

EMC ISILON CUSTOMER TROUBLESHOOTING GUIDE

TROUBLESHOOT A BIT ERROR RATE (BER) ALERT ON AN ISILON CLUSTER

Abstract

This guide helps you to determine the cause of bit error rate (BER) alerts on an Isilon cluster.

January 15, 2018

1 - EMC Isilon Customer Troubleshooting Guide: Troubleshoot a Bit Error Rate (BER) Alert on your Isilon Cluster

For links to all Isilon customer troubleshooting guides, visit the [Customer Troubleshooting - Isilon Info Hub](#). We appreciate your help in improving this document. Submit your feedback at <http://bit.ly/isi-docfeedback>.

The EMC logo is located in the bottom right corner of the page. It consists of the letters "EMC" in a white, serif font, with a small superscript "2" to the right of the "C". The logo is set against a solid blue rectangular background.

Contents and overview

Note

Follow all of these steps, in order, until you reach a resolution.

1. Follow these steps.

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Before you begin



CAUTION!

If the node, subnet, or pool that you are working on goes down during the course of troubleshooting and you do not have any other way to connect to the cluster, you could experience data unavailability.

Therefore, make sure that you have more than one way to connect to the cluster before you start this troubleshooting process. The best method is to have a serial cable available. This way, if you are unable to connect through the network, you will still be able to connect to the cluster physically.

For specific requirements and instructions for making a physical connection to the cluster, see [article 16744](#) on the EMC Online Support site.

Before you begin troubleshooting, confirm that you can connect through either another subnet or pool, or that you have physical access to the cluster.

Configure logging through SSH

We recommend that you configure screen logging to log all session input and output during your troubleshooting session. This log file can be shared with EMC Isilon Technical Support, if you require assistance at any point during troubleshooting.

Note: The screen session capability does not work in OneFS 7.1.0.6 and 7.1.1.2. If you are running either of these versions, you can configure logging by using your local SSH client's logging feature.

1. Open an SSH connection to the cluster and log in by using the root account.

Note: If the cluster is in compliance mode, use the compadmin account to log in. All compadmin commands must be preceded by the `sudo` prefix.

2. Change the directory to `/ifs/data/Isilon_Support` by running the following command:

```
cd /ifs/data/Isilon_Support
```

3. Run the following command to capture all input and output from the session:

```
screen -L
```

This will create a file named `screenlog.0` that will be appended to during your session.

4. Perform troubleshooting.

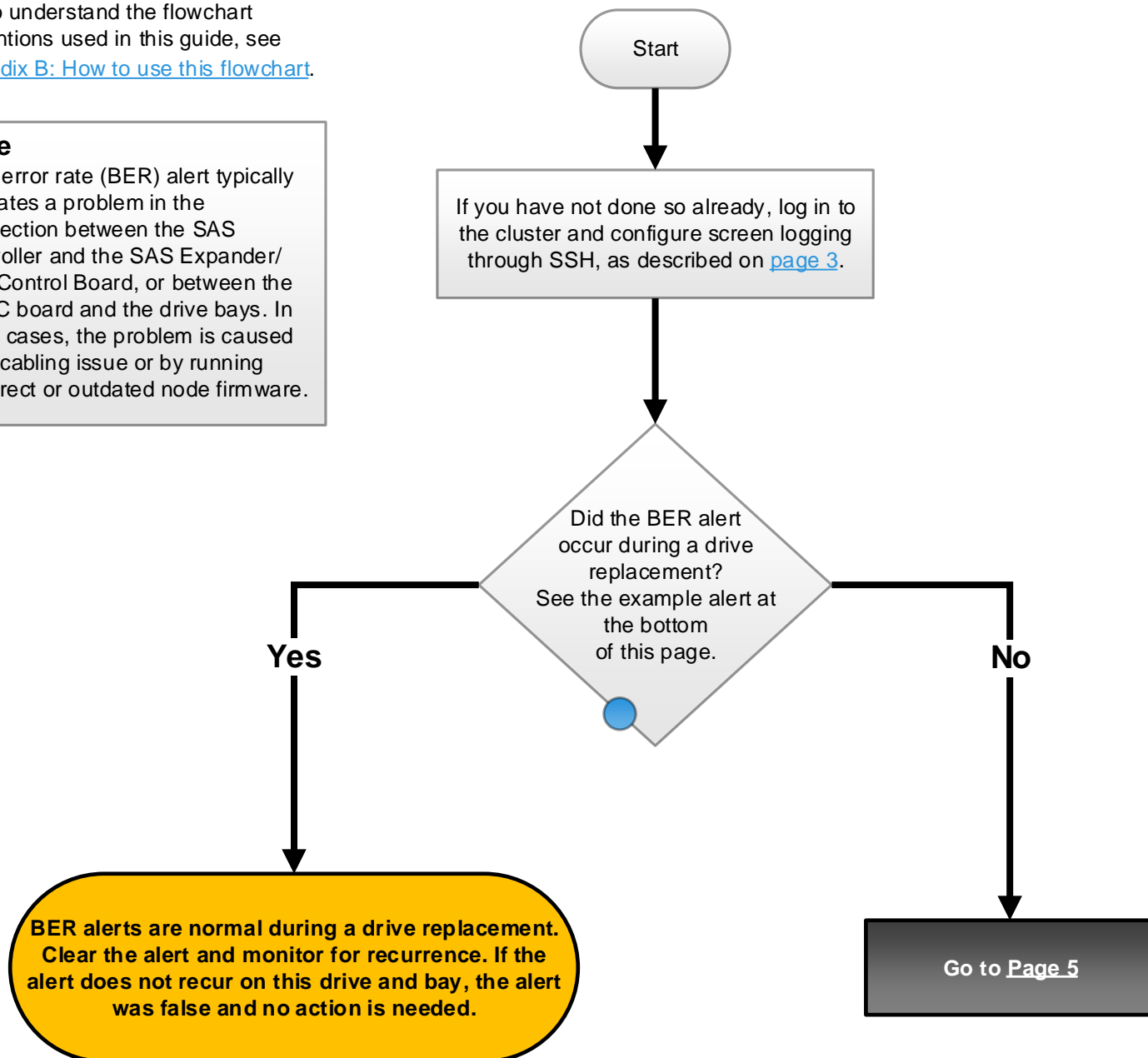
Start troubleshooting

Introduction

Start troubleshooting here. If you need help to understand the flowchart conventions used in this guide, see [Appendix B: How to use this flowchart](#).

Note

A bit error rate (BER) alert typically indicates a problem in the connection between the SAS controller and the SAS Expander/Fan Control Board, or between the SEFC board and the drive bays. In most cases, the problem is caused by a cabling issue or by running incorrect or outdated node firmware.



Example BER alert

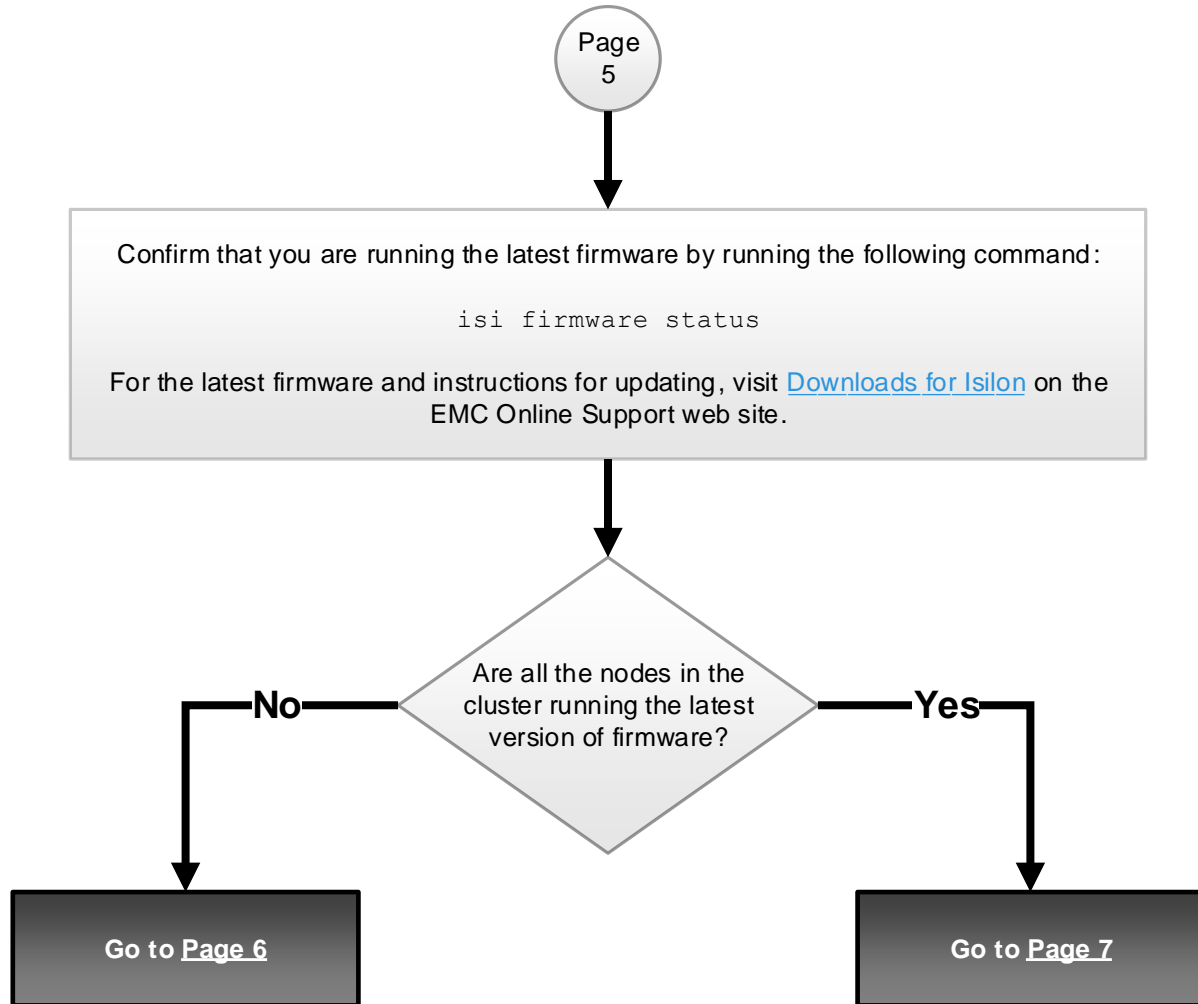
The SAS link connected to chassis 0 PHY 11 has exceeded the maximum Bit Error Rate (BER).

Troubleshoot a BER alert



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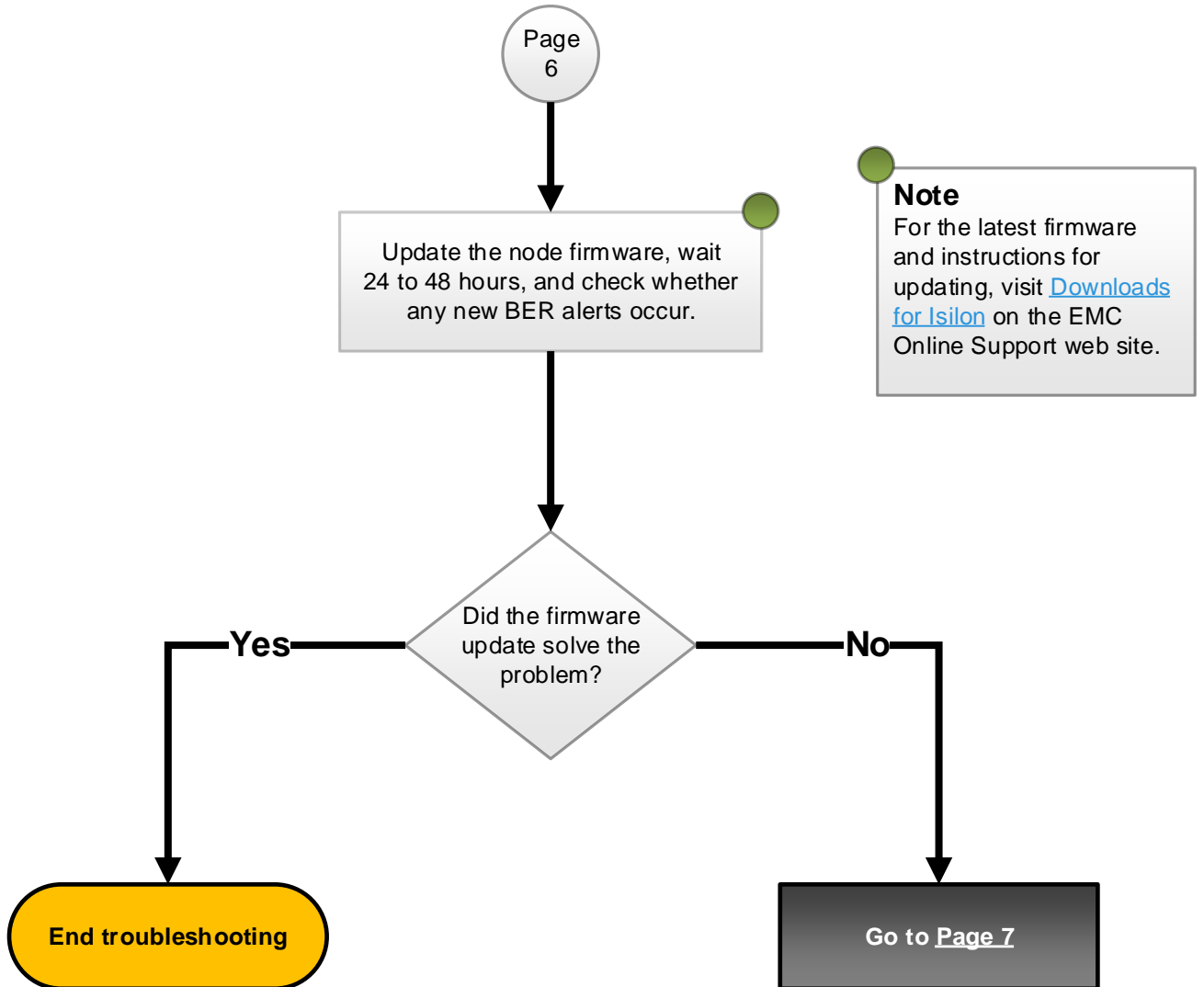


Troubleshoot a BER alert (2)



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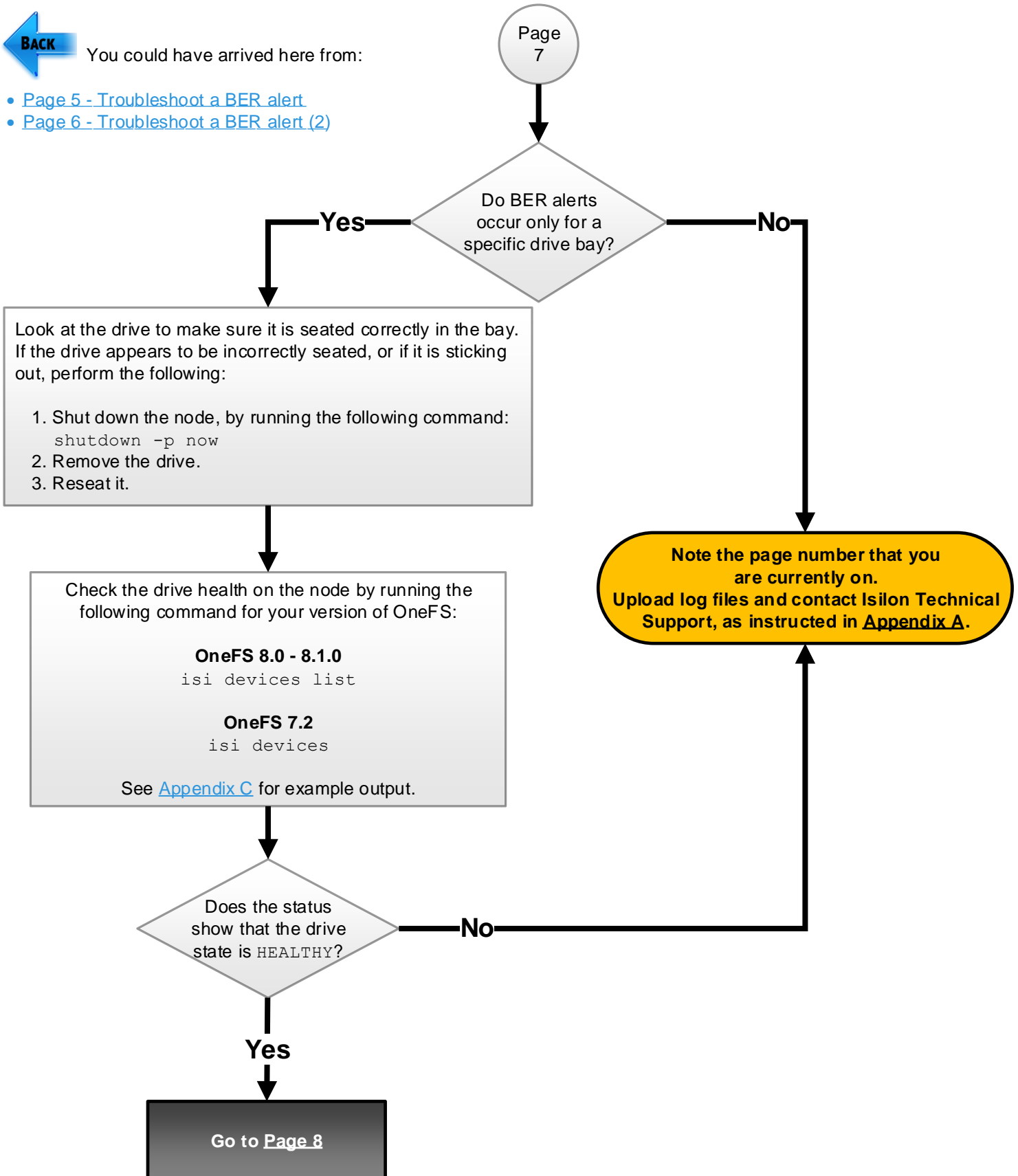
Troubleshoot a BER alert (3)



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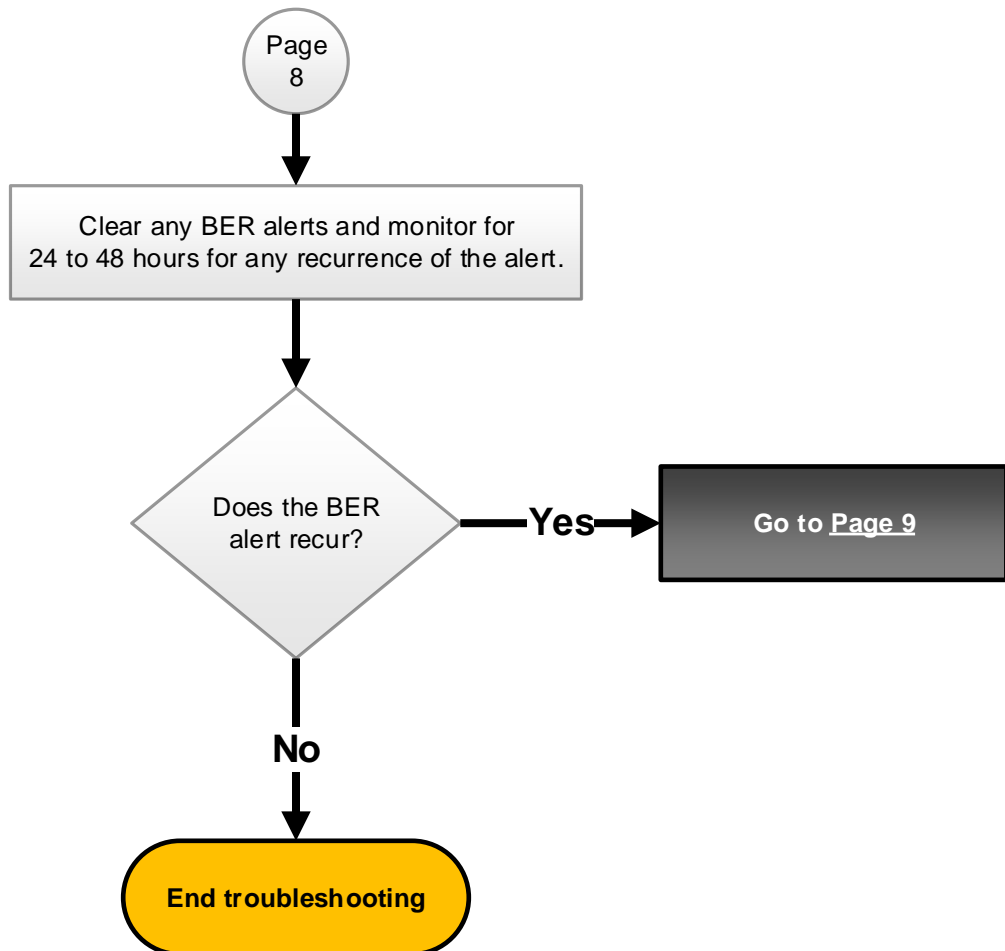


Troubleshoot a BER alert (4)



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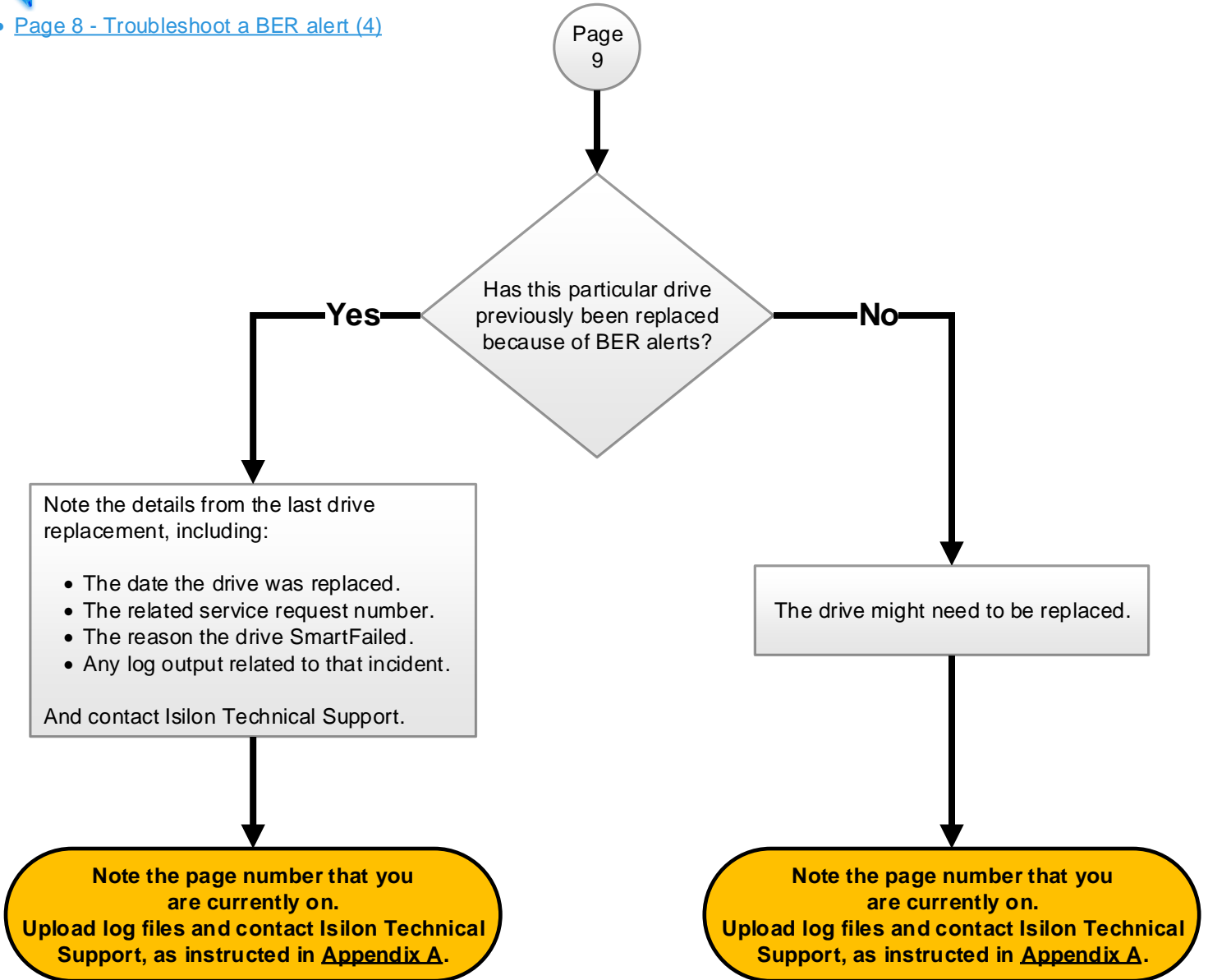


Troubleshoot a BER alert (5)



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Appendix A: If you need further assistance

Contact EMC Isilon Technical Support

If you need to contact [Isilon Technical Support](#) during troubleshooting, reference the page or step that you need help with. This information and the log file will help Isilon Technical Support staff resolve your case more quickly.

Upload node log files and the screen log file to EMC Isilon Technical Support

1. When troubleshooting is complete, type `exit` to end your screen session.
2. Gather and upload the node log set and include the SSH screen log file by using the command appropriate for your method of uploading files. If you are not sure which method to use, use FTP.

ESRS:

```
isi_gather_info --esrs --local-only -f /ifs/data/Isilon_Support/screenlog.0
```

FTP:

```
isi_gather_info --ftp --local-only -f /ifs/data/Isilon_Support/screenlog.0
```

HTTP:

```
isi_gather_info --http --local-only -f /ifs/data/Isilon_Support/screenlog.0
```

SMTP:

```
isi_gather_info --email --local-only -f /ifs/data/Isilon_Support/screenlog.0
```

SupportIQ:

Copy and paste the following command.

Note: When you copy and paste the command into the command-line interface, it will appear on multiple lines (exactly as it appears on the page), but when you press **Enter**, the command will run as it should.

```
isi_gather_info --local-only -f /ifs/data/Isilon_Support/screenlog.0 --noupload \  
--symlink /var/crash/SupportIQ/upload/ftp
```

3. If you receive a message that the upload was unsuccessful, refer to [article 16759](#) on the EMC Online Support site for directions on how to upload files over FTP.

Appendix B: How to use this flowchart

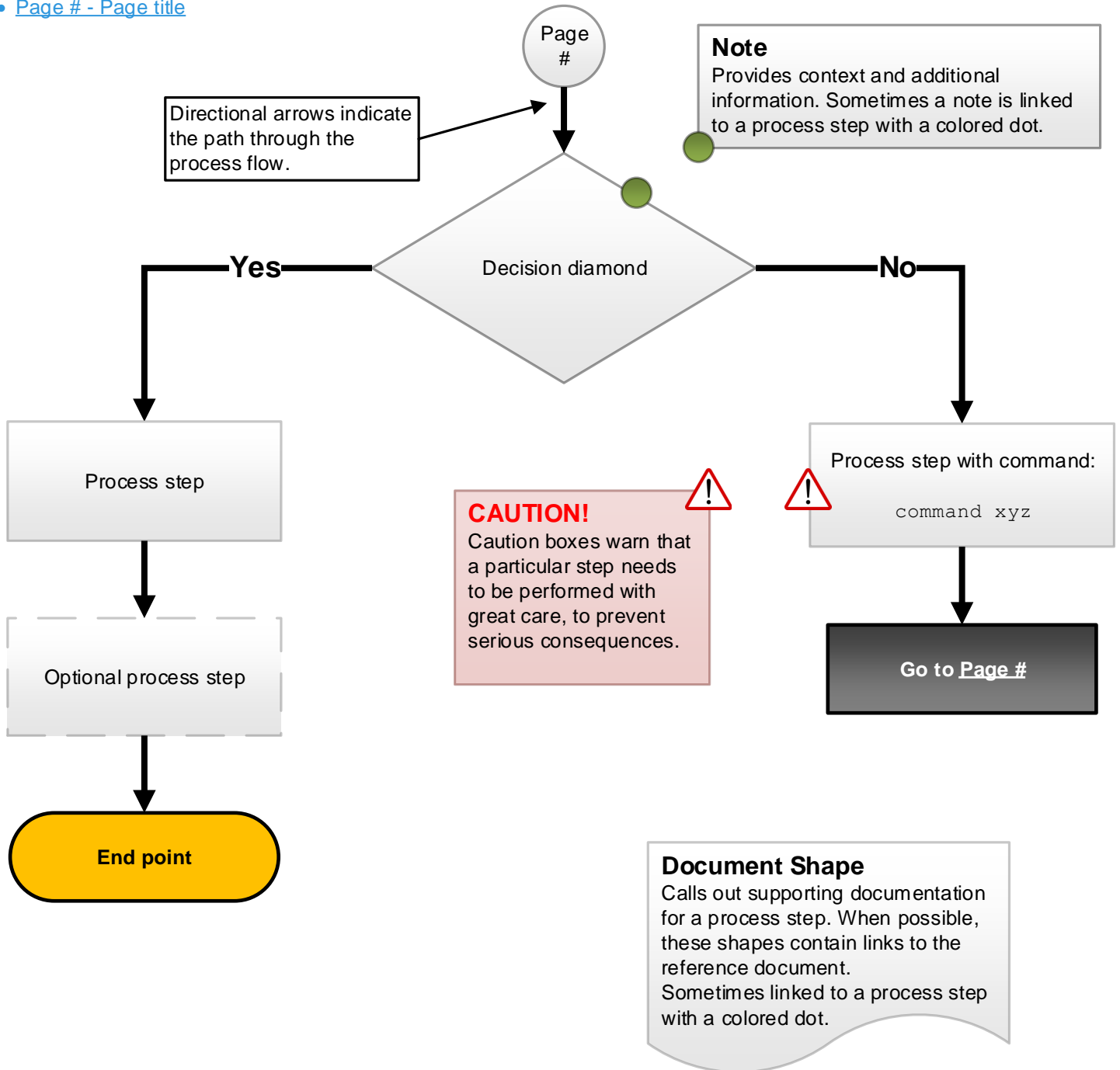
Introduction

Describes what the section helps you to accomplish.



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- [Page # - Page title](#)



Appendix C: Example isi devices output



You could have arrived here from:

- [Page 7 - Troubleshoot a BER alert \(3\)](#)

Example isi devices output

Cluster-1# isi devices

Node 1, [ATTN], [SED Node]

Bay 1	Lnum 34	[HEALTHY]	SN: Z298KBBF0000921364ED	/dev/da1
Bay 2	Lnum 33	[HEALTHY]	SN: Z298H54B00009410BT4C	/dev/da2
Bay 3	Lnum 17	[HEALTHY]	SN: Z298KARS0000C306EMY3	/dev/da18
Bay 4	Lnum 16	[HEALTHY]	SN: Z298JZCA000094042SHE	/dev/da19
Bay 5	Lnum 32	[HEALTHY]	SN: Z298JXYC0000C3060CU0	/dev/da3
Bay 6	Lnum 15	[HEALTHY]	SN: Z298KBJX0000C250BUY4	/dev/da20
Bay 7	Lnum 14	[HEALTHY]	SN: Z298K0PR00009301VEAY	/dev/da21
Bay 8	Lnum 13	[HEALTHY]	SN: Z298JY3J0000C3063VXX	/dev/da22
Bay 9	Lnum 31	[HEALTHY]	SN: Z298JY81000093078AQ8	/dev/da4
Bay 10	Lnum 12	[HEALTHY]	SN: Z298JYL90000C2490VXP	/dev/da23
Bay 11	Lnum 11	[HEALTHY]	SN: Z298KB7Z0000C305AF8J	/dev/da24
Bay 12	Lnum 10	[HEALTHY]	SN: Z298JYB800009252UFP1	/dev/da25
Bay 13	Lnum 30	[HEALTHY]	SN: Z298KB2A0000C2510H0Q	/dev/da5
Bay 14	Lnum 29	[HEALTHY]	SN: Z298JYFY00009301VE79	/dev/da6
Bay 15	Lnum 28	[HEALTHY]	SN: Z298JYB300009304H7KS	/dev/da7
Bay 16	Lnum 9	[HEALTHY]	SN: Z298KAWP0000S114Z726	/dev/da26
Bay 17	Lnum 27	[HEALTHY]	SN: Z298KBCF0000C2510J1K	/dev/da8
Bay 18	Lnum N/A	[EMPTY]	SN: N/A	N/A
Bay 19	Lnum 26	[HEALTHY]	SN: Z298K0AX0000C3159JV0	/dev/da9
Bay 20	Lnum 8	[HEALTHY]	SN: Z298KBFS0000C2516P72	/dev/da27
Bay 21	Lnum 25	[HEALTHY]	SN: Z298K06E00009252U1EU	/dev/da10
Bay 22	Lnum 24	[HEALTHY]	SN: Z298KB3R00009302X2V7	/dev/da11
Bay 23	Lnum 7	[HEALTHY]	SN: Z298JYFR000094042SHP	/dev/da28
Bay 24	Lnum 6	[HEALTHY]	SN: Z298K97700009328BY46	/dev/da29
Bay 25	Lnum 5	[HEALTHY]	SN: Z298KBDM0000C31532VC	/dev/da30
Bay 26	Lnum 4	[HEALTHY]	SN: Z298JYE400009313D75E	/dev/da31
Bay 27	Lnum 3	[HEALTHY]	SN: Z298JY4G0000C2516K68	/dev/da32
Bay 28	Lnum 23	[HEALTHY]	SN: Z298KB250000C315CUYS	/dev/da12
Bay 29	Lnum 2	[HEALTHY]	SN: Z298JYGH00009314VE8N	/dev/da33
Bay 30	Lnum 22	[HEALTHY]	SN: Z298KBD50000C24982KW	/dev/da13
Bay 31	Lnum 1	[HEALTHY]	SN: Z298K0RE0000C3060DP0	/dev/da34
Bay 32	Lnum 21	[HEALTHY]	SN: Z298JXZH0000C251CN9W	/dev/da14
Bay 33	Lnum 0	[HEALTHY]	SN: Z298KBL60000C314FPMQ	/dev/da35
Bay 34	Lnum 20	[HEALTHY]	SN: Z298KB1T0000C250GLZG	/dev/da15
Bay 35	Lnum 19	[HEALTHY]	SN: Z298JYDA00009315GEZ1	/dev/da16
Bay 36	Lnum 18	[HEALTHY]	SN: Z298JYRH00009412TWLC	/dev/da17

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