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DITA 1.3 Feature Article: Using DITA 1.3 Troubleshooting

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On behalf of the DITA Adoption Technical Committee

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Using DITA 1.3 Troubleshooting

> *This article briefly describes the troubleshooting information type plus the DITA 1.3 features that support it. Several examples follow that show how to use the new troubleshooting features.*

Troubleshooting information

> *This topic describes the troubleshooting information type.*

What is troubleshooting?

Troubleshooting is an information type that provides corrective actions for changing the state of a product or a system to a state that is more desirable. This information can be brief, consisting of just a few sentences. Brief troubleshooting information is embedded within tasks or descriptions. Alternatively, troubleshooting information may be extensive. In these cases, the information is enough to warrant an entire topic.

Simple troubleshooting information

In its simplest form, troubleshooting information provides corrective actions that follows this pattern:

1. A condition or symptom. Usually the condition or symptom is an undesirable state in a system, a product, or a service that a reader may wish to correct.
2. A cause for the condition or symptom.
3. A remedy for the condition or symptom that restores the system, product, or service to its normal state.

Complex troubleshooting information

In complex cases, there may be more than one possible cause for a condition or a symptom. When this happens, each cause can be presented along with its associated remedy. These cause-remedy pairs serve as successive fixes users can apply to eliminate an undesirable condition.

Embedded troubleshooting

Embedded troubleshooting information appears within tasks or descriptions. It is brief. Despite its reduced size, embedded troubleshooting also follows the condition, cause, remedy pattern. Often, the condition or cause is implied by the information that surrounds it. Remedies are usually conveyed with a single sentence.

Tip:

Extensive amounts of troubleshooting information ought never be embedded. Refer the user to troubleshooting topics instead.

Other corrective action information

Other corrective action information that follows the troubleshooting information type pattern are:

Alarm clearing	When something goes wrong, a system returns an alarm from a predefined set of alarms.
Error resolution	When something goes wrong, a system returns an error code from a predefined set of error codes.
Event response	When a significant event occurs, a system returns an event from a predefined set of events. Some of these events, while not errors, are nonetheless undesirable states that may warrant a response.

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Understanding troubleshooting

This topic explains why troubleshooting information is important.

Users solving problems

Information developers recognize that a high percentage of users seek information only when they experience a problem. First, they become aware of the problem, often because they receive an error message or an outcome they expected fails to occur (for example, "the machine should turn on but does not"). Second, they articulate or define the problem, putting it into words (for example, "I cannot get this font to change size"). At this point, they begin to search for content that might help them solve the problem.

At this stage, the users might be reading the manual, searching for relevant information. However, most manuals "pose formidable obstacles to finding problem-solving information."[1] The Troubleshooting additions to DITA 1.3 are designed to overcome the obstacles and make it easier for users to identify problem-solving information.

Making troubleshooting information easy to find

The Troubleshooting topic addresses the need to provide a template for standard problem-solving information. Writers may provide an error message or a problem statement as a title for a Troubleshooting topic and provide problem-solving advice in a structured form.

However, sometime the problem-solving information is best presented directly in a Task topic by identifying potential mishaps that may occur in the performance of a task and suggested brief methods to avoid them or to recover. DITA 1.3 makes embedded troubleshooting available within a step in a procedure, at the end of a procedure, or as a note type in task, concept, and reference topics. Step Troubleshooting, Task Troubleshooting, and the Troubleshooting Note provide writers the opportunity to label the troubleshooting information with an appropriate marker, like Trouble? or an appropriate icon. The addition of the troubleshooting elements also reminds writers and subject-matter experts that we should consider adding more problem-solving information to our content.

Research by Hans van der Meij, minimalism guru at the University of Twente in the Netherlands, tells us that problem-solving information should be marked by a visual or verbal cue to make it easily accessible to users. We recommend using the cue and image shown in this article or selecting your own to label troubleshooting elements in your content.

These additions to the DITA architecture allow writers to better support the minimalism principle of error recognition and recovery. They make problem-solving information easier to locate and more effectively structured.

DITA 1.3 troubleshooting features

This topic describes DITA 1.3 support for the troubleshooting information type.

What are the troubleshooting features?

DITA 1.3 introduced the following troubleshooting features:

<troubleshooting> topic	A new <troubleshooting> topic type that models troubleshooting information-type semantics.
<tasktroubleshooting>	In <task> topics, this section-like element is a place for specifying the corrective action to take when a task fails.

[1] "Does the Manual Help? An Examination of the Problem-Solving Support Offered by Manuals," *IEEE Transactions on Professional Communication,* Vol. 39, No. 3, September 1996.

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<steptroubleshooting>	In <task> topics, this step sub-element is a place for specifying the corrective action to take when a step fails.
troubleshooting note-type	In the <note> element, the “trouble” note-type is available alongside other <note> @type values such as “caution”, “note”, or “tip”. The “trouble” note-type contains an incidental corrective action that pertains to its surrounding content.

Why DITA 1.3 troubleshooting matters

With the new DITA troubleshooting markup, writers can create tightly focused information that helps readers resolve specific problems. Writers can now easily follow consistent patterns for troubleshooting information. This consistency expresses itself in predictable organization, titles, and icon graphics that lets readers quickly locate troubleshooting information.

How do you use it?

Learn more about how to use these features by reading through the examples that follow. Additionally, an annotated template for the troubleshooting topic appears at the end of this article.

Troubleshooting-topic examples

Simple troubleshooting topic

> *This example is a basic troubleshooting topic.*

Scenario

Name	Tripped circuit breaker
Description	The system is plugged in, the power switch is on, but the system will not start. This problem is external to the system, and it is almost always due to a tripped circuit breaker. The system is a low-power consumer product that runs on household electricity.

Discussion

We will use a troubleshooting topic with a single <troubleSolution> element to document the corrective action for this problem.

Output

Before looking at the tag view, look at the output first:

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System will not turn on

Everything looks right, but the system still does not start.

Condition

The system is plugged in, the power switch is on, but the system will not start.

Cause

This problem is usually due to 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.

Remedy

Warning:

If you do not know how to reset circuit breakers, do not attempt to fix this problem. Instead, find somebody who is qualified to do this for you.

1. Turn the system power switch to **OFF**.
2. Reset the breaker.
3. Turn the system power switch to **ON**.

   The system turns on.

Tag view

Collectively, the following series of XML editor screen-shots form a complete troubleshooting topic. They have been split into several segments for formatting reasons. Please notice the XML comments embedded within the topic markup because they contain usage advice. #comment This is an XML comment #comment

```
troubleshooting #comment
  The topic title describes the problem from a user's point of view. The title should refer
  to a problem's symptoms rather than to its causes.
#comment

title System will not turn on title

shortdesc Short Description: Everything looks right, but the system still does not start. shortdesc
```


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```
prolog > metadata > Metadata:
  keywords > Keywords:
  #comment >
      Pay close attention to indexing. Often, this is how a user will find a topic.
      Try to imagine all of the terms where a user might look.
    < #comment
    indexterm > System will not turn on < indexterm
    indexterm > Troubleshooting
        indexterm > System will not turn on < indexterm < indexterm
    indexterm > Help
    index-see > See: Troubleshooting < index-see < indexterm
    indexterm > Broken
    index-see > See: Troubleshooting < index-see < indexterm
    indexterm > Turn on
        indexterm > System will not turn on < indexterm < indexterm < keywords < metadata < prolog
```

```
troublebody > condition > #comment >
    Use "Condition" for this title unless you have a good reason to
    do something else. Whatever you decide, you should be consistent from
    one troubleshooting topic to the next. This helps your user rapidly
    recognize troubleshooting information.
  < #comment
  title > Condition < title
  #comment >
    Condition content is a simple elaboration on what has already appeared in the topic
    title and in the shortdesc. Only include information that is directly related to the
    condition or the symptom that the topic resolves.
  < #comment
  p > The system is plugged in, the power switch is on, but the system will not start. < p < condition
```

```
#comment >
  Keep it simple with troubleSolution: one cause followed by one remedy. There
  may be cases where you have to do something different, but don't go there unless
  you absolutely must. < #comment

troubleSolution > cause > #comment >
    Use "Cause" for this title unless you have a good reason to
    do something else. Consistency across topics is important.
  < #comment
  title > Cause < title
```


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#comment

Cause content should only describe the problem origins that are fixed by the cause's companion remedy element. #comment

p This problem is usually due to 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

remedy #comment

Use "Remedy" for this title unless you have a good reason to do something else. Consistency across topics is important. #comment

title **Remedy** title

#comment

The responsibleParty is the role of the person performing the remedy. This element is optional. Often, stylesheets will use this content as metadata and not output it directly. Do not use this element unless your stylesheets support it and you have a specific purpose in mind for using it. #comment

responsibleParty electrician responsibleParty

#comment

The use of steps at this point in remedy is one of three mutually exclusive choices. Alternatively, you could use steps-unordered or steps-informal, but do that only if you have a good reason. Again, it is important to maintain as much consistency as posiblle across troubleshooting topics. #comment

steps stepsection note **Warning:**

p If you do not know how to reset circuit breakers, do not attempt to fix this problem. Instead, find somebody who is qualified to do this for you. p note stepsection

#comment

Often, identical steps appear elsewhere in tasks or in other troubleshooting topics. When this happens consider using conref. #comment

step **Step 1**

cmd Turn the system power switch to uicontrol **OFF** uicontrol. cmd step

step **Step 2**

cmd Reset the breaker. cmd step

step **Step 3**

cmd Turn the system power switch to uicontrol **ON** uicontrol. cmd

stepresult **Step Result:**

p The system turns on. p stepresult step

steps remedy troubleSolution troublebody troubleshooting

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Multiple solutions troubleshooting topic

This example is a troubleshooting topic with multiple remedies.

Scenario

Name Cannot log into the system.

Description A customer cannot log into the system. The reasons for this could be: no account exists, the user forgot their user id, or the user forgot their password. The user needs to contact support if none of the remedies resolve this problem.

Discussion

We will use a troubleshooting topic with three <troubleSolution> elements to present a series of potential fixes (fall-backs) for this problem. The idea is that the user will try each <troubleSolution> until the problem is resolved. The first title in each <troubleSolution> is in the <cause> element, and it briefly describes the cause instead of using a consistent title such as “Cause.” In multiple <troubleSolution> scenarios, descriptive labeling helps users diagnose problems quicker. Therefore, a title that connotes the cause is more important than using a uniform title such as “Cause.”

No <condition> element is used here. That is because all pertinent information about the condition has already been given in the topic title and in the shortdesc.

The first <troubleSolution> contains the “no account exists” cause/remedy. This <troubleSolution> must be first because there is no point in a user trying to reset account credentials for a non-existing account. The second <troubleSolution> contains the "forgotten user id/forgotten password" cause/remedy. The third <troubleSolution> contains the final fallback: calling customer support. In practical applications, this third <troubleSolution> would be reused through conref.

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Output

Cannot log into the system

The system rejects a user ID or user password.

No account exists

The system requires each user to have an account to access the system.

Remedy

1. Have your customer order number available.
2. Go to *https://nnn.nnn.nnn/IneedAnewAccount.jsp* to set up a new account.

Forgotten user ID or forgotten password

Forgotten user IDs and forgotten passwords can be reset over the internet.

Remedy

Go to *https://nnn.nnn.nnn/FixMyCredentials.jsp* to retrieve your user ID or to reset your password.

Contact support

There must be some other cause for this problem.

Remedy

1. Have your customer order number available.
2. Call customer support at 1-800-555-1234.

Tag view

troubleshooting id="CannotLogIn" outputclass="worksheet"

title **Cannot log into the system** title

shortdesc **Short Description:** The system rejects a user ID or user password. shortdesc

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prolog metadata **Metadata:**

keywords **Keywords:**

indexterm **Cannot log into the system** indexterm

indexterm **Troubleshooting**

indexterm Cannot log into the system indexterm indexterm

indexterm **User ID**

indexterm Forgotten indexterm

indexterm Never had one indexterm indexterm

indexterm **Password**

indexterm Forgotten indexterm indexterm keywords metadata prolog

troublebody troubleSolution cause title **No account exists** title

p The system requires each user to have an account to access the system. p cause

remedy title **Remedy** title

steps

step **Step 1**

cmd Have your customer order number available. cmd step

step **Step 2**

cmd Go to

xref href="https://nnn.nnn.nnn/IneedAnewAccount.jsp" format="html" scope="external"

https://nnn.nnn.nnn/IneedAnewAccount.jsp xref to set up a new account. cmd step

steps remedy troubleSolution

troubleSolution cause title **Forgotten user ID or forgotten password** title

p Forgotten user IDs and forgotten passwords can be reset over the internet. p cause

remedy title **Remedy** title

steps

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```
step Step 1
cmd Go to xref href="https://nnn.nnn.nnn/FixMyCredentials.jsp" format="html" scope="external"
https://nnn.nnn.nnn/FixMyCredentials.jsp xref to retrieve your user ID or to reset your password.
cmd step
steps remedy troubleSolution
```

```
troubleSolution cause title Contact support title
p There must be some other cause for this problem. p cause
remedy title Remedy title
steps
```

```
step Step 1
cmd Have your customer order number available. cmd step
step Step 2
cmd Call customer support at 1-800-555-1234. cmd step
steps remedy troubleSolution troublebody troubleshooting
```

Managing complexity

> *Some troubleshooting information is inherently complex.*

Complexity

Software products are often complex. Fortunately, when things go wrong within a product, good software engineering shields users from most of this complexity. But, in some cases, there simply is not enough development budget to cover every eventuality with code. Unfortunately, if the code does not supply the intelligence for recovering from a problem, the responsibility falls to the product documentation. Failing that, the responsibility cedes to technical support. And finally, failing that, the responsibility lands upon the user or upon a user community. For our purposes, we assume that the product documentation has accepted responsibility.

Resolving complex problems

Regardless of complexity, the basics of the troubleshooting information type are still valid: condition, cause, remedy. However, complexity manifests itself almost immediately. Typically, the condition the product reports is too general, making it unlikely that the user will be able to immediately identify the actual cause. This becomes problematic in troubleshooting scenarios where the user cannot simply try one remedy after the next. For some products, that method is too disruptive, and it may be unsafe. The cure for this is to use diagnostic steps to further explore the condition until it points to a single cause. Once the cause has been isolated, its corresponding remedy can be followed.

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The troubleshooting topic and complexity

The best practice for complex scenarios is to use the first <troubleSolution> element in a troubleshooting topic to help users determine a specific cause. Subsequent <troubleSolution> elements contain a description and a remedy for each cause identified in the first <troubleSolution>.

Complex scenario

This example is a complex troubleshooting topic.

Scenario

Name Rare alarm

Description A fiber-optic switching system can issue any of 49 separate digital transmission alarms. 42 of these alarms are somewhat likely to happen during normal operation. Consequently, the software architecture contains logic to evaluate several system state variables and so that it can report a specific cause to the user along with the alarm code. But, the likelihood of the remaining seven alarms occurring is small enough that the software architecture does little more than issue an alarm. Consequently, the system alarm manual must incorporate diagnostic steps into the troubleshooting topics for each those seven alarms.

This scenario is about documenting the EJOL (Excessive Jitter On Line) alarm—one of the seven rare alarms. The EJOL alarm can occur due to: trouble on the far-end system, excessive line noise, or a faulty LN243 circuit pack.

Discussion

This solution uses two conventions. First, it uses a <dl> element inside of the <condition> element to present alarm classification information. Second, this solution devotes the first <troubleSolution> element solely to identifying the alarm's cause. Details have been omitted from the remaining <troubleSolution> elements because they are not important for understanding how to organize complex troubleshooting information.

Output

EJOL - excessive jitter on line

The system has experienced an "excessive jitter on line" alarm

Alarm classification

Category Minor

Impact Service is degraded

Urgency This alarm should be retired within 24 hours

Determine the cause

The EJOL alarm can occur due to: trouble on the far-end system, excessive line noise, or a faulty LN243 circuit pack. Here is a flowchart that shows the process for diagnosing the cause.

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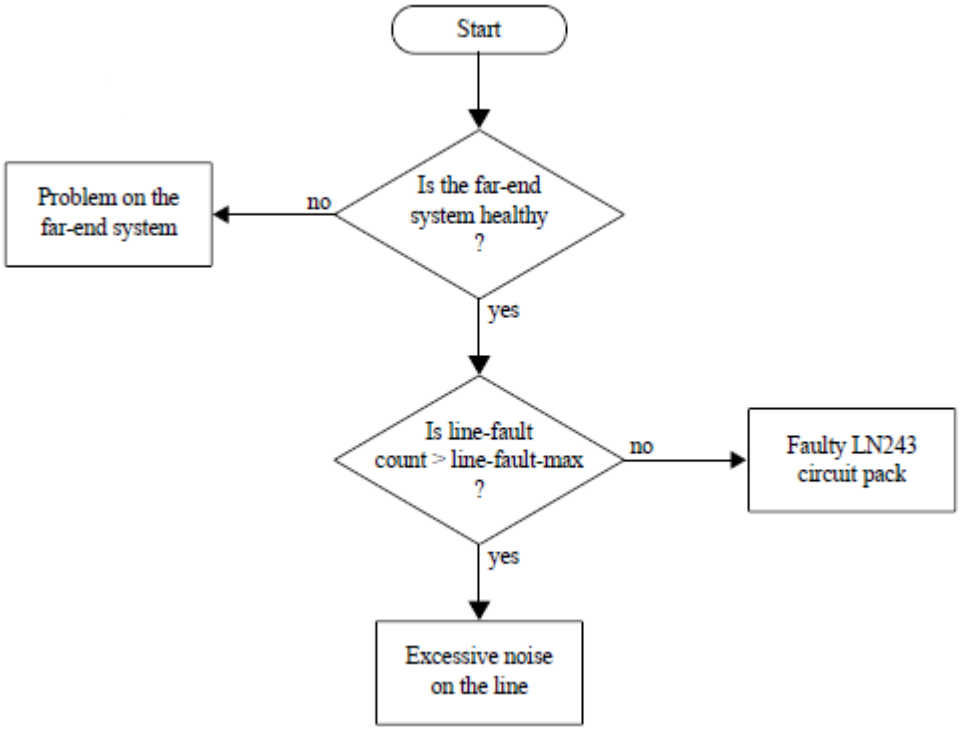

Steps

1. Query the far-end system's state of health.

   If the far-end is not healthy, go to *Far-end not healthy* (see page 29)
2. Retrieve the line-fault count from **Operations** > **Performance** > **Line**
3. Retrieve the line-fault-max value from **Administration** > **Transmission** > **Settings**
4. Compare the line-fault count to the line-fault-max value.
   - If the line-fault count is greater than or equal to the line-fault-max value, go to *Excessive line noise* (see page 29)
   - If the line-fault count is less than the line-fault-max value, go to *Faulty LN243 circuit pack* (see page 29)

Far-end not healthy

…

Remedy

1. …
2. …

Excessive line noise

…

1. …
2. …

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Faulty LN243 circuit pack

...

1. ...
2. ...

Tag view

troubleshooting

title **EJOL - excessive jitter on line** title

shortdesc **Short Description:** The system has experienced an " q excessive jitter on line q " alarm shortdesc

prolog metadata **Metadata:**

keywords **Keywords:**

indexterm **EJOL** indexterm

indexterm **Alarms**

indexterm EJOL indexterm

indexterm Excessive jitter indexterm

indexterm Jitter indexterm indexterm keywords metadata prolog

troublebody condition title **Alarm classification** title

dl dlentry dt **Category** dt

dd p Minor p dd dlentry

dlentry dt **Impact** dt

dd p Service is degraded p dd dlentry

dlentry dt **Urgency** dt

dd p This alarm should be retired within 24 hours p dd dlentry dl condition

troubleSolution cause title **Determine the cause** title

p The EJOL alarm can occur due to: trouble on the far-end system, excessive line noise, or a faulty LN243 circuit pack. Here is a flowchart that shows the process for diagnosing the cause. p

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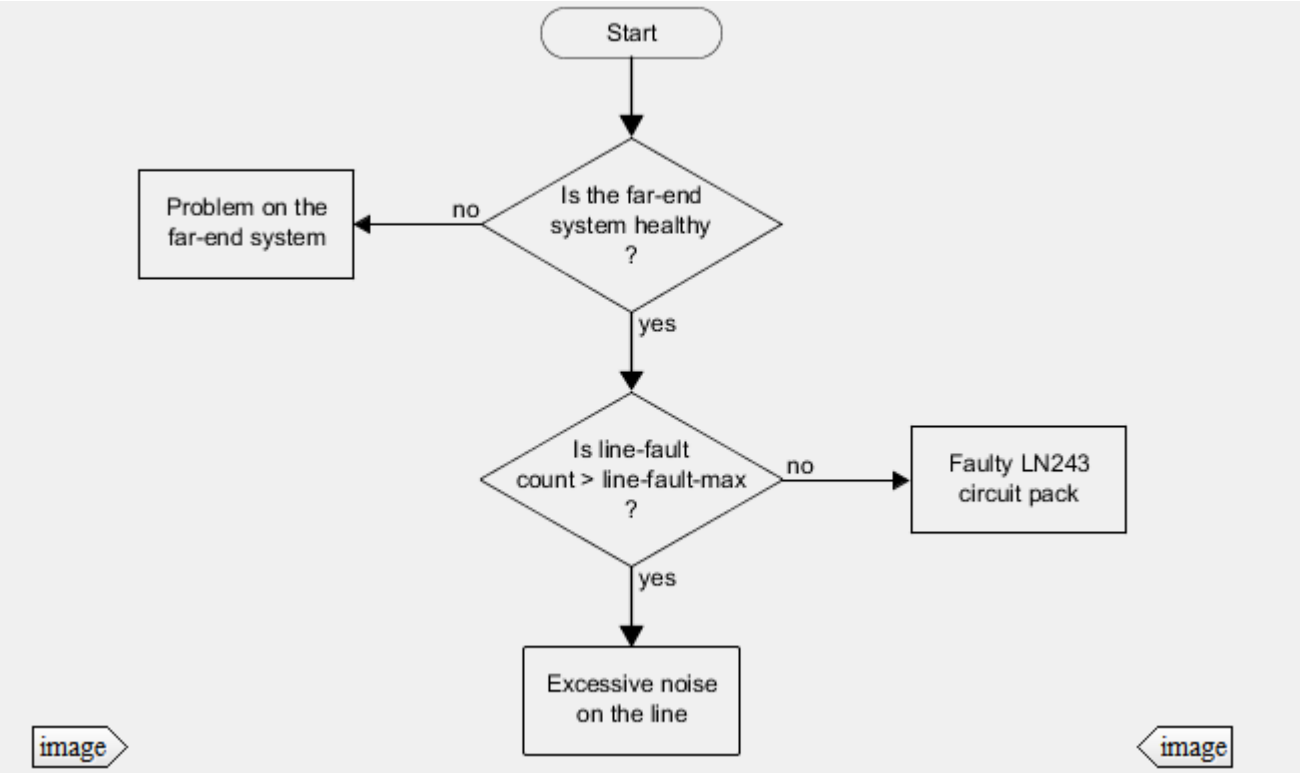

cause

remedy title **Steps** title

steps

step **Step 1**

cmd Query the far-end system's state of health. cmd

info **Info:**

p If the far-end is not healthy, go to xref Far-end not healthy xref p info step

step **Step 2**

cmd Retrieve the line-fault count from menucascade uicontrol **Operations** uicontrol > uicontrol **Performance** uicontrol > uicontrol **Line** uicontrol menucascade cmd step

step **Step 3**

cmd Retrieve the line-fault-max value from menucascade uicontrol **Administration** uicontrol > uicontrol **Transmission** uicontrol > uicontrol **Settings** uicontrol menucascade cmd step

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step **Step 4**

cmd Compare the line-fault count to the line-fault-max value. cmd

choices

- choice p If the line-fault count is greater than or equal to the line-fault-max value, go to xref Excessive line noise xref p choice
- choice p If the line-fault count is less than the line-fault-max value, go to xref Faulty LN243 circuit pack xref p choice

choices step

steps remedy troubleSolution

troubleSolution cause title **Far-end not healthy** title

p … p cause

remedy title **Remedy** title

steps

step **Step 1**

cmd … cmd step

step **Step 2**

cmd … cmd step

steps remedy troubleSolution

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```
troubleSolution | cause id="ExcessiveLineNoise" | title | Excessive line noise | title
  p | ... | p | cause
  remedy | steps
    step | Step 1
      cmd | ... | cmd | step
    step | Step 2
      cmd | ... | cmd | step
  steps | remedy | troubleSolution
```

```
troubleSolution | cause | title | Faulty LN243 circuit pack | title
  p | ... | p | cause
  remedy | steps
    step | Step 1
      cmd | ... | cmd | step
    step | Step 2
      cmd | ... | cmd | step
  steps | remedy | troubleSolution | troublebody | troubleshooting
```

Embedded troubleshooting examples

Task-related

> *This section contains examples showing steptroubleshooting and tasktroubleshooting.*

Discussion

The steptroubleshooting and tasktroubleshooting elements were designed to give users immediate, brief information about how to resolve problems when an undesirable result happens. This means writers should limit content to discussing condition, cause, and then perhaps a single step. If lists containing instructions are present in the content, that is too much. The writer should re-design the content so that the instructions are in a separate troubleshooting topic, and then refer the user to that topic.

Failure to locate troubleshooting information is a key reason that users abandon a task. In the examples that follow, pay particular attention to the icon and the "Trouble?" label that appear in the output. The style-sheets automatically inserted both the icon graphic and the "Trouble?" label. Having the icon and a generated label in the output helps users immediately locate troubleshooting information, increasing the chances that users who encounter difficulties will resolve them.

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Task troubleshooting example

Scenario

Name Web site update fails

Description A customer follows the steps in a task for updating web site content, but the web site is not showing the new content. This could be due to a stale web server cache. The customer should restart the web server.

Output

The new content, uploaded to the web site, now appears on the web site.

Trouble?

If the new content does not appear on the web site, the web server has a stale cache. To fix this, follow the steps in *Restarting the web server*.

Tag view

result **Result:**

p The new content, uploaded to the web site, now appears on the web site. p result

#comment

Notice that the information pattern in the troubleshooting topic appears here too: condition, cause, remedy. #comment

tasktroubleshooting p #comment Condition: #comment If the new content does not appear on the web site, #comment Cause: #comment the web server has a stale cache. #comment Remedy: #comment To fix this, follow the steps in xref Restarting the web server xref . p tasktroubleshooting taskbody task

Step troubleshooting example

Scenario

Name Wrong option in step

Description A user has to select one of two system configuration settings in a step. If they select the wrong one, an error message displays. To recover, they need to click the **Back** button and select the other configuration setting.

Output

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3. Select one of the system configuration settings:

   - Stand-alone system
   - Networked system

   The system administration panel appears.

   Trouble?

   If an error message appears, the system configuration setting may be wrong. Click the **Back** button, and select the other system configuration setting.

Tag view

```
step > Step 3
cmd > Select one of the system configuration settings: < cmd
  choices >
  • choice > p > Stand-alone system < p < choice
  • choice > p > Networked system < p < choice
  < choices
```

```
stepresult > Step Result:
p > The system administration panel appears. < p < stepresult
#comment > Notice that the condition, cause, remedy pattern appears here too. < #comment
steptroubleshooting > p > If an error message appears, the system configuration setting may be wrong.
Click the uicontrol > Back < uicontrol button, and select the other system configuration setting. < p
< steptroubleshooting < step
```

Troubleshooting note-type

Scenario

Name	Cannot see all menu items
Description	By default, a software product hides certain advanced menu items, however the product's documentation describes all of menus items. Customers following the documentation along on their systems have become confused when they did not see all of the menu items that were being described. The fix for this is to have the customer change their preferences to "Show Full Menus".

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Output

Trouble?

If certain items are missing from your menus, your installation may be set to hide them. To change this, select **Tools** > **Preferences** > **Full Menus**.

Tag view

```
#comment Here too, the troubleshooting information follows the
condition, cause, remedy pattern. #comment
  note type="trouble"

  p If certain items are missing from your menus, your installation may be set to hide them. To
  change this, select menucascade uicontrol Tools uicontrol > uicontrol Preferences uicontrol
  > uicontrol Full Menus uicontrol menucascade . p note
```

Annotated troubleshooting template

> *This is a DITA troubleshooting topic template with usage comments.*

XML comments describe each element and how to use it. Formal descriptions for each troubleshooting element can be found in the *Darwin Information Typing Architecture (DITA) Version 1.3 OASIS Standard* Language Specification section.

Tag view

```
troubleshooting

title #comment State the essential nature of the problem
#comment title
---------------------------------------------------------
shortdesc Short Description: #comment Be more specific about the problem here #comment
shortdesc
```


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prolog metadata **Metadata:**

keywords **Keywords:** #comment

Make sure to use indexterms. Readers often find troubleshooting content through the index. Provide indexterm variants that readers might use. For example:

```
<indexterm>Logon
  <indexterm>troubleshooting</indexterm>
</indexterm>
<indexterm>troubleshooting
  <indexterm>Logon</indexterm>
</indexterm>
```

#comment keywords metadata prolog

troublebody condition #comment

The topic title and the shortdesc should have already told your reader a lot about the condition that this topic seeks to fix. Use condition to expand upon that. Do not simply repeat what you have already put into the title and the shortdesc. Condition is the appropriate place to put impact and severity information. If multiple solutions exist and their relationships with each other are complex, you can discuss that here. #comment

title #comment **Optional title. Use "Condition".** #comment title

p **p** p condition

troubleSolution #comment

troubleSolution is meant to hold pairs of cause and remedy. Occassionally, you might have cause without remedy or remedy without cause, but that should be rare. Be sure to order mutliple troubleSolution elements in a sequence that makes sense. For example, order them by the likelihood of a cause occuring. You may wish to deviate from that if a remedy for a less likely cause is much easier to try. Remember to use conref for troubleSolution elements that are the same across multiple troubleshooting topics. #comment

cause title #comment

Optional title. Use "Cause". For topics with mutliple troubleSolutions, state the essential nature of this particular cause instead of just using "Cause". #comment title

p **p** p cause

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remedy title #comment **Optional title. Use "Remedy" or "Solution".** #comment title

responsibleParty #comment

Optional. Use this element to indicate the role of who ought to be performing the steps in the remedy. Here are some examples: "engineer", "customer", "field-support".

#comment responsibleParty

#comment You can use steps-unordered or steps-informal instead of steps. #comment

steps #comment

Remember that you can use conref to bring in steps from tasks or other troubleshooting topics. #comment

step **Step 1**

cmd **cmd** cmd step

steps remedy troubleSolution troublebody troubleshooting

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XML view

Here is the template's XML. It can be copied and pasted into an XML editor.

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE troubleshooting
  PUBLIC "-//OASIS//DTD DITA Troubleshooting//EN"
  "troubleshooting.dtd">
<troubleshooting id="REPLACE_THIS">
  <title><!-- State the essential nature of the problem --></title>
  <shortdesc><!-- Be more specific about the problem here --></shortdesc>
  <prolog>
    <metadata>
      <keywords><!--
          Make sure to use indexterms. Readers often find troubleshooting content through the index.
          Provide indexterm variants that readers might use. For example:
        <indexterm>Logon
          <indexterm>troubleshooting</indexterm>
        </indexterm>
        <indexterm>troubleshooting
          <indexterm>Logon</indexterm>
        </indexterm>
        -->
      </keywords>
    </metadata>
  </prolog>
  <troublebody>
    <condition><!--
        The topic title and the shortdesc should have already told your reader a lot about the
        condition that this topic seeks to fix. Use condition to expand upon that. Do not simply
        repeat what you have already put into the title and the shortdesc. Condition is the
        appropriate place to put impact and severity information. If multiple solutions exist and
        their relationships with each other are complex, you can discuss that here.-->
      <title><!-- Optional title. Use "Condition". --></title>
      <p></p>
    </condition>
    <troubleSolution><!--
        troubleSolution is meant to hold pairs of cause and remedy. Occassionally, you might have
        cause without remedy or remedy without cause, but that should be rare. Be sure to order
        mutliple troubleSolution elements in a sequence that makes sense. For example, order them
        by the likelihood of a cause occuring. You may wish to deviate from that if a remedy for a
        less likely cause is much easier to try. Remember to use conref for troubleSolution
        elements that are the same across multiple troubleshooting topics.-->
      <cause>
        <title><!--
          Optional title. Use "Cause". For topics with mutliple troubleSolutions, state the
          essential nature of this particular cause instead of just using "Cause".-->
        </title>
        <p></p>
      </cause>
      <remedy>
        <title><!-- Optional title. Use "Remedy" or "Solution". -->
        </title>
        <responsibleParty><!--
          Optional. Use this element to indicate the role of who ought to be performing the steps
          in the remedy. Here are some examples: "engineer", "customer", "field-support".
        -->
        </responsibleParty>
        <!-- You can use steps-unordered or steps-informal instead of steps. -->
        <steps>
          <!--
              Remember that you can use conref to bring in steps from tasks or other
              troubleshooting topics. -->
          <step>
            <cmd/>
          </step>
        </steps>
      </remedy>
    </troubleSolution>
  </troublebody>
</troubleshooting>
```


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