications are simpletable, choicetable, and properties (table), and in the Map application is the reltable. Because tables within FrameMaker require a slightly structure than that required by the DITA specification, additional "fm-*" elements are added as wrappers to the "head" and "row" (sthead and strow in simpletable) elements. DITA-FMx 1.1 uses a slightly different structure than FM-DITA. The base table name is the root element, which contains "fm-<tablename>head" and "fm-<tablename>body" elements, which in turn contain the standard head and row elements.

For more information, refer to the simpletable-Based Tables topic.

FrameMaker 8/9 Installation Requirements

If installing on FrameMaker 8 or 9 you must edit the *maker.ini* file to disable the existing DITA support.

DITA-FMx cannot coexist with the default FM8/9 DITA support. An error message will display to remind you of this if you neglect to modify the *maker.ini* file.

- Open the *maker.ini* file and locate the APIClients section. Look for lines that start with **ditafm**, **ditafm_app**, **ditabook** (FM8 only), and possibly **ditaOpenToolkit** (if you've installed the DITA OpenToolkit connector). Delete or comment out these lines (by adding a semicolon at the start of the line).

NOTE: *If you're interested in switching between FM8/9-DITA and DITA-FMx, refer to the topic Switching Between DITA-FMx and FM8/9-DITA.*

You may now proceed to Run the Installer Application.

RELATED LINKS:
"Switching Between DITA-FMx and FM8/9-DITA" on page 73
"Run the Installer Application" on page 44

FrameMaker 7.2 Installation Requirements

If installing on FrameMaker 7.2 and other DITA support is installed, you will need to disable that DITA support.

If you are upgrading from the Adobe DITA App Pack or from the first beta version of DITA-FMx (v.0.01), you may need to modify the *maker.ini* file or disable existing client plugins. If you're new to DITA authoring or haven't installed either of these plugins (DITA-FMx 0.02 is fine), proceed to Run the Installer Application.

In order to eliminate any possible conflicts with previous versions of the DITA authoring plugins, check the following:

- Verify that there are no "ditafm" or "ditafmx" plugin DLLs in the *FrameMaker/fminit/Plugins* folder (or any subfolders). Files to look for are: *ditafm.dll*, *ditafm_app_72.dll*, *fm-ditabook.dll*, *ditafmx_72.dll*, and *ditafmx_app_72.dll*. If any of these files are found, move them to a backup location outside of the *Plugins* folder.

  This only applies to files in the "Plugins" folder; files found in the *\fminit\ditafm* folder can be left alone.

  IMPORTANT: *Do not rename the DLLs or move them to a sub-folder of the Plugins folder. You must completely move them to an alternate location. If the files exist (under any name) within or below the Plugins folder, FrameMaker will still load them.*

- Open the *maker.ini* file and locate the APIClients section. Look for lines that start with "ditafm" or "ditafm_app" and delete or comment them out (by adding a semicolon at the start of the line). Lines that start with "ditafmx" or "ditafmx_app" will be updated by the installer and do not need to be commented out.

- If you have been using an earlier version of DITA-FMx, you may want to backup the *FrameMaker\DITA-FMx* folder. This is not required, but the installer will overwrite any like-named files in the *FrameMaker\DITA-FMx* folder during the installation process. You do not need to back up any existing structure applications, the installer will not modify the *structapps.fm* file or any structure applications.

You may now proceed to Run the Installer Application.

Installing DITA-FMx on Windows Vista and Windows 7

Tips regarding issues regarding the installation and operation of DITA-FMx on the Windows Vista and 7 operating systems.

Windows Vista and 7 have very strict permission requirements for editing files in "non-user" areas of the file system. As of version 1.1.09, DITA-FMx is set up to properly support Windows Vista and 7.

This topic describes installation steps that may vary slightly from the standard installation. The steps in this topic do not replace those in the standard documentation. It is important to complete all of the required installation steps.

First, you must be an Administrator to install and set up DITA-FMx. Running the installer, should not require any additional effort. Modifying the *maker.ini* file to disable the default DITA support can be tricky. To edit the *maker.ini* file:

1) On the Start menu, right-click the Notepad application and select "Run as Administrator"

2) In Notepad, choose **File > Open** then locate and select the *maker.ini* file.

3) Comment out the default DITA clients (as instructed in the documentation), and save the file.

After running the installer, you will need to extract and install the structure application files. The application and support files are installed in the *FrameMaker\DITA-FMx* folder.

1) In the *FrameMaker\DITA-FMx* folder, right click the *DITA-FMx-1.1_apps.zip* file, then choose **Extract All**.

2) In the Extract Compressed Folders window, enter the path to the structure directory (something like "FrameMaker\Structure\xml", the actual path will vary), and choose **Extract**.

When you run FrameMaker, the user data files (like the *ditafmx.ini* file) are created in a *DITA-FMx* folder in the application data area (typically *C:\Users\USER-NAME\AppData\Roaming\Adobe\FrameMaker\9\DITA-FMx*). Any "global" data files that you create, like *filtergroups.ini* and *ditafmx-bookbuild.ini*, that the documentation indicates should be in the *FrameMaker/DITA-FMx* folder should be created in this location as well.

Once this setup is complete, you will be able to run FrameMaker "normally" (not "As Administrator"). The program and support files are accessed from the "Program Files" area and the user files are accessed from the "App Data" area.

Run the Installer Application

Extract the EXE from the ZIP archive and run it.

The DITA-FMx installer application is provided in a ZIP archive. As part of the installation process, the installer modifies the *maker.ini* file. If you feel it is necessary, you may want to make a backup of this file before running the installer. If you are installing an update, see Installing a DITA-FMx Update.

NOTE: *There is no Uninstall application provided. Because most of the installation is done manually, it would be misleading to provide an uninstaller. To remove DITA-FMx, just delete the DITA-FMx folder and remove the "ditafmx" lines from the maker.ini file.*

Extract the executable from the archive and run it. The installer extracts and copies the required files to the *FrameMaker\DITA-FMx* folder.

The following files are installed:

- ***ditafmx***_<ver>.dll - Authoring support plugin DLL (in DITA-FMx 1.1 the book-processing DLL has been combined with the authoring support DLL).
- ***ditafmx***_<ver>_app.dll - Import/export client DLL.
- ***pt_updates.dll*** - The DLL that provides web access for the "check for updates" command.
- ***ditafmx***.chm - DITA-FMx User Guide online Help file.
- ***ditafmx-ref.chm*** - DITA Reference online Help file (for element-based context sensitive authoring help). Includes the special DITA-FMx elements.
- ***DITA-FMx_Help_Source.zip*** - Source for the user documentation.
- ***DITA-FMx_apps.zip*** - Structure application files.
- ***ditafmx-ant.xml*** - Ant script that provides targets for the Current File option of the Generate Output command.
- ***PROJECT.xml*** - Sample Ant script for the Selected Target option of the Generate Output command.

After extracting the new files, the installer updates the APIClients section of the *maker.ini* file with references to the plugin DLLs. The following lines are added (the numbers "90" will vary for different FrameMaker versions):

```
ditafmx=Standard, ditafmx, DITA-FMx\ditafmx_90.dll, structured
ditafmx_app=Standard, ditafmx_app, DITA-FMx\ditafmx_90_app.dll,
structured
```

If you are upgrading from the Adobe DITA App Pack or from the first beta version of DITA-FMx (v.0.0.01), you may need to modify the *maker.ini* file or disable the client plugins. If you are see console errors when starting FrameMaker, make sure you have addressed the issues described in FrameMaker 7.2 Installation Requirements.

Once the installation has completed, you need to set up the structure applications before you can create and edit DITA files. Continue to Installing the Structure Applications.

If you want to disable any of the plugin clients, comment out the ditafmx and ditafmx_app entries in the APIClients section of the *maker.ini* file.

Installing the Structure Applications

It is important to install the DITA-FMx structure applications to take full advantage of the features provided.

In order for FrameMaker to properly import and export DITA files, you must have structure applications that support the authoring of topic and map files. DITA-FMx provides both of these applications as well as a structure application for book processing. If you want to customize the appearance of the templates or change the elements supported (adding through specialization or removing unwanted elements), you should clone the provided structure application folders and modify the cloned versions.

If you are upgrading from the App Pack, and want to continue using those structure applications (or your customized version), you'll need to edit the "stub" files for those applications and change the "Use API Clients" element so it references the client "ditafmx_app" instead of "ditafm_app." Or, if you want to use the new structure application that are provided with DITA-FMx, you may want to delete the old ones to eliminate possible confusion. The steps below refer to the Structure Tools menu, in FM7.2, this is on the File menu (**File > Structure Tools**).

The following steps describe the installation of the structure applications provided with DITA-FMx.

1) Make a backup copy of your current structure application definitions file (typically found at *FrameMaker\Structure\structapps.fm* for FM7.2 and FM8, or *<user appdata>\Adobe\FrameMaker\9* for FM9). Store this file in a safe location before making modifications.

2) Extract the contents of the *DITA-FMx_apps.zip* file to the *FrameMaker\Structure\xml* folder. This will create a folder named

DITA-FMx_1.1 that contains folders named *Book*, *dtd*, *Map*, and *Topic*. These folders contains the three structure application as well as the DITA 1.1 DTD files used by the applications.

NOTE: *The EDD files provided with DITA-FMx are in MIF format by default. This results in the installer application being 8 MB smaller in file size than it would be if we provided the EDDs as FM binary files. If you plan to modify the EDDs in any way, you should save them as FM binary files before making any modifications. After saving as an FM binary, feel free to delete the MIF files.*

3) Start FrameMaker and open the structure application definitions file (**Structure Tools > Edit Application Definitions**). (If running FM9, this opens the *structapps.fm* file in your "USERNAME\AppData" area, not the one in the FrameMaker program files area).

4) In the structure application definitions file place the insertion point just after the Version element.

5) Choose **File > Import > File**, then navigate to the *structapps-stub_topic_1.1.fm* file in the *DITA-FMx_1.1\Topic* folder created in step 2. Select the Import by Reference option and choose the Import button. In the next dialog accept the defaults and choose Import.

6) Repeat step 4 for the "structapps-stub" files in the *DITA-FMx_1.1\Map* and *DITA-FMx_1.1\Book* folders.

7) Save the file, then choose **Structure Tools > Read Application Definitions**.

8) Close the file and exit FrameMaker.

9) Restart FrameMaker and run the **DITA-FMx > Options** command and select **DITA-FMx-Topic-1.1** for the DITA Topic Application, **DITA-FMx-Map-1.1** for the DITA Map Application, and **DITA-FMx-Book-1.1** for the DITA Book Application.

NOTE: *If your folder structure is non-standard, you may need to modify the paths specified in the "structapps-stub" files to match the file paths on your system. To do this, just open the structure application definitions file and double-click each application's text inset. In the dialog that displays, choose the Open Source button and make the changes in the "stub" file. When you have finished editing the stub file, save and close that file, then double-click the text inset again and choose the Update Now button.*

If you plan to make use of the DITA Open Toolkit for generating output, see Setting Up to Use the Generate Output Command.

Description of the Structure Application Files

The *Structure\xml\DITA-FMx_1.1* folder contains a number of files, some are specific to the structure applications, and some are used for other purposes.

DITA-FMx

map-from-outline_template.fm - Template file used by the **New DITA File > New Map from Outline** command.

DITA-FMx\Book

book_1.1.edd.mif - The Book application EDD (in MIF format). Defines the data model structure and provides the element definitions. Save to FM format before modifying. Remember to import this into the template (below) if you make and changes to the EDD.

book_1.1.rules.txt - The Book application read/write rules file.

book_1.1.template.fm - The Book application template file. Defines the page layout and formatting as well as the character and paragraph styles used by the EDD.

bookmap2fmbook.xsl - The Book application XSL import file. Controls the process that aggregates all of the topic files into the book and chapter FM files.

structapps-stub_book_1.1.fm - The Book application definition stub file. Inserted into the structure application definitions file (*structapps.fm*).

DITA-FMx\Book\component-templates

gentpl~indexlist.fm - A sample template for generating an Index (index-list). Referenced by the *ditafmx-bookbuild.ini* file.

gentpl~toc.fm - A sample template for generating a TOC (toc). Referenced by the *ditafmx-bookbuild.ini* file.

tpl~appendix.fm - A sample template for an Appendix map element. Referenced by the *ditafmx-bookbuild.ini* file. This template contains a modified version of the default Book EDD, to make further modifications export the EDD from the template using the Export Element Catalog as EDD command (or request the EDD from Leximation).

tpl~part.fm - A sample template for a Part map element. Referenced by the *ditafmx-bookbuild.ini* file. This template contains a modified version of the default Book EDD, to make further modifications export the EDD from the template using the Export Element Catalog as EDD command (or request the EDD from Leximation).

DITA-FMx\dtd

fmxbook.dtd - Custom DTD file referenced by the *bookmap2fmbook.xsl* file. Created from the *ditabase.dtd* file.

All remaining files are the default DITA 1.1 DTD files.

DITA-FMx\Map

map_1.1.edd.mif - The Map application EDD (in MIF format). Defines the data model structure and provides the element definitions. Save to FM format before modifying. Remember to import this into the template (below) if you make and changes to the EDD.

map_1.1.rules.txt - The Map application read/write rules file.

map_1.1.template.fm - The Map application template file. Defines the page layout and formatting as well as the character and paragraph styles used by the EDD.

structapps-stub_map_1.1.fm - The Map application definition stub file. Inserted into the structure application definitions file (*structapps.fm*).

DITA-FMx\Topic

new~reference~simple ref.fm - A sample "reference" element template named "simple ref".

new~task~simple task.fm - A sample "task" element template named "simple task".

new~topic~simple ref.fm - A sample "topic" element template named "simple topic".

structapps-stub_topic_1.1.fm - The Topic application definition stub file. Inserted into the structure application definitions file (*structapps.fm*).

topic_1.1.edd.mif - The Topic application EDD (in MIF format). Defines the data model structure and provides the element definitions. Save to FM format before modifying. Remember to import this into the template (below) if you make and changes to the EDD.

topic_1.1.rules.txt - The Topic application read/write rules file.

topic_1.1.template.fm - The Topic application template file. Defines the page layout and formatting as well as the character and paragraph styles used by the EDD.

Initializing DITA-FMx

Request your authorization code and verify that everything is set up properly.

After you've run the DITA-FMx installer and set up the structure applications, there are a couple things that you may need to do before you're ready to use DITA-FMx.

If you are new to DITA-FMx or are reinstalling from scratch, you'll need to request an authorization code. For a 30-day trial authorization code, choose the **DITA-FMx > Unregistered. Try Now?** menu item. Follow the on-screen instructions and enter your email address on leximation.com. Your trial authorization code will be sent to the email address you provide. If your trial authorization code has expired and you need more time, just contact us by email and we'll be happy to provide an extension.

If you've purchased DITA-FMx, your permanent authorization code is available in your Tool Administration area on leximation.com. Just log on to leximation.com, then click the "Tool Administration" link in the lower left of any page. On this page you should see an entry for DITA-FMx with a "request auth code" link. Click that link and your auth code will be sent to the email address registered to your leximation.com account.

Once you get your authorization code (trial or permanent), select the **DITA-FMx > Enter Authorization Code** menu item and provide the information requested. This should unlock the items in the DITA-FMx menu.

Now you should verify that the proper structure applications are selected in the DITA Options dialog. Choose **DITA-FMx > DITA Options**. The Topic, Map, and Book applications should list those that you want to use. If you're using the default DITA-FMx applications that would be DITA-FMx-Topic-1.1, DITA-FMx-Map-1.1, and DITA-FMx-Book-1.1. If these applications aren't available in the drop-lists, you should go back and review the Installing the Structure Applications topic; if these applications have been properly installed, their names should be available in the drop-lists in the Options dialog.

You may also want to set other options at this time. Use the Help button in the Options dialog to read about the many options available in DITA-FMx.

Advanced Installation/Customization Issues

For those people who want to customize the structure applications or modify the functionality of the authoring environment. If you are new to DITA, and have completed the previous installation steps, you should be all ready to use DITA-FMx for creating and authoring DITA XML files.

Developing Custom Structure Applications

Once you're comfortable with the features in DITA-FMx, you'll surely want to create your own custom structure applications that apply your house style to your DITA documents.

In FrameMaker, all of the formatting and page layout applied to XML files is done by the selected structure application. A structure application (also called a "structure app" or just "app") is made up of the following components:

- **Template file** – contains the page layout, paragraph/character formatting, other object formatting (such as cross-ref and variable definitions), and any document-specific interface defaults (such as the visibility of element boundaries).
- **EDD (element definition document)** – defines the structure of the elements in the data model, and the context rules for formatting those elements.
- **DTD (document type definition) files** – a set of markup declarations that define a document type for SGML-based markup languages (XML, SGML, HTML). This includes files of type DTD, ENT, MOD, and others that define the structure of a data model.
- **Read/write rules file** – specifies how FrameMaker translates from markup (XML files) to the authoring environment and back.

There are many ways to develop and maintain structure applications. DITA-FMx is set up to work with three types of apps, a Topic app and a Map app (both used for authoring) and a Book app (used for printing and PDF generation). If you want to control the way your DITA files are printed, you will want to modify the Book app. If you want to modify the structure or add/remove elements, you'll need to modify both the Topic and Book apps (and possibly the Map app). The default DITA-FMx application folder structure puts the files for all three of these apps into Topic, Map, and Book folders under a main folder named "DITA-FMX_1.1." We find this folder structure to be the most efficient, but you are free to devise any structure that works for your needs.

When creating your own custom structure applications, you can either start by cloning the existing default DITA-FMx apps or by creating your own from scratch. The cloning method is the easiest and least likely to have errors, but you can do which ever works best for you.

You may be tempted to make minor modifications to the default DITA-FMx apps. We strongly recommend that you maintain an instance of the DITA-FMx structure applications in their original form. Because these applications work properly with DITA-FMx, as you customize/build your own apps, you may need to refer back to the originals in case something goes wrong (which it often does).

NOTE: *The EDD files provided with DITA-FMx are in MIF format by default. This results in the installer application being 8 MB smaller in file size than it would be if we provided the EDDs as FM binary files. If you plan to modify the EDDs in any way, you should save them as FM binary files before making any modifications. After saving as an FM binary, feel free to delete the MIF files.*

RELATED LINKS:

"Required Element Definitions" on page 59

Cloning the Default Structure Applications

The first step in customizing the layout or formatting of a structure application is to create your own application; the easiest way to create your own is to clone the existing apps.

PREREQUISITE

First, copy the *FrameMaker\Structure\XML\DITA-FMx* folder (with all subfolders included) to a new folder name, for our purposes here, we'll call it DITA-MyCo. In the new DITA-MyCo folder are the three application folders (Topic, Map, and Book), and the DTD folder. You'll be modifying files in the application folders, and leaving the DTD folder as it is (unless you're specializing, which we won't go into here). You'll want to make the same initial changes to each of the applications (replace "<app>" with the Topic, Map, or Book application in the steps below).

TASK

1. From the new *DITA-MyCo\<app>* folder open the *<app>.edd.fm* file in FrameMaker. At the top of the file, you'll see a line that says "Structured Application: DITA-FMx-<app>", change that to "DITA-MyCo-Topic". Save this file, but leave it open for now.
2. From the *DITA-MyCo\<app>* folder open the *<app>.template.fm* file in FrameMaker. Choose **File > Import > Element Definitions**, select the EDD from the list and choose Import.
3. Save and close the template, then save and close the EDD.
4. From the *DITA-MyCo\<app>* folder open the *structapps-stub_<app>.fm* file in FrameMaker. Change all instances of "DITA-FMx" to "DITA-MyCo".

   ADDITIONAL INFORMATION: This involves modifying the text of a variable. You'll actually want to create a new variable and use that, don't just modify the content of the existing variable; if you modify the content of the variable, it

will mess up other applications since this "stub" file is imported into the structure application definitions file.

a) Open the Variable dialog (**Special > Variable**).

b) Select "DITA-FMx-Path" from the list and choose Edit Definition.

c) In the Edit user variable dialog, change the name from "DITA-FMx-Path" to "DITA-MyCo-Path", then in the Definition field change "DITA-FMx" to "DITA-MyCo". Then choose Add then Done. Choose Done again in the Variables dialog.

d) Double-click the first DITA-FMx-Path variable and in the Variables dialog select "DITA-MyCo-Path" and choose Replace.

e) Now copy and paste this new variable overall instances of it in the stub file (in the Template, DTD, Read/Write Rules, and numerous places in Entity Locations).

5. Save and close the stub file.

6. Now open the structure application definitions file with the **Structure Tools > Edit Application Definitions** command (on FM7.2 the Structure Tools menu is on the File menu).

7. Place the insertion point just after the Version element (use the Structure View window to see this location easily), and choose **File > Import > File**. Navigate to the new *structapps-stub_<app>.fm* file and select it. In the Import Text Flow By Reference dialog, accept the defaults and choose Import.

AFTER COMPLETING THIS TASK:

Once you have followed those steps for each application, you'll have created a "clone" of the default applications and are now ready to customize them as needed.

Customizing the Formatting in the Default Structure Applications

When customizing or localizing a structure application, changes need to be made to the paragraph and character formatting applied to elements by that application. Locating the files that define this formatting may not always be easy.

To modify a structure application for direct-from-FrameMaker output, such as PDF, the place to start is *book_1.1.template.fm*. To modify the appearance of the authoring view, the template with which to start is *topic_1.1.template.fm*, and perhaps *map_1.1.template.fm*. Before altering the original files, refer to "Cloning the Default Structure Applications."

Most of the formatting for DITA elements is defined in the template files themselves in the form of paragraph and character tags. The EDD file associated with each of these template files applies paragraph and character tags to elements, as

they are found in specific contexts; however, there are some elements for which formatting is applied directly by the EDD without, or in addition to, the use of a paragraph or character tag. To alter this formatting, the EDD itself must be modified.

TIP: *After making any modifications to the EDD, its element definitions must be imported into the appropriate template file.*

There are two EDD alterations to prefix/suffix formatting that are new with DITA-FMx 1.1:

1) A group of template paragraph tags in the template handles the prefix/suffix text for the note and permissions elements instead of the EDD adding that text directly.

2) Variables in the EDD document itself handle the various indent values used for the note and screen elements. These can be altered globally (within the EDD) by changing the variable values: indent_1, indent_2, indent_3, and indent_4.

In the table below, an attempt has been made to be thorough with the inclusion of all elements to which some direct formatting is applied by the EDD. Consequently, in some cases, the elements included have negligible prefix text added by the EDD. For example, the title element has in some contexts a space set as a prefix prior to whatever title content is input or imported by the user.

NOTE: *Where nothing seems to display within a Prefix element, the contents might be a space (regular, en-space, em-space, etc.) or a tab character.*

Near the end of the EDD are two FormatChangeLists: CompactYes and CompactYesEntry. These lists affect the vertical spacing of some elements (based on the value of their @compact attribute), and are called from within the formatting rules of some elements.

The following table lists the elements that have some direct formatting applied by the EDD:

	Text, attribute values, or other prefix/suffix characters	**Indents[1]**	**Above/below spacing, across all sideheads and cols, etc.**	**Separator lines from template reference pages**	**Font properties**
audience	x			x	
author	x		x		
boolean	x				
brand	x			x	

	Text, attribute values, or other prefix/suffix characters	Indents[1]	Above/below spacing, across all sideheads and cols, etc.	Separator lines from template reference pages	Font properties
category	x			x	
choices			x		
cmd			x		
codeblock			x		
component	x			x	
context			x		
copyrholder	x				
copyryear	x			x	
created	x			x	
dd			x		
ddhd			x		
delim	x				
dl			x		
dt			x		
dthd			x		
entry[2]			x		
example			x		
featnum	x			x	
fig			x		
fm-link	x		x		
fragment			x		
fragref			x		
groupchoice			x		
groupcomp			x		

	Text, attribute values, or other prefix/suffix characters	Indents[1]	Above/below spacing, across all sideheads and cols, etc.	Separator lines from template reference pages	Font properties
groupsep			x		
info	x				
keyword	x		x		
keywords	x			x	
kwd	x				
li			x		
link			x		
linktext			x		
lq	x				
msgblock			x		
note	x	x			
ol			x		
oper	x				
othermeta	x			x	
p	x		x		
parml			x		
pd			x		
permissions				x	
platform	x			x	
postreq	x		x		
prereq	x		x		
prodname	x			x	
prognum	x			x	
prolog				x	

	Text, attribute values, or other prefix/suffix characters	Indents[1]	Above/below spacing, across all sideheads and cols, etc.	Separator lines from template reference pages	Font properties
pt			x		
publisher	x			x	
q	x				
repsep	x		x		
related-links	x				
resourceid	x			x	
result	x		x		
revised	x			x	
screen		x	x		
sep	x				
series	x			x	
sl			x		
source	x			x	
state	x				
stepresult	x				
steps-unordered			x	x	
steps			x	x	
substeps			x		
syntaxdiagram			x		
title	x				x
tm	x				x
tt					x
tutorialinfo	x				
uicontrol	x				

	Text, attribute values, or other prefix/suffix characters	Indents[1]	Above/below spacing, across all sideheads and cols, etc.	Separator lines from template reference pages	Font properties
ul			x		
var	x				
vrm	x			x	

1. The first and left indents for the elements note and screen are handled using variables. To change their value globally (within the EDD), modify the value of variables indent_1, indent_2, indent_3, and indent_4.
2. The entry element has been included for thoroughness, even though in its case, the changes are in alignment, based on attribute value, and will likely not require any modification.

Adding New fm-ditabook Attributes

Passing data from a DITA map to the generated FM book file can be accomplished by creating new attributes on the fm-ditabook element.

Two DITA-FMx features read the attribute values that exist on the fm-ditabook element (the root of a generated book file). These attributes can define values that are passed to the book components as FrameMaker variables. These attributes can also be used to control the show/hide state of conditions in the generated book components. For information on enabling these features see, Book-Build INI file.

In order to add your own attributes to the fm-ditabook element, you need to modify a number of files in the Book structure application. The following is an overview of the steps required; details are provided below.

1) Modify the EDD to add attributes to the fm-ditabook element definition.

2) Import the updated EDD into the Book template.

3) Modify the *fmxbook.dtd* file to add the new attribute definitions.

4) Modify the *bookmap2fmbook.xsl* file to copy the selected data into the new fm-ditabook attributes.

Specific information regarding the modification of the DTD and XSL files are provided below.

Modifying the fmxbook.dtd file

The *fmxbook.dtd* file is found in the Book application's *dtd* folder.

1) Open the *fmxbook.dtd* file and locate the attribute definitions for the fm-ditabook element. The unaltered attribute definition should look like the following.

```
<!ATTLIST fm-ditabook
    href CDATA #IMPLIED
    format CDATA #IMPLIED
    title CDATA #IMPLIED
>
```

2) Add the new attributes. The example below adds a new "version" attribute.

```
<!ATTLIST fm-ditabook
    href CDATA #IMPLIED
    format CDATA #IMPLIED
    title CDATA #IMPLIED
    version CDATA #IMPLIED
>
```

3) Save and close the DTD file.

Modifying the bookmap2fmbook.xsl file

The *bookmap2fmbook.xsl* file is used to aggregate the DITA topics into a book file and component FM files. It can be used to copy data from the DITA map into attributes of the fm-ditabook element. Most likely you would copy data from the bookmeta or topicmeta elements, but any accessible element or attribute data could be used.

1) Open the *bookmap2fmbook.xsl* file and locate the map and/or bookmap templates. It will depend on the type of data you're copying as to which template you will work on. The map and bookmap templates begin with the following lines.

```
<xsl:template match="map">
...
</xsl:template>

<xsl:template match="bookmap">
...
</xsl:template>
```

2) Within each block is code that creates the fm-ditabook element.

```
<fm-ditabook xsl:exclude-result-prefixes="ditaarch">
  <xsl:attribute name="format">
    <xsl:value-of select="@format"/>
  </xsl:attribute>
  <xsl:attribute name="title">
    <xsl:value-of select="$title_text"/>
```

```
  </xsl:attribute>
  <xsl:apply-templates/>
</fm-ditabook>
```

3) The xsl:attribute element is used to add attributes to the fm-ditabook element in the generated FM book. To add a version attribute, insert the following code before the xsl:apply-templates element.

```
   <xsl:attribute name="version">
     <xsl:value-of
select="/bookmeta/prodinfo/vrmlist/vrm/@version"/>
   </xsl:attribute>
```

4) Save and close the XSL file.

Required Element Definitions

To make the most of the authoring and publishing features in DITA-FMx, some elements must be set up in a specific manner. This topic describes those requirements.

The easiest way to get up and running with DITA in Frame is to use the default structure applications provided with DITA-FMx; they will "just work" right out of the box. Once you're comfortable with things and want to make some adjustments to fit your house style or want to specialize, you can either clone the apps provided, use some DITA apps provided by someone else, or make your own from scratch. If you want to customize the apps provided with DITA-FMx, refer to the topic Developing Custom Structure Applications. If you want to use other applications or want to make your own, just be sure that they adhere to the requirements expected by DITA-FMx. In order to implement certain DITA features in DITA-FMx, the applications must be set up in a very specific way.

The information in the following topics describes the requirements that need to exist in a DITA structure application so that it functions properly with DITA-FMx. All of the modifications described affect the structure application files only (EDD, template, rules file), no modifications need to be made to the DITA DTD files. The items are grouped by feature, some of these features require the addition of multiple elements or structure application modifications. If you don't want to make use of a given feature, you can skip the modifications described in that section. There are many other rules and EDD modifications that are needed for proper use of DITA files in FrameMaker, these are not discussed; only those features that are required or used by DITA-FMx are documented at this time.

The easiest way to set up these features in your custom application is to copy and paste from the default DITA-FMx applications.

RELATED LINKS:
"Developing Custom Structure Applications" on page 50

indexterm and fm-indexterm

The fm-indexterm element represents an indexterm element as a FrameMaker marker. If the **indexterm to fm-indexterm** option is enabled in the Options dialog, indexterm elements and any index-related child elements are converted into the FrameMaker index marker syntax and added to an fm-indexterm element.

In order to support the indexterm to fm-indexterm conversion, the Topic and Book structure applications must have the fm-indexterm element defined. This is a clone of the indexterm element, but is defined as a Marker object rather than a Container. All general rules that allow the indexterm element should also allow the fm-indexterm element. The default value of the fm-indexterm element's class attribute should be "- topic/indexterm fmx/fm-indexterm". The fm-indexterm marker only supports the conversion of indexterm elements that have the following child elements: indexterm, index-see, index-see-also, and index-sort-as. If your DITA files use other child elements you should disable this optoin.

No rules are needed to properly process the indexterm or fm-indexterm elements. In fact, if you're migrating an older structure application you should remove the indexterm rule, it is no longer needed.

If the **indexterm to fm-indexterm** option is disabled, indexterm elements will open as simple container elements.

fm-data-marker

The fm-data-marker element round-trips to DITA as the data element, and allows you to make use of multiple marker types in FrameMaker. When you insert an fm-data-marker, that element saves to DITA as a data element with the @datatype attribute set to "fm:marker" and the @name attribute set to the marker's type. The marker text is assigned to the @value attribute.

The element definition of fm-data-marker is identical to that of the the data element, except that the object type is a Marker instead of a Container. Also the @class attribute is "topic/data fmx/fm-data-marker." The plugin handles the conversion from fm-data-marker to data and back; no read/write rules are needed for this element.

fm-xref

The fm-xref element is used to create a FrameMaker-style cross-reference used inline as a standard DITA xref element would be used. On file save, this converts to a standard DITA xref element and on file open, it converts back into an fm-xref element. The way an fm-xref is identified as such is the type attribute value which is given the format of "fm:<format name>". Where <format name> is the cross-reference format name as defined in the FrameMaker template. When an fm-xref element is inserted, the standard FrameMaker Cross-Ref

dialog displays, select the target element and the cross-ref is inserted as the fm-xref element.

To use the fm-xref feature requires the creation of the fm-xref element definition.

1) Create an fm-xref element definition (in the EDD):
    a) Make a copy of the default xref element definition.
    b) Change the name to “fm-xref”
    c) Delete the general rule (an fm-xref cannot have child elements)
2) Add fm-xref to the appropriate general rules (everywhere that an xref element is valid, the fm-xref element should also be).

Th fm-xref element should be added to both the Topic and Book applications.

fm-link and fm-linkref

The fm-link element is used to create a FrameMaker-style cross-reference as a related-links item. On file save, this converts to a standard DITA link element and on file open, it converts back into an fm-link element. The way an fm-link is identified as such is the type attribute value which is given the format of “fm:<format name>”. Where <format name> is the cross-reference format name as defined in the FrameMaker template. When an fm-link element is inserted, the standard FrameMaker Cross-Ref dialog displays, select the target element and the cross-ref is inserted as a fm-linkref element (child of fm-link). You can optionally add a standard desc element as a sibling of the fm-linkref.

To use the fm-link feature requires the creation of fm-link and fm-linkref elements.

1) Create an fm-link element definition (in the EDD):
    a) Make a copy of the default link element definition.
    b) Change the name to “fm-link”
    c) Change the general rule to “fm-linkref, desc?”
    d) Change the default value for the class attribute to “- topic/fm-link”
    e) Add an automatic insertion of a child “fm-linkref” element.
2) Create an fm-linkref element definition (in the EDD):
    a) Make a copy of the default link element definition.
    b) Change the name to “fm-linkref”
    c) Change the element type from Container to CrossReference
    d) Delete the general rule

e) Make all of the attributes into the type "String" that is "Optional" with a Special Attribute Control of "Hidden". Remove all default values.

3) Add fm-link to the appropriate general rules (everywhere that a link element is valid, the fm-link element should also be).

The fm-link and fm-linkref elements should be added to both the Topic and Book applications.

link and fm-linklabel

In order to provide a clickable label for the link element, the fm-linklabel element must be added to the EDD. This element is discarded on file save, and is recreated on file open.

The only thing required to implement this feature is to add the element definition to the EDD and to add it to the general rule of the link element. The fm-linklabel element should have a general rule of "<TEXT>". If you want to apply character formatting you can add text format rules.

If this element is not added to the EDD, you will be able to create link elements, but they will have no label to click on.

NOTE: *It has been found that children of this element may not import properly if your EDD specifies a prefix rule for the link element. The FM8-DITA and early DITA-FMx Topic applications specify a prefix rule for link. If you're having link import problems, you may want to investigate this possibility.*

The fm-linklabel element should be added to both the Topic and Book applications.

simpletable-Based Tables

Tables based on the simpletable element require a slightly different structure than that provided by DITA in order to render properly as a table in FrameMaker. To accommodate this difference, these tables need an extra level of hierarchy added to define the table heading area and the table body area while working in FrameMaker.

The simpletable element and those elements that are specialized from simpletable (properties and choicetable) need a Table Heading element named "fm-<tabletype>head" and a Table Body element named "fm-<tabletype>body" added to the EDD. The fm-simpletablehead element specifies a general rule of "sthead" and the fm-simpletablebody element specifies a general rule of "strow+". The general rule for the <tabletype> element should be "fm-<tabletype>head?, fm-<tabletype>body".

In addition to the EDD modifications, the following rules are needed for each simpletable-based structure:

```
fm element "fm-simpletablehead" unwrap;
fm element "fm-simpletablebody" unwrap;

element "simpletable"
{
  is fm table element;
  attribute "relcolwidth" is fm property column widths;
}
element "sthead"
{
  is fm table row element;
  fm property row type value is "Heading";
}
element "strow"
{
  is fm table row element;
  fm property row type value is "Body";
}
```

The initial rules (first two lines) discard the head and body wrappers on file save. The remaining rules define the root table element (in this case simpletable), the row element that is a “Heading” row (in this case sthead) and the row element that is a “Body” row (in this case strow). For simpletable specializations, you must provide these three rule groups so the row elements are placed into the right “fm-<tabletype>head” or “fm-<tabletype>body” elements.

Because the choicetable element must have only 2 columns, the root table rule looks like the following:

```
element "choicetable"
{
  is fm table element;
  fm property columns value is "2";
  attribute "relcolwidth" is fm property column widths;
}
```

And because a properties table can have one, two, or three columns, the properties element read/write rule (from DITA-FMx 1.0) is no longer used (this rule required that a properties table always have three columns). The Element Mapping dialog in Options allows the definition of multiple optional table cell elements, and can be used to support other specilizations of simpletable.

The fm-simpletablehead, fm-simpletablebody, and the head/body elements for other simpletable-specialized elements should be added to both the Topic and Book applications.

RELATED LINKS:
"Element Mapping" on page 114

image

To support the proper sizing and placement of image elements, add the following to the “image” rule in both Topic and Book apps:

```
element "image"
{
  is fm graphic element;
  fm property import by reference or copy value is "ref";

  writer facet default
  {
    specify size in pt;
  }
  attribute "href"
  {
     is fm attribute "href";
     is fm property file;
  }
  attribute "align"
  {
    is fm property alignment;
    value "left" is fm property value align left;
    value "right" is fm property value align right;
    value "center" is fm property value align center;
    value "current" is fm property value align center;
  }
  attribute "height"
  {
    is fm property height;
    is fm attribute;
  }
  attribute "width"
  {
    is fm property width;
    is fm attribute;
  }
}
```

fm-reflabel and Topic References

In order to provide a clickable label for the topic referencing elements in map and bookmap files, the fm-reflabel element must be added to the EDD. This element is discarded on file save, and is recreated on file open.

To implement this feature the fm-reflabel element definition must be added to the EDD and added to the general rule of the topicref, chapter, appendix, part, etc. elements. The fm-reflabel element should have a general rule of "<TEXT>". If you want to apply character formatting you can add text format rules.

Because the fm-reflabel element is not part of the DITA specification, it must be deleted on file save. Add the following rule to the Map applicaiton rules file:

```
fm element "fm-reflabel" drop;
```

If this element is not added to the EDD, you will be able to create topic referencing elements, but they will have no label to click on.

The fm-reflabel element should be added only to Map application.

NOTE: *The fm-reflabel element replaces the fm-topicreflabel as of DITA-FMx 1.1. This change was made to support a clickable label on all topic referencing bookmap elements.*

reltable

Because DITA defines the reltable element with the same structure as a simpletable element, it requires additional internal structure to be rendered properly as a table within FrameMaker. This adds the fm-reltablehead and fm-reltablebody elements. Also, in order to support the use of the topicmeta element as the child of a reltable, the fm-reltablemeta element is added. On file save, the fm-reltablemeta element is converted into a topicmeta, and on import a topicmeta that is the child of a reltable is converted into an fm-reltablemeta element.

In the EDD, general rule for reltable should be "(fm-reltablemeta)?, (fm-reltablehead)?, (fm-reltablebody)". The fm-reltablehead elementis defined as a Table Heading element named and the fm-reltablebody element is defined as a Table Body element. The fm-reltablehead element specifies a general rule of "relheader" and the fm-reltablebody element specifies a general rule of "relrow+". The fm-reltablemeta element is defined as a Table Title element and has the same general rule as the topicmeta element. It also has the same attribute definitions as the topicmeta element, but no other element definition properties are needed for fm-reltablemeta.

In addition to the EDD modifications, the following rules are needed for the reltable structure:

```
fm element "fm-reltablehead" unwrap;
fm element "fm-reltablebody" unwrap;

fm element "fm-reflabel" drop;

element "fm-reltablemeta"
{
  is fm table title element;
}

element "reltable"
{
  is fm table element;
}
element "relheader"
{
  is fm table row element;
  fm property row type value is "Heading";
}
element "relrow"
{
  is fm table row element;
```

```
  fm property row type value is "Body";
}
```

The initial rules (first two lines) discard the head and body wrappers on file save. The next line discards the fm-topicreflabel element. The remaining rules define fm-reltablemeta as a Table Title, the root table element (reltable), the row element that is a "Heading" row (relheader) and the row element that is a "Body" row (relrow).

Special Book Application Elements

The Book application is essentially identical to the Topic application except that it has three additional elements that are used to isolate the separate pieces that are part of the book. (The fm-subditamap element is no longer used in DITA-FMx 1.1.) The Book application also makes use of a special fm-tabletitle element for proper table formatting.

fm-ditabook

The root element of the generated book file. Also represents the root DITA map used to create the book. The href attribute defines the path and name of the source ditamap file. Additional attributes may be added from map metadata for use as variables or by element definition context rules.

fm-ditafile

Identifies each DITA topic file. The href attribute defines the path and name of the source topic file. The maptype attribute contains the name of the element that referenced this topic file in the original ditamap. This is used by the book-build process to identify specific book components to automatically apply templates as well as numbering and pagination properties.

fm-bookcomponent

Used as a container for generated book components. This wraps any generated that are added by the book-build process, or you can add this for any generated files you add manually.

fm-tabletitle

Allows for properly formatted table titles in generated FrameMaker files. The Book application must have the fm-tabletitle element defined and valid as a child of the tgroup element.

Other than these special "fm-*" elements that are unique to the Book application, three element definitions vary from those in the Topic application:

title

The context rule level numbering differs to allow for an additional level of "chapter titles."

fig

Includes the title element as an optional element at the end of the general rule. This is required by the "Move fig/title to end of fig element" Book Build option.

tgroup

Includes the fm-tabletitle element in the general rule. This is required by the "Move table/title to table/tgroup/title" Book Build option.

Setting Up to Use the Generate Output Command

Details on setting up DITA-FMx to communicate with the DITA Open Toolkit.

The **DITA-FMx > Generate Output** command lets you generate output through the DITA Open Toolkit. This command provides two main options, you can generate output from the current topic or map file, or by using a specific Ant target. The setup required for these two options is described below.

DITA-FMx makes a call to the DITA Open Toolkit (DITA-OT) through a batch file named *~ant-build.cmd*. This file is generated on the fly in the *FrameMaker\DITA-FMx* folder. In order for this batch file to work properly, the environment variables that define the location of Java and Ant (and possibly other utilities) must be properly defined. DITA-FMx provides the **DITA-OT Environment Setup File** option (in DITA Options, External Applications dialog) which lets you specify a batch file that loads the proper environment settings when the OT is run. If you use this parameter and follow the instructions below, your OT connection should be fairly simple. However, if you use an older version of the OT or have special requirements you may need to ensure that the environment settings are defined globally.

If you are using DITA-OT 1.4.1 or later, we have found that you must use Java 1.5 or higher. We recommend that you use the "fullpackage" version of the DITA-OT. Complete the following steps to ensure that you are able to generate output through the Open Toolkit:

1) Download the latest "full" ZIP of the DITA-OT (for example *DITA-OT1.4.2.1_full_easy_install_bin.zip*) from SourceForge <http://sourceforge.net/project/showfiles.php?group_id=132728&package_id=145774>. Extract the contents of this file to your local file system into a directory named *C:\DITA* (or similar). It is important that the directory path that contains the DITA-OT directory has no spaces in any of the directory names. After extracting the contents of the OT archive, you will have a path such as *C:\DITA\DITA-OT1.4.2.1*.

2) Download and install the Java Development Kit (JDK) version 5 or higher (http://java.sun.com/javase/downloads/index.jsp). (Yes the DITA-OT

install instructions say JDK1.4.2, but that won't work with OT 1.4 it appears. *You must use version 5 or higher!*

3) Set your JAVA_HOME environment variable to the path of the newly installed JDK (perhaps "C:\Program Files\Java\jdk1.6.0_04").

4) Copy the *ditafmx-ant.xml* file from the *FrameMaker\DITA-FMx* folder to your DITA-OT folder.

5) In the DITA-OT folder, copy the *startcmd.bat* file to *ditafmx-startcmd.bat* (in the same folder copy the file to a new name).

6) Open the *ditafmx-startcmd.bat* file in Notepad (or other text editor) and comment out the last line (add a “REM “ in front of the line). If you don't comment out this line, it will still work, you'll just get an empty shell that hangs around each time you build. It should look like this:

```
REM start "DITA-OT" cmd.exe
```

7) In the DITA Options dialog, select the **External Apps** button to display the External Application Settings dialog. Set the value of the **DITA-OT Directory** option to reference the main DITA-OT directory. Then set the value of the **DITA-OT Environment Setup File** option to reference the *ditafmx-startcmd.bat* file.

   If you make use of the **Selected Target** option with the **Generate Output** command in Frame, by default this environment setup file is used for those builds as well. If you want to specify an alternate environment setup file, you can add the “EnvironmentSetup” parameter to the associated "ANT:<targetname>" sections.

This should let you generate output through the default OT 1.4.2.1 targets, without requiring you to set up the system environment. If you use the PDF2 transform, you may need to do some additional work such as starting Frame from a shell in the OT directory (or adding a "cd %DITA_DIR%" line to the *ditafmx-startcmd.bat* file.

Alternatively, you may want to start FM from the DITA-OT directory. To do this just create a shortcut to *FrameMaker.exe*, and in the "Start In" field of the Shortcut tab, set this value to the path to your DITA-OT directory.

Generate Output: Current File Option

The **Current File** option of the **Generate Output** command lets you generate output from the current topic or map file using a pre-defined Ant script (*ditafmx-ant.xml*). The installation process described above should be all that’s needed to use this command.

The information about the current file and project are passed to the Ant script through command line parameters. By default, this provides three targets:

HTML, CHM, and PDF. If you want to add others, modify the *ditafmx-ant.xml* file accordingly and add more targets to the BuildFile section of the *ditafmx.ini* file.

The "lmi-airhelp" target is now included in the *ditafmx-ant.xml* file. If you would like to try building AIR Help from DITA files, download the DITA to AIR Help plugin from Leximation at www.leximation.com/airhelp/. You will also need to add an "lmi-airhelp" entry to the BuildFile section of the *ditafmx.ini* file.

In order to take advantage of ditaval filtering, you must register or create ditaval files so they are known to DITA-FMx. The Ditaval Manager provides the means to add existing files, or create new files.

Generate Output: Selected Target Option

The following steps should get you up and running with the **Selected Target** option of the **Generate Output** command.

1) Copy the *PROJECT.xml* file to your DITA-OT directory and rename it something appropriate for your project.

2) Edit the <*project*>*.xml* file and set the properties indicated in the comments so they match your system and project.

3) Set up the *ditafmx.ini* file as follows:

NOTES:

- Be sure that the LogFile parameter specifies a directory that exists before the Ant script is run, otherwise the build will fail.
- The optional EnvironmentSetup parameter can be used to specify a batch file to run before running the Ant script in order to set up the environment. (If this is not added, the default setting in the BuildFile section will be used.)
- In the examples below, swap "<PROJECT>" for the actual project name.
- If the builds aren't working, try running the script from the command line:

```
ant -f project.xml html
```

```
[AntBuild]
Count=3
1=<PROJECT> - CHM
2=<PROJECT> - HTML
3=<PROJECT> - PDF

[ANT:<PROJECT> - CHM]
BuildFile=C:\DITA-OT1.4.1\<PROJECT>.xml
EnvironmentSetup=C:\DITA-OT1.4.1\ditafmx-startcmd.bat
Target=chm
```

```
OutputDir=C:\Projects\<PROJECT>\out\chm
Logfile=C:\Projects\<PROJECT>\ant-buildlog-chm.txt

[ANT:<PROJECT> - HTML]
BuildFile=C:\DITA-OT1.4.1\<PROJECT>.xml
EnvironmentSetup=C:\DITA-OT1.4.1\ditafmx-startcmd.bat
Target=html
OutputDir=C:\Projects\<PROJECT>\out\html
Logfile=C:\Projects\<PROJECT>\ant-buildlog-html.txt

[ANT:<PROJECT> - PDF]
BuildFile=C:\DITA-OT1.4.1\<PROJECT>.xml
EnvironmentSetup=C:\DITA-OT1.4.1\ditafmx-startcmd.bat
Target=pdf
OutputDir=C:\Projects\<PROJECT>\out\pdf
Logfile=C:\Projects\<PROJECT>\ant-buildlog-pdf.txt
```

RELATED LINKS:

"Generate Output" on page 129

Setting Up to Use Cross-References

Explains the differences between FrameMaker and DITA based xref or link elements and how they are used.

DITA-FMx offers two types of cross-references, a DITA-based cross-reference (the xref and link elements) and a FrameMaker-based cross-reference (the fm-xref and fm-link elements). This distinction only exists within the FrameMaker user interface; when exported to a DITA XML file, both types appear as standard xref and link elements.

The FrameMaker-based cross-reference is defined as a “Cross-Reference” element in the EDD as opposed to a DITA-based cross-reference which is defined as a “Container” element. FrameMaker-based cross-references take advantage of the formatting capabilities available to “standard” FrameMaker cross-references such as the inclusion of page numbers and additional text (this formatting is defined in the underlying FrameMaker template). DITA-based cross-references will either display the text of the target element or static arbitrary text that is entered when the cross-reference is created.

FrameMaker-based cross-references can only reference another element, while a DITA-based cross-reference can reference another element or content outside of the local scope such as a website. Both cross-reference types have their purpose and it’s up to the author to decide which suits their needs best.

You can use either or both of these cross-reference types. The provided structure applications are set up to use both types of references.

When saved to PDF, the FrameMaker-based cross-references will become live hyperlinks. In order for DITA-based references to become hyperlinks, you must run the **Xref to Hyperlink** command after generating the book/FM files.

By default, the structure application is set up to only allow fm-xref and fm-link elements to reference other topics (topic, task, concept, and reference elements) and section elements. You can customize the EDD to allow referencing of other elements if needed. In order for an element to appear in the FrameMaker Cross-Reference dialog as a cross-reference target, the "id" attribute of that element must be defined as a *type* of "UniqueID." By default, most id attributes are defined as a type of "String." Just change the type to UniqueID and that element will be listed in the Cross-Reference dialog.

REMEMBER: *If you are using FM-based cross-references, always use the Source Type of "Elements," never use a Source Type of "Paragraphs" or "Cross-Ref Markers." If the elements that you want to reference are not available, you need to update the EDD as described above.*

Advanced Cross-Reference Options

NOTE: *The following information is provided for those who want to change the default functionality for FrameMaker-based cross-references; there is no reason to read further if the default setup is fine for your needs.*

To ensure compliance with the DITA specification, when an fm-xref or fm-link element is saved to XML, it is saved to the corresponding DITA element. By default the fm-xref element is saved to the xref element and the fm-link element becomes a link element. When reopened in FrameMaker, these elements convert back into the proper FM-based element. If needed, you can change the way this process works.

To save to specialized xref or link element names.

If your DITA model uses a specialized xref or link elements, as long as the class attribute values indicate the proper inheritance, they should function properly. If you make use of the fm-xref or fm-link functionality, you must choose only one element for each to convert into on file save. To specify an element other than the default xref or link for the fm-xref or fm-link elements make the following changes to the *ditafmx.ini* file:

- Set GeneralExport\XrefProcessing to 1
- Set GeneralExport\CrossRefToXref to 1
- Set GeneralExport\DitaXrefElem to the "xref" element name
- Set GeneralExport\DitaLinkElem to the "link" element name

To write the FM-based cross-reference text to XML.

Normally on file save, the FM-based cross-reference text is not saved to the XML file; it is regenerated on file open. If you want the reference text saved to the XML file, you must modify the *ditafmx.ini* file as follows:

- Set GeneralExport\WriteLinkTextToFmXrefs to 1

To disable all cross-reference processing

If you want to manage all cross-reference processing through read/write rules or XSLT transformations, make the following modifications to the *ditafmx.ini* file:

- Set GeneralExport\XrefProcessing to 0
- Set GeneralExport\CrossRefToXref to 0
- Set GeneralExport\DitaXrefElem to "" (nothing)
- Set GeneralExport\DitaLinkElem to "" (nothing)

RELATED LINKS:

"Using the Reference Manager" on page 12
"Xref to Hyperlink" on page 87

Creating Element Templates

Provides a method to add predefined structure and content to new files.

An element template is an FM binary file that contains structural and textual content that is inserted into a new topic when it is created. You can have many different element templates for each topic type. Available element templates may be selected in the New DITA File dialog.

By default, element templates are stored in the folder that contains the structure application template file. You can specify another folder (local or network location) to store these files in the New File Options dialog which is available from the New DITA File dialog or the Options dialog.

Element template files must follow a strict naming convention in order to appear in the list in the New DITA File dialog. The file name pattern is *new~<topictype>~<template name>.fm*. That is "new" followed by a tilde followed by the topic or map element type (such as "topic", "concept", "task" etc.), followed by a tilde, followed by the name that you want to appear in the list, with an ".fm" file extension.

To create an element template just create a new DITA file and insert the elements and content that you want in the template, then save this file to a binary FM file into the specified element template folder. Note that when the new file is created using your template, the text of the title element will be

replaced with the text entered in the New DITA File dialog, and the ID attribute of the root topic will be replaced with a new unique ID (assuming that the "auto-add IDs" option is enabled in Options).

Sample topic and task element templates are provided in the DITA-FMx Topic application folder.

RELATED LINKS:
"New DITA File" on page 82

Switching Between DITA-FMx and FM8/9-DITA

If needed, you can easily switch between DITA-FMx and the built-in FM8/9 DITA support.

For testing purposes, you may want to alternate between DITA-FMx and the built-in FrameMaker 8/9 DITA support. Fundamentally, this is very simple to do, and if you do this frequently, there are things you can do to make it even easier.

All that is required to switch between these two DITA plugins is to update the *maker.ini* file. When you installed DITA-FMx, you should have commented out the lines that initialize the default DITA support. To enable the default support and disable DITA-FMx, just uncomment the "ditafm" lines and comment out the "ditafmx" lines. Then to switch back to DITA-FMx just do the reverse. Of course, each time you modify the *maker.ini* file you'll ned to restart FrameMaker to initialize the alternate plugin.

IMPORTANT: *Before modifying the maker.ini file you should make a backup and keep it in a safe place.*

You may want to set up the *maker.ini* file so it's easy to make this change. Just move the lines to the end of the APIClients section and add some comments to look like this (note that the FM8 DITA lines have been modified slightly):

```
; Default FM8-DITA
;ditafm=Standard, FM8-DITA, fminit\ditafm.dll, structured
;ditafm_app=Standard, FM8-DITA, fminit\ditafm_app.dll,
structured
;ditabook=Standard, FM8-DITA, fminit\ditabook.dll, structured
;ditaOpenToolkit=Standard, FM8-DITAOT, fminit\openToolkit.dll,
structured

; DITA-FMx
ditafmx=Standard, ditafmx, DITA-FMx\ditafmx_80.dll, structured
ditafmx_app=Standard, ditafmx_app, DITA-FMx\ditafmx_80_app.dll,
structured
```

This way you can easily add or remove the semicolon to comment or uncomment the appropriate lines.

One additional step that will streamline this process is to change the FM8 DITA entry for “ditafm_app” to “ditafmx_app,” then make the same change in the structure application definitions file (change “ditafm_app” to “ditafmx_app” in the UseApiClient entries). This won’t change the functionality of the FM8/9 DITA import/export client, it just means that you can use the same structure application for both plugins and you won’t have to edit the structapps file each time you switch. If you call them both “ditafmx_app,” then when you install an update of DITA-FMx, it will be an easier installation.

Leximation provides a plugin called IniSwitcher that modifies specified lines in an INI file from a command within FrameMaker. This plugin was specifically developed to make it easy to switch between the DITA authoring plugins. If you are interested in using this plugin, check www.leximation.com/tools or contact Leximation for more information.

RELATED LINKS:
"FrameMaker 8/9 Installation Requirements" on page 41

INI-Only Settings

Describes the settings that must be applied manually in the *ditafmx.ini* file.

The default values for these parameters should be sufficient for most people, but there are reasons that you may want to change the default behavior. The following settings must be changed manually in the *ditafmx.ini* file.

General section

MaxRefLevels - Specifies the number of nested files that are opened due to the auto-loading of references (xref or conref). If your files never have references within references (such as an xref within a conref), then you should set this to a value of “1”. If your files do make use of nested references, set this value equal to the maximum number of reference levels that exist. The greater the number the longer it may take to open files since all references in all opened files will resolve (unless limited by this option). Valid values are 0 through 9 or “*” (asterisk means unlimited levels). Setting this value to 0 disables the auto-updating of xrefs and conrefs.

This reference resolving process is used when generating a book from a map, but is not used while authoring unless the INIOnly/UseRefList parameter is set to “0”.

INIOnly section

UseRefList - Controls the way references are resolved while authoring. If set to “1” (default), references (xrefs and conrefs) are resolved “on disk,” allowing for much faster processing and less time required to open files. If set to “0” all referenced files are opened in FrameMaker in order to resolve

the references. The number of files opened is determined by the reference nesting level, which is controlled by the General/MaxRefLevels parameter.

LastReferencedElement - Record of the last element tag selected in the Reference Manager to allow access to last referenced elements.

ForceTablesWide - If set to 1, tables are forced to fill the text column (or page if the pgwide attribute is set to 1). This overcomes a limitation where under certain circumstances tables are not rendered full width in Book builds. If your EDD already handles "pgwide" tables, you may need to disable this functionality by setting ForceTablesWide to 0.

StructappsFile - If set, this file is used as the structapps definition file. In order for this to function properly you must also have set the Directories/StructureDir parameter in the *maker.ini* file.

XrefElements - A vertical-bar delimited list of element names that defines the elements that are valid as xref or link targets. For example, setting XrefElements to the following string limits the xref targets to the elements specified:

- XrefElements=topic|concept|task|reference|section|dt

DitaFMxGuide - Specifies the name of the DITA-FMx User Guide Help file (relative to the *DITA-FMx* folder).

DitaHelpKeys - Specifies the shortcut keystrokes to launch context-help for DITA authoring (this runs the "DitaReference" Help file).

DitaReference - Specifies the name of the DITA Reference Help file (relative to the *DITA-FMx* folder).

DitaRefTargetType - Specifies the file extension of target topics in the "DitaReference" Help file for context sensitive Help.

MapFromOutlineTemplate - Specifies the "Map from Outline" template file used as the template for the **New 'Map from Outline' Template** command. The default value for this parameter is "$STRUCTDIR\xml\DITA-FMx_1.1\map-from-outline_template.fm".

BaselineOffset - Specifies the distance (in points) an inline image is shifted below the baseline of the surrounding text. The default value is 2 pts.

BookTitleVariableName - Specifies the name of the variable that is updated with the book title (from map/title, map/@title, bookmap/title, or bookmap/booktitle/mainbooktitle). This variable is only updated in generated list files if it is included in the generated list template (structured files can access the book title via the attribute on the fm-ditabook element). The default name for this variable is "FMxBookTitle".

StripClassAttribute - Set this to "0" to prevent the @class attribute value from being deleted when changing an element's type (using the "Change" button in the Element Catalog). By default this is enabled.

TplDelimChar - Set this to specify the character to use as the file name delimiter for new file templates (*new~<topictype>~<template name>.fm*), book-build component templates (*tpl~<mapelemtype>.fm*), and generated list templates (*gentpl~<mapelemtype>.fm*). If this is not set, the default character is the tilde (~), but if necessary you can set this to another character (such as the hash symbol, #).

MaxOpenFiles - Specifies the number of XML files opened before a warning is displayed. This is convenience when working with FM7.2 and FM8 to allow time to restart FrameMaker before it crashes. These version of FrameMaker have a bug that results in a crash after opening 300+ XML files in the same session.

INIOnly section (for use with the Set Attributes command)

SetAttrIgnore - Specifies the attributes to ignore (and not display) in the dialog. This is a vertical bar delimited string. By default this is set to the following values, you can change these values as needed.

```
xtrc|xtrf|xmlns|class|xmlns:ditaarch|ditaarch:DITAArchVersion|domains
```

SetAttrStrings - Specifies an INI file that defines additional "default" values for the indicated "Strings" attributes (the default value of this parameter is *FilterGroups.ini*). These default values are organized into named groups which can be associated with a specific file system path. All topic files that fall within the specified root path are mapped to that group. Each group lists one or more attributes and a vertical bar delimited list of default values for that attribute. This lets you provide alternate filtering options for different projects that use the same structure application without modifying the EDD.

Unless the value of the SetAttrStrings parameter specifies an absolute path and file name, it is relative to the *FrameMaker\DITA-FMx* folder. If you use a SetAttrStrings file, no default values need be set in the EDD at all. This adds flexibility to the EDD not otherwise obtainable. For more information and details, see Set Attributes.

SetAttrStringsDefault - Specifies the "default" value that is ignored when displaying the list of defaults.

This INI parameter is for very specialized and atypical use. Unless you are doing special FDK processing using attributes of type "Strings" you can safely ignore the following information.

When you specify default values to a Strings attribute in the EDD, the first default may be used as the actual default for certain types of processing. If you want to specify a special value as the first default so that your processing can match on it and ignore the value, enter that string as the value for the SetAttrStringsDefault parameter. A likely value is the dot (".") character, but you can specify any value that makes sense for your

processing. If you specify this value, it will be ignored and excluded from the options displayed in the Set Attribute dialog.

If you do not have processing that cares about the initial default value of a Strings attribute, you can ignore this parameter.

INIOnly section (for use with content management systems)

CMSClientName - Specifies the FDK client name used to connect with the CMS bridge or connector. Typically set automatically by the CMS client.

CMSImageDefaultDpi - Specifies the default DPI for new images. Currently only used for XDocs CMS.

GeneralImport section

IndextermProcessing - If set to 1, enables conversion of indexterm elements to proper format required by FrameMaker.

TableProcessing - If set to 1, enables the counting of table columns for proper import of simpletable and other table types into FrameMaker.

UseLanguageTemplate - If set to 1, enables the use of language-specific template files. When opening a DITA XML file, if the "topic"/@xml:lang attribute specifies a value, the plugin checks for a language template in the same folder as the default template. The language template must be named "<templatename>.<langval>.fm" (the ".fm" extension is optional, but if the default template includes the extension, the language template must also. For example, if your default template is *topic.template.fm*, a Japanese language template would be named *topic.template.ja-jp.fm* (assuming that "ja-jp" was the value in the xml:lang attribute).

GeneralExport section

IndextermProcessing - If set to 1, enables conversion of indexterm elements from the format required by FrameMaker back to one required by DITA.

XrefProcessing - If set to 1, enables processing and conversion of xrefs and links.

CrossRefToXref - If set to 1, enables the conversion of FM-based cross-references to DITA-based xrefs and links.

DitaXrefElem - Defines the element name to use when mapping FM-based cross-refs to DITA xrefs on file export (only used if GeneralExport/CrossRefToXref is enabled).

DitaLinkElem - Defines the element name to use when mapping FM-based cross-refs to DITA links on file export (only used if GeneralExport/CrossRefToXref is enabled).

IgnoreElemPrefix - If you use elements in FrameMaker that do not exist in the DITA DTDs, you should make sure they all have the same prefix ("fm-" for example). This INI setting specifies that prefix. This is required

for proper generation of conrefs on export, and should be used in conjunction with any read/write rules that may be needed.

TableImport section

SetColumnsProp - If set to 1, enables the automatic assignment of the "columns" property.

SetColumnWidthsProp - If set to 1, enables the automatic assignment of the "column width" property.

CustomTableCount and ***N*** - Specifies the number of instances of simpletable elements that have been specialized that need to be automatically analyzed for their column number. The *Count* value should match the number of *N* values. Each *N* value should have the following format: "<table-element>|<row-element>|<cell-element>".

BuildFile section

AntCommand - Specifies the command or path/command used to run Ant. The default is "ant", but if you need to specify another executable or if you need to include the path, change this value. This value is used for both Generate Output options, Current File and Selected Target.

EnvironmentSetup - Specifies a batch file to run before the Ant script in order to set up any needed environment variables.

AntScript - Specifies the filename of the Ant script that is run for the Generate Output: Current File option. The default is "ditafmx-ant.xml", but if you need to specify another filename, change this value. This filename is assumed to be relative to the path specified by the *DitaDir* parameter.

Count and ***N*** - Specifies the number of build options available in the *AntScript* file (and thus displayed in the Generate Output: Current File output option). If you modify the targets in that script, be sure to update the *Count* value and add/remove the related *N* value.

AntBuild section

Count and ***N*** - Specifies the number of "ANT:" sections which define the available build options displayed in the Generate Output: Selected Target output option. For each "ANT:" section added, you must update the *Count* value and add/remove the related *N* value. The value of each *N* parameter must exactly match the text following the "ANT:" section name.

ANT:*build name* section

BuildFile - Specifies path and filename of the associated Ant script (use double backslashes as the directory delimiter).

EnvironmentSetup - Specifies a batch file to run before the Ant script in order to set up any needed environment variables.

Target - Specifies target within the *BuildFile*.

OutputDir - Specifies the path to the output directory (use double back-slashes as the directory delimiter).

Logfile - Specifies the path and filename to the log file (use double back-slashes as the directory delimiter).

DitavalFiles section

Each parameter and value in this section define a "friendly name" and path/filename for a ditaval file. These ditaval files must be created manually and added manually to the INI file in order to be recognized by the Generate Output command and the Apply Ditaval as Conditions command.

RELATED LINKS:
"DITA Options" on page 102
"Tips and Troubleshooting" on page 9
"Using the Reference Manager" on page 12
"Working with Images" on page 17
"Working with Tables" on page 20

Uninstalling DITA-FMx

To remove DITA-FMx and put things back to the original form.

There is no Uninstall application provided with DITA-FMx. Because most of the installation is done manually, it would be misleading and possibly harmful to provide an uninstaller.

To remove DITA-FMx, just delete the DITA-FMx folder and remove the "ditafmx" lines from the APIClients section of the *maker.ini* file. If you just want to disable DITA-FMx, you can comment out the "ditafmx" lines by adding a semicolon at the beginning of each line.

In general, to reinstall the default DITA support, just uncomment the lines in the *maker.ini* file that you commented out when installing DITA-FMx. If you deleted those lines, just add the following lines to the APIClients section of the *maker.ini* file.

FrameMaker 8:

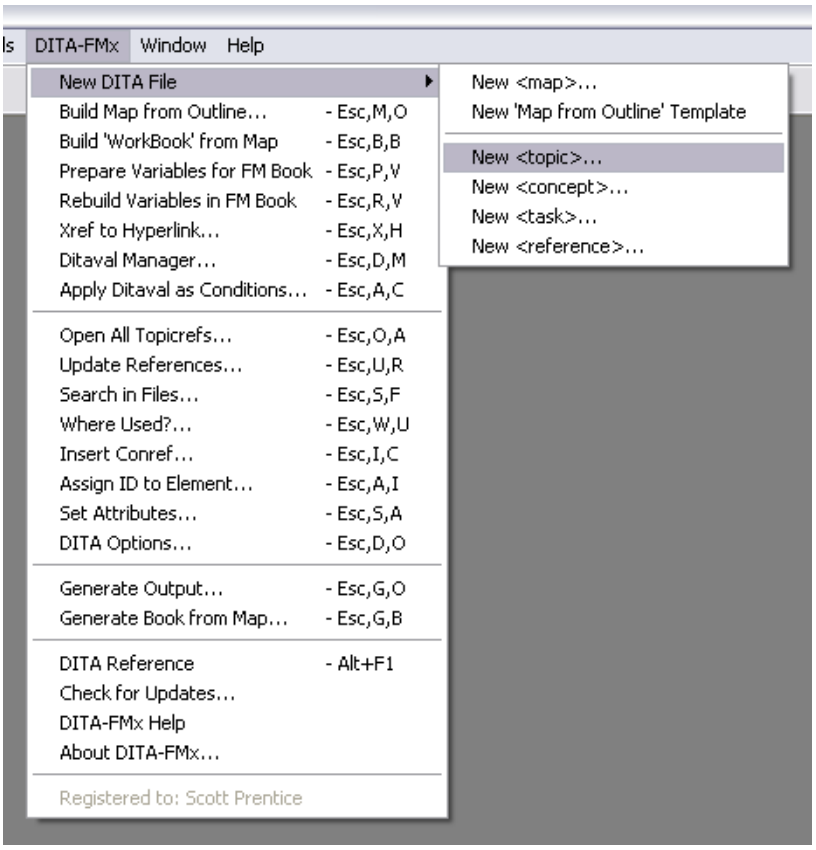
```
ditafm=Standard, Translation client for DITA, fminit\ditafm.dll,
structured
ditafm_app=Standard, Translation client for DITA,
fminit\ditafm_app.dll, structured
ditabook=Standard, Translation client for DITA,
fminit\ditabook.dll, structured
```

FrameMaker 9:

```
ditafm=Standard, Translation client for DITA, fminit\ditafm.dll,
structured
ditafm_app=Standard, Translation client for DITA,
fminit\ditafm_app.dll, structured
```

3 DITA-FMx Commands

Describes the commands and functionality available in DITA-FMx.



RELATED LINKS:

"Using DITA-FMx" on page 1
"Installation and Setup" on page 37
"Extending DITA-FMx" on page 135

New DITA File

Creates a new DITA map or topic file.

There are two groups of items on the **DITA-FMx > New DITA File** menu. Items above the divider create a new map file and items below the divider create a new topic file. The number and label text of these items will vary depending on the map and topic structure applications you have selected in the Options dialog. The map items are those elements with a class attribute value of "map/map" and the topic items are elements those with a class attribute value of "topic/topic."

At the bottom of the "map" area is the command **New 'Map from Outline' Template**. This command creates a new FM file using the "Map from Outline" file as the template. By default, this template is named *map-from-outline_template.fm* and is in the root of the DITA-FMx structure application folder ($STRUCTDIR\xml\DITA-FMx\). You can specify an alternate template file by changing the MapFromOutlineTemplate parameter in the INIOnly section of the *ditafmx.ini* file. For more information, see Build Map from Outline and INI-Only Settings.

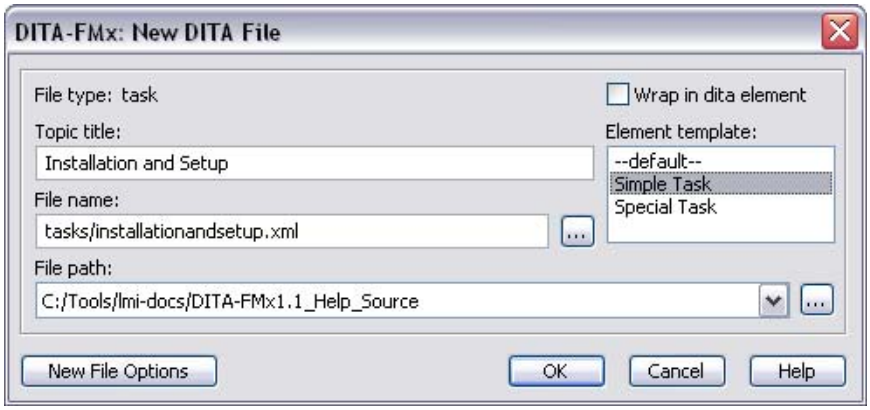


Figure 3-1: DITA-FMx New DITA File dialog box

After selecting a menu item the New DITA File dialog displays. This dialog provides a field for entering the title, file name, file path, and element template (optional). For new topics, the title is inserted into the first title element, for maps, the title text is entered as the map/@title attribute or in the map/title element (depending on the DITA version). For new topic files, the file name field is populated based on the value of the New File Name Format setting (in Options: New File Options). If the new file name format includes a building block that includes the title, the file name field will update as you enter text into the title field. For new maps, the file name field does not update automatically. You can optionally select an element template to insert predefined structure and content into the new file.

Entering a folder name into the File Name field will create the new file in the specified folder. If that folder, or folders, do not exist, you will be prompted to allow them to be created.

TIP: *You can use building blocks to automatically create new files in folders based on the topic type. For an example, see the New File Options topic.*

You can also select the **Wrap in Dita Element** option to create a topic file that includes the dita element as the root element. This is useful if you are creating files with nested topics, and required if you want to have multiple top-level sibling topics. The default value for this option is defined in the **New File Options** dialog.

When you choose OK, the file is immediately saved as XML using the name specified. If you don't provide a file name extension for the new topic file, one is added based on the type specified in the Default File Type option in the Options dialog. DITA map files are given the extension of "ditamap."

When creating a new topic or map file, if your insertion point is in a DITA map at a location that is valid for a topicref element, you are prompted to insert the new file as a topicref.

Creation of new DITA files differs from the standard FrameMaker "New" command because FrameMaker does not provide a method for creating an "Untitled" XML file (one that is not saved to the file system). If you want to start with an "Untitled" file, select the standard New command (**File > New**) and use the DITA template as the template file.

Related links:
"Creating Element Templates" on page 72
"New File Options" on page 110
"Auto-Prolog Options" on page 109
"Build Map from Outline" on page 83
"INI-Only Settings" on page 74

Build Map from Outline

Generates a DITA map and stub files from a simple FrameMaker document or text file.

This command builds a DITA map and associated DITA topic files based on the title text in paragraphs in a FrameMaker document (a binary FM file, not an XML file) or a text file opened in FrameMaker. The topic type for each topicref is defined by the paragraph tag name, and the nesting level is defined by the

number of tabs that indent each paragraph. You can optionally provide an "element template" to define the initial structure for each new topic file.

A "map from outline" template file is provided in the *Structure\xml\DITA-FMx* folder. This file provides the paragraph tags for the basic topic types, but you can add your own tags for any specialized topic types that are needed. Any paragraph tags that start with an underscore are ignored when creating topicrefs. The new DITA map file is named based on the FM file's name and all files are created relative to the FM file.

The paragraph tag named "_map-title" defines the text that will be used for the map/@title attribute (the map's title). The paragraph tags "topic," "concept," "task," and "reference" are used to define a topicref of the specified type. To specify an element template, include the name of the template after the topic title in angle brackets. For example, in the following paragraphs the first one is tagged with the "concept" style and the second is tagged with the "task" style. When converted into a map, it would create two topics, the first being a concept that used no element template, and the second a task that used the element template named "new~task~basic-task.fm".

```
Linear Objects
Drawing Lines <basic-task>
```

The file names of the generated topic files are defined by the New File Name Format in the DITA-FMx Options dialog. This may mean that the filenames are title-based or they could be based on the topic's unique ID, the date/time, or other values. You can also use that format to create the new files in topic-based folders.

If the text of the paragraph is a DITA file name (must end with ".xml", ".dita", or ".ditamap" and have no spaces), that file name will be used for the href attribute value. If the paragraph tag is named "Body" it will assume the "topic" type. This allows you to open a text file that is a listing of files, and quickly generate a DITA map from that list.

Related links:
"New DITA File" on page 82
"Creating Element Templates" on page 72
"New File Options" on page 110
"Auto-Prolog Options" on page 109

Build WorkBook from Map

Generates a FrameMaker book that contains all of the XML files referenced by a DITA map.

A "WorkBook" is a FrameMaker book that contains all of the XML files referenced by a DITA map and any sub-maps. This book is used for book-wide processing using FrameMaker's built-in commands; it is not intended to be used for publishing or output generation. Use the **Open All XML Files in Book** command to open the XML files before using a book-wide processing command.

Open All XML Files in Book

Opens all XML files in a "WorkBook" to facilitate the use of book-wide actions.

This command is only available when a FrameMaker book has the focus. In order to take advantage of FrameMaker's book-wide processing commands (such as spell checking and search), XML files must be opened before running the command (FrameMaker will not automatically open XML files as it does with binary FM files).

This command provides the option to open and resolve references in the XML files or just open the files without resolving references. Opening without resolving references may be preferable under certain circumstances, but you may be warned of invalid spelling errors due to the extra spaces left when an xref or conref doesn't resolve.

FM File Commands

These commands are typically run on FM files not DITA XML files.

Although these commands can be run on any type of file, it is recommended that they be run on FM files only. If run on DITA XML files, they will introduce processing instructions (PIs) that may not be useful in the XML files.

Prepare Variables

Saves variable names to attribute values so they can be rebuilt after the map to book conversion.

FrameMaker variables are saved to XML as entities, and will round-trip fine in and out of Frame (as long as they are named properly). However, any variables that are processed by the **Generate Book from Map** command are flattened

(converted to text) because entities do not survive XSLT processing. This command was developed as a way to work around this limitation.

Before running the **Generate Book from Map** command, run the **Prepare Variables** command on all files that contain FrameMaker variables. This wraps each variable in a ph element and assigns the variable name to the keyref attribute using the format "fmvar:VARNAME" (where VARNAME is the name of the variable). After conversion to a book and chapter files, you can run the **Rebuild Variables** command to rebuild live variables from the data stored in the ph elements.

You can run the **Prepare Variables** command individually on each DITA file, or you can use the **Build Workbook from Map** command to create a "workbook" from which you can process all of the files at once. Before running the **Prepare Variables** command on the workbook, you must first open all of the files with the **Open All XML Files in Book** command.

It is fine to run this command multiple times on the same files or variables, so you may just want to run the command after entering a variable or before saving a file.

IMPORTANT: *If you use the **Prepare Variables** command and feel inclined to set attributes on the ph elements that wrap the variables, don't do it. The ph wrappers are temporary and are deleted each time the command is run. If you want to apply filtering or other attributes to variables, wrap them in a ph element and apply the attributes on that element.*

The DITA-FMx Options dialog offers the **Auto Prepare Variables on Save** option. If this option is enabled, the **Prepare Variables** command is run each time you save the document. This may allow you to skip running this command on a workbook before generating the final book file.

Related links:
"Rebuild Variables" on page 86
"Open All XML Files in Book" on page 85
"Build WorkBook from Map" on page 84

Rebuild Variables

Rebuilds variables after conversion to a FrameMaker book.

In order to resurrect variables that have been flattened to text by the map to book conversion process, they must have been first processed with the **Prepare Variables** command. The **Rebuild Variables** command locates all ph elements with a keyref attribute value that matches the pattern of "fmvar:VARNAME", and replaces the content of the ph element with the variable. The variable will added, only if a matching variable definition is found in the file. Because of this

you may need to import the variable definitions into the file before running the **Rebuild Variables** command.

This can also be done automatically during the Map to Book conversion process by selecting the **Rebuild Variables** option in the Book Build Settings dialog found in the DITA Options dialog.

Related links:

"Prepare Variables" on page 85
"Open All XML Files in Book" on page 85
"Build WorkBook from Map" on page 84

Xref to Hyperlink

Builds FrameMaker Hyperlinks at each xref or link element, to enable live hyperlinks in generated PDF files.

By default, only fm-xref or fm-link elements become “live” hyperlinks in a PDF generated from FrameMaker (as opposed to a PDF generated through the DITA-OT with the **Generate Output** command). Run the **Xref to Hyperlink** command on an FM file or book to build hyperlinks from each xref or link element. This command only processes “internal” xref and link elements (those where the scope attribute is set to something other than “external”). To ensure that external xrefs or links become live hyperlinks, you must enable the **Add Hypertext Marker to External Xrefs** option in the Options dialog before generating the FM file or book.

In order to create proper “gotolink” Hypertext commands, associated Hypertext markers with “newlink” commands are inserted at each element that contains an id attribute.

This command should be run only on generated FM files, not the source XML files. Running this command on XML files results in the Hypertext markers being saved to the XML as processing instructions and needlessly clutters the files.

This can also be done automatically during the Map to Book conversion process by selecting the **Convert Xrefs/Links into Hyperlinks** option in the Book Build Settings dialog found in the DITA Options dialog.

Related links:

"Setting Up to Use Cross-References" on page 70
"DITA Options" on page 102

Flatten Conrefs

Unlocks all conrefs in the active book or file.

By default, conrefs are wrapped in a locked region similar to a text inset. While working in DITA XML files, this is typically the desired functionality, but once a DITA file has been saved to a FM file, it may be useful for the conrefs to be unlocked. This is a particular issue when the conref contains embedded fm-xrefs, which will not be clickable links in a PDF unless the conref has been unlocked.

This can also be done automatically during the Map to Book conversion process by selecting the **Flatten Conrefs** option in the Book Build Settings dialog found in the DITA Options dialog.

IMPORTANT: *This command can be run on an XML file (or a workbook of XML files), and it will flatten all conrefs. Use caution when running this command; once the conrefs are flattened they cannot be rebuilt.*

Apply Ditaval as Conditions

Applies conditions to files based on the filtering properties defined in a ditaval file.

The **Apply Ditaval as Conditions** command can be used while authoring and for setting up PDFs that are generated through FrameMaker. If the command is run with a file active, the conditions will be applied to that file. If a book is active, the conditions will be applied to all files in that book.

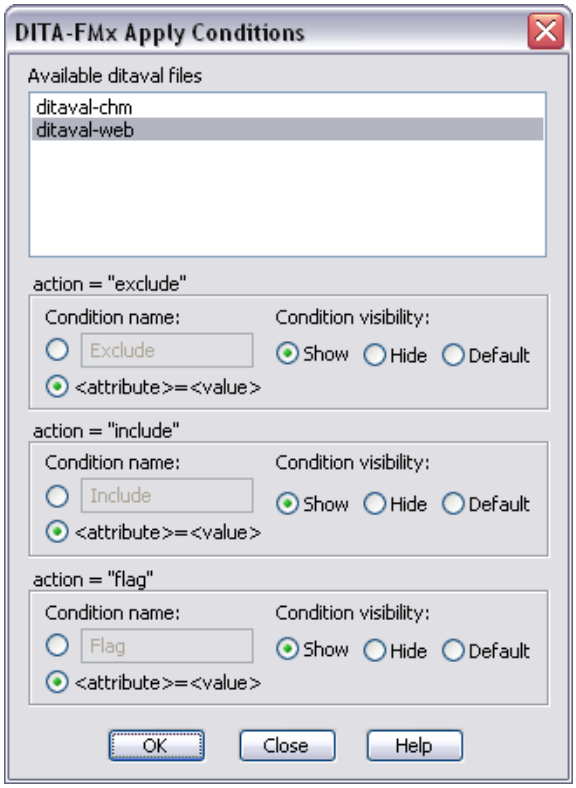


Figure 3-2: DITA-FMx Apply Conditions dialog box

In order to use this command you must have at least one ditaval file registered with DITA-FMx. A ditaval file is "registered" with DITA-FMx when you use the Ditaval Manager to create new ditaval files or add existing ditaval files to the drop-down list. When you run the **Apply Ditaval as Conditions** command, the dialog box lists the available ditaval files (those that have been registered), and the options for the ditaval action values ("exclude", "include" and "flag"). The settings in the three "action=" areas define the condition name and the visibility of the conditions that are applied when a prop action attribute matches the specified type.

For each prop element in a ditaval file the action attribute specifies either to exclude, include, or flag elements with matching attributes and values. When a ditaval file is applied as conditions in a FrameMaker file, elements are matched based on the att and val attributes, and a named condition is applied to each element. In the Apply Conditions dialog you specify that the condition name is defined as a fixed string (such as "Exclude", "Include" or "Flag") or that it is defined based on a combination of the att and val attribute values. For example, given the following line from a ditaval file, if the condition name is defined by the att and val attributes, it would be "audience=admin."

```
<prop att="audience" val="admin" action="exclude" />
```

The condition visibility options are Show, Hide, and Default. If set to Show or Hide, the conditions will be shown or hidden accordingly. However, if Default

is selected, the condition visibility will be defined by the settings in the template assuming that the condition is already defined.

This can also be done automatically during the Map to Book conversion process by selecting the **Apply Ditaval as Conditions** option in the Book Build Settings dialog found in the DITA Options dialog.

NOTE: *The **Apply Ditaval as Conditions** command does not necessarily result in conditional filtering that matches that of the DITA Open Toolkit. The conditions are applied properly based on the filtering attribute values, but the default hide/show logic of FrameMaker conditions is not the same as the used by the OT. It may be possible to achieve this filtering through the use of Boolean conditional expressions.*

Related links:

"Ditaval Manager" on page 92
"Generate Output" on page 129
"Setting Up Filtering Groups" on page 101
"Using the Apply Ditaval as Conditions Command" on page 16

Reference Report

Generates a report listing all resolved or unresolved references in the current file or map.

The report is generated as an FM file with two tables (one for resolved and the other for unresolved references). These tables can be sorted as needed using the standard table sorting fetures in FrameMaker. The document is locked (view only) and file references are hyperlinked.

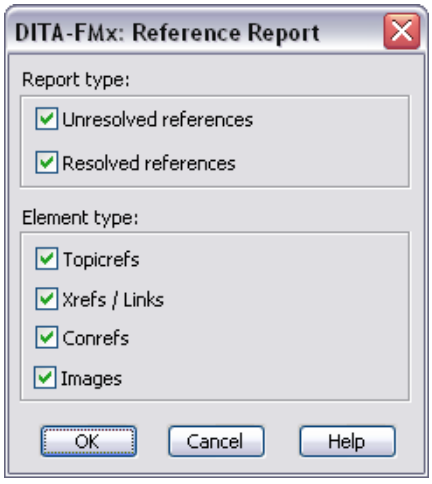


Figure 3-3: DITA-FMx Reference Report dialog box

Create Archive

Creates a ZIP archive of the current file and all referenced files.

The Create Archive command uses the command line syntax specified in the Archive field of the DITA Options: External Applications dialog to create a ZIP archive of all files referenced by the current file or map. This is an ideal way to create an archive of a project at a given point in time or makes it easy to package up a project to hand off to others.

When the command completes, a dialog displays the name of the archive file created. The archive generated is named <*filename*>*_zip.zip*, where <filename> is the root file name of the current file when the Create Archive command is used. For example, if the archive is created from the *project_a.ditamap* file, the archive created will be named *project_a_zip.zip*.

If you'd like to include additional files in the archive that are not specifically referenced (such as ditaval files), you can create an "archive baggage" file. When the Create Archive command runs, it checks in the folder of the current file for a file named <*filename*>*-archive.txt* and if this file is found, it includes the files listed in the new archive. For example, if the archive is created from the *project_a.ditamap* file, the command checks for a file named *project_a-archive.txt*. This TXT file should list each baggage file on a separate line. The file names are assumed to be relative to the current folder.

By default DITA-FMx uses an open source archive utility called "Info-ZIP." The default file name of this utility has been renamed to *ditafmx-zip.exe* and is installed in the DITA-FMx installation folder. You can specify an alternate archive utility or use different command line options, by changing the command line syntax in the DITA Options: External Applications dialog.

NOTE: *If the archive is not created, verify that the Command Line Syntax value in the DITA Options: External Applications dialog is valid. Deleting this value will reset it to the default value. You can test by running the ~tmpzip.bat batch file in the DITA-FMx installation folder (run this from a command shell to see any errors that may display).*

Related links:
"External Application Settings" on page 112

Reset Status

Deletes the value of the status attribute on all elements in the current book or file.

The "Set @status for new/changed elements" option (in the Options dialog) automatically sets the value of the status attribute on new and changed elements. Use this command when you need to reset this value (to nothing).

Ditaval Manager

Create and edit ditaval files, and manage the list of ditaval files available to DITA-FMx.

DITA-FMx provides two commands (**Generate Output** and **Apply Ditaval as Conditions**) which let you select from a list of ditaval files that are available to DITA-FMx. The Ditaval Manager lets you add and remove files from this list. Each ditaval file has an associated name that is displayed in the lists. By default, this name is the ditaval file name, but can be changed if needed.

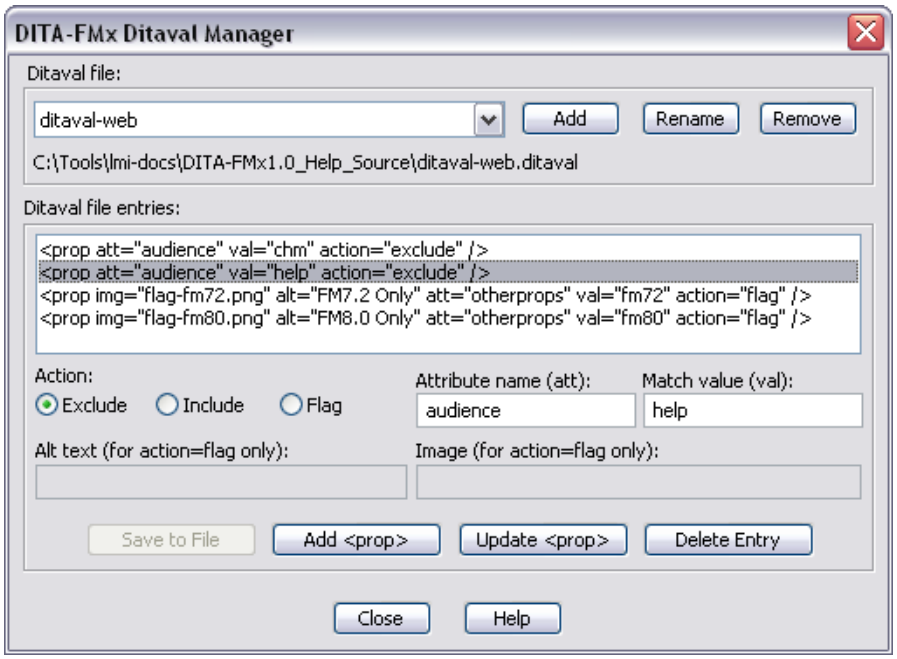


Figure 3-4: DITA-FMx Ditaval Manager dialog box

If you have existing ditaval files that you want to use with DITA-FMx, choose the Add button and select the file. Once it has been added to the list in the

Ditaval Manager dialog, this file will be available to the other commands that make use of ditaval files. Use the Rename button to change the name that is shown in the list (this does not change the actual ditaval file name). The Remove button will remove a name from the list and can optionally delete the file as well. You can also use the Add button to create a new ditaval file and add it to the list.

The contents of the currently selected ditaval file displays in the Ditaval File Entries list in the dialog. Selecting a "prop" element makes the attributes of that element available for editing. Only prop elements can be edited through this dialog, but all elements (as well as comments) will be shown in the list. After selecting a prop element, change the values of the att and val attributes as needed, then choose the Save To File button to write your changes back to the ditaval file.

Use the Add <prop> button to add a new empty prop element to the file, and the Update <prop> button to update the attribute values of the selected entry in the list based on the values in the text boxes. The Delete Entry button deletes the currently selected entry.

The following code shows a simple ditaval file. Each prop element has three attributes. The att and val attributes specify the filtering attribute and its value to match on. Valid values for the action attribute are "exclude" and "flag." This file specifies two filtering schemes, the first excludes all elements whose audience attribute has the value of "admin" and the second excludes all elements whose product attribute has the value of "PROD1."

```
<?xml version="1.0" encoding="UTF-8"?>
<val>
  <prop att="audience" val="admin" action="exclude"/>
  <prop att="product" val="PROD1" action="exclude"/>
</val>
```

Related links:
"Apply Ditaval as Conditions" on page 88
"Generate Output" on page 129
"Setting Up Filtering Groups" on page 101

Update References

Updates the content of topicrefs, conrefs, xrefs, or links.

Depending on the type of file currently being edited, this dialog provides options for updating references in the file. If a DITA map is active, you have the option to update the selected topicref or all topicrefs in the file. If a DITA topic file is active, you can update xrefs, links, and/or conrefs.

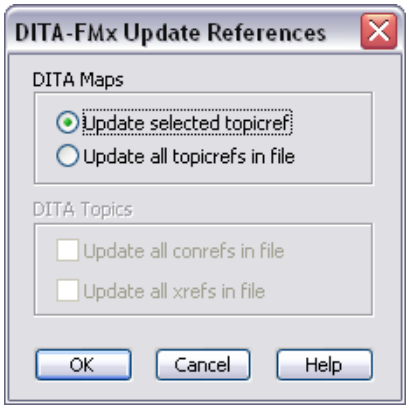


Figure 3-5: DITA-FMx Update References dialog box

References in DITA Maps

Existing topicref elements can be updated so the label text reflects changes in the referenced file's title. To update an existing topicref, select the label and choose the **Update References** command. The **Update References** command also lets you update all topicrefs in the DITA map reflect changes in the referenced files' titles. This command honors the setting of the topicref's locktitle attribute; if locktitle is set to 'yes' the navtitle text is not updated.

Update Selected Topicref

Updates the content of the selected topicref (only if a topicref is selected).

Update All Topicrefs in File

Updates all of the topicrefs in the current file to reflect any changes to titles in referenced files.

References in DITA Topics

Update All Conrefs in File

Updates all of the conrefs in the current file to reflect any changes to the source content.

Update All Xrefs in File

Updates all of the xrefs and links in the current file to reflect any changes to titles in referenced files.

Related links:

"Using the Reference Manager" on page 12
"Insert Conref" on page 97
"Setting Up to Use Cross-References" on page 70

Search in Files

Search for content in files on your file system.

Specify search criteria of the following: textual content, element tag name, or attribute name and attribute value. If a DITA map has the focus, you can choose "current map" as the scope, or you can specify a file system path.

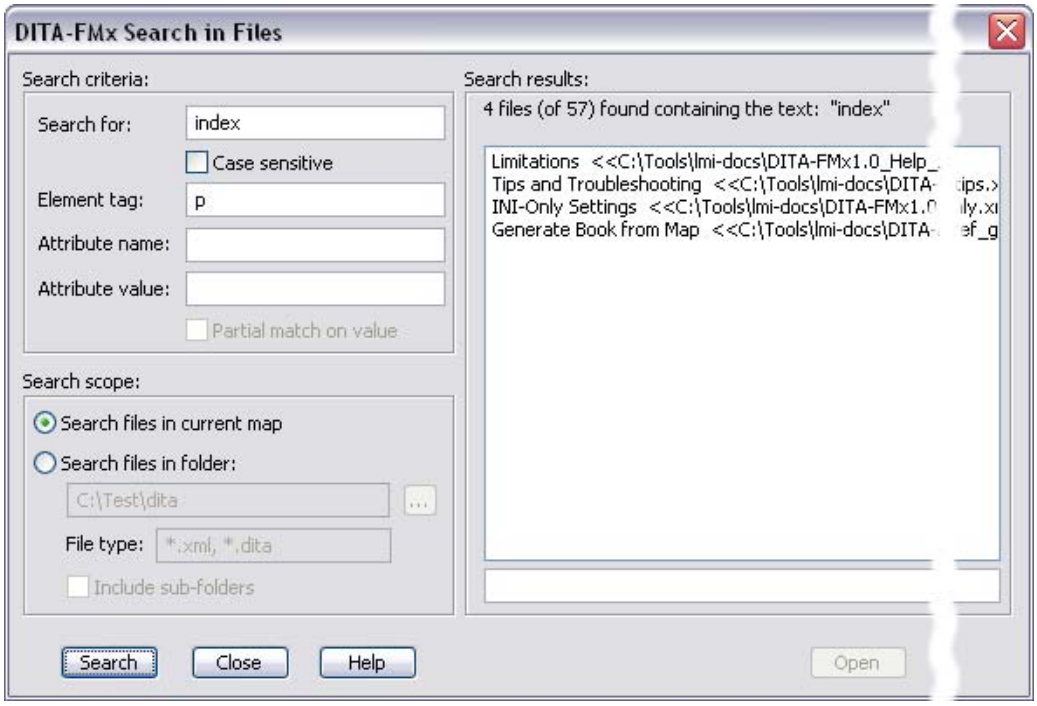


Figure 3-6: DITA-FMx Search in Files dialog box

The "Search For" value matches on partial strings (case sensitivity as specified). When searching for an element tag and/or an attribute name, the results will only provide exact matches. Providing an attribute value can optionally match on partial strings, which is useful for locating individual items within a filtering attribute. You can search on the element tag or attribute name only, but if you enter an attribute value, you must also enter the attribute name.

The search results are listed in the dialog showing the topic title and the file name. Select a file and choose Open to open the file.

If the search is taking too long, pressing the Esc key (possibly multiple times) will terminate the search.

Where Used

Generates a report of all references to an element or topic.

Before modifying a topic or referenced element (an element used as a conref), it may be useful to know all of the files that reference that topic or element.

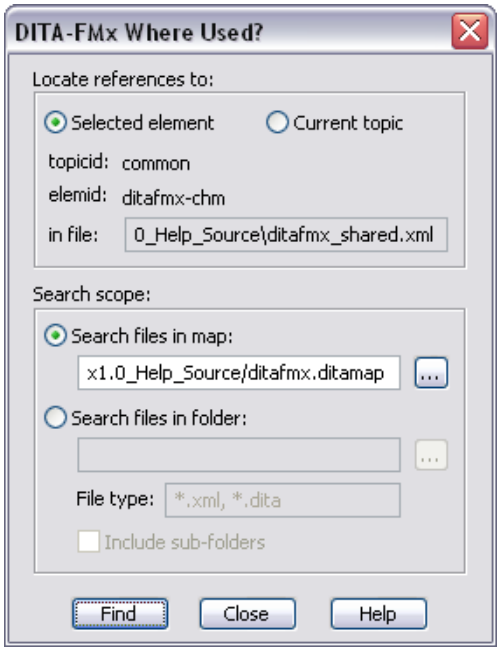


Figure 3-7: DITA-FMx Where Used dialog box

In the Where Used dialog, select the option to indicate the type of reference to locate (element or topic). If the insertion point is in an element that has an ID, both options are available, otherwise only the topic option can be used. Specify the scope as a DITA map or a folder. If you specify a map, the report will be generated based on all files referenced by that map (and any sub-maps). If you specify a folder, the report will be generated based on all files of the type specified in that file system path.

NOTE: *In order to use the Where Used command to work properly for a selected element, the element with the ID value must be selected. This may be obvious in most cases, but if your conref source contains a child element, you need to make sure the insertion point is in the parent element not the child.*

The context menu (right-click) includes a Where Used menu item for quick access.

RELATED LINKS:
"Insert Conref" on page 97

Insert Conref

Displays the Reference Manager which lets you insert a content reference.

The Reference Manager (displayed when you choose **DITA-FMx > Insert Conref**) allows you to create conrefs to elements within the same file or in other files. In the Reference Manager dialog you select from the files currently open, the element name (valid at the current insertion point), then from a list of matching elements which have id attribute values (required for conrefing). The conrefed element is inserted at the location specified. You can double click the conref to re-open the Reference Manager to change the referenced element or edit the source file. The Reference Manager also lets you display the list of all elements for conrefing (even if they have no id value), you must provide the id value at insertion time.

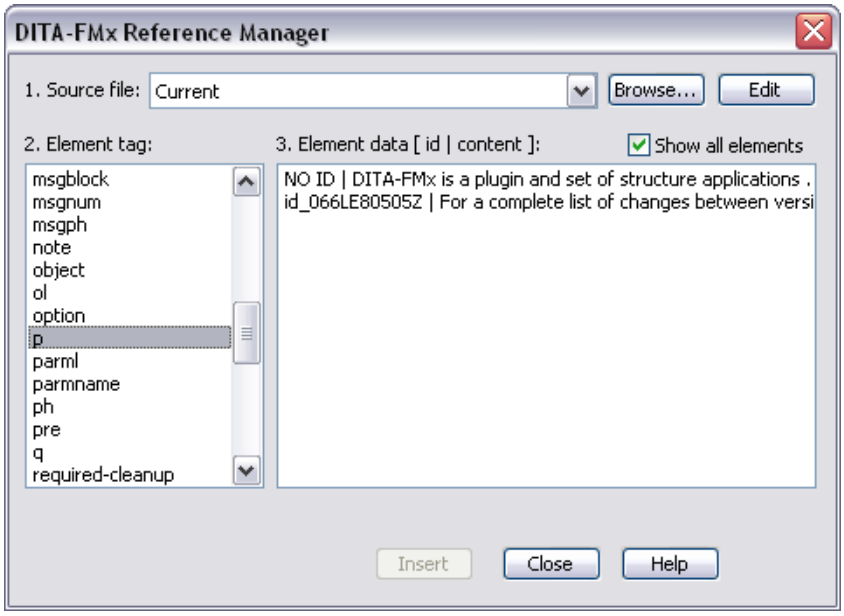


Figure 3-8: DITA-FMx Reference Manager dialog box

On the opening of a file, the content of any conrefed element is resolved and displayed as a locked text range (similar to a text inset). The color of conrefs is defined by the "DITA-Conref" color (this is a custom color definition and can be changed in the template). The auto-loading functionality may be enabled/disabled with the **Options** command.

The **Update References** command provides an option to load and build the conref elements (if they were not initially loaded by the auto-load functionality), and update the conrefs to reflect changes in the source files.

If you want to "break" a conref (make it into editable text rather than a locked range), just delete the value of the conref attribute, then double-click the conref.

You'll get the **Text Inset Properties** dialog with a **Convert to Text** button. Choose the Convert to Text button then the Convert button in the next dialog. This completely severs the connection to the source file.

Related links:
"Using the Reference Manager" on page 12
"Update References" on page 93

Assign ID to Element

Assigns a generated ID to the selected element.

The type of generated ID is based on the option selected in the DITA Options dialog. The ID type "GUID" is a standard globally unique identifier, and the ID type "QUID" is a quasi-unique identifier.

The QUID value is based on the current date and time (composed from values representing the year, month, day, hours, minutes, seconds, plus two randomly generated values). It is designed to be unique per user for 100 years. You can specify an ID prefix in the Options dialog. If you specify a unique ID prefix for each user, the generated IDs will be unique for each member of your team.

Related links:
"DITA Options" on page 102

Set Attributes

Provides a quick and easy way to set attribute values and provide custom project-specific attribute values.

The Set Attributes command displays a modeless dialog that lets you easily set the attribute values on selected elements. Attribute names are displayed in a listbox on the left of the dialog, and when one is selected, an appropriate form field is displayed on the right for you to enter or select the value to apply.

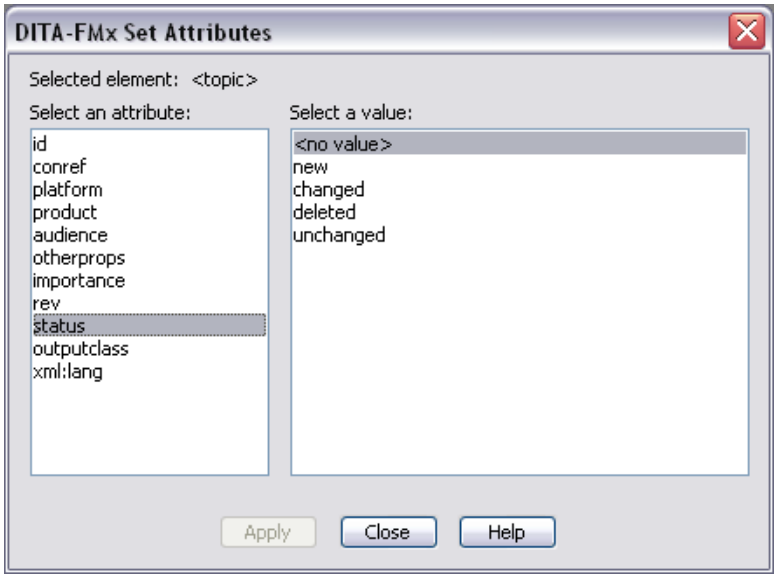


Figure 3-9: DITA-FMx Set Attributes dialog box, single value selection

Depending on the underlying attribute type (Choice, String, Strings, Integer, Integers, Real, Reals, IDReference, IDReferences, and UniqueID), as defined in the EDD, the attribute values display in a different type of field. For a Choice attribute, the values specified in the EDD by the Choices element are displayed in a scrolling list box. For the Strings, Integers, Reals, and IDReferences attribute types, the values specified in the EDD by the "Default" elements is displayed as an array of checkboxes (up to 20), allowing you to select one or more values. All other attribute types are displayed in a simple text box. The checkboxes are particularly useful for managing the DITA filtering attributes (platform, product, audience, and otherprops).

Because the dialog is modeless, you can leave it open and whenever desired, select an element and apply new attribute values. In addition to the main DITA-FMx menu, the Set Attributes command is available from the context (right-click) menus.

The Set Attributes command provides a feature that lets you extend the values displayed for specific attributes, by allowing these to be specified in a text file. It also lets you specify different predefined attribute values for different projects. This mechanism lets you associate a *filtering group* name with a file system path. When editing a DITA file that is within the specified path, the values associated with that group are displayed with those defined in the EDD. These groups and their associated attribute names and possible values are defined in an INI file named (by default) *FilterGroups.ini* that is created in the *FrameMaker\DITA-FMx* folder.

The following sample filtering groups file defines two groups named ProductA and ProductB (these are both defined as an attribute of type "Strings" in the EDD). When you edit a DITA file that is in the path specified by group ProductA, selecting the product attribute will offer the three products listed (in

addition to any already defined in the EDD) as options. Likewise, selecting audience or platform will offer those items as options.

```
[General]
ProductA=C:\projects\product-a
ProductB=C:\projects\product-b

[ProductA]
product=ProdALite|ProdAFull|ProdASimple
audience=Novice|Expert|Admin
platform=Windows|Mac|Linux
outputclass=style1|style2|style3|style4|style5|style6

[ProductB]
product=ProdBLite|ProdBFull
audience=User|Developer|Admin
platform=Windows|Mac|Linux|Solaris
outputclass=style1|style2|style3|style4|style5|style6
```

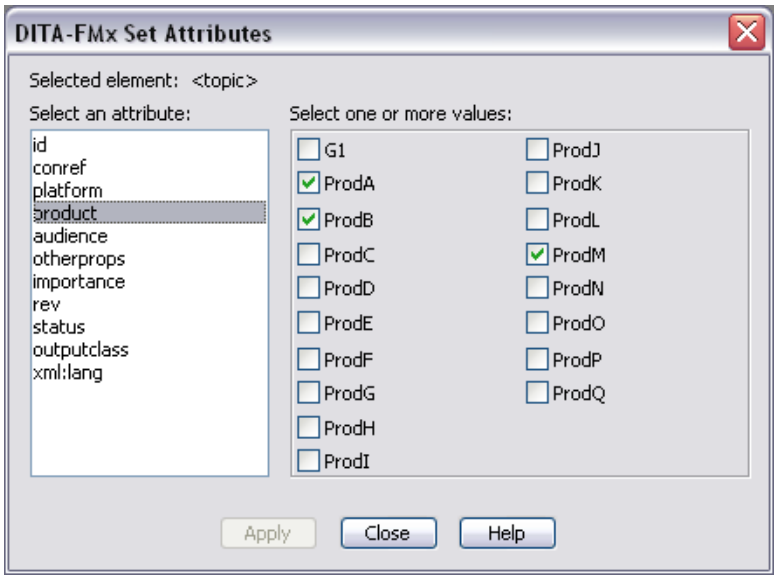


Figure 3-10: DITA-FMx Set Attributes dialog box, multiple value selection

This mechanism can also be used for attributes defined as a type of "String" to predefine mutually exclusive attribute values similar to the attribute type of "Choice." In the previous example, selecting the outputclass attribute (defined as a "String" in the EDD) from the list, would display a scrolling list box with the style names available for selection.

There are three "INI-Only" parameters that can be used to enhance the functionality of this command. In particular, you can specify an alternate location and name for the filtering groups file (possibly for use by a team on a network). To modify these settings, you must manually edit the *ditafmx.ini* file and update (or add) these values to the INIOnly section. For more information see INI-Only Settings.

Related links:

"INI-Only Settings" on page 74
"Ditaval Manager" on page 92

Setting Up Filtering Groups

PREREQUISITE

Before you can make use of filtering groups, your EDD must be set up to use the "Strings" attribute type for the attributes that you want to use with a filtering group. You can optionally add "default" values to the attribute definitions in the EDD, but that is not required (and may not be desirable). At a minimum, just change the "String" type to "Strings" and you should be all set.

The default DITA-FMx Topic and Map templates use the Strings type for all instances of the platform, product, audience, and otherprops attributes.

The following task creates two filtering groups named "ProductA" and "ProductB" and sets up unique values for each group that are available to apply to the attributes specified. Feel free to change the names and file paths to match those on your system.

TASK

1. Using a text editor such as Notepad, create a file named *filtergroups.ini* in the *FrameMaker\DITA-FMx* folder.
2. Create a "General" section that defines the group names and the associated root paths, then create a section for each group that defines the attribute names and available values.

```
[General]
ProductA=C:\projects\product-a
ProductB=C:\projects\product-b

[ProductA]
product=ProdALite|ProdAFull|ProdASimple
audience=Novice|Expert|Admin
platform=Windows|Mac|Linux
otherprops=001|002|003|004|005|006

[ProductB]
product=ProdBLite|ProdBFull
```

```
audience=User|Developer|Admin
platform=Windows|Mac|Linux|Solaris
```

3. Save this file.

After Completing This Task:

In FrameMaker, when you open a file in Product A (somewhere below the path *C:\projects\product-a*), when you run the Set Attributes command, and select one of the filtering attributes from the list, you will be able to select one or more of the values specified in the INI file.

DITA Options

Specify options that define the functionality of DITA-FMx.

The Options dialog provides access to the frequently modified properties and settings. Other settings can be changed manually in the *ditafmx.ini* file, see the INI-Only Settings topic for details.

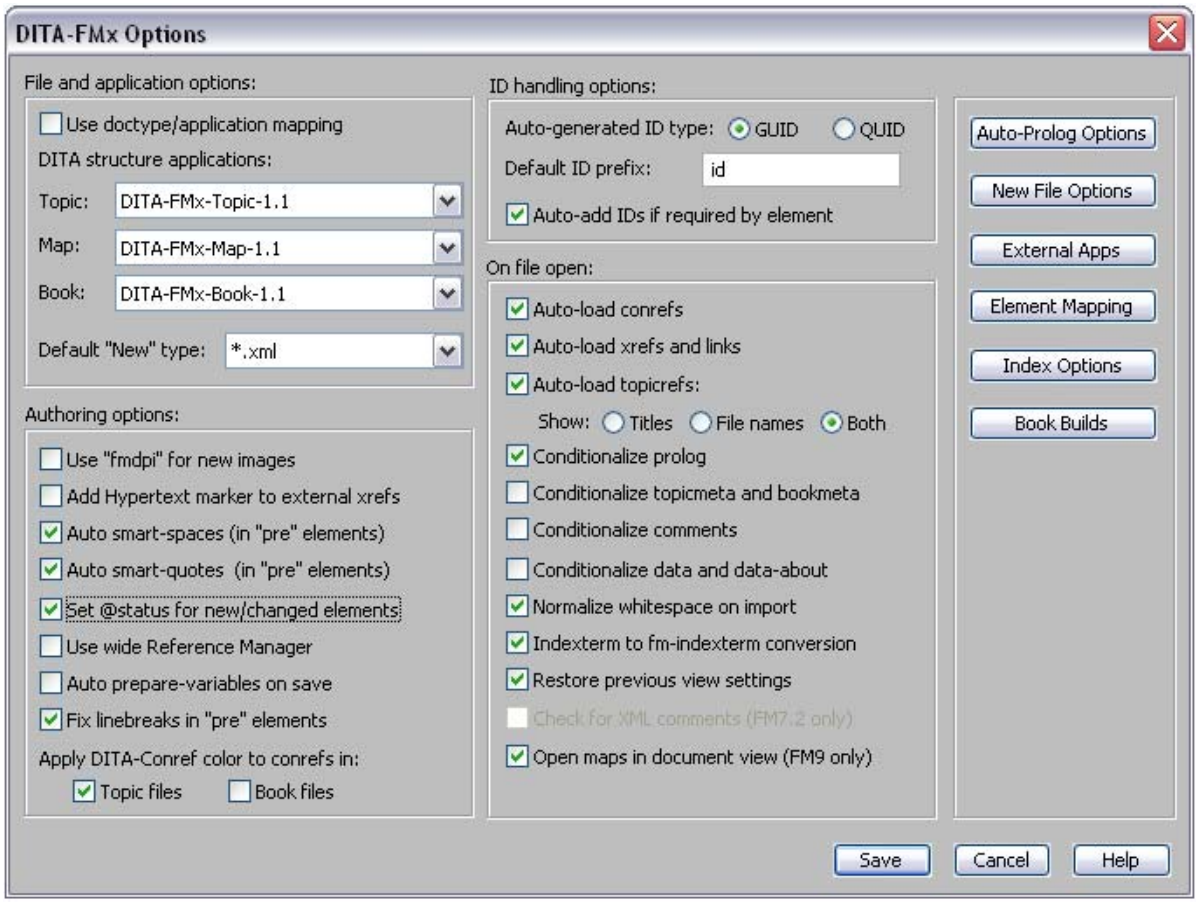


Figure 3-11: DITA-FMx Options dialog box

Use Doctype/Application Mapping (Advanced Option)

NOTE: *This is considered an advanced option and is not recommended for new users.*

Uses a doctype to structure application mapping to select the application to use when opening a DITA topic or map file. You must manually create this mapping in DoctypeAppMap-MAP and DoctypeAppMap-TOPIC sections in the *ditafmx.ini* file before you can enable this option. It is important to define a mapping for all possible doctypes that you may encounter, otherwise errors will result when opening files. When this option is enabled, the Topic and Map applications specified in the Options dialog are ignored.

To use this option requires the creation of a separate structure application for each doctype. The structure applications can share common files (typically the EDD and DTDs), but you'll need separate named applications defined in the structure application definitions file.

DITA Topic Application

The name of the Topic structure application used for topic items on the **New DITA File** menu. Also, if the **Use doctype/application mapping** option is not enabled, this specifies the application used to open a DITA topic file when that topic is opened automatically (such as when you double-click a topicref or reference a topic from a topic or a map).

DITA Map Application

The name of the Map structure application used for map items on the **New DITA File** menu. Also, if the **Use doctype/application mapping** option is not enabled, this specifies the application used to open a DITA map file when that map is opened automatically (such as when you double-click a topicref or reference a map from another map).

DITA Book Application

The name of the Book structure application used by the **Generate Book from Map** command.

Default "New" Type

Specifies the file extension applied to new topic files when one is not provided as part of the file name.

Auto-Generated ID Type

Specifies the type of ID that will be generated automatically by DITA-FMx when an ID is required. GUID specifies a globally unique ID and QUID specifies a quasi unique ID. The QUID is shorter and when combined with a unique ID prefix can be considered to be unique under typical conditions (but is technically not globally unique). This is the type of ID that was used in DITA-FMx 1.0.

Neither of these ID types is necessarily better than the other, it really depends on your needs. The GUID is defined to be "globally" unique, so if this is important to your process that might be a reason to use the GUID. The downside of a GUID is that they are very long and not particularly user-friendly. The QUID is unique under most conditions, and if each of your writers specifies a unique prefix the uniqueness is almost guaranteed. The QUID is probably preferable if you want to be able to "read" the values.

Default ID Prefix

The string that is used as a prefix on IDs that are automatically generated.

Auto-Add IDs if Required by Element

When an element is inserted that has a required ID attribute, that attribute value is automatically added.

Use "fmdpi" for New Images

Uses the "fmdpi" feature when inserting new raster images. If enabled, writes the value "fmdpi:<DPI>" to the @otherprops attribute of the image element (where <DPI> is replaced with the selected DPI value used to insert the image). This is a DITA-FMx feature that adjusts the size of the image to the DPI value specified when opened in FrameMaker; when processed by other means, the DPI value is ignored.

You should be aware that this feature uses the @otherprops attribute for a non-standard purpose. The @otherprops attribute is intended to be used for filtering purposes, not for storing application-specific data. Under most conditions this will not cause any problems. When you do a build with the Open Toolkit, you may see a warning about the "fmdpi:NN" value not being found in a ditaval file, but this won't cause any real problems for the output. You could actually use this value for ditaval filtering purposes.

Add Hypertext Marker to External Xrefs

On file open or on insertion of an external xref (one that has the scope attribute set to "external"), a FrameMaker Hypertext marker is added so that this element is hyperlinked when a PDF is generated through FrameMaker.

Use of this feature adds unstructured FrameMaker Hypertext markers to the document, which are saved to XML as processing instructions. This should not cause any problems for processing by the Open Toolkit or other tools.

Auto Smart-Spaces

Toggles the FrameMaker Smart Space feature on and off as the insertion point is moved into and out of a preformatted element.

Auto Smart-Quotes

Toggles the FrameMaker Smart Quotes feature on and off as the insertion point is moved into and out of a preformatted element.

Set @status for New/Changed Elements

Automatically sets the value of the status attribute on new and changed elements. For new elements, the status attribute value is set to "new," and if an element's status attribute has no value and you modify the content of that element, the status attribute is set to "changed." Use the Reset @status command to delete the value from all status attribute in the current file or workbook.

Use Wide Reference Manager

Provides a wider Reference Manager dialog box.

Auto Prepare Variables On Save

If enabled, the Prepare Variables command is run each time the file is saved.

Fix Line Breaks in "topic/pre" Elements

In order to deal with a "bug" in FrameMaker, on file save this option adds a space between the end of an inline child element and the end of line in a preformatted (code) element. If an inline child element starts at the beginning of a line within a preformatted element, this option moves the start element to the previous line and adds a space between it and the line end.

Apply DITA-Conref Color to Conrefs

Specifies that coloring is applied to conrefs in Topic and/or Book files. If selected, the color "DITA-Conref" is applied to conrefs. This color should be defined in the template as a custom color. If this custom color is not defined and the option is selected, this color will be created and assigned the color Blue.

Auto-Load Conrefs on File Open

On file open, any conrefs are resolved and updated. Note that this auto-loading is applied to all files opened as a result of a reference in that file being resolved. The number of levels of reference resolution is determined by the Max Reference Levels option.

Auto-Load Xrefs and Links on File Open

On file open, any xref (or fm-xref) and link (or fm-link) elements are resolved and the labels are updated with the text of the target element. Note that this auto-loading is applied to all files opened as a result of a reference in that file being resolved. The number of levels of reference resolution is determined by the Max Reference Levels option.

If this option is disabled, fm-xref and fm-link elements are not converted from their base xref or link elements; they will remain as xref or link elements until you enable this option.

Auto-Load Topicrefs on File Open

On file open of a DITA map, labels (as fm-reflabel or fm-topicreflabel elements) are added to all topicref-based elements. To open the associated file, double-click the label. If this option is selected, the additional "Show" options are available:

- **Titles** - displays the target file's title as the label.
- **File names** - displays the target file's file name as the label (the value of the href attribute).
- **Both** - displays the target file's title and file name as the label.

Conditionalize Prolog on File Open

On file open, the prolog element is tagged with the "DITA-Prolog" condition. If this condition does not exist, it is created, and set to "Show." If this condition already exists in the template, the condition is applied and the current Show/Hide state is used.

Conditionalize Topicmeta and Bookmeta on File Open

On file open (of a map), the topicmeta element is tagged with the "DITA-Topicmeta" condition. If this condition does not exist, it is created, and set to "Show." If this condition already exists in the template, the condition is applied and the current Show/Hide state is used.

Conditionalize Comments on File Open

On file open, any draft-comment elements are tagged with the "DITA-Comment" condition. If this condition does not exist, it is created, and set to "Show." If this condition already exists in the template, the condition is applied and the current Show/Hide state is used.

Conditionalize Data and Data-About on File Open

On file open, any data and data-about elements are tagged with the "DITA-Data" condition. If this condition does not exist, it is created, and set to "Show." If this condition already exists in the template, the condition is applied and the current Show/Hide state is used.

Normalize Whitespace on Import

Strips redundant spaces and tabs from the XML file. This is often added by XML editors to "pretty-print" XML files for ease of use.

Indexterm to Fm-Indexterm Conversion

If enabled, indexterm elements are converted into fm-indexterm elements on file open and that process is revered when the file is written to disk. This provides for compatibility between the DITA indexing syntax and FrameMaker's marker syntax. If this option is not enabled, indexterm elements import as container elements and display inline. If an indexterm element contains child elements (other than index-see, index-see-also, and index-sort-as), those elements will be lost on import. If your files do contain additional child elements within an indexterm, you should disable this option.

Restore Previous View Settings on File Open

On file open, the previous view settings are restored. The settings are saved on the last file save, and include the document zoom value and the visibility of borders, text symbols, rulers, grid lines, and element boundaries.

Check for XML Comments (FM7.2)

On file open, a message displays at the console window if the file contains XML comments. This option is not available (or needed) in FM versions above FM7.2 since XML comments now round-trip as markers.

Open Maps in Document View (FM9)

When opening a DITA map, instead of opening it in the Resource Manager, it is opened in the document view. Although the Resource Manager presents the files in an orderly package, it is not a terribly useful way to work on a map. (FM9 only.)

Auto-Prolog Options Button

Displays the Auto-Prolog Options dialog which lets you control the way the prolog is initialized for new files and on file open.

New File Options Button

Displays the New File Options dialog where you can specify the new file name format and the location of the Element Template folder. This dialog also controls the default setting for wrapping new topics in the dita element.

External Apps Button

Displays the External Application Settings dialog. This dialog defines the location of the DITA-OT installation directory (used by the **Generate Output** command) as well as the location and settings for the utility used for the **Create Archive** command. This dialog also lets you specify an alternate utility to use for the Ditaval Manager.

Element Mapping Button

Displays the New Element Mapping dialog. This dialog lets you define the simpletable elements and any preformatted elements.

Index Options Button

Displays the Index Options dialog which lets you control all aspects of the index-see and index-see-also elements.

Book Builds Button

Displays the Book Build Settings dialog. This dialog provides control over the processes that are run on the book and generated FM files created by the **Generate Book from Map** command.

Related links:

"INI-Only Settings" on page 74
"Developing Custom Structure Applications" on page 50

Auto-Prolog Options

Allows you to enable and specify the content for automatically inserted prolog data.

If enabled, the auto-prolog options automatically insert and update basic data in a topic's prolog. There are two types of options, prolog data that is added on file creation and data that is added/updated on file save. Each option can be enabled independently.

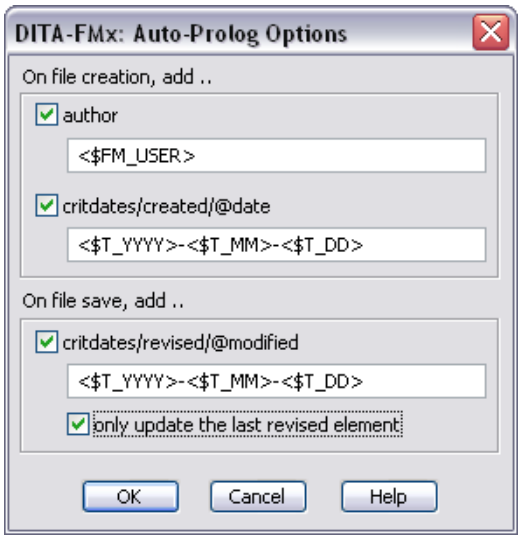


Figure 3-12: DITA-FMx Auto-Prolog Options dialog box

Each option provides a text field where you can enter plain text and special building blocks (similar to those used for new file names, but limited in scope). The building blocks that are appropriate for the prolog are listed below.

File creation: author

If enabled, inserts the value from this field into the prolog/author element. If an element template is used that contains an author element, this value is appended to that which already exists.

File creation: critdates/created@date

If enabled, inserts the value from this field into the critdates/created@date attribute.

File save: critdates/revised@modified

If enabled, inserts the value from this field into the critdates/revised@modified attribute.

If the **Only Update the Last Element** option is selected, the modified attribute value will be updated on the last critdates/revised element. If not selected, a new revised element is added each time the new value for the

modified attribute is different than the previous sibling element (typically a new element for each day the file is saved).

The building blocks that are appropriate for prolog fields are:

- <$FM_USER> - from *maker.ini* RegInfo/User
- <$FM_COMPANY> - from *maker.ini* RegInfo/Company
- <$T_YYYY> - 4 digit year
- <$T_YY> - 2 digit year
- <$T_MM> - 2 digit month (zero padded)
- <$T_MON> - 3 character month
- <$T_MONTH> - full month name
- <$T_DD> - 2 digit date (zero padded)
- <$T_HOUR> - 2 digit hour (zero padded)
- <$T_MIN> - 2 digit minute (zero padded)
- <$T_SEC> - 2 digit second (zero padded)

RELATED LINKS:

"New DITA File" on page 82

New File Options

Provides settings that affect the creation of new files.

The new file options affect the functionality of the New DITA File dialog. You can access these options from the main Options dialog as well as the New DITA File dialog.

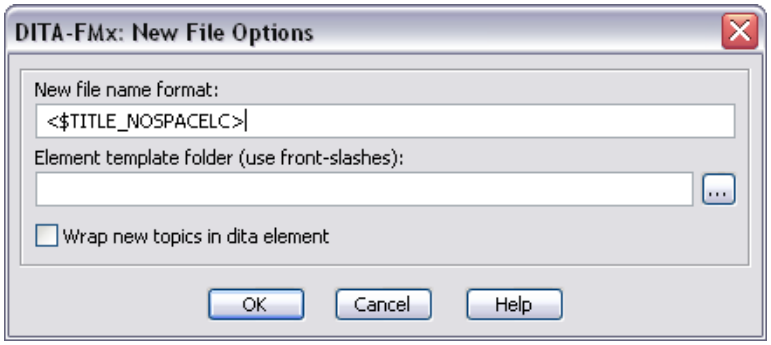


Figure 3-13: DITA-FMx New File Options dialog box

New File Name Format

This field defines the text of auto-generated file names. File names are auto-generated in the New DITA File dialog as well as the **Build Map from Outline** command. You can enter plain text in this field as well as special building blocks. A building block is a string of text enclosed in angle brackets.

You can include a modifier value after the building block name in square brackets. This value must be a number (from 0 to 99), and if provided, limits the length of the resulting string to that value (the first *N* characters). If you want to extract a substring from a building block, include the start and end positions in square brackets. For example, the following building block will extract the first two characters from the topic type:

```
<$TOPIC_TYPE[2]>
```

Or, to extract the second through fifth characters, use the following syntax:

```
<$TOPIC_TYPE[2-5]>
```

Valid building blocks are listed below (some of these make more sense to use in a file name than others):

- <$FM_USER> - from *maker.ini* RegInfo/User
- <$FM_COMPANY> - from *maker.ini* RegInfo/Company
- <$T_YYYY> - 4 digit year
- <$T_YY> - 2 digit year
- <$T_MM> - 2 digit month (zero padded)
- <$T_MON> - 3 character month
- <$T_MONTH> - full month name
- <$T_DD> - 2 digit date (zero padded)
- <$T_HOUR> - 2 digit hour (zero padded)
- <$T_MIN> - 2 digit minute (zero padded)
- <$T_SEC> - 2 digit second (zero padded)
- <$TITLE> - the actual text of the title (as entered in the New File dialog)
- <$TITLE_LC> - the text of the title lowercased
- <$TITLE_NOSPACE> - the text of the title with spaces removed
- <$TITLE_NOSPACELC> - the text of the title, lowercased with spaces removed

- <$TITLE_SPACETOUNDER> - the text of the title with spaces replaced with underscores
- <$TITLE_SPACETOUNDERLC> - the text of the title with spaces replaced with underscores and lowercased
- <$UNIQUEID> - the unique ID as applied to the root topic element
- <$TOPIC_TYPE> - the topic type's element name

Note that you can include slashes (always use forward slashes or double backslashes in FrameMaker dialog boxes) in the New File Name Format field to automatically fill in subdirectory names. For example, if you always want files to be saved into folders based on the topic type, you might use the following format string:

```
<$TOPIC_TYPE>/<$TOPIC_TYPE[2]>_<$TITLE_NOSPACELC
>.dita
```

If the title was "Using New Tools" and the topic type was task, the resulting filename would be "task/ta_usingnewtools.dita".

Element Template folder

Specifies the folder where element templates are stored. This can be a local or network location. If the element template folder field is empty, the default location is the folder that contains the structure application template file.

NOTE: *When entering paths in text fields, you must use the forward slash as the directory separator.*

Wrap New Topics in DITA Element

When a new topic file is created (using the **New DITA File** command), the new file is created with a dita element at its root. If you plan to include multiple topics in a single file, that file must have dita as the root element. This option controls the default setting for this feature, it can be over-ridden by the same option in the New DITA File dialog.

RELATED LINKS:

"New DITA File" on page 82
"Creating Element Templates" on page 72

External Application Settings

Specifies the path and filename of applications called from DITA-FMx as well as any options passed to those applications.

The External Application Settings dialog allows you to specify the location of the associated application and any command line syntax or parameters. All paths entered into this dialog must use the slash as the directory delimiter.

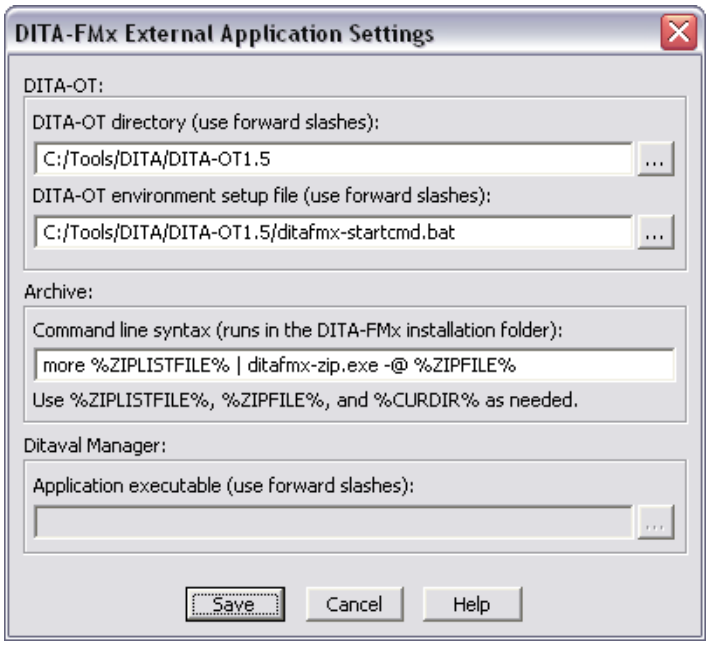


Figure 3-14: DITA-FMx External Application Settings dialog box

DITA-OT

Specifies the main DITA-OT (DITA Open Toolkit) directory and the DITA-OT environment setup file. (Required in order to use the **Generate Output** command.)

Archive

Specifies the command line syntax that is used to create the archive. Before creating the archive, a list of files is generated from the current file and all referenced files (as well as the archive baggage file described in the Create Archive topic). This file is written to the DITA-FMx installation folder as *~tmpzipfiles.txt*. The archive generated is named *<filename>_zip.zip*, where <filename> is the root file name of the current file when the Create Archive command is used. For example, if the archive is created from the *project_a.ditamap* file, the archive created will be named *project_a_zip.zip*.

There are three variables that can be used in this field, %ZIPLISTFILE%, %ZIPFILE%, and %CURDIR%. The string "%ZIPLISTFILE%" is replaced with the path and filename of the list of files to archive. The string "%ZIPFILE%" is replaced with the path and file name of the archive file name. The string "%CURDIR%" is replaced with the path to the current file.

This command line is included in a batch file created in the DITA-FMx installation folder as the file *~tmpzip.bat*. before the command line is executed, the current directory is set to the DITA-FMx installation folder. Any commands you place in this field should be designed to run from that folder.

The default command line syntax is the following.

```
more %ZIPLISTFILE% | ditafmx-zip.exe -@ %ZIPFILE%
```

This command syntax passes the content of the archive file list (%ZIPLISTFILE%) to the ditafmx-zip utility (the -@ option tells the utility to read from "stdin"). It then generates the archive file specified by the %ZIPFILE% variable.

NOTE: *If the archive is not created, verify that the Command Line Syntax value in the DITA Options: External Applications dialog is valid. Deleting this value will reset it to the default value. You can test by running the ~tmpzip.bat batch file in the DITA-FMx installation folder (run this from a command shell to see any errors that may display).*

Ditaval Manager

This feature is not currently enabled.

RELATED LINKS:
"Generate Output" on page 129
"Create Archive" on page 91

Element Mapping

Allows the specification of simpletable element types and preformatted element types. Any specializations of these element types should be added here.

The Element Mapping dialog lists the default and specialized elements that are processed in a particular way by DITA-FMx.

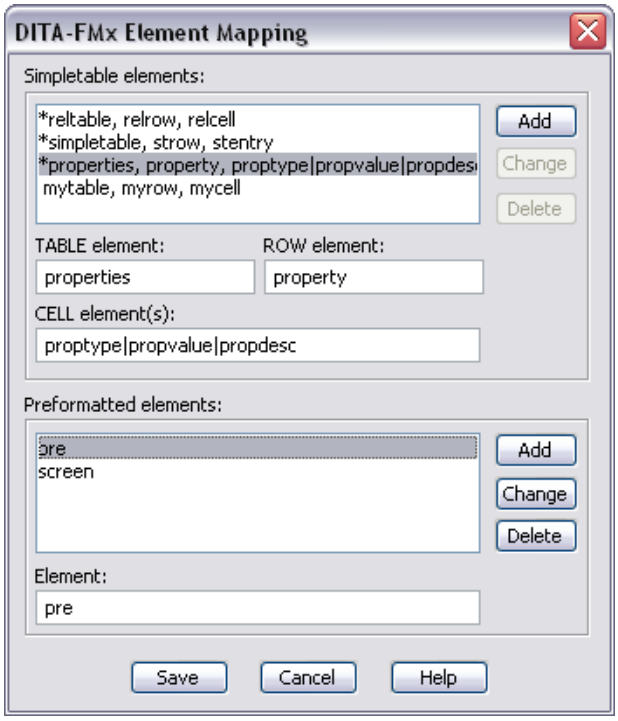


Figure 3-15: DITA-FMx Element Mapping dialog box

When simpletable-based elements are encountered during the import process, FrameMaker needs to be able to count the number of columns in each table. This information is typically stored in attributes within the table element, but the DITA specification does not provide this type of attribute for simpletables (and any table based on a simpletable). Using the information provided in this dialog, FrameMaker can determine the number of columns in these tables. The default simpletable elements are indicated with an asterisk. Even though the choicetable elements are specialized from simpletable, they are not listed in this dialog because they must always have two columns and are therefore defined in the read/write rules file.

If you've specialized simpletable to create one of your own, you'll need to add it to this list. Enter the table, row, and cell element names in the fields provided. If your table uses different element names for the cells (like the properties table), you can enter the multiple names separated by the vertical bar character.

RELATED LINKS:

"Working with Tables" on page 20

Index Options

Allows customization of the import/export processing of the marker syntax with index-see and index-see-also elements.

Although there are standards for the formatting of "see" and "see-also" index entries, each organization may want these entries to be constructed slightly differently. The Index Options dialog allows for this personalization. DITA provides the index-see and index-see-also elements for identifying these type of index entries, but in FrameMaker, the index syntax is all contained within a single Index marker (in DITA-FMx this becomes an fm-indexterm element). This dialog defines how the DITA elements map to and are converted from DITA into FrameMaker (and back).

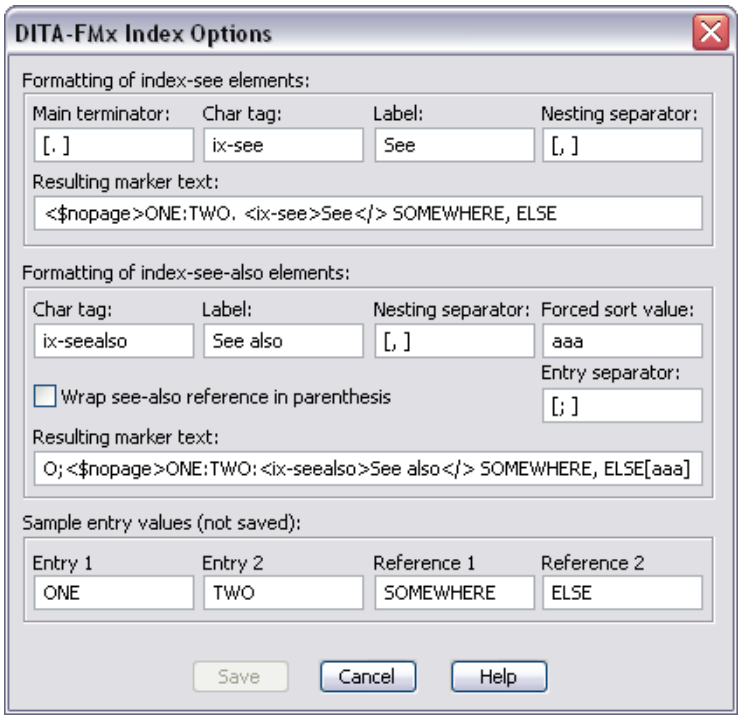


Figure 3-16: DITA-FMx Index Options dialog box

The Index Options dialog provides two main sections, one for each of the "see" and "see-also" entry types. Within each section are fields (described below) and a "Resulting Marker Text" area that dynamically shows the index marker syntax to be generated using the fields as entered. The textual content used for the sample entries can be modified in the Sample Entry Values field. Any time a value requires leading or trailing spaces, wrap it in square or curly brackets ("[..]" or "{ .. }").

index-see Options

Main Terminator

Separates the text of the main entry with that of the referenced entry. Typically a period followed by a space.

Char Tag

The name of the character style used to format the "see" reference entry. This is required even if there is no additional formatting to be applied

because it is the only way for FrameMaker to know if the index entry is a "see" entry. The character tag "ix-see" is defined in the default DITA-FMx templates; you are free to modify the formatting of that tag. If you want to use a different character tag, you must add that style to the template.

Label

The label that separates the main entry and the referenced entry text. This value will be formatted with the character style specified in the Char Tag field.

Nesting Separator

Separates multiple referenced entries. Typically a comma with a trailing space.

index-see-also Options

Char Tag

The name of the character style used to format the "see-also" reference entry. This is required even if there is no additional formatting to be applied because it is the only way for FrameMaker to know if the index entry is a "see-also" entry. The character tag "ix-seealso" is defined in the default DITA-FMx templates; you are free to modify the formatting of that tag. If you want to use a different character tag, you must add that style to the template.

Label

The label that separates the main entry and the referenced entry text. This value will be formatted with the character style specified in the Char Tag field.

Nesting Separator

Separates multiple referenced entries. Typically a comma with a trailing space.

Forced Sort Value

If you want the entry to sort in a particular manner, enter the forced sort text here.

Entry Separator

String that separates multiple top-level target entries. Typically a semi-colon with a trailing space. This value is not represented in the sample Resulting Marker Text field.

Wrap See-Also Reference

If enabled, wraps the entire see-also reference in parenthesis.

RELATED LINKS:

"Working with Indexterms" on page 21

Book Build Settings

Specifies the automated processes to be run on a FrameMaker book after it has been converted from a DITA map.

The **Generate Book from Map** command aggregates all of the topic files referenced by a DITA map (or bookmap) into a FrameMaker book and chapter files. After the book has been assembled, a number of processes can be run on the book and book components to prepare it for publishing. The Book Build Settings dialog allows you to specify which of these processes are run on the book.

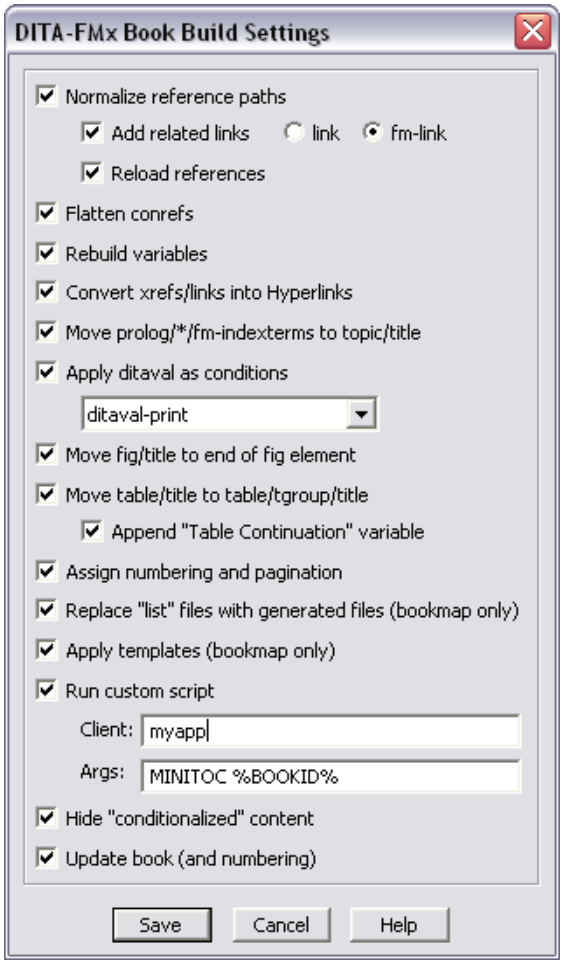


Figure 3-17: DITA-FMx Book Build Settings dialog box

The options in this dialog specify the processes that are run on the book and are shown in the order that they are run.

Normalize Reference Paths

Iterates over all chapter files and converts all href and conref attribute values into absolute paths.

Add Related Links

Adds appropriate links to related-links elements in each topic based on the reltable(s) in the DITA map. You can select the link type of "link" or "fm-link" (standard DITA links or FM-based cross-refs). If you use fm-links the "RelatedLink" cross-reference format is used. This option is only available if the Normalize Reference Paths option has been selected.

Reload References

Iterates over all references in all chapters and updates/reloads them based on the rebuilt reference paths. This option is only available if the Normalize Reference Paths option has been selected.

Flatten Conrefs

Runs the **Flatten Conrefs** command. This is useful if you have conrefs that contain cross-refs (xrefs, links, fm-xrefs, or fm-links) since this will allow those cross-refs to become live hyperlinks.

Rebuild Variables

Runs the **Rebuild Variables in FM Book** command. This is only useful if you have already run the **Prepare Variables for FM Book** command.

Convert Xrefs/Links into Hyperlinks

Runs the **Xref to Hyperlink** command. This is only useful if you your files contains DITA xref or link elements. This only processes internal xrefs/links; if you need to make external xrefs into live links, you'll need to enable the Add Hypertext Marker to External Xrefs option before converting the map to a book.

Move prolog/*/fm-indexterms to topic/title

Moves all of the fm-indexterm elements in the prolog to the end of the parent topic's title element. If this option is not selected, any indexterm elements in the prolog will not be included in a generated index if the prolog is hidden.

Apply Ditaval as Conditions

Runs the **Apply Ditaval as Conditions** command. Select a registered ditaval file from the list. Use the **Ditaval Manager** to register a ditaval file with DITA-FMx.

IMPORTANT: *This option uses the default settings as defined in the Apply Ditaval as Conditions dialog box. In order to change the way the conditions are applied, you must run the* ***Apply Ditaval as Conditions*** *command manually (from the* ***FM File Commands*** *menu) before using this option.*

Move fig/title to End of fig Element

Moves each title of a fig element to the end of the fig element. Essentially moves the figure title so it follows the image. For this option to work properly, the Book application must have the title element valid at the end of a fig element's general rule.

Move table/title to table/tgroup/title

Moves each title of a table element to the location in the FrameMaker object structure that allows it to work as a FM table title is supposed to (appear at the top of the table on new pages). In the FM object model, the <tgroup> element is actually the "table", while the <table> element is just a container that wraps the table. This option moves the DITA table title so that it works properly in the generated FrameMaker files. If you select the "Append 'Table Continuation' variable" option, the Table Continuation variable will be appended to the table title after it is moved to the new location. To modify the text or format of the Table Continuation variable, edit the topic template file. For this option to work properly, the Book application must have the fm-tabletitle element defined and valid as a child of the tgroup element.

Assign Numbering and Pagination

Sets up the book component's numbering properties based on the settings in the *ditafmx-bookbuild.ini* file. DITA-FMx looks for this INI file in the directory that the book is built in, then in the *FrameMaker\DITA-FMx* directory.

Sections named "NumberingFirst-<maptype>" and "NumberingDefault-<maptype>" define the numbering and pagination properties for the first and remainder files created from specific map elements (<maptype> refers to the element name of the top-level map element).

Replace List Files with Generated Files

Replaces any "list" files with the appropriate corresponding FrameMaker generated list. For example, the frontmatter/booklists/toc entry will be replaced with a generated TOC, and the backmatter/booklists/indexlist entry will be replaced with a generated index.

This replacement relies on settings in the *ditafmx-bookbuild.ini* file. DITA-FMx looks for this INI file in the directory that the book is built in, then in the *FrameMaker\DITA-FMx* directory. In the General section of the *ditafmx-bookbuild.ini* file the BookTemplatesDir parameter indicates the directory that contains the template files used as the basis for generated book components. These files should be named *comptpl-<maptype>.fm*, where <maptype> is the name of the associated map element that should be replaced with a generated file. Other sections named "GeneratedFile-<maptype>" define the component type and other properties needed for this file replacement.

Apply Templates

Applies templates (for both formatting and element definitions) to each of the book components based on the settings in the *ditafmx-bookbuild.ini* file. DITA-FMx looks for this INI file in the directory that the book is built in, then in the *FrameMaker\DITA-FMx* directory.

In the General section of the *ditafmx-bookbuild.ini* file the BookTemplatesDir parameter indicates the directory that contains the template files used for this process. These files should be named *tpl-<maptype>.fm*, where <maptype> is the name of the associated map element that should be updated with the specified template.

Run Custom Script

Runs a custom FDK client or FrameScript. Enter the client name ("fsl" for FrameScript), and any arguments that are to be passed to the client. If you'd like to pass the FDK ID of the book to the client, enter "%BOOKID%" in the Args field.

You can run multiple clients by separating the client name and arguments with the vertical bar character. If you are specifying multiple clients, the first character in both the client list and the arguments list must be a vertical bar. Be sure that the number of vertical bars in the client list and argument list are the same to ensure that the arguments are passed to the proper client. If no arguments are needed for certain clients but are needed for others, you can enter a hyphen where no arguments are needed. For example, the following client and argument data will run three FDK clients:

Client:`| client1 | client2 | client3`

Args:`| arg1 %BOOKID% | arg2 | arg3 %BOOKID%`

Hide "Conditionalized" Content

Hides the elements that have been tagged through any of the four "Conditionalize" options in the Options dialog.

Update Book

Runs the **Edit > Update Book** command.

RELATED LINKS:
"Book-Build INI file" on page 121
"Setting up Book Builds (PDF)" on page 26

Book-Build INI file

The *ditafmx-bookbuild.ini* file defines many of the parameters used to assemble the generated book to match your needs. The book build process first looks for this file in the directory that you have specified for the new book file, then it

checks in the main *DITA-FMx* directory. If you always use the same settings, you can just keep one copy in the *DITA-FMx* directory, but if you have book-specific settings, you may want to add this file to each output directory. This file follows the standard INI file format with section names in square brackets and key/value pairs following each section using a <key>=<value> syntax.

The book build process operates on individual book components based on the names of the map elements that are referencing the topic files (such as "part," "chapter," "toc," "indexlist," and so on). These element names are stored in the @mapelemtype attributes on the fm-ditafile and fm-subditamap elements in the generated book. The *ditafmx-bookbuild.ini* file provides two general section types, one that defines the numbering and pagination properties for each element type and one that defines the creation of generated FM files that replace the "list" files in the frontmatter and backmatter elements. The basic syntax for this file is as follows:

```
[General]
BookTemplatesDir=<path to templates folder>
ImportAttrsAsVars=(0|1)
ImportAttrsAsConds=(0|1)
UseOutputclassForType=(0|1)
PreBuildScript=<c:\projects\prebuild.bat %MAPNAME%>

[ConditionMap]
;fmx-<attribute>-<value>=(Show|Hide)

[NumberingFirst-<mapelemtype>]
... (same as below)

[NumberingDefault-<mapelemtype>]
VolumeProperty=(Restart|Continue|UseSame|FromFile)
VolumeNumberValue=<value>
VolumeNumberFormat=(Numeric|LCRoman|UCRoman|LCAlpha|UCAlpha|Tex
t)
ChapterProperty=(Restart|Continue|UseSame|FromFile)
ChapterNumberValue=<value>
ChapterNumberFormat=(Numeric|LCRoman|UCRoman|LCAlpha|UCAlpha|Te
xt)
PageProperty=(Restart|Continue|FromFile)
PageNumberValue=<value>
PageNumberFormat=(Numeric|LCRoman|UCRoman|LCAlpha|UCAlpha|Text)
ParagraphProperty=(Restart|Continue|FromFile)
FootnoteProperty=(Restart|StartOver|Continue|FromFile)
FootnoteNumberValue=<value>
FootnoteNumberFormat=(Numeric|LCRoman|UCRoman|LCAlpha|UCAlpha|C
ustom)
FootnoteNumberCustom=<value>
TableFootnoteProperty=(Format|FromFile)
TableFootnoteNumberFormat=(Numeric|LCRoman|UCRoman|LCAlpha|UCAl
pha|Custom)
TableFootnoteNumberCustom=<value>
```

```
PageStartSide=(FromFile|Next|Left|Right)
PageDoubleSided=(1|0)
PageRounding=(DeleteEmpty|MakeEven|MakeOdd|NoChange)

[GeneratedFile-<mapelemtype>]
ComponentType=(IndexAuthor|IndexFormats|IndexMarker|IndexRefere
nces|IndexStandard|IndexSubject|ListFigure|ListFormat|ListMarke
r|ListMarkerAlpha|ListPara|ListParaAlpha|ListReferences|ListTab
le|Toc)
NumTags=<N>
1=<paratag or markername>
2=<paratag or markername>
<N>=<paratag or markername>

[IncludeFiles]
<position>=<filename>

[IncludeFileTypes]
<position>=<mapelemtype>

[BookBuildOverrides]
NormalizeRefs=(1|0)
AddRelLinks=(1|0)
RelLinkType=(1|0)
ReloadRefs=(1|0)
RebuildVars=(1|0)
XrefToHyperlink=(1|0)
ApplyDitaval=(1|0)
MovePrologIndex=(1|0)
MoveFigTitles=(1|0)
MoveTableTitles=(1|0)
AppendTableContVar=(1|0)
FlattenConrefs=(1|0)
AssignNumbers=(1|0)
ReplaceListFiles=(1|0)
ApplyTemplates=(1|0)
RunScript=(1|0)
ScriptName=<script names>
ScriptArgs=<script arguments>
HideConditionalizedContent=(1|0)
UpdateBook=(1|0)
DitavalName=<ditaval name>
```

Each section and item are described below.

General Section

BookTemplatesDir

Specifies the directory that contains the layout templates (*tpl~*.fm*) and generated file templates (*gentpl~*.fm*) files. A relative path is relative to the INI file.

ImportAttrsAsVars

If set to 1, results in FrameMaker variables being created or updated in all book components (both structured and unstructured) where the variable name is "fmx-<attributename>" and the value of the variable is set to the attribute value. These variables can be used as header/footer variables or elsewhere in a document's layout. If the variable exists in the template or predefined FM file, its value will be updated, otherwise the variable will be created. For more information see, Adding New fm-ditabook Attributes.

ImportAttrsAsConds

If set to 1, results in the hide/show state of FrameMaker conditions being set in all book components (both structured and unstructured) where the condition name is "fmx-<attributename>-<attributevalue>". Only conditions that exactly match the composite names are set. The hide/show state of the conditions is determined by the names in the ConditionMap section (described below). This feature works best for attributes that use enumerated values as the attribute value. For example, you may enable an fm-ditabook attribute named "permission", and one of the possible values is "controlled". You would create a condition named "fmx-permission-controlled" and tag the text "CONTROLLED" in the footer with this condition. The default state of this condition may be hidden, and if the attribute is set to "controlled", the condition is toggled to show. For more information see, Adding New fm-ditabook Attributes.

UseOutputclassForType

If set to 1, uses the value of the top-level topicref-based element's @outputclass attribute to specify the component template's "mapelemtype" value. If no @outputclass value is set, the element type will be used. This allows you to specify different component templates for files of the same map element type. If this option is enabled, you'll need to include the corresponding NumberingFirst/NumberingDefault sections for that value. For example, if you set the @outputclass of the first appendix element to "appxspecial", you'll need to include a section labeled "NumberingFirst-appxspecial".

PreBuildScript

If provided, this parameter specifies the name of a batch file or executable script that will run before any book-build processing is begun (this is not used to run an FDK client or FrameScript). You can use this to copy or rename files that may vary under different conditions or perform other pre-build setup tasks. Two "variables" are available to provide information to the script. The string "%MAPNAME%" is replaced with the DITA map name (no path or file extension) and "%MAPFILE%" is replaced with the full path and file name of the DITA map.

PostBuildScript

If provided, this parameter specifies the name of a batch file or executable script that will run after all book-build processing has completed (this is not used to run an FDK client or FrameScript). You can use this to copy or rename files that may vary under different conditions or perform other post-build tasks. Two "variables" are available to provide information to the script. The string "%MAPNAME%" is replaced with the DITA map name (no path or file extension) and "%MAPFILE%" is replaced with the full path and file name of the DITA map.

ConditionMap Section

The ConditionMap section is used to assign a hide/show state to conditions that are set based on the value of fm-ditabook attributes. If the General/ImportAttrsAsConds parameter is set to 1, the values in the ConditionMap section are read.

Each entry in the ConditionMap section specifies the full composite condition name and the hide/show state to set that condition. To use the example described above (in the ImportAttrsAsConds description), the following ConditionMap section would be used to show the "CONTROLLED" label in a footer if the permissions attribute is set to "controlled".

```
[ConditionMap]
fmx-permission-controlled=Show
```

You can add as many conditions to this section as you'd like, each is used only if the attribute name and value match a defined entry. These conditions are updated in the FM book components only if the condition exists in that file.

Numbering(First|Default)-<mapelemtype> Sections

A NumberingFirst-<mapelemtype> section applies to the first occurrence of this element in the map, and NumberingDefault-<mapelemtype> applies to any additional like-named elements in the map.

VolumeProperty

Correlates to the options on the **Volume** tab of the Numbering Properties dialog. Valid values are: Restart, Continue, UseSame, and FromFile.

VolumeNumberValue

If Restart is specified for VolumeProperty, defines the number to use as the starting value (use numeric values only regardless of the number format).

VolumeNumberFormat

If Restart is specified for VolumeProperty, defines the format for that number and all subsequent numbers of this type that follow. Valid values are: Numeric, LCRoman, UCRoman, LCAlpha, UCAlpha, and Text.

ChapterProperty

Correlates to the options on the **Chapter** tab of the Numbering Properties dialog. Valid values are: Restart, Continue, UseSame, and FromFile.

ChapterNumberValue

If Restart is specified for ChapterProperty, defines the number to use as the starting value (use numeric values only regardless of the number format).

ChapterNumberFormat

If Restart is specified for ChapterProperty, defines the format for that number and all subsequent numbers of this type that follow. Valid values are: Numeric, LCRoman, UCRoman, LCAlpha, UCAlpha, and Text.

PageProperty

Correlates to the options on the **Page** tab of the Numbering Properties dialog. Valid values are: Restart, Continue, and FromFile.

PageNumberValue

If Restart is specified for PageProperty, defines the number to use as the starting value (use numeric values only regardless of the number format).

PageNumberFormat

If Restart is specified for PageProperty, defines the format for that number and all subsequent numbers of this type that follow. Valid values are: Numeric, LCRoman, UCRoman, LCAlpha, UCAlpha, and Text.

ParagraphProperty

Correlates to the options on the **Paragraph** tab of the Numbering Properties dialog. Valid values are: Restart, Continue, and FromFile.

FootnoteProperty

Correlates to the options on the **Footnote** tab of the Numbering Properties dialog. Valid values are: Restart, Continue, UseSame, and FromFile.

FootnoteNumberValue

If Restart is specified for FootnoteProperty, defines the number to use as the starting value (use numeric values only regardless of the number format).

FootnoteNumberFormat

If Restart is specified for FootnoteProperty, defines the format for that number and all subsequent numbers of this type that follow. Valid values are: Numeric, LCRoman, UCRoman, LCAlpha, UCAlpha, and Custom.

FootnoteNumberCustom

If Custom is specified in FootnoteNumberFormat, defines the custom value to use.

TableFootnoteProperty

Correlates to the options on the **Table Footnote** tab of the Numbering Properties dialog. Valid values are: Format and FromFile.

TableFootnoteNumberFormat

If Format is specified for TableFootnoteProperty, defines the format for that number and all subsequent numbers of this type that follow. Valid values are: Numeric, LCRoman, UCRoman, LCAlpha, UCAlpha, and Custom.

TableFootnoteNumberCustom

If Custom is specified in TableFootnoteNumberFormat, defines the custom value to use.

PageStartSide

Correlates to the **1st Page Side** options in the Pagination dialog. Valid values are: FromFile, Next, Left, and Right.

PageDoubleSided

Correlates to the **Pagination** options in the Pagination dialog. Valid values are: 1 (double-sided) and 0 (single-sided).

PageRounding

Correlates to the **Before Saving & Printing** options in the Pagination dialog. Valid values are: DeleteEmpty, MakeEven, MakeOdd, and NoChange.

GeneratedFile-<mapelemtype> Section

A GeneratedFile-<mapelemtype> section should be included for each generated file to be included in the book.

ComponentType

Specifies the type of generated file to create for this map element. Valid values are:

- Toc - Table of contents
- ListFigure - List of figures

- ListTable - List of tables
- ListPara - Elements and paragraphs
- ListParaAlpha - Elements and paragraphs (alphabetical)
- ListMarker - List of markers
- ListMarkerAlpha - List of markers (alphabetical)
- ListReferences - List of references
- ListFormat - List of formats
- IndexStandard - Standard index
- IndexAuthor - Index of authors
- IndexSubject - Index of subjects
- IndexMarker - Index of markers
- IndexReferences - Index of references
- IndexFormats - Index of formats

NumTags

Specifies the number of "tags" (paragraph style names or marker types) to be included in this generated file. For each tag provide a numbered entry starting with 1 and extending to the value specified in NumTags.

IncludeFiles Section

An IncludeFiles section is used to include FM binary (*.fm*) files in a generated book.

Entries in the IncludeFiles section specify the position and file name of the included file, where the file name is relative to the book file. The key specifies the position and the value specifies the file name. This section can contain multiple entries to add multiple files, just make sure that the "position" values are always unique, and the files are ordered from the lowest position to the highest.

IncludeFileTypes Section

An IncludeFileTypes section is optionally included (if the IncludeFiles section is used) to define the "mapelemtype" values that are associated with the files listed in the IncludeFiles section.

Entries in the IncludeFileTypes section assign the specified mapelemtype values to the files defined by the "position" as used in the IncludeFiles section. The key specifies the position, and the value is the mapelemtype string. You can use values that match those that are map element types in DITA (such as "chapter"

or “appendix”) and you can create your own values (such as “titlepage”). Be sure to define the NumberingFirst and NumberingDefault sections as needed to assign numbering and pagination values to these mapelemtype values.

BookBuildOverrides Section

A BookBuildOverrides section is available to override default book-build settings defined in the Book Build Options dialog.

Entries in the BookBuildOverrides section mirror those found in the BookBuild section of the *ditafmx.ini* file. If you have questions about the values to be used, refer to the parameters and values in the BookBuild section of the *ditafmx.ini* file.

Related links:
"Book Build Settings" on page 118
"Setting up Book Builds (PDF)" on page 26

Generate Output

Provides methods for generating output through the DITA Open Toolkit (DITA-OT) from within FrameMaker.

Select the build type and the desired options, then choose the Build button to generate output through the DITA Open Toolkit. If you want to generate output based on the current file (a topic or map) using one of the pre-defined targets (such as CHM, XHTML, or PDF), use the Current File option. If you have set up an Ant script to build a specific project (not necessarily the current file), use the Selected Target option.

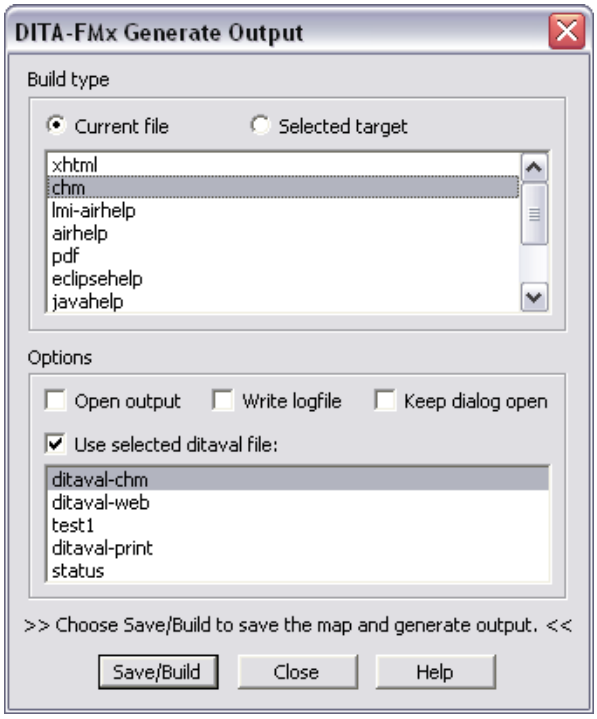


Figure 3-18: DITA-FMx Generate Output dialog box

Current File

This option uses a provided Ant script for processing the current map or topic file using the selected target. You can also use the Use Selected Ditaval File option to specify filtering using a selected ditaval file. For setup information, see Generate Output: Current File Option.

When this build type is used, a folder is created in the current file's folder named *build-<filename>*. Within that folder, another folder is created to match the selected output type. The files are generated in that folder.

Selected Target

This option lets you run an Ant script and target that you have provided. For information on using this feature, see the section Generate Output: Selected Target Option.

Additional options are available for use with either Generate Output build option.

Open Output

If selected, the output folder will be opened after the build completes.

Write Logfile

If selected, a log file is generated and opened after the build completes. If this option is not selected, the build status displays in a command shell window.

Keep Dialog Open

If selected, the Generate Output dialog remains open so you can easily run another build.

Use Selected Ditaval File

This option is only available for use with the Current File output type. If selected, the selected ditaval file is used for the build. Note that you must have added ditaval files with the Ditaval Manager in order for ditaval files to be listed here.

Related links:

"Setting Up to Use the Generate Output Command" on page 67
"Ditaval Manager" on page 92
"Apply Ditaval as Conditions" on page 88
"Setting Up Filtering Groups" on page 101
"External Application Settings" on page 112

Generate Book from Map

Generates a FrameMaker book and chapter files from the current DITA map.

This command builds a FrameMaker book by creating FM binary files from each top-level topic reference in a DITA map. Any topic references within a frontmatter or backmatter wrapper element are considered “top-level” topic references and become FM files. Additionally, if your bookmap uses a part element to organize chapters, the file referenced by the part will become a separate FM file, and each chapter will be considered a top-level topic reference and will be added to the book after the generated part file. After generating the book file, you are free to add any additional unstructured files that are needed (such as a title page).

If the current DITA map file has not been saved, you will be required to save it before processing can begin. This command first prompts for the name and location of the book file to create. It then assembles all FM binary files and resolves all references. The resulting FM files are named based on the root topic file’s relative path and filename with a “.fm” file extension.

Before running this command you should select the desired options in the Book Build Settings dialog (in the DITA Options dialog). These options allow you to select from numerous processing choices for setting up the files in the generated book. Some of the options in the Book Build Settings dialog require you to set up an INI file with numbering, pagination, and generated file information. You

can set up this INI file for each book you are creating or use a common INI file used by all books.

Conrefs and xrefs that reference content within the book, are updated to point to the new FM files. Any references to DITA files that are not part of the final book, remain pointing at the source DITA file (with the href modified to suit the new path if it has changed). The paths to referenced graphics are updated to account for any changes due to relative differences between the source files and the new FM files. If your files do reference files that are not part of the book (typically graphics and possibly conrefs), it is important to choose an appropriate location to generate the book so that the FM files and referenced files can be easily moved as needed.

NOTE: *It is not uncommon to get "XML Parser Messages" in the "XML Read Report Log" regarding IDs that have been "already used." This happens if you've used a conref multiple times and that conref contains an ID that is of type "UniqueID." Frame doesn't like multiple instances of the same UniqueID in the same document. DITA doesn't care since they are in different topics. If you get this message, just choose the "OK" button and proceed.*

Maintaining a generated book

A convenient way to build and maintain a custom book is as follows:

1) Generate the book and FM files with the Generate Book from Map command. Think of this as a "throw-away" book, and name it something temporary like *temp.book*.

2) Create a new book by doing a SaveAs from the throw-away book. This is your "real" book, give it an appropriate name.

3) Add your TOC, Index, and other non-DITA-based files to the "real" book.

4) Setup the properties for each file in the "real" book. Select each file and right-click, then choose Numbering, Pagination, or Set Up, as appropriate.

5) Now choose **Edit > Update Book** to generate your TOC and Index.

6) Save the "real" book.

Now, when you update your DITA files, re-run the Generate Book from Map command and overwrite the "throw-away" book and the FM content files will be replaced with fresh versions. Just close the "throw-away" book file that's been generated, then open your "real" book and do an **Edit > Update** to refresh the TOC and Index and your book is ready to print.

RELATED LINKS:
"Setting up Book Builds (PDF)" on page 26

"Ditaval Manager" on page 92
"Apply Ditaval as Conditions" on page 88
"Setting Up Filtering Groups" on page 101
"Book Build Settings" on page 118
"Book-Build INI file" on page 121

A Extending DITA-FMx

Provides methods for controlling DITA-FMx from other applications.

DITA-FMx provides a limited set of "CallClient" function calls. These functions can be used by other FDK plugin clients as well as by FrameScript and FrameAC.

NOTE: *Most of these functions are only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

A typical syntax statement shows the call from an FDK client using the F_ApiCallClient() function. A similar call can be made from FrameScript using the CallClient function. The case of the parameters passed to these functions is not important.

All calls require the DITA-FMx client name ("ditafmx") and a call client function name. Some calls may have additional (required or optional) parameters. When additional parameters are provided, they are passed as a single tab or vertical bar delimited string. If this string exceeds 512 characters it is truncated.

For example, the FixBookRefs call can make use of the bookId. To pass the bookId (an integer value) convert it to a string and concatenate that string to the initial parameter. For example, if the bookId is 3489237, the FDK call would be as follows:

```
F_ApiCallClient("ditafmx", "FixBookRefs\t3489237");
```

As of DITA-FMx 1.1.09, you can also use the vertical bar character as the argument delimiter for calls to the ditafmx client:

```
F_ApiCallClient("ditafmx", "FixBookRefs|3489237");
```

If you would like to have access to specific DITA-FMx functionality that is not currently exposed, please let us know.

RELATED LINKS:
"Using DITA-FMx" on page 1
"Installation and Setup" on page 37
"DITA-FMx Commands" on page 81

ApplyDitaval

Runs the Apply Ditaval as Conditions command.

Syntax

```
F_ApiCallClient("DITAFMX",
"ApplyDitaval\tdocOrBookIdOrName\tditavalName[\tdoClear]");
```

docOrBookId

Id or path and file name of document or book to process. Required.

ditavalName

Name of the ditaval file as shown in the DITA-FMx Ditaval Manager. Required.

doClear

Indicates if existing conditions should be cleared or left alone. Enter "1" to clear or "0" to persist any existing conditions. Optional; default is 1 (clear).

NOTE: *This DITA-FMx API function is only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

Return Value

0

Failure. Unable to process the specified document or book. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

<0

Failure.

>0

Success. Value returned represents the number of conditions applied.

FixBookRefs

Normalizes all references in the files of a FM book file.

Use this function to rebuild and correct all references (xrefs, links, conrefs, and image references) after aggregating loose DITA topics into "chapter" files. Call this function using the "FixBookRefs" parameter to update the active book, or pass the *bookIdOrName* value (as a string) after this parameter to update a specific book. In order to properly update the references in the book, the fm-ditabook/@href attribute must be set to the map's path and file name. You can set this attribute before calling FixBookRefs, or you can pass this value as the *mapFile* parameter.

Syntax

```
F_ApiCallClient("DITAFMX",
"FixBookRefs[[\tbookIdOrName]\tmapFile]");
```

bookIdOrName

The id or path and file name of the book to process. The book must be open. Optional; if not provided the "active" book is used, must be provided if *mapFile* is used.

mapFile

The path and file name of the DITA map from which the book was generated. Optional; if not provided the fm-ditabook/@href attribute must be set to the value of the map's path and file name before calling FixBookRefs. If this parameter is used, the *bookIdOrName* parameter is required.

NOTE: *This DITA-FMx API function is only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

Return Value

0

Failure. Unable to update the specified book. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

-1

Failure. *bookIdOrName* is not a structured book.

-2

Failure. No non-generated files in book.

>0

Successfully updated the specified book (this is the id of the book processed).

FMxType

Determines the DITA-FMx application type (auto or single user).

Use this call to determine DITA-FMx application type so you'll know which API calls are available.

Syntax

```
F_ApiCallClient("DITAFMX", "FMxType");
```

NOTE: *This DITA-FMx API function is available with all versions of DITA-FMx.*

Return Value

0
: DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

>0
: Indicates the DITA-FMx application type. A return value of 1 indicates the single-user version, and a value of 2 indicates the "auto" version.

FMxVer

Determines if DITA-FMx is initialized and accessible to external calls.

Use this call to determine that the DITA-FMx client is available in addition to ensuring that you are working with the version that you expect.

Syntax

```
F_ApiCallClient("DITAFMX", "FMxVer");
```

NOTE: *This DITA-FMx API function is available with all versions of DITA-FMx.*

Return Value

0
DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

>0
Indicates the DITA-FMx version number. A return value of 10102 indicates version 1.1.02.

LoadReferences

Updates the references in the specified or current file.

Use this function to update all references (xrefs, links, conrefs, and image references) in the specified file. Call this function using the "LoadReferences" parameter to update the active document, or pass the *docIdOrName* value (as a string) after this parameter to update a specific document.

Syntax

```
F_ApiCallClient("DITAFMX", "LoadReferences[\tdocIdOrName]");
```

docIdOrName
The id or path and file name of the document to process. The document must be open. Optional; if not provided the "active" document is used.

NOTE: *This DITA-FMx API function is only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

Return Value

0
Failure. Unable to update the specified document. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

-1
Failure. Invalid *docIdOrName*.

-2
Failure. document is not a DITA file.

>0

Successfully updated the specified document (this is the value of the *docId* processed).

MapToBook

Runs the DITA map to FM book conversion process.

This function generates an FM book and FM chapter files from the specified DITA map. It also runs the FixBookRefs and LoadReferences functions to properly resolve all references. If this function is used to generate an FM book, you should not use the FixBookRefs and LoadReferences functions. All parameters listed below are required.

Syntax

```
F_ApiCallClient("DITAFMX",
"MapToBook\tmapName\tappName\toutBookName");
```

mapName

Full path and filename of the DITA map to convert. Required.

appName

Name of the structure application to use for the conversion. Required.

outBookName

Full path and filename of the new book file to generate. Required.

NOTE: *This DITA-FMx API function is only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

Return Value

0

Failure. Unable to update the specified document. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

<0

Failure. The number of parameters passed (as a negative number). If more or fewer than 4 parameters are passed, that number will returned as a negative number.

>0

Successfully converted the specified map (this is the value of the generated *bookId*).

OpenDITA

Opens a file as a DITA file, using the proper structure application.

Syntax

```
F_ApiCallClient("DITAFMX", "OpenDITA\tditaFileName");
```

ditaFileName

Path and file name of DITA file to open. Required.

NOTE: *This DITA-FMx API function is available with all versions of DITA-FMx.*

Return Value

0

Failure. Unable to open the specified file. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

<0

Failure.

>0

Success. Value returned represents the docId of the opened file.

PrepareVariables

Runs the Prepare Variables for FM Book command.

Syntax

```
F_ApiCallClient("DITAFMX",
"PrepareVariables[\tdocOrBookIdOrName]");
```

docOrBookIdOrName

Id or path and file name of document or book to process. Optional, if not provided, the "active" document or book will be used.

NOTE: *This DITA-FMx API function is only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

Return Value

0

Failure. Unable to process the specified document or book. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

-1

Failure.

>0

Success. Value returned represents the number of variables "prepared."

RebuildVariables

Runs the Rebuild Variables in FM Book command.

Syntax

```
F_ApiCallClient("DITAFMX",
"RebuildVariables[\tdocOrBookIdOrName]");
```

docOrBookIdOrName

Id or path and file name of document or book to process. Optional, if not provided, the "active" document or book will be used.

NOTE: *This DITA-FMx API function is only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

Return Value

0
Failure. Unable to process the specified document or book. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

-1
Failure.

>0
Success. Value returned represents the number of variables "rebuilt."

XrefToHyperlink

Runs the Xref to Hyperlink command.

Syntax

```
F_ApiCallClient("DITAFMX",
"XrefToHyperlink[\tdocOrBookIdOrName]");
```

docOrBookIdOrName
Id or path and file name of document or book to process. Optional, if not provided, the "active" document or book will be used.

NOTE: *This DITA-FMx API function is only available with "DITA-FMx-Auto." For information on this version of DITA-FMx, please contact Leximation.*

Return Value

0
Failure. Unable to process the specified document or book. It is also possible that DITA-FMx is not available for calls. Verify that DITA-FMx is registered in the *maker.ini* file using the client name of "ditafmx".

-1
Failure.

>0
Success. Value returned represents the number of xrefs hyperlinked.

B Revision History

Describes the changes between versions of DITA-FMx.

RELATED LINKS:

"DITA-FMx Commands" on page 81

1.1.09 - 4 October 2010

New Features

Better integration with Windows Vista and Windows 7.

DITA-FMx does not need to be run "As Administrator."

Added support for SDL Trisoft CMS.

This version of DITA-FMx is designed to integrate with the SDL Trisoft CMS.

Added the option to restore the previous view settings.

On file open, restores the document zoom value and the visibility of borders, text symbols, rulers, grid lines, and element boundaries. See "Restore Previous View Settings" in the DITA Options topic.

Import fm-ditabook attributes as variables and condition states.

Attributes on the fm-ditabook element can define values that are passed to the book components as FrameMaker variables. These attributes can also be used to control the show/hide state of conditions in the generated book components. See Adding New fm-ditabook Attributes.

Added support for pre and post book-build scripts.

The book-build INI file can now specify pre and/or post build script file names to assist in automating setup and cleanup tasks. These file names specify batch or executable script files, and are not used to run an FDK client or FrameScript. See Book-Build INI file.

Override default book-build settings via the book-build INI file.

The book-build INI file can now override the default values set in the Book Build Options dialog. See Book-Build INI file.

Allow specification of component templates via the @outputclass attribute.

You can now set the outputclass attribute on topicref or topicref-based elements in maps, and that attribute value will be added to the fm-ditafile element in generated files in a book. This value can be used instead of the "mapelemtype" value in the book-build INI file to specify templates and properties of book components. See Using the outputclass attribute as a "mapelemtype" value.

Added the "substring extraction" option to New File building blocks.

When using new file name building blocks, in addition to being able to extract the first *N* characters of the string you can now specify a range of characters to extract. See "New File Name Format" in the New File Options topic.

Added the option to open DITA maps in document view (FM9 only).

See "Open Maps in Document View" in the DITA Options topic.

Provide a user-definable template file name delimiter.

Allows modification of the file name delimiter used in new file templates, component templates, and generated list templates. See "TplDelimChar" in the INI-Only Settings topic.

Structure Application Updates

Topic and Book EDDs

Corrected a typo in the comments: "index_3" has been changed to "indent_3".

Topic and Book EDDs and templates

Added the following sl list paragraph styles:

- sl.ul.entry.bullet
- sl.ol.entry.bullet
- sl.entry.bullet
- sl.step.bullet
- sl.ul.bullet
- sl.ol.bullet
- sl.bullet

Topic and Book templates

glossdef, removed Keep w/ Next

glossterm, removed Keep w/ Next, add Keep w/ Previous.

glossterm.runhead, removed Keep w/ Next.

Component templates

Added ix-see and ix-seealso character styles to gentpl~toc.fm file.

Added support for appendix and part TOC entries.

Added new tpl~appendix.fm template.

Book EDD and DTD (fmxbook.dtd)

Added numerous new attributes to the fm-ditabook element.

Added @outputclass attribute to the fm-ditafile element.

Book EDD

Added fm-indexterm as child of title element.

Added support for title.4 as a 6th level heading.

Book template

Added <*$chapnum*>- to prefix figure title and table title paragraph tags.

Removed hyphenation from title.0.

Added ix-see and ix-seealso character styles.

Book XSLT

Overall updates to improve handling of various folder structures.

Added example code to add fm-ditabook attributes from map and bookmap metadata.

Map EDD

Added @id attribute to the relcolspec element.

Bug Fixes

The number of ditaval files supported by the Ditaval Manager has been increased.

The number of ditaval files that can be listed in the Ditaval Manager is restricted to the length of the aggregated string of all of the ditaval names (just the file name, not the extension or path). This length was 256 and is now 1024. The new length should accommodate 50 ditaval files with an average length of 20 characters.

Create Archive command now available from Resource Manager.

The Create Archive command can now be run on a map open in the FM9 Resource Manager.

Flatten conref fixes.

Nested conrefs will now flatten properly, and selected individual conrefs in an XML file will now remain flattened after the XML file is reopened.

Nested conrefs to the same file resolve properly.

Conrefs that reference an element within the same file will now properly resolve nested conrefs within the referenced element.

The "fmdpi" feature is only used for raster images.

The "fmdpi" value is no longer set for vector graphics. Because you can't set the DPI of a vector graphic, this caused sizing problems.

Xrefs that contain Unicode characters are no longer deleted on file open.

Entering alternate xref text that contains Unicode characters, will now properly round trip through FrameMaker.

The Open All Topicrefs command opens topic references that include IDs.

If the @href in a topicref-based element includes the topic ID, the referenced file will now open correctly.

The Open All Files in Book command opens DITA map files.

If a workbook contains references to a DITA map, that map file will now be opened as expected along with other topic files.

Added support for structure applications with a read-only template.

Read-only template files will no longer cause problems. The same goes for a *structapps.fm* file that is read-only.

FrameMaker variables support additional characters.

FM variables in topic files can now contain alphanumeric, plus dot, dash, and underscore characters (other characters will cause errors at file open).

Ampersands can now be used in xref/@href attributes.

When an ampersand is used in an @href it will be converted to "&" on file save.

Set Attributes dialog displays sorted attribute names.

The attribute names in the Set Attributes dialog are now sorted.

Properly supports xrefs that contain high-ascii characters.

An xref with alternate link text containing non-English characters (such as an "ä") will now properly resolve and render when the document is reopened.

The @class value is deleted when an element type is changed.

When changing an element's type (using the "Change" button in the Element Catalog) the @class value will often get hard-coded to the previous element's value. This causes problems for DITA-OT processing. Now, when you change an element, the @class value is deleted (unless you explictly turn this off with the INIOnly/StripClassAttribute setting in the *ditafmx.ini* file).

1.1.08 (1.1 release) - 20 October 2009

New Features

New commands

Added the **Reference Report** command. Generates a report of all resolved or unresolved references in the current map or file as well as any references in referenced files.

Added the **Create Archive** command to generate a ZIP archive of the current file and all referenced files.

Added the **Flatten Conrefs** command to unlock conrefs in FM files.

Added the **Reset Status** command to remove the status attribute values.

Updated support for indexterm elements

The index-see, index-see-also, and index-sort-as elements properly convert to FM marker syntax on import and export back to DITA elements on file save. A subdialog has been added to the Options dialog that allows you to customize the formatting on the imported marker syntax.

The indexterm elements now import as fm-indexterm elements. If you have complex indexterm elements that contain child elements other than indexterm, index-see, index-see-also, and index-sort-as, you can disable the indexterm to fm-indexterm conversion (in Options) in order to preserve the native DITA structure.

Support for graphic overlay objects in anchored frames

Textual callouts and graphic objects within an anchored frame will now round-trip from FrameMaker to DITA and back. The data to define these objects is stored in the DITA data element.

Reference Manager dialog allows browsing for files on disk

The Reference Manager dialog now allows you to browse files on disk in addition to those currently open in FrameMaker. You can add multiple folders to the "File Location" list to locate elements to reference (for xrefs, links, and conrefs).

Also, instead of showing all possible elements the Reference Manager dialog only shows those elements that have id attributes in the target file.

Support for multiple marker types

The fm-data-marker element is a special element that is available only within FrameMaker; it is converted into a regular data element on save to DITA. When inserting an fm-data-marker element it inserts as a marker of any type that you specify. On save to DITA, the datatype attribute is set to "fm:marker," the name attribute is set to the marker name, and the value attribute is set to the marker text. When you reopen this DITA file, data elements with a datatype of "fm:marker" will convert into markers of type fm-data-marker. A data element whose datatype attribute is not "fm:marker" will import into FrameMaker as a standard container element type.

Support for optional columns in properties tables

According to the DITA specification, a properties table can have one, two, or three columns. In order to support a varying number of columns in a simpletable-based table, the Element Mapping dialog was added to the Options dialog.

Added support for bookmap elements

The map authoring interface provides support for the topic reference elements (topicref, chapter, appendix, etc.). When inserting a topicref-based element that contains an href attribute, you are prompted to specify a target filename.

Enhanced map to book processing

The **Generate Book from Map** command handles conversion of a bookmap into an FM book in a similar way to the conversion of a map. All "top-level" topic references are converted into an FM file, and any child topicrefs are appended to that file. Any topic references within a frontmatter or backmatter wrapper element are considered "top-level" topic references and become FM files. Additionally, if your bookmap uses a part element to organize chapters, the file referenced by the part will become a separate FM file, and each chapter will be considered a top-level topic reference and will be added to the book after the generated part file.

Provide the ability to include FM binary files in the generated book. This allows you to create a book that includes both DITA files as well as unstructured FM files. Particularly useful for including a well designed title page but could be useful for other purposes as well.

Numerous options are available that affect processes run on the generated book. This includes adding related-links from reltables, and moving the fig/title to the end of the fig element (among numerous other options).

Faster reference resolving

Instead of needing to open each referenced DITA file in FrameMaker to resolve any nested references, this reference resolving is done "on disk" before the file is opened, and only the appropriate files are opened and resolved as needed. This results in much faster file opening times for files that make heavy use of references. For example, one small file that previously took 11 seconds to open, now takes 4 seconds.

Better Whitespace Normalization

This update now handles whitespace cleanup better than before. If you are working on a multi-editor environment, you should no longer see "<WHITESPACE>" nodes or extra spaces where they aren't needed.

Updated Set Attributes command

The Set Attributes command now allows specification of predefined values for attributes of the "String" type. If values are specified in the filtering-groups.ini file for a "String" attribute, those values will display in a scrolling list.

XDocs 2.0 integration

Developed the XDocsFMx connector to provide a seamless document management, authoring, and publishing environment.

New options

Added **Use doctype/application mapping** option to support the use of topic-based DTDs (and structure applicaitons) instead of the combined model provided by the ditabase DTD. (You'll need to create your own structure applications to support the topic-based DTDs, DITA-FMx only provides the ditabase-based app.)

You can now specify that IDs are generated as a GUID (globally unique id) or a QUID (quasi unique id, the previous shorter and most always unique value).

Added **Auto smart-quotes** similar in function to the **Auto smart-spaces** option.

Added **Use fmdpi for New Images** option. Automatically sets the "fmdpi" value to the DPI selected when inserting an image.

Added the **Conditionalize data and data-about** option. This allows you to hide or flag data and data-about elements if needed.

Added **indexterm to fm-indexterm** option to enable/disable the round-tripping of DITA-based indexterm elements into FM-based markers and syntax. (This option is enabled by default.)

DITA-OT environment setup parameter is now set via the DITA Options: External Apps dialog.

Added handling for simpletable tables with multiple cell element names (specifically properties table). See Element Mapping dialog in DITA Options

Added an Index Options dialog for control of the import and export of index-see and index-see-also elements.

Added the Book Builds dialog to define the automated processes that are run on a newly generated FM book file.

Moved **Wrap in dita element** option to the New DITA File dialog.

Now automatically sets the status attribute on new and changed elements with the **Set @status for new/changed elements** option.

Added the **Use wide Reference Manager** option. This provides a wider Reference Manager for those that need it.

Structure Application Updates

Updated to support DITA 1.1

Added DITA 1.1 elements to all structure applications.

Default Topic application is less "book-like"

Because DITA-sourced content may be used for many types of output, we have removed many of the print-specific layout and formatting features from the default Topic application. This helps authors to focus on the content rather than the formatting, and results in topics that are more useful in all deliverable formats. The main typeface used is now Verdana.

Added FM-specific elements

Added fm-indexterm as a marker element that has the same attributes as the standard indexterm element. The indexterm element is now a "container" element. (For backwards compatibility, if a structure application contains an indexterm element that is defined as a "marker" element type, it will be used instead of the fm-indexterm element.)

Added the fm-data-marker element as a "marker" element type.

Changed the fm-topicreflabel element to fm-reflabel since it is now used by elements other than topicref. (For backwards compatibility, if a structure application contains the fm-topicreflabel, that will be used in place of the fm-reflabel.)

Customization and localization (topic and book applications)

To lessen the level of effort in EDD/template customization and localization, some elements that formerly received prefix text directly from the

EDD now have that text applied via a paragraph tag or set of paragraph tags in the template. With a plan to include more elements in the future, this version took this approach with the note and permissions elements.

The note prefix text is now applied using a set of template paragraph tags. With the exception of "other," each note type attribute value now maps to a similarly named note paragraph tag. For example, a note type of "danger" maps to a paragraph tag named note.danger.

To further help support both localization and customization, the first and left indents for note are set in the EDD using variables, indent_1, indent_2, index_3, and indent_4. Changing those variable values will change the indents for both the note and the screen elements.

The permissions element is now mapped to a set of prolog.permissions paragraph tags.

The prefix text for the example element has been dropped.

The codeblock element has a set of paragraph tags for its various contexts. This set of tags all begin with name codeblock (codeblock.ol.ul.first, codeblock.ol.ul, etc.).

The syntaxdiagram element is now mapped to a syntaxdiagram paragraph tag.

The prolog element is now mapped to a prolog paragraph tag.

Color definitions have been altered to be more consistent between the topic and book applications.

Map/Bookmap application

Various levels of indentation have been added for the topicref-type elements that occur in bookmaps.

The relcolspec element now displays attribute values for type, collection-type, and linking when in reltables, and collection-type and linking in other contexts.

The indexterm element is now mapped to an index character tag.

The vrm element's prefix text has been modified.

Bug Fixes

Baseline offset now supported

The baseline offset property of an image cannot be set through the read/write rules file. To set this property you must use the BaselineOffset parameter in the INIOnly section of the *ditafmx.ini* file.

image/alt element now supported

The image/alt element now round-trips from DITA to FM. While in FrameMaker, the content of the alt element is stored in the image/@alt attribute. To edit the "alt" text, edit the @alt attribute value. Note that any child elements of the alt element or attributes on the alt element are discarded when the file is opened in FM. A warning message is written to the console window on file open if attributes or child elements are detected.

UNC path improvements

Working with files in folders on a UNC mapped network drive ("\\server-name") will now result in the relative paths being saved properly (as relative paths) rather than as absolute UNC paths.

xref/link issues

All xref and link @href values are now written with backslashes.

New file naming issue

If the file name for a new file contains a period, it was incorrectly assumed to represent the file extension. Now if a file does not end with ".dita" or ".xml" the default file extension is appended.

Long application names display properly in Options dialog

A structure application name that wraps to multiple lines in the structure application definitions file now show the entire name in the Options dialog.

Changing the DPI of an image that uses the fmdpi feature will update properly

Images that use the fmdpi feature now properly update the fmdpi value when the DPI of an image is changed.

topicref/@navtitle is not added if @navtitle has been removed from the EDD

When building topicrefs, if the EDD has been customized to remove the navtitle attribute, that attribute is longer automatically added (causing an invalid structure).

Where Used now searches in maps

The Where Used command now properly reports instances of topics in maps.

Search in Files now ignores URLs

The Search in Files command now ignores URLs when scanning for files to search.

1.00.28 - 16 December 2008

Bug Fixes

Apply Ditaval as Conditions command fixes.

Properly applies conditions to empty elements, specifically markers and image elements.

The Clear All Existing Conditions option now works in a more expected manner.

Console message revisions.

Removed console message when generating a book from a map that reported images not in the project scope.

1.00.27 - 28 November 2008

Bug Fixes

Apply Ditaval as Conditions command applies overlapping conditions.

Now this "really" works properly.

Conref updates.

Conrefs to elements within a table cell no longer have the extra "end of para" mark that visually adds an extra empty line to the cell.

Conref paths that reference a higher level directory ("../") are built properly now (in cases where directory names were very similar, the paths were not properly built).

FM cross-refs.

All fm-xrefs and fm-links that specify an undefined cross-reference format will now render with a label (previously the first one of each format type was blank).

Map from outline.

Attempting to generate a map from an outline file that is unsaved will no longer crash FM.

1.00.26 - 31 August 2008

New Features

Search in Files command matches on partial attribute values.

The Search in Files command now allows for matching on partial attribute values. This is especially useful for locating elements that have multiple values applied to their filtering attributes.

Bug Fixes

Apply Ditaval as Conditions command applies overlapping conditions.

The Apply Ditaval as Conditions command now applies overlapping conditions as required by attribute settings.

Generate Book from Map no longer saves XML files as FM.

In rare circumstances the Generate Book from Map command would save the XML file as a binary FM file making it impossible to continue. This no longer happens.

WMF images are now properly handled.

When adding a WMF image, it was not properly shrinkwrapped and the href value was not set until file save. WMF files are now handled the same as other image types

Windows Vista problems fixed.

On Windows Vista, inserting an xref no longer causes FM to crash.

Element templates must be closed to be used.

If you try to use an element template for a new file when the element template is open, you now receive a warning that you must close the template before it can be used.

Build Map from Outline handles invalid para styles.

If a paragraph style in the outline document references a style that doesn't map to a topic type FM will no longer crash.

Conref problems resolved.

A conref to an xref will no longer cause FM to hang. Conrefs can now be made to simpletable elements (and related table types).

1.00.25 (1.0 release) - 7 July 2008

New Features

FrameMaker 8 support.

Now supports FrameMaker 8 and all of its Unicode functionality.

Full support for link elements.

Link elements in the related-link section of a topic are now managed the same way xref elements have been.

Search in Files command.

Provides the ability to search for content in files within a folder (and sub-folders) or in files referenced by a DITA map. The search criteria can be a mix of textual content, element or attribute names, or attribute value.

Where Used command.

Generates a report listing all files that reference the selected element or current topic.

Set Attributes command.

Provides quick and easy access to setting attributes on elements. In particular, this command makes use of the FrameMaker "Strings" attribute type and allows you to select one or more default values that are applied to the attribute.

Updated New DITA File command.

The New DITA File dialog now lets you enter the topic or map title and automatically generate a proposed file name based on your specification (in the New File Options dialog). You can also optionally select an element template to insert predefined structure and content to the new file. If needed, you can specify a folder name along with the file name and that folder will be created if needed.

Integrated ditaval support and management.

The Ditaval Manager provides an easy to use interface for creating and managing ditaval files. These files can be used to apply conditional filtering to FrameMaker books and documents as well as passed to the Open Toolkit for filtering of the generated content.

Handles "pretty-printed" XML files.

A new option strips padding (spaces and tabs) from files on import.

Auto-Prolog feature.

A new option lets you specify certain prolog data to automatically add or update on file creation and file save.

Build Map from Outline command.

Creates a DITA map and optionally DITA topic files from a simple FrameMaker document.

Build 'WorkBook' from Map command.

Generates FrameMaker book file that contains all of the DITA files referenced by a DITA map and any sub-maps. This command facilitates the use of FrameMaker's commands that iterate over files in a book (such as spell checking and search).

Open All XML Files in Book command.

Intended to be used with the "WorkBook," this command opens all of the XML files in a book and provides the option to resolve references or not in the opened files.

Topicref labels in DITA maps.

A new option allows you to choose the type of content displayed in the topicref label. You can see the title, the file name or both.

New DITA File updates.

The New DITA File command is now available from the File menu in addition to the DITA-FMx menu. When creating a new DITA file, you can now overwrite an existing file, and create new folders.

ID attribute validation.

When manually changing an ID attribute value, a warning is displayed if it is invalid.

Added Xref to Hyperlink command.

This command converts DITA-based xrefs and links into FrameMaker Hyperlinks that are live hyperlinks in generated PDF files.

Variables persist through the Map to Book process.

Two new commands have been added, Prepare Variables and Rebuild Variables, which make it possible for FrameMaker variables that are used in DITA files to be available as live variables in the generated book files.

Reference Manager "remembers" last selected element type.

When you use the Reference Manager, it now defaults to selecting the last referenced element type.

Added option to disable coloring of conrefs.

If the coloring of conrefs causes problems for your output tools (WebWorks in particular doesn't like it), you can now disable this in the Topic or Book applications.

Now recognizes the "include" ditaval action.

The Ditaval Manager and the Apply Ditaval as Conditions command now recognize the "include" ditaval action value.

Added Check for Updates command.

The Check for Updates command was added to the menu as well as a setting in the Options dialog to specify the frequency to automatically check for updates.

Added "break conref" functionality.

If you need to convert a conref into editable text (and sever the connection to the source element), delete the conref attribute value and double-click the conref.

Added special image-handling features.

The "fmdpi" feature maintains alternate image sizes within FrameMaker. Add the value, "fmdpi:<DPI>" to the image/@otherprops attribute (where <DPI> is the DPI value). See the Working with Images topic for more info.

The default alignment for new images is now defined by the default value of the image/@align attribute.

Added API calls.

FMxVer, FixBookRefs, and LoadReferences.

Added the fm-* elements to the DITA Reference.

Now when you use Alt+F1 to get help on the selected element, it will work for the "fm-*" elements as well.

Structure Application Updates

Changed "String" to "Strings" type for filtering attributes.

To allow easy use of the new filtering groups feature of the Set Attributes command, the attribute type for platform, product, audience, and otherprops has been changed to "Strings" in the Topic and Map applications.

Added a user-settable method of round tripping graphics as non-cropped.

A "don't crop" read/write rule has been added to the topic and book rules files. By default it is commented out, but by enabling it, graphics can round-trip without FrameMaker resetting them to "Cropped" during import.

Added formatting support for more elements within a fig.

Some formatting support for lists (ul and ol), p, dl, and note has been added and now includes formatting for contexts where fig has its attribute expanse set to page. Also, a list whose compact attribute is set to "yes" within a fig will now format as a horizontal list.

Line below Task is more reliably drawn.

The line indicating the completion of a Task now occurs in more contexts.

Corrected format of Topic label text in reltable heading.

The "Topic," "Reference," "Concept," and "Task" text that automatically appears in the column heading of a reltable is now properly left-aligned in its cell.

Topicmeta formats for author and keyword are now more consistent.

Author element text now properly aligns with the other elements in topicmeta. And, keyword elements receive more consistent formatting where multiple keywords occur.

Book template DITA-Comment and DITA-Prolog conditions display default is now properly set.

With the DITA option set to conditionalize Prolog or Comment elements, when a DITA file is opened that contains comment or prolog elements, the template default is now to Hide those elements. (For Topic and Map templates, the default behavior is still to Show those conditions.)

Bug Fixes

Processing Instructions after the document close tag.

Opening an XML file that has a PI (processing instruction) after the document's closing tag no longer crashes FM when you save that file.

Proper handling of colons in the forced sort area of an index entry.

Colons in the forced sort area of an index entry (within square brackets) are no longer treated as level separators when saving to XML. The forced sort content is written to the last indexterm element.

fm-xref and fm-link element fixes.

Fixed problem where fm-xref and fm-link elements did not properly reference sub-topic elements.

New file command properly creates topics with specialized title elements.

If your specialized topic type uses a "title" element with a name other than "title" it properly uses that specialized element.

Clipboard content is not lost when opening a new topicref.

If you copy something to the clipboard, then open a topic by clicking a topicref, that content is still available for pasting.

Conrefs that specify no file name now resolve to the current file.

When the conref attribute specifies no file name (as in `conref="#topicid/elemid"`) the conref looks for "topicid/elemid" in the current file.

Topicrefs that reference a topicid now process correctly.

Updated the book processing XSLT file so it can handle topicrefs that reference a file and a topicid (topicref/@href='filename.xml#topicid').

On file open, a missing image now triggers the "missing image" dialog.

When opening a file, if an image can't be found, the default "Select image file" dialog is now displayed.

Replacing an existing image properly updates the href attribute.

If an existing image is replaced through the FrameMaker interface, when the file is reopened the new file name is still properly specified.

Column widths in simpletable and choicetable elements.

These elements now round trip properly.

Tables in generated files are full width.

When building a book, tables now fill the width of the text column.

Moved INI parameters around a bit.

The following INI parameters have been moved from one section to another (as indicated):

General -> INIOnly/AutoLoadTopicrefs

General -> INIOnly/XrefElements

General -> INIOnly/StructappsFile

General -> INIOnly/FmXrefElem

General -> INIOnly/FileOpenClient

General -> INIOnly/DitaHelpKeys

General -> INIOnly/DitaReference

General -> DitavalDefaults/DitavalName

General -> DitavalDefaults/DitavalExcludeConditionName

General -> DitavalDefaults/DitavalExcludeConditionNameType

General -> DitavalDefaults/DitavalExcludeConditionVisibility

General -> DitavalDefaults/DitavalFlagConditionName

General -> DitavalDefaults/DitavalFlagConditionNameType

General -> DitavalDefaults/DitavalFlagConditionVisibility

GeneralImport -> General/CheckForComments

Other misc. fixes.

Various cleanup and bug fixes.

0.02 - 18 December 2007

New Features

Book-building component is now included.

The ability to generate a FrameMaker book from a DITA map is now included with DITA-FMx.

Added ditaval filtering for authoring and output.

The **Apply Ditaval as Conditions** command lets you apply ditaval filtering to the document being authored, and the **Use Selected Ditaval File** option in the Generate Output dialog lets you specify a ditaval file for use with a DITA-OT target.

New "Auto Smart-Spaces" option makes it easier to work with code in documents.

If enabled, this option automatically disables and enables the FrameMaker "Smart Spaces" option when the insertion point is moved into and out of a preformatted text element (one based on the "topic/pre" class).

Child elements and line breaks can coexist in preformatted elements.

The new option, "Fix line breaks in topic/pre elements," properly allows for child elements within preformatted ("topic/pre") elements. If this option is enabled, line breaks are no longer lost when a child element is before or after a line break. (This overcomes the native FrameMaker bug/feature.)

The character sequence "]]>" can be used in FrameMaker.

Typically, you can't include the characters "]]>" within a FrameMaker document saved to XML. DITA-FMx now overcomes this standard limitation.

Specify the number of reference levels to resolve.

When you open a DITA file (and the auto-loading reference options are enabled), DITA-FMx resolves all conrefs and xrefs in all referenced files.

This new option allows you to specify the number of reference levels to resolve (typically 2 is plenty). For documentation sets that make extensive use of references, this can significantly speed up the time it takes to open topic files.

Pressing ESC while files are resolving will interrupt the process.

If you need to abort the file resolving process, press ESC.

The Reference Manager dialog now defaults to the last referenced file.

Instead of defaulting to the current file, the Reference Manager now defaults to the most recently referenced file.

External Xref dialog now provides External or Peer options for the scope attribute.

The scope attribute of external xrefs were previously assigned the value of "external," this value can now be set to either "external" or "peer."

When xrefs are created they are now populated with the proper type, format, and scope attributes.

Xref elements created and modified through the Reference Manager are now assigned the proper type, format, and scope attributes.

Set up environment variables before running the Ant script.

The EnvironmentSetup INI-only parameter lets you specify a batch file to run before the Ant script in order to properly set up the environment for an OT build.

Updated support for topicmeta element in a map.

The EDD and template have been updated to provide a nicer rendering of topicmeta data. Also, a new option was added to the Options dialog to allow conditionalizing of topicmeta on file open.

TOC and Index templates provided for easy book-building.

Two template files are now provided with the Book application making it easy to set up a complete book.

Structure Application Updates

Topic Application.

<note> - Formatting changes to correct some indention issues.

, <ul>, <sl>, <li>, and <sli> - Formatting changes to correct indention and "red text" issues.

<xref> - Character format added for context scope= "external" (link.external).

<apiname> - Now formats as a text range.

Book Application.

Same updates as those for the Topic application.

<fm-ditabook> - Added <fm-subditamap>.

<title> - Modified formatting of <title> to provide support for maps of maps. Modified syntax- and group-related context labels so that they'd not be picked up in TOC generation that went to Level4.

Map Application.

Corrected copyright and legal info.

<topicmeta> - Added formatting for all <topicmeta> elements when option is invoked. Added DITA-Topicmeta condition to template.

Bug Fixes

Conrefs resolve properly.

All known problems with conrefs have been fixed, including conrefs to tables and conrefs to single block elements.

Xrefs that wrap over a line are no longer truncated on save.

Xrefs at the end of a paragraph now save properly.

Indexterms in book builds aren't duplicated.

Nested indexterms in a book build resulted in the duplication of all but the top level entry, this no longer happens.

Indexterm elements are no longer saved with the hard-coded class value.

This made it impossible to specialize the indexterm element.

DITA-Comment and DITA-Prolog conditions are no longer saved as PIs.

Because conditions are saved as Processing Instructions, the DITA-Comment and DITA-Prolog conditions were saved as well. This caused a problem when the "Conditionalize element on file open" options were used, causing the condition to be set even when the options were disabled.

In the DITA Options dialog, if an application is not selected, it shows as empty.

Previously, this would default to the first application in the list.

Table format and tgroup/@outputclass value are now in sync.

Changing one updates the other.

The clipboard contents are now saved before creating a new DITA file.

Previously, the clipboard contents were lost when the New DITA File command was used.

The Open All Topicrefs command properly processes all topicref files.

Now all topicrefs are processed.

No longer displays warning about comments when resolving references.

This warning now only happens on file open (if the option is enabled).

Elements with general rule of "<TEXT>" now conref properly.

Any elements with the lone general rule of "<TEXT>" were saved incorrectly when conrefed. A temporary fix was to change the general rule to "(<TEXT>)*" but this fix is no longer needed.

The Reference Manager dialog now properly highlights the selected topic.

Previously when double-clicking an existing xref, the current file was not selected.

Long application names now display properly in the Options dialog.

Previously, if an application name was so long that it wrapped in the *structapps.fm* file the name would be truncated in the Options dialog.

0.01 - 20 August 2007

Initial Beta release.

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