blc

BusLogic Multimaster SCSI host adapter driver

Description

blc is the boot-time loadable driver (BTLD) for BusLogic MultiMaster SCSI host adapter cards. The MultiMaster product line consists of the following models:

Model	Description
BT-445	VESA Fast SCSI
BT-54x	ISA Fast SCSI
BT-64x	MicroChannel Fast SCSI
BT-74x	EISA Fast SCSI
BT-75x	EISA Fast & Wide SCSI
BT-946	PCI Fast SCSI
BT-948	PCI Ultra SCSI
BT-956	PCI Fast & Wide SCSI
BT-956D	PCI Fast & Wide Differential SCSI
BT-958	PCI Ultra & Wide SCSI
BT-958D	PCI Ultra & Wide Differential SCSI

The **blc** driver works with up to four adapters. Note that this driver does not support the BusLogic FlashPoint SCSI host adapter product line.

The intallation setup requirements are as follows:

Card type	Port address	IRQ	DMA
ISA , VESA x	Selectable at installation	Any	5
EISA, MicroChan	Selectable at installation	Any	Any
PCI	Any	Any	Any

You should disable the **ad**(AHS) driver, as it conflicts with the **blc** driver. The **blc** driver should drive the **ad** card if you have one. For a proper BTLD installation, you need to to enter **disable=ad** on the boot line.

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

Configuring the blc driver

You can configure the **blc** driver using entries in */etc/conf/cf.d/mdevice* and */etc/conf/sdevice.d/blc*. See *mdevice*(F) and *sdevice*(F). Changes to these files take effect once you relink the kernel using **link_unix**(ADM) and reboot the system.

Configure **blc** driver-specific characteristics by editing the */etc/conf/pack.d/blc/space.c* file, which controls parameters such as tagged command queuing option, command timeout handling, boot-time reset option, and reset delay.

Tag Queuing

The Tag Queuing option allows multiple requests to be sent to SCSI devices that support this feature (normally hard disks or RAID subsystems) to be sorted and processed by these devices for optimum performance. To enable this option, set `blc_do_tag` to 1 and relink the kernel:

```
int blc_do_tag  =0;     /* 1 = do command queuing */
```

Command timeout handling

The **blc** driver has a built-in mechanism to handle recoverable SCSI bus hangs that may be caused by ill-behaved devices. The driver provides several options to modify the default parameters used in handling timeouts:

`blc_timeout`	Enables timeout handling when set to 1. Otherwise set to 0.
`blc_timeout_period`	Number of seconds to wait for I/O request before timing out.
`blc_retry_max`	Number of times to retry request before resetting the controller.

> **NOTE** If the I/O request is started just after the timer is called, the actual timeout period can be up to twice the time that is specified for `blc_timeout_period`.

As an example, the following settings establish timeout handling. The driver will wait 15 seconds for the I/O request before timing out, and will retry the request twice before resetting the controller:

```
int blc_timeout            =1;
int blc_timeout_period     =15;
int blc_retry_max          =2;
```

Boot-time hard reset

By default, the driver does not perform Hard/SCSI reset at boot time. If your environment requires a reset at boot time, set `blc_inittime_hard_reset` to 1:

```
int blc_inittime_hard_reset  =0;
```

Reset delay

The driver posts a three-second delay after a hard reset is generated at boottime or during the final error recovery attempt of the command timeout feature. Certain SCSI devices that require a longer delay can be accomodated by modifying the `blc_reset_delay` parameter:

```
int blc_reset_delay     =3;
```

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 **blc** 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

These error messages associated with **blc** may display on the console. See **messages**(M) for general information about kernel error messages, including a list of generic device driver errors.

`WARNING: BusLogic: H/W Failed (ha=1, lun=0)`

Maximum attempt at recovering from a SCSI bus hang had been made to this adapter. This adapter is no longer accepting requests.

`WARNING: blc_MM_ResetCard: BusLogic ctlr did not come up ready after hard reset.`
During a command-timeout recovery, the adapter did not respond back from a hard reset.

`WARNING: blc_MM_Start: adapter busy`
A request to the adapter could not be sent because the adapter is busy or the SCSI bus is hung.

Files

/usr/include/sys/scsicmd.h
/etc/conf/pack.d/blc/space.c

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*