New Technical Notes

Macintosh

®

Developer Support

SCSI Manager Q&As
Devices   M.DV.SCSIMgr.Q&As

Revised by: Developer Support Center   October 1992
Written by: Developer Support Center   October 1990

This Technical Note contains a collection of Q&As relating to a specific topic—questions you've sent the Developer Support Center (DSC) along with answers from the DSC engineers. While DSC engineers have checked the Q&A content for accuracy, the Q&A Technical Notes don't have the editing and organization of other Technical Notes. The Q&A function is to get new technical information and updates to you quickly, saving the polish for when the information migrates into reference manuals.

Q&As are now included with Technical Notes to make access to technical updates easier for you. If you have comments or suggestions about Q&A content or distribution, please let us know by sending an AppleLink to DEVFEEDBACK. Apple Partners may send technical questions about Q&A content to DEVSUPPORT for resolution.

New Q&As and Q&As revised this month are marked with a bar in the side margin.

Where to get Macintosh SCSI Manager sample code
Written: 11/30/90
Last reviewed: 8/1/92

Can you provide some sample code on using the Macintosh SCSI Manager to access a SCSI device?

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A SCSI Development Package is available from APDA for around $20. You can contact APDA at (800) 282-2732.

Macintosh System 7.0 SCSI function #14
Written: 5/7/91
Last reviewed: 8/1/92

What does the Macintosh SCSI function #14 do in System 7.0?

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The new selector is called SCSIBusy or, more accurately, SCSIMgrBusy, selector #14 or $0E. It is a parameterless SCSI call to determine whether the SCSI Manager is busy or idle. A non-zero return value indicates that SCSI Manager is busy, meaning it is currently processing a SCSI transaction. It is important to note that return value does NOT reflect the busy/idle state

of the SCSI bus. It is possible to get a return value of zero—SCSIMgr is idle—while the SCSI bus is busy.

The selector is intended to be used by Apple only, specifically by the file system.

Macintosh SCSI reselection

Written: 5/24/91
Last reviewed: 8/1/92

How should we handle target reselection with the Macintosh SCSI Manager?

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The Macintosh SCSI Manager does not yet support disconnection and reselection. After arbitration and selection, the target device should perform a SCSIMsgOut to identify the logical unit number and especially to see if disconnection and reselection is allowed (bit 6 of the Identify message). The Macintosh currently always sets bit 6 of the Identify message to 0, meaning disconnection is not allowed.

A target device should always assume that disconnection is not allowed unless it is specifically told otherwise by the Identify message. In this way, the target will do the right thing even if it does not follow protocol and issue a Message Out before requesting the Command.

No new System 7.0 SCSI Manager yet

Written: 11/13/90
Last reviewed: 8/1/92

Where are the C header files for the new Macintosh System 7.0 SCSI Manager?

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There is no new SCSI Manager for System 7.0 at this time. It was supposed to be in the System 7.0 release but the introduction and use of virtual memory imposed many more requirements which the new SCSI Manager couldn't handle. Its release was therefore postponed, but references were left in the 7.0 documentation. Apple does plan to implement the new SCSI Manager in the future.

SCSI drivers and virtual memory

Written: 8/30/91
Last reviewed: 8/1/92

How can we disable virtual memory (VM) from a SCSI driver, for dequeuing partitions? How can our driver determine which volume the virtual swap file resides upon?

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The use of virtual memory requires that at boot time the PMMU be programmed with the appropriate memory mapping tables and enabled. The virtual memory is then laid out in the VM Storage file and available "real" RAM begins to be used to implement those portions of the virtual memory that need to be resident. It is not possible to turn this on and off while the machine is running. Specifically, it cannot be disabled / re-enabled from within your SCSI driver. With VM running, you can dismount and remount any disk or partition EXCEPT the unit that contains the VM Storage file. Whenever the system boots with VM on, the Finder

makes sure there is only one file of that name mounted anywhere and deletes any "extra" files it encounters.

Currently there is no interface for locating the VM Storage file. Since the file name is guaranteed to be unique, it should be sufficient to search each volume for that file name.

Documentation describing VM/SCSI driver requirements
Written: 9/10/91
Last reviewed: 8/1/92

Are there any new rules regarding SCSI driving with Virtual Memory? My System 6 driver doesn't work with System 7.

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You need the following new documentation:

• Inside Macintosh Volume VI contains new information specific to Virtual Memory as it relates to drivers and especially SCSI.
• Technical Note "Coping with VM and Memory Mappings"
• "VM Paper" from the System 7.0 developer CD in the VM Goodies folder.

These documents provide a good overview of what you need to do to revise a SCSI driver for VM compatibility.

SetDefaultStartup sdRefNum should be real SCSI ID, not -33
Written: 4/2/91
Last reviewed: 8/1/92

If I'm doing a SetDefaultStartup for a SCSI device can I simply set sdRefNum to -33 for the SCSI ID? Do I have to set any other fields of the DefStartPtr? Will these other fields be ignored?

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Don't count on the unit table always staying the same. It would be better to use the real SCSI ID.