Kernel Messages
May, 2009

Linux Kernel 2.6 - Development stream
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About this document

This message reference document contains the messages that IBM® System z® specific kernel modules issue on the console and write to the syslog.

You can configure Linux® to issue these messages with message numbers. In this document the messages are grouped by the issuing module. The modules are listed in alphabetical order and the messages for each module are listed in descending order by message number.

This document reflects the Development stream with the May, 2009 software drop.

You can find the latest version of this document on developerWorks® at ibm.com/developerworks/linux/linux390/documentation_dev.html
Chapter 1. Message numbers and man pages

If you build your Linux kernel with message number support, you can also create man pages that users can display to obtain message details.

Building a kernel with message documentation support

To include message documentation support, include “Kernel message numbers” (CONFIG_KMSG_IDS) in the kernel configuration menu. You can find this item under “Base setup”.

Generating the message man pages

You can generate the message man pages from the root of the Linux source tree. Generate the man pages by entering:

```
# make D=2
```

Results

After running this command, you will find a directory man in the root of your Linux source tree. This directory contains a man page for each System z specific kernel message that is issued with a message number.

Displaying a message man page

If your distribution provides message man pages or you have generated man pages for your distribution, you can display message details.

Before you begin

Ensure that the message man pages are available under man/man9 where the path to man is included in the MANPATH environment variable. Enter `echo $MANPATH` to display the eligible man directories.

If your Linux kernel has been compiled with the “CONFIG_KMSG_IDS” option, System z specific kernel messages have a message identifier. For example, the following message has the message identifier xpram.ab9aa4:

```
xpram.ab9aa4: 50 is not a valid number of XPRAM devices
```

Enter a command of this form, to display a message man page:

```
# man <message_identifier>
```

Example

Enter the following command to display the man page for message xpram.ab9aa4:

```
# man xpram.ab9aa4
```
The corresponding man page looks like this:

```
xpram.ab9aa4(9)                         xpram.ab9aa4(9)
Message
  xpram.ab9aa4: 50 is not a valid number of XPRAM devices
Severity
  Error
Parameters
  @1: number of partitions
Description
  The number of XPRAM partitions specified for the 'devs' module parameter or with the 'xpram.parts' kernel parameter must be an integer in the range 1 to 32. The XPRAM device driver created a maximum of 32 partitions that are probably not configured as intended.
User action
  If the XPRAM device driver has been compiled as a separate module, unload the module and load it again with a correct value for the 'devs' module parameter. If the XPRAM device driver has been compiled into the kernel, correct the 'xpram.parts' parameter in the kernel parameter line and restart Linux.
LINUX                         Linux Messages                         xpram.ab9aa4(9)
```

LINUX Kernel Messages - May, 2009
Chapter 2. aes_s390

This section contains messages that are issued by the kernel module that provides support for the System z hardware accelerated implementation of the AES cipher algorithms (FIPS-197).

aes_s390.cb83bb AES hardware acceleration is only available for 128-bit keys

Explanation: The advanced encryption standard (AES) algorithm includes three modes with 128-bit, 192-bit, and 256-bit keys. Your hardware system only provides hardware acceleration for the 128-bit key mode. The aes_s390 module will use the less performant software fallback algorithm for the 192-bit and 256-bit key modes.

User response: None.

Severity: Informational

aes_s390.dc0a3b Allocating AES fallback algorithm <algorithm name> failed

Explanation: The advanced encryption standard (AES) algorithm includes three modes with 128-bit, 192-bit, and 256-bit keys. Your hardware system only provides hardware acceleration for the 128-bit mode. The aes_s390 module failed to allocate a software fallback for the AES modes that are not supported by the hardware. A possible reason for this problem is that the aes_generic module that provides the fallback algorithms is not available.

User response: Use the 128-bit mode only or ensure that the aes_generic module is available and loaded and reload the aes_s390 module.

Severity: Error
Chapter 3. af_iucv

This section contains messages that are issued by the kernel module that supports the AF_IUCV address family for communication and addressing with z/VM® IUCV.

af_iucv.5c08c7  Application <application name> on z/VM guest <z/VM user ID> exceeds message limit

Explanation: Messages or packets destined for the application have accumulated and reached the maximum value. The default for the message limit is 65535. You can specify a different limit as the value for MSGLIMIT within the IUCV statement of the z/VM virtual machine on which the application runs.

User response: Ensure that you do not send data faster than the application retrieves them. Ensure that the message limit on the z/VM guest virtual machine on which the application runs is high enough.

Severity: Error

af_iucv.cc24c0  The af_iucv module cannot be loaded without z/VM

Explanation: The AF_IUCV protocol connects socket applications running in Linux kernels on different z/VM virtual machines, or it connects a Linux application to another sockets application running in a z/VM virtual machine. On Linux instances that run in environments other than the z/VM hypervisor, the AF_IUCV protocol does not provide any useful function and the corresponding af_iucv module cannot be loaded.

User response: Load the af_iucv module only on Linux instances that run as guest operating systems of the z/VM hypervisor. If the module has been compiled into the kernel, ignore this message.

Severity: Error
Chapter 4. ap

This section contains messages that are issued by the kernel module that supports special processors for cryptographic operations.

**ap.36771f** The hardware system does not support AP instructions

**Explanation:** The ap module addresses AP adapters through AP instructions. The hardware system on which the Linux instance runs does not support AP instructions. The ap module cannot detect any AP adapters.

**User response:** Load the ap module only if your Linux instance runs on hardware that supports AP instructions. If the ap module has been compiled into the kernel, ignore this message.

**Severity:** Warning

**ap.7564a4** <AP domain index> is not a valid cryptographic domain

**Explanation:** The cryptographic domain specified for the `domain=` module or kernel parameter must be an integer in the range 0 to 15.

**User response:** Reload the cryptographic device driver with a correct module parameter. If the device driver has been compiled into the kernel, correct the value in the kernel parameter line and reboot Linux.

**Severity:** Warning

**ap.fce52f** Registering adapter interrupts for AP <AP device ID> failed

**Explanation:** The hardware system supports AP adapter interrupts but failed to enable an adapter for interrupts. Possible causes for this error are: i) The AP adapter firmware does not support AP interrupts. ii) An AP adapter firmware update to a firmware level that supports AP adapter interrupts failed. iii) The AP adapter firmware has been successfully updated to a level that supports AP interrupts but the new firmware has not been activated.

**User response:** Ensure that the firmware on your AP adapters support AP interrupts and that any firmware updates have completed successfully. If necessary, deconfigure your cryptographic adapters and reconfigure them to ensure that any firmware updates become active, then reload the ap module. If the ap module has been compiled into the kernel, reboot Linux.

**Severity:** Error
Chapter 5. appldata

This section contains messages that are issued by the kernel modules that gather kernel performance data and statistics and export this data to z/VM by means of APPLDATA monitor records.

appldata.0ae163 Stopping the data collection for
<appldata module> failed with rc=<return code>

Explanation: The specified data collection module used the z/VM diagnose call DIAG 0xDC to stop writing data. z/VM returned an error and the data collection continues.

User response: See the section about DIAGNOSE Code X'DC' in "z/VM CP Programming Services".

Severity: Error

appldata.81e326 Maximum OS record size <no of bytes> exceeds the maximum record size <no of bytes>

Explanation: The OS record size grows with the number of CPUs and is adjusted by the appldata_os module in response to CPU hotplug events. For more than 110 CPUs the record size would exceed the maximum record size of 4024 bytes that is supported by the z/VM hypervisor. To prevent the maximum supported record size from being exceeded while data collection is in progress, you cannot load the appldata_os module on Linux instances that are configured for a maximum of more than 110 CPUs.

User response: If you do not want to collect operating system data, you can ignore this message. If you want to collect operating system data, reconfigure your Linux instance to support less than 110 CPUs.

Severity: Error

appldata.887845 Stopping a faulty OS data collection failed with rc=<return code>

Explanation: After a CPU hotplug event, the record size for the running operating system data collection is no longer correct. The appldata_os module tried to stop the faulty data collection but received an error from the z/VM diagnose call DIAG 0xDC. Any data collected with the current record size might be faulty.

User response: Try to restart appldata_os monitoring. For information about stopping and starting data collections see "Device Drivers, Features, and Commands". For information about the return codes see the section about DIAGNOSE Code X'DC' in "z/VM CP Programming Services".

Severity: Error

appldata.ccf8e3 Starting a new OS data collection failed with rc=<return code>

Explanation: After a CPU hotplug event, the record size for the running operating system data collection is no longer correct. The appldata_os module tried to start a new data collection with the correct record size but received an error from the z/VM diagnose call DIAG 0xDC. Any data collected with the current record size might be faulty.

User response: Start a new data collection with the cappldata_os module. For information about starting data collections see "Device Drivers, Features, and Commands". For information about the return codes see the section about DIAGNOSE Code X'DC' in "z/VM CP Programming Services".

Severity: Error

appldata.0ae163 Stopping the data collection for
<appldata module> failed with rc=<return code>
Chapter 6. cio

This section contains messages that are issued by the kernel module that provides basic I/O functions for channel-attached devices.

cio.0f6270  No CCW console was found

Explanation: Linux did not find the expected CCW console and tries to use an alternative console. A possible reason why the console was not found is that the console has been specified in the cio_ignore list.

User response: None, if an appropriate alternative console has been found, and you want to use this alternative console. If you want to use the CCW console, ensure that is not specified in the cio_ignore list, explicitly specify the console with the ‘condev=’ kernel parameter, and reboot Linux.

Severity: Warning

cio.2943d5  Processing <configuration change> for channel path <channel subsystem ID>.<CHPID>

Explanation: A configuration change is in progress for the given channel path.

User response: None.

Severity: Notice

cio.2b995e  <device bus-ID> is not a valid device for the cio_ignore kernel parameter

Explanation: The device specification for the cio_ignore kernel parameter is syntactically incorrect or specifies an unknown device. This device is not excluded from being sensed and analyzed.

User response: Correct your device specification in the kernel parameter line to have the device excluded when you next reboot Linux. You can write the correct device specification to /proc/cio_ignore to add the device to the list of devices to be excluded. This does not immediately make the device inaccessible but any of these devices are ignored if they disappear and later reappear.

Severity: Warning

cio.5b32ec  0.<from subchannel set ID>.<from device number> to 0.<to subchannel set ID>.<to device number> is not a valid range for cio_ignore

Explanation: The device range specified for the cio_ignore kernel parameter is syntactically incorrect. No devices specified with this range are excluded from being sensed and analyzed.

User response: Correct your range specification in the kernel parameter line to have the range of devices excluded when you next reboot Linux. You can write the correct range specification to /proc/cio_ignore to add the range of devices to the list of devices to be excluded. This does not immediately make the devices in the range inaccessible but any of these devices are ignored if they disappear and later reappear.

Severity: Warning
Chapter 7. claw

This section contains messages that are issued by the Common Link Access to Workstation (CLAW) device driver.

claw.182198 <bus ID of the CLAW device>: Setting the write subchannel online failed with error code <errno >

**Explanation:** Setting the Common Link Access to Workstation (CLAW) device online failed with an error for the write subchannel. This problem occurs, for example, if the write subchannel used to create the CLAW group device is not defined as a CLAW write subchannel in the hardware definitions. The CLAW write subchannel must be for a 3088 device of type x'61' and have an uneven bus ID. The bus ID of the write subchannel can be found from the symbolic link /sys/bus/ccwgroup/drivers/claw/<device-bus-ID>/cdev1 where <device-bus-ID> is the bus ID of the CLAW device.

**User response:** Confirm that you are using the correct bus ID for the write subchannel. If necessary, ungroup the device and recreate it with the correct bus ID. Assure that the write subchannel has been defined correctly to the real or virtual hardware, for example, in your IOCDS or in your z/VM configuration. Assure that a valid number of read buffers has been assigned to the device. See 'Device Drivers, Features, and Commands' for details about the read buffers. See the errno man page for information about the error code.

**Severity:** Warning

claw.24e119 <bus ID of the CLAW device>: The communication peer of <network interface name > disconnected

**Explanation:** The Common Link Access to Workstation (CLAW) device driver received a device status word DEV_STAT_UNIT_CHECK and sense code 0x41. This indicates that the remote network interface is no longer available.

**User response:** Ensure that the remote channel adapter is operational and activate the remote interface. For information about the sense code see /Documentation/s390/cds.txt in the Linux source tree. Search for 'SNS0' to locate the information.

**Severity:** Warning

claw.379c1e <bus ID of the CLAW device>: Setting the read subchannel online failed with error code <errno >

**Explanation:** Setting the Common Link Access to Workstation (CLAW) device online failed with an error for the read subchannel. This problem occurs, for example, if the read subchannel used to create the CLAW group device is not defined as a CLAW read subchannel in the hardware definitions. The CLAW read subchannel must be for a 3088 device of type x'61' and have an even bus ID. The bus ID of the read subchannel matches the bus ID of the CLAW device.

**User response:** Confirm that you are using the correct bus ID for the read subchannel. If necessary, ungroup the device and recreate it with the correct bus ID. Assure that the read subchannel has been defined correctly to the real or virtual hardware, for example, in your IOCDS or in your z/VM configuration. Assure that a valid number of read buffers has been assigned to the device. See 'Device Drivers, Features, and Commands' for details about the read buffers. See the errno man page for information about the error code.

**Severity:** Warning

claw.37e392 <bus ID of the CLAW device>: The status of the remote channel adapter is not valid

**Explanation:** During an operation, the Common Link Access to Workstation (CLAW) device driver received errno EINVAL from the common I/O layer. This indicates that the remote channel adapter was offline or not operational.

**User response:** Check for related error messages to find the cause of the problem. If necessary, restart the remote channel adapter.

**Severity:** Error

claw.3a62f0 Registering with the cu3088 device driver failed with error code <errno >

**Explanation:** The Common Link Access to Workstation (CLAW) device driver failed to register with the cu3088 channel subsystem device driver. The CLAW device driver requires the cu3088 device driver. The CLAW device driver requires the cu3088 device driver.

**User response:** Enter `lsmod | grep cu3088` or an equivalent command to check if the cu3088 device driver is loaded. If the output does not show the cu3088 module, unload the CLAW device driver, load the cu3088 device driver, then reload the CLAW device driver. See the errno man page for information about the error code.

**Severity:** Error

claw.3f4182 <bus ID of the CLAW device>: The local read buffer is smaller than the remote write buffer

**Explanation:** You set the buffer size for the local Common Link Access to Workstation (CLAW) device
claw.4b316e • claw.68529a

implicitly by setting the connection type. For connection type 'packed' the buffer size is 32 KB, for the other connection types the buffer size is 4 KB. The connection cannot be established because the read buffer size of the local CLAW device does not match the write buffer size of the communication peer.

User response: Confirm that you are using the correct connection type for the local CLAW device. Ensure that the write buffer size of the remote CLAW device is set accordingly. Restart the CLAW device, local or remote, for which you have made corrections.

Severity: Warning

---

claw.4b316e <bus ID of the CLAW device>: Allocating a buffer for incoming data failed

Explanation: A Common Link Access to Workstation (CLAW) data packet was received but the CLAW device driver could not allocate a receive buffer. A possible cause of this problem is memory constraints. The data packet is dropped but the connection remains operational.

User response: Ensure that sufficient memory is available. If this problem occurs frequently, restart the remote CLAW device. If this does not resolve the error, gather logs and traces from the remote CLAW device to obtain further diagnostic data.

Severity: Informational

---

claw.50a02b <bus ID of the device>: The device is not a CLAW device

Explanation: The Common Link Access to Workstation (CLAW) device driver received a channel interrupt (IRQ) for a subchannel that is not a CLAW read or write subchannel. A CLAW subchannel must be configured for a 3088 device of type x'61' and have an even bus ID.

User response: Assure that the subchannels have been defined correctly to the real or virtual hardware, for example, in your IOCDS or in your z/VM configuration.

Severity: Warning

---

claw.5355ea <bus ID of the CLAW device>: Deactivating network interface name completed with incorrect subchannel status (read read subchannel status, write write subchannel status)

Explanation: When the Common Link Access to Workstation (CLAW) device driver closes a CLAW device, the device driver frees all storage that is used for the device. A successful closing operation results in status DEVICE END and CHANNEL END for both the read and write subchannel. At least one of these statuses is missing for a subchannel. Data might have been lost and there might be problems when the network interface is activated again.

User response: If the network interface cannot be activated, vary the subchannels for the device offline and back online, for example, with chchp. If this does not resolve the problem, reset the remote channel adapter.

Severity: Warning

---

claw.55352b <bus ID of the CLAW device>: The communication peer of network interface name uses an incorrect API version <CLAW API version>

Explanation: The Common Link Access to Workstation (CLAW) device driver received a SYSTEM_VALIDATE_REQUEST packet from the remote channel adapter. The packet included an unexpected version ID for the CLAW API. The version ID must be "2" for all packets.

User response: Ensure that the remote channel adapter is at the latest firmware level. Restart the remote channel adapter and activate the remote interface. If the problem persists, examine the subchannel trace for further diagnostic information.

Severity: Warning

---

claw.5bd403 <bus ID of the CLAW device>: Creating a CLAW group device failed with error code <errno>

Explanation: The Common Link Access to Workstation (CLAW) device driver failed to create a CLAW group device. A possible cause of this problem is memory constraints.

User response: Ensure that there is sufficient free memory. See the errno man page and look for related messages to find out what caused the problem. If you cannot resolve the problem, contact your support organization.

Severity: Warning

---

claw.68529a <bus ID of the CLAW device>: The communication peer of network interface name rejected the connection

Explanation: The remote CLAW device rejected the connection because of a mismatch between the settings of the local CLAW device and the remote CLAW device.

User response: Check the settings of both the local and the remote CLAW device and ensure that the settings are consistent. Restart the CLAW device, local or remote for which you have made the correction.

Severity: Warning
An uninitialized CLAW device received an IRQ, caused by a subchannel status change.

**Explanation:** A Common Link Access to Workstation (CLAW) device was not initialized when it received a channel interrupt (IRQ). The IRQ is ignored. This might be a temporary condition while the device comes online or is taken offline.

**User response:** If this problem occurs frequently, use the status information from the message and the channel and device traces to analyze the problem. See “Principles of Operation” for details about the status information.

**Severity:** Warning

---

Activating the CLAW device failed.

**Explanation:** Activating the Common Link Access to Workstation (CLAW) device failed. A possible cause of this problem is memory constraints.

**User response:** Free some memory and try again to activate the CLAW device. If the problem persists, contact your support organization.

**Severity:** Warning

---

The CLAW device for <network interface name> received an unexpected IRQ.

**Explanation:** A Common Link Access to Workstation (CLAW) device received a channel interrupt (IRQ) while the CLAW device driver had assigned a status to the device in which it cannot process IRQs. The IRQ is ignored.

**User response:** Restart the remote channel adapter. If the problem persists, use s390dbf traces and CCW traces to diagnose the problem.

**Severity:** Warning

---

Validating <network interface name> failed because of a frame size conflict.

**Explanation:** You set the frame size for the local Common Link Access to Workstation (CLAW) device implicitly by setting the connection type. For connection type ‘packed’ the frame size is 32 KB, for the other connection types the frame size is 4 KB. The connection cannot be activated because the the frame size of the local CLAW device does not match the frame size of the communication peer.

**User response:** Confirm that you are using the correct connection type for the local CLAW device. Ensure that the frame size of the remote CLAW device is set accordingly. Restart the CLAW device, local or remote, for which you have made corrections.

**Severity:** Warning

---

The communication peer of <network interface name> failed.

**Explanation:** The remote Common Link Access to Workstation (CLAW) device reported an error condition that cannot be recovered automatically.

**User response:** Restart the remote CLAW device. If this does not resolve the error, gather logs and traces from the remote CLAW device to obtain further diagnostic data.

**Severity:** Warning

---

The remote channel adapter is not available.

**Explanation:** During an operation, the Common Link Access to Workstation (CLAW) device driver received error ENODEV from the common I/O layer. This means that the remote channel adapter was not operational or offline.

**User response:** Check the remote channel adapter and, if necessary, restart it.

**Severity:** Error

---

The remote channel adapter for <network interface name> has been reset.

**Explanation:** The Common Link Access to Workstation (CLAW) device driver received a device status word DEV_STAT_UNIT_CHECK and sense code 0x40. This indicates that the remote channel adapter has been reset.

**User response:** When the remote channel adapter is operational again, activate the remote interface. For information about the sense code see /Documentation/s390/cds.txt in the Linux source tree. Search for ‘SNS0’ to locate the information.

**Severity:** Warning

---

<network interface name> rejected a request to open multiple connections.

**Explanation:** The Common Link Access to Workstation (CLAW) device rejected a request by its communication peer to open more than one connection. The CLAW device driver only supports a single connection for each CLAW device.

**User response:** Reconfigure the remote CLAW device.
to only use one connection. Restart the remote CLAW device.

Severity: Informational

---

claw.7c1758 Registering with the S/390 debug feature failed with error code <errno>

Explanation: The Common Link Access to Workstation (CLAW) device driver failed to register with the S/390 debug feature. No debug traces will be available for CLAW.

User response: Enter 'lsmod | grep dbf' or an equivalent command to check if the S/390 debug feature loaded. If the output does not show the dbf module, the S/390 debug feature has not been loaded, unload the CLAW device driver, load the debug feature, then reload the CLAW device driver. See the errno man page for information about the error code.

Severity: Error

---

claw.7f27d6 The remote channel adapter for <network interface name> is faulty

Explanation: The Common Link Access to Workstation (CLAW) device driver received a device status word DEV_STAT_UNIT_CHECK and sense code 0x30. This indicates that the remote channel adapter is faulty.

User response: Check and restart the remote channel adapter and activate the remote interface. If the problem persists, perform device diagnosis for the remote channel adapter and examine the subchannel trace for further diagnostic information. For information about the sense code see /Documentation/s390/cds.txt in the Linux source tree. Search for `SNS0` to locate the information.

Severity: Warning

---

claw.81d266 The CLAW device received an unexpected IRQ, c=<subchannel status> d=<device status>

Explanation: A Common Link Access to Workstation (CLAW) device received a channel interrupt (IRQ) while it was in a state in which it cannot process IRQs. The IRQ is ignored. This might be a temporary condition.

User response: If this problem occurs frequently, use the status information from the message and the channel and device traces to analyze the problem. See "Principles of Operation" for details about the status information.

Severity: Warning

---

claw.823401 Creating the /proc files for a new CLAW device failed

Explanation: For each Common Link Access to Workstation (CLAW) device the CLAW device driver maintains files in the proc file system. The CLAW device driver failed to create a new CLAW device because it could not create these /proc files for the new device. You cannot create CLAW devices for Linux kernels that do not include a proc file system.

User response: Ensure that your Linux kernel provides a proc file system. Reboot Linux. If your kernel provides a proc file system and the problem persists, contact your support organization.

Severity: Error

---

claw.858a92 The communication peer of <network interface name> rejected a connection request

Explanation: The remote CLAW device detected an inconsistency in the configurations of the local and the remote CLAW device and rejected a connection request.

User response: Examine the settings of your local and remote CLAW device. Correct the erroneous setting and restart the CLAW device, local or remote, for which you have made corrections.

Severity: Warning

---

claw.887cf5 Validating <network interface name> failed because of a version conflict

Explanation: The Common Link Access to Workstation (CLAW) network interface cannot be activated because the remote CLAW device does not support CLAW version 2. The CLAW device driver requires CLAW version 2.

User response: Ensure that the remote channel adapter supports CLAW version 2 and that the remote CLAW device is configured for CLAW version 2.

Severity: Warning

---

claw.89e5ba The adapter name <adapter name in the local CLAW device settings> for <network interface name> does not match the remote host name <host name in the remote CLAW device settings>

Explanation: The adapter name in the local Common Link Access to Workstation (CLAW) device settings must match the host name in the CLAW device settings of the communication peer. The CLAW device driver discovered a mismatch between these settings. The
connection cannot be established.

**User response:** Check the configuration of the CLAW device and of its communication peer. Correct the erroneous setting and restart the CLAW device, local or remote, for which you have made corrections.

**Severity:** Warning

---

claw.9bd9c2 <bus ID of the CLAW device>: <network interface name > rejected a connection request because it is already active

**Explanation:** The Common Link Access to Workstation (CLAW) device rejected a connection request by its communication peer because the connection is already active. The CLAW device driver only supports a single connection for each CLAW device. This might be a runtime problem.

**User response:** None if there is an active connection. If no connection can be established, restart the remote channel adapter.

**Severity:** Informational

---

claw.a84a95 <bus ID of the CLAW device>: The local write buffer is smaller than the remote read buffer

**Explanation:** You set the buffer size for the local Common Link Access to Workstation (CLAW) device implicitly by setting the connection type. For connection type 'packed' the buffer size is 32 KB, for the other connection types the buffer size is 4 KB. The connection cannot be established because the write buffer size of the local CLAW device does not match the read buffer size of the communication peer.

**User response:** Confirm that you are using the correct connection type for the local CLAW device. Ensure that the read buffer size of the remote CLAW device is set accordingly. Restart the CLAW device, local or remote, for which you have made corrections.

**Severity:** Informational

---

claw.a94684 <bus ID of the CLAW device>: Validating <network interface name > failed because of a host or adapter name mismatch

**Explanation:** The Common Link Access to Workstation (CLAW) network interface cannot be activated because there is a mismatch between a host name and the corresponding adapter name. The local host name must match the remote adapter name and the local adapter name must match the remote host name.

**User response:** Correct the erroneous setting and restart the CLAW device, local or remote, for which you have made corrections.

**Severity:** Warning

---

claw.b13754 <bus ID of the CLAW device>: Settings for <network interface name > validated (version=<CLAW API version>, remote devices=<identifier for the remote CLAW device>, rc=<return code received from the remote CLAW device>, adapter name=<adapter name>, host name=<host name>)

**Explanation:** The settings of the local Common Link Access to Workstation (CLAW) device have been validated by the communication peer. The message summarizes the content of the response. If the return code is zero, the validation was successful and the connection is activated.

**User response:** If the return code is not equal to zero, look for related warning messages.

**Severity:** Informational

---

claw.b322ac <bus ID of the CLAW device>: The communication peer of <network interface name > sent a faulty frame of length <incorrect frame length value >

**Explanation:** The remote Common Link Access to Workstation (CLAW) device sent a frame with an incorrect value in the length field. This problem might result from data errors or incorrect packing. The connection remains operational.

**User response:** If this problem occurs frequently, restart the remote CLAW device. If this does not resolve the error, gather logs and traces from the remote CLAW device to obtain further diagnostic data.

**Severity:** Warning
claw.b40a6a • claw.f10136

claw.b40a6a <bus ID of the CLAW device>: The communication peer of <network interface name > rejected a connection request because of a type mismatch

Explanation: The remote Common Link Access to Workstation (CLAW) device rejected a request to open a connection. A connection can only be opened if the same connection type has been set for both the local and the remote CLAW device. Not be started.

User response: Ensure that the connection types for the local and remote CLAW device match. Restart the CLAW device, local or remote, for which you have changed the connection type.

Severity: Warning

claw.b85501 <bus ID of the CLAW device>: The communication peer of <network interface name > sent an unknown command code

Explanation: The remote Common Link Access to Workstation (CLAW) device sent a command code that is not defined. This might indicate that the remote CLAW device is malfunctioning. The connection remains operational.

User response: If this problem occurs frequently, restart the remote CLAW device. If this does not resolve the error, gather logs and traces from the remote CLAW device to obtain further diagnostic data.

Severity: Warning

claw.c06c67 <bus ID of the CLAW device>: A read data parity error occurred for <network interface name >

Explanation: The Common Link Access to Workstation (CLAW) device driver received a device status word DEV_STAT_UNIT_CHECK and sense code 0x10. This indicates a read data parity error. The remote channel adapter or the channel might be faulty.

User response: Ensure that all cables are securely plugged. Restart the remote channel adapter and activate the remote interface. If the problem persists, perform device diagnosis for the remote channel adapter and examine the subchannel trace for further diagnostic information. For information about the sense code see /Documentation/s390/cds.txt in the Linux source tree. Search for 'SNS0' to locate the information.

Severity: Warning

claw.e52567 <bus ID of the CLAW device>: A data transfer parity error occurred for <network interface name >

Explanation: The Common Link Access to Workstation (CLAW) device driver received a device status word DEV_STAT_UNIT_CHECK and sense code 0x20. This indicates a data parity error. The remote channel adapter or the channel might be faulty.

User response: Ensure that all cables are securely plugged. Restart the remote channel adapter and activate the remote interface. If the problem persists, examine the subchannel trace for further diagnostic information. For information about the sense code see /Documentation/s390/cds.txt in the Linux source tree. Search for 'SNS0' to locate the information.

Severity: Warning

claw.f10136 <bus ID of the CLAW device>: Activating <network interface name > failed because of an incorrect link ID=<link ID returned from the remote CLAW device >

Explanation: The remote Common Link Access to Workstation (CLAW) device accepted a connection request but returned an incorrect link ID. The CLAW device driver only supports a single connection at a time (link ID=1) for each network interface.
User response: Restart the remote CLAW device and try again to activate the network interface.

Severity: Warning

---

claw.f26e3d  <bus ID of the CLAW device>: The common device layer returned error code <errno >

Explanation: During an I/O operation, the Common Link Access to Workstation (CLAW) device driver received an errno from the common I/O layer. This indicates a problem with the remote channel adapter.

User response: See the errno man page to find out what the error code means. Check for related messages. Restart the remote channel adapter. If the problem persists, examine the subchannel trace for further diagnostic information.

Severity: Error
Chapter 8. cpcmd

This section contains messages that are issued by the cpcmd kernel function.

cpcmd.5984fe  The cpcmd kernel function failed to allocate a response buffer

Explanation:  IPL code, console detection, and device drivers like vmcp or vmlogdr use the cpcmd kernel function to send commands to the z/VM control program (CP). If a program that uses the cpcmd function does not allocate a contiguous response buffer below 2 GB guest real storage, cpcmd creates a bounce buffer to be used as the response buffer. Because of low memory or memory fragmentation, cpcmd could not create the bounce buffer.

User response:  Look for related page allocation failure messages and at the stack trace to find out which program or operation failed. Free some memory and retry the failed operation. Consider allocating more memory to your z/VM guest virtual machine.

Severity:  Warning
Chapter 9. cpu

This section contains messages that are issued by the System z specific CPU management functions.

---

cpu.17772b  Processor <logical CPU number>
            started, address <CPU address>,
            identification <CPU identification number>

Explanation: The kernel detected a CPU with the given characteristics.
User response: None.
Severity: Informational

---

cpu.33a262 <number of configured CPUs> configured CPUs, <number of standby CPUs> standby CPUs

Explanation: The kernel detected the given number of configured and standby CPUs.
User response: None.
Severity: Informational

---

cpu.3748dd  The CPU configuration topology of the machine is:

Explanation: The first six values of the topology information represent fields Mag1 to Mag6 of system-information block (SYSIB) 15.1.2. These fields specify the maximum numbers of topology-list entries (TLE) at successive topology nesting levels. The last value represents the MNest value of SYSIB 15.1.2 which specifies the maximum possible nesting that can be configured through dynamic changes. For details see the SYSIB 15.1.2 information in the “Principles of Operation.”
User response: None.
Severity: Informational

---

cpu.e2917c  CPU <CPU number> exceeds the maximum <maximum CPU number> and is excluded from the dump

Explanation: The Linux kernel is used as a system dumper but it runs on more CPUs than it has been compiled for with the CONFIG_NR_CPUS kernel configuration option. The system dump will be created but information on one or more CPUs will be missing.
User response: Update the system dump kernel to a newer version that supports more CPUs or reduce the number of installed CPUs and reproduce the problem that should be analyzed. If you send the system dump that prompted this message to a support organization, be sure to communicate that the dump does not include all CPU information.
Severity: Warning

---

cpu.f76a91  Processor <logical CPU number> stopped

Explanation: A logical CPU has been set offline.
User response: None.
Severity: Informational
This section contains messages that are issued by the Channel-to-Channel (CTC) device driver. CTC connections are high-speed point-to-point connections between two operating system instances on System z.

**ctcm.06c639**  
*bus ID of the CTCM device*: The adapter received a non-specific IRQ  
**Explanation:** The adapter hardware used by the CTCM device received an IRQ that cannot be mapped to a particular device. This is a hardware problem.  
**User response:** Check the status of the CTCM device, for example, with ifconfig. Check if the connection to the remote device still works. If the CTCM device is not operational, set it offline and back online. If this does not resolve the problem, perform a manual recovery. See "Device Drivers, Features, and Commands" for details about how to recover a CTCM device. If this problem persists, gather Linux debug data and report the problem to your support organization.  
**Severity:** Warning

**ctcm.0e17de**  
*bus ID of the CTCM device*: An error occurred on the adapter hardware  
**Explanation:** The CTCM device uses an adapter to physically connect to its communication peer. An operation on this adapter returned an error.  
**User response:** Check the status of the CTCM device, for example, with ifconfig. If the device is not operational, perform a manual recovery. See "Device Drivers, Features, and Commands" for details about how to recover a CTCM device.  
**Severity:** Error

**ctcm.3c5812**  
*bus ID of the CTCM device*: Initialization failed with RX/TX init handshake error  
**Explanation:** A problem occurred during the initialization of the connection. If the connection can be established after an automatic recovery, a success message is issued.  
**User response:** If the problem is not resolved by the automatic recovery process, check the local and remote device. If this problem persists, gather Linux debug data and report the problem to your support organization.  
**Severity:** Warning

**ctcm.4b5292**  
*bus ID of the CTCM device*: A check occurred on the subchannel  
**Explanation:** A check condition has been detected on the subchannel.  
**User response:** Check if the connection to the remote device still works. If the CTCM device is not operational, set it offline and back online. If this does not resolve the problem, perform a manual recovery. See "Device Drivers, Features, and Commands" for details about how to recover a CTCM device. If this problem persists, gather Linux debug data and report the problem to your support organization.  
**Severity:** Warning

**ctcm.58aa19**  
*channel ID*: The remote operating system is not available  
**Explanation:** The operating system instance with the communication peer has disconnected. Possible reasons are that the operating system instance has been rebooted or shut down.  
**User response:** Ensure that the peer operating system instance is running and that the peer interface is operational.  
**Severity:** Notice

**ctcm.8079b5**  
*bus ID of the CTCM device*: An adapter hardware operation timed out  
**Explanation:** The CTCM device uses an adapter to physically connect to its communication peer. An operation on this adapter timed out.  
**User response:** Check the status of the CTCM device, for example, with ifconfig. If the device is not operational, perform a manual recovery. See "Device Drivers, Features, and Commands" for details about how to recover a CTCM device.  
**Severity:** Error

**ctcm.95ba79**  
*bus ID of the CTCM device*: An I/O-error occurred on the CTCM device  
**Explanation:** An I/O error was detected on one of the subchannels of the CTCM device. Depending on the error, the CTCM device driver might attempt an automatic recovery.  
**User response:** Check the status of the CTCM device, for example, with ifconfig. If the device is not operational, perform a manual recovery. See "Device Drivers, Features, and Commands" for details about how to recover a CTCM device.  
**Severity:** Error
**ctcm.ad45a0**  •  **ctcm.fde68a**

---

**ctcm.ad45a0**  <channel ID>: **The communication peer is busy**

**Explanation:** A busy target device was reported. This might be a temporary problem.

**User response:** If this problem persists or is reported frequently ensure that the target device is working properly.

**Severity:** Informational

---

**ctcm.fde68a**  <channel ID>: **The specified target device is not valid**

**Explanation:** A target device was called with a faulty device specification. This is an adapter hardware problem.

**User response:** Gather Linux debug data, collect the hardware logs, and contact IBM support.

**Severity:** Error

---

**ctcm.ad45a0**  <channel ID>: **The communication peer has disconnected**

**Explanation:** The remote device has disconnected. Possible reasons are that the remote interface has been closed or that the operating system instance with the communication peer has been rebooted or shut down.

**User response:** Check the status of the peer device. Ensure that the peer operating system instance is running and that the peer interface is operational.

**Severity:** Notice

---

**ctcm.c97a8e**  **An I/O operation resulted in error**

**<channel ID>**

**Explanation:** A hardware operation ended with an error.

**User response:** Check the status of the CTCM device, for example, with ifconfig. If the device is not operational, perform a manual recovery. See "Device Drivers, Features, and Commands" for details about how to recover a CTCM device. If this problem persists, gather Linux debug data, collect the hardware logs, and report the problem to your support organization.

**Severity:** Error

---

**ctcm.defd4f**  **<bus ID of the CTCM device>: The XID used in the MPC protocol is not valid,**

**rc = <return code>**

**Explanation:** The exchange identification (XID) used by the CTCM device driver when in MPC mode is not valid.

**User response:** Note the error information provided with this message and contact your support organization.

**Severity:** Warning

---

**ctcm.ec4b8d**  **<bus ID of the CTCM device>: The network backlog for <calling function> is exceeded, package dropped**

**Explanation:** There is more network traffic than can be handled by the device. The device is closed and some data has not been transmitted. The device might be recovered automatically.

---
Chapter 11. dasd

This section contains messages that are issued by the DASD device driver.

---

**dasd.00f842** <bus ID of the DASD>: An I/O control call used incorrect flags 0x<flags>

**Explanation:** The DASD format I/O control was used incorrectly.

**User response:** Contact the owner of the formatting tool.

**Severity:** Warning

---

**dasd.01a684** <bus ID of the DASD>: FORMAT4 - No sync byte in key area

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.01f692** <bus ID of the DASD>: FORMAT 9 - Reserved

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.02c01a** <bus ID of the DASD>: FORMAT 7 - No response to selection after a poll interruption

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.04422e** Registering the device driver with major number <DASD major> failed

**Explanation:** Major number 94 is reserved for the DASD device driver. The DASD device driver failed to register with this major number. Another device driver might have used major number 94.

**User response:** Determine which device driver uses major number 94 instead of the DASD device driver and unload this device driver. Then try again to load the DASD device driver.

**Severity:** Warning

---

**dasd.0471ed** <bus ID of the DASD>: FORMAT 0 - Reserved

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.04ae78** <bus ID of the DASD>: FORMAT 7 - Missing end operation; device transfer incomplete

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.05b6e3** <bus ID of the DASD>: FORMAT 8 - End operation with transfer count zero

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.05c8ba** <bus ID of the DASD>: FORMAT 6 - Overrun on channel F

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.06e412** <bus ID of the DASD>: FORMAT 0 - Status Not As Required: reason <reason code>

**Explanation:** This is an operating system independent message that is issued by the storage system. There are several potential reasons for this message; byte 8 contains the reason code.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.07541e** <bus ID of the DASD>: FORMAT 0 - CCW Count less than required
dasd.08b7b8 • dasd.126bfe

**Explanation:** The CCW count of a command is less than required. This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

dasd.08d1ee <bus ID of the DASD>: FORMAT 9 - Head address did not compare

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

dasd.094439 <bus ID of the DASD>: FORMAT 3 - Reserved

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

dasd.1211d0 <value> is not a supported value for /proc/dasd/statistics

**Explanation:** An incorrect value has been written to /proc/dasd/statistics. The supported values are: 'set on', 'set off', and 'reset'.

**User response:** Write a supported value to /proc/dasd/statistics.

**Severity:** Warning

---

dasd.0ae5e4 Discipline <discipline name> cannot be used without z/VM

**Explanation:** The discipline that is specified with the dasd= kernel or module parameter is only available for Linux instances that run as guest operating systems of the z/VM hypervisor.

**User response:** Remove the unsupported discipline from the parameter string.

**Severity:** Informational

---

dasd.0af728 <bus ID of the DASD>: FORMAT 6 - Overrun on channel B

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

dasd.0d6cb0 <bus ID of the DASD>: FORMAT F - Subsystem Processing Error

**Explanation:** A firmware logic error has been detected. This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

dasd.0e881a <bus ID of the DASD>: FORMAT 7 - Invalid tag-in for an immediate command sequence

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

dasd.126bfe <bus ID of the DASD>: ERP chain at BEGINNING of ERP-ACTION

**Explanation:** This message provides debug information for the enhanced error recovery procedure (ERP).

**User response:** If you do not need this information, you can suppress this message by switching off ERP logging, for example, by writing '1' to the 'erplog' sysfs attribute of the DASD.

**Severity:** Error
dasd.1577ff <bus ID of the DASD>: FORMAT F - Caching terminated

Explanation: The storage system was unable to initiate caching or had to suspend caching for a 3990 control unit. If this problem is caused by a failure condition, an additional message will provide more information about the failure. This is an operating system independent message that is issued by the storage system.

User response: Check for additional messages that point out possible failures. For more information see the documentation of your storage system.

Severity: Warning

dasd.190a3f <bus ID of the DASD>: The DASD cannot be formatted with block size <block size>

Explanation: The block size specified for a format instruction is not valid. The block size must be between 512 and 4096 byte and must be a power of 2.

User response: Call the format command with a supported block size.

Severity: Warning

dasd.1ac0f4 <bus ID of the DASD>: Flushing the DASD request queue failed for request <pointer to request>

Explanation: As part of the unloading process, the DASD device driver flushes the request queue. This failed because a previously started I/O operation could not be canceled.

User response: Try again to unload the DASD device driver or to shut down Linux.

Severity: Error

dasd.1bdba7 <bus ID of the DASD>: Start track number <track number> used in formatting is too big

Explanation: The DASD format I/O control was used incorrectly by a formatting tool.

User response: Contact the owner of the formatting tool.

Severity: Warning

dasd.1c04cd <bus ID of the DASD>: FORMAT 4 - Key area error; offset active

Explanation: This is an operating system independent message that is issued by the storage system.

User response: For more information see the documentation of your storage system.

Severity: Informational

dasd.1e2d81 'nopav' is not supported on z/VM

Explanation: For Linux instances that run as guest operating systems of the z/VM hypervisor Parallel Access Volume (PAV) support is controlled by z/VM not by Linux.

User response: Remove 'nopav' from the dasd= module or kernel parameter specification.

Severity: Informational

dasd.20b59b <bus ID of the DASD>: FORMAT 0 - Invalid Command Sequence

Explanation: An incorrect sequence of commands has occurred. This is an operating system independent message that is issued by the storage system.

User response: For more information see the
dasd.22e514  •  dasd.331a2a

documentation of your storage system.

Severity: Warning

dasd.22e514 <bus ID of the DASD>: FORMAT 4 - No
  syn byte in count address area; offset active

Explanation: This is an operating system independent
  message that is issued by the storage system.

User response: For more information see the
documentation of your storage system.

Severity: Warning

dasd.2529f2 <bus ID of the DASD>: Accessing the
  DASD failed because it is in probeonly mode

Explanation: The dasd= module or kernel parameter
  specified the probeonly attribute for the DASD you are
  trying to access. The DASD device driver cannot access
  DASDs that are in probeonly mode.

User response: Change the dasd= parameter as to
  omit probeonly for the DASD and reload the DASD
  device driver. If the DASD device driver has been
  compiled into the kernel, reboot Linux.

Severity: Informational

dasd.2567a1 <bus ID of the DASD>: FORMAT 0 -
  Invalid Command

Explanation: A command was issued that is not in the
  2107/1750 command set. This is an operating system
  independent message that is issued by the storage system.

User response: For more information see the
documentation of your storage system.

Severity: Warning

---

User response: Contact your support organization.

Severity: Error

---

User response: None.

Severity: Informational

---

User response: None.

Severity: Informational

---

User response: None.

Severity: Informational

---

User response: None.

Severity: Informational
User response: For more information see the documentation of your storage system.

Severity: Warning

dasd.34a404 <bus ID of the DASD>: cqr <pointer to request> timed out (<timeout value>), <number of retries left> retries remaining

Explanation: One try of the error recovery procedure (ERP) for the channel queued request (cqr) timed out and failed to recover the error. ERP continues for the DASD.

User response: Ignore this message if it occurs infrequently and if the recovery succeeds during one of the retries. If this error persists, check for related previous error messages and report the problem to your support organization.

Severity: Error

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: Look for previous error messages. If you cannot resolve the error, note the return code and contact your support organization.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: None.

Severity: Informational

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning

User response: For more information see the documentation of your storage system.

Severity: Warning
dasd.42a207 • dasd.4ae6d


dasd.42a207 <bus ID of the DASD>: The specified record was not found

Explanation: The record to be accessed does not exist. The DASD might be unformatted or defect.

User response: Try to format the DASD or replace it.
ATTENTION: Formatting irreversibly destroys all data on the DASD.

Severity: Error


dasd.4383c <bus ID of the DASD>: FORMAT F - Caching reinitiated

Explanation: Caching has been automatically reinitiated following an error. This is an operating system independent message that is issued by the storage system.

User response: For more information see the documentation of your storage system.

Severity: Warning


dasd.459c47 <bus ID of the DASD>: log SIM - SRC: <sense byte><sense byte><sense byte><sense byte>

Explanation: This System Information Message (SIM) is generated by the storage system. The System Reference Code (SRC) defines the error in detail.

User response: Look up the SRC in the storage server documentation.

Severity: Warning


dasd.45f2d1 <bus ID of the DASD>: The disk layout of the DASD is not supported

Explanation: The DASD device driver only supports the following disk layouts: CDL, LDL, FBA, CMS, and CMS RESERVED.

User response: None.

Severity: Error


dasd.46d841 <bus ID of the DASD>: FORMAT 5 - Data Check in the key area

Explanation: This is an operating system independent message that is issued by the storage system.

User response: For more information see the documentation of your storage system.

Severity: Warning


dasd.47fcac <bus ID of the DASD>: ERP <pointer to ERP> (<ERP status>) refers to <cqr>

Explanation: This message provides debug information for the enhanced error recovery procedure (ERP).

User response: If you do not need this information, you can suppress this message by switching off ERP logging, for example, by writing '1' to the 'erplog' sysfs attribute of the DASD.

Severity: Error


dasd.481dec <bus ID of the DASD>: FORMAT F - Cache fast write access not authorized

Explanation: A request for Cache Fast Write Data access cannot be satisfied because of missing access authorization for the storage system. This is an operating system independent message that is issued by the storage system.

User response: For more information see the documentation of your storage system.

Severity: Warning


dasd.487b65 <bus ID of the DASD>: SIM - SRC: <sense byte><sense byte><sense byte><sense byte>

Explanation: This error message is a System Information Message (SIM) generated by the storage system. The System Reference Code (SRC) defines the error in detail.

User response: Look up the SRC in the storage server documentation.

Severity: Error


dasd.4a5b55 <bus ID of the DASD>: FORMAT 7 - DASD controller not available on disconnected command chain

Explanation: This is an operating system independent message that is issued by the storage system.

User response: For more information see the documentation of your storage system.

Severity: Warning


dasd.4ae6d <bus ID of the DASD>: FORMAT 8 - DASD controller failed to set or reset the long busy latch

Explanation: This is an operating system independent message that is issued by the storage system.

User response: For more information see the documentation of your storage system.

Severity: Warning
**dasd.4cdcde <bus ID of the DASD>: ERP chain at END of ERP-ACTION**

**Explanation:** This message provides debug information for the enhanced error recovery procedure (ERP).

**User response:** If you do not need this information, you can suppress this message by switching off ERP logging, for example, by writing ‘1’ to the ‘erplog’ sysfs attribute of the DASD.

**Severity:** Error

---

**dasd.5005eb <bus ID of the DASD>: FORMAT 8 - Reserved**

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.50a6e5 <bus ID of the DASD>: Formatting unit <start track> failed with rc=<return code>**

**Explanation:** The formatting process might have been interrupted by a signal, for example, CTRL+C. If the process was not interrupted intentionally, an I/O error might have occurred.

**User response:** Retry to format the device. If the error persists, check the log file for related error messages. If you cannot resolve the error, note the return code and contact your support organization.

**Severity:** Error

---

**dasd.518c6a The dasd= parameter value <parameter value> has an invalid ending**

**Explanation:** The specified value for the dasd= kernel or module parameter is not correct.

**User response:** Check the module or the kernel parameter.

**Severity:** Warning

---

**dasd.5303a1 PAV support has been deactivated**

**Explanation:** The ‘nopav’ keyword has been specified with the dasd= kernel or module parameter. The Parallel Access Volume (PAV) support of the DASD device driver has been deactivated.

**User response:** None.

**Severity:** Informational

---

**dasd.538dce <bus ID of the DASD>: FORMAT 4 - Reserved**

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.55aa2f <bus ID of the DASD>: FORMAT 1 - Missing device address bit**

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.5806f8 <bus ID of the DASD>: FORMAT 8 - DPS checks after a system reset or selective reset**

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.58865b <bus ID of the DASD>: FORMAT 1 - Cylinder address did not compare**

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

---

**dasd.58c328 <bus ID of the DASD>: FORMAT 0 - Invalid Defective/Alternate Track Pointer**

**Explanation:** A defective track has been accessed. The subsystem generates an invalid Defective/Alternate Track Pointer as a part of RAID Recovery. This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning
dasd.5c0c98 • dasd.6eae2d

**dasd.5c0c98**<br>
*bus ID of the DASD*: default ERP has run out of retries and failed<br>
**Explanation:** The error recovery procedure (ERP) tried to recover an error but the number of retries for the I/O was exceeded before the error could be resolved.<br>
**User response:** Check for related previous error messages.<br>
**Severity:** Error

**dasd.5cf324**<br>
*bus ID of the DASD*: FORMAT F - Volume is suspended duplex<br>
**Explanation:** The duplex pair volume has entered the suspended duplex state because of a failure. This is an operating system independent message that is issued by the storage system.<br>
**User response:** For more information see the documentation of your storage system.<br>
**Severity:** Warning

**dasd.5efa1b**<br>
*bus ID of the DASD*: FORMAT 4 - No sync byte in count address area<br>
**Explanation:** This is an operating system independent message that is issued by the storage system.<br>
**User response:** For more information see the documentation of your storage system.<br>
**Severity:** Warning

**dasd.648dca**<br>
*bus ID of the DASD*: FORMAT 6 - Overrun on channel D<br>
**Explanation:** This is an operating system independent message that is issued by the storage system.<br>
**User response:** For more information see the documentation of your storage system.<br>
**Severity:** Warning

**dasd.5917e**<br>
*bus ID of the DASD*: Data recovered during retry with PCI fetch mode active<br>
**Explanation:** A data error has been recovered on the storage system but the Linux file system cannot be informed about the data mismatch. To prevent Linux from running with incorrect data, the DASD device driver will trigger a kernel panic.<br>
**User response:** Reset your real or virtual hardware and reboot Linux.<br>
**Severity:** Emerg

**dasd.65b8de**<br>
*bus ID of the DASD*: FORMAT 7 - Reserved<br>
**Explanation:** This is an operating system independent message that is issued by the storage system.<br>
**User response:** For more information see the documentation of your storage system.<br>
**Severity:** Warning

**dasd.680aac**<br>
*bus ID of the DASD*: Allocating memory for private DASD data failed<br>
**Explanation:** The DASD device driver maintains data structures for each DASD it manages. There is not enough memory to allocate these data structures for one or more DASD.<br>
**User response:** Free some memory and try the operation again.<br>
**Severity:** Warning

**dasd.696eb5**<br>
<option code> is not a supported device option<br>
**Explanation:** The dasd= parameter includes an unknown option for a DASD or a device range. Options are specified in parenthesis and immediately follow a device or device range.<br>
**User response:** Check the dasd= syntax and remove any unsupported options from the dasd= parameter specification.<br>
**Severity:** Warning

**dasd.6e3fd6**<br>
*bus ID of the DASD*: FORMAT 6 - Overrun on channel G<br>
**Explanation:** This is an operating system independent message that is issued by the storage system.<br>
**User response:** For more information see the documentation of your storage system.<br>
**Severity:** Warning

**dasd.6eae2d**<br>
*bus ID of the DASD*: is offline or not installed - INTERVENTION REQUIRED!!<br>
**Explanation:** The DASD to be accessed is not in an accessible state. The I/O operation will wait until the device is operational again. This is an operating system independent message that is issued by the storage system.<br>
**User response:** Make the DASD accessible again. For details see the storage system documentation.<br>
**Severity:** Error
**dasd.7109ed**

*bus ID of the DASD*: FORMAT 1 - Interruption cannot be reset

**Explanation:**
This is an operating system independent message that is issued by the storage system.

**User response:**
For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.72ea3**

*bus ID of the DASD*: FORMAT 6 - Overrun on channel A

**Explanation:**
This is an operating system independent message that is issued by the storage system.

**User response:**
For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.74be4d**

*bus ID of the DASD*: FORMAT 8 - DPS cannot be filled

**Explanation:**
This is an operating system independent message that is issued by the storage system.

**User response:**
For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.753738**

High Performance FICON support has been deactivated

**Explanation:**
The 'nofcx' keyword has been specified with the dasd= kernel or module parameter. The High Performance FICON (transport mode) support of the DASD device driver has been deactivated.

**User response:**
None.

**Severity:** Informational

**dasd.757950**

*bus ID of the DASD*: The DASD cannot be set offline while it is in use

**Explanation:**
The DASD cannot be set offline because it is in use by an internal process. An action to free the DASD might not have completed yet.

**User response:**
Wait some time and set the DASD offline later.

**Severity:** Warning

**dasd.781e2f**

A closing parenthesis ')' is missing in the dasd= parameter

**Explanation:**
The specification for the dasd= kernel or module parameter has an opening parenthesis '(' * without a matching closing parenthesis ')'.

**User response:**
Correct the parameter value.

**Severity:** Warning

**dasd.7854c0**

The DASD cannot be set offline while it is in use

**Explanation:**
The DASD cannot be set offline because it is in use by an internal process. An action to free the DASD might not have completed yet.

**User response:**
Wait some time and set the DASD offline later.

**Severity:** Warning

**dasd.78e1df**

A closing parenthesis ')' is missing in the dasd= parameter

**Explanation:**
The specification for the dasd= kernel or module parameter has an opening parenthesis '(' * without a matching closing parenthesis ')'.

**User response:**
Correct the parameter value.

**Severity:** Warning

**dasd.792e2f**

*bus ID of the DASD*: FORMAT 8 - End operation with transfer count not zero

**Explanation:**
This is an operating system independent message that is issued by the storage system.

**User response:**
For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.7b19bf**

*bus ID of the DASD*: FORMAT 3 - Allegiance terminated

**Explanation:**
Allegiance terminated because of a Reset Allegiance or an Unconditional Reserve command on another channel. This is an operating system independent message that is issued by the storage system.

**User response:**
For more information see the documentation of your storage system.

**Severity:** Warning
dasd.7bb394  •  dasd.910d5f

dasd.7bb394  <bus ID of the DASD>: FORMAT 7 -  
Invalid DCC selection response or 
timeout
Explanation: This is an operating system independent 
message that is issued by the storage system.
User response: For more information see the 
documentation of your storage system.
Severity: Warning

dasd.7c1681  <bus ID of the DASD>: FORMAT 0 -  
Storage Path Restart
Explanation: An operation for an active channel 
program was queued in a Storage Control when a warm 
start was received by the path. This is an operating 
system independent message that is issued by the 
storage system.
User response: For more information see the 
documentation of your storage system.
Severity: Warning

dasd.7eabfd  <bus ID of the DASD>: FORMAT 0 -  
Diagnostics of Special Command  
Violates File Mask
Explanation: A command is not allowed under the 
Access Authorization specified by the File Mask. This is 
an operating system independent message that is 
issued by the storage system.
User response: For more information see the 
documentation of your storage system.
Severity: Warning

dasd.7f0765  <bus ID of the DASD>: Track 0 has no 
records following the VTOC
Explanation: Linux has identified a volume table of 
contents (VTOC) on the DASD but cannot read any 
data records following the VTOC. A possible cause of 
this problem is that the DASD has been used with 
another System z operating system.
User response: Format the DASD for usage with 
Linux, for example, with dasdfmt. ATTENTION: 
Formatting irreversibly destroys all data on the DASD.
Severity: Warning

dasd.80169  <bus ID of the DASD>: FORMAT 6 -  
Overrun on channel E
Explanation: This is an operating system independent 
message that is issued by the storage system.
User response: For more information see the 
documentation of your storage system.
Severity: Warning

dasd.869e5e  <bus ID of the DASD>: FORMAT 6 -  
Overrun on channel H
Explanation: This is an operating system independent 
message that is issued by the storage system.
User response: For more information see the 
documentation of your storage system.
Severity: Warning

dasd.894a4b  <bus ID of the DASD>: FORMAT 7 -  
3990 microcode time out when 
stopping selection
Explanation: This is an operating system independent 
message that is issued by the storage system.
User response: For more information see the 
documentation of your storage system.
Severity: Warning

dasd.8b4bdf  <bus ID of the DASD>: FORMAT 2 -  
Microcode detected error <error code>
Explanation: This is an operating system independent 
message that is issued by the storage system.
User response: For more information see the 
documentation of your storage system.
Severity: Warning

dasd.90fb0d  <bus ID of the DASD>: New DASD  
<device type>/<device model> (CU  
<control unit type>/<control unit model>)  
with <number of cylinders> cylinders,  
<tracks per cylinder> heads, <sectors per 
track> sectors
Explanation: A DASD with the shown characteristics 
has been set online.
User response: None.
Severity: Informational

dasd.910d5f  <bus ID of the DASD>: FORMAT 0 -  
Data Pinned for Device
Explanation: Modified data in cache or in persistent 
storage exists for the DASD. The data cannot be 
destaged to the device. This track is the first track

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pinned for this device. This is an operating system independent message that is issued by the storage system.

**User response:**  For more information see the documentation of your storage system.

**Severity:**  Warning

**dasd.939f75**  The statistics have been reset

**Explanation:**  The DASD statistics data have been reset.

**User response:**  None.

**Severity:**  Informational

**dasd.948ccf**  <bus ID of the DASD>: FORMAT 4 - Key area error

**Explanation:**  This is an operating system independent message that is issued by the storage system.

**User response:**  For more information see the documentation of your storage system.

**Severity:**  Warning

**dasd.966201**  The statistics feature has been switched on

**Explanation:**  The statistics feature of the DASD device driver has been switched on.

**User response:**  None.

**Severity:**  Informational

**dasd.96f088**  <bus ID of the DASD>: FORMAT 7 - RCC 1 sequence not successful

**Explanation:**  This is an operating system independent message that is issued by the storage system.

**User response:**  For more information see the documentation of your storage system.

**Severity:**  Warning

**dasd.9957b7**  <bus ID of the DASD>: FORMAT 1 - Head address does not compare

**Explanation:**  This is an operating system independent message that is issued by the storage system.

**User response:**  For more information see the documentation of your storage system.

**Severity:**  Warning

**dasd.a0ce75**  <bus ID of the DASD>: The DASD cache mode was set to <operation mode> (<number of cylinders> cylinder prestage)

**Explanation:**  The DASD cache mode has been changed. See the storage system documentation for information about the different cache operation modes.

**User response:**  None.
Severity: Informational

dasd.a35e01 <bus ID of the DASD>: Setting the DASD online failed because of a missing discipline
Explanation: The DASD was to be set online with a DASD device driver discipline that is not available.
User response: Ensure that all DASD modules are loaded correctly.
Severity: Warning

Severity: Informational

dasd.a3baba <bus ID of the DASD>: I/O operations have been resumed on the DASD
Explanation: The DASD is no longer in state quiesce and I/O operations can be performed on the device.
User response: None.
Severity: Informational

Severity: Warning

dasd.a3bec <bus ID of the DASD>: The DASD cannot be formatted while it is enabled
Explanation: The DASD you try to format is enabled. Enabled devices cannot be formatted.
User response: Contact the owner of the formatting tool.
Severity: Warning

Severity: Warning

dasd.a3c651 <bus ID of the DASD>: FORMAT 9 - Device check-2 error
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Severity: Warning

dasd.a4325c <bus ID of the DASD>: FORMAT 0 - Reset Notification
Explanation: A system reset or its equivalent was received on an interface. The Unit Check that generates this sense is posted to the next channel initiated selection following the resetting event. This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Severity: Warning

dasd.aac43a <bus ID of the DASD>: FORMAT 0 - Device Fenced - device = <sense data byte 4>
Explanation: The device shown in sense byte 4 has been fenced. This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Severity: Warning

dasd.ac3f69 <bus ID of the DASD>: ERP failed
Explanation: The error recovery procedure (ERP) tried to recover an error but has failed. A retry is not recommended. The I/O will also fail.
User response: Check for related previous error messages.
Severity: Error
dasd.ac6397 <bus ID of the DASD>: FORMAT 1 - Index missing
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning
dasd.acd228 <bus ID of the DASD>: FORMAT 7 - extra RCC required
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning
dasd.adb621 <bus ID of the DASD>: ERP failed for the DASD
Explanation: An error recovery procedure (ERP) was performed for the DASD but failed.
User response: Check the message log for previous related error messages.
Severity: Error
dasd.b14557 <bus ID of the DASD>: FORMAT 4 - Data area error
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning
dasd.b281ed <bus ID of the DASD>: The DASD cannot be reached on any path
(lpum=<last path used mask>=<online path mask>)
Explanation: After a path to the DASD failed, the error recovery procedure of the DASD device driver tried but failed to reconnect the DASD through an alternative path.
User response: Ensure that the cabling between the storage server and the mainframe system is securely in place. Check the file systems on the DASD when it is accessible again.
Severity: Error
dasd.b81b6c <bus ID of the DASD>: The DASD cannot be reached on any path
(lpum=opm=<online path mask>)
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning
dasd.b998d3 <bus ID of the DASD>: New DASD with <bytes per block> byte/block, total size <size> KB
Explanation: A DASD with the indicated block size and total size has been set online.
User response: None.
Severity: Informational
dasd.bba496 <bus ID of the DASD>: FORMAT 9 -
Track physical address did not compare while oriented
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning
dasd.bba7e6 <bus ID of the DASD>: The specified DASD is a partition and cannot be formatted
Explanation: The DASD you try to format is a partition. Partitions cannot be formatted separately. You can only format a complete DASD including all its partitions.
dasd.bbe891 • dasd.c55c2f

User response: Format the complete DASD. ATTENTION: Formatting irreversibly destroys all data on all partitions of the DASD.

Severity: Warning

dasd.bbe891 <bus ID of the DASD>: FORMAT F - Subsystem status cannot be determined
Explanation: The status of a DASD Fast Write or PPRC volume cannot be determined. This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

dasd.bd1a0f <bus ID of the DASD>: Start track <track number> used in formatting exceeds end track
Explanation: The DASD format I/O control was used incorrectly by a formatting tool.
User response: Contact the owner of the formatting tool.
Severity: Warning

dasd.be85b8 <bus ID of the DASD>: FORMAT F - Cache or nonvolatile storage equipment failure
Explanation: An equipment failure has occurred in the cache storage or nonvolatile storage of the storage system. This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

dasd.bfc2cb <bus ID of the DASD>: FORMAT F - Nonvolatile storage terminated
Explanation: The storage director has stopped using nonvolatile storage or cannot initiate nonvolatile storage. If this problem is caused by a failure, an additional message will provide more information about the failure. This is an operating system independent message that is issued by the storage system.
User response: Check for additional messages that point out possible failures. For more information see the documentation of your storage system.
Severity: Warning

dasd.c0aa71 <bus ID of the DASD>: Setting the DASD online failed because of missing DIAG discipline
Explanation: The DASD was to be set online with discipline DIAG but this discipline of the DASD device driver is not available.
User response: Ensure that the dasd_diag_mod module is loaded. If your Linux system does not include this module, you cannot set DASDs online with the DIAG discipline.
Severity: Warning

dasd.c1bf11 <bus ID of the DASD>: The DASD cannot be set offline with open count <count>
Explanation: The DASD is being used by one or more processes and cannot be set offline.
User response: Ensure that the DASD is not in use anymore, for example, unmount all partitions. Then try again to set the DASD offline.
Severity: Warning

dasd.c28ccc <bus ID of the DASD>: FORMAT 0 - DPS Installation Check
Explanation: This operating system independent message is issued by the storage system for one of the following reasons: - A 3380 Model D or E DASD does not have the Dynamic Path Selection (DPS) feature in the DASD A-unit. - The device type of an attached DASD is not supported by the firmware. - A type 3390 DASD is attached to a 3 MB channel.
User response: For more information see the documentation of your storage system.
Severity: Warning

dasd.c3ebff <bus ID of the DASD>: FORMAT 5 - Data Check in the data area
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

dasd.c55c2f <bus ID of the DASD>: Unable to allocate DCTL-CQR
Explanation: This is an internal error.
User response: Contact your support organization.
Severity: Error
Dasd.c67479  <bus ID of the DASD>: FORMAT 1 - Seek incomplete
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Dasd.c81491  <bus ID of the DASD>: Device type <device type> is not supported in DIAG mode
Explanation: Only DASD of type FBA and ECKD are supported in DIAG mode.
User response: Set the sysfs 'use_diag' attribute of the DASD to 0 and try again to access the DASD.
Severity: Warning

Dasd.c87cc2  <bus ID of the DASD>: FORMAT 5 - Data Check in the key area; offset active
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Dasd.c9cc06  <bus ID of the DASD>: FORMAT 1 - Device status 1 not valid
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Dasd.c9f7f5  <bus ID of the DASD>: FORMAT 7 - Invalid tag-in during selection sequence
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Dasd.ca8dfc  <bus ID of the DASD>: FORMAT 7 - Permanent path error (DASD controller not available)
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Dasd.cf8d3d  <bus ID of the DASD>: FORMAT 5 - Data Check in the count area
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

Dasd.d0c64e  <bus ID of the DASD>: A 64-bit DIAG call failed
Explanation: 64-bit DIAG calls require a 64-bit z/VM version.
User response: Use z/VM 5.2 or later or set the sysfs 'use_diag' attribute of the DASD to 0 to switch off DIAG.
Severity: Warning

Dasd.d2af02  <bus ID of the DASD>: FORMAT 0 - Channel requested ... <reason code>
Explanation: This is an operating system independent message that is issued by the storage system. The possible reason codes indicate the following problems:
00 No Message. 01 The channel has requested unit check sense data. 02 The channel has requested retry and retry is exhausted. 03 A SA Check-2 error has occurred. This sense is presented with Equipment Check. 04 The channel has requested retry and retry is not possible.
User response: Check for related previous error messages.
Severity: Warning

Dasd.d2bf98  <bus ID of the DASD>: ERP <ERP pointer> has run out of retries and failed
Explanation: The error recovery procedure (ERP) tried to recover an error but the number of retries for the I/O was exceeded before the error could be resolved.
User response: Check for related previous error messages.
Severity: Error

Dasd.d35646  <bus ID of the DASD>: FORMAT 8 - No interruption from device during a command chain
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning
dasd.d4a740  •  dasd.df34c6

documentation of your storage system.
Severity: Warning

dasd.d4a740  <bus ID of the DASD>: Write inhibited path encountered
Explanation: This is an informational message.
User response: None.
Severity: Informational

---
dasd.d82ca0  <bus ID of the DASD>: FORMAT 2 - Support facility errors
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

---
dasd.d4d6d2  <bus ID of the DASD>: FORMAT F - DASD Fast Write inhibited
Explanation: DASD Fast Write is not allowed because of a nonvolatile storage battery check condition. This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

---
dasd.d66c5d  <bus ID of the DASD>: FORMAT 4 - No sync byte in home address area; offset active
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

---
dasd.d74b52  <bus ID of the DASD>: FORMAT F - Track format incorrect
Explanation: A track format error occurred while data was being written to the DASD or while a duplex pair was being established. This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

---
dasd.d7a598  <bus ID of the DASD>: FORMAT 5 - Data Check in the home address area
Explanation: This is an operating system independent message that is issued by the storage system.
User response: For more information see the documentation of your storage system.
Severity: Warning

---
dasd.de3a76  The DASD device driver could not be initialized
Explanation: The initialization of the DASD device driver failed because of previous errors.
User response: Check for related previous error messages.
Severity: Informational

---
dasd.df34c6  The IPL device is not a CCW device
Explanation: The value for the dasd= parameter contains the 'ipldev' keyword. During the boot process this keyword is replaced with the device from which the IPL was performed. The 'ipldev' keyword is not valid if the IPL device is not a CCW device.
User response: Do not specify the 'ipldev' keyword when performing an IPL from a device other than a CCW device.
Severity: Warning
dasd.e0558d <bus ID of the DASD>: FORMAT 9 -
Cylinder address did not compare
Explanation: This is an operating system independent
message that is issued by the storage system.
User response: For more information see the
documentation of your storage system.
Severity: Warning

---
dasd.e0679b <bus ID of the DASD>: FORMAT 8 -
Short busy time-out during device
selection
Explanation: This is an operating system independent
message that is issued by the storage system.
User response: For more information see the
documentation of your storage system.
Severity: Warning

---
dasd.e181a1 <bus ID of the DASD>: FORMAT 4 -
Home address area error
Explanation: This is an operating system independent
message that is issued by the storage system.
User response: For more information see the
documentation of your storage system.
Severity: Warning

---
dasd.e1da4d <bus ID of the DASD>: cqr <pointer to
request> timed out (<timeout value>) but
cannot be ended, retrying in 5 s
Explanation: A try of the error recovery procedure
(ERP) for the channel queued request (cqr) timed out
and failed to recover the error. The I/O request
submitted during the try could not be canceled. The
ERP waits for 5 seconds before trying again.
User response: Ignore this message if it occurs
infrequently and if the recovery succeeds during one of
the retries. If this error persists, check for related
previous error messages and report the problem to your
support organization.
Severity: Error

---
dasd.e698e6 <bus ID of the DASD>: FORMAT 8 -
Error correction code hardware fault
Explanation: This is an operating system independent
message that is issued by the storage system.
User response: For more information see the
documentation of your storage system.
Severity: Warning

---
dasd.e8d084 <bus ID of the DASD>: Accessing the
DASD failed because of an incorrect
format (rc=<return code>)
Explanation: The format of the DASD is not correct.
User response: Check the device format. For details
about the return code see the section about the
INITIALIZE function for DIAGNOSE Code X'250' in
"z/VM CP Programming Services". If you cannot resolve
the error, note the return code and contact your support
organization.
Severity: Warning

---
dasd.e951ba <bus ID of the DASD>: FORMAT 4 -
Count area error; offset active
Explanation: This is an operating system independent
message that is issued by the storage system.
User response: For more information see the
documentation of your storage system.
Severity: Warning

---
dasd.ed1a53 <bus ID of the DASD>: FORMAT 5 -
Data Check in the home address area;
offset active
Explanation: This is an operating system independent
message that is issued by the storage system.
User response: For more information see the
documentation of your storage system.
Severity: Warning

---
dasd.f02333 <bus ID of the DASD>: The cylinder
data for accessing the DASD is
inconsistent
Explanation: An error occurred in the storage system
hardware.
User response: For more information see the
documentation of your storage system.
Severity: Error

---
dasd.f0ba2c <bus ID of the DASD>: FORMAT 4 -
Home address area error; offset active
Explanation: This is an operating system independent
message that is issued by the storage system.
User response: For more information see the
documentation of your storage system.
Severity: Warning

---
dasd.f453eb • dasd.ffd164

**dasd.f453eb** <bus ID of the DASD>: FORMAT 1 - Device did not respond to selection

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.f4a01e** <bus ID of the DASD>: FORMAT 0 - Command Invalid on Secondary Address

**Explanation:** A command or order not allowed on a PPRC secondary device has been received by the secondary device. This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.f58554** <bus ID of the DASD>: FORMAT 5 - Data Check in the data area; offset active

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.f59fd6** <bus ID of the DASD>: FORMAT 6 - Reserved

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.f6f541** <bus ID of the DASD>: FORMAT F - Caching status reset to default

**Explanation:** The storage director has assigned two new subsystem status devices and resets the status to its default value. This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.f97899** <bus ID of the DASD>: Setting the DASD online failed with rc=<return code>

**Explanation:** The DASD could not be set online because of previous errors.

**User response:** Look for previous error messages. If you cannot resolve the error, note the return code and contact your support organization.

**Severity:** Warning

**dasd.f99a70** <bus ID of the DASD>: FORMAT F - Operation Terminated

**Explanation:** The storage system ends an operation related to an active channel program when termination and redrive are required and logging is not desired. This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning

**dasd.fba34e** <bus ID of the DASD>: Accessing the DASD failed because of a hardware error

**Explanation:** An error occurred in the storage system hardware.

**User response:** For more information see the documentation of your storage system.

**Severity:** Error

**dasd.ff4c45** <range> is not a valid device range

**Explanation:** A device range specified with the dasd= parameter is not valid.

**User response:** Examine the dasd= parameter and correct the device range.

**Severity:** Error

**dasd.ffd164** <bus ID of the DASD>: FORMAT 2 - 3990 check-2 error

**Explanation:** This is an operating system independent message that is issued by the storage system.

**User response:** For more information see the documentation of your storage system.

**Severity:** Warning
Chapter 12. dcssblk

This section contains messages that are issued by the z/VM discontiguous saved segments (DCSS) device driver. The DCSS device driver provides disk-like fixed block access to z/VM discontiguous saved segments.

dcssblk.14ff71 Device <device name> cannot be removed because it is not a known device
Explanation: The DCSS device you are trying to remove is not known to the DCSS device driver.
User response: List the entries under /sys/devices/dcssblk/ to see the names of the existing DCSS devices.
Severity: Warning

dcssblk.247a44 Device <device name> cannot be removed while it is in use
Explanation: You are trying to remove a device that is in use.
User response: Make sure that all users of the device close the device before you try to remove it.
Severity: Informational

dcssblk.257c8b Device <device name> is in use, its DCSSs will be saved when it becomes idle
Explanation: A save request for the device has been deferred until the device becomes idle. Then changes to all DCSSs that the device maps to will be saved permanently.
User response: None.
Severity: Warning

dcssblk.3c90ef Writing to <device name> failed because it is a read-only device
Explanation: The DCSS device is in shared access mode and cannot be written to. Depending on the type of the DCSSs that the device maps to, you might be able to change the access mode to exclusive-writable.
User response: If the DCSSs of the device are of type SC, do not attempt to write to the device. If the DCSSs of the device are of type ER or SR, change the access mode to exclusive-writable before writing to the device.
Severity: Warning

dcssblk.3d858e DCSS <device name> is of type SC and cannot be loaded as exclusive-writable
Explanation: You cannot load a DCSS device in exclusive-writable access mode if the DCSS devise maps to one or more DCSSs of type SC.
User response: Load the DCSS in shared access mode.
Severity: Error

dcssblk.50ebd0 Device <device name> has become idle and is being saved now
Explanation: A save request for the DCSSs that map to a DCSS device has been pending while the device was in use. The device has become idle and all changes to the DCSSs are now saved permanently.
User response: None.
Severity: Informational

dcssblk.6ac195 DCSS device <device name> is removed after a failed access mode change
Explanation: To change the access mode of a DCSS device, all DCSSs that map to the device were unloaded. Reloading the DCSSs for the new access mode failed and the device is removed.
User response: Look for related messages to find out why the DCSSs could not be reloaded. If necessary, add the device again.
Severity: Error

dcssblk.7b5aa7 A pending save request for device <device name> has been canceled
Explanation: A save request for the DCSSs that map to a DCSS device has been pending while the device was in use. This save request has been canceled. Changes to the DCSSs will not be saved permanently.
User response: None.
Severity: Informational

dcssblk.9a4530 All DCSSs that map to device <device name> are saved
Explanation: A save request has been submitted for the DCSS device. Changes to all DCSSs that map to the device are saved permanently.
User response: None.
Severity: Informational
dcsslblk.dd556f • dcsslblk.f85784

---

dcsslblk.dd556f  DCSS <name 1> and DCSS <name 2> have incompatible types

**Explanation:** You can only map a set of two or more DCSSs to a single DCSS device if either all DCSSs in the set have the same type or if the set contains DCSSs of the two types EW and EN but no other type. The DCSS device cannot be created because at least two of the specified DCSSs are not compatible.

**User response:** Check the definitions of the DCSSs on the z/VM hypervisor to verify that their types are compatible.

**Severity:** Error

---

dcsslblk.f259b2  Loaded <DCSS names> with total size <total size in bytes> bytes and capacity <total size in 512 byte sectors> sectors

**Explanation:** The listed DCSSs have been verified as contiguous and successfully loaded. The displayed sizes are the sums of all DCSSs.

**User response:** None.

**Severity:** Informational

---

dcsslblk.f85784  Adjacent DCSSs <name 1> and <name 2> are not contiguous

**Explanation:** You can only map a set of two or more DCSSs to a single DCSS device if the DCSSs in the set form a contiguous memory space. The DCSS device cannot be created because there is a memory gap between two adjacent DCSSs.

**User response:** Ensure that you have specified all DCSSs that belong to the set. Check the definitions of the DCSSs on the z/VM hypervisor to verify that they form a contiguous memory space.

**Severity:** Error
Chapter 13. extmem

This section contains messages that are issued by the kernel module that provides an interface to the z/VM DCSS management functions.

**extmem.06a5dd** DCSS `<DCSS name>` has multiple page ranges and cannot be loaded or queried

**Explanation:** You can only load or query a DCSS with multiple page ranges if: - The DCSS has 6 or fewer page ranges - The page ranges form a contiguous address space - The page ranges are of type EW or EN

**User response:** Check the definition of the DCSS to make sure that the conditions for DCSSs with multiple page ranges are met.

**Severity:** Error

**extmem.262f7b** Loading or querying DCSS `<DCSS name>` resulted in a hardware error

**Explanation:** Either the z/VM DIAGNOSE X'64' query or load call issued for the DCSS returned with an error.

**User response:** Look for previous extmem message to find the return code from the DIAGNOSE X'64' query or load call. For details about the return codes see the section about DIAGNOSE Code X'64' in “z/VM CP Programming Services”.

**Severity:** Error

**extmem.326775** DCSS `<DCSS name>` overlaps with used memory resources and cannot be reloaded

**Explanation:** The DCSS has been unloaded and cannot be reloaded because it overlaps with another loaded DCSS or with the memory of the z/VM guest virtual machine (guest storage).

**User response:** Ensure that no DCSS is loaded that has overlapping memory resources with the DCSS you want to reload. If the DCSS overlaps with guest storage, use the DEF STORE CONFIG z/VM CP command to create a sufficient storage gap for the DCSS. For details, see the section about the DCSS device driver in “Device Drivers, Features, and Commands”.

**Severity:** Error

**extmem.584f8e** Unloading unknown DCSS `<DCSS name>` failed

**Explanation:** The specified DCSS cannot be unloaded. The DCSS is known to the DCSS device driver but not to the DCSS kernel interface. This problem indicates a program error in extmem.c.

**User response:** Report this problem to your support organization.

**Severity:** Error

**extmem.6bd595** Loading DCSS `<DCSS name>` failed with rc=`<return code>`

**Explanation:** The DCSS kernel interface used diagnose call X'64' to load a DCSS. z/VM failed to load the DCSS and returned an error.

**User response:** For details about the return codes see the section about DIAGNOSE Code X'64' in “z/VM CP Programming Services”.

**Severity:** Warning

**extmem.7c6a46** Querying a DCSS type failed with rc=`<return code>`

**Explanation:** The DCSS kernel interface used z/VM diagnose call X'64' to query the type of a DCSS. z/VM failed to determine the type and returned an error.

**User response:** Look for related messages to find out which DCSS is affected. For details about the return codes see the section about DIAGNOSE Code X'64' in “z/VM CP Programming Services”.

**Severity:** Warning

**extmem.7fb545** DCSS `<DCSS name>` is already in the requested access mode

**Explanation:** A request to reload a DCSS with a new access mode has been rejected because the new access mode is the same as the current access mode.

**User response:** None.

**Severity:** Informational

**extmem.8b00b5** DCSS `<DCSS name>` cannot be loaded or queried

**Explanation:** You cannot load or query the specified DCSS because it is either not defined in the z/VM hypervisor, or it is a class S DCSS, or it is above 2047 MB and the Linux system is a 31-bit system.

**User response:** Use the CP command “QUERY NSS” to find out if the DCSS is a valid DCSS that can be loaded.

**Severity:** Error

**extmem.8e36b2** DCSS `<DCSS name>` exceeds the kernel mapping range `<kernel mapping range in bytes>` and cannot be loaded

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**extmem.972edd**  Saving a DCSS failed with DEFSEG response code
<response-code>

Explanation: The DEFSEG z/VM CP command failed to permanently save changes to a DCSS.

User response: Look for related messages to find the cause of this error. See also message HCP<response-code>E in the DEFSEG section of the "z/VM CP Command and Utility Reference".

Severity: Error

**extmem.c55583**  Saving a DCSS failed with SAVESEG response code
<response-code>

Explanation: The SAVESEG z/VM CP command failed to permanently save changes to a DCSS.

User response: Look for related messages to find the cause of this error. See also message HCP<response-code>E in the SAVESEG section of the "z/VM CP Command and Utility Reference".

Severity: Error

**extmem.cb0afe**  <DCSS name> needs used memory resources and cannot be loaded or queried

Explanation: You cannot load or query the DCSS because it overlaps with an already loaded DCSS or with the memory of the z/VM guest virtual machine (guest storage).

User response: Ensure that no DCSS is loaded that has overlapping memory resources with the DCSS you want to load or query. If the DCSS overlaps with guest storage, use the DEF STORECONFIG z/VM CP command to create a sufficient storage gap for the DCSS. For details, see the section about the DCSS device driver in "Device Drivers, Features, and Commands".

Severity: Error

**extmem.d03247**  Saving unknown DCSS <DCSS name> failed

Explanation: The specified DCSS cannot be saved. The DCSS is known to the DCSS device driver but not to the DCSS kernel interface. This problem indicates a program error in extmem.c.

User response: Report this problem to your support organization.

Severity: Error
DCSS <DCSS name> of range <starting page address> to <ending page address> and type <DCSS type> loaded as exclusive-writable

Explanation: The DCSS was loaded successfully in exclusive-writable access mode.

User response: None.

Severity: Informational

DCSS <DCSS name> overlaps with used storage and cannot be loaded

Explanation: You cannot load the DCSS because it overlaps with an already loaded DCSS or with the memory of the z/VM guest virtual machine (guest storage).

User response: Ensure that no DCSS is loaded that has overlapping memory resources with the DCSS you want to load. If the DCSS overlaps with guest storage, use the DEF STORE CONFIG z/VM CP command to create a sufficient storage gap for the DCSS. For details, see the section about the DCSS device driver in "Device Drivers, Features, and Commands".

Severity: Error

DCSS <DCSS name> is in use and cannot be reloaded

Explanation: Reloading a DCSS in a different access mode has failed because the DCSS is being used by one or more device drivers. The DCSS remains loaded with the current access mode.

User response: Ensure that the DCSS is not used by any device driver then try again to load the DCSS with the new access mode.

Severity: Warning

There is not enough memory to load or query DCSS <DCSS name>

Explanation: The available memory is not enough to load or query the DCSS.

User response: Free some memory and repeat the failed operation.

Severity: Error
Chapter 14. hvc_iucv

This section contains messages that are issued by the z/VM IUCV Hypervisor Console (HVC) device driver. This device driver supports terminal access through the iucvconn program to Linux instances that run as z/VM guest operating systems.

```
hvc_iucv.09cae6  A connection request from z/VM user ID <ID> was refused
Explanation: An IUCV connection request from another z/VM guest virtual machine has been refused. The request was from a z/VM guest virtual machine that is not listed by the "hvc_iucv_allow=" kernel parameter.
User response: Check the "hvc_iucv_allow=" kernel parameter setting. Consider adding the z/VM user ID to the "hvc_iucv_allow=" list in the kernel parameter line and reboot Linux.
Severity: Informational
```

```
hvc_iucv.1bc1e0  hvc_iucv_allow= specifies too many z/VM user IDs
Explanation: The "hvc_iucv_allow=" kernel parameter specifies a comma-separated list of z/VM user IDs that are permitted to connect to the z/VM IUCV hypervisor device driver. The number of z/VM user IDs that are specified with the "hvc_iucv_allow=" kernel parameter exceeds the maximum of 500.
User response: Correct the "hvc_iucv_allow=" setting by reducing the z/VM user IDs in the list and reboot Linux.
Severity: Error
```

```
hvc_iucv.339854  Creating a new HVC terminal device failed with error code=<errno>
Explanation: The device driver initialization failed to allocate a new HVC terminal device. A possible cause of this problem is memory constraints.
User response: If the error code is -12 (ENOMEM), consider assigning more memory to your z/VM guest virtual machine.
Severity: Error
```

```
hvc_iucv.5a5e90  Registering HVC terminal device as Linux console failed
Explanation: The device driver initialization failed to set up the first HVC terminal device for use as Linux console.
User response: If the error code is -12 (ENOMEM), consider assigning more memory to your z/VM guest virtual machine.
Severity: Error
```

```
hvc_iucv.5bc646  Allocating memory failed with reason code=<reason>
Explanation: The z/VM IUCV hypervisor console (HVC) device driver initialization failed, because of a general memory allocation failure. The reason code indicates the memory operation that has failed: kmem_cache (reason code=1), mempool (reason code=2), or hvc_iucv_allow= (reason code=3)
User response: Consider assigning more memory to your z/VM guest virtual machine.
Severity: Error
```

```
hvc_iucv.691dff  The z/VM IUCV HVC device driver cannot be used without z/VM
Explanation: The z/VM IUCV hypervisor console (HVC) device driver requires the z/VM inter-user communication vehicle (IUCV).
User response: Set "hvc_iucv=" to zero in the kernel parameter line and reboot Linux.
Severity: Notice
```

```
hvc_iucv.9f5b40  hvc_iucv_allow= does not specify a valid z/VM user ID list
Explanation: The "hvc_iucv_allow=" kernel parameter specifies a comma-separated list of z/VM user IDs that are permitted to connect to the z/VM IUCV hypervisor device driver. The z/VM user IDs in the list must not exceed eight characters and must not contain spaces.
User response: Correct the "hvc_iucv_allow=" setting in the kernel parameter line and reboot Linux.
Severity: Error
```

```
hvc_iucv.d4fcff  Registering IUCV handlers failed with error code=<errno>
Explanation: The device driver initialization failed to register with z/VM IUCV to handle IUCV connections, as well as sending and receiving of IUCV messages.
User response: Check for related IUCV error messages and see the ermo manual page to find out what caused the problem.
Severity: Error
```

```
hvc_iucv.e38b47  <hvc_iucv_devices> is not a valid value for the hvc_iucv= kernel parameter
Explanation: The "hvc_iucv=" kernel parameter
```
specifies the number of z/VM IUCV hypervisor console (HVC) terminal devices. The parameter value ranges from 0 to 8. If zero is specified, the z/VM IUCV HVC device driver is disabled and no IUCV-based terminal access is available.

User response: Correct the "hvc_iucv=" setting in the kernel parameter line and reboot Linux.

Severity: Error
Chapter 15. hypfs

This section contains messages that are issued by the S/390® hypervisor file system, which provides access to LPAR and z/VM hypervisor data.

**hypfs.7a79f0** Initialization of hypfs failed with rc=<error code>

**Explanation:** Initialization of hypfs failed because of resource or hardware constraints. Possible reasons for this problem are insufficient free memory or missing hardware interfaces.

**User response:** See errno.h for information about the error codes.

**Severity:** Error

**hypfs.7f5705** The hardware system does not support hypfs

**Explanation:** hypfs requires DIAGNOSE Code X'204' but this diagnose code is not available on your hardware. You need more recent hardware to use hypfs.

**User response:** None.

**Severity:** Error

**hypfs.90c29b** Updating the hypfs tree failed

**Explanation:** There was not enough memory available to update the hypfs tree.

**User response:** Free some memory and try again to update the hypfs tree. Consider assigning more memory to your LPAR or z/VM guest virtual machine.

**Severity:** Error

**hypfs.a2406e** <mount option> is not a valid mount option

**Explanation:** hypfs has detected mount options that are not valid.

**User response:** See “Device Drivers Features and Commands” for information about valid mount options for hypfs.

**Severity:** Error

**hypfs.cccfb8** The hardware system does not provide all functions required by hypfs

**Explanation:** hypfs requires DIAGNOSE Code X'224' but this diagnose code is not available on your hardware. You need more recent hardware to use hypfs.

**User response:** None.

**Severity:** Error

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Chapter 16. iucv

This section contains messages that are issued by the Inter-User Communication Vehicle (IUCV) device driver. IUCV is a z/VM communication facility that enables a program running in one z/VM guest to communicate with another z/VM guest, or with a control program, or even with itself.

iucv.beb348 Defining an interrupt buffer on CPU
<CPU number> failed with
0x<hexadecimal error value> (short error code explanation)

Explanation: Defining an interrupt buffer for external interrupts failed. Error value 0x03 indicates a problem with the z/VM directory entry of the z/VM guest virtual machine. This problem can also be caused by a program error.

User response: If the error value is 0x03, examine the z/VM directory entry of your z/VM guest virtual machine. If the directory entry is correct or if the error value is not 0x03, report this problem to your support organization.

Severity: Warning
Chapter 17. lcs

This section contains messages that are issued by the LAN channel station device driver. The LCS device driver supports non-QDIO communications through Open Systems Adapters (OSA).

**lcs.23ff8e**  
<bus ID of the LCS device>: Sending data from the LCS device to the LAN failed with rc=<ccw_device_resume return code in decimal notation>

**Explanation:** The LAN channel station (LCS) device driver could not send data to the LAN using the LCS device. This might be a temporary problem. Operations continue on the LCS device.

**User response:** If this problem occurs frequently, initiate a recovery process, for example, by writing ‘1’ to the ‘recover’ sysfs attribute of the device. If the problem persists, contact IBM support.

**Severity:** Error

**lcs.2a7553**  
<bus ID of the LCS device>: The LCS device stopped because of an error, dstat=0x<device status>, cstat=0x<subchannel status>

**Explanation:** The LAN channel station (LCS) device reported an error. The LCS device driver might start a device recovery process.

**User response:** If the device driver does not start a recovery process, initiate a recovery process, for example, by writing ‘1’ to the ‘recover’ sysfs attribute of the device. If the problem persists, note the status information provided with the message and contact IBM support.

**Severity:** Warning

**lcs.432fb3**  
<bus ID of the LCS device>: An I/O-error occurred on the LCS device

**Explanation:** The LAN channel station (LCS) device reported a problem that can be recovered by the LCS device driver. Repeated occurrences of this problem indicate a malfunctioning device.

**User response:** If this problem occurs frequently, initiate a recovery process for the device, for example, by writing ‘1’ to the ‘recover’ sysfs attribute of the device.

**Severity:** Warning

**lcs.b44620**  
<bus ID of the LCS device>: An error occurred on the LCS device, rc=<return code>

**Explanation:** The LAN channel station (LCS) device reported a problem that can be recovered by the LCS device driver. Repeated occurrences of this problem indicate a malfunctioning device.

**User response:** If this problem occurs frequently, initiate a recovery process for the device, for example, by writing ‘1’ to the ‘recover’ sysfs attribute of the device.

**Severity:** Warning

**lcs.c375fd**  
<bus ID of the LCS device>: Detecting a network adapter for LCS devices failed with rc=<lcs_detect return code in decimal notation> (0x<lcs_detect return code in hexadecimal notation>)
**Explanation:** The LCS device driver could not initialize a network adapter.

**User response:** Note the return codes from the error message and contact IBM support.

**Severity:** Error

---

**Explanation:** The LAN channel station (LCS) device driver failed to initialize an LCS device. The device is not operational.

**User response:** Initiate a recovery process, for example, by writing '1' to the 'recover' sysfs attribute of the device. If the problem persists, contact IBM support.

**Severity:** Error

---

**Explanation:** The LAN channel station (LCS) device is shut down and restarted. The recovery process might have been initiated by a user or started automatically as a response to a device problem.

**User response:** Wait until a message indicates the completion of the recovery process.

**Severity:** Warning
Chapter 18. monreader

This section contains messages that are issued by the z/VM *MONITOR record reader device driver. This device driver enables monitoring software on Linux to access z/VM *MONITOR records, which contain data about z/VM guest virtual machines.

---

**monreader.0111fc** The specified *MONITOR DCSS `<DCSS name>` does not have the required type SC

**Explanation:** The DCSS that was specified with the monreader.mondcss kernel parameter or with the mondcss module parameter cannot be a *MONITOR DCSS because it is not of type SC.

**User response:** Confirm that you are using the name of the DCSS that has been configured as the *MONITOR DCSS on the z/VM hypervisor. If the default name, MONDCSS, is used, omit the monreader.mondcss or mondcss parameter.

**Severity:** Error

---

**monreader.029e2e** The read queue for monitor data is full

**Explanation:** The read function of the z/VM *MONITOR device driver returns EOVERFLOW because not enough monitor data has been read since the monitor device has been opened. Monitor data already read are valid and subsequent reads return valid data but some intermediate data might be missing.

**User response:** Be aware that monitor data might be missing. Assure that you regularly read monitor data after opening the monitor record device.

**Severity:** Warning

---

**monreader.1a46fe** The z/VM *MONITOR record device driver cannot be loaded without z/VM

**Explanation:** The z/VM *MONITOR record device driver uses z/VM system services to provide monitor data about z/VM guest operating systems to applications on Linux. On Linux instances that run in environments other than the z/VM hypervisor, the z/VM *MONITOR record device driver does not provide any useful function and the corresponding monreader module cannot be loaded.

**User response:** Load the z/VM *MONITOR record device driver only on Linux instances that run as guest operating systems of the z/VM hypervisor. If the z/VM *MONITOR record device driver has been compiled into the kernel, ignore this message.

**Severity:** Error

---

**monreader.6f04b5** The z/VM *MONITOR record device driver failed to register with IUCV

**Explanation:** The z/VM *MONITOR record device driver receives monitor data through an IUCV connection and needs to register with the IUCV device driver. This registration failed and the z/VM *MONITOR record device driver was not loaded. A possible cause of this problem is insufficient memory.

**User response:** Free some memory and try again to load the module. If the z/VM *MONITOR record device driver has been compiled into the kernel, you might have to configure more memory and reboot Linux. If you do not want to read monitor data, ignore this message.

**Severity:** Error

---

**monreader.88c26a** Connecting to the z/VM *MONITOR system service failed with rc=<IUCV CONNECT return code>

**Explanation:** The z/VM *MONITOR record device driver receives monitor records through an IUCV connection to the z/VM *MONITOR system service. This connection could not be established when the monitor record device was opened. If the return code is 15, your z/VM guest virtual machine is not authorized to connect to the *MONITOR system service.

**User response:** If the return code is 15, ensure that the IUCV *MONITOR statement is included in the z/VM directory entry for your z/VM guest virtual machine. For other IUCV CONNECT return codes see the IUCV section in “CP Programming Services” and the "MONITOR section in “z/VM Performance”.

**Severity:** Error
Reading monitor data failed with rc=<return code>

Explanation: The z/VM *MONITOR record device driver failed to read monitor data because the IUCV REPLY function failed. The read function against the monitor record device returns EIO. All monitor data that has been read since the last read with 0 size is incorrect.

User response: Disregard all monitor data that has been read since the last read with 0 size. If the device driver has been compiled as a separate module, unload and reload the monreader module. If the device driver has been compiled into the kernel, reboot Linux. For more information about possible causes of the error see the IUCV section in "z/VM CP Programming Services" and the "MONITOR section in "z/VM Performance".

Severity: Error

Disconnecting the z/VM *MONITOR system service failed with rc=<IUCV SEVER return code>

Explanation: The z/VM *MONITOR record device driver receives monitor data through an IUCV connection to the z/VM *MONITOR system service. This connection could not be closed when the monitor record device was closed. You might not be able to resume monitoring.

User response: No immediate action is necessary. If you cannot open the monitor record device in the future, reboot Linux. For information about the IUCV SEVER return codes see the IUCV section in "CP Programming Services" and the "MONITOR section in "z/VM Performance".

Severity: Warning
Chapter 19. monwriter

This section contains messages that are issued by the monitor stream application device driver. Applications can use this device driver to write monitor data in the form of APPLDATA records to the z/VM monitor stream.

monwriter.fcbea9  Writing monitor data failed with
rc=<return code>

Explanation: The monitor stream application device driver used the z/VM diagnose call DIAG X'DC' to start writing monitor data. z/VM returned an error and the monitor data cannot be written. If the return code is 5, your z/VM guest virtual machine is not authorized to write monitor data.

User response: If the return code is 5, ensure that your z/VM guest virtual machine’s entry in the z/VM directory includes the OPTION APPLMON statement. For other return codes see the section about DIAGNOSE Code X'DC' in “z/VM CP Programming Services”.

Severity: Error
Chapter 20. netiucv

This section contains messages that are issued by the NETIUCV device driver. This network device driver uses IUCV to connect Linux guests running on different z/VM user IDs, or to connect a Linux guest to another z/VM guest such as a TCP/IP service machine.

netiucv.04ce63 <bus ID of the IUCV device>: The IUCV device failed to connect to the peer on z/VM guest <z/VM user ID>

Explanation: The connection cannot be established because the z/VM guest virtual machine with the peer interface is not configured for IUCV connections.

User response: Configure the z/VM guest virtual machine with the peer interface for IUCV connections; then try again to establish the connection.

Severity: Warning

netiucv.297069 <bus ID of the IUCV device>: z/VM guest <remote z/VM user ID> has too many IUCV connections to connect with the IUCV device

Explanation: Connecting to the remote z/VM guest virtual machine failed because the maximum number of IUCV connections for the remote z/VM guest virtual machine has been reached.

User response: Close some of the established IUCV connections on the remote z/VM guest virtual machine; then try again to establish the connection.

Severity: Error

netiucv.55da31 <bus ID of the IUCV device>: The IUCV interface to <remote z/VM user ID> has been established successfully

Explanation: The IUCV interface to the remote z/VM guest virtual machine has been established and can be activated with "ifconfig up" or an equivalent command.

User response: None.

Severity: Informational

netiucv.56149b <bus ID of the IUCV device>: Connecting the IUCV device failed with error <error code>

Explanation: The connection cannot be established because of an IUCV CONNECT error.

User response: Report this problem to your support organization.

Severity: Error

netiucv.5be5dc <bus ID of the IUCV device>: The peer interface of the IUCV device has closed the connection

Explanation: The peer interface on the remote z/VM guest virtual machine has closed the connection. Do not expect further packets on this interface. Any packets you send to this interface will be dropped.

User response: None.

Severity: Informational

netiucv.6b758f <bus ID of the IUCV device>: The IUCV device has been connected successfully to <remote z/VM user ID>

Explanation: The connection has been established and the interface is ready to transmit communication packages.

User response: None.

Severity: Informational

netiucv.863549 <bus ID of the IUCV device>: The IUCV device cannot connect to a z/VM guest with no IUCV authorization

Explanation: Because the remote z/VM guest virtual machine is not authorized for IUCV connections, the connection cannot be established.

User response: Add the statements 'IUCV ALLOW' and 'IUCV ANY' to the z/VM directory entry of the remote z/VM guest virtual machine; then try again to establish the connection. See "z/VM CP Planning and Administration" for details about the IUCV statements.

Severity: Error

netiucv.bcbc54 <bus ID of the IUCV device>: The IUCV device failed to connect to z/VM guest <z/VM user ID>

Explanation: The connection cannot be established because the z/VM guest virtual machine with the peer interface is not running.

User response: Ensure that the z/VM guest virtual machine with the peer interface is running; then try again to establish the connection.

Severity: Warning

netiucv.c1b7ef <bus ID of the IUCV device>: The IUCV device is connected to <remote z/VM user ID> and cannot be removed

Explanation: Removing a connection failed because
netiucv.cfb810

the interface is active with a peer interface on a remote z/VM guest virtual machine.

User response: Deactivate the interface with "ifconfig down" or an equivalent command; then try again to remove the interface.

Severity: Warning

netiucv.cfb810<bus ID of the IUCV device>

Connecting the IUCV device would exceed the maximum number of IUCV connections

Explanation: The connection cannot be established because the maximum number of IUCV connections has been reached on the local z/VM guest virtual machine.

User response: Close some of the established IUCV connections on the local z/VM guest virtual machine; then try again to establish the connection.

Severity: Error
Chapter 21. qeth

This section contains messages that are issued by the qeth device driver. The qeth device driver supports a multitude of network connections, for example, connections through Open Systems Adapters (OSA), HiperSockets™, guest LANs, and virtual switches.

qeth.1d3c1d <bus ID of the qeth device>: Registering IP address <IP address> failed
Explanation: An IP address could not be registered with the network adapter.
User response: Check if another operating system instance has already registered the IP address with the same network adapter or at the same logical IP subnet.
Severity: Warning

qeth.21a074 <bus ID of the qeth device>: There is no kernel module to support discipline <discipline>
Explanation: The qeth device driver or a user command requested a kernel module for a particular qeth discipline. Either the discipline is not supported by the qeth device driver or the requested module is not available to your Linux system.
User response: Check if the requested discipline module has been compiled into the kernel or is present in /lib/modules/<version>/kernel/drivers/s390/net.
Severity: Error

qeth.2211d4 <bus ID of the qeth device>: The LAN is offline
Explanation: A start LAN command was sent by the qeth device driver but the physical or virtual adapter has not started the LAN. The LAN might take a few seconds to become available.
User response: Check the status of the qeth device, for example, with the lsqeth command. If the device does not become operational within a few seconds, initiate a recovery process, for example, by writing '1' to the 'recover' sysfs attribute of the device.
Severity: Warning

qeth.2f18a4 <bus ID of the qeth device>: Starting multicast support for <network interface name> failed
Explanation: The qeth device driver could not start multicast support on the network adapter.
User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.
Severity: Warning

qeth.3acf0c <bus ID of the qeth device>: The qeth device driver failed to recover an error on the device
Explanation: The qeth device driver performed an automatic recovery operation to recover an error on a qeth device. The recovery operation failed.
User response: Try the following actions in the given order: i) Check the status of the qeth device, for example, with the lsqeth command. ii) Initiate a recovery process by writing '1' to the 'recover' sysfs attribute of the device. iii) Ungroup and regroup the subchannel triplet of the device. vi) Reboot Linux. v) If the problem persists, gather Linux debug data and report the problem to your support organization.
Severity: Warning

qeth.3d0305 <bus ID of the qeth device>: The adapter is used exclusively by another host
Explanation: The qeth adapter is exclusively used by another host.
User response: Use another qeth adapter or configure this one not exclusively to a particular host.
Severity: Error

qeth.48d0da <bus ID of the qeth device>: The network adapter failed to generate a unique ID
Explanation: In IBM mainframe environments, network interfaces are not identified by a specific MAC address. Therefore, the network adapters provide the network interfaces with unique IDs to be used in their IPv6 link local addresses. Without such a unique ID, duplicate addresses might be assigned in other LPARs.
User response: Install the latest firmware on the adapter hardware. Manually, configure an IPv6 link local address for this device.
Severity: Warning

qeth.4da7f2 Initializing the qeth device driver failed
Explanation: The base module of the qeth device driver could not be initialized.
User response: See errno.h to determine the reason for the error. i) Reboot Linux. ii) If the problem persists,
gather Linux debug data and report the problem to your support organization.

Severity: Error

qeth.5cb8a3 <bus ID of the qeth device>: The qeth device is not configured for the OSI layer required by z/VM

Explanation: A qeth device that connects to a virtual network on z/VM must be configured for the same Open Systems Interconnection (OSI) layer as the virtual network. An ETHERNET guest LAN or VSWITCH uses the data link layer (layer 2) while an IP guest LAN or VSWITCH uses the network layer (layer 3).

User response: If you are connecting to an ETHERNET guest LAN or VSWITCH, set the layer2 sysfs attribute of the qeth device to 1. If you are connecting to an IP guest LAN or VSWITCH, set the layer2 sysfs attribute of the qeth device to 0.

Severity: Error

qeth.5d5e5c There is no IPv6 support for the layer 3 discipline

Explanation: If you want to use IPv6 with the layer 3 discipline, you need a Linux kernel with IPv6 support. Because your Linux kernel has not been compiled with IPv6 support, you cannot use IPv6 with the layer 3 discipline, even if your adapter supports IPv6.

User response: Use a Linux kernel that has been compiled to include IPv6 support if you want to use IPv6 with layer 3 qeth devices.

Severity: Warning

qeth.77cf86 <bus ID of the qeth device>: Enabling broadcast filtering for <network interface name> failed

Explanation: The qeth device driver could not enable broadcast filtering on the network adapter.

User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.7ade71 <bus ID of the qeth device>: Starting VLAN support for <network interface name> failed

Explanation: The qeth device driver could not start VLAN support on the network adapter.

User response: None if you do not require VLAN support. If you need VLAN support, ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.8a7bb9 <bus ID of the qeth device>: Starting IP fragmentation support for <network interface name> failed

Explanation: The qeth device driver could not start IP fragmentation support on the network adapter.

User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.96f275 <bus ID of the qeth device>: Starting proxy ARP support for <network interface name> failed

Explanation: The qeth device driver could not start proxy ARP support on the network adapter.

User response: None if you do not require proxy ARP support. If you need proxy ARP, ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.9e9f31 <bus ID of the qeth device>: Setting up broadcast echo filtering for <network interface name> failed

Explanation: The qeth device driver could not set up broadcast echo filtering on the network adapter.
User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.a4a7ee <bus ID of the qeth device>: The link for <network interface name> on CHPID 0x<CHPID> has been restored

Explanation: A failed network link has been re-established. A device recovery is in progress.

User response: Wait until a message indicates the completion of the recovery process.

Severity: Informational

qeth.a853bd <bus ID of the qeth device>: Reading the adapter MAC address failed

Explanation: The qeth device driver could not read the MAC address from the network adapter.

User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.aa55b2 <bus ID of the qeth device>: The adapter hardware is of an unknown type

Explanation: The qeth device driver does not recognize the adapter hardware. The cause of this problem could be a hardware error or a Linux level that does not support your adapter hardware.

User response: i) Investigate if your adapter hardware is supported by your Linux level. Consider using hardware that is supported by your Linux level or upgrading to a Linux level that supports your hardware.
   ii) Install the latest firmware on your adapter hardware.
   iii) If the problem persists and is not caused by a version mismatch, contact IBM support.

Severity: Error

qeth.bfc665 <bus ID of the qeth device>: The user canceled setting the qeth device offline

Explanation: A user initiated setting the device offline but subsequently canceled the operation, for example, with CTRL+C.

User response: Check the status of the qeth device, for example, with the lsqeth command. If necessary, repeat the operation to set the device offline.

Severity: Warning

qeth.cc86d9 <bus ID of the qeth device>: Activating IPv6 support for <network interface name> failed

Explanation: The qeth device driver could not activate IPv6 support on the network adapter.

User response: None if you do not require IPv6 communication. If you need IPv6 support, ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.c0a93c <bus ID of the qeth device>: Enabling HW checksumming for <network interface name> failed, using SW checksumming

Explanation: The network adapter supports hardware checksumming for incoming IP packages but the qeth device driver could not enable hardware checksumming on the adapter. The qeth device driver continues to use software checksumming for incoming IP packages.

User response: None if you do not require hardware checksumming for incoming network traffic. If you want to enable hardware checksumming, ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.d5b6b3 <bus ID of the qeth device>: Starting outbound TCP segmentation offload for <network interface name> failed

Explanation: The network adapter supports TCP segmentation offload, but the qeth device driver could not start this support on the adapter.

User response: None if you do not require TCP segmentation offload. If you want to enable TCP segmentation offload, ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Error

qeth.e73874 <bus ID of the qeth device>: Starting ARP processing support for <network interface name> failed

Explanation: The qeth device driver could not start ARP support on the network adapter.

User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem,
reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.ef9329 <bus ID of the qeth device>: A hardware operation timed out on the device

Explanation: A hardware operation timed out on the qeth device.

User response: Check the status of the qeth device, for example, with the lsqeth command. If the device is not operational, initiate a recovery process, for example, by writing '1' to the 'recover' sysfs attribute of the device.

Severity: Warning

qeth.f56315 <bus ID of the qeth device>: The link for interface <network interface name> on CHPID 0x<CHPID> failed

Explanation: A network link failed. A possible reason for this error is that a physical network cable has been disconnected.

User response: Ensure that the network cable on the adapter hardware is connected properly. If the connection is to a guest LAN, ensure that the device is still coupled to the guest LAN.

Severity: Warning

qeth.f6c89f <bus ID of the qeth device>: Enabling the passthrough mode for <network interface name> failed

Explanation: The qeth device driver could not enable the passthrough mode on the network adapter. The passthrough mode is required for all network traffic other than IPv4. In particular, the passthrough mode is required for IPv6 traffic.

User response: None if all you want to support is IPv4 communication. If you want to support IPv6 or other network traffic apart from IPv4, ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.f823af <bus ID of the qeth device>: QDIO reported an error, rc=<return code>

Explanation: The QDIO subsystem reported an error.

User response: Check for related QDIO errors. Check the status of the qeth device, for example, with the lsqeth command. If the device is not operational, initiate a recovery process, for example, by writing '1' to the 'recover' sysfs attribute of the device.

Severity: Warning

qeth.faf3f3 <bus ID of the qeth device>: Starting source MAC-address support for <network interface name> failed

Explanation: The qeth device driver could not enable source MAC-address on the network adapter.

User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.fce5bf <bus ID of the qeth device>: Setting up broadcast filtering for <network interface name> failed

Explanation: The qeth device driver could not set up broadcast filtering on the network adapter.

User response: Ungroup and regroup the subchannel triplet of the device. If this does not resolve the problem, reboot Linux. If the problem persists, gather Linux debug data and report the problem to your support organization.

Severity: Warning

qeth.fd0b7c <bus ID of the qeth device>: A recovery process has been started for the device

Explanation: A recovery process was started either by the qeth device driver or through a user command.

User response: Wait until a message indicates the completion of the recovery process.

Severity: Warning
Chapter 22. s390dbf

This section contains messages that are issued by the S/390 debug feature.

**s390dbf.2d934d**  Root becomes the owner of all s390dbf files in sysfs

**Explanation:** The S/390 debug feature you are using only supports uid/gid = 0.

**User response:** None.

**Severity:** Warning

**s390dbf.8e20d2**  Flushing debug data failed because <debug area number> is not a valid area

**Explanation:** Flushing a debug area by using the 'flush' sysfs attribute failed. Valid values are the minus sign (-) for flushing all areas, or the number of the respective area for flushing a single area.

**User response:** Write a valid area number or the minus sign (-) to the 'flush' sysfs attribute.

**Severity:** Informational

**s390dbf.a1b9ad**  Registering view <feature name>/<view name> would exceed the maximum number of views <maximum>

**Explanation:** The maximum number of allowed debug feature views has been reached. The view has not been registered. The system keeps running but the new view will not be available in sysfs. This is a program error.

**User response:** Report this problem to your support partner.

**Severity:** Error

**s390dbf.ac1eb1**  Registering debug feature <feature name> failed

**Explanation:** The initialization of an S/390 debug feature failed. A likely cause of this problem is memory constraints. The system keeps running, but the debug data for this feature will not be available in sysfs.

**User response:** Consider assigning more memory to your LPAR or z/VM guest virtual machine.

**Severity:** Error

**s390dbf.d8734b**  Allocating memory for <number of pages> pages failed

**Explanation:** Setting the debug feature size by using the 'page' sysfs attribute failed. Linux did not have enough memory for expanding the debug feature to the requested size.
Chapter 23. setup

This section contains messages that are issued when Linux starts.

**setup.0713cd** Address spaces switched, mvcos not available

Explanation: The kernel parameter 'switch_amode' has been specified. The kernel will use the primary address space for user space processes and the home address space for the kernel. The mvcos instruction is not available and the kernel will use the slower page table walk method to copy between the user and kernel address space.

User response: None.
Severity: Informational

**setup.0961dd** Linux is running as a z/VM guest operating system in 31-bit mode

Explanation: The 31-bit Linux kernel detected that it is running as a guest operating system of the z/VM hypervisor.

User response: None.
Severity: Informational

**setup.0cb929** Address spaces switched, mvcos available

Explanation: The kernel parameter 'switch_amode' has been specified. The kernel will use the primary address space for user space processes and the home address space for the kernel. The mvcos instruction is used to copy between the user and kernel address space.

User response: None.
Severity: Informational

**setup.1a06a7** Linux is running as a z/VM guest operating system in 64-bit mode

Explanation: The 64-bit Linux kernel detected that it is running as a guest operating system of the z/VM hypervisor.

User response: None.
Severity: Informational

**setup.262f23** The hardware system has IEEE compatible floating point units

Explanation: The Linux kernel detected that it is running on a hardware system with CPUs that have IEEE compatible floating point units.

User response: None.
Severity: Informational

**setup.6bac7a** Linux is running natively in 64-bit mode

Explanation: The 64-bit Linux kernel detected that it is running on an IBM mainframe, either as the sole operating system in an LPAR or as the sole operating system on the entire mainframe. The Linux kernel is not running as a guest operating system of the z/VM hypervisor.

User response: None.
Severity: Informational

**setup.904d83** initrd extends beyond end of memory

(...)

Explanation: The load address and the size of the initial RAM disk result in an end address of the initial RAM disk that is beyond the end of the system memory.

User response: Lower the load address of the initial RAM disk, reduce the size of the initial RAM disk, or increase the size if the system memory to make the initial RAM disk fit into the memory.
Severity: Error

**setup.9d71f8** The hardware system has no IEEE compatible floating point units

Explanation: The Linux kernel detected that it is running on a hardware system with CPUs that do not have IEEE compatible floating point units.

User response: None.
Severity: Informational

**setup.c5fc0c** Execute protection active, mvcos not available

Explanation: The kernel parameter 'noexec' has been specified. The kernel will honor the execute bit of mappings. The mvcos instruction is not available and the kernel will use the slower page table walk method to copy between the user and kernel address space.

User response: None.
Severity: Informational

**setup.d96661** Execute protection active, mvcos available

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setup.db58c7 • setup.f47455

Explanation: The kernel parameter 'noexec' has been specified. The kernel will honor the execute bit of mappings and will use the mvcos instruction to copy between the user and kernel address space.

User response: None.

Severity: Informational

setup.db58c7  Linux is running natively in 31-bit mode

Explanation: The 31-bit Linux kernel detected that it is running on an IBM mainframe, either as the sole operating system in an LPAR or as the sole operating system on the entire mainframe. The Linux kernel is not running as a guest operating system of the z/VM hypervisor.

User response: None.

Severity: Informational

setup.f47455  Moving initrd (0x<old start address of the initial RAM disk> -> 0x<new start address of the initial RAM disk>, size: <size of the initial RAM disk>)

Explanation: The location of the initial RAM disk conflicted with the boot memory bitmap. To resolve the conflict the initial RAM disk has been moved to a new location.

User response: None.

Severity: Informational
Chapter 24. tape

This section contains messages that are issued by the channel-attached tape device driver.

tape.01b705 <bus ID of the tape device>: The tape unit is not ready
Explanation: The tape unit is online but not ready.
User response: Turn the ready switch on the tape unit to the ready position and try the operation again.
Severity: Warning

tape.07e630 <bus ID of the tape device>: DEVSIM
SEV=<SEV>, DEVTYPE=3590/<model>,
MC=<message code>,
ES=<exception>/required service action>, REF=0x<refcode1>-0x<refcode2>-0x<refcode3>
Explanation: This is an operating system independent device subsystem information message issued by the tape unit. The information in the message is intended for the IBM customer engineer.
User response: See the documentation for the tape unit for further information.
Severity: Warning

tape.0a2df0 <bus ID of the tape device>: The tape information states an incorrect length
Explanation: The tape is shorter than stated at the beginning of the tape data. A possible reason for this problem is that the tape might have been physically truncated. Data written to the tape might be incomplete or damaged.
User response: If this problem occurred during a write-type operation, consider repeating the operation with a different tape cartridge.
Severity: Warning

tape.0dc6e <bus ID of the tape device>: A parity error occurred on the tape bus
Explanation: A data parity check error occurred on the bus. Data that was read or written while the error occurred is not valid.
User response: Reposition the tape and repeat the read-type or write-type operation.
Severity: Warning

tape.1438e6 <bus ID of the tape device>: A channel interface error cannot be recovered
Explanation: An error has occurred on the channel interface. This error cannot be recovered by the control unit error recovery process.
User response: See the documentation of the control unit.
Severity: Warning

tape.150bb7 <bus ID of the tape device>: The tape unit does not support tape format 3480-2 XF
Explanation: The tape unit does not support tapes recorded in the 3480-2 XF format.
User response: If you do not need the data recorded on the current tape, rewind the tape and overwrite it with a supported format. If you need the data on the current tape, use a tape unit that supports the tape format.
Severity: Warning

tape.15d49e <bus ID of the tape device>: The maximum block size for buffered mode is exceeded
Explanation: The block to be written is larger than allowed for the buffered mode.
User response: Use a smaller block size.
Severity: Warning

tape.18dc29 <bus ID of the tape device>: The tape medium must be loaded into a different tape unit
Explanation: The tape device has indicated an error condition that requires loading the tape cartridge into a different tape unit to recover.
User response: Unload the cartridge and use a different tape unit to retry the operation.
Severity: Warning

tape.1e4d72 <bus ID of the tape device>: Opening the tape failed because of missing end-of-file marks
Explanation: The tape block device driver requires end-of-file marks at the end of the recorded area on a tape. If the tape device was to be opened in response to a mount command, the mount command will fail.
User response: Insert a tape cartridge that has been prepared for use with the tape block device driver and try the operation again.
Severity: Warning
**tape.257c56**  
<bus ID of the tape device>: A path equipment check occurred for the tape device  
**Explanation:** A path equipment check has occurred. This check indicates problems with the connection between the mainframe system and the tape control unit.  
**User response:** Ensure that the cable connections between the mainframe system and the control unit are securely in place and not damaged.  
**Severity:** Warning  

---  
**tape.2caadc**  
<bus ID of the tape device>: I/O error recovery failed on the tape control unit  
**Explanation:** An I/O error occurred that cannot be recovered by the automatic error recovery process of the tape control unit. The application that operates the tape unit will receive a return value of -EIO which indicates an I/O error. The data on the tape might be damaged.  
**User response:** If this problem occurred during a write-type operation, consider repositioning the tape and repeating the operation.  
**Severity:** Warning  

---  
**tape.33278e**  
<bus ID of the tape device>: A write error on the tape cannot be recovered  
**Explanation:** A write error has occurred that could not be recovered by the automatic error recovery process.  
**User response:** Use a different tape cartridge.  
**Severity:** Warning  

---  
**tape.3be0ed**  
<bus ID of the tape device>: Reading the tape beyond the end of the recorded area failed  
**Explanation:** A read-type operation failed because it extended beyond the end of the recorded area on the tape medium.  
**User response:** None.  
**Severity:** Warning  

---  
**tape.3c5600**  
<bus ID of the tape device>: I/O subsystem information: exception  
**Explanation:** This is an operating system independent I/O subsystem information message that was issued by the tape unit. The information in the message is intended for the IBM customer engineer.  
**User response:** See the documentation for the tape unit for further information.  
**Severity:** Warning  

---  
**tape.3f2d36**  
<bus ID of the tape device>: The tape unit does not support format 3480 XF  
**Explanation:** The tape unit does not support tapes recorded in the 3480 XF format.  
**User response:** If you do not need the data recorded on the current tape, rewind the tape and overwrite it with a supported format. If you need the data on the current tape, use a tape unit that supports the tape format.  
**Severity:** Warning  

---  
**tape.3f38f7**  
<bus ID of the tape device>: A data overrun occurred between the control unit and tape unit  
**Explanation:** A data overrun error has occurred on the connection between the control unit and the tape unit. If this problem occurred during a write-type operation, the integrity of the data on the tape might be compromised.  
**User response:** Use a faster connection. If this problem occurred during a write-type operation, consider repositioning the tape and repeating the operation.  
**Severity:** Warning  

---  
**tape.3f6a17**  
<bus ID of the tape device>: IOSIM  
**Explanation:** This is an operating system independent I/O subsystem information message that was issued by the tape unit. The information in the message is intended for the IBM customer engineer.  
**User response:** See the documentation for the tape unit for further information.  
**Severity:** Warning  

---  
**tape.442701**  
<bus ID of the tape device>: The tape unit does not support the tape length  
**Explanation:** The length of the tape in the cartridge is incompatible with the tape unit.  
**User response:** Either use a different tape unit or use a tape with a supported length.  
**Severity:** Warning
tape.497827 <bus ID of the tape device>: The tape unit failed to obtain the encryption key from EKM

Explanation: The tape unit was unable to retrieve the encryption key required to decode the data on the tape from the enterprise key manager (EKM).

User response: See the EKM and tape unit documentation for information about how to enable the tape unit to retrieve the encryption key.

Severity: Error

tape.4b2253 <bus ID of the tape device>: Device subsystem information: exception, service <required service action>

Explanation: This is an operating system independent device subsystem information message that was issued by the tape unit. The information in the message is intended for the IBM customer engineer.

User response: See the documentation for the tape unit for further information.

Severity: Warning

tape.553e40 <bus ID of the tape device>: Writing the ID-mark failed

Explanation: The ID-mark at the beginning of tape could not be written. The tape medium might be write-protected.

User response: Try a different tape cartridge. Ensure that the write-protection on the cartridge is switched off.

Severity: Warning

tape.575a6b <bus ID of the tape device>: The tape unit has issued sense message <sense message code>

Explanation: The tape unit has issued an operating system independent sense message.

User response: See the documentation for the tape unit for further information.

Severity: Warning

tape.601044 <bus ID of the tape device>: The tape unit has issued an unknown sense message code 0x<code>

Explanation: The tape device driver has received an unknown sense message from the tape unit. driver.

User response: See the documentation for the tape unit for further information.

Severity: Warning

tape.633cc6 <bus ID of the tape device>: The tape unit requires a firmware update

Explanation: The tape unit requires firmware patches from the tape control unit but the required patches are not available on the control unit.

User response: Make the require patches available on the control unit then reposition the tape and retry the operation. For details about obtaining and installing firmware updates see the control unit documentation.

Severity: Warning

tape.64dd87 <bus ID of the tape device>: The tape medium has been rewound or unloaded manually

Explanation: The tape unit rewind button, unload button, or both have been used to rewind or unload the tape cartridge. A tape cartridge other than the intended cartridge might have been inserted or the tape medium might not be at the expected position.

User response: Verify that the correct tape cartridge has been inserted and that the tape medium is at the required position before continuing to work with the tape.

Severity: Warning

tape.696dc8 <bus ID of the tape device>: The tape medium is write-protected

Explanation: A write-type operation failed because the tape medium is write-protected.

User response: Eject the tape cartridge, switch off the write protection on the cartridge, insert the cartridge, and try the operation again.

Severity: Warning

tape.69f60e <bus ID of the tape device>: The tape unit does not support the current tape length

Explanation: The length of the tape in the cartridge is incompatible with the tape unit.

User response: Either use a different tape unit or use a tape with a supported length.

Severity: Warning

tape.6bcece <bus ID of the tape device>: The tape unit is already assigned

Explanation: The tape unit is already assigned to another channel path.

User response: Free the tape unit from the operating system instance to which it is currently assigned then try again.
taped.6e320b • tape.b334e9

Severity: Warning

tape.6e320b <bus ID of the tape device>: The size of the recorded area is <number of blocks> blocks

Explanation: The tape block device driver has successfully determined the size of the recorded area on the tape medium. The tape device can now be used as a block device. See the mount(8) man page for details on how to access block devices.

User response: None.

Severity: Informational

tape.956e53 <bus ID of the tape device>: The tape does not have the required tape tension

Explanation: The tape does not have the required tape tension.

User response: None.

Severity: Warning

tape.991401 <bus ID of the tape device>: Tape media information: exception <exception>, service <service>

Explanation: This is an operating system independent tape medium information message that was issued by the tape unit. The information in the message is intended for the IBM customer engineer.

User response: See the documentation for the tape unit for further information.

Severity: Warning

tape.a6fc3e <bus ID of the tape device>: Determining the size of the recorded area...

Explanation: The tape block device driver is currently determining the size of the recorded area on the tape medium. This operation typically takes a few minutes.

User response: Wait until the size is shown in a completion message.

Severity: Informational

tape.b334e9 <bus ID of the tape device>: The tape unit is not online

Explanation: The tape unit is not online to the tape device driver.

User response: Ensure that the tape unit is operational and that the cable connections between the control unit and the tape unit are securely in place and not damaged.
Severity: Warning  
tape.c5ee4a <bus ID of the tape device>: Automatic unloading of the tape cartridge failed  
Explanation: The tape unit failed to unload the cartridge.  
User response: Unload the cartridge manually by using the eject button on the tape unit.  
Severity: Warning  
tape.c7fc10 <bus ID of the tape device>: The tape unit does not support the compaction algorithm  
Explanation: The tape unit cannot read the current tape. The data on the tape has been compressed with an algorithm that is not supported by the tape unit.  
User response: Use a tape unit that supports the compaction algorithm used for the current tape.  
Severity: Warning  
tape.ccc5ad <bus ID of the tape device>: The tape unit failed to load the cartridge  
Explanation: An error has occurred while loading the tape cartridge.  
User response: Unload the cartridge and load it again.  
Severity: Warning  
tape.cfc6c4 <bus ID of the tape device>: An equipment check has occurred on the tape unit  
Explanation: Possible reasons for the check condition are a unit adapter error, a buffer error on the lower interface, an unusable internal path, or an error that has occurred while loading the cartridge.  
User response: Examine the tape unit and the cartridge loader. Consult the tape unit documentation for details.  
Severity: Warning  
tape.d2b071 <bus ID of the tape device>: A read error occurred that cannot be recovered  
Explanation: A read error has occurred that cannot be recovered. The current tape might be damaged.  
User response: None.  
Severity: Warning  
tape.d56330 <bus ID of the tape device>: The tape contains an incorrect block ID sequence  
Explanation: The control unit has detected an incorrect block ID sequence on the tape. This problem typically indicates that the data on the tape is damaged.  
User response: If this problem occurred during a write-type operation reposition the tape and repeat the operation.  
Severity: Warning  
tape.d608a6 <bus ID of the tape device>: The control unit has fenced access to the tape volume  
Explanation: The control unit fences further access to the current tape volume. The data integrity on the tape volume might have been compromised.  
User response: Rewind and unload the tape cartridge.  
Severity: Warning  
tape.e473c9 <bus ID of the tape device>: The tape subsystem is running in degraded mode  
Explanation: The tape subsystem is not operating at its maximum performance.  
User response: Contact your service representative for the tape unit and report this problem.  
Severity: Warning  
tape.e96040 <bus ID of the tape device>: The tape unit cannot process the tape format  
Explanation: Either the tape unit is not able to read the format ID mark, or the specified format is not supported by the tape unit.  
User response: If you do not need the data recorded on the current tape, use a different tape or write a new format ID mark at the beginning of the tape. Be aware that writing a new ID mark leads to a loss of all data that has been recorded on the tape. If you need the data on the current tape, use a tape unit that supports the tape format.  
Severity: Warning  
tape.f06a05 <bus ID of the tape device>: An unexpected condition <number> occurred in tape error recovery  
Explanation: The control unit has reported an error condition that is not recognized by the error recovery process of the tape device driver.  
User response: Report this problem and the condition
number from the message to your support organization.

Severity: Error

**tape.fbea0c**

<bus ID of the tape device>: **A tape cartridge has been mounted**

Explanation: A tape cartridge has been inserted into the tape unit. The tape in the tape unit is ready to be accessed.

User response: None.

Severity: Informational

**tape.fca498**

<bus ID of the tape device>: **A different host has privileged access to the tape unit**

Explanation: You cannot access the tape unit because a different operating system instance has privileged access to the unit.

User response: Unload the current cartridge to solve this problem.

Severity: Warning

**tape.ff1db8**

<bus ID of the tape device>: **The tape unit has issued an unknown sense message code** `<code>`

Explanation: The tape device has issued a sense message, that is unknown to the device driver.

User response: Use the message code printed as hexadecimal value and see the documentation for the tape unit for further information.

Severity: Warning
Chapter 25. time

This section contains messages that are issued by the System z specific time functions.

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**time.93fc64** The real or virtual hardware system does not provide an STP interface

**Explanation:** The 'stp=' parameter has been passed on the kernel parameter line for a Linux instance that does not have access to the server time protocol (STP) facility.

**User response:** To avoid this warning remove the 'stp=' kernel parameter.

**Severity:** Warning

---

**time.c4bd65** The real or virtual hardware system does not provide an ETR interface

**Explanation:** The 'etr=' parameter has been passed on the kernel parameter line for a Linux instance that does not have access to the external time reference (ETR) facility.

**User response:** To avoid this warning remove the 'etr=' kernel parameter.

**Severity:** Warning

---

**time.eb7580** The ETR interface has adjusted the clock by `<number of microseconds>` microseconds

**Explanation:** The external time reference (ETR) interface has synchronized the system clock with the external reference and set it to a new value. The time difference between the old and new clock value has been passed to the network time protocol (NTP) as a single shot adjustment.

**User response:** None.

**Severity:** Notice
Chapter 26. vmcp

This section contains messages that are issued by the z/VM CP interface device driver. With this device driver you can send z/VM control program (CP) commands to the z/VM hypervisor and display z/VM responses.

vmcp.42661a The z/VM CP interface device driver cannot be loaded without z/VM

Explanation: With the z/VM CP interface you can issue z/VM CP commands from a Linux terminal session. On Linux instances that run in environments other than the z/VM hypervisor, the z/VM CP interface does not provide any useful function and the corresponding vmcp device driver cannot be loaded.

User response: Load the vmcp device driver only on Linux instances that run as guest operating systems of the z/VM hypervisor. If the device driver has been compiled into the kernel, ignore this message.

Severity: Warning
This section contains messages that are issued by the z/VM virtual unit record device driver. This device driver provides Linux with access to z/VM virtual unit record devices like punch card readers, card punches, and line printers.

**vmur.53bf56** The z/VM virtual unit record device driver cannot be loaded without z/VM

**Explanation:** The z/VM virtual unit record device driver provides Linux with access to z/VM virtual unit record devices like punch card readers, card punches, and line printers. On Linux instances that run in environments other than the z/VM hypervisor, the device driver does not provide any useful function and the corresponding vmur module cannot be loaded.

**User response:** Load the vmur module only on Linux instances that run as guest operating systems of the z/VM hypervisor. If the z/VM virtual unit record device has been compiled into the kernel, ignore this message.

**Severity:** Error

**vmur.ff8847** Kernel function alloc_chrdev_region failed with error code <error code according to errno definitions>

**Explanation:** The z/VM virtual unit record device driver (vmur) needs to register a range of character device minor numbers from 0x0000 to 0xffff. This registration failed, probably because of memory constraints.

**User response:** Free some memory and reload the vmur module. If the z/VM virtual unit record device driver has been compiled into the kernel reboot Linux. Consider assigning more memory to your LPAR or z/VM guest virtual machine.

**Severity:** Error
Chapter 28. xpram

This section contains messages that are issued by the XPRAM device driver. This block device driver enables Linux on System z to access expanded storage.

xpram.ab9aa4  <number of partitions> is not a valid number of XPRAM devices

Explanation:  The number of XPRAM partitions specified for the 'devs' module parameter or with the 'xpram.parts' kernel parameter must be an integer in the range 1 to 32. The XPRAM device driver created a maximum of 32 partitions that are probably not configured as intended.

User response:  If the XPRAM device driver has been compiled as a separate module, unload the module and load it again with a correct value for the 'devs' module parameter. If the XPRAM device driver has been compiled into the kernel, correct the 'xpram.parts' parameter in the kernel command line and restart Linux.

Severity:  Error

xpram.f004d1  Not enough expanded memory available

Explanation:  The amount of expanded memory required to set up your XPRAM partitions depends on the 'sizes' parameter specified for the xpram module or on the specifications for the 'xpram.parts' parameter if the XPRAM device driver has been compiled into the kernel. Your current specification exceed the amount of available expanded memory. Your XPRAM partitions are probably not configured as intended.

User response:  If the XPRAM device driver has been compiled as a separate module, unload the xpram module and load it again with an appropriate value for the 'sizes' module parameter. If the XPRAM device driver has been compiled into the kernel, adjust the 'xpram.parts' parameter in the kernel command line and restart Linux. If you need more than the available expanded memory, increase the expanded memory allocation for your virtual hardware or LPAR.

Severity:  Error

xpram.f6ae78  No expanded memory available

Explanation:  The XPRAM device driver has been loaded in a Linux instance that runs in an LPAR or virtual hardware without expanded memory. No XPRAM partitions are created.

User response:  Allocate expanded memory for your LPAR or virtual hardware or do not load the xpram module. You can ignore this message, if you do not want to create XPRAM partitions.
Chapter 29. zdump

This section contains messages that are issued by the zfcpdump functions.

zdump.54a0dd  The 32-bit dump tool cannot be used for a 64-bit system

Explanation:  The dump process ends without creating a system dump.

User response:  Use a 64-bit dump tool to obtain a system dump for 64-bit Linux instance.

Severity:  Alert
Chapter 30. zfcp

This section contains messages that are issued by the SCSI-over-Fibre Channel device driver (zfcp device driver) for the QDIO-based System z SCSI-over-Fibre Channel adapter. The zfcp device driver provides support for Fibre Channel-attached SCSI devices on Linux on System z.

zfcp.000866 <bus ID of the zfcp device>: The FCP adapter cannot support more NPIV ports

Explanation: N_Port ID Virtualization (NPIV) ports consume physical resources on the FCP adapter. The FCP adapter resources are exhausted. The connection is not operational.

User response: Analyze the number of available NPIV ports and which operating system instances use them. If necessary, reconfigure your setup to move some NPIV ports to an FCP adapter with free resources.

Severity: Warning

zfcp.00beaa <bus ID of the zfcp device>: ERP failed for unit 0x<LUN> on port 0x<WWPN>

Explanation: An error occurred on the SCSI device at the specified LUN. The error recovery procedure (ERP) could not resolve the error. The SCSI device is not available.

User response: Verify that the LUN is correct. Check the fibre channel fabric for errors related to the specified WWPN and LUN, the storage server, and Linux.

Severity: Error

zfcp.01a8f2 <bus ID of the zfcp device>: All NPIV ports on the FCP adapter have been assigned

Explanation: The number of N_Port ID Virtualization (NPIV) ports that can be assigned on an FCP adapter is limited. Once assigned, NPIV ports are not released automatically but have to be released explicitly through the support element (SE).

User response: Identify NPIV ports that have been assigned but are no longer in use and release them from the SE.

Severity: Warning

zfcp.020115 <bus ID of the zfcp device>: Registering port 0x<WWPN> failed

Explanation: The Linux kernel could not allocate enough memory to register the remote port with the indicated WWPN with the SCSI stack. The remote port is not available.

User response: Free some memory and trigger the rescan for ports.

Severity: Error

zfcp.058803 <bus ID of the zfcp device>: FCP adapter maximum QTCB size (<maximum supported size> bytes) is too small

Explanation: The queue transfer control block (QTCB) size requested by the zfcp device driver is not supported by the FCP adapter hardware.

User response: Update the firmware on your FCP adapter hardware to the latest available level and update the Linux kernel to the latest supported level. If the problem persists, contact your support organization.

Severity: Error

zfcp.0cf3fa <bus ID of the zfcp device>: Creating an ERP thread for the FCP device failed.

Explanation: The zfcp device driver could not set up error recovery procedure (ERP) processing for the FCP device. The FCP device is not available for use in Linux.

User response: Free some memory and try again to load the zfcp device driver. If the zfcp device driver has been compiled into the kernel, reboot Linux. Consider assigning more memory to your LPAR or z/VM guest virtual machine. If the problem persists, contact your support organization.

Severity: Error

zfcp.10efb5 <bus ID of the zfcp device>: Opening WKA port 0x<destination ID of the WKA port> failed

Explanation: The FCP adapter rejected a request to open the specified well-known address (WKA) port. No retry is possible.

User response: Verify the setup and check if the maximum number of remote ports used through this adapter is below the maximum allowed. If the problem persists, gather Linux debug data, collect the FCP adapter hardware logs, and report the problem to your support organization.

Severity: Warning

zfcp.128ff1 <bus ID of the zfcp device>: The WWPN assignment file on the FCP adapter has been damaged

Explanation: This is an FCP adapter hardware problem.
zfcp.17ac1c  zfcp.308f45

User response: Report this problem with FCP hardware logs to IBM support.

Severity: Warning

zfcp.17ac1c  <bus ID of the zfcp device>: Attaching the name server port to the FCP device failed

Explanation: The zfcp device driver could not attach the name server port of the fibre channel fabric to an FCP device. A possible cause of this problem is memory constraints.

User response: Set the FCP device offline, free some memory, then set the FCP device online again. If this does not resolve the problem, reboot Linux and try again to set the FCP device online.

Severity: Error

zfcp.219537  <bus ID of the zfcp device>: The fibre channel fabric does not support NPIV

Explanation: The FCP adapter requires N_Port ID Virtualization (NPIV) from the adjacent fibre channel node. Either the FCP adapter is connected to a fibre channel switch that does not support NPIV or the FCP adapter tries to use NPIV in a point-to-point setup. The connection is not operational.

User response: Verify that NPIV is correctly used for this connection. Check the FCP adapter configuration and the fibre channel switch configuration. If necessary, update the fibre channel switch firmware.

Severity: Error

zfcp.25b968  <bus ID of the zfcp device>: Shared read-write access not supported (unit 0x<LUN>, port 0x<WWPN>)

Explanation: The access configuration specified in the access control tables of the FCP adapter is not valid. The SCSI device at the indicated LUN cannot be accessed.

User response: Change the access control tables in the FCP adapter.

Severity: Error

zfcp.29fa1a  <bus ID of the zfcp device>: The adjacent fibre channel node does not support FCP

Explanation: The fibre channel switch or storage system that is connected to the FCP channel does not support the fibre channel protocol (FCP). The zfcp device driver stopped using the FCP device.

User response: Check the adjacent fibre channel node.

Severity: Warning

zfcp.2a747e  <bus ID of the zfcp device>: No handle is available for LUN 0x<LUN> on port 0x<WWPN>

Explanation: The FCP adapter can only open a limited number of SCSI devices. This limit has been reached and the SCSI device at the indicated LUN cannot be opened.

User response: Check all SCSI devices opened through the FCP adapter and close some of them.

Severity: Warning

zfcp.2c93b9  <bus ID of the zfcp device>: The FCP adapter only supports older control block versions

Explanation: The protocol supported by the FCP adapter is not compatible with the zfcp device driver.

User response: Install the latest firmware on your FCP adapter.

Severity: Error

zfcp.306272  <bus ID of the zfcp device>: The FCP adapter reported a problem that cannot be recovered

Explanation: The FCP adapter has a problem that cannot be recovered by the zfcp device driver. The zfcp device driver stopped using the FCP device.

User response: Gather Linux debug data, collect the FCP adapter hardware logs, and report this problem to your support organization.

Severity: Error

zfcp.307c0c  <bus ID of the zfcp device>: FCP device not operational because of an unsupported FC class

Explanation: The FCP adapter hardware does not support the fibre channel service class requested by the zfcp device driver. This problem indicates a program error in the zfcp device driver.

User response: Gather Linux debug data, collect the FCP adapter hardware logs, and report this problem to your support organization.

Severity: Error

zfcp.308f45  <bus ID of the zfcp device>: The mode table on the FCP adapter has been damaged

Explanation: This is an FCP adapter hardware problem.

User response: Report this problem with FCP hardware logs to IBM support.
zfcp.3c369f  <bus ID of the zfcp device>: Incorrect
        CDB length <value in length field>, unit 0x<LUN> on port 0x<WWPN> closed

Explanation: The control-data-block (CDB) length field in a SCSI request is not valid or too large for the FCP adapter. The zfcp device driver closed down the SCSI device at the indicated LUN.

User response: Gather Linux debug data and report this problem to your support organization.

Severity: Warning

zfcp.3c369f  <bus ID of the zfcp device>: Setting up the QDIO connection to the FCP adapter failed

Explanation: The zfcp device driver failed to establish a QDIO connection with the FCP adapter.

User response: Set the FCP adapter offline or detach it from the Linux system, free some memory and set the FCP adapter online again or attach it again. If this problem persists, gather Linux debug data, collect the FCP adapter hardware logs, and report the problem to your support organization.

Severity: Error

zfcp.4c0e02  <bus ID of the zfcp device>: The FCP adapter does not recognize the command 0x<command>

Explanation: A command code that was sent from the zfcp device driver to the FCP adapter is not valid. The zfcp device driver stopped using the FCP device.

User response: Gather Linux debug data, collect the FCP adapter hardware logs, and report this problem to your support organization.

Severity: Error

zfcp.566303  <bus ID of the zfcp device>: The CHPID for the FCP device is offline

Explanation: The CHPID for an FCP device has been set offline, either logically in Linux or on the hardware.

User response: Find out which CHPID corresponds to the FCP device, for example, with the lscss command. Check if the CHPID has been set logically offline in sysfs. Write 'on' to the CHPID’s status attribute to set it online. If the CHPID is online in sysfs, find out if it has been varied offline through a hardware management interface, for example the service element (SE).

Severity: Warning

zfcp.56747f  <bus ID of the zfcp device>: The adjacent switch cannot support more NPIV ports

Explanation: N_Port ID Virtualization (NPIV) ports consume physical resources. The resources of the fibre channel switch that is connected to the FCP adapter are exhausted. The connection is not operational.

User response: Analyze the number of available NPIV ports on the adjacent fibre channel switch and how they are used. If necessary, reconfigure your fibre channel fabric to accommodate the required NPIV ports.

Severity: Warning

zfcp.574d43  <bus ID of the zfcp device>: ERP cannot recover an error on the FCP device

Explanation: An error occurred on an FCP device. The error recovery procedure (ERP) could not resolve the error. The FCP device driver cannot use the FCP device.

User response: Check for previous error messages for the same FCP device to find the cause of the problem.

Severity: Error
zfcp.5cd78f  •  zfcp.79e992

zfcp.5cd78f  Registering the misc device zfcp_cfdc failed

Explanation: The zfcp device driver failed to register the device that provides access to the adapter access control file (ACL tables). The device driver initialization failed. A possible cause for this problem is memory constraints.

User response: Free some memory and try again to load the zfcp device driver. If the zfcp device driver has been compiled into the kernel, reboot Linux. Consider assigning more memory to your LPAR or z/VM guest virtual machine. If the problem persists, contact your support organization.

Severity: Error

zfcp.7059a3  <bus ID of the zfcp device>: 0x<status information> is not a valid transfer protocol status

Explanation: The transfer protocol status information reported by the FCP adapter is not a valid status for the zfcp device driver. The zfcp device driver stopped using the FCP device.

User response: Gather Linux debug data, collect the FCP adapter hardware logs, and report this problem to your support organization.

Severity: Error

zfcp.63f95d  <bus ID of the zfcp device>: Registering unit 0x<LUN> on port 0x<WWPN> failed

Explanation: The Linux kernel could not allocate enough memory to register the SCSI device at the indicated LUN with the SCSI stack. The SCSI device is not available.

User response: Free some memory then detach the LUN and attach it again.

Severity: Error

zfcp.846ca0  <bus ID of the zfcp device>: QTCB version 0x<requested version> not supported by FCP adapter (0x<lowest supported version> to 0x<highest supported version>)

Explanation: See message text. The queue transfer control block (QTCB) version requested by the zfcp device driver is not supported by the FCP adapter hardware.

User response: If the requested version is higher than the highest version supported by the hardware, install more recent firmware on the FCP adapter. If the requested version is lower then the lowest version supported by the hardware, upgrade to a Linux level with a more recent zfcp device driver.

Severity: Error

zfcp.657cf6  <bus ID of the zfcp device>: Setting up data structures for the FCP adapter failed

Explanation: The zfcp device driver could not allocate data structures for an FCP adapter. A possible reason for this problem is memory constraints.

User response: Set the FCP adapter offline or detach it from the Linux system, free some memory and set the FCP adapter online again or attach it again. If this problem persists, gather Linux debug data, collect the FCP adapter hardware logs, and report the problem to your support organization.

Severity: Error

zfcp.747e7d  <bus ID of the zfcp device>: LUN 0x<LUN> on port 0x<remote port WWPN> is already in use by CSS<channel subsystem ID>, MIF Image ID <MIF Image ID of the LPAR>

Explanation: The SCSI device at the indicated LUN is already in use by another system. Only one system at a time can use the SCSI device.

User response: Ensure that the other system stops using the device before trying to use it.

Severity: Warning

zfcp.772dc6  <bus ID of the zfcp device>: Unknown or unsupported arbitrated loop fibre channel topology detected

Explanation: The FCP device is connected to a fibre channel arbitrated loop or the FCP adapter reported an unknown fibre channel topology. The zfcp device driver supports point-to-point connections and switched fibre channel fabrics but not arbitrated loop topologies. The FCP device cannot be used.

User response: Check the fibre channel setup and ensure that only supported topologies are connected to the FCP adapter.

Severity: Error

zfcp.79e992  <bus ID of the zfcp device>: Exclusive read-only access not supported (unit 0x<LUN>, port 0x<WWPN>)

Explanation: The access configuration specified in the access control tables of the FCP adapter is not valid. The SCSI device at the indicated LUN cannot be accessed.

User response: Change the access control tables in the FCP adapter.

Severity: Error
zfcp.7d0b42 <bus ID of the zfcp device>: The FCP device has been detached

**Explanation:** An FCP device is no longer available to Linux.

**User response:** Ensure that the FCP adapter is operational and attached to the LPAR or z/VM virtual machine.

**Severity:** Warning

zfcp.7d6999 <bus ID of the zfcp device>: There is no light signal from the local fibre channel cable

**Explanation:** There is no signal on the fibre channel cable that connects the FCP adapter to the fibre channel fabric.

**User response:** Ensure that the cable is in place and connected properly to the FCP adapter and to the adjacent fibre channel switch or storage system.

**Severity:** Warning

zfcp.7f96f9 <bus ID of the zfcp device>: The name server reported <number of words in residual data> words residual data

**Explanation:** The fibre channel name server sent too much information about remote ports. The zfcp device driver did not receive sufficient information to attach all available remote ports in the SAN.

**User response:** Verify that you are running the latest firmware level on the FCP adapter. Check your SAN setup and consider reducing the number of ports visible to the FCP adapter by using more restrictive zoning in the SAN.

**Severity:** Warning

zfcp.82bb71 <bus ID of the zfcp device>: The FCP device did not respond within the specified time

**Explanation:** The common I/O layer waited for a response from the FCP adapter but no response was received within the specified time limit. This might indicate a hardware problem.

**User response:** Consult your hardware administrator. If this problem persists, gather Linux debug data, collect the FCP adapter hardware logs, and report the problem to your support organization.

**Severity:** Warning

zfcp.87c4d0 <bus ID of the zfcp device>: The error threshold for checksum statistics has been exceeded

**Explanation:** The FCP adapter has reported a large number of bit errors. This might indicate a problem with the physical components of the fibre channel fabric. Details about the errors have been written to the HBA trace for the FCP adapter.

**User response:** Check for problems in the fibre channel fabric and ensure that all cables are properly plugged.

**Severity:** Warning

zfcp.8a704c <bus ID of the zfcp device>: Access denied according to ACT rule type <access rule type>, rule <access rule>

**Explanation:** A rule in the access control table (ACT) for the FCP device denies access to a remote port or a LUN.

**User response:** Examine the access control tables for the FCP device to see if the specified rule is correct.

**Severity:** Warning

zfcp.9b70c0 <bus ID of the zfcp device>: Not enough FCP adapter resources to open remote port 0x<WWPN>

**Explanation:** Each port that is opened consumes physical resources of the FCP adapter to which it is attached. These resources are exhausted and the specified port cannot be opened.

**User response:** Reduce the total number of remote ports that are attached to the FCP adapter.

**Severity:** Warning

zfcp.9d2550 <bus ID of the zfcp device>: SCSI device at LUN 0x<LUN> on port 0x<WWPN> opened read-only

**Explanation:** The access control tables in the FCP adapter allow read-only access for the LUN. Write access is not permitted for your Linux instance. The SCSI device has been opened successfully in read-only access mode.

**User response:** None if read-only access is sufficient. If you require write access, change the access control tables in the FCP adapter.

**Severity:** Informational
zfcp.9d2a6b  zfcp.cf1c58

zfcp.9d2a6b <bus ID of the zfcp device>: There is a wrap plug instead of a fibre channel cable
Explanation: The FCP adapter is not physically connected to the fibre channel fabric.
User response: Remove the wrap plug from the FCP adapter and connect the adapter with the fibre channel fabric.
Severity: Warning

zfcp.a9953d <bus ID of the zfcp device>: The FCP device is suspended because of a firmware update
Explanation: The FCP device is not available while a firmware update is in progress. This problem is temporary. The FCP device will resume operations when the firmware update is completed.
User response: Wait 10 seconds and try the operation again.
Severity: Warning

zfcp.ac341f <bus ID of the zfcp device>: The local link has been restored
Explanation: A problem with the connection between the FCP adapter and the adjacent node on the fibre channel fabric has been resolved. The FCP adapter is now available again.
User response: None.
Severity: Informational

zfcp.ad5387 <bus ID of the zfcp device>: Registering the FCP device with the SCSI stack failed
Explanation: The FCP adapter could not be registered with the Linux SCSI stack. A possible reason for this problem is memory constraints.
User response: Set the FCP adapter offline or detach it from the Linux system, free some memory and set the FCP adapter online again or attach it again. If this problem persists, gather Linux debug data, collect the FCP adapter hardware logs, and report the problem to your support organization.
Severity: Error

zfcp.afba9a <bus ID of the zfcp device>: The link between the FCP adapter and the FC fabric is down
Explanation: The FCP adapter is not usable. Specific error information is not available.
User response: Check the cabling and the fibre channel fabric configuration. If this problem persists, gather Linux debug data, collect the FCP adapter hardware logs, and report the problem to your support organization.
Severity: Error

zfcp.b2d959 The zfcp device driver could not register with the common I/O layer
Explanation: The device driver initialization failed. A possible cause of this problem is memory constraints.
User response: Free some memory and try again to load the zfcp device driver. If the zfcp device driver has been compiled into the kernel, reboot Linux. Consider assigning more memory to your LPAR or z/VM guest virtual machine. If the problem persists, contact your support organization.
Severity: Error

zfcp.b2ef0a <bus ID of the zfcp device>: The FCP device is operational again
Explanation: An FCP device has been unavailable because it had been detached from the Linux system or because the corresponding CHPID was offline. The FCP device is now available again and the zfcp device driver resumes all operations to the FCP device.
User response: None.
Severity: Informational

zfcp.c2c546 <bus ID of the zfcp device>: The FCP adapter could not log in to the fibre channel fabric
Explanation: The fibre channel switch rejected the login request from the FCP adapter.
User response: Check the fibre channel fabric or switch logs for possible errors.
Severity: Warning

zfcp.cf1c58 <bus ID of the zfcp device>: The QTCB type is not supported by the FCP adapter
Explanation: The queue transfer control block (QTCB) type requested by the zfcp device driver is not supported by the FCP adapter hardware.
User response: Install the latest firmware on your FCP adapter hardware. If this does not resolve the problem, upgrade to a Linux level with a more recent zfcp device driver. If the problem persists, contact your support organization.
Severity: Error
zfcp.cfb51a <device specification> is not a valid SCSI device

Explanation: The specification for an initial SCSI device provided with the 'zfcp.device' kernel parameter or with the 'device' module parameter is syntactically incorrect. The specified SCSI device could not be attached to the Linux system.

User response: Correct the value for the 'zfcp.device' or 'device' parameter and reboot Linux. See "Device Drivers, Features, and Commands" for information about the syntax.

Severity: Error

zfcp.d34e30 <bus ID of the zfcp device>: Access denied to unit 0x<LUN> on port 0x<WWPN>

Explanation: The Linux system is not allowed to access the SCSI device at the indicated LUN.

User response: Update the access control table of the FCP device to grant the Linux system access to the LUN or remove the LUN from the Linux system.

Severity: Warning

zfcp.d4aea8 <bus ID of the zfcp device>: 0x<request ID> is an ambiguous request identifier

Explanation: The FCP adapter reported that it received the same request ID twice. This is an error. The zfcp device driver stopped using the FCP device.

User response: Gather Linux debug data, collect the FCP adapter hardware logs, and report this problem to your support organization.

Severity: Error

zfcp.dda2e3 <bus ID of the zfcp device>: The FCP device detected a WWPN that is duplicate or not valid

Explanation: This condition indicates an error in the FCP adapter hardware or in the z/VM hypervisor.

User response: Gather Linux debug data, collect the FCP adapter hardware logs, and report this problem to IBM support.

Severity: Warning

zfcp.de56fd <bus ID of the zfcp device>: A QDIO protocol error occurred, operations continue

Explanation: The zfcp device driver detected a missing flag in a QDIO queue. The device driver tries to keep the FCP device operational.

User response: Check for related error messages. If this problem occurs frequently, gather Linux debug data, collect the FCP adapter hardware logs, and report the problem to your support organization.

Severity: Warning

zfcp.f16820 <bus ID of the zfcp device>: The FCP adapter only supports newer control block versions

Explanation: The protocol supported by the FCP adapter is not compatible with the zfcp device driver.

User response: Upgrade your Linux kernel to a level that includes a zfcp device driver with support for the control block version required by your FCP adapter.

Severity: Error

zfcp.f4dc96 <bus ID of the zfcp device>: Incorrect direction <value in direction field>, unit 0x<LUN> on port 0x<WWPN> closed

Explanation: The direction field in a SCSI request contains an incorrect value. The zfcp device driver closed down the SCSI device at the indicated LUN.

User response: Gather Linux debug data and report this problem to your support organization.

Severity: Error
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