NAME

ips - IBM/Adaptec ServeRAID controller driver

SYNOPSIS

To compile this driver into the kernel, place the following lines in your kernel configuration file:

device pci
device scbus
device ips

Alternatively, to load the driver as a module at boot time, place the following line in loader.conf(5):

ips_load="YES"

DESCRIPTION

The **ips** driver claims to support the IBM (now Adaptec) ServeRAID series SCSI controller cards.

These cards come with a built in configuration utility stored in the firmware known as the ISPR. This utility is accessed with the *<Ctrl+I>* key combination during the initial card POST.

It is highly recommended that this utility be used to configure the card before attempting to diagnose the below error messages.

In some cases, the **ips** driver can have difficulties attaching during the system initialization period. To avoid these difficulties, set the *hw.ips.0.disable* tunable to 1. It will prevent the driver from attaching.

HARDWARE

Controllers supported by the **ips** driver include:

- IBM ServeRAID 3H
- ServeRAID 4L/4M/4H
- ServeRAID Series 5
- ServeRAID 6i/6M
- ServeRAID 7t/7k/7M

Newer ServeRAID controllers are supported by the aac(4) or mfi(4) driver.

DIAGNOSTICS

Several error codes may be shown when the card initializes the IBM ISPR utility and are independent of FreeBSD.

ips%d: failed to get adapter configuration data from device
ips%d: failed to get drive configuration data from device

Unable to obtain adapter or drive configuration.

ips%d iobuf error

A buffer input/output error has occurred. [ENXIO]

General adapter errors:
  Attaching bus failed

This message is undocumented.

WARNING: command timeout. Adapter is in toaster mode, resetting

A command timeout has caused the adapter to be reset.

AIEE! adapter reset failed, giving up and going home! Have a nice day

An error occurred while attempting to reset the adapter.

unable to get adapter configuration
unable to get drive configuration

There was an error when attempting to get configuration information.

Adapter error during initialization.
adapter initialization failed

There was an error while attempting to initialize the adapter.

adapter failed config check
adapter clear failed

There was an error while checking the adapter.

device is disabled

The adapter is disabled.

resource allocation failed
irq allocation failed
irq setup failed

The driver was unable to allocate resources for the device.

 Error messages due to DMA:
  can't alloc command dma tag
  can't alloc SG dma tag
  can't alloc dma tag for statue queue
  dmamap failed

Failure to map or allocate DMA resources.

 Cache, buffer, and command errors:
  failed to initialize command buffers
  no mem for command slots!

The **ips** driver will return [ENOMEM] in such cases.

ERROR: unable to get a command! can't flush cache!
ERROR: cache flush command failed!
ERROR: unable to get a command! can't update nvram
ERROR: nvram update command failed!
ERROR: unable to get a command! can't sync cache!
ERROR: cache sync command failed!
ERROR: unable to get a command! can't sync cache!
ERROR: etable command failed!

COMPATIBILITY
Unlike many of the other SCSI devices in FreeBSD, the **ips** driver does not use the cam(4) SCSI subsystem.

SEE ALSO
aac(4), ch(4), da(4), mfi(4), sysctl(8)

AUTHORS
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