ERICSSON

Ericsson CPI DITA Information Model

DITA CMS

Technical Document

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1 Overview

Ericsson uses a structured authoring environment in XML using the Darwin Information Typing Architecture (DITA), an OASIS standard that defines an XML architecture for designing, authoring, publishing, and managing content. This document describes the implementation of this standard at Ericsson, documenting the specific structures and elements in use in Customer Product Information (CPI).

The *Ericsson CPI DITA Information Model* is a subset of the DITA 1.3 specification (http://docs.oasis-open.org/dita/dita/v1.3/dita-v1.3-part0-overview.html).

1.1 Using This Document

All Ericsson authors who are writing original content or migrating existing documents to DITA should follow the *Ericsson CPI DITA Information Model*. Take the time up front to understand the information model and guidelines so you can apply them properly. Use this document as a reference to ensure that your content is consistently organized, structured, and tagged. The more you know about the standards, the quicker you will be able to apply them to your content and the better the results will be.

For questions or comments regarding the model, direct them to your organization's information architect or to the Ericsson information model team.

Note: All style guidance is based on the Corporate Style Manual. The guidelines are not designed to replace the CSM, but should be used in conjunction with it.

This document includes all the DITA elements that are valid for Ericsson documentation. However all authoring must be done using the DITA CMS and Oxygen.

DITA CMS has been constrained and enhanced to enforce the rules and guidelines within this document. Only elements and attributes described in this model are available through the interface. When a certain number or order of elements is prescribed by the model, the tools enforce these rules, making your topic invalid until you conform. Where the model provides recommended, but optional, guidelines, Schematron rules inform you when you are not following best practices. For example, Schematron rules will inform you if your short description is over 50 words or when you have included only one list item in a list.

In addition, many templates are available that are pre-populated with elements you need in the order they should appear. By starting every topic you write with a template, you don't have to remember all the required elements discussed in this document.

1.2 What This Document Contains

The *Ericsson CPI DITA Information Model* contains the information needed to produce topic-based content and deliverables that end users need to understand and use products and services effectively and efficiently.

1.3 Terms and Conventions

You should be familiar with these terms before using the *Ericsson CPI DITA Information Model*.

topic
A titled piece of information that can be understood in isolation and used in multiple contexts. It should be short enough to address a single subject or answer a single question but long enough to make sense on its own and be authored as a self-contained unit. A topic must be declared to be one of four information types: task, concept, reference, or troubleshooting.

information type
A categorization that defines the primary purpose of the content within a topic. The information type you select when you create a new topic defines the DTD that controls the elements and sequencing that can be used for information within the topic.

DTD (Document Type Definition)
Files that provide the rules for an information type in DITA. For example, the task, concept, troubleshooting, and reference DTDs all require that you include a <title> element at the beginning of your topic. This rule is defined in their DTDs.

The DTDs used at Ericsson can be browsed in the DTD Browser.

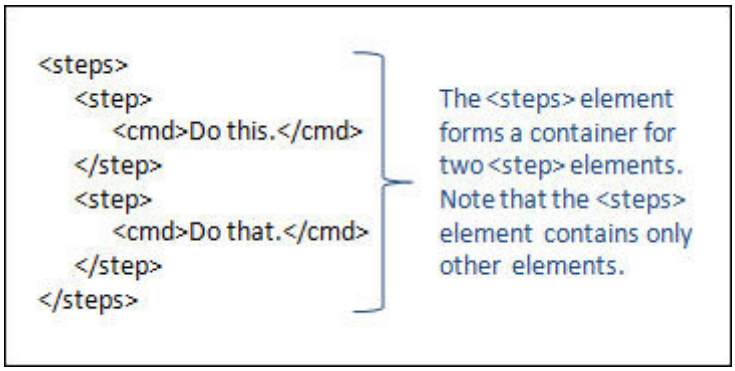
map
Organizes topics and other resources into structured collections of information. DITA maps specify hierarchy and the relationships among the topics within the map; they also provide the context in which variables are defined and resolved.

bookmap
A specialized DITA map that enables you to create the familiar parts of a book structure, such as front matter, chapters, appendices, and back matter. Bookmaps are used to create documents and other publications.

element
Semantic markers that define the start and end of content.

container element

An element that does not contain character data or other content but is used only to group other elements together. For example, the <steps> element in the task information type is a container element used to group a set of <step> elements.

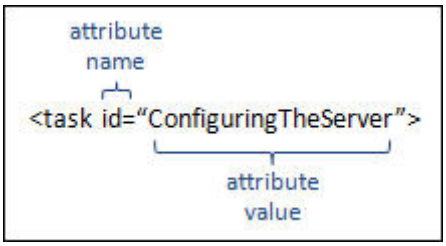


metadata

Data that classifies and categorizes content so that authors and end users can more easily locate the information they need.

attribute

A form of metadata that provides more information about an element and its content. Attributes are defined in an element's start tag. Attributes consist of a name and value (contained in quotation marks). Within this document, attribute names are prefaced with an at-sign (for example, @id).



markup

A broad term used to describe the elements and attributes that are applied to content.

nesting

The practice of placing an XML element within another XML element. Elements are said to be nested if their start and end tags occur within the start and end tags of another element. For example, in the code block below, two <li> elements are nested within the <ul> element.

```
<ul>
   <li><p>First list item</p></li>
```

```
    <li><p>Second list item</p></li>
</ul>
```

conref

A mechanism for the reuse of content fragments within DITA topics or maps. Conref refers to the ability to pull referenced content from one location into one or more additional locations.

conref push

A mechanism for the reuse of content fragments within DITA topics or maps. Conref push refers to the ability to push referenced content into the flow of a topic without directly affecting the source of the original content.

Note: Using conref push is not recommended. Any potential use case should be discussed with the Corporate Information Model team to look for alternatives.

keyref

A mechanism for the reuse of content fragments within DITA topics or maps. With keyrefs, the resources addressed by references can be defined globally at the DITA map level instead of locally in each topic. Keyrefs provide an indirect addressing mechanism that separates references (such as topicrefs, conrefs, and cross references) from the direct address of the target.

conditional processing

Filtering, flagging, searching, or indexing content based on the association of an element with one or more specified metadata values. DITA filtering is referred to as profiling in CPI Methods, for more information about profiling refer to Profiling and Conditional Processing in DITA CMS.

ditaval

A ditaval file specifies the conditions to include and exclude when output is generated. For more information, refer to Profiling and Conditional Processing in DITA CMS.

build manifest

A Build Manifest is a DITA CMS object that makes it possible to configure a list of different outputs for a map. For more information, refer to Profiling and Conditional Processing in DITA CMS.

2 Information Types

Ericsson categorizes content into four information types: (Glossary terms are currently not included.)

Tasks Provide procedural information, typically with step-by-step instructions for accomplishing a goal. A task answers a "How Do I..." question.

Troubleshooting Topics Provide strategies for isolating and solving potential problems that end users might encounter using Ericsson products. A troubleshooting topic answers a "How Do I Identify and/or Resolve..." question.

Concepts Provide background that helps readers understand essential information about a product, a task, a process, or any other conceptual or descriptive information. A concept may be an extended definition of a major abstraction such as a process or function. Conceptual information may explain the nature and components of a product and describe how it fits into a category of products. Conceptual information helps readers to map their knowledge and understanding to the tasks they need to perform and to provide other essential information about a product, process, or system.

References Provide "look-up" information that end users might need to refer to when completing a task. A reference topic may answer questions like "How Much...", "How Many...", or "What Form..." It is intended to be referred to frequently, as-needed, perhaps while an end user is completing a task.

All content must be placed into topics that are based on one of these basic information types. Ensure not to mix information types within a single topic file.

2.1 Beginning a Topic

Except for glossary topics, you must include a title and prolog section before you begin the body of the topic. In addition, you can include a short description of the topic. The following sections provide guidelines for these common elements.

To create a topic, start with a template for the correct topic type or clone an existing topic of correct topic type and modify.

Note: If you clone a topic, there may be element IDs in the new topic that are identical to element IDs in the original topic. This is not valid and can lead to undesired results and missing content when generating output.

```
<fig id="fig_N10076_N10073_N1006C_N10021_N10016_N10001">
```

Figure 3 Element ID and Space before Selected

To remove duplicate element IDs in a clone of a topic, edit it in text mode and manually remove the element IDs and the space before the element IDs. DITA CMS generates and adds new unique element IDs where needed when the topic is released.

2.1.1 Topic Titles

DITA requires that a title is provided for all topics (except Glossary topics), which is then rendered as the heading of the topic's content in the final output. The <title> element is the first element within the topic root element (such as <task> or <reference>). Enter text directly into the <title> element, keeping in mind the following constraints:

- You cannot nest block elements nor most inline elements within <title>. Even when they are allowed, avoid using inline elements that might override the format of the heading style.
- The title element for a topic title cannot be conditionalized. However, the content can be conditionalized using the <ph> element within the <title> element, and applying conditional or key attributes to that element. For more information, refer to How to Write Task Topics.
- Do not reuse entire titles. If you are writing a topic that has the same title as another topic, consider whether both topics should be combined into a single, normalized, and/or conditionalized topic. If not, add distinguishing information to the titles to help end users understand the difference between the two topics.

2.1.2 Short Descriptions

> A short description presents the purpose or theme of the topic and provides a short overview of the contents.

The <shortdesc> element immediately following the <title> element of a topic. The short description expands on the title and serves as an overview that allows the reader to quickly decide whether to read on. Short descriptions are recommended in all topics, and might be required in some product areas.

The content of the <shortdesc> element is rendered as the first paragraph of the topic, with a vertical grey bar on the left and right side. In HTML format in an

ELEX library, it is also rendered as a tooltip when hovering a link to the topic, provided the link is within the same bookmap.

The short description is composed of complete sentences and form a comprehensive thought. However, as its name implies, the short description should be concise and to the point. Because it is meant to be short, the <shortdesc> element cannot contain block elements, such as, paragraphs or lists, nor most inline elements. Do not include an image in the short description.

2.1.3 Metadata in the Prolog

When starting or modifying a topic, add metadata to the <prolog> section of the topic to capture information about the topic as a whole. The metadata inside the <prolog> is not displayed in the topic output but may be used by processes that filter content, determine search relevance, or customize navigation. Include the following elements in the prolog in the order listed. Each element indicates whether it is required or optional. In addition, the individual product area may require items listed as "Optional by product area"; check with your product area's information architect.

Note: All topic templates include placeholders for both required and optional metadata. If no optional metadata value are to be defined, remove it. In addition, most metadata elements have an associated pick list from which the applicable values can be chosen. If a pick list is available, a value not found in the pick list cannot be selected. To add a value to the pick list, contact your product area's information architect.

<source> source (optional)

The <source> element is used to identify the resources used to create or modify the topic; for example, a document number, product specifications, or subject matter expert. Only one <source> element can be included in the <prolog>. If there is more than one source, include them all in the single element, separated by commas. There is no pick list for this element.

For content migrated from XSEIF, the migration filter enters the document identity of the source document here.

<permissions view=" xxxxx "> permissions (mandatory)

The <permissions> element is used to identify any access restrictions on this content. The @view attribute can be used to specify the appropriate permission for the content:

- ericsson_confidential
- ericsson_internal
- public

The default value is ericsson_internal; this value is pre-set in all templates.

<metadata> metadata (optional)

The <metadata> element is a container for topic-level metadata. No content is specified directly in this element.

<change-historylist> change history (optional)

The <change-historylist> element is a container for change history items. The list contains one or several <change-item> elements, which in turn contains:

<change-person>

Signum of person who made the change

<change-request-reference>

A container for:

<change-request-system>

The source of the change request: CR, MR, TR, or other

<change-request-id>

Change source id, for example, the TR number

<change-completed>

Date of change

<change-summary>

A brief description of the change. This information can be displayed in the output.

<data> Any additional internal information about the change, only visible in DITA CMS

Note: Change history element contents are extracted and displayed in HTML output for preliminary documents, see Guidelines for Change Information. It cannot yet be included in an LRI.

<keywords> keywords (optional)

The <keywords> element is nested in <metadata> as a container for individual <keyword> elements and index terms.

<keyword> keyword (optional)

As many <keyword> elements as required can be nested in <keywords>. Keywords facilitates for users and authors

to locate this publication. When the content is published, these terms are converted to metatags for HTML output. These metatags assist search engines in assigning a relevance ranking to the topics in a search results list. When the end user's search term is found in the metatags, the topic is assigned a better ranking than if the term is only found in the body text. For guidance on assigning keywords, see Keywords and Index Terms on page 10.

<indexterm> index term (optional)

The <indexterm> element is nested in <keywords> to contain a term that will appear along with a page number in a printed index. As many <indexterm> elements as needed can be nested, and also nested within each other to create secondary terms. For guidance on selecting index terms, see Keywords and Index Terms on page 10.

<othermeta name="workitem" content="xxxx" > work item (optional)

The <othermeta> element is nested in <metadata> to specify any tracking number (such as a TR, CR, feature number, or use case) associated with the original content or any changes made to the content. The @name attribute must be set to "workitem" and a @content attribute set to the value for the work item. Due to the large number and ever changing nature of these numbers, no pick list is provided. The number must be entered manually, if one exists. As many <othermeta> elements as are applicable to the topic can be included. This element is included in all topic templates. If there is no work item, delete the element.

```
<metadata>
  ...
  <othermeta name="workitem" content="TR102934"/>
  ...
</metadata>
```

<resourceid id=" xx "> resource ID (optional)

For man page or help files, the <resourceid> element is used to identify the ID that the software will use to display the correct page. Due to the large number and ever changing nature of these numbers, no pick list is provided. The number must be entered manually, if one exists. This element is included in all topic templates. If this topic will not be used as a man page or in a help system, delete the element.

2.1.4 Keywords and Index Terms

Keywords

All topics should include keywords to assist both authors and users in locating information. On processing, <keyword> elements are converted to metatags for HTML output. These metatags assist search engines in assigning a relevance ranking to your topics in a search results list. When the user's search term is found in the metatags, the topic is assigned a better ranking than if the term is only found in the body text.

There is no limit to the number of keywords that can be specified for a topic. However, be cognizant of the relevance of the terms as well as future translation costs.

Index Terms

Note: Indexes are not recommended to be used, except for legacy purposes or where there is a specific need.

If indexes are to be used, also include <indexterm> elements in the topic's prolog section. If the topic is lengthy, the index term can be placed in the topic body at the beginning of a block-level element, like a paragraph or section, instead. However, do not place an <indexterm> element mid-sentence; doing so causes problems for translation and makes it difficult to read the text while writing and reviewing content.

Do not surround words within a sentence with index tags. The word will not appear in the final output. You must duplicate the term within an <indexterm> element.

As with keywords, there is no limit to the number of index terms that can be specified for a topic. However, the same guidelines apply as with keywords. In addition, keep in mind the following guidelines:

— Include index terms in all topics, even if they are currently in a non-indexed publication, to ensure that these terms are available for any future indexed deliverable in which the topic is included.

— Be sure to use the same <indexterm> values across topics to ensure consistency in terms that will be referenced frequently and so they will be appropriately grouped together in a printed index. Consider creating a list of allowed terms or using keys to ensure consistency in index terms that will be referenced frequently.

— Do not capitalize index terms unless they are also capitalized in the text (for example, proper nouns and acronyms).

— Define second-level index terms by nesting <indexterm> elements. However, do not go any deeper than one level of nesting.

— If more than one secondary entry applies to a topic, nest each secondary term within the same primary entry. For example:

```
<indexterm>cells
  <indexterm>definition</indexterm>
  <indexterm>relations</indexterm>
</indexterm>
```

— When nesting index terms, consider also indexing the reverse; that is, making the nested term the primary term and the primary term the nested term. For example:

```
<indexterm>identity management
  <indexterm>single sign-on</indexterm>
</indexterm>
<indexterm>single sign-on
  <indexterm>identity management</indexterm>
  </indexterm>
```

2.2 Tasks

Task topics provide instructions for completing specific tasks. They typically contain:

— Information immediately required by users to accomplish a single task.

— Minimal information to explain concepts related to the task.

— Links to related information that can help with executing the task.

Operating Instructions (OPIs) typically contains one or more task topics.

Tasks do not provide conceptual descriptions of product features or explanations of how something works, nor do they provide detailed reference data that might be needed to complete the task. Use concept and reference topics to provide this type of information.

2.2.1 Task Structure

A task topic has the following structure:

— <task> (mandatory)

- <title> (mandatory)
- <shortdesc> (optional)
- <prolog> (mandatory)

- <taskbody> (mandatory)
  - <context> (optional)
  - <prereq outputclass="tools"> (optional)
  - <prereq> (optional)
  - <steps>, <steps-unordered>, or <steps-informal> (mandatory)
    - <steps> are used for how-to and set-up instructions, when you are presenting step-by-step procedures for accomplishing the task.
    - <steps-unordered> are used to provide instructions when it doesn't matter what order steps are completed in.
    - <steps-informal> are used for non-text-based procedures, presented in videos, animations, or graphics that contain the whole procedure in one figure.
  - <result> (optional)
  - Any number of <example> (optional)
  - <postreq> (optional)

Several task templates are available in DITA CMS. Take time to familiarize yourself with each one in order to determine which template best suits your specific needs. If necessary, you can also coordinate with ITTE to define and create your own templates for your product area.

2.2.2 Task Elements

The following elements can be included in a task topic. An asterisk (*) next to the element name indicates that block and inline elements common to all information types can be nested in the element. (These elements are described in Block Elements on page 24 and Inline Elements on page 42.)

Elements in <taskbody>

The following elements are available in the <taskbody> element.

Note: A <steps>, <stepsunordered>, or <steps-informal> element is required within a task topic.

<context> context * (optional)

Identifies the purpose or goal of the task, as well as to indicate to the users what they gain by completing the task. The context section should answer questions like "who," "what," "why," "where," and "when," while the

steps section then answers the question "how." Although the context information may contain some basic conceptual information, it should not replace or recreate a related concept topic.

<prereq outputclass="tools"> prerequisite (Tools and Equipment) * (optional)

Specifies any tools or equipment that the user needs to have in order to complete the task. Knowledge or task prerequisites are not included in this section; the next section is used for these types of prerequisites. An unordered list (<ul>) is nested in this section where each required item is included in a list item (<li>). The stylesheets will automatically title this section "Required Tools and Equipment". This section is strongly recommended for all hardware-related tasks.

<prereq> prerequisite * (optional)

Specifies anything that the user needs to know or do before starting the task, for example, to describe actions that must be completed prior to beginning the task or to list concepts that the user should understand before beginning the task. The <prereq> element can also be a container for notes and hazard statements specific to the entire task. As with the tools and equipment section, an unordered list is used to include each prerequisite. The stylesheets will automatically title this section "Prerequisites".

<steps> steps (mandatory in general tasks)

Used to create a numbered list of all the steps that the user must follow to complete the task. The <steps> element can contain any number of <step> and <stepsection> elements. The <steps>, <steps-unordered>, or <steps-informal> element is required within a task topic.

<stepsection> step section (optional)

The <stepsection> element is nested in <steps> to specify conditions that might require the user to skip the next step or series of steps within a procedure. The <stepsection> element should be placed immediately before the first step that might be skipped and should contain a reference pointing to the next relevant step for situations that meet the specified condition.

step (mandatory in general and checklist tasks)

Used for each step that the user must follow to complete the task. Each <step>

element must be nested in a <steps> or <steps-unordered> container element and must include a <cmd> element. One or more <step> elements can be used in each <steps> or <steps-unordered> element.

See also Elements in <step> on page 15.

```
<step>
     <cmd>Install the application LK →
F.</cmd>
</step>
```

<steps-unordered> steps unordered (mandatory in checklist task)

Used if the task only has one step or if the steps do not need to be performed in a specific order. On output, <step> elements nested in a <steps-unordered> element are formatted with checkboxes rather than numbers. As with the <steps> element, the <steps-unordered>element is a container for all <stepsection> and individual <step> elements that the task contains (see <steps> for more information).

<steps-informal> steps informal * (mandatory in media tasks)

Used to include a media presentation of a task, including video, animations, or still graphics. An <image> element is nested in this section, see Figures and Media Content on page 32 for information about including media elements of any type. A <steps>, <steps-unordered>, or <steps-informal> element is required within a task topic.

Note: A <stepsection> or <step> element cannot be nested inside <steps-informal>.

<result> result * (optional)

Describes the expected outcome for the task as a whole. The <result> element could include a final description using figures, tables, or visual cues that show end users that they have successfully completed the task.

<example> example * (optional)

Used in a task to include a specific scenario for completing the task. The <example> element could include graphics or text that show or describe to the users how they would complete the task in the given circumstances.

<postreq> post requirement * (optional)

Specifies anything that the end user needs to know or do after completing the task. This information might include recommended next steps, such as clean up, testing, and adjusting.

Elements in <step>

Any of the following elements can be nested in a <step> element. Unless otherwise indicated, any number of these elements can be included, in any order.

<note> note or <hazardstatement> hazard statement * (optional)

Notifies users of dangers or other important information about the step before they see the step. For more information about these admonitions, refer to Notes and Hazard Statements on page 29.

<cmd> command (mandatory)

Describes the action the user needs to take in a <step> or <substep> element. This element is required within <step> and <substep> elements. No block elements can be nested in <cmd>, but inline elements can be used.

<info> information * (optional)

Provides additional information for completing a step beyond the instruction in the <cmd> element, or as a container for a <note> or <hazardstatement> element that pertains to the specific step.

<substeps> sub-steps and nested <substep> sub-step elements (optional)

Used to break a step down into a series of actions. This element is a container for individual <substep> elements. A <substep> element is used for each substep that a user must follow to complete the step. The <substep> element has the same structure as the <step> element, but it cannot contain another level of <substeps> or the <choices> or <choicetable> elements.

Note: Before using <substeps>, consider creating a new task instead to simplify the presentation. Use of substeps should be limited, and only one level of substep is permitted.

<choices> choices and nested <choice> choice elements (optional)

Used to create a list of options that the user may select to complete the task. The <choices> element is a container for individual <choice> elements. A <choice> element is nested in <choices> for each option that the user can select. Do not insert the word "or" between the choices.

```
<info><p>You can select the following options in th →
e
```

```
  Prorating list box:</p>
  <choices>
    <choice><p>Not prorated: The complete amount of
 the recurring charge has to be paid regardless
       of how long the service is active in the bil
ling period. </p></choice>
    <choice><p>Prorated: The recurring charge is ca
lculated proportionally to the number of days
       the service is active in a billing period. <
/p></choice>
  </choices>
</info>
```

<choicetable> choice table (optional)

Used to create a table of options that the user may select to complete the step. The choice table lends itself well to an if/then configuration, for example:

If you want to...	Enter this command...
Perform a fallback to GGSN-MPG 2011A	re1> **request system software add MPG_*<fallback_rev>*_install.tgz no-validate**
Perform a fallback to EPG 2012A-M or later	re1>**request system software add MPG_*<fallback_rev>*_juniper_install.tgz no-validate**

The columns can be titled as needed according to the choice to be made. The specific elements required in a choice table are explained in Elements in <choicetable> on page 17.

<stepxmp> step example * (optional)

Includes an example illustrating the step. While the <cmd> element is written generically to apply to any situation, the <stepxmp> element shows a specific application of the <cmd> statement to help users better understand how to complete the step. The <stepxmp> element is used to illustrate the code required to complete a step in the CLI.

```
<stepxmp>
  <codeblock>
    <systemoutput>[local]Ericsson(config)#</systemo
utput>
      <userinput>context context1</userinput>
    <systemoutput>[local]Ericsson(config-ctx)#</sys
temoutput>
      <userinput>ntp-mode</userinput>
```

```
  </codeblock>
</stepxmp>
```

<stepresult> step result * (optional)

Explains the expected outcome of a step, for example, to include a screen capture of what the user should see if the step is completed correctly. Step results reassure users that they are on track, but do not need to be included for all steps. This element is used only where necessary to keep the user on task, where it is really useful to the users, not just to illustrate what they can see on the screen. Remember, if this element is not used, orienting language can be used in the step itself, such as "On the XYZ screen, do...".

Note: Only one <stepresult> can be included in a step and it must be the last element within the step.

```
<step><cmd>Show NTP associations.</cmd>
  <stepresult><p>The system displays a table simila →
r to the following:
  <codeblock>
      remote       local      st poll  reach  delay →
    offset    disp
    ==============================================  →
========================
     1.1.1.7       0.0.0.0    16   16    0   0.0000 →
0  0.000000  3.99217
     1.1.1.5       0.0.0.0    16   16    0   0.0000 →
0  0.000000  4.00000
     1.1.1.4       0.0.0.0    16   16    0   0.0000 →
0  0.000000  3.99217
     1.1.1.2       0.0.0.0    16   16    0   0.0000 →
0  0.000000  3.99217
     2.1.1.1       0.0.0.0    16   16    0   0.0000 →
0  0.000000  3.99217
     1.1.1.6       0.0.0.0    16   16    0   0.0000 →
0  0.000000  4.00000
    *127.127.1.0   127.0.0.1  10   64  377   0.0000 →
0  0.000000  0.03078
    * synchronized peer, + selected peer(short list →
ed), . cast off peer
  </codeblock></p>
  </stepresult>
</step>
```

Elements in <choicetable>

The Oxygen table tool is used to create a <choicetable>. However, for reference purposes, the following list describes the elements that make up a choice table.

<chhead> choice head (optional)

Provides headings for the columns in a choice table. The <chhead> element contains the <choptionhd> and <chdeschd> elements. If these elements are not specified, the default headings are "Option" and "Description".

<choptionhd> choice option head (optional)
Specifies the heading for the first column of a choice table.

<chdeschd> choice description head (optional)
Specifies the heading for the second column of a choice table.

<chrow> choice row (mandatory)
Used to create a row in a choice table. The <chrow> element contains the <choption> and <chdesc> elements:

<choption> choice option * (mandatory)
Describes an option that the user can choose to accomplish the step. Only one <choption> element can be used in each <chrow> element.

<chdesc> choice description * (mandatory)
Provides a description for the option in the corresponding <choption> element. Depending on the purpose of the choice table, the description might explain why the user would choose that option, the result of making that choice, or the steps to take to enable that option. Only one <chdesc> element can be used in each <chrow> element. The content within the <chdesc> tag is enclosed in a <p> tag.

```
<choicetable>
   <chhead>
      <choptionhd>If you want to...</choptionhd>
      <chdeschd>Enter this command...</chdeschd>
   </chhead>
   <chrow>
      <choption><p>Perform a fallback to GGSN-MPG 2011A</p></choption>
      <chdesc><p><systemoutput>re1></systemoutput><userinput>request
        system software add MPG_<varname>fallback_rev</varname>
        _in stall.tgz no-validate</userinput></p></chdesc>
   </chrow>
   <chrow>
      <choption><p>Perform a fallback to EPG 2012A-M or later</p>
      </choption>
      <chdesc><p><systemoutput>re1></systemoutput><userinput>request
         system software add MPG_<varname>fallback_rev</varname>
         _ju niper_install.tgz no-validate</userinput></p></chdesc>
   </chrow>
</choicetable>
```

2.3 Troubleshooting

A troubleshooting topic provides strategies for isolating and solving potential problems end users might encounter using Ericsson products. A troubleshooting topic typically answers a "How do I identify and/or resolve..." question.

2.3.1 Troubleshooting Structure

A troubleshooting topic has the following structure:

- <troubleshooting> (mandatory)
  - <title> (mandatory)
  - <shortdesc> (mandatory)
  - <prolog> (mandatory)
  - <troublebody> (mandatory)
    - <condition> (optional)
    - <troubleSolution> with @outputclass="diagnostics" (optional)
      - <cause> (mandatory)
      - <remedy> (optional)
    - <troubleSolution> (mandatory)
      - <cause> (optional)
      - <remedy> (mandatory)
        - <responsibleParty> (optional)

A `<troubleSolution>` element with `@outputclass="diagnostics"` contains `<cause>` and `<remedy>` for diagnostics information. A `<troubleSolution>` element holds `<cause>` and `<remedy>` pairs that explain a cause and the related solution.

2.3.2 Troubleshooting Elements

The following elements are used in `<troublebody>`:

<condition< (optional)

Describes what this troubleshooting topic applies to. This information helps the users decide whether a troubleshooting topic contain an applicable remedy for a problem.

<troubleSolution> with @outputclass="diagnostics" (optional)
Describes how to identify which cause and remedy that is relevant for the condition.

<troubleSolution> (mandatory)
Describes the cause and remedy for a condition.

For more information on the elements available in a Troubleshooting topic, refer to How to Write Troubleshooting Topics.

2.4 References

> Reference topics provide look-up, data-oriented information.

Reference topics are used to define specific, often detailed information, or to bring together "at-a-glance" information (tables) that users refer to, as required. Reference topics do not typically include descriptions or explanations.

It can sometimes be difficult to decide when to use a reference information type versus a concept information type. For guidance, see Choose Between a Reference and a Concept Information Type on page 21.

2.4.1 Reference Structure

A reference topic has the following structure. Within the <refbody> element, <table>, <section>, and <example> elements can be used in any order and intermixed as needed.

- <reference> (mandatory)
  - <title> (mandatory)
  - <shortdesc> (optional)
  - <prolog> (mandatory)
  - <refbody> (mandatory)
    - Any number of <table> elements (optional)
    - Any number of <section> elements (optional)
    - Any number of <example> elements (optional)

Several reference templates are available in the DITA CMS. Take time to familiarize yourself with each one in order to determine which template best suits your specific needs. If necessary, coordinate with ITTE to define and create your own templates for your product area.

2.4.2 Reference Elements

Nest any combination of the following elements within the <refbody> element.

<table> table (optional)

Use a <table> element to create a table that provides you full control over its display properties and layout. For more information on the elements that comprise a fully defined <table>, see Table Elements on page 37.

<section> section (optional)

Use the <section> element to organize subtopics in the body of a larger reference topic. Begin a section with a <title> unless it is the first element in the topic. You can nest any of the common block and inline elements within the <section> as described in Block Elements on page 24 and Inline Elements on page 42; you cannot include these elements (except for tables) outside of a <section> or <example> element in a reference topic.

<example> example (optional)

Use the <example> element to illustrate the content of a topic. It is recommended, but not required, that you begin each <example> with a <title> unless it is the first element in the topic. The <example> element can include any of the common block and phrase elements within the <example> as described in Block Elements on page 24 and Inline Elements on page 42; you cannot include these elements (except for tables) outside of a <section> or <example> element in a reference topic.

2.4.3 Choose Between a Reference and a Concept Information Type

Use this table to choose between a reference and concept information type.

Use a concept information type when	Use a reference information type when
You are providing explanations.	You are providing data.
You expect the user to read this information only once or twice before understanding the content.	You expect the user to refer to this information on a regular basis.
You expect the user to know this information before completing a task.	You expect the user to need this information during a task.

2.5 Concepts

Concepts provide background content that helps readers understand essential information about a product, interface, or task. Conceptual information helps readers map their existing knowledge to new information needed to complete a task or use a product. Concepts typically contain:

— Information that answers "What is...?" or "How does this work?"

— Information that is explanatory or descriptions of concepts that are required to complete a task.

— Background or overview information such as purpose, scope, and design of a product, feature, or function.

— Information that is not immediately required by users to accomplish a task.

— Advanced organizers that introduce books or chapters.

Concepts do not tell how to use features or functions; use Task topics to communicate that type of information.

It can sometimes be difficult to decide when to use a concept information type versus a reference information type. For guidance, see Choose Between a Reference and a Concept Information Type on page 21.

2.5.1 Concept Structure

A concept topic has the following structure. Within the <conbody> element, <section> and <example> elements can be used in any order and intermixed as needed.

— <concept> (mandatory)

- <title> (mandatory)
- <shortdesc> (optional)
- <prolog> (mandatory)
- <conbody> (mandatory)

  — Any combination of body elements, such as <p>, <ul>, <table> and so on (optional)

  — Any number of <section> elements (optional)

  — Any number of <example> elements (optional)

Because each concept is freeform, only one generic concept template that includes all the metadata placeholders is available. If necessary, coordinate with ITTE to define and create your own templates for your product area.

2.5.2 Concept Elements

Nest any combination of the following elements within the <conbody> element.

Note: The <conbody> element can also contain any of the block and inline elements that are common to all information types as described in Block Elements on page 24 and Inline Elements on page 42 as long as you have not inserted a <section> or <example> element. As soon as you include one of these two elements, all block elements must be nested within a <section> or <example> element.

<section> section (optional)

Use the <section> element to organize subtopics in the body of a larger concept topic. You must begin a section with a <title> and can then include any of the common block elements within the <section>.

Note: Topics have a flat structure. DITA does not support nested sections. If you need a hierarchy of conceptual information, use multiple topics and combine them in the appropriate hierarchical structure using a map.

<example> example (optional)

Use the <example> element to illustrate the content of a topic. The <example> element can include any common block elements. It is recommended, but not required, that you begin each <example> with a <title>.

3 Block Elements

Block elements are common to all DITA information types. Nest these elements within topic body elements (such as <conbody>), topic-specific elements (such as <context>), and other block elements as allowed by the DTDs to create your topic content. Common block elements include:

— Paragraphs

— Lists

— Notes

— Figures

— Tables

The following sections describe the use of these elements within a topic.

Note: Be sure to select the block element that fits your content structure best. Do not simply use paragraphs, for example, when other tagging is more appropriate.

3.1 Paragraphs

Writing Introductory Paragraphs

Many paragraphs provide introductory information to other DITA elements, such as lists, figures, notes, and tables. When writing these paragraphs, determine if the associated information should be nested in the <p> element or whether you should first close the <p> element. Follow these guidelines:

— If the paragraph could not be reused without the information that follows, nest the associated element(s) within the paragraph. Frequently, in these cases, the last sentence of the paragraph ends with a colon.

```
<p>COMINF includes the following servers used by the RBS:
  <ul>
    <li><p>Software Management Repository Service (SMRS) for storage →
of
      software packages</p></li>
    <li><p>Network Time Protocol (NTP) server</p></li>
    <li><p>Domain Name Server (DNS)</p></li>
    <li><p>Dynamic Host Configuration Protocol (DHCP) server</p></li>
    <li><p>Active Library Explorer (ALEX) server for Customer Product →

      Information (CPI) storage</p></li>
    <li><p>Public Key Support (PKS) server</p></li>
```

```
    <li><p>Single Logon Server (SLS)</p></li>
  </ul>
</p>
```

Note: If the information that follows can standalone without the preceding paragraph, it can still be reused; simply ensure that the element has its own @id attribute for referencing purposes.

— If the paragraph stands on its own and the content is not logically associated with the paragraph, end the <p> element before including the information.

```
<p>You can define UTRAN cells, external UTRAN cells,
  external GSM cells and E-UTRA frequency in an RNC. The UTRAN cell
  is an internal cell controlled by the RNC. The external UTRAN
  cell and the external GSM cell are images of cells not controlled
  by the RNC and are used for handling cell relations. The E-UTRA
  frequency is used to model the frequency of E-UTRA network and is
  used for handling relations. <xref keyref="celldefinitions"/>
  shows an example network where the four different types are
  neighbors to the source cell, and must be defined in the RNC.</p>
<ul>
  <li><p>The two Radio Base Station (RBS) sites “A” and “B” are both
    controlled by the same RNC as the source cell in the picture.
    This implies that the neighboring cells must be defined as
    UTRAN cells.</p></li>
  <li><p>For the neighboring cell connected to RBS Site “C”, the cell
    relation is between two RNCs (RNC1 and RNC2). Therefore, the
    neighboring cell must be defined as an external UTRAN cell in
    RNC1. </p></li>
  <li><p>For the neighboring GSM cells connected to Base Transceiver
    Station (BTS) Site “D”, the cells must be defined as external
    GSM cells in the source RNC (RNC1).</p></li>
  <li><p>For the neighboring E-UTRA frequency connected to evolved
    Node B (eNB) Site "E", the frequencies must be defined as E-UTRA
    frequencies in the source RNC (RNC1).</p></li>
</ul>
```

Including <p> Elements in Other DITA Elements

Many DITA elements allows content directly in the element itself, without also including a paragraph element, for example, <li>, <context>, and <prereq>. However, to avoid confusion when these elements require multiple paragraphs or other elements, include <p> tags on all paragraphs, even if the element has only one paragraph.

This approach also enables you to reuse information across topic types. For example, the <context> element could not be reused within a concept topic; however, by enclosing its content within a <p> element, you are able to reuse that content in a concept topic.

Instead of

```
<context>This paragraph provides context, but is not reusable
  outside of a task topic.</context>
```

use

```
<context><p>This paragraph provides context and can be reused
  in other topic types as necessary.</p></context>
```

3.2 Lists

Lists can assist users in scanning for and locating information quickly. When written correctly, they present information in a logical order, in small, easily understood pieces.

Choosing the Appropriate List Type

Three list types are available. Choose the list type based on the type of content it contains, not the way that you think it will be formatted:

— Use an unordered list when the sequence of items in the list is not relevant. The items will be formatted with bullets.

— Use an ordered list when the sequence of items is important. The items will be formatted with numbers.

— Use a definition list when you have a two-part structure made up of a term or short phrase followed by a longer explanation of the term or phrase.

You do not need to use any list element if you have a list of three or less, single-word items.

Unordered Lists

An unordered list begins with a <ul> element and contains any number of nested <li> elements:

** unordered list**

Start an unordered list with the <ul> element. This element is the container for all unordered list items; it does not contain any text itself.

** list item**

Use an <li> element for each item in the list; there is no limit to the number of list items you can include. You can nest other block elements, such as paragraphs and notes within the <li> element, but their use should be limited.

```
<p>COMINF includes the following servers used
  by the RBS:
  <ul>
    <li><p>Software Management Repository Service (SMRS) for storage
      of software packages</p></li>
    <li><p>Network Time Protocol (NTP) server</p></li>
    <li><p>Domain Name Server (DNS)</p></li>
    <li><p>Dynamic Host Configuration Protocol (DHCP) server</p></li>
    <li><p>Active Library Explorer (ALEX) server for Customer Product
           Information (CPI) storage</p></li>
    <li><p>Public Key Support (PKS) server</p></li>
```

```
    <li><p>Single Logon Server (SLS)</p></li>
  </ul>
</p>
```

Ordered Lists

An ordered list begins with an <ol> element and contains any number of nested <li> elements:

** ordered list**

Start an ordered list with the <ol> element. This element is the container for all ordered list items; it does not contain any text itself.

** list item**

Use an <li> element for each item in the list; there is no limit to the number of list items that can be included. Other block elements can be nested, such as paragraphs and notes within the <li> element, but their use should be limited.

```
<p>When a crash occurs:
  <ol>
    <li><p>The automatic core dump is initiated.</p></li>
    <li><p>The process restarts after the core dump is completed.</p></li>
    <li><p>The spawn count increments.</p></li>
    <li><p>The process restarts and initializes.</p></li>
  </ol>
</p>
```

Definition Lists

A definition list begins with a <dl> element and contains any number of nested <dlentry> pairs, consisting of a <dt> element and one or more <dd> elements:

<dl> definition list

Start a definition list with a <dl> element. This element is the container for all elements in a definition list; it does not contain any text itself.

<dlentry> definition list entry

Use the <dlentry> element in the <dl> element as a container for each term and definition pair. Insert a separate <dlentry> element for each new pair.

<dt> definition term

Nest a <dt> element within a <dlentry> to identify the word or phrase for which you are providing information. The <dt> element must precede the <dd> element within each <dlentry>.

<dd> definition description

Nest one or more <dd> elements within a <dlentry> to provide the information for the corresponding term. Any

common block elements can be included, such as paragraphs or other list types, within the <dd> element.

```
<p>An interface can be in any of the following states:
  <dl>
    <dlentry>
      <dt>Unbound</dt>
      <dd><p>The interface is not currently bound to a port or circuit. The
        binding is not valid.</p>
        <note><p>In some cases, an interface can have an Unbound state
          and still be valid; for example, multibind interfaces where no
          active PPPoE or CLIPS sessions are active.</p></note></dd>
    </dlentry>
    <dlentry>
      <dt>Bound</dt>
      <dd><p>The interface is bound to at least one port or circuit;
        however, none of the bound circuits are up. Therefore, the
        interface is not up. The binding is valid. The Bound state is
        expected behavior for multibind interfaces that have no active
        subscribers.</p></dd>
    </dlentry>
    <dlentry>
      <dt>Up</dt>
      <dd><p>At least one of the bound circuits is in the Up state.
        Therefore, the interface is also up, and traffic can be sent
        over the interface. The binding is valid.</p></dd>
    </dlentry>
  </dl>
</p>
```

Nesting Lists

To create sub-lists, nest list elements in other list elements. You can nest any list type in any other list type. Nesting is limited to three levels. Be aware, however, that nesting more than one level of list elements can make the list more difficult for the reader to understand.

```
<ul>
  <li><p>To ensure personal safety and product safety while working with
    Ericsson products, carefully read the following documents before
    starting work:</p>
    <ul>
      <li><p><xref keyref="PersonalHealthAndSafetyInformation"/></p></li>
      <li><p><xref keyref="SystemSafetyInformation"/></p></li>
    </ul>
  </li>
  <li><p>Ensure that the following documents are available:</p>
    <ul>
      <li><p><cite>Digital Unit Description</cite></p></li>
      <li><p><cite>Replacing Digital Units</cite></p></li>
      ...
      <li><p><cite>Hardware Maintenance Instructions</cite></p></li>
    </ul>
  </li>
  <li><p>Ensure that the following conditions are met:</p>
    <ul>
      <li><p>A work order or this instruction referenced from another
        instruction is available.</p></li>
      <li><p>The correct keys for site and cabinet access is available.</p></li>
      <li><p>Information about the upgrade package version to be loaded in
        the RBS is available.</p></li>
      <li><p>A directory on the Client where the basic CV is stored is
        available.</p>
        <note><p>Contact your local Ericsson representative for
        information regarding from where this software can be downloaded.</p></note>
      </li>
      ...
      <li><p>All the following parameters required to perform the task are
        available:</p>
        <ul>
          <li><p>RBS user name and password</p></li>
```

```
          <li><p>IP address, netmask and broadcast address</p></li>
        </ul>
      </li>
      ...
    </ul>
  </li>
</ul>
```

Reusing List Items

To allow for the possibility of reusing list items in other locations, follow these guidelines:

- Do not insert a list in the middle of a sentence.
- Do not write list items to complete the introductory sentence.
- Include closing punctuation on list items only if all items in the list are complete sentences. This maximizes reuse potential when the context of a list item is not known.
- You can nest block elements, such as paragraphs and notes in list items, but limit their use to keep the list as simple, reusable, and scannable as possible.
- Capitalize the first word in each list item, unless the word should never be capitalized such as in a list of command names or parameters.
- When including a list in a reusable topic file, give each list item a unique ID so that each can be referenced separately as needed.

3.3 Notes and Hazard Statements

Notes and hazard statements are meant to draw the end user's attention to important information, such as:

- Situations affecting safety of the user or other people
- Situations affecting proper operation of equipment or potential harm to equipment
- Situations affecting potential data corruption or loss
- Other important information that may be overlooked by a reader
- Best practices or tips

Remember that too many admonitions fail to draw the user's attention. Users become conditioned to ignore admonitions when there are too many competing for attention. Ensure that the text truly needs to be emphasized.

Hazard Statements

The <hazardstatement> element is used to call attention to situations whenever there is a safety risk.

Table 1 Types of Hazard Statements

Type	Definition
Danger	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
Warning	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
Caution	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
Notice	Indicates a potential situation which, if not avoided, may result in property damage or in an undesirable result or state.(1)

(1) This type of hazard statement replaces the XSEIF Attention! system safety admonition.

Consider the following guidelines when using hazard statements:

— Enter an admonition at each location where there is a safety risk. However, consider that an overuse of admonitions dilutes the effect and disrupts the reading of the text so take care when deciding where to use admonitions.

— If the admonition applies to an entire procedure, include it in the <prereq> section of the task topic.

— Enter the admonition immediately before the location in the document that introduces the safety risk, for example, immediately before the step that requires extra care.

— Hazard statements should be considered part of the step if a step is reused. Therefore, nest hazard statements in the specific step to which they apply.

— Only use the standard hazard statements, see Safety Information in CPI.

  The standard hazard statements are maintained in a common DITA CMS library: Corporate Admonitions. When adding one of these types of admonitions, always check the library for the existing version and use a conref to reference it into your topic.

A hazard statement contains the following elements:

<messagepanel> message panel (mandatory)

A container for the type of hazard, consequences of the hazard, and how to avoid the hazard. The type of hazard is indicated by the @type attribute on this element. This attribute defines the heading (for example Danger or Warning) that appears with the content.

<typeofhazard> type of hazard (mandatory)

Briefly describes the type of hazard, for example, "Electric shock risk."

<consequence> consequence (optional)

Describes what can happen if the hazard is not avoided. For example, "Improper electrical installation may cause fire or electric shock that is likely to be fatal."

<howtoavoid> how to avoid (mandatory)

Provides information about how the user can avoid the described hazard, for example, "Remove any items that can cause short circuits, such as, rings and bracelets."

<hazardsymbol> hazard symbol (optional)

Points to an icon appropriate for the type of hazard being described.

```
<hazardstatement type="danger">
  <messagepanel>
    <typeofhazard>Laser</typeofhazard>
    <consequence>Equipment that transmits laser light can cause
      permanent eye damage.</consequence>
    <howtoavoid>Never look directly into the end of a fiber optic cable
          or other laser source. Switch off the laser before
          starting work on laser equipment.</howtoavoid>
  </messagepanel>
  <hazardsymbol keyref="laser"/>
</hazardstatement>
```

```
<hazardstatement type="notice">
  <messagepanel>
    <typeofhazard>Batteries</typeofhazard>
    <consequence>Applying AC or DC power to the cabinet before the
      installation is finished can damage units.</consequence>
    <howtoavoid>Install all units in the cabinet before applying
      AC or DC power.</howtoavoid>
  </messagepanel>
  <hazardsymbol keyref="caution"/>
</hazardstatement>
```

Writing Notes

Use the <note> element to call attention to important information, best practices, and tips that might be overlooked in the text. It may emphasize a point or contain an explanation or comment. However, notes must never contain information that, if ignored, could result in personal injury.

Use the @type attribute to indicate the type of note:

Table 2 Types of Notes

Type	Definition
Do! (type="other" othertype="Do")	Indicates an action that must be performed to prevent equipment damage, software corruption, data loss, or service interruption.
Stop! (type="other" othertype="Stop")	Indicates that an action must be avoided to protect equipment, software, data or service.
Note (type="note")	Short, concise statements providing additional information or drawing reader attention to points that otherwise may be overlooked. If no @type attribute is specified, it defaults to this type.
Tip (type="tip")	Best practices or tips showing optional ways of achieving the same goal or facilitating work.

Start each <note> element with a block element, such as a paragraph tag. Additional block-level elements (i.e., <p>, <ul>, and <ol>) may be nested but only sparingly.

Only use the standard Do and Stop statements, see Safety Information in CPI. The standard Do and Stop statements are maintained in a common DITA CMS library: Corporate Admonitions. When adding one of these types of notes, check the library for the existing version and use a conref to reference it into your topic.

```
<note type="other" othertype="Do">
  <p>Check batteries for signs of acid leakage. Acid causes corrosion,
     which can seriously damage the product. Replace leaking batteries
     according to instructions.</p>
</note>
```

```
<note>
  <p>Absorbers and neutralizing products will vary, depending on the
    country and battery manufacturer. Consult the battery manufacturer
    for specific details of absorbers and neutralizing materials.</p>
</note>
```

```
<note type="tip">
  <p>The easiest way to assign the new commands to users is to assign
     the CIL access right, which contains access rights to all commands
     and functions offered by the CIL interface.</p>
</note>
```

3.4 Figures and Media Content

Use figures and media objects instead of, or to supplement, text in your topics. These elements might include:

— screen captures

— illustrations

— photographs

— videos

— animations

For information about supported and recommended file formats, see Recommendations for File Formats and Sizes for CPI.

Adding Static Graphics

Nest static graphics, such as screen captures and icons, in <image> elements. Use the tools provided in Oxygen and DITA CMS to select the image and point to the appropriate file.

If cross-references are to be made to the graphic, nest the <image> element in a <fig> container element, along with a <title> element. You may also want to reference the file from within a <fig> element in order to associate callouts or descriptive text with the file. Include an <ol> to define callouts or a <desc> element to provide additional information that should always be associated with the figure, even when it is reused. Content embedded within the <fig> element is considered part of the figure and will be automatically brought with the figure when you reuse it. By default, <desc> content will render before the graphic or media element as an introduction and <ol> content will render below the graphic or object.

You can nest the following elements within <fig>. All are optional. In addition, the <fig> element can also contain any of the block and inline elements that are common to all information types such as <p>, <ul>, <ol>, <table>, and <codeblock>.

<title> title

Nest the <title> element in <fig> to provide a title for the figure.

<desc> description

Nest the <desc> element in <fig> to provide additional information about the graphic or media file.

In an ALEX library, the contents is displayed beneath the figure title. The contents is also shown as a tooltip when hovering a link to the figure, provided the topic containing the figure is within the same bookmap.

<image> image

Nest an <image> element in <fig> to reference a graphic file in your content repository. Use the tools provided in Oxygen and DITA CMS to select the image from your repository.

Use <image> tags outside of <fig> elements for any graphics that you do not want to cross reference or associate with additional information.

<alt> alternate text

Nest the <alt> tag within the <image> element to provide text that can be displayed if for some reason the image cannot be resolved. This element is automatically populated with the description field that was provided when the figure was imported into Ixiasoft. You can change this description if necessary.

```
<fig>
  <title>Cell Definitions</title>
  <image keyref="C0001380B"/>
  <ol id="ol_ixn_p1g_hn">
    <li><p>The two Radio Base Station (RBS) sites “A” and “B” are both controlled
      by the same RNC as the source cell. This implies that the neighboring
      cells must be defined as UTRAN cells.</p></li>
    <li><p>For the neighboring cell connected to RBS Site “C”, the cell relation
      is between two RNCs (RNC1 and RNC2). Therefore, the neighboring cell
      must be defined as an external UTRAN cell in RNC1.</p></li>
    <li><p>For the neighboring GSM cells connected to Base Transceiver Station
      (BTS) Site “D”, the cells must be defined as external GSM cells in the
      source RNC (RNC1).</p></li>
    <li><p>For the neighboring E-UTRA frequency connected to evolved Node B (eNB)
      Site "E", the frequencies must be defined as E-UTRA frequencies in the
      source RNC (RNC1).</p></li>
  </ol>
</fig>
```

Adding Hotspots to Images

To add hotspots to an image that, when clicked, display definitions or other content, embed the <image> element in an <imagemap> element. An <imagemap> defines linkable areas or regions over an image that when clicked display another topic.

Nest the following elements in an <imagemap> for defining hotspots:

<image> image

Nest an <image> element to reference a graphic file in your content repository. Use the tools provided in Oxygen and DITA CMS to select the image from your repository. All hotspots will be positioned over this image.

<area> area

Embed multiple <area> elements to define each clickable region. The <area> element must include three additional elements:

<shape> shape

Nest the <shape> element in <area> to specify the shape of the hotspot. The element must be one of the following values: rect, circle, or poly.

<coord> coordinates

Nest the <coord> element in <area> to specify the coordinates of the hotspot. This element contains text data representing coordinate data. The syntax of the coordinate data depends on the shape described by the coordinates:

rect left-x, top-y, right-x, bottom-y

circle center-x, center-y, radius

poly x1, y1, x2, y2, ..., xN, yN.

<xref> cross reference

Nest an <xref> element in <area> to define the file that should display when the hotspot is selected by the user. Use the tools provided in Oxygen and DITA CMS to point to the appropriate file.

Note: If possible, use a tool that will automatically program the <area> element while you draw the hotspot directly on the figure. It is difficult to get the coordinates correct when manually programming the values.

Note: To add a caption to an images with hotspots: Nest an <imagemap> inside a <p> element, which in turn is allowed to be used in a <fig> element with a title.

Adding Animations and Videos

To embed media files in a topic, an <image> element is nested in a <fig> element. The @outputclass attribute in <image> is set to either **`video_swf`** or **`video_mp4`**, depending on the video file format. The @height and @width attributes are set according to the size of the video.

For more information, refer to Using Videos in CPI.

```
<fig>
  <title>Example of a Flash Video (SWF)</title>
  <image keyref="introduction_image" scale="60"/>
  <image keyref="example_video" outputclass="video_swf" height="510" width="800"/>
</fig>
```

Placing and Formatting Graphics

Refer to the Illustration Style Manual for standards governing the creation of graphics. Keep in mind you have very limited control over the placement or

formatting of an image or media element using your DITA tags and attributes. The following controls are available:

Note: It is recommended that you use your graphics tools to size images appropriately. Using these attributes can limit reusability across multiple output types.

@scale Use this attribute to proportionally resize the image by a certain percentage.

@height Use this attribute to specify the height of the image in the final output. The image will be scaled to the specified size. Be sure to include the unit of measure (pc, pt, px, in, cm, mm, or em). The default unit is px (pixels). If a height value is specified and no width value is specified, the width will be scaled by the same factor as the height. If both a height value and width value are specified, some implementations may not be able to scale the two directions by a different factor and may therefore ignore one of the two values.

@width Use this attribute to specify the width of the image in the final output. The image will be scaled to the specified size. Be sure to include the unit of measure (pc, pt, px, in, cm, mm, or em). The default unit is px (pixels). If a height value is specified and no width value is specified, the width will be scaled by the same factor as the height. If both a height value and width value are specified, some implementations may not be able to scale the two directions by a different factor and may therefore ignore one of the two values.

The stylesheets place and format graphics according to the following rules:

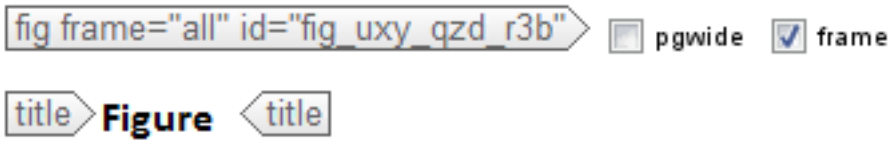
— By default a figure will be placed within the current text margins. For example, if it is contained within a paragraph, its left side will align with the left edge of the text; if it is in a list, it will be indented to the same left-hand margin as the list element. To override the default and place the figure on the left page margin, set the @expanse attribute to "page".

```
<fig expanse="page">
  <image keyref="cellrelations"/>
</fig>
```

— If the image is smaller than the column-width, it will be centered in the horizontal space available.

Frames around Images

To insert a frame around the image in formatted output, use the `@frame="all"` attribute. It is inserted by selecting the **frame** box for the `<figure>` element.



3.5 Table Elements

Tables are created using a wizard in Oxygen. How to create and work with tables is described in Using Oxygen Author.

<table> elements

The following elements in the <table> element are used to create a table:

<title> title (optional)
A <title> is optional in a table, but it is required if the table is to be referenced.

<desc> description (optional)
Provides any additional information about the table that is to be associated with the table also when it is reused.

In an ELEX library, the contents is displayed beneath the table title. The contents is also shown as a tooltip when hovering a link to the table, provided the topic containing the table is within the same bookmap.

<tgroup> table group (mandatory)
Specifies the display properties for the columns, rows, header, and body of the table. The @cols attribute defines the number of columns in the table.. The <tgroup> element is the container for the <colspec>, <thead>, and <tbody> elements.

<colspec> column specification (mandatory)
Specifies the column information, such as column name, number, cell content alignment, and column width. This information is specified using attributes in the <colspec> element:

— @colname: the column name

— @colnum: the number of the column

— @colwidth: the width of each column. Column widths are expressed as relative values (as indicated by an * after the column width value), meaning that they are sized relative to each other rather than given a fixed width. There may be unique cases where fixed column widths are used, but this is rare.

<thead> table head (optional)

Defines the headings for the table columns. This element is optional, but appears before <tbody> if used. The <thead> element can contain one or more <row> elements.

<tbody> table body (mandatory)

Defines the body of the table. The <tbody> element can contain one or more <row> elements.

<row> row (mandatory)

Defines a single row in the table. Each <row> element contains multiple <entry> elements, each indicating a different column.

<entry> entry (mandatory)

Defines a single cell in the table. The number of <entry> elements in a row matches the number of columns specified in the @cols attribute of <tgroup>, unless columns are spanned. Content is entered in block elements, such as <p>, <ul>, or <ol>, in the <entry> element.

<fn> table footnote (optional)

Defines a table footnote. The element is nested in a <p> element in the <entry> element.

Formatting Tables

The stylesheets control most table formatting. The following attributes are used to control placement of the table and alignment of text within the table:

— @pgwide attribute "1" on the <table> element allows the table to fill the entire page width. Without this attribute, the table is placed within the current text margins.

— @orient="land" on the <table> element rotates the table 90 degrees in PDF output.

— @outputclass "condensed" results in a smaller font size in the table.

— @outputclass "norowsplit" prevents contents in table rows to split into multiple pages. If used then the writer must manually verify that no table cells are larger than one page in the PDF.

— The @align attribute on the <entry> element is used to control the horizontal alignment of the text in the column. The values are left, center, right, and justify, where left is the default.

— The @valign attribute on the <entry> element is used to control the vertical alignment of the text in the row. The values are top, center, or bottom, where top is the default.

Column widths are controlled by dragging the column edges. All columns are proportionately sized in the space available while maintaining the relative sizes between the columns.

Example 1 Sample 4-column table, XML

```
<table>
  <tgroup cols="4">
    <colspec colname="c1" colnum="1" colwidth="1*"/>
    <colspec colname="c2" colnum="2" colwidth="1*"/>
    <colspec colname="c3" colnum="3" colwidth="1*"/>
    <colspec colname="c4" colnum="4" colwidth="1.5*"/>
      <thead>
        <row>
          <entry><p>Column 1</p></entry>
          <entry><p>Column 2</p></entry>
          <entry><p>Column 3</p></entry>
          <entry><p>Column 4</p></entry>
        </row>
      </thead>
      <tbody>
        <row>
          <entry><p>Data</p></entry>
          <entry><p>Data</p></entry>
          <entry><p>Data</p></entry>
          <entry><p>Data</p></entry>
        </row>
        <row>
          <entry><p>Data</p></entry>
          <entry><p>Data</p></entry>
          <entry><p>Data</p></entry>
          <entry><p>Data</p></entry>
       </row>
       <row>
         <entry><p>Data</p></entry>
         <entry><p>Data</p></entry>
         <entry><p>Data</p></entry>
         <entry><p>Data</p></entry>
      </row>
    </tbody>
  </tgroup>
</table>
```

Table 3 Sample 4-column table, Output

Column 1	Column 2	Column 3	Column 4
Data	Data	Data	Data
Data	Data	Data	Data
Data	Data	Data	Data

3.6 The Element

> The `<div>` element is used to group block elements for content reuse.

Use the `<div>` element as a container element to group a number of elements into a logical group that is too small to be a topic on its own. This allows, for example, a number of paragraphs to be used in a reusable component topic.

Note: The element cannot be used to group a number of steps in a step-list.

Example 2 Using the Element

```
<div>
  <p>First paragraph</p>
  <p>Second paragraph</p>
  <note><p>A note</p></note>
</div>
```

3.7 Equations

> The equation elements includes formulas and equations on block level, either inserted as text or as illustrations.

<equation-block> Use for a block-level equation not requiring an equation number or title.

The element can contain text or an image.

<equation-figure>

Use for a block-level equation requiring an equation number and an optional title.

The element can contain a nested `<pre>`, where text can be inserted, or an image.

Inline equation use the `<equation-inline>` element.

For more information, see Equations in DITA CMS.

4 Inline Elements

Inline elements describe the words or phrases that occur inside a block element, such as a paragraph, list item, or cell in a table. The information contained in these tags frequently have specified formatting requirements that are handled by the stylesheet. Use these semantic tags rather than attempting to specify yourself how the content should be formatted.

Note: Do not select an inline element based on how it will be rendered but on what type of information it contains.

Table 4 Inline Elements

Inline element	Description	Example code	Sample Output
<apiname>	Used for MOM objects (such as, classes, attributes, actions, and counters) and similar objects where automatic processing is needed, for example, links. Currently supported for MOM objects only so that content in this element is linked to the relevant part of a MOM document. Refer to How to Work with Reuse and References.	`<apiname>LoadControl</apiname>`	LoadControl
<cite>	Refer to another document when a URN link cannot be created. For references where hyperlinks are to be used, see Cross-References on page 62.	`For more information on the RAN refer to <cite>WCDMA RAN System Description</cite>.`	For more information on the RAN refer to *WCDMA RAN System Description*.
<cmdname>	Command name - reserved for future use.		
<codeph>	Code phrase. Use <codeph> to display code within the main flow of text. It can also be used for, for example, queries and response codes.	`If more than nine failed links have been detected,  the tenth Additional Info is the following: <codeph>PLMN ID-eNB ID list truncated</codeph>.`	If more than nine failed links have been detected, the tenth Additional Info is the following:

Inline element	Description	Example code	Sample Output
			`PLMN ID-eNB ID list truncated.`
<draft-comment>	Provide feedback, suggestions, or clarification to the reviewer or author of a topic. The contents are not displayed in the final output. See Using Oxygen Author.	`<draft-comment author="dms" time="2015-15-12">Which port should the user choose?</draft-comment>`	Not printed in final output.
<equation-inline>	Use for equations, either inserted as text or as an illustration. See Equations in DITA CMS.		
<filepath>	Use for file paths, file names, script names, virtual machine names, IP addresses, services, REST endpoints, certificates, resources, interfaces, etc.	`<filepath>https://ericoll.internal.ericsson.com/sites/Product_Development/cpi/transform/Pages/home.aspx</filepath>`	`https://ericoll.internal.ericsson.com/sites/Product_Development/cpi/transform/Pages/home.aspx`
<menucascade>	Consecutive menu commands. Individual <uicontrol> elements for each command are nested inside this element. In the formatted output, each command is separated with an angle bracket, ">", surrounded by spaces.	`<p>Select <menucascade><uicontrol>File</uicontrol><uicontrol>Save</uicontrol>.</p>`	Select **File** > **Save**.
<msgblock>	Message block. Use <msgblock> for block-level system messages output on several lines.	`<msgblock>Active Routes: If Metric  Network Destination  Gateway   1        306 ::1/128        On-link  11        266 fe80::/64        On-link   2        261 fe80::/64        On-link</msgblock>`	`Active Routes:` `If Metric  Network Destination  Gateway` `  1        306 ::1/128` `       On-link` ` 11        266 fe80::/64` `       On-link` `  2        261 fe80::/64` `       On-link`
<msgph>	For response codes, messages between network elements, and similar items.	`<p>If they differ, the <msgph> RRC CONNECTION RELEASE</msgph> message from the eNodeB to the UE...</p>`	If they differ, the `RRC CONNECTION RELEASE` message from the eNodeB to the UE...
<option>	For names of functions, macros, components, and so on, where no automatic processing is necessary. It can also be used for serial	`The <option>Path Switch Request Acknowledge</option> message also contains the SGW IP addresses and TEIDs for uplink traffic.`	The `Path Switch Request Acknowledge` message also contains the SGW IP addresses and TEIDs for uplink traffic.

Inline element	Description	Example code	Sample Output
	numbers, server names, passwords, IDs, MAC addresses, and other kind of values. This element is used similar to the <resourceid> element in XSEIF, even if the pure DITA specification might describe it differently.		
<parmname>	For parameter or attribute names in running text, not in command line syntax.	`<p>Update the configuration parameter <parmname>SEND_ALARM_ON_DELETEBACKUP_JOB_FAILURE</parmname>.</p>`	Update the configuration parameter SEND_ALARM_ON_DELETEBACKUP_JOB_FAILURE.
<pre>	FOSS license texts	`<pre outputclass="condensed pgwide">This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2006 Julian R Seward.  All rights reserved.</pre>`	This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2006 Julian R Seward. All rights reserved.
<sub>	Subscript.	`H<sub>2</sub>0`	H_2O
<sup>	Superscript.	`E=mc<sup>2</sup>`	$E=mc^2$
<systemoutput>	Inline examples of command line prompts, system messages, or other output shown on the screen from the software.	`If there are no issues, the CLI displays <systemoutput> Diagnostics for aaad found no issues</systemoutput>.`	If there are no issues, the CLI displays `Diagnostics for aaad found no issues.`
<term>	Identifies a term that has a definition in the Glossary document. A tooltip will be created in the published HTML output if a definition can be found. Use whenever tooltips with term descriptions are useful for a reader	`Use the <term>container element</term> ...`	Use the container element ...
<tm>	Trademark. Surround a trademarked term with the <tm> element to add a trademark symbol to the term. Indicate the type of	`<tm tmtype="tm">Torx</tm> T30 screwdriver`	Torx™ T30 screwdriver

Inline element	Description	Example code	Sample Output
	trademark using the @tmtype attribute: — registered marks (reg) — service marks (service) — trademarks (tm) The stylesheet automatically adds the appropriate mark.		
<userinput>	Command names and key names. Rules for command syntax: — Optional items are shown in square brackets: **`list [sorted]`** — Mandatory items are shown in braces: **`delete {number}`** — Possible additional items are indicated by an ellipsis: **`connect param1 [param2 …]`** — A choice of mandatory items is indicated by a vertical line: **`set {first | last | all}`**	`<systemoutput>[local] Ericsson(config-if)# </systemoutput> <userinput> ntp-broadcast </userinput>`	`[local]Ericsson(config-if)#ntp-broadcast`
<uicontrol>	User interface control. Items that appear on a GUI screen, such as a window title, button label, menu option, or field name. Also used to describe key combinations. — The plus sign (+) indicates that the keys	`Under the <uicontrol>Administration</uicontrol> tab, click <uicontrol>List Users</uicontrol> and ensure that the created user has the correct email address and SMS number set.`	Under the **Administration** tab, click **List Users** and ensure that the created user has the correct email address and SMS number set.

Inline element	Description	Example code	Sample Output
	must be pressed simultaneously. Example: Press **Ctrl+X** to delete the selected value. — Spaces indicates that the keys must be pressed consecutively. Example: Press **Esc F S** to save. Nest <uicontrol> elements in a <menucascade> for consecutive menu commands. The element is also used to describe hardware labels, such as, cable markings and port names.		
<varname>	Variable name. Use it to define input variables, the values of which must be supplied by the user. Angle brackets are automatically added around the contents when the output is generated.	`<p>Enter the following command to return to your own directory:</p><userinput>cd <varname>home_directory</varname></userinput>`	Enter the following command to return to your own directory: **cd** ***<home_directory>***

Migration-only Elements

During migration, it can be difficult for the conversion script to determine to which semantic tags certain XSEIF tags should be mapped. In order to enable you to quickly process completed content without extensive file clean-up, the following conversions will take place:

XSEIF	DITA	After migration
<emph>	<ph>	Content is included in a <ph> element. The @importance attribute ("low", "normal", or "strong") is set to the equivalent value of the @type attribute in the <emph> element to render the text in italics, bold, or bold and italics font.
<preform>	<pre>	Content is included in a <pre> element to preserve line breaks.

You are encouraged to select elements that are semantically more specific when you later edit these converted topics or when writing new topics. A Schematron rule provides guidance in any topic that uses the @importance attribute to switch to a more semantically specific element.

For example, migrated content in a <pre> element can be changed to <msgblock> or <codeblock>. However, note that the <pre> element is still to be used for FOSS license texts.

5 Maps and Bookmaps

Maps and bookmaps are used to organize and compile topics and other content into larger units. They specify the sequence and hierarchy of topics, other maps, and non-DITA resources, such as PDF files. Maps and bookmaps define the online navigation or table of contents for a deliverable, and they establish the relationships or links among the topics they reference. Maps and bookmaps have a `.ditamap` file extension.

5.1 Maps

Well-structured maps help users find information quickly and form the basis for all navigation and linking. Maps may be used to define an entire deliverable as well as subparts for the deliverable. Use maps to:

— Organize content into a structure

— Organize related topics into single reusable units

— Organize topics that all relate to a single user goal

— Divide large sets of related information into smaller, more manageable units

5.1.1 Map Structure

Most map structures depend on the specific content in the particular deliverable. Create that structure by combining and nesting map elements as needed. You must begin your map with a title, but all other elements can be interspersed as needed.

— <map> (mandatory)

  - <title> (mandatory)
  - Any number, at any level, and in any order of the following:
    — <topicref>
    — <mapref>

Only the title is required; all other elements can be used as needed.

The submap title is not shown in Table of Contents. A submap in a bookmap has no impact on the Table of Contents level when output is generated from the bookmap.

At least one topic or submap must be referenced by the submap, or generate output will fail. Carefully examine this if elements in the submap are profiled.

Topics inside a submap is visible in Table of Contents. Multiple topics can be added in a structure in a submap to create multiple Table of Contents levels.

Note: **Topichead**, **navtitle**, **topicmeta**, and **reltable** are currently not properly supported inside a Map when generating output and should not be used.

For more information about submaps, refer to How to Write Maps and How to Work with Maps, Topics, Resources, and Images.

There are several map templates available in DITA CMS, refer to How to Write Maps. Take time to familiarize yourself with each one to determine which template best suits your specific needs. If necessary, you can also define and create your own templates for your product area, refer to Request a Changed or New Template in DITA CMS.

5.1.2 Map Elements

Nest the following items in the <map> base element when creating a map.

<title> title (mandatory)
Use the <title> element to define a title for the group of topics; for example, a chapter or section heading.

<topicref> topic reference (optional)
Use the <topicref> element to point to a single DITA topic. Use the tools provided in Oxygen and DITA CMS to select and point to the appropriate file. Use multiple <topicref > elements to point to multiple topics to build your deliverable. Nesting the <topicref> elements in one another creates a navigational and hierarchical structure.

<mapref> map reference (optional)
Use the <mapref> element to point to a map of DITA topics. Use the tools provided in Oxygen and DITA CMS to select and point to the appropriate file. You cannot nest <topicref>, <glossref>, or other <mapref> elements within a <mapref>.

A map file consists of a hierarchical organization of <topicref> and <mapref> elements. For more information, refer to How to Write Maps.

5.2 Bookmaps

Bookmaps are used as the top-level containers for publications. Bookmaps contain references to maps and topics within elements that semantically match the traditional structure of a book, such as chapters and appendixes. Bookmaps also include metadata that defines information about the book and that may be used to generate content on the cover and title pages of the book.

5.2.1 Bookmap Structure

A bookmap is structured as follows:

- <bookmap> (mandatory)
  - <booktitle> (mandatory)
  - <bookmeta> (mandatory)
  - <frontmatter> (mandatory)
    - <keydef> (optional)
    - <booklists> (mandatory)
      - <toc> (mandatory)
      - <trademarklist> (optional)
    - <preface> (optional) (for future use)

      The <preface> element can contain references to subjectScheme maps. This feature is not supported yet so no rendering support or other processing is defined for it today.
  - One or more <chapter> elements (mandatory)
  - Any number of <appendix> elements (optional)
  - <backmatter> (optional)
    - <booklists> (optional)
      - <bibliolist> (optional)
      - <indexlist> (optional)
  - <reltable> (optional)

Several bookmap templates are available in DITA CMS, refer to How to Write Bookmaps. Take time to familiarize yourself with each one in order to determine which best suit your specific needs. If necessary, you can also define and create your own templates for your product area, refer to Request a Changed or New Template in DITA CMS.

5.2.2 Bookmap Elements

A bookmap file typically consists of a sequence of <chapter> and <appendix> elements, containing a hierarchy of <topicref> elements. Refer to How to Write Bookmaps for more information on how to create bookmaps.

The following elements can be included in <bookmap>:

<booktitle> booktitle (mandatory)
Container for the <mainbooktitle> and <booktitlealt> elements.

<mainbooktitle> main book title (mandatory)
The full title of the publication.

<booktitlealt> alternative book title (optional)
As many <booktitlealt> elements as required can be included to provide any of the following additional pieces of information about the book title. An @outputclass attribute on each <booktitlealt> indicate its specific purpose.

subtitle (@outputclass ="subtitle")
The subtitle of the document

document type name (@outputclass ="doctype")
If the document type name is different from the default one based on the decimal class, this element provides the correct document type name. The content is entered in Title Caps.

English title (@outputclass ="etitle")
For future use. For non-English content, this attribute can contain the English version of the title.

cover image (@outputclass ="cimage")
An <image> element within this element provides a cover art for the publication, refer to How to Write Bookmaps.

<bookmeta> book metadata (mandatory)
Container for metadata that applies to the entire publication. See Bookmeta on page 53 for the metadata that can be defined in a bookmap.

<frontmatter> front matter (mandatory)
Container for content that belongs before the body of the bookmap.

<booklists> book lists (mandatory)
Container for the Table of Contents and trademark list.

<toc> Table of Contents (mandatory)
Configuration settings for the Table of Contents. The @outputclass attribute

specifies how many levels of headings are displayed in the Table of Contents. The available values are: toc0, toc1, toc2, toc3, toc4, and toc5. The default value, "toc2", results in two heading levels being displayed in the formatted output. A value of "toc0" means no Table of Content is generated.

<trademarklist> trademark list (optional)

Points to a file that contains any third-party trademarks used in the document, see Trademark Statements.

<preface> preface (optional)

The <preface> element can contain references to subjectScheme maps and key maps.

For more information about subjectScheme maps, refer to Profiling and Conditional Processing in DITA CMS.

For more information about key maps, refer to How to Work with Reuse and References

.

<chapter> chapter (mandatory)

References a map or topic at chapter level. The following elements can be nested in <chapter> to provide a chapter title and reference the map or topic:

Note: Topicmeta and navtitle are currently not properly supported inside a map when generating output and should not be used.

<topicmeta> The <topicmeta> element can be nested in <chapter> as a container element for the chapter title.

<navtitle> The <navtitle> element can be nested in <topicmeta> to provide the chapter name. This name can be the same as the title in the embedded chapter map or, if desired, changed for this specific publication.

<mapref>, <topicref>

<mapref> or <topicref> elements can be nested in <chapter> to point to the maps or topics that contains the content for

this chapter. A bookmap should always include at least one <chapter> element.

<appendix> appendix (optional)

References a map or topic if the bookmap includes any appendixes.

<backmatter> back matter (optional)

Container for content that belongs after the body of the document.

<bibliolist> reference list (optional)

Used to embed a list of external references that provide additional information for the user.

<indexlist> index list (optional)

Used to include an automatically generated index in the output. See Keywords and Index Terms on page 10 for more information about embedding index tags that will be used to generate this index.

Index lists are currently not used. Contact the IM team if you consider using an index.

<reltable> relationship table (optional)

Used to create references between topics in the bookmap, see Relationship Tables on page 62.

A <reltable> element is usually included in a bookmap created from a template. Do not remove this element even if reltables are not used in the bookmap. This makes it easier if a reltable is added later.

5.2.3 Bookmeta

In addition to the <topicmeta> defined in any map, bookmap metadata provides information that describes the publication. The content of bookmeta is used to populate the front and back covers of the document, specify headers and footers, and track the people who reviewed and approved the publication. The following elements are nested within the <bookmeta> element in a bookmap. See How to Write Bookmaps for information on how to add this information.

<authorinformation> author information (optional)

The <authorinformation> element is a container for <organizationinfo> when the publication you are creating requires contact information be provided on the cover. The following elements are nested within

<authorinformation> to provide the company name and contact information.

<organizationinfo> organization information (mandatory)
Container for name, address, contact numbers, email addresses, and URLs

<namedetails> name details (mandatory)
Container for the organization name

<organizationnamedetails> organization name details (mandatory)
A second container for the organization name

<organizationname> organization name (mandatory)
The name of the organization, Ericsson, LLC

<addressdetails> address details (optional)
A container for the organization's address

<thoroughfare> thoroughfare (optional)
The address and street name

<locality> locality (optional)
Container for the city and zip code

<localityname> locality name (city) (optional)
The city

<postalcode> postal code (optional)
The zip code

<administrativearea> administrative area (state) (optional)
The state

<country> country (optional)
The country

<contactnumbers> contact numbers (optional)
A container for telephone and fax numbers

<contactnumber> contact number (optional)
A telephone number. Include one <contactnumber> for each phone

number you want to include (telephone, fax, and so on)

<urls> (optional)
A container for all URLs you want to include

<url> (optional)
A web site address. Include one <url> for each web site you want to include

The following shows the standard <authorinformation> section of the bookmap templates.

```
<authorinformation>
  <organizationinformation>
    <namedetails>
      <organizationnamedetails>
        <organizationname>Ericsson  AB
      </organizationnamedetails>
    </namedetails>
    <addressdetails>
      <thoroughfare>Torshamnsgatan 21</thoroughfare
>
      <locality>
        <localityname>Stockholm</localityname>
        <postalcode>SE-164 80</postalcode>
      </locality>
      <country>Sweden</country>
    </addressdetails>
    <contactnumbers>
      <contactnumber>+46 10 719 00 00</contactnumbe
r>
    </contactnumbers>
    <urls>
      <url>http://www.ericsson.com/feedback</url>
    </urls>
  </organizationinformation>
</authorinformation>
```

<publisherinformation> publisher information (mandatory)
Container for information about the publication date. It contains the following elements:

<published> published (mandatory)
Container for the publication date. The publication date is different than the copyright date.

<organization> organization (mandatory)
Defines the operational unit that owns the product that the publication supports.

<completed> completed (mandatory; provided by DITA CMS)

Container for the year, month, and day the publication was completed. The date of completion is added by DITA CMS when the file reaches the "Approved" workflow state.

<year> year (mandatory; provided by DITA CMS)

The year

<month> month (mandatory; provided by DITA CMS)

The month

<day> day (mandatory; provided by DITA CMS)

The day

The bookmap templates include all these elements. DITA CMS automatically inserts complete information when the bookmap is approved.

```
<publisherinformation>
  <published>
  <organization> Product area name </organization>
    <completed>
      <year> year </year>
      <month> month </month>
      <day> day </day>
    </completed>
  </published>
</publisherinformation>
```

<permissions view=" xxxxx "> permissions (mandatory)

The @view attribute in this element specifies the security class on the content:

— ericsson_confidential

— ericsson_internal

— public

The default value is ericsson_internal; this value is preset in all templates.

This element is also mandatory at the topic level, but may be overridden by the value specified here. DITA CMS checks that map confidentiality is the same or higher restriction than all topics it contains to prevent a situation where a confidential topic might be published in a public map. However, it is possible to enforce a more restrictive level on a topic within the context of a specific map. For

example, a topic may be classified as "public", but when included in an internal document, should be considered internal within that context only.

<audience type="other" othertype=" xxxxx ">audience (mandatory)
Specifies the access class to use for this publication when it is stored in archive:

- all = GROUP
- organization = OFFICE
- person = PERSON

The default value is all; this value is preset in all templates.

Note: Do not confuse this element with the @audience conditional attribute, used for profiling and conditional processing, see Conditional Attributes for Profiling on page 65.

<keywords> keywords (optional)
Container for keywords.

<keyword> keyword (optional)
Keywords are included in <keyword> elements.

<bookid> book identification (mandatory)
Container for the revision and document number of the publication. It includes the following elements:

<edition> edition (mandatory; provided by DITA CMS)
The revision letter of the publication.

<booknumber> book number (mandatory)
The document number of the publication.

```
<bookid>
  <edition></edition>
  <booknumber>6/153 72-CXP 902 0350/5-V2
     </booknumber>
</bookid>
```

If a variant code for bookmap variants is required, an <option> element is nested in the <booknumber> element. Refer to Profiling and Conditional Processing in DITA CMS.

```
<booknumber>1/234 56-CXP 789 0123/4
  <option audience="external">-V1</option>
  <option audience="internal">-V2</option>
</booknumber>
```

<bookchangehistory> book change history (mandatory)
Container for information about who checked, reviewed, and approved the publication.

<reviewed> reviewed (mandatory)
Information about the person who reviewed the publication.

<edited> edited (mandatory)
Information about the person who checked the publication.

<approved value=""> approved (mandatory)
Information about the person who approved the publication.

DITA CMS automatically adds <person> and <organization> elements into the elements above and fill them with the details of the person who made a specific status change. Refer also to "Metadata triggers and actions" in How to Write Bookmaps.

<person value=""> person (mandatory)
The signum and name of the person who performed the check, review, or approval.

<organization> organization (mandatory)
The organization of the person who performed the check, review, or approval.

<bookevent> book event (mandatory)
Container for <bookeventtype> elements.

<bookeventtype name="workflow_status" value=" status "> (mandatory)
The current workflow status of the publication. DITA CMS automatically assigns the status of the map when changed.

<bookeventtype name="changerecord"> (optional)

Contains the changes made since the last version of the publication. This information is used to generate the document's revision history in the LRI. The following elements are included:

<person value="">
Who made the change.

<revisionid>
In which revision of the document the change was made.

<completed>
When the changes were made. The <year>, <month>, and <day> elements are nested to provide this date.

<summary>
Contains a brief summary of the changes made.

```
<bookchangehistory>
   <reviewed>
      <person value="<Signature>"><Name></person>
      <organization><organization></organization>
   </reviewed>
   <edited>
      <person value="<Signature>"><Name></person>
      <organization><organization></organization>
   </edited>
   <approved value="<Yes / No>">
      <person value="<Signature>"><Name></person>
      <organization><organization></organization>
   </approved>
   <bookevent>
```

```
      <bookeventtype name="workflow_status" value="
work"/>
   </bookevent>
   <bookevent>
      <bookeventtype name="changerecord">
      <person value="<Signature>"/>
      <revisionid>F</revisionid>
      <completed>
         <year>2015</year>
         <month>10</month>
         <day>11</day>
      </completed>
      <summary>Added new topics describing xxx and
fixed a few typos.</summary>
   </bookevent>
</bookchangehistory>
```

<bookrights> book rights (mandatory)

Container for copyright information. The following elements are nested in the <bookrights> element:

<copyrfirst> copyright (mandatory)

Contains the copyright years within a nested <year> element. Include all years the publication has been copyrighted, separated by commas. Indicate a multi-year span with a hyphen (for example, 2012–2015).

<bookowner> book owner (mandatory)

Container for the owner of the copyright. This element contains an <organization> element.

<organization> organization (mandatory)

Defines the Ericsson company owning the copyright.

<bookrestriction> book restriction (mandatory)

Used with a @value attribute to specify which restriction applies:

- "NA" is used to include Ericsson's standard "All rights reserved". This value is the default in all bookmap templates.
- "commercial" is used to add "Commercial in Confidence".

<summary> summary (optional)

Includes additional disclaimers other than the standard Ericsson disclaimer

(which is automatically inserted by the style sheet).

6 Linking Strategies

Although topics in a topic-based structured authoring environment are meant to be self-contained, they may still be enhanced by other related content in another topic. Links can be defined between non-sequential topics in two ways:

— Using inline cross-references within a topic

— Using relationship tables at the map level

For more detailed information and considerations on how to apply linking, see Business Rules for Reuse

6.1 Cross-References

References to other content within the same publication use the <xref> tag to create an active link to the referenced content. Refer to How to Work with Reuse and References. A cross-reference can be made to any element with a defined @id attribute value. However, cross-references should be used sparingly. A link in the middle of a sentence may distract the reader and increase the cost to maintain and translate the topic. It can also limit the reusability of the topic.

The <xref> element has the following attributes:

— The @keyref attribute points to the key identifier of the referenced item. This is used for topic to topic cross references within the same bookmap.

— The @href attribute points to the key identifier of the referenced item. This is used for topic-internal cross references. It is also used together with @scope and @format for external references (URN/URL links).

— The @scope attribute is set to “external” for a link to an external source (Used only for URN/URL links).

— The @format attribute identifies the format of an external target file, for example, PDF or HTML (Used only for URN/URL links).

6.2 Relationship Tables

Relationship tables are used to define and manage links to related topics within an online deliverable. Relationship tables avoid having to create and maintain links in individual topics. Links hardcoded in individual topics sometimes break when the target topic is moved or deleted. Using relationship tables at the map level ensures that the links are established between topics included in the map, eliminating broken links. If a link needs to be changed, the link is changed once in the map itself rather than in every topic affected by the change.

Relationship tables are created using a table of rows and columns to define links. Each column in the table typically groups together the same information type.

Each row in the table represents a unique relationship, which is generally rendered as a link, and each cell lists participants in the relationship. Each topic or map reference in a cell links to the topic and map references in the other cells in the same row. Using the topic references in a map to build the table, links can be made from concepts to tasks and back again, reference information linked to multiple tasks, and task information linked to supporting information needed to complete the task.

Relationship tables can be included in both DITA maps and bookmaps.

Note: Only a subset of the DITA Relationship Table concept is supported when generating output from DITA CMS. For more information, refer to Business Rules for Reuse.

Relationship Table Elements

The following elements are used in a relationship table. For more information, refer to How to Work with Reuse and References.

<reltable> relationship table (mandatory)

Used to create the framework for the relationship table. Add all elements in the relationship table between the beginning and ending tags of the <reltable> element. The <reltable> element is a child of the <map> or <bookmap> element.

<relheader> relationship table header (mandatory)

A container for the column specifications, including header rows, if desired.

<relcolspec> relationship column specification (mandatory)

Defines each column in the relationship table. Each <reltable> in the source/target strategy includes two <relcolspec> elements, one for the source column and one for the target column.

<relrow> relationship table row (mandatory)

Defines the relationships among the topics in each relationship row. Each <relrow> element defines a new set of relationships. Add as many <relrow> elements as needed to the relationship table.

<relcell> relationship table cell (mandatory)

Defines the topic references. These topic references will be linked during processing. Nest <topicref> elements for each topic involved in the relationship. The DITA CMS Reltable Editing Perspective is used to select and point to the appropriate topic.

The number of <relcell> elements must match the number of <relcolspec> elements.

6.2.1 Sample Relationship Table

```
<reltable title="Source-Target" toc="no">
  <relheader>
    <relcolspec linking="sourceonly" type="topic"/>
    <relcolspec linking="targetonly" type="topic"/>
  </relheader>

  <relrow>
    <relcell>
      <topicref keyref="ggn1455541946710"/>
    </relcell>
    <relcell>
      <topicref keyref="ebn1458320973679"/>
    </relcell>
  </relrow>

  <relrow>
    <relcell>
      <topicref keyref="ggn1455541946999"/>
    </relcell>
    <relcell>
      <topicref keyref="ebn1458320973444"/>
      <topicref keyref="cvt1458321109333"/>
    </relcell>
  </relrow>

  <relrow>
    <relcell>
      <topicref keyref="ebn1458320973247"/>
      <topicref keyref="cvt1458321109299"/>
    </relcell>
    <relcell>
      <topicref keyref="ggn1455541946742"/>
    </relcell>
  </relrow>

</reltable>
```

7 Attributes

Attributes specify properties of the content that can be used to determine how the content should be processed. Attributes are used to:

— Support content referencing

— Support translation and localization

— Filter content

— Flag content

Many attributes are mentioned in this model within the context of the elements on which they can be used. However, this section provides a summary of common attributes available within the *Ericsson CPI DITA Information Model* that can be used on many different elements.

Attributes are indicated with the @ character before the attribute name.

7.1 Conditional Attributes for Profiling

DITA CMS use the following DITA attributes as conditional attributes for profiling content:

Table 5 DITA Attributes for Profiling and Conditional Processing

DITA Attribute	Description	Example Values

`@audience`	Indicates the intended audience for the profiled content.	`_customer`
		`_future`
		`_future_exclude`
		`_support`

`@platform`	Specifies the HW or SW platform to which the content applies.	`_physical`
		`_virtual`
		`ers_wcdma`
		`ers_gsm`
		`ipos_evr`

DITA Attribute	Description	Example Values

`@product`	Indicates the name of the product (including version if needed) to which the content applies.	`ers_air32_14`
		`ers_air32_20`
		`ers_power6302`
		`ers_rbs6401`
		`mwn_ml6352`

`@otherprops`	Used for specific information types, product releases, system areas, standards, or components.	`LTE`
		`WCDMA`
		`Alarms`
		`Counters`
		`18_Q1`
		`M18_Q2`

For more information on how to profile content, refer to Profiling and Conditional Processing in DITA CMS. For information on how profiling attributes are handled during migration to DITA, refer to Migrate from XSEIF to DITA.

7.2 Display Attributes

> Display attributes affect the way in which an element is rendered in the final output.

The @outputclass attribute specifies a special styling to be used during output processing. The following values are used:

Table 6 Outputclass Values

Value	Description
alphasort	Allows alphabetical sorting in a table, see Using Oxygen Author.
bg-color	Used in <example> and <stepxmp> elements to render the contents with a grey background color. This is currently only supported in PDF output. Support in HTML output is planned in a later ELIB release.
cimage	Used on the <booktitlealt> element within a bookmap to reference the cover art of a publication. When this @outputclass is used, the <booktitlealt> element must include a nested <image> element pointing to the appropriate graphic file.

Value	Description
collapsed	Used on <section>, <example>, <cause>, and <remedy> elements to specify that all information after the <title> element is collapsed. Users must click the plus sign to view the content.
condensed	Used to render a smaller font size on a number of elements, for example, <table>, <pre>, <codeblock>, and <msgblock> .
etitle	Used on the <booktitlealt> element within a bookmap to indicate the element contains the English version of the title if the document is written in a language other than English. (1)
expanded	Used on <section>, <example>, <cause>, and <remedy> elements to specify that all information after the <title> element is collapsible, but is initially displayed open. Users can click the minus sign to hide the content.
numsort	Allows numerical sorting in a table, see Using Oxygen Author.
pgwide	Used to render a wider column width in PDF output for a number of elements, for example, <example>, <fig>, <pre>, <codeblock>, and <msgblock>.
static	Used on <section>, <example>, <cause>, and <remedy> elements to indicate that content cannot be collapsed at any time. This is the default value and does not need to be added explicitly.
subtitle	Used on the <booktitlealt> element within a bookmap to indicate the element contains the subtitle of the document.
toc0, toc1, toc2, toc3, toc4, toc5	Used on the <toc> element within a bookmap to dictate the number of headings displayed in a table of contents.
tools	Used on the <prereq> element within tasks, especially hardware tasks, to distinguish the required tools list from other types of prerequisites. Prerequisite sections with this @outputclass are titled "Required tools and equipment".
video_mp4	Used on the <image> element to indicate that the file being referenced is an MP4 video.
video_swf	Used on the <image> element to indicate that the file being referenced is an SWF video.

(1) Not implemented until localization support is available.

Appendix A: Element Quick Reference

Table 7 Element Quick Reference

I want to enter:	DITA tag	Example	Notes	For more information
Access class	<audience type="other" othertype="xxx" />	`<audience type="other" other type="all"/>`		Bookmeta on page 53
Attention!	<hazardstatement type="notice">	`<hazardstatement type="notic e"> <messagepanel> <typeofhazard>Electromagneti c</typeofhazard> <consequence>Data loss</cons equence> <howtoavoid>Keep disk away f rom magnets. </howtoavoid> </messagepanel>`	(1)	Notes and Hazard Statements on page 29
Attribute	<parmname>	`<p>Enables or disables the r eporting of the <parmname>NetworkOfReference </parmname> attribute in BNS I Records.</p>`	Use <parmname> only in running text, not in command line syntax.	Inline Elements on page 42
Bold text	Use appropriate semantic tag for type of content.		The stylesheet will format certain semantic tags in a bold type face, for example, <uicontrol>. (2)	Inline Elements on page 42
Button name	<uicontrol>	`<p>Click <uicontrol>Advanced </uicontrol>.</p>`		Inline Elements on page 42
Callout		`<fig> <title>Parts of a car</tit le> <image keyref="carparts"/> <ol> <li>hood</sli> <li>bumper</sli> <li>roof</sli> <li>trunk</sli> <li>wheels</sli> </ol>`	The number or letter that the callout text corresponds to must be part of the image file itself. Be sure to include the items in the list in the correct order to correspond to their related callouts in the figure.	Figures and Media Content on page 32

I want to enter:	DITA tag	Example	Notes	For more information
Caution	<hazardstatement type="caution">	<hazardstatement type="caution"> <messagepanel> <typeofhazard>Sun exposure </typeofhazard> <consequence>Overexposure can cause sun burns.</consequence> <howtoavoid>Do not go out into the sun without appropriate sunscreen.</howtoavoid> </messagepanel>	(1)	Notes and Hazard Statements on page 29
Centered text	<entry align="center"> Only within a table. Do not tag body text.	<table> <thead> <row> <entry>Feature</entry> <entry>Model 1</entry> <entry>Model 2</entry> </row> <tbody> <row> <entry>Backlight</entry> <entry align="center">X</entry> <entry/> </row> . . . </tbody> </table>	Placement of body text on the page is controlled through the stylesheet. You cannot force text to be centered.	Table Elements on page 37
Change record	<bookeventtype name="changerecord">	<bookevent> <bookeventtype name="changerecord"> <person>lmfrg</person> <revisionid>F</revisionid> <completed> <year>2015</year> <month>10</month> <day>11</day> </completed> <summary>Added new topics describing xxx and fixed a few typos.</summary> </bookevent>		Bookmeta on page 53
Code	<codeblock> <codeph>	<codeblock>ntp-mode server 1.1.1.2 version 3 source ntp peer 1.1.1.5 version 3 source ntp peer 1.1.1.6 version 3 source ntp peer 1.1.1.7 version 3 source ntp interface ntp ntp-broadcast delay 3000</codeblock>		Inline Elements on page 42

I want to enter:	DITA tag	Example	Notes	For more information
Collapsible/ expandable content	@outputclass={expanded, collapsed, static}	`<section outputclass="collapsed">`	When this attribute is set to collapsed, the section is collapsed and requires user interaction to open it. When set to expanded, the section is open, and requires user interaction to close. When set to static, the section can never be collapsed.	Concept Elements on page 23 Using Oxygen Author
Column heading reference	Do not tag.	`<p>Refer to the Name column.</p>`		N/A
Command line prompt	<systemoutput>	`<systemoutput>[local]Ericsson(config)#</systemoutput>`		Inline Elements on page 42
Command name	<userinput>	`Enter the runtime environment using the command <userinput>eprtsetup</userinput>.`		Inline Elements on page 42
Comment	<draft-comment>	`<draft-comment author="DMS" time="Oct 17">Check this section carefully</draft-comment>`	Include the author and time attributes to track when a question is asked and who asked the question. Delete these comments as they are addressed. For information on #comment, refer to Using Oxygen Author.	Inline Elements on page 42
Commercial in Confidence	<bookrestriction value="commercial">	`<bookrestriction value="commercial"/>`		Bookmeta on page 53
Component or module name	<option>	`<p>The <option>Spellcheck</option> function ... <p>`		Inline Elements on page 42

I want to enter:	DITA tag	Example	Notes	For more information
Condensed table	<table outputclass="condensed">	<table outputclass="condensed"> <title>Troubleshooting</title> <thead> <row> <entry>Symptom</entry> <entry>Cause</entry> <entry>Solution</entry> </row> </thead> <tbody> <row> <entry/> <entry/> <entry/> </row> <row> <entry/> <entry/> <entry/> </row> </tbody> </tgroup> </table>		Table Elements on page 37
Copyright	<copyrfirst>	<bookrights> <copyrfirst><year>2009, 2010-2012</year> </copyrfirst> </bookrights>		Bookmeta on page 53
Cover image	<booktitlealt outputclass="cimage">	<booktitlealt outputclass="cimage"> <image keyref="coverimage.jpg"/> </booktitlealt>		Bookmap Elements on page 50
Cross reference	<xref>	For more information about this feature, see <xref keyref="AnotherChapter"/>.		Cross-References on page 62
Danger	<hazardstatement type="danger">	<hazardstatement type="danger"> <messagepanel> <typeofhazard>Rotating driveline</typeofhazard> <consequence>Contact can cause death.</consequence> <howtoavoid>Keep away! Do not operate without: <sl> <sli>All drivelines, tractor and equipment shields in place</sli> <sli>Drivelines securely attached at both ends</sli> <sli>Driveline shields that turn freely on driveline</sli> </sl> </howtoavoid> </messagepanel>	(1)	Notes and Hazard Statements on page 29

I want to enter:	DITA tag	Example	Notes	For more information
Data type	Do not tag.	`<p>Indicate whether the number is an integer or real data type.</p>`		N/A
Database table name	<option>	`<p>In the <option>Customer</option> database...</p>`		Inline Elements on page 42
Decimal class	<category>		Use only to overwrite the default decimal class associated with the document type name.	Bookmeta on page 53
Dialog box name	<uicontrol>	`In the <uicontrol>Save As</uicontrol> dialog box, select the new file type.`	Nest <uicontrol> elements in <menucascade> for consecutive dialog box names.	Inline Elements on page 42
Directory name	<filepath>	`<p>Save the file in the <filepath>c:\temp</filepath> directory.</p>`		Inline Elements on page 42
Do!	<note type="other" othertype="Do">	`<note type="other" othertype="Do"> <p>Check batteries for signs of acid leakage. Acid causes corrosion, which can seriously damage the product. Replace leaking batteries according to instructions.</p>`	(1)	Notes and Hazard Statements on page 29
Document number	<booknumber>	`<bookid> <edition></edition> <booknumber>6/153 72-CXP 902 0350/5-V2 </booknumber> </bookid>`		Bookmeta on page 53
Email address	Do not tag.	`<p>If you have questions, email example@example.com.</p>`	To make an active link to the email address, use an xref to the email address: <xref keyref="mailtoexample" format="other" scope="external">example@example.com</xref>	N/A
Emphasized text	Use appropriate semantic tag for type of content.		Use the appropriate semantic tag that indicates the purpose behind the emphasized text.(2)	Inline Elements on page 42

I want to enter:	DITA tag	Example	Notes	For more information
Equation	<equation-inline> <equation-block> <equation-figure>		Use <equation-inline> for an inline equation. Use <equation-block> for a block-level equation without an equation number. Use <equation-figure> for a block-level equation with an equation number.	Inline Elements on page 42 Equations on page 40

Example	<example>	`<example>`
		`  <title>"CAT" game</title>`
		`  <p>The following illustrat ion shows a completed tic-ta c-toe`
		`  grid in which there is no winner.</p>`
		`  <image keyref="CAT"/>`
		`  </example>`
			Examples in a <step> use <stepxmp>.	Concept Elements on page 23
				Reference Elements on page 21
				Task Elements on page 12

External reference	<cite>	`<p>For information on comma use, see` `<cite>The Chicago Manual of Style</cite>.`	No hyperlink is created.	Inline Elements on page 42
Field name	<uicontrol>	`<p>Type the full path to you r source file in the` `<uicontrol>Source File</uico ntrol> field.`		Inline Elements on page 42
File name / extension / path	<filepath>	`<p>Save your file in` `<filepath>C:\working\SampleP roject</filepath>.</p>`		Inline Elements on page 42
Footer	Do not tag in individual topics.		Page footers are automatically generated by the stylesheet using the information in the bookmap.	Bookmeta on page 53
Footnote	<fn>	`<entry><fn><p>Hazard stateme nts` `have to be created as ...</p ></fn></entry>`	Footnotes are only used in tables.	See Table Notes in Using Oxygen Author.

Free Open Source License (FOSS) texts	<pre>	`<pre outputclass="condensed pgwide">`
		`Apache License`
		`Version 2.0, January 2004`
		`...</pre>`
				Handling Free and Open Source Software in CPI

I want to enter:	DITA tag	Example	Notes	For more information
FTP address	Do not tag.	`<p>If your file is too big, place it on our ftp site at ftp://example.com.</p>`	To make an active link to the site, use an xref: <xref keyref="example" format="other" scope="external">example.com</xref>	N/A

Graphic	<fig>
	<image>
		`<fig>`
		`  <title>The planet Earth as seen from the moon.</title>`
		`  <image keyref="earth"/>`
		`</fig>`
			Include a graphic within a <fig> tag when a cross-reference is to be made to it, or when it has associated descriptive text or callouts.	Figures and Media Content on page 32

GUI control	<uicontrol>	`<p>Enter the appropriate information in the <uicontrol>Subject:</uicontrol> field and click <uicontrol>OK</uicontrol>.</p>`	Nest <uicontrol> elements in <menucascade> for consecutive GUI objects.	Inline Elements on page 42
Hardware labels	<uicontrol>	`<p>Connect the cable end marked <uicontrol>A</uicontrol>` `to port marked <uicontrol>SERIAL</uicontrol> on the ESC.</p>`	Connect the cable end marked **A** to port marked **SERIAL** on the ESC.	Inline Elements on page 42
Header	Do not tag in individual topic files.		Page headers are automatically generated by the stylesheet using the information in the bookmap.	Bookmeta on page 53
Image	<image>	`<p>Click <image keyref="icon" />.</p>`	Include a graphic in a <fig> tag when a cross-reference is to be made to it, or when it has associated descriptive text or callouts.	Figures and Media Content on page 32

Image map	<imagemap>	`<imagemap>`
		`  <image href="imagemapworld.jpg">`
		`  <alt>Map of the world showing 5 areas</alt>`
		`  </image>`
		`  <area><shape>rect</shape><coords>2,0,53,59</coords>`
		`  <xref href="d1-s1.dita">Section 1</xref>`
		`  </area>`
		`</imagemap>`
				Figures and Media Content on page 32
				Using Image Maps in CPI

Indented or offset text	Do not tag.		Placement of body text on the page is controlled through the stylesheet. You cannot force text location within DITA.	N/A

I want to enter:	DITA tag	Example	Notes	For more information
Italics	Do not tag. Find the appropriate semantic element for the content and use that.		The stylesheet will format certain semantic tags in italics, for example, <cite>. (2)	Inline Elements on page 42
Internet address	Do not tag.	`<p>For information about our consulting services, see www.example.com.</p>`	To make an active link to the address, use an xref: <xref keyref="example" format="other" scope="external">www.example.com</xref>	N/A
Keyboard key	<userinput>	`<p>Press <userinput>ENTER</userinput>.</p>`		Inline Elements on page 42

Landscape orientation image	<image outputclass="landscape">	`<fig>`
		`  <title>The planet Earth as seen from the moon.</title>`
		`  <image outputclass="landscape" keyref="earth"/>`
		`</fig>`		

Landscape orientation table	<table orient="land">	`<table frame="all" rowsep="1" colsep="1" id="table_sf4_dgq_rhb" orient="land">`		Table Elements on page 37
Line break	Do not tag.		Line breaks cannot be inserted within the regular flow of text.	N/A

List, definition	<dl>	`<dl>`
		`  <dlentry>`
		`  <dt>DITA</dt>`
		`  <dd>Darwin Information Typing Architecture</dd>`
		`  </dlentry>`
		`  <dlentry>`
		`  <dt>XML</dt>`
		`  <dd>eXtensible Markup Language</dd>`
		`  </dlentry>`
		`</dl>`
				Lists on page 26

List, ordered (numbered list)		`<p>The five most populous cities in the United States are:`
		`<ol>`
		`  <li>New York, New York</li>`
		`  <li>Los Angeles, California</li>`
		`  <li>Chicago, Illinois</li>`
		`  <li>Houston, Texas<li>`
		`  <li>Philadelphia, Pennsylvania</li>`
		`</ol>`
		`</p>`
			Do not use for steps. If documenting steps, use a task topic and the <steps>/<step> construction.	Lists on page 26

I want to enter:	DITA tag	Example	Notes	For more information
List, unordered (bullet list)		There are five types of lists in DITA: - ordered - unordered - simple - definition - parameter 	If the list is part of the paragraph that precedes it, embed the list tag within the paragraph tag; otherwise, end the paragraph first.	Lists on page 26
LRI	<bookevent> <bookeventtype name="changerecord">	<bookevent> <bookeventtype name="changerecord"> <person>lmfrg</person> <revisionid>F</revisionid> <completed> <year>2015</year> <month>10</month> <day>11</day> </completed> <summary>Added new topics describing xxx and fixed a few typos.</summary> </bookevent>		Bookmeta on page 53
Menu navigation	<uicontrol>	Select <menucascade> <uicontrol>File</uicontrol> <uicontrol>Save</uicontrol> </menucascade>.	Nest <uicontrol> elements in <menucascade> for consecutive menu selections. When formatted, an angle bracket is inserted between each menu selection.	Inline Elements on page 42
Messages	<systemoutput> <msgblock> <msgph>	If the book compiles successfully, you will see the message <systemoutput>Build Successful</systemoutput>. It is safe to ignore the following warnings: <msgblock>w.r.t EP_WORKSPACE and Warning: No local settings, rtid generation might not work.	Use <systemoutput> for messages you want to display inline with the surrounding text. Use <msgblock> for messages you want to offset from the text. Use <msgph> for response codes, messages between network elements, and similar items.	Inline Elements on page 42
MOM objects	<apiname> <option>	<apiname>pmCongestions</apiname>	Refers to generic MOM objects, such as, attributes, attribute values, actions, and counters. Use <apiname> for objects where a link is to be created to the relevant part of the MOM document. Use <option> for other objects.	Inline Elements on page 42

I want to enter:	DITA tag	Example	Notes	For more information
Monospaced text	Tag with the appropriate semantic tag for the type of content.			Inline Elements on page 42
Non-breaking space		`<p>Consumers preferred Product A two to one over Product B.`		N/A
Note	<note>	`<note>The @type attribute is not required for a note; note is the default type.</note>`	Do not enter "Note" in the text, use the <note> element.	Notes and Hazard Statements on page 29
Page break	Do not tag.		Page breaks are controlled by the stylesheet, not by tagging.	N/A
Parameter	<parmname>	`<p>Update the configuration parameter <parmname>SEND_ALARM_ON_DELETEBACKUP_JOB_FAILURE</parmname>.</p>`	Use <parmname> only in running text, not in command line syntax.	Inline Elements on page 42
Program name	<option>	`<p>The <option>Microsoft Office</option> suite includes <tm tmtype="reg">Word</tm>, <tm tmtype="reg">Excel</tm>, and <tm tmtype="reg">Powerpoint</tm>.</p>`		Inline Elements on page 42
Reference to figure, table, or section.	<xref>	`<p>For a list of valid parameters, see <xref keyref="ParameterTable"/>.</p>`	Do not use <xref> elements to reference content within the same topic.	Cross-References on page 62
Related links	<reltable>	`<reltable> <relheader> <relcolspec/> <relcolspec/> </relheader> <relrow> <relcell> <topicref keyref="ntp-broadcast-peers"/> </relcell> <relcell> <topicref keyref="ntp-ntp-broadcast"/> <topicref keyref="ntp-show-config-ntp"/> </relcell> </relrow> </reltable>`	Created in a bookmap.	Relationship Tables on page 62
	<related-links>	`<related-links type="topic"> <link keyref="xaa1414447418559"> </related-links>`	Created in a topic.	How to Work with Reuse and References

I want to enter:	DITA tag	Example	Notes	For more information
Review comment	<draft-comment>	<draft-comment author="LMEABC">Check this section carefully</draft-comment>		Inline Elements on page 42
Revision letter	<edition>	Provided automatically by DITA CMS.	Do not type the revision letter. It is added automatically by DITA CMS.	Bookmeta on page 53
Screen capture	<fig> <title> <image>	<fig> <title>The Preferences screen</title> <image keyref="preferences"/> </fig>		Figures and Media Content on page 32
Server name	<option>			
Steps	<steps> <step><cmd>	<steps> <step><cmd>Select <uicontrol>File>Save</uicontrol>.</cmd></step> <step><cmd>Browse to the location where you want to save the file.</cmd></step> <step><cmd>Click Save.</cmd></step> </steps>	Steps must be entered in task or troubleshooting topic types. Do not use an in a concept or reference to provide instructions.	Task Elements on page 12
Stop!	<note type="other" othertype="Stop">	<note type="other" othertype="Stop"> This product contains components sensitive to ESD. Use an approved ESD wrist strap connected to the product grounding point to avoid damaging these components. </note>	(1)	Notes and Hazard Statements on page 29
Subheading	<section> <title>	<concept> <title>Lists in DITA</title> <conbody> <section> <title>Unordered lists</title> Unordered lists... </section> <section> <title>Ordered lists</title> Ordered lists... </section> </conbody> </concept>	Sections cannot be created within task or troubleshooting topics. Alternatively, nest topics within a map to create subsections.	Concept Elements on page 23 Reference Elements on page 21

I want to enter:	DITA tag	Example	Notes	For more information

Subscript
 	
Superscript
	<sub>
	
	<sup>
		`H<sub>2</sub>0`
		
		`E=mc<sup>2</sup>`
				Inline Elements on page 42

Substeps	<substeps> <substep><cmd>	`<step><cmd>Attach the tires. </cmd> <substeps> <substep><cmd>Stretch the deflated tires over the metallic rims of your bike.</cmd></substep> <substep><cmd>Insert the air valves through the circular openings found in the wheel frames.</cmd></substep> <substep><cmd>Inflate each tire to the appropriate PSI. </cmd></substep> <substep><cmd>Fasten a cap over each air valve.</cmd> </substep> </step>`	Must be nested in a <step> element.	Task Elements on page 12
System messages	<systemoutput> <msgblock>	`<p>The wizard will then prompt <systemoutput>Select a delivery method</systemoutput>.</p>`	Use <systemoutput> for inline system messages, <msgblock> for block system messages.	Inline Elements on page 42
Tab name	<uicontrol>	`<p>On the <uicontrol>Manage Alerts</uicontrol> tab, ...</p>`		Inline Elements on page 42
Table	<table>	`<table> <title>Troubleshooting</title> <thead> <row> <entry>Symptom</entry> <entry>Cause</entry> <entry>Solution</entry> </row> </thead> <tbody> <row> <entry/> <entry/> <entry/> </row> <row> <entry/> <entry/> <entry/> </row> </tbody> </tgroup> </table>`		Table Elements on page 37

I want to enter:	DITA tag	Example	Notes	For more information
Tip	<note type="tip">	<note type="tip"> To improve computer performance, invest in a high-quality registry cleanup program and configure it to run once per day. </note>		Notes and Hazard Statements on page 29
Trademark	<tm>	Microsoft <tm tmtype="reg">Excel</tm>	All trademarks should be included in a trademark file included in the front matter of the bookmap. Individual trademarks do not have to be referenced in a topic.	Inline Elements on page 42 Trademark Statements
Underlined text	Do not tag.		No elements in the model allow underlined text.	N/A
URL	Do not tag.	For information about our consulting services, see www.example.com.	To make an active link to the address, use an <xref>: <xref keyref="example_web" format="other" scope="external">www.example.com</xref>	N/A
User interface control	<uicontrol>	Ensure that the <uicontrol>Widow/Orphan control</uicontrol> checkbox is checked.	Includes: check box, container, entry field, folder, group box label, icon name, items inside list box, labels, list box, menu choice, menu name, multicolumn list, property sheet, push button, radio button, spin button, tab name, toolbar button Nest <uicontrol> elements in <menucascade> for consecutive selections.	Inline Elements on page 42
Variable	<varname>	<userinput>peer</userinput> <varname>ip-addr </varname>		Inline Elements on page 42
Video	<image outputclass="video_swf"> <image outputclass="video_mp4">	<fig> <title>Example of a Flash Video (SWF)</title> <image keyref="introduction_image" scale="60"/> <image keyref="example_video" outputclass="video_swf" height="510" width="800"/> </fig>		Figures and Media Content on page 32 Using Videos in CPI
Virtual machine name	<filepath>	The operator has root access privileges to login to one <filepath>SECSERV</filepath> virtual machine.		Inline Elements on page 42

I want to enter:	DITA tag	Example	Notes	For more information
Warning	<hazardstatement type="warning">	<hazardstatement type="warning"> <messagepanel> <typeofhazard>Flying debris</typeofhazard> <consequence>Eye injury</consequence> <howtoavoid>Wear protective glasses during operation.</howtoavoid> </messagepanel>	(1)	Notes and Hazard Statements on page 29
Web address	Do not tag.	For information about our consulting services, see www.example.com.	To make an active link to the address, use an xref: <xref keyref="example_web" format="other" scope="external">www.example.com</xref>	N/A
Window title	<uicontrol>	You can also set your margins in the <uicontrol>Print Preview</uicontrol> view.	Titles of windows, panes, dialog boxes, preference pages, notebook pages, names of views, wizard titles, wizard page titles Nest <uicontrol> elements in <menucascade> for consecutive selections.	Inline Elements on page 42

(1) Hazard statements have to be created as conrefs from the Corporate Admonitions library. For more information, refer to Safety Information in CPI.

(2) During migration, content specified with an emphasis tag is included in a <ph> element. The @importance attribute follows the attribute in the XSEIF <emph> element so that, for example, <emph type="medium"> is migrated to <ph importance="normal">.

Appendix B: Schematron Rules

> The Schematron rules check that the rules in the Information Model are followed when writing topics.

Schematron-Initiated Corrections

A number of the Schematron validation warnings can easily be corrected by the writer by using quick fixes. For more information, see Using Oxygen Author.

Table 8 Schematron Rules

ID	Rule
Ericsson002	Lists should not be nested more than three levels deep.
Ericsson003	Lists should not be nested more than three levels deep.
Ericsson004	Lists should not be nested more than three levels deep.
Ericsson005	Use words that accurately describe the content and that are specific, concise, and meaningful. Avoid headings that identify the type of information, but not the subject matter; for example, Introduction or Overview, without further clarifying words to indicate what content is introduced or what you are providing an overview about. This not only provides clarity for the user but will assist other authors in locating relevant information in the repository.
Ericsson006	Although it will not always be possible, try to limit the length of the title to no more than eight words.
Ericsson007	Place important words at the beginning of the title to draw the users attention; for example, Installation Overview; not Overview of Installation.
Ericsson008	Chapters should not be nested more than 4 levels deep.
Ericsson009	Avoid starting the short description with "This topic ..." or a similar structure.
Ericsson010	Do not simply restate the title. If you have nothing more to add, do not include a short description.
Ericsson011	Although you can enter substeps to provide further detail on how to complete an individual step, too many substeps become difficult for a user to follow. A flat step structure is preferred. Limit your use of substeps to situations when most users will understand how to complete the step from the primary step description alone, but some users will need the additional detail. If most users will need the details, flatten the structure by making each substep a full step in the task.

ID	Rule
Ericsson012	Do not include an ordered list. If the postrequisite is another procedure, link to that procedure instead.
Ericsson013	Numbered list detected. Ensure that you are not writing steps in a concept. Steps should be in a task, not in a concept.
Ericsson014	All sections must have a title element. Do not start a topic with a section. If you start your topic with a titled section, you will have "stacked" headings.
Ericsson015	Do not place two or more notes together. If more than one point needs emphasizing, include as separate paragraphs in the same note.
Ericsson016	Table titles are required when you want to make a cross-reference to the table.
Ericsson017	Ensure that the proper access restrictions have been applied to this content. Default is "ericsson_internal".
Ericsson018	Cross-references should be used sparingly. For guidelines about using cross-references, refer to section "Cross-References in a Topic or between Topics" in the Business Rules for Reuse method.
Ericsson019	Do not use pre when a more semantically specific element is appropriate, such as msgblock or codeblock.
Ericsson020	Do not use ph with @importance for content styling when a more semantically specific element is available.
Ericsson021	Copyright year cannot be empty, enter a valid year.
Ericsson022	In relationship table, the first relcolspec element must have attribute linking set as "sourceonly".
Ericsson023	In relationship table, the second relcolspec element must have attribute linking set as "targetonly" and type set as "topic" or "external".
Ericsson024	Do not enter text directly inside [xxx] element, insert it in a p element.
Ericsson025	Line length limit exceeded for pre. Set @outputclass="pgwide" or "condensed" to fit more content.
Ericsson026	Insertion of @outputclass="pgwide" is not supported here for <pre>.
Ericsson027	Document number must be defined according to CBST 0012-078 Uen. Enter a valid document number.
Ericsson028	Document revision must be defined according to CBST 1092-211 Uen. Enter a valid document revision.
Ericsson029	Attribute @colwidth must not contain characters other than numbers, "." and "*", and supported units (cm, mm, in, pi, pt).
Ericsson030	Using "norowsplit", content in long table cells might flow over the page border in PDF resulting in loss of data.
Ericsson031	Document title contains unsupported symbol "[unsupported symbols]"

ID	Rule
Ericsson032	Title is mandatory when @outputclass="collapsed" or "expanded".
Ericsson033	Short description is mandatory for troubleshooting topic.
Ericsson034	Hazard statements have to be created as conrefs from the Corporate Admonitions library. For more information, refer to method Safety Information in CPI.
Ericsson035	Document title should not exceed 100 characters.
Ericsson036	The given date should be in YYYY-MM-DD format.
Ericsson037	Both side-by-side specification attributes are mandatory for side-by-side view in output.
Ericsson038	Related-Links should have @type="topic" set.
Ericsson039	The <image> element is not allowed inside <shortdesc>.
Ericsson040	Unreferenced image element is not allowed in <booktitlealt>.
Ericsson041	Conrefend attribute value given is improper. The supported format is "default.dita#default/target-id".
Ericsson042	Do not use "collapsed" and "expanded" values together on the same element.
Ericsson043	The <booknumber> element contains unsupported character.
Ericsson044	The Copyright year information does not contain the current year.
Ericsson045	The link target element must contain a title element. Otherwise, correct link text cannot be generated. The link element must contain text. Otherwise, correct link text cannot be generated.

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