NEXTSTEP

Title: Fast SCSI-2 Disks

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Question

Does NEXTSTEP support SCSI-2 or Fast SCSI?

Do the NEXTSTEP SCSI drivers support sync transfer mode?

Answer

"Fast SCSI" takes synchronous SCSI and reduces some timing to speed up data transfers and make them "fast".   The m68k driver does not support synchronous SCSI, or Fast sync.

Fast SCSI may be used on NS/FIP hardware depending on the host adapter and the SCSI device used. Some of the intelligent host adapters have hardware and firmware support for Fast SCSI -- support of the feature is totally transparent to the driver software.

Here's a table of currently supported SCSI adapters:

Adapter	Sync	Fast Sync
NeXT m68k	No	No
Adaptec 154xB	Possible	No
Adaptec 154xC	Possible	No
Adaptec 154xCF	Possible	Possible
Adaptec 6x60	Possible	Don't know
Adaptec 274x	Possible	Possible
DPT 2xxx	Possible	Possible

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BusLogic 542      Possible      Don't know
BusLogic 747      Possible      Possible
BusLogic 455      Possible      Possible

HP712             Yes (default) No
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"Possible" means the feature can be supported if:
1) it's enabled and
2) the device on the other end of the bus supports it.

Note that synchronous fast synchronous options should be disabled as the default.   They should only be enabled after you're sure everything works with them disabled. If asynchronous SCSI doesn't work, synchronous and Fast SCSI aren't going to work. The DPT adaptors will automatically negotiate and set both synchronous and Fast SCSI options with each device on the bus, using the SCSI message protocol.

SCSI-2 does not imply Fast SCSI or even sync SCSI.   Sync and Fast Sync are optional and not required for conformance to the SCSI or SCSI-2 standards.

Fast SCSI transfer rates can go up to 10 MB/s on a narrow (8-bit vs wide 16-bit) bus. This does not mean that the disk

subsystem throughput will be that high.   The 10 MB/s (or whatever) transfer rate means only that when the disk has data ready, it can transfer it across the bus at 10 MB/s.   Throughput is greatly affected by how fast a disk can get data off the media and the firmware's overhead for processing a command.