Troubleshoot Disk Errors

Contents

Introduction

Disk Errors

- Severity
- Impact
- Description
- Syslog Message
- Message Sample
- Product Family
- Regex
- Recommendation
- Commands

Introduction

This document describes how to troubleshoot disk errors.

Disk Errors

Severity

3 - Error

Impact

The disk error prevents reading and reading data.

Description

This message indicates that the Extended File System (EXT) type encountered an error while reading or writing a memory block on the storage media. EXT file systems are journaling file systems, which means that they keep track of changes to the filesystem in a journal. This allows the filesystem to be recovered in case of a crash. EXT file systems are also very efficient, and they can handle large files and directories. The

nature of the log message suggests that there was an input/output (IO) error while attempting to write metadata buffers to the EXT File System on device specified. In some situations, there can be a software defect which can cause unexpected/suboptimal operation of the switch.

Syslog Message

```
IOSXE-2-PLATFORM
```

Message Sample

```
Sep 11 02:12:15 <> %IOSXE-2-PLATFORM: R0/0: kernel: EXT2-fs (sdb1): error: extx_fsync: detected IO erro
```

Product Family

- Cisco ASR 900 Series Aggregation Services Routers
- Cisco Catalyst 4500 Series Switches
- Cisco Catalyst 3650 Series Switches
- Cisco ASR 1000 Series Aggregation Services Routers
- Cisco cBR Series Converged Broadband Routers
- Cisco Catalyst 9400 Series Switches
- Cisco Catalyst 3850 Series Switches
- Cisco 4000 Series Integrated Services Routers
- Cisco Catalyst 9500 Series Switches
- Cisco Catalyst 9300 Series Switches
- Cisco Catalyst 9200 Series Switches
- Cisco Catalyst 9500H Series Switches
- Cisco Catalyst 9600 Series Switches
- Cisco Catalyst 9800 Series Wireless Controllers
- Cisco Catalyst 9800 Wireless Controller in Cloud

Regex

N/A

Recommendation

To help isolate the failure use these recommendations:

1. Run a file system integrity check on the affected partition to identify and repair any possible file system errors. Please run **fsck bootflash:** or **fsck flash**: command to check and fix any file system inconsistencies.

Note: Please be aware that command availability varies depending on the specific hardware platform or software version. Certain platforms, such as the 9300X, do not support the **fsck** command. If this command is unavailable on your device, please refer to the specific configuration guide for your platform or contact Cisco Technical Assistance Center (TAC) for alternative troubleshooting steps tailored to your device.

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2. Similarly, you can also run the check on the standby with **fsck stby-flash:** or **fsck stbbootflash**:

3. After running the file system check, try writing a new file into the flash. As an example, use the command **show clock | append flash:clock.txt** and then proceed to verify if the error messages are still getting populated with the command **show logging**.

Note: Most often, these previous steps are sufficient to resolve the disk I/O issues. Before proceeding with additional troubleshooting, ensure you have a current backup of the device configuration and perform these actions during a scheduled maintenance window.

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4. If the issue persists, schedule a Reload of your device as this also can automatically run the check file system routine and clear the file system inconsistencies.

5. If this does not resolve the issue, another option is to reformat or replace the disk. Consider that the files contained within the flash can be removed. To proceed with the format of the flash or bootflash, use this procedure:

a. Boot the device from a USB. First, download the appropriate file from Cisco Software Central, format the USB drive on FAT32, and transfer the image into the USB.

b. Send the device to **ROMMON** by changing the config register to 0x0 with the command **config-register 0x0** or **boot manual**. **Save** the configuration with the command **write** or **copy running-config startup-config** and **reload** the device.

c. Once the device is in ROMMON state, use the **dev** command to look for the USB file system number, for example usb0:

d. Run the command **dir usb0**: (where 0 can change depending on your system) to display the files in the USB drive.

e. Identify the file name of the image, and use the next command to boot up the device from the **USB file boot usb0**:

f. After the device boots up from the USB, use this command to format the disk: **format flash:** or **format bootflash:**

g. Once this step is completed, make sure to copy the image back into the flash: and set the register back to 2102 with the command **config-register 0x2102** or **no boot manual**.

6. In some situations, there can be a software defect which can cause unexpected/suboptimal operation of the switch. Review the next list of some known defects and apply workaround (if available) or software upgrade on the Cisco IOS® XE platform as applicable:

Cisco bug ID CSCvm77197- C9300/9500 : Cisco IOS %IOSXE-2-PLATFORM: Switch 1 R0/0: kernel: EXT2-fs (sda1): error:

- Affected Platforms: C9300/9500
- Known Fixed Release: N/A
- Workaround: Reload or Power Cycle

Cisco bug ID CSCvp10506- C9400 : Cisco IOS %IOSXE-2-PLATFORM: Switch 1 R0/0: kernel: EXT2-fs (sda1): error:

- Affected Platforms: C9400
- Known Fixed Release: 17.3.3 and later
- Workaround: Power Cycle

Commands

Commands to use are:

- **show version**
- **show module**
- **show logging**
- **show inventory**
- **show clock**
- **show file systems**