smad

Adaptec AIC-6x60 chipset host adapter driver

Description

smad is the boot-time loadable driver (BTLD) for Adaptec AIC-6x60 chipset host adapter cards. It directly supports these host adapters:

AHA-1510
AHA-1510 A
AHA-1520
AHA-1520 A
AHA-1522
AHA-1522 A

The **smad** driver supports both the AIC-6260 and AIC-6360 chipsets, and replaces the older and less efficient **spad** driver (which only supported the AIC-6260 chipset). To disable the **spad** driver in the installation kernel, enter **defbootstr link disable=spad** at the `Boot` prompt.

Refer to the *SCO Hardware Compatibility Handbook* to determine the support status of your host adapter, or contact your system supplier.

Configuring the smad driver

You can configure the **smad** driver using entries in */etc/conf/cf.d/mdevice* and */etc/conf/sdevice.d/smad*. See *mdevice*(F) and *sdevice*(F). Changes to these files will only take effect if the kernel is relinked using **link_unix**(ADM) and the machine rebooted.

Configure **smad** driver-specific characteristics by editing the */etc/conf/pack.d/smad/space.c* file, which controls parameters such as address, host adapter ID, IRQ, parity, Fast SCSI, synchronous/asynchronous functionality, and whether disconnection is allowed.

Host adapter base address

Reset the port address for the host adapter. By default, Host adapter 0 is set at port address 0x340.

```
paddr_t smad_base[ha_number] = {ha0_addr, ha1_addr};
```

For example, if you want to configure host adapter 0 at 0x340 and host adapter 1 at 0x140, define this as:

```
paddr_t smad_base[ha_number] = {0x340, 0x140};
```

If you do not modify the *space.c* file, the HIM sets all the configuration parameters to the default. If you want to change the default, the first number indicates whether the default should be changed. If it is set to 0, the parameter will be set to the default for non-readable jumper hardware, such as the AHA-1510. If it is set to 1, the second number will be used to override the default. For readable jumper hardware like the AHA-1520, setting the first number to 0 causes the jumper settings to be read as default values.

Host adapter SCSI ID

Change the SCSI ID for non-readable jumper hardware from the default value of 7.

`aha_change smad_hba_id[`*ha_number*`] = {0,`*ha0_id*`,1,`*ha1_id*`};`

For example, to configure host adapter 0 as SCSI ID 5 and host adapter 1 as the default (7), set this parameter as follows:

`aha_change smad_hba_id[`*ha_number*`] = {0,5,0,0};`

Interrupt level

Change the IRQ level for non-readable jumper hardware from the default value of 11. For readable jumper hardware, this value is always read from the jumper:

`aha_change smad_irq[`*ha_number*`] = {0,`*irq*`,1,`*irq*`};`

Parity option

Specifies whether the host adapter checks parity on incoming SCSI data. Note that parity is always generated on outbound SCSI data. The supported values are:

1 parity checking is enabled (default)
0 parity checking is disabled

`aha_change smad_parity[`*ha_number*`] = {1,0};`

Fast SCSI option

Enable/disable the Fast SCSI option when the AIC -6460 is configured. Supported values are:

1 synchronous transfers up to 10MB per second can be negotiated
0 synchronous transfers up to 5MB per second can be negotiated

`aha_change smad_fast[`*ha_number*`] = {1,1};`

Asynchronous option

Enable/disable the asynchronous option. The valid values are:

1 respond to synchronous negotiation attempts by SCSI targets (default)
0 operate in asynchronous mode only; refuse to respond to synchronous negotiation

`aha_change smad_asyn[`*ha_number*`] = {1,0};`

Synchronous negotiation option

Enable/disable the synchronous negotiation option. The supported values are:

0 initiate for synchronous negotiaton (default)
1 respond to synchronous negotiation

`aha_change smad_sync_mode[`*ha_number*`] = {1,1}`

Allow disconnection

Determine whether disconnection is allowed. Supported values are:

0 allow target to disconnect (default)
1 do not allow target to disconnect

`aha_change smad_discon[`*ha_number*`] = {1,1}`

Boot time configuration of SCSI

Use the **bootstring**(HW) parameters to override the default hardware configuration information. Of special interest are the **adapter=** parameter that specifies information for the host adapter card that plugs into or is part of the motherboard, and the ***periph*****=** parameter that specifies information about the host adapter being used by one of the generic peripheral interfaces (**Sdsk**, **Srom**, or **Stp**).

ioctl commands

The **smad** driver supports all standard SCSI ioctls that are defined in the <*sys/scsicmd.h*> header file and documented on the **scsi**(HW) manual page.

Diagnostics

The following error messages may be displayed on the console. See **messages**(M) for general information about kernel error messages, including a list of generic device driver errors.

`WARNING: smad: Adapter diagnostic failure 0x%x: bus 0`
: **smad** was unable to initialize the hardware that it found. This often indicates a hardware error.

`WARNING: smad: Cannot initialize drive ID:0`
: **smad** was unable to perform SCSI commands on the boot drive to determine its drive geometry. This might indicate that not enough memory was available to perform the operation.

Files

/usr/include/sys/scsicmd.h
SCSI interface header files

See also

boot(HW), **link_unix**(ADM), **mdevice**(F), **mkdev**(ADM), **sconf**(ADM), **scsi**(HW), **sdevice**(F)

Chapter 16, "Adding SCSI host adapters and peripherals" in the *SCO OpenServer Handbook*
SCO OpenServer *System Administration Guide*