

Review E.2: Troubleshooting, take two

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1 Topic and map document types

The Technical Content package contains various document types: concept, glossary entry, glossary group, reference, general task, strict task, and troubleshooting. The package also includes the bookmap document type.

1.1 Troubleshooting

Troubleshooting topics are designed to document problems that people might encounter and provide solutions, if possible. They provide a topic structure that enables content authors to describe a problem, provide diagnostic information, discuss causes, and outline possible solutions.

Comment by Robert D Anderson on 21 February 2023

The "if possible" clause on the first sentence feels unnecessary. It seems like we could drop that, or maybe even drop "and provide solutions, if possible" – the second sentence already gives more detail and notes that the topic can outline "possible" solutions.

Kris Eberlein, 21 February 2023

Excellent suggestion. Done.

Disposition: Completed

Purpose

Troubleshooting topics serve the following purposes:

- Describe the problem condition, which usually is a state in a system, product, or service that a reader wants to correct
- Provide information that helps the reader diagnose the cause of the problem, if it is known
- Explain the cause of the problem and how to fix it, if possible

Comment by Robert D Anderson on 21 February 2023

think we can also drop "if possible" here? If it is not possible, then it is not filling that purpose? The second bullet lists "diagnose the cause" as a purpose, so I think the only new part of the third bullet is providing the solution.

Unless perhaps the lead-in to this is implying that every troubleshooting topic serves every one of these purposes - if we don't imply that then we don't need to have the "if it is known" / "if possible" caveats. In that case every topic is serving one or more of the stated cases.

Kris Eberlein, 21 February 2023

Removed the ", if possible" from the final list item.

Disposition: Completed

Content model

The troubleshooting topic is structured in three parts:

Condition

This section of the topic provides information about the problem condition, and it is specified by the `<condition>` element. This element is optional, as often the problematic condition can be adequately described in the title and short description.

Diagnostics

This optional section of the topic provides information about how to determine possible causes of the problem. It is specified by the `<diagnostics>` element, which must contain one or both of the following structural elements:

- General diagnostic information (`<diagnostics-general>` (10))
- Procedural diagnostic information (`<diagnostics-steps>` (13))

Trouble solution

This optional section of the topic provides information about possible causes and remedies for the problem. It is specified by `<troubleSolution>` elements.

Cause and remedy might occur in combinations other than pairs. It is possible to have:

- Multiple causes with the same remedy
- A single cause with more than one remedy
- A remedy with no known cause
- A cause with no known remedy

Examples

This section of the topics contains examples of troubleshooting topics.

Figure 1: Simple troubleshooting topic

The following code sample shows a simple troubleshooting topic. The title and short description describe the problem, and the single `<troubleSolution>` element contains explanations of the cause of the problem and how to remedy it.

Comment by Robert D Anderson on 21 February 2023

Suggest rewording "contains explanations of the cause of..." to "explains the cause of..."

We already have the title and short description describing, so it seems fitting to have troubleSolution explaining.

Kris Eberlein, 21 February 2023

Done.

Disposition: Completed

```
<troubleshooting id="oasis-spec-not-rendered-correctly">
  <title>Specification PDF is not rendered correctly</title>
  <shortdesc>The specification URIs and notices appear in the TOC; they also appear
    twice in the body of the document.</shortdesc>
  <troublebody>
    <troubleSolution>
      <cause>
        <p>This problem occurs when the <xmlelement>notices</xmlelement> element
          for external publishing is not excluded.</p>
      </cause>
      <remedy>
        <steps>
          <step>
            <cmd>Use a DITAVAL file that excludes the <xmlelement>notices
              platform="external-publishing-engine"</xmlelement> element
              when you generate the PDF.</cmd>
```

```

        </step>
      </steps>
    </remedy>
  </troubleshooting>
</troubleshooting>

```

Figure 2: Complex troubleshooting topic

The following code sample shows a complex troubleshooting topic about "Blinking printer lights." It contains a `<diagnostics-general>` element that contains a table that outlines printer light conditions and possible remedies. It also includes several `<troubleshooting>` elements that reuse steps from other DITA topics.

```

troubleshooting id="blinking-lights">
  <title>Blinking printer lights</title>
  <troubleshooting>
    <condition><p>The indicator lights are blinking and you are unable to print.</p></condition>
    <diagnostics>
      <diagnostics-general><p>Use the following table to diagnose the problem.</p>
        <simplatable frame="all" id="light-diagnostics" relcolwidth="1* 2*">
          <thead>
            <stentry>Lights</stentry>
            <stentry>Issue</stentry>
          </thead>
          <strow>
            <stentry>The power light is flashing and the resume light is off.</stentry>
            <stentry>The printer is preparing to print. No action is required. The light
              will stop flashing when the printer has received all data.</stentry>
          </strow>
          <strow>
            <stentry>The connection and error lights flash for five seconds.</stentry>
            <stentry>The printer has lost connection with the camera. Unplug and replug the
              camera.</stentry>
          </strow>
          <strow>
            <stentry>The power light is on, and the resume light is flashing.</stentry>
            <stentry>Printer jam. See <xref href="#./jam"/>.</stentry>
          </strow>
          <strow>
            <stentry>The left cartridge light is on, and right cartridge light is off.</stentry>
            <stentry>Low ink. See <xref href="#./ink"/>.</stentry>
          </strow>
          <strow>
            <stentry>The left cartridge light is on, and the right cartridge light is flashing.
              </stentry>
            <stentry>Dirty ink cartridge. See <xref href="#./clean"/>.</stentry>
          </strow>
          <strow>
            <stentry>The connection light is on, and the error light is flashing.</stentry>
            <stentry>The camera is not set to the correct mode for transferring photos. Change
              the camera mode.</stentry>
          </strow>
        </simplatable>
      </diagnostics-general>
    </diagnostics>
    <troubleshooting>
      <remedy id="jam">
        <title>Clearing a paper jam </title>
        <steps conkeyref="clear-jam/steps">
          <step><cmd/></step>
        </steps>
      </remedy>
    </troubleshooting>
    <troubleshooting>
      <remedy id="clean">
        <title>Cleaning ink cartridges</title>
        <steps conkeyref="clean-cartridge/steps">
          <step><cmd/></step>
        </steps>
      </remedy>
    </troubleshooting>
  </troubleshooting>

```

```

<troubleSolution>
  <remedy id="ink">
    <title>Replacing ink cartridges</title>
    <steps conkeyref="replace-ink/steps">
      <step><cmd/></step>
    </steps>
  </remedy>
</troubleSolution>
</troublebody>
</troubleshooting>

```

The table in the <diagnostics-general> element might be rendered in the following way. The hyperlinks in the "Issue" column resolve to the <remedy> elements in the topic.

Lights	Issue
The power light is flashing and the resume light is off.	The printer is preparing to print. No action is required. The light will stop flashing when the printer has received all data.
The connection and error lights flash for five seconds.	The printer has lost connection with the camera. Unplug and replug the camera.
The power light is on, and the resume light is flashing.	Printer jam. See Clearing a printer jam .
The left cartridge light is on, and right cartridge light is off.	Low ink. See Replacing an ink cartridge .
The left cartridge light is on, and the right cartridge light is flashing.	Dirty ink cartridge. See Cleaning an ink cartridge .
The connection light is on, and the error light is flashing.	The camera is not set to the correct mode for transferring photos. Change the camera mode.

Related reference

Troubleshooting elements (7)

Troubleshooting elements provide the fundamental structure for troubleshooting topics.

Comment by Stan Doherty

LGTM - Looks good to me.

Kris Eberlein, 21 February

Marking as "Closed," since no changes are required.

Disposition: Closed

Troubleshooting topics describe problems and provide information about how to fix them.

2 Troubleshooting elements

Troubleshooting elements provide the fundamental structure for troubleshooting topics.

Comment by Stan Doherty

LGTM - Looks good to me.

Kris Eberlein, 21 February

Marking as "Closed," since no changes are required.

Disposition: Closed

Troubleshooting topics describe problems and provide information about how to fix them.

Related concepts

[Troubleshooting](#) (3)

Troubleshooting topics are designed to document problems that people might encounter and provide solutions, if possible. They provide a topic structure that enables content authors to describe a problem, provide diagnostic information, discuss causes, and outline possible solutions.

Comment by Robert D Anderson on 21 February 2023

The "if possible" clause on the first sentence feels unnecessary. It seems like we could drop that, or maybe even drop "and provide solutions, if possible" – the second sentence already gives more detail and notes that the topic can outline "possible" solutions.

Kris Eberlein, 21 February 2023

Excellent suggestion. Done.

Disposition: Completed

2.1 <cause>

The <cause> element describes a potential source of the problem.

Comment by Robert D Anderson on 21 February 2023

Should this be "a problem" rather than "the problem"? Unless we have a bit more context, like "the problem addressed by this topic" or similar?

Kris Eberlein, 28 February 2023

Changed to read "... that is addressed by the troubleshooting topic".

Disposition: Completed

Usage information

The <cause> element is a component of a **potential solution**. The cause might be omitted if it is implicit or if the remedy is not associated with a cause.

Specialization hierarchy

The `<cause>` element is specialized from `<section>`. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

In the following code sample, the `<cause>` element contains information that explains the origins of the problem:

```
<troubleshooting id="simple-example">
  <title>System will not turn on</title>
  <troublebody>
    <condition>The system is plugged in and powered up, but the system will not start.
    </condition>
    <troubleSolution>
      <!-- . . . -->
      <cause>The problem is usually due to the power not being supplied to the system through
        the electrical outlet. Often, a circuit breaker has been tripped so that no
        power is available at the outlet.</p>
      </cause>
      <!-- . . . -->
    </troubleSolution>
    <!-- . . . -->
  </troublebody>
</troubleshooting>
```

2.2 <condition>

The `<condition>` element describes a state that the troubleshooting topic is intended to remedy. This information helps the user decide whether a troubleshooting topic might contain an applicable remedy for a problem.

Usage information

This section should add to or clarify information that is in the title or short description of the troubleshooting topic. If the title and short description adequately describes the condition, this element might be omitted.

Specialization hierarchy

The `<condition>` element is specialized from `<section>`. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

In the following code sample, the `<condition>` element contains information that elaborates on the information **that is** provided by the title and short description:

```
<troubleshooting id="system-will-not-turn-on">
  <title>System will not turn on</title>
  <shortdesc>Everything looks right, but the system still does not start.</shortdesc>
  <troublebody>
    <condition>
```



```
<title>Condition</title>
<p>The system is plugged in and powered up, but the system does not start.</p>
</condition>
<troubleSolution>
  <!-- ... -->
</troubleSolution>
</troublebody>
</troubleshooting>
```

Alternately, the short description could be enhanced and the <condition> element eliminated:

```
<troubleshooting id="system-will-not-turn-on">
  <title>System will not turn on</title>
  <shortdesc>The system is plugged in and powered up, but the system does not start.
</shortdesc>
  <troublebody>
    <troubleSolution>
      <!-- ... -->
    </troubleSolution>
  </troublebody>
</troubleshooting>
```

How implementations choose what markup patterns they use might depend on their stylesheets and how they deliver troubleshooting information to readers.

Comment by Robert D Anderson on 21 February 2023

As with a comment on responsibleParty - suggest removing "their stylesheets and" from this sentence. The thing this depends on is how someone delivers the info, whether or not they have stylesheets is not important to that.

Kris Eberlein, 21 February 2023

Agree. Changed to read "The markup pattern that implementations choose might depend on how they deliver troubleshooting information."

Zoë Lawson, 27 February 2023

My brain is tripping over the inanimate concept of an implementation making decisions, but that could just be that I'm programmed with a more active voice. "Which markup pattern you choose for your implementation depends on how you want to deliver troubleshooting information." ?

But I'm fine leaving as is.

Kris Eberlein, 28 February 2023

I agree that implementations do not make decisions :) However, I think that we are using the term "implementations" as shorthand for the phrase "companies or organizations that implement DITA."

I'm going to mark this comment as "Deferred." If time permits, we'll scan the body of both specs and see how we use the term "implementations." If we have time later to improve on this terminology, we'll do so.

Disposition: Deferred

2.3 <diagnostics>

The <diagnostics> element contains information that helps readers determine the cause of a problem.

Usage information

Diagnostic information is useful when **when there is more than one potential cause associated with a symptom**. The <diagnostics-general> element permits **content that includes** tables and flowcharts, while the <diagnostics-steps> element allows for the use of the <steps> element.

Comment by dstevens73

"when" appears twice in the first sentence, once before the conditional phrase and once within it.

Kris Eberlein, 28 February 2023

Fixed.

Disposition: Completed

Comment by Zoë Lawson on 27 Feb

Apologies that I don't remember the answer - can you have both <diagnostics-general> and <diagnostics-steps> or is it an either/or scenario? I know that's enforced by the tool, but it might be nice to know in the spec if I can have a flowchart and steps.

Kris Eberlein, 28 February 2023

Both elements can be included. Originally the design was for a choice, but then we got feedback from Silke Achterfeld that her company (Ericsson) needed both.

I added the following sentence: "Either or both elements can be present."

Disposition: Completed

Specialization hierarchy

The <diagnostics> element is specialized from <bodydiv>. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

See <diagnostics-general> (10) and <diagnostics-steps> (13).

2.4 <diagnostics-general>

The <diagnostics-general> element **includes non-procedural information that can help determine the cause of the symptom. Results of the diagnoses might link to a possible solution.**

Comment by Robert D Anderson on 21 February 2023

Same thing noted elsewhere, wondering if this should be "cause of a symptom" rather than "cause of the symptom"

Kris Eberlein, 21 February 2023

The troubleshooting topic really is designed to focus on one particular symptom. The more appropriate wording would be "the causes of the symptom."

Bill Burns, 21 February 2023

To Robert's point, an indefinite article is more appropriate when the referent is immediately precedent in the context of a statement. Given that topics can be used in different contexts or without context, it seems more appropriate in this instance to go with the indefinite article.

Kris Eberlein, 28 February 2023

Changed the short description to read "The <diagnostics-general> element includes non-procedural information that can help determine **the causes of a** symptom. Results of the diagnoses might link to possible **solutions**." (Bold emphasis added).

Disposition: Completed

Usage information

This element is useful for presenting non-procedural diagnostic information, for example, a diagnostic table or a flowchart. Non-procedural diagnostic information can be used when the symptoms can be observed and do not require people to take action.

Specialization hierarchy

The <diagnostics-general> element is specialized from <section>. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

Comment by Kristen J Eberlein on 15 February 2023

We discussed the car noise example at the 14 February 2023 DITA TC meeting. The consensus was to add a second example, which Stan Doherty will develop.

Kris Eberlein, 28 February 2023

Marking this comment as "Open," and hoping to talk to Stan Doherty as to whether we'll add another example.

Disposition: Open

This section contains examples of how the <diagnostics-general> element can be used. Implementations might well have different business rules for how to document troubleshooting.

Figure 3: Example: Simple diagnosis

The following code sample shows how the <diagnostics-general> element can contain a table to help a reader determine the cause of a problem. The table then references the associated remedy.

```
<troubleshooting id="car-makes-funny-noises">
  <title>Car is making funny noises.</title>
  <shortdesc>You probably know how your vehicle sounds when it's running
  properly. Listening to your car can help you troubleshoot problems. If
  you hear a strange sound, pay attention and react
  accordingly.</shortdesc>
  <troublebody>
    <diagnostics>
      <diagnostics-general>
        <simpletable frame="all" relcolwidth="1* 1*">
          <thead>
            <stentry>Symptom</stentry>
            <stentry>Probable cause</stentry>
          </thead>
          <tbody>
            <strow>
              <stentry>Clunking noise on bumps only</stentry>
              <stentry>Struts. See <xref href="#./checkstruts"/>.</stentry>
            </strow>
            <strow>
              <stentry>Continuous clunking noise</stentry>
              <stentry>Ball joints. See <xref href="#./checkballjoints"/>.</stentry>
            </strow>
            <strow>
              <stentry>Ticks when in neutral</stentry>
              <stentry>Exhaust. See <xref href="#./checkexhaust"/>.</stentry>
            </strow>
            <strow>
              <stentry>Ticks only in reverse</stentry>
              <stentry>Brakes. See <xref href="#./checkbrakes"/>.</stentry>
            </strow>
            <strow>
              <stentry>Ticks in turns and curves</stentry>
              <stentry>CV joint. See <xref href="#./checkcvjoint"/>.</stentry>
            </strow>
            <strow>
              <stentry>Ticks only when cold</stentry>
              <stentry>Catalytic converter. See <xref href="#./checkcatalyticconverter"/>.</stentry>
            </strow>
            <strow>
              <stentry>Ticks only at slow speed</stentry>
              <stentry>Wheels. See <xref href="#./checkwheels"/>.</stentry>
            </strow>
          </tbody>
        </simpletable>
      </diagnostics-general>
    </diagnostics>
    <!-- The rest of this topic contains <troubleshooting> elements, each of which
    contains a remedy. The cross references in the above steps resolve to the
    <remedy> elements. -->
  </troublebody>
</troubleshooting>
```

The table in the <diagnostics-general> element might be rendered in the following way. The hyperlinks in the "Probable cause" column resolve to the <remedy> elements in the topic.

Symptom	Probable cause
Clunking noise on bumps only	Struts. See Checking the struts.
Continuous clunking noise	Ball joints. See Checking the ball joints.
Ticks when in neutral	Exhaust. See Checking the exhaust.
Ticks only in reverse	Brakes. See Checking the brakes.
Ticks in turns and curves	CV joints. See Checking the CV joints.
Ticks only when cold	Catalytic converter. See Checking the catalytic converter.
Ticks only at slow speed	Wheels. See Checking the wheels.

Figure 4: Example: Rigorous diagnosis

2.5 <diagnostics-steps>

The <diagnostics-steps> element includes step-by-step information that can help readers determine the cause of the symptom. Results of the diagnostic steps might link to potential solutions.

Comment by dstevens73

depending on the outcome of the definite/indefinite article debate, this also has a "the symptom" in it. In fact, so I don't repeat it multiple times (it's needed on remedy as well), the entire topic set would need to be searched for "the problem" to see it is appropriate to change to "a problem"

Kris Eberlein, 28 February 2023

Changed to "... the causes of a symptom."

Disposition: Completed

Usage information

This element is helpful for situations where the reader must perform a series of steps to determine the cause of the problem.

Specialization hierarchy

The <diagnostics-steps> element is specialized from <section>. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

Comment by Kristen J Eberlein on 16 February 2023

@Dawn, this is from the stage three proposal for adding diagnostics. Can you offer a title, short description, and condition for the example? This aligns with our move to offer more context in the code samples.

Dawn Stevens

<title>My network isn't working</title>

<shortdesc>Issues can arise at numerous points along your network. By gathering the right information and clarifying the problem, you'll have a much better chance of resolving the issue quickly, without wasting time trying unnecessary fixes.</shortdesc>

<condition>Users are unable to access network servers, the internet, or other devices, such as printers, on the network.</condition>

Kris Eberlein, 28 February 2023

Many, many thanks! I've updated the example.

Disposition: Completed

The following code sample shows how the <diagnostics-steps> element can provide step-by-step instructions to help someone determine **the cause of a problem and the potential solution**:

```
<diagnostics>
  <diagnostics-steps>
    <steps>
      <step>
        <cmd>Open the command prompt and type <userinput>ipconfig</userinput>.</cmd>
        <info>The Default Gateway (listed last) is your router's IP. Your computer's IP address is the number next to "IP Address." If your computer's IP address starts with 169, the computer is not receiving a valid IP address. See <xref href="#./ipaddress"/>.
        </info>
      </step>
      <step>
        <cmd>If your address does not start with 169, type <userinput>tracert8.8.8.8</userinput> to view each step between your router and the Google DNS servers.</cmd>
        <info>If the error comes up early along the pathway, see <xref href="#./resetnetwork"/></info>
      </step>
      <step>
        <cmd>If everything is working with Google, use the <cmdname>nslookup</cmdname> command to determine if there's a problem with the server you are trying to connect to.</cmd>
        <info>If you received results such as <msgph>Timed Out</msgph>, <msgph>Server Failure</msgph>, <msgph>Refused</msgph>, <msgph>No Response from Server</msgph>, or <msgph>Network is unreachable</msgph>, the problem originates in the DNS server for your destination.</info>
      </step>
      <step>
        <cmd>If the previous steps turn up no problems, contact your ISP to see if they're having issues.</cmd>
      </step>
    </steps>
  </diagnostics-steps>
</diagnostics>
<!-- The rest of this topic contains two <troubleshooting> elements, each of which contains a remedy. One remedy provides instructions for "Resetting your IP address" and the other provides instructions for "Resetting your local network". The cross references in the above steps resolve to the <remedy> elements. -->
```

2.6 <remedy>

The <remedy> element **contains steps that are a potential solution for the problem. In addition, it also can contain information about the person or team who should perform the task.**

Comment by Kristen James Eberlein on 28 February 2023

The short description should be revised as we better define the <responsibleParty> element.

Disposition: Accepted

Usage information

The `<remedy>` element is a component of a **potential solution**. The remedy might be omitted if there is no known remedy for the cause.

Specialization hierarchy

The `<remedy>` element is specialized from `<section>`. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

In the following code sample, the `<remedy>` element contains instructions for how the responsible party can fix the problem:

```
<troubleshooting id="simple-example">
  <title>System will not turn on</title>
  <troublebody>
    <!-- . . . -->
    <troubleSolution>
      <!-- . . . -->
      <remedy>
        <title>Reset the circuit breaker</title>
        <responsibleParty>Maintenance technician</responsibleParty>
        <steps>
          <step><cmd>Power the system down.</cmd></step>
          <step><cmd>Reset the circuit breaker.</cmd></step>
          <step><cmd>Power the system back up.</cmd></step>
        </steps>
      </remedy>
    </troubleSolution>
  </troublebody>
</troubleshooting>
```

2.7 <responsibleParty>

The `<responsibleParty>` element identifies the individual or team whose task it is to perform a remedy procedure. **It also provides important information, such as the fact that the warranty is voided if the procedure is performed by the wrong person.**

Comment by Kristen James Eberlein on 28 February 2023

I think we need a better definition of the `<responsibleParty>` element. We need to think of this element, in addition to identifying who should perform the procedure, as being the equivalent of `<prereq>` in the task topic.

Disposition: Accepted

Rendering expectations

Implementation might want to consider having their stylesheets render a label for this element.

Comment by Robert D Anderson on 21 February 2023

Can we change "stylesheets" to "tool", or a more generic phrase like "Implementations might want to consider rendering a label for this element"? Not every DITA implementation has a concept of "stylesheets".

Also note that "Implementation" needs to be made plural in the current sentence.

Kris Eberlein, 21 February 2023

Yes to "Implementations might want to consider rendering a label for this element."

Disposition: Completed

Specialization hierarchy

The `<responsibleParty>` element is specialized from `<p>`. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

Comment by Kristen J Eberlein on 15 February 2023

We need a new example here. Dawn volunteered to share information about how her clients use this element.

The other code samples that have a `<responsibleParty>` element include the following. They might need revision.

- `<remedy>`
- `<troubleshooting>`

Disposition: Accepted

The following code sample shows how the `<responsibleParty>` element can be used:

Comment by dstevens73

above correct the element – misspelled

Kris Eberlein, 28 February 2023

Thanks. I've fixed this AND ordered a new keyboard for my laptop – The "i" key is sticky and often does not register, and the "Shift" key is split.

Disposition: Completed

Comment by dstevens73

```
<remedy>
<responsible-party>You must have administrative privileges to resolve this issue.</
responsible-party>
<steps>
<step><cmd>Run the following command from the command line: <codeph>msiexec.exe /I C:
\Windows\Installer\XXXXX.msi</codeph></cmd><step>
...
</steps>
</remedy>
```


Kris Eberlein, 28 February 2023

I've updated the example.

Disposition: Completed

2.8 <troublebody>

The <troublebody> element contains the main content of the troubleshooting topic. The troubleshooting body can contain information about the condition, **how to diagnose the cause**, and one or more possible solutions.

Specialization hierarchy

The <troublebody> element is specialized from <body>. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes](#) (35).

Example

See [<troubleshooting>](#) (17).

2.9 <troubleshooting>

The <troubleshooting> element is the top-level element for a troubleshooting topic. Troubleshooting topics provide information that enables readers to **identify a condition, diagnose a cause, and potentially fix the problem**.

Usage information

Troubleshooting topics begin with a description of a problem that the reader might want to correct. This can be followed by diagnostic information and possible solutions to the problem.

Specialization hierarchy

The <troubleshooting> element is specialized from <topic>. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [architectural attributes](#) (40) and [universal attributes](#) (35).

For this element, the @id attribute is required.

Example

Comment by Kristen J Eberlein on 16 February 2023

This was a DITA 1.3 topic. If we want another example to show diagnostics, I think we'll need a completely new troubleshooting. topic. But I do think that it's completely appropriate to simply show an example without diagnostics. Not all troubleshooting topics will have diagnostic information.

Kris Eberlein, 28 February 2023

Since no one has contributed a new example, I'm marking this as "Closed".

Disposition: Closed

The following code sample contains a troubleshooting topic. The troubleshooting topic contains three `<troubleSolution>` elements that direct the user to perform sequential troubleshooting tasks: Resetting the alarm, reseating the system memory board, and replacing the memory board. Note that some steps are reused from other topics.

```
<troubleshooting id="E247" xml:lang="en-us">
  <title><msgph><msgnum>E247</msgnum>: Memory fault has occurred</msgph></title>
  <shortdesc>The system has detected a memory problem.</shortdesc>
  <troublebody>
    <condition>
      <p>The fault indicator flashes on the front panel, and the error log
        contains the <msgnum>E247</msgnum> error message.</p>
    </condition>
    <troubleSolution>
      <cause><p>A transient memory fault has occurred.</p></cause>
      <remedy>
        <responsibleParty>System administrator</responsibleParty>
        <steps>
          <step><cmd>From the systems management software, reset the alarm.</cmd></step>
          <step><cmd>Monitor the system periodically to see whether the alarm
            recurs.</cmd>
          </step>
        </steps>
      </remedy>
    </troubleSolution>
    <troubleSolution>
      <cause><p>A recurring memory fault indicates a possible problem with the
        system memory board.</p></cause>
      <remedy>
        <responsibleParty>Maintenance technician</responsibleParty>
        <steps conref="boardReseat.dita#boardReseat/steps">
          <step><cmd/></step>
        </steps>
      </remedy>
    </troubleSolution>
    <troubleSolution>
      <cause><p>The system memory board might be corrupted.</p></cause>
      <remedy>
        <responsibleParty>Maintenance technician</responsibleParty>
        <steps conref="boardReplace.dita#boardReplace.dita/steps">
          <step><cmd/></step>
        </steps>
      </remedy>
    </troubleSolution>
  </troublebody>
</troubleshooting>
```

2.10 <troubleSolution>

Each `<troubleSolution>` element contains information about the cause of a problem and a potential remedy.

Usage information

The troubleshooting topic can contain multiple `<troubleSolution>` elements. A `<troubleSolution>` element can contain a cause, a remedy, or a cause and remedy pair. The cause

might be omitted if it is implicit or if the remedy is not associated with a cause. The remedy might be omitted if there is no known remedy for the cause.

Specialization hierarchy

The `<troubleSolution>` element is specialized from `<bodydiv>`. It is defined in the troubleshooting module.

Attributes

The following attributes are available on this element: [universal attributes \(35\)](#).

Example

In the following code sample, the `<troubleSolution>` element contains a cause and remedy pair:

```
<troubleshooting id="e247">
  <title>E247: Memory fault has occurred</title>
  <troublebody>
    <troubleSolution>
      <cause>The <msgnum>E247</msgnum> error message is generated due to a
        transient memory fault.</cause>
      <remedy>
        <steps>
          <step><cmd>Reset the alarm.</cmd></step>
          <step><cmd>Monitor the system periodically to see whether the alarm recurs.</cmd></
step>
        </steps>
      </remedy>
    </troubleSolution>
  </troublebody>
</troubleshooting>
```

A Aggregated RFC-2119 statements

This appendix contains all the normative statements from the DITA for Technical Content 2.0 specification. They are aggregated here for convenience in this non-normative appendix.

B Attributes

This section contains definitions for commonly-used attributes. If an attribute is defined differently on a specific element, that information is covered in the topic for the specific element.

Comment by Kristen J Eberlein on 29 December 2021

Add a brief overview of the fact that some specific attributes are overloaded – and have different meanings depending on what element they are specified upon.

Disposition: Unassigned

B.1 Attribute groups

Many of the attributes used on DITA elements are defined in attribute groups. These attribute groups are used both in the grammar files and the specification,

Architectural attributes

This group contains a set of attributes that are defined for document-level elements such as `<topic>` and `<map>`.

@DITAArchVersion (architectural attributes)

Specifies the version of the DITA architecture that is in use. This attribute is in the namespace `http://dita.oasis-open.org/architecture/2005/`. This attribute is specified in the topic and map modules, and it uses a default value of the current version of DITA. The current default is "2.0".

@specializations (architectural attributes)

Specifies the attribute-domain specializations that are included in the document-type shell. This attribute is set as a default within the document-type shell. The value varies depending on what domains are integrated into the document-type shell. For example, a grammar file that includes the specialized attributes `@audience`, `@deliveryTarget`, and `@newBaseAtt` would set the value to `@props/audience @props/deliveryTarget @base/newBaseAtt`.

@xmlns:ditaarch (architectural attributes)

Declares the default DITA namespace. This namespace is declared as such in the RNG modules for `<topic>` and `<map>`, but it is specified as an attribute in the equivalent DTD-based modules. The value is fixed to `"http://dita.oasis-open.org/architecture/2005/"`.

Common map attributes

This group contains attributes that are frequently used on map elements.

Comment by Kristen J Eberlein on 28 September 2022

I've added draft comments to the attribute definitions in this section that explain how the attribute is defined in the "DITA map attributes" topic.

Disposition: Unassigned

@cascade (common map attributes)

Specifies how metadata attributes cascade within a map. The specification defines the following values:

merge

Indicates that the metadata attributes cascade, and that the values of the metadata attributes are additive. This is the processing default for the `@cascade` attribute.

nomerge

Indicates that the metadata attributes cascade, but that they are not additive for `<topicref>` elements that specify a different value for a specific metadata attribute. If the cascading value for an attribute is already merged based on multiple ancestor elements, that merged value continues to cascade until a new value is encountered. That is, setting `cascade="nomerge"` does not undo merging that took place on ancestor elements.

Processors can also define custom, implementation-specific tokens for this attribute.

See [Cascading of metadata attributes in a DITA map](#) for more information about how this attribute interacts with metadata attributes.

@chunk (common map attributes)

Specifies how a processor should render a map or branch of a map. For example, it can be used to specify that individual topic documents should be rendered as a single document, or that a single document with multiple topics should be rendered as multiple documents.

The following values are valid:

combine

Instructs a processor to combine the referenced source documents for rendering purposes. This is intended for cases where a publishing process normally results in a single output artifact for each source XML document.

split

Instructs a processor to split each topic from the referenced source document into its own document for rendering purposes. This is intended for cases where a publishing process normally results in a single output artifact for each source XML document, regardless of how many DITA topics exist within each source document.

Processors can also define custom, implementation-specific tokens for this attribute.

For a detailed description of the `@chunk` attribute and its usage, see [Chunking](#).

@collection-type (common map attributes)

Specifies how topics or links relate to each other. The processing default is "unordered", although no default is specified in the OASIS-provided grammar files. The following values are valid:

unordered

Indicates that the order of the child topics is not significant.

sequence

Indicates that the order of the child topics is significant. Output processors will typically link between them in order.

choice

Indicates that one of the children should be selected.

family

Indicates a tight grouping in which each of the referenced topics not only relates to the current topic but also relate to each other.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@collection-type

The @collection-type attribute specifies how the children of a <topicref> element relate to their parent and to each other. This attribute, which is set on the parent element, typically is used by processors to determine how to generate navigation links in the rendered topics. For example, a @collection-type value of "sequence" indicates that children of the specifying <topicref> element represent an ordered sequence of topics; processors might add numbers to the list of child topics or generate next/previous links for online presentation. This attribute is available in topics or the <linklist> and <linkpool> elements, where it has the same behavior. Where the @collection-type attribute is available on elements that cannot directly contain elements, the behavior of the attribute is undefined.

Disposition: Unassigned

Comment by Kristen J Eberlein on 28 September 2022

In the definitions of the supported values, do we want to refer to "resources" instead of "topics"? Since we specify that @collection-type specifies "how topics **or** links relate to each other" ...

Disposition: Unassigned

@keyscope (common map attributes)

Specifies that the element marks the boundaries of a key scope.

See [B.4 STUB CONTENT](#) (52) for information on using this attribute.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@keyscope

Defines a new scope for key definition and resolution, and gives the scope one or more names. For more information about key scopes, see [Indirect key-based addressing](#).

Disposition: Unassigned

@linking (common map attributes)

Specifies linking characteristics of a topic specific to the location of this reference in a map. If the value is not specified locally, the value might cascade from another element in the map (for cascade rules, see [Cascading of metadata attributes in a DITA map](#)).

Comment by robander on Dec 28 2021

The text below matches [1.3 spec text](#) but I'm nervous about "cannot link" type definition. It's describing how to generate links based on the current context in the map - it's not describing what the topic itself is allowed to link to, which is how I interpret "can".

Disposition: Unassigned

The following values are valid:

targetonly

A topic can only be linked to and cannot link to other topics.

sourceonly

A topic cannot be linked to but can link to other topics.

normal

A topic can be linked to and can link to other topics. Use this to override the linking value of a parent topic.

none

A topic cannot be linked to or link to other topics.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@linking

By default, the relationships between the topics that are referenced in a map are reciprocal:

- Child topics link to parent topics and vice versa.
- Next and previous topics in a sequence link to each other.
- Topics in a family link to their sibling topics.
- Topics referenced in the table cells of the same row in a relationship table link to each other. A topic referenced within a table cell does not (by default) link to other topics referenced in the same table cell.

This behavior can be modified by using the `@linking` attribute, which enables an author or information architect to specify how a topic participates in a relationship. The following values are valid:

linking="none"

Specifies that the topic does not exist in the map for the purposes of calculating links.

linking="sourceonly"

Specifies that the topic will link to its related topics but not vice versa.

linking="targetonly"

Specifies that the related topics will link to it but not vice versa.

linking="normal"

Default value. It specifies that linking will be reciprocal (the topic will link to related topics, and they will link back to it).

Authors also can create links directly in a topic by using the `<xref>` or `<link>` elements, but in most cases map-based linking is preferable, because links in topics create dependencies between topics that can hinder reuse.

Note that while the relationships between the topics that are referenced in a map are reciprocal, the relationships merely *imply* reciprocal links in generated output that includes links. The rendered navigation links are a function of the presentation style that is determined by the processor.

Disposition: Unassigned**@processing-role (common map attributes)**

Specifies whether the referenced resource is processed normally or treated as a resource that is only included in order to resolve references, such as key or content references. The following values are valid:

normal

Indicates that the resource is a readable part of the information set. It is included in navigation and search results. This is the default value for the `<topicref>` element.

resource-only

Indicates that the resource should be used only for processing purposes. It is not included in navigation or search results, nor is it rendered as a topic. This is the default value for the `<keydef>` element.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

@search (common map attributes)

Specifies whether the target is available for searching. If the value is not specified locally, the value might cascade from another element in the map (for cascade rules, see [Cascading of metadata attributes in a DITA map](#)). The following values are valid: "yes", "no", and "-dita-use-conref-target".

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@search

Specifies whether the topic is included in search indexes.

Disposition: Unassigned

@subjectrefs (common map attributes)

Specifies one or more keys that are each defined by a subject definition in a subject scheme map. Multiple values are separated by white space.

@toc (common map attributes)

Specifies whether a topic appears in the table of contents (TOC) based on the current map context. If the value is not specified locally, the value might cascade from another element in the map (for cascade rules, see [Cascading of metadata attributes in a DITA map](#)). The following values are valid:

yes

The topic appears in a generated TOC.

no

The topic does not appear in a generated TOC.

-dita-use-conref-target

See [B.4 STUB CONTENT](#) (52) for more information.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@toc

Specifies whether topics are excluded from navigation output, such as a Web site map or an online table of contents. By default, `<topicref>` hierarchies are included in navigation output; relationship tables are excluded.

Disposition: Unassigned

Complex table attributes

This group includes attributes that are defined on complex table elements. Unless other noted, these attributes are part of the OASIS Exchange Table Model. Complex table elements typically use only a subset of the attributes that are defined in this group.

@align (complex table attributes)

Specifies the **horizontal** alignment of text in table **entries**. The following values are valid:

left

Indicates left alignment of the text.

right

Indicates right alignment of the text.

center

Indicates center alignment of the text.

justify

Justifies the contents to both the left and the right.

char

Indicates character alignment. The text is aligned with the first occurrence of the character specified by the @char attribute.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

The @align attribute is available on the following table elements: <colspec>, <entry>, and <tgroup>.

@char (complex table attributes)

Specifies the alignment character, which is the character that is used for aligning the text in table entries. This attribute applies when align="char". A value of "" (the null string) means there is no aligning character.

For example, if align="char" and char="." are specified, then text in the table entry aligns with the first occurrence of the period within the entry. This might be useful if decimal alignment is required.

The @char attribute is available on the following table elements: <colspec> and <entry>.

@charoff (complex table attributes)

Specifies the horizontal offset of the alignment character **that is specified by the @char attribute**. The value is a greater-than-zero number that is less than or equal to 100. It represents the percentage of the current column width by which the text is offset to the left of the alignment character.

For example, if align="char", char=".", and charoff="50" are all specified, then text in the table entry is aligned 50% of the distance to the left of the first occurrence of the period character within the table entry.

The @charoff attribute is available on the following table elements: <colspec> and <entry>.

@colsep (complex table attributes)

Specifies whether to render column separators between table entries. The following values are valid: "0" (no separators) and "1" (separators).

The @colsep attribute is available on the following table elements: <colspec>, <entry>, <table>, and <tgroup>.

@rowheader (complex table attributes)

Specifies whether the entries in the respective column are row headers. The following values are valid:

firstcol

Indicates that entries in the first column of the table are row headers. This applies when the @rowheader attribute is specified on the <table> element.

headers

Indicates that entries of the column that is described using the <colspec> element are row headers. This applies when the @rowheader attribute is specified on the <colspec> element.

norowheader

Indicates that entries in the first column are not row headers. This applies when the @rowheader attribute is specified on the <table> element.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

Note This attribute is not part of the OASIS Exchange Table Model upon which DITA tables are based. Some processors or output formats might not support all values.

The @rowheader attribute is available on the following table elements: <table> and <colspec>.

@rowsep (complex table attributes)

Specifies whether to render row separators between table entries. The following values are valid: "0" (no separators) and "1" (separators).

The @rowsep attribute is available on the following table elements: <colspec>, <entry>, <row>, <table>, and <tgroup>.

@valign (complex table attributes)

Specifies the vertical alignment of text in table **entries**. The following values are valid:

bottom

Indicates that text is aligned with the bottom of the table entry.

middle

Indicates that text is aligned with the middle of the table entry.

top

Indicates that text is aligned with the top of the table entry.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

The @valign attribute is available on the following table elements: <entry>, <tbody>, <thead>, and <row>.

Data-element attributes

This group contains attributes that are defined on the <data> element and its specializations.

@datatype (data-element attributes)

Specifies the type of data contained in the @value attribute or within the <data> element. A typical use of @datatype will be the identifying URI for an XML Schema datatype.

@name (data-element attributes)

Defines a unique name for the object.

Comment by robander

Do we need to specify the scope of "unique" here?

Disposition: Unassigned

@value (data-element attributes)

Specifies a value associated with the current property or element.

Date attributes

This group contains attributes that take date values. They are defined on metadata elements that work with date information:

@expiry (date attributes)

Specifies the date when the information should be retired or refreshed. The date is specified using the ISO 8601 format: *YYYY-MM-DD*, where *YYYY* is the year, *MM* is the month (01 to 12), and *DD* is the day (01-31).

@golive (date attributes)

Specifies the publication or general availability (GA) date. The date is specified using the ISO 8601 format: *YYYY-MM-DD*, where *YYYY* is the year, *MM* is the month (01 to 12), and *DD* is the day (01-31).

Display attributes

This group contains attributes that affect the rendering of many elements.

@expansion (display attributes)

Specifies the horizontal placement of the element. The following values are valid:

column

Indicates that the element is aligned with the current column margin.

page

Indicates that the element is placed on the left page margin for left-to-right presentation or the right page margin for right-to-left presentation.

spread

Indicates that the object is rendered across a multi-page spread. If the output format does not have anything that corresponds to spreads, then "spread" has the same meaning as "page".

textline

Indicates that the element is aligned with the left (for left-to-right presentation) or right (for right-to-left presentation) margin of the current text line and takes indentation into account.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

For `<table>`, in place of the `@expansion` attribute that is used by other DITA elements, the `@pgwide` attribute is used in order to conform to the OASIS Exchange Table Model.

Some processors or output formats might not support all values.

@frame (display attributes)

Specifies which portion of a border surrounds the element. The following values are valid:

all

Indicates that a line is rendered at the top, bottom, left, and right of the containing element.

bottom

Indicates that a line is rendered at the bottom of the containing element.

none

Indicates that no lines are rendered.

sides

Indicates that a line is rendered at the left and right of the containing element.

top

Indicates that a line is rendered at the top of the containing element.

topbot

Indicates that a line is rendered at the top and bottom of the containing element.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

Some processors or output formats might not support all values.

@scale (display attributes)

Specifies the percentage by which fonts are resized in relation to the normal text size. The value of this attribute is a positive integer. When used on `<table>` or `<simpletable>`, the following values are valid: "50", "60", "70", "80", "90", "100", "110", "120", "140", "160", "180", "200", and [-dita-use-conref-target](#) (52).

This attribute is primarily useful for print-oriented display. Some processors might not support all values.

If the `@scale` attribute is specified on an element that contains an image, the image is not scaled. The image is scaled **only** if a scaling property is explicitly specified for the `<image>` element.

ID and conref attributes

This group contains the attributes that enable the naming and referencing of elements.

@conaction

Specifies how the element content will be pushed into a new location. The following values are valid:

mark

The element acts as a marker when pushing content before or after the target, to help ensure that the push action is valid. The element with `conaction="mark"` also specifies the target of the push action with `@conref`. Content inside of the element with `conaction="mark"` is not pushed to the new location.

pushafter

Content from this element is pushed after the location specified by `@conref` on the element with `conaction="mark"`. The element with `conaction="pushafter"` is the first sibling element after the element with `conaction="mark"`.

pushbefore

Content from this element is pushed before the location specified by `@conref` on the element with `conaction="mark"`. The element with `conaction="pushbefore"` is the first sibling element before the element with `conaction="mark"`.

pushreplace

Content from this element replaces any content from the element referenced by the `@conref` attribute. A second element with `conaction="mark"` is not used when using `conaction="pushreplace"`.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

See [B.4 STUB CONTENT](#) (52) for examples and details about the syntax.

@conkeyref

Specifies a key name or a key name with an element ID that acts as an indirect reference to reusable content. The referenced content is used in place of the content of the current element. See [B.4 STUB CONTENT](#) (52) for more details about the syntax and behaviors.

@conref

Specifies a URI that references a DITA element. The referenced content is used in place of the content of the current element. See [B.4 STUB CONTENT](#) (52) for examples and details about the syntax.

@conrefend

Specifies a URI that references the last element in a sequence of elements, with the first element of the sequence specified by `@conref`. The referenced sequence of elements is used in place of the content of the current element. See [B.4 STUB CONTENT](#) (52) for examples and details about the syntax.

@id

Specifies an identifier for the current element. This ID is the target for references by `@href` and `@conref` attributes and for external applications that refer to DITA or LwDITA content. This attribute is defined with the XML data type NMTOKEN, except where noted for specific elements within the language reference.

See [id attribute](#) for more details.

Inclusion attributes

This group includes attributes defined on `<include>` and its specializations:

Comment by Kristen J Eberlein on 28 September 2002

What is specialized from `<include>`? Both base (if any) and technical content ...

Disposition: Unassigned

@encoding (inclusion attributes)

Comment by Kristen J Eberlein on 29 April 2019

Can we replace "should" in the following definition?

Disposition: Unassigned

Specifies the character encoding to use when translating the character data from the referenced content. The value should be a valid encoding name. If not specified, processors may make attempts to automatically determine the correct encoding, for example using HTTP headers, through analysis of the binary structure of the referenced data, or the `<?xml?>` processing instruction when including XML as text. The resource should be treated as UTF-8 if no other encoding information can be determined.

When `parse="xml"`, standard XML parsing rules apply for the detection of character encoding. The necessity and uses of `@encoding` for non-standard values of `@parse` are implementation-dependent.

@parse (inclusion attributes)

Specifies the processing expectations for the referenced resource. Processors must support the following values:

text

The contents should be treated as plain text. Reserved XML characters should be displayed, and not interpreted as XML markup.

xml

The contents of the referenced resource should be treated as an XML document, and the referenced element should be inserted at the location of the `<include>` element. If a fragment identifier is included in the address of the content, processors must select the element with the specified ID. If no fragment identifier is included, the root element of the referenced XML document is selected. Any grammar processing should be performed during resolution, such that default attribute values are explicitly populated. Prolog content must be discarded.

It is an error to use `parse="xml"` anywhere other than within `<foreign>` or a specialization thereof.

Processors may support other values for the `@parse` attribute with proprietary processing semantics. Processors should issue warnings and use `<fallback>` when they encounter unsupported `@parse` values. Non-standard `@parse` instructions should be expressed as URIs.

Note Proprietary `@parse` values will likely limit the portability and interoperability of DITA content, so should be used with care.

Link relationship attributes

This group contains attributes whose values can be used for representing navigational relationships.

@format (link-relationship attributes)

Specifies the format of the resource that is referenced. See [B.4 STUB CONTENT \(52\)](#) for detailed information on supported values and processing implications.

@href (link-relationship attributes)

Specifies a reference to a resource. See [B.4 STUB CONTENT \(52\)](#) for detailed information on supported values and processing implications.

@scope (link-relationship attributes)

Specifies the closeness of the relationship between the current document and the referenced resource. The following values are valid: "local", "peer", "external", and "-dita-use-conref-target".

See [B.4 STUB CONTENT \(52\)](#) for detailed information on supported values and processing implications.

@type (link-relationship attributes)

Describes the target of a reference. See [B.4 STUB CONTENT \(52\)](#) for detailed information on supported values and processing implications.

Localization attributes

Comment by Kristen J Eberlein on 29 September 2022

The definition of the localizations attribute matches how they are described in the architectural topics. Wherever possible, the definition is reused. Where it is not reused (because the definition in the archSpec topics is in a shortdesc), I've checked to ensure that wording is identical.

Disposition: Unassigned

This group contains the attributes that are related to translation and localization.

@dir

Identifies or overrides the text directionality. The following values are valid:

lro

Indicates an override of the Unicode Bidirectional Algorithm, forcing the element into left-to-right mode.

ltr

Indicates left-to-right.

rlo

Indicates an override of the Unicode Bidirectional Algorithm, forcing the element into right-to-left mode.

rtl

Indicates right-to-left.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

See [The dir attribute](#) for more information.

@translate

Specifies whether the content of the element should be translated. The following values are valid: "yes", "no", and "-dita-use-conref-target".

See [Element-by-element recommendations for translators](#) for suggested processing defaults for each element.

Comment by Kristen J Eberlein on 31 December 2021

Does [Element-by-element recommendations for translators](#) really provide suggested processing defaults for each element? I thought it covered whether an element was block or in-line and whether there were considerations that translators needed to be aware of.

Disposition: Unassigned

@xml:lang

Specifies the language and optional locale of the content that is contained in an element. Valid values are language tokens or the null string. The @xml:lang attribute and its values are described in the [Extensible Markup Language 1.0 specification, fifth edition](#).

Comment by Kristen J Eberlein on 29 September 2022

Do we also want to direct readers to the architectural topics about the @xml:lang attribute?

Disposition: Unassigned

Metadata attributes

This group contains common metadata attributes: @base, @importance, @props, @rev, and @status. The @base and @props attributes can be specialized.

@base

Specifies metadata about the element. It is often used as a base for specialized attributes that have a simple syntax for values, but which are not conditional processing attributes.

The @base attribute takes a space-delimited set of values. However, when serving as a container for generalized attributes, the attribute values will be more complex. See [Attribute generalization](#) for more details.

@importance

Specifies the importance or priority that is assigned to an element. The following values are valid: "default", "deprecated", "high", "low", "normal", "obsolete", "optional", "recommended", "required", "urgent", and "-dita-use-conref-target". This attribute is not used for conditional processing, although applications might use the value of the @importance attribute to highlight elements. For example, in steps of a task topic, the value of the @importance attribute indicates whether a step is optional or required.

Comment by Kristen J Eberlein on 29 September 2022

I think the phrase "to highlight elements" is a little off. Maybe "render generated text"? And how about adding "Processors often add text or images to ensure that readers of the generated content understand whether the step is optional or required." to the end of the example?

Disposition: Unassigned

@props

Specifies metadata about the element. New attributes can be specialized from the @props attribute. This attribute supports conditional processing. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

The @props attribute takes a space-delimited set of values. However, when serving as a container for generalized attributes, the attribute values will be more complex. See [Attribute generalization](#) for more details.

@rev

Specifies a revision level of an element that identifies when the element was added or modified. It can be used to flag outputs when it matches a run-time parameter. It cannot be used for filtering nor is it sufficient to be used for version control. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

Comment by Kristen J Eberlein on 29 September 2022

I want to tweak this. How about the following? Also, neither definition describes what values are permitted.

Specifies metadata that identifies when the element was added or the content of the element was modified. The @rev attribute can be used for flagging. It cannot be used for filtering nor is it sufficient to be used for version control. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

Disposition: Unassigned

@status

Specifies the modification status of the element. The following values are valid: "new", "changed", "deleted", "unchanged", and "-dita-use-conref-target".

Simple table attributes

This group includes attributes that are defined only on the `<simpletable>` element: `@keycol` and `@relcolwidth`. These attributes are listed in a group because the `<simpletable>` element is frequently used as a specialization base.

@keycol (simpletable attributes)

Specifies the column that contains the content that represents the key to the tabular structure. If `@keycol` is present and assigned a numerical value, the specified column is treated as a vertical header.

@relcolwidth (simpletable attributes)

Specifies the width of each column in relationship to the width of the other columns. The value is a space-separated list of relative column widths. Each column width is specified as a positive integer or decimal number followed by an asterisk character.

For example, the value `relcolwidth="1* 2* 3"` gives a total of 6 units across three columns. The relative widths are 1/6, 2/6, and 3/6 (16.7%, 33.3%, and 50%). Similarly, the value `relcolwidth="90* 150"` causes relative widths of 90/240 and 150/240 (37.5% and 62.5%).

Table accessibility attributes

This group defines a set of attributes that promote table accessibility:

@headers

Specifies which entries in the current table provide headers for this cell. The `@headers` attribute contains an unordered set of unique, space-separated tokens, each of which is an ID reference of an entry from the same table.

@scope

Specifies that the current entry is a header for other table entries. The following values are valid:

col

Indicates that the current entry is a header for all cells in the column.

colgroup

Indicates that the current entry is a header for all cells in the columns that are spanned by this entry.

row

Indicates that the current entry is a header for all cells in the row.

rowgroup

Indicates that the current entry is a header for all cells in the rows that are spanned by this entry.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

Universal attributes

This group defines a set of attributes that are available on almost all DITA elements. It includes all elements in the ID, localization, and metadata attribute groups, as well as the following attributes:

@class (not for use by authors)

This attribute is not for use by authors. If an editor displays @class attribute values, do not edit them. Specifies a default value that defines the specialization ancestry of the element. Its predefined values allow DITA tools to work correctly with specialized elements. In a generalized DITA document the `@class` attribute value in the generalized instance might differ from the default value for the `@class` attribute for the element as given in the DTD or schema. See [The class attribute rules and](#)

[syntax](#) for more information. This attribute is specified on every element except for the `<dita>` container element. It is always specified with a default value, which varies for each element.

@outputclass

Specifies a role that the element is playing. The role must be consistent with the basic semantic and expectations for the element. In particular, the `@outputclass` attribute can be used for styling during output processing; HTML output will typically preserve `@outputclass` for CSS processing.

Comment by robander

I don't like "The role must be consistent...", that seems like best practice that cannot be normative – and I could easily say `outputclass="flashy"` which makes my element show up with sparkles, and has nothing to do with "the basic semantic and expectations for the element".

Disposition: Unassigned

B.2 Universal attribute group

The universal attribute group defines a set of common attributes that are available on almost every DITA element. The universal attribute group includes all attributes from the ID, localization, and metadata attribute groups, plus the `@class` and `@outputclass` attributes.

Comment by Kristen J Eberlein on 29 December 2021

This is something wrong with the organizational structure of this topic ... Look at it in outline form, and check that the sections, titles, and content all make logical sense with the topic title of "Universal attribute group".

Disposition: Unassigned

Common attribute groups

The following attribute groups are referenced in this specification. They are also used in the grammar files when the element attributes are defined.

Universal attributes

Includes `@class` and `@outputclass`, along with every attribute in the ID, localization, and metadata attribute groups.

ID attributes

This group includes the attributes that enable the naming and referencing of elements: `@conaction`, `@conkeyref`, `@conref`, `@conrefend`, and `@id`.

Localization attributes

This group includes attributes that are related to translation and localization: `@dir`, `@translate`, and `@xml:lang`.

Metadata attributes

Comment by Kristen J Eberlein on 31 December 2021

Why do we need to mention that two attributes are available for specialization here? I think it makes the paragraph hard to read.

Disposition: Unassigned

This group includes common metadata attributes, two of which are available for specialization: `@base`, `@importance`, `@props`, `@rev`, and `@status`.

The base DITA vocabulary from OASIS includes several specializations of @props: @audience, @deliveryTarget, @otherprops, @platform, and @product. These attributes are defined as attribute-extension domains. By default, they are integrated into all OASIS-provided document-type shells, but they can be made unavailable by implementing custom document-type shells.

Comment by Kristen J Eberlein on 29 December 2021

Why do we provide information about specialization and custom document-type shells here? I think that information could be removed.

Disposition: Unassigned

Universal attribute definitions

The universal attributes for OASIS DITA elements are defined below. Specialized attributes, which are part of the OASIS distribution but are only available when explicitly included in a shell, are noted in the list.

@audience (specialized attribute)

Indicates the intended audience for the element. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

@base

Specifies metadata about the element. It is often used as a base for specialized attributes that have a simple syntax for values, but which are not conditional processing attributes.

The @base attribute takes a space-delimited set of values. However, when serving as a container for generalized attributes, the attribute values will be more complex. See [Attribute generalization](#) for more details.

@class (not for use by authors)

This attribute is not for use by authors. If an editor displays @class attribute values, do not edit them. Specifies a default value that defines the specialization ancestry of the element. Its predefined values allow DITA tools to work correctly with specialized elements. In a generalized DITA document the @class attribute value in the generalized instance might differ from the default value for the @class attribute for the element as given in the DTD or schema. See [The class attribute rules and syntax](#) for more information. This attribute is specified on every element except for the <dita> container element. It is always specified with a default value, which varies for each element.

@conaction

Specifies how the element content will be pushed into a new location. The following values are valid:

mark

The element acts as a marker when pushing content before or after the target, to help ensure that the push action is valid. The element with conaction="mark" also specifies the target of the push action with @conref. Content inside of the element with conaction="mark" is not pushed to the new location.

pushafter

Content from this element is pushed after the location specified by @conref on the element with conaction="mark". The element with conaction="pushafter" is the first sibling element after the element with conaction="mark".

pushbefore

Content from this element is pushed before the location specified by `@conref` on the element with `conaction="mark"`. The element with `conaction="pushbefore"` is the first sibling element before the element with `conaction="mark"`.

pushreplace

Content from this element replaces any content from the element referenced by the `@conref` attribute. A second element with `conaction="mark"` is not used when using `conaction="pushreplace"`.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

See [B.4 STUB CONTENT \(52\)](#) for examples and details about the syntax.

@conkeyref

Specifies a key name or a key name with an element ID that acts as an indirect reference to reusable content. The referenced content is used in place of the content of the current element. See [B.4 STUB CONTENT \(52\)](#) for more details about the syntax and behaviors.

@conref

Specifies a URI that references a DITA element. The referenced content is used in place of the content of the current element. See [B.4 STUB CONTENT \(52\)](#) for examples and details about the syntax.

@conrefend

Specifies a URI that references the last element in a sequence of elements, with the first element of the sequence specified by `@conref`. The referenced sequence of elements is used in place of the content of the current element. See [B.4 STUB CONTENT \(52\)](#) for examples and details about the syntax.

@deliveryTarget (specialized attribute)

Specifies the intended delivery target of the content, for example, "html", "pdf", or "epub". If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

@dir

Identifies or overrides the text directionality. The following values are valid:

lro

Indicates an override of the Unicode Bidirectional Algorithm, forcing the element into left-to-right mode.

ltr

Indicates left-to-right.

rlo

Indicates an override of the Unicode Bidirectional Algorithm, forcing the element into right-to-left mode.

rtl

Indicates right-to-left.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

See [The dir attribute](#) for more information.

@id

Specifies an identifier for the current element. This ID is the target for references by `@href` and `@conref` attributes and for external applications that refer to DITA or LwDITA content. This attribute

is defined with the XML data type NMTOKEN, except where noted for specific elements within the language reference.

See [id attribute](#) for more details.

@importance

Specifies the importance or priority that is assigned to an element. The following values are valid: "default", "deprecated", "high", "low", "normal", "obsolete", "optional", "recommended", "required", "urgent", and "-dita-use-conref-target". This attribute is not used for conditional processing, although applications might use the value of the @importance attribute to highlight elements. For example, in steps of a task topic, the value of the @importance attribute indicates whether a step is optional or required.

Comment by Kristen J Eberlein on 29 September 2022

I think the phrase "to highlight elements" is a little off. Maybe "render generated text"? And how about adding "Processors often add text or images to ensure that readers of the generated content understand whether the step is optional or required." to the end of the example?

Disposition: Unassigned

@otherprops (specialized attribute)

Specifies a property or properties that provide selection criteria for the element. Alternatively, the @props attribute can be specialized to provide a new metadata attribute instead of using the general @otherprops attribute. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

@outputclass

Specifies a role that the element is playing. The role must be consistent with the basic semantic and expectations for the element. In particular, the @outputclass attribute can be used for styling during output processing; HTML output will typically preserve @outputclass for CSS processing.

Comment by robander

I don't like "The role must be consistent...", that seems like best practice that cannot be normative – and I could easily say outputclass="flashy" which makes my element show up with sparkles, and has nothing to do with "the basic semantic and expectations for the element".

Disposition: Unassigned

@platform (specialized attribute)

Indicates operating system and hardware. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

Comment by robander

I think this could specify a platform that is not an operating system or hardware, right? The current definition explicitly limits platform to those two ... maybe "Specifies a platform or platforms to which the element applies, such as the operating system or hardware relevant to a task."

Disposition: Unassigned

@product (specialized attribute)

Specifies the name of the product to which the element applies. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

@props

Specifies metadata about the element. New attributes can be specialized from the @props attribute. This attribute supports conditional processing. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

The @props attribute takes a space-delimited set of values. However, when serving as a container for generalized attributes, the attribute values will be more complex. See [Attribute generalization](#) for more details.

@rev

Specifies a revision level of an element that identifies when the element was added or modified. It can be used to flag outputs when it matches a run-time parameter. It cannot be used for filtering nor is it sufficient to be used for version control. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

Comment by Kristen J Eberlein on 29 September 2022

I want to tweak this. How about the following? Also, neither definition describes what values are permitted.

Specifies metadata that identifies when the element was added or the content of the element was modified. The @rev attribute can be used for flagging. It cannot be used for filtering nor is it sufficient to be used for version control. If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

Disposition: Unassigned

@status

Specifies the modification status of the element. The following values are valid: "new", "changed", "deleted", "unchanged", and "-dita-use-conref-target".

@translate

Specifies whether the content of the element should be translated. The following values are valid: "yes", "no", and "-dita-use-conref-target".

See [Element-by-element recommendations for translators](#) for suggested processing defaults for each element.

Comment by Kristen J Eberlein on 31 December 2021

Does [Element-by-element recommendations for translators](#) really provide suggested processing defaults for each element? I thought it covered whether an element was block or in-line and whether there were considerations that translators needed to be aware of.

Disposition: Unassigned

@xml:lang

Specifies the language and optional locale of the content that is contained in an element. Valid values are language tokens or the null string. The @xml:lang attribute and its values are described in the [Extensible Markup Language 1.0 specification, fifth edition](#).

Comment by Kristen J Eberlein on 29 September 2022

Do we also want to direct readers to the architectural topics about the @xml:lang attribute?

Disposition: Unassigned

B.3 Common attributes

The common attributes topic collects defines most of the attributes that are used on more than one base element.

Common attribute groups

The following groups are referenced in this specification, and they are also used in grammar files when defining attributes for elements.

Architectural attributes

This group includes a set of attributes that are defined for document-level elements such as `<topic>` and `<map>`: `@DITAArchVersion`, `@specializations`, and `@xmlns:ditaarch`.

Common map attributes

This group includes attributes that are frequently used on map elements: `@cascade`, `@chunk`, `@collection-type`, `@keyscope`, `@linking`, `@processing-role`, `@search`, `@toc`, and `@subjectrefs`.

Complex table attributes

This group includes attributes that are defined on table elements but not simple table elements. These attributes are part of the OASIS Exchange Table Model, unless otherwise noted. Table elements generally use only a subset of the attributes that are defined in this group. This group contains the following attributes: `@align`, `@char`, `@charoff`, `@colsep`, `@rowheader`, `@rowsep`, and `@valign`.

Data-element attributes

Includes attributes defined on `<data>` and its many specializations: `@datatype`, `@name`, and `@value`

Date attributes

Includes attributes that take date values, and are defined on metadata elements that work with date information: `@expiry` and `@golive`

Display attributes

This group includes attributes that affect the rendering of many elements: `@expance`, `@frame`, and `@scale`.

Inclusion attributes

Includes attributes defined on `<include>` and its specializations: `@encoding` and `@parse`.

Link-relationship attributes

This group includes attributes whose values can be used for representing navigational relationships: `@format`, `@href`, `@type`, and `@scope`.

Simple table attributes

Comment by Kristen J Eberlein on 29 December 2021

If I have jumped to this place in a document from the element-reference topic, I want the attributes listed here in the "Simple table group" to be hyperlinked to the actual definition.

Disposition: Unassigned

This group includes attributes that are defined only on the `<simpletable>` element: `@keycol` and `@relcolwidth`. These attributes are listed in a group because the `<simpletable>` element is frequently used as a specialization base.

Table accessibility attributes

This group contains attributes that are defined on the `<stentry>` element and its specializations: `@headers` (45) and `@scope` (as defined on `<stentry>`) (50).

Other attributes (not in a group)

These are attributes that are used in the same way on more than one base element, but they are not formally grouped together: `@compact`, `@duplicates`, `@impose-role`, `@otherrole`, `@role`, and `@title-role`.

Common attribute definitions

Common attributes, including those in the groups listed above, are defined as follows.

@align (complex table attributes)

Specifies the **horizontal** alignment of text in table **entries**. The following values are valid:

left

Indicates left alignment of the text.

right

Indicates right alignment of the text.

center

Indicates center alignment of the text.

justify

Justifies the contents to both the left and the right.

char

Indicates character alignment. The text is aligned with the first occurrence of the character specified by the `@char` attribute.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

The `@align` attribute is available on the following table elements: `<colspec>`, `<entry>`, and `<tgroup>`.

@cascade (common map attributes)

Specifies how metadata attributes cascade within a map. The specification defines the following values:

merge

Indicates that the metadata attributes cascade, and that the values of the metadata attributes are additive. This is the processing default for the `@cascade` attribute.

nomerge

Indicates that the metadata attributes cascade, but that they are not additive for `<topicref>` elements that specify a different value for a specific metadata attribute. If the cascading value for an attribute is already merged based on multiple ancestor elements, that merged value continues to cascade until a new value is encountered. **That is**, setting `cascade="nomerge"` does not undo merging that took place on ancestor elements.

Processors can also define custom, implementation-specific tokens for this attribute.

See [Cascading of metadata attributes in a DITA map](#) for more information about how this attribute interacts with metadata attributes.

@char (complex table attributes)

Specifies the alignment character, which is the character that is used for aligning the text in table entries. This attribute applies when `align="char"`. A value of "" (the null string) means there is no aligning character.

For example, if `align="char"` and `char="."` are specified, then text in the table entry aligns with the first occurrence of the period within the entry. This might be useful if decimal alignment is required.

The `@char` attribute is available on the following table elements: `<colspec>` and `<entry>`.

@charoff (complex table attributes)

Specifies the horizontal offset of the alignment character **that is specified by the `@char` attribute**. The value is a greater-than-zero number that is less than or equal to 100. It represents the percentage of the current column width by which the text is offset to the left of the alignment character.

For example, if `align="char"`, `char="."`, and `charoff="50"` are all specified, then text in the table entry is aligned 50% of the distance to the left of the first occurrence of the period character within the table entry.

The `@charoff` attribute is available on the following table elements: `<colspec>` and `<entry>`.

@chunk (common map attributes)

Specifies how a processor should render a map or branch of a map. For example, it can be used to specify that individual topic documents should be rendered as a single document, or that a single document with multiple topics should be rendered as multiple documents.

The following values are valid:

combine

Instructs a processor to combine the referenced source documents for rendering purposes. **This** is intended for cases where a publishing process normally results in a single output artifact for each source XML document.

split

Instructs a processor to split each topic from the referenced source document into its own document for rendering purposes. **This** is intended for cases where a publishing process normally results in a single output artifact for each source XML document, regardless of how many DITA topics exist within each source document.

Processors can also define custom, implementation-specific tokens for this attribute.

For a detailed description of the `@chunk` attribute and its usage, see [Chunking](#).

@collection-type (common map attributes)

Specifies how topics or links relate to each other. The processing default is "unordered", although no default is specified in the OASIS-provided grammar files. The following values are valid:

unordered

Indicates that the order of the child topics is not significant.

sequence

Indicates that the order of the child topics is significant. Output processors will typically link between them in order.

choice

Indicates that one of the children should be selected.

family

Indicates a tight grouping in which each of the referenced topics not only relates to the current topic but also relate to each other.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@collection-type

The @collection-type attribute specifies how the children of a <topicref> element relate to their parent and to each other. This attribute, which is set on the parent element, typically is used by processors to determine how to generate navigation links in the rendered topics. For example, a @collection-type value of "sequence" indicates that children of the specifying <topicref> element represent an ordered sequence of topics; processors might add numbers to the list of child topics or generate next/previous links for online presentation. This attribute is available in topics on the <linklist> and <linkpool> elements, where it has the same behavior. Where the @collection-type attribute is available on elements that cannot directly contain elements, the behavior of the attribute is undefined.

Disposition: Unassigned

Comment by Kristen J Eberlein on 28 September 2022

In the definitions of the supported values, do we want to refer to "resources" instead of "topics"? Since we specify that @collection-type specifies "how topics **or** links relate to each other" ...

Disposition: Unassigned

@colsep (complex table attributes)

Specifies whether to render column separators between table entries. The following values are valid: "0" (no separators) and "1" (separators).

The @colsep attribute is available on the following table elements: <colspec>, <entry>, <table>, and <tgroup>.

@compact

Specifies whether the vertical spacing between list items is tightened. The following values are valid: "yes", "no", and "-dita-use-conref-target". Some DITA processors or output formats might not support the @compact attribute.

@datatype (data-element attributes)

Specifies the type of data contained in the @value attribute or within the <data> element. A typical use of @datatype will be the identifying URI for an XML Schema datatype.

@DITAArchVersion (architectural attributes)

Specifies the version of the DITA architecture that is in use. This attribute is in the namespace <http://dita.oasis-open.org/architecture/2005/>. This attribute is specified in the topic and map modules, and it uses a default value of the current version of DITA. The current default is "2.0".

@duplicates

Specifies whether duplicate links are removed from a group of links. Duplicate links are links that address the same resource using the same properties, such as link text and link role. How duplicate links are determined is processor-specific. The following values are valid:

yes

Specifies that duplicate links are retained.

no

Specifies that duplicate links are removed.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

The suggested processing default is "yes" within <linklist> elements and "no" for other links.

Comment by robander on Dec 28 2021

"How duplicate links are determined is processor-specific" ==> this should be included in any updates to standardize language around "implementation dependent".

Disposition: Unassigned

@encoding (inclusion attributes)**Comment by Kristen J Eberlein on 29 April 2019**

Can we replace "should" in the following definition?

Disposition: Unassigned

Specifies the character encoding to use when translating the character data from the referenced content. The value should be a valid encoding name. If not specified, processors may make attempts to automatically determine the correct encoding, for example using HTTP headers, through analysis of the binary structure of the referenced data, or the <?xml?> processing instruction when including XML as text. The resource should be treated as UTF-8 if no other encoding information can be determined.

When `parse="xml"`, standard XML parsing rules apply for the detection of character encoding. The necessity and uses of `@encoding` for non-standard values of `@parse` are implementation-dependent.

@expanse (display attributes)

Specifies the horizontal placement of the element. The following values are valid:

column

Indicates that the element is aligned with the current column margin.

page

Indicates that the element is placed on the left page margin for left-to-right presentation or the right page margin for right-to-left presentation.

spread

Indicates that the object is rendered across a multi-page spread. If the output format does not have anything that corresponds to spreads, then "spread" has the same meaning as "page".

textline

Indicates that the element is aligned with the left (for left-to-right presentation) or right (for right-to-left presentation) margin of the current text line and takes indentation into account.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

For <table>, in place of the `@expanse` attribute that is used by other DITA elements, the `@pgwide` attribute is used in order to conform to the OASIS Exchange Table Model.

Some processors or output formats might not support all values.

@expiry (date attributes)

Specifies the date when the information should be retired or refreshed. The date is specified using the ISO 8601 format: *YYYY-MM-DD*, where *YYYY* is the year, *MM* is the month (01 to 12), and *DD* is the day (01-31).

@format (link-relationship attributes)

Specifies the format of the resource that is referenced. See [B.4 STUB CONTENT](#) (52) for detailed information on supported values and processing implications.

@frame (display attributes)

Specifies which portion of a border surrounds the element. The following values are valid:

all

Indicates that a line is rendered at the top, bottom, left, and right of the containing element.

bottom

Indicates that a line is rendered at the bottom of the containing element.

none

Indicates that no lines are rendered.

sides

Indicates that a line is rendered at the left and right of the containing element.

top

Indicates that a line is rendered at the top of the containing element.

topbot

Indicates that a line is rendered at the top and bottom of the containing element.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

Some processors or output formats might not support all values.

@golive (date attributes)

Specifies the publication or general availability (GA) date. The date is specified using the ISO 8601 format: *YYYY-MM-DD*, where *YYYY* is the year, *MM* is the month (01 to 12), and *DD* is the day (01-31).

@headers

Specifies which entries in the current table provide headers for this cell. The `@headers` attribute contains an unordered set of unique, space-separated tokens, each of which is an ID reference of an entry from the same table.

@href (link-relationship attributes)

Specifies a reference to a resource. See [B.4 STUB CONTENT](#) (52) for detailed information on supported values and processing implications.

@impose-role

Specifies whether this element will impose its role on elements in a referenced map. The attribute is ignored if the target of the reference is not a map or branch of a map. The following values are valid:

keeptarget

The role of the current reference is not imposed on the target of the reference. This is the default for the unspecialized `<topicref>` element and for many convenience elements such as `<keydef>`.

impose

The role of the current reference is imposed on the target of the reference. For example, if a specialized topic reference `<chapter>` uses this value and references a map, a topic reference that resolves in place of the `<chapter>` will be treated as if it were a chapter.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

See [B.4 STUB CONTENT](#) (52) for detailed information on supported values and processing implications.

@keycol (simpletable attributes)

Specifies the column that contains the content that represents the key to the tabular structure. If `@keycol` is present and assigned a numerical value, the specified column is treated as a vertical header.

@keyref

Specifies a key name that acts as a redirectable reference based on a key definition within a map. See [B.4 STUB CONTENT](#) (52) for information on using this attribute.

For HDITA, the equivalent of `@keyref` is `@data-keyref`

Comment by robander

The definition above for `@keyref` should be synchronized with the definition in the linked section on keys.

Disposition: Unassigned

@keys

Specifies one or more names for a resource. See [B.4 STUB CONTENT](#) (52) for information on using this attribute.

For HDITA, the equivalent of `@keys` is `@data-keys`

@keyscope (common map attributes)

Specifies that the element marks the boundaries of a key scope.

See [B.4 STUB CONTENT](#) (52) for information on using this attribute.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@keyscope

Defines a new scope for key definition and resolution, and gives the scope one or more names. For more information about key scopes, see [Indirect key-based addressing](#).

Disposition: Unassigned

@linking (common map attributes)

Specifies linking characteristics of a topic specific to the location of this reference in a map. If the value is not specified locally, the value might cascade from another element in the map (for cascade rules, see [Cascading of metadata attributes in a DITA map](#)).

Comment by robander on Dec 28 2021

The text below matches [1.3 spec text](#) but I'm nervous about "cannot link" type definition. It's describing how to generate links based on the current context in the map - it's not describing what the topic itself is allowed to link to, which is how I interpret "can".

Disposition: Unassigned

The following values are valid:

targetonly

A topic can only be linked to and cannot link to other topics.

sourceonly

A topic cannot be linked to but can link to other topics.

normal

A topic can be linked to and can link to other topics. Use this to override the linking value of a parent topic.

none

A topic cannot be linked to or link to other topics.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@linking

By default, the relationships between the topics that are referenced in a map are reciprocal:

- Child topics link to parent topics and vice versa.
- Next and previous topics in a sequence link to each other.
- Topics in a family link to their sibling topics.
- Topics referenced in the table cells of the same row in a relationship table link to each other. A topic referenced within a table cell does not (by default) link to other topics referenced in the same table cell.

This behavior can be modified by using the `@linking` attribute, which enables an author or information architect to specify how a topic participates in a relationship. The following values are valid:

linking="none"

Specifies that the topic does not exist in the map for the purposes of calculating links.

linking="sourceonly"

Specifies that the topic will link to its related topics but not vice versa.

linking="targetonly"

Specifies that the related topics will link to it but not vice versa.

linking="normal"

Default value. It specifies that linking will be reciprocal (the topic will link to related topics, and they will link back to it).

Authors also can create links directly in a topic by using the `<xref>` or `<link>` elements, but in most cases map-based linking is preferable, because links in topics create dependencies between topics that can hinder reuse.

Note that while the relationships between the topics that are referenced in a map are reciprocal, the relationships merely *imply* reciprocal links in generated output that includes links. The rendered navigation links are a function of the presentation style that is determined by the processor.

Disposition: Unassigned

@name (data-element attributes)

Defines a unique name for the object.

Comment by robander

Do we need to specify the scope of "unique" here?

Disposition: Unassigned

@otherrole

Specifies an alternate role for a link relationship when the `@role` attribute is set to "other".

@parse (inclusion attributes)

Specifies the processing expectations for the referenced resource. Processors must support the following values:

text

The contents should be treated as plain text. Reserved XML characters should be displayed, and not interpreted as XML markup.

xml

The contents of the referenced resource should be treated as an XML document, and the referenced element should be inserted at the location of the `<include>` element. If a fragment identifier is included in the address of the content, processors must select the element with the specified ID. If no fragment identifier is included, the root element of the referenced XML document is selected. Any grammar processing should be performed during resolution, such that default attribute values are explicitly populated. Prolog content must be discarded.

It is an error to use `parse="xml"` anywhere other than within `<foreign>` or a specialization thereof.

Processors may support other values for the `@parse` attribute with proprietary processing semantics. Processors should issue warnings and use `<fallback>` when they encounter unsupported `@parse` values. Non-standard `@parse` instructions should be expressed as URIs.

Note Proprietary `@parse` values will likely limit the portability and interoperability of DITA content, so should be used with care.

@processing-role (common map attributes)

Specifies whether the referenced resource is processed normally or treated as a resource that is only included in order to resolve references, such as key or content references. The following values are valid:

normal

Indicates that the resource is a readable part of the information set. It is included in navigation and search results. This is the default value for the `<topicref>` element.

resource-only

Indicates that the resource should be used only for processing purposes. It is not included in navigation or search results, nor is it rendered as a topic. This is the default value for the `<keydef>` element.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

If no value is specified but the attribute is specified on a containing element within a map or within the related-links section, the value cascades from the closest containing element.

@relcolwidth (simpletable attributes)

Specifies the width of each column in relationship to the width of the other columns. The value is a space-separated list of relative column widths. Each column width is specified as a positive integer or decimal number followed by an asterisk character.

For example, the value `relcolwidth="1* 2* 3*"` gives a total of 6 units across three columns. The relative widths are 1/6, 2/6, and 3/6 (16.7%, 33.3%, and 50%). Similarly, the value `relcolwidth="90* 150*"` causes relative widths of 90/240 and 150/240 (37.5% and 62.5%).

@role

Specifies the role that a linked topic plays in relationship with the current topic.

For example, in a parent/child relationship, the role would be "parent" when the target is the parent of the current topic, and "child" when the target is the child of the current topic. This can be used to sort and classify links when rendering.

The following values are valid:

ancestor

Indicates a link to a topic above the parent topic.

child

Indicates a link to a direct child such as a directly nested or dependent topic.

cousin

Indicates a link to another topic in the same hierarchy that is not a parent, child, sibling, next, or previous.

descendant

Indicates a link to a topic below a child topic.

friend

Indicates a link to a similar topic that is not necessarily part of the same hierarchy.

next

Indicates a link to the next topic in a sequence.

other

Indicates any other kind of relationship or role. The type of role is specified as the value for the `@otherrole` attribute.

parent

Indicates a link to a topic that is a parent of the current topic.

previous

Indicates a link to the previous topic in a sequence.

sibling

Indicates a link between two children of the same parent topic.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

@rowheader (complex table attributes)

Specifies whether the entries in the respective column are row headers. The following values are valid:

firstcol

Indicates that entries in the first column of the table are row headers. This applies when the `@rowheader` attribute is specified on the `<table>` element.

headers

Indicates that entries of the column that is described using the `<colspec>` element are row headers. This applies when the `@rowheader` attribute is specified on the `<colspec>` element.

norowheader

Indicates that entries in the first column are not row headers. This applies when the `@rowheader` attribute is specified on the `<table>` element.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

Note This attribute is not part of the OASIS Exchange Table Model upon which DITA tables are based. Some processors or output formats might not support all values.

The `@rowheader` attribute is available on the following table elements: `<table>` and `<colspec>`.

@rowsep (complex table attributes)

Specifies whether to render row separators between table entries. The following values are valid: "0" (no separators) and "1" (separators).

The `@rowsep` attribute is available on the following table elements: `<colspec>`, `<entry>`, `<row>`, `<table>`, and `<tgroup>`.

@scale (display attributes)

Specifies the percentage by which fonts are resized in relation to the normal text size. The value of this attribute is a positive integer. When used on `<table>` or `<simpletable>`, the following values are valid: "50", "60", "70", "80", "90", "100", "110", "120", "140", "160", "180", "200", and [-dita-use-conref-target](#) (52).

This attribute is primarily useful for print-oriented display. Some processors might not support all values.

If the `@scale` attribute is specified on an element that contains an image, the image is not scaled. The image is scaled **only** if a scaling property is explicitly specified for the `<image>` element.

@scope (link-relationship attributes)

Specifies the closeness of the relationship between the current document and the referenced resource. The following values are valid: "local", "peer", "external", and "-dita-use-conref-target".

See [B.4 STUB CONTENT](#) (52) for detailed information on supported values and processing implications.

@scope

Specifies that the current entry is a header for other table entries. The following values are valid:

col

Indicates that the current entry is a header for all cells in the column.

colgroup

Indicates that the current entry is a header for all cells in the columns that are spanned by this entry.

row

Indicates that the current entry is a header for all cells in the row.

rowgroup

Indicates that the current entry is a header for all cells in the rows that are spanned by this entry.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

@search (common map attributes)

Specifies whether the target is available for searching. If the value is not specified locally, the value might cascade from another element in the map (for cascade rules, see [Cascading of metadata attributes in a DITA map](#)). The following values are valid: "yes", "no", and "-dita-use-conref-target".

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@search

Specifies whether the topic is included in search indexes.

Disposition: Unassigned

@specializations (architectural attributes)

Specifies the attribute-domain specializations that are included in the document-type shell. This attribute is set as a default within the document-type shell. The value varies depending on what domains are integrated into the document-type shell. For example, a grammar file that includes the specialized attributes `@audience`, `@deliveryTarget`, and `@newBaseAtt` would set the value to `@props/audience @props/deliveryTarget @base/newBaseAtt`.

@subjectrefs (common map attributes)

Specifies one or more keys that are each defined by a subject definition in a subject scheme map. Multiple values are separated by white space.

@title-role (REQUIRED)

Specifies the role that the alternative title serves. Multiple roles are separated by white space. The following roles are defined in the specification: "linking", "navigation", "search", "subtitle", and "hint".

Processors can define custom values for the `@title-role` attribute.

@toc (common map attributes)

Specifies whether a topic appears in the table of contents (TOC) based on the current map context. If the value is not specified locally, the value might cascade from another element in the map (for cascade rules, see [Cascading of metadata attributes in a DITA map](#)). The following values are valid:

yes

The topic appears in a generated TOC.

no

The topic does not appear in a generated TOC.

-dita-use-conref-target

See [B.4 STUB CONTENT](#) (52) for more information.

Comment by Kristen J Eberlein on 28 September 2022

Here is the content from the "DITA map attributes" topic:

@toc

Specifies whether topics are excluded from navigation output, such as a Web site map or an online table of contents. By default, `<topicref>` hierarchies are included in navigation output; relationship tables are excluded.

Disposition: Unassigned

@type (link-relationship attributes)

Describes the target of a reference. See [B.4 STUB CONTENT](#) (52) for detailed information on supported values and processing implications.

@value (data-element attributes)

Specifies a value associated with the current property or element.

@valign (complex table attributes)

Specifies the vertical alignment of text in table **entries**. The following values are valid:

bottom

Indicates that text is aligned with the bottom of the table entry.

middle

Indicates that text is aligned with the middle of the table entry.

top

Indicates that text is aligned with the top of the table entry.

-dita-use-conref-target

See [Using the -dita-use-conref-target value](#) for more information.

The @valign attribute is available on the following table elements: <entry>, <tbody>, <thead>, and <row>.

@xml:space

Specifies how to handle white space in the current element. This attribute is provided on <pre>, <line>, and on elements specialized from those. It ensures that parsers respect white space that is part of the data in those elements, including line-end characters. When defined, it has a fixed value of "preserve", making it a default property of the element that cannot be changed or deleted by authors.

@xmlns:ditaarch (architectural attributes)

Declares the default DITA namespace. This namespace is declared as such in the RNG modules for <topic> and <map>, but it is specified as an attribute in the equivalent DTD-based modules. The value is fixed to "http://dita.oasis-open.org/architecture/2005/".

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