Mac OS 7.5.3 Revision 2: Fixes, Updates, Changes (6/96)

Article Created: 29 May 1996
Article Reviewed/Updated: 11 June 1996

TOPIC ---

This article describes the fixes, updates, changes in System 7.5.3 Revision 2.

DISCUSSION ---

Fixes, Updates, Changes
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Fixes, updates, and changes are organized in these sections:

- Type 8 errors on older PowerBooks running ram doubler
- Cache Flush problems on 2300 and PPC upgrades for 540s
- Floppy driver problems on 2300 and PPC upgrades for 540s
- Emulator bug where carry flag gets trashed if cache flush occurs during interrupt processing
- Drive spin up problem where wrong drive could boot if selected drive does not spin up fast enough
- SCSI bug that occurs on 1 gigabyte IBM drives that have caching off

Features, Components in Detail
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Discussion of each feature and component in detail, indicating:

- Problem
- Fix
- Radar Bug Numbers (if available)
- Models Affected
- Delivered By (the form the user gets the change in)

1) Type 8 errors

- Problem: In certain cases, the state of the SR was saved from a copy on the stack after the processor had switched stacks. As a result, the restoration of SR isn't quite right.

- Fix: Save the SR before switching it.

• Sonar Number: 134205?

• Radar Number: 1337195

• Models Affected: All PowerBooks EXCEPT the original Portable, PowerBook 100, PowerBook 140-170, and the new PCI-based PowerBooks

• Delivered By: gpch 133 in the Enabler

2) Cache Flush

• Problem: We applied a performance patch in the enabler that only got applied to the 5300 when it should have been applied to all PowerPC PowerBooks. This is a patch to SetTrapAddress so that it flushes only a cache range instead of the whole cache. We have recently received complaints from two major Duo customers (British Telecom and US West) about the performance of their 2300 in certain situations. We have identified the lack of this patch as the problem in these cases and have verified that adding this extension fixes them.

• Fix: Enable the existing patch on the models affected.

• Radar Number: 1328942,1327025

• Models Affected: 2300 and PPC upgrades for 540s

• Delivered By: Boot3

3) Floppy driver

• Problem: If the PowerBook 500 Series upgraded to PowerPC is the first disk into which a PC floppy is inserted, the floppy becomes unreadable on PCs though it is still readable on all Macintoshes.

• Fix: We modified the timings in the floppy driver (i.e. how it reads and writes data) and have verified this does not affect performance on Macintosh systems but it needs to be verified on PCs.

• Radar Number: Not Available

• Models Affected: PowerBook 500 Series upgraded to PowerPC

• Delivered By: M2SonyDriver.rsrc

4) DREmulator patch 2.1f3

• Problem: The root cause of this bug was corruption of the PowerPC XER register resulting in destruction of the emulated 68K SR register's C bit. DRControl.s and DRArithmeticOps.s used the subfic instruction while the 68K C bit was "live" in the XER CA bit.

• Fix: Substitute an li/subf sequence. This costs an additional cycle but its cheaper than saving/ restoring the XER register. Note that because this bug

manifests itself as random corruption of the emulated 68K SR register's C bit, there could be other outstanding problems that are also corrected by this fix.

• Radar Number: #1335131, #1327444, #1324921, #1326104, #1323274.

• Models Affected: PowerSurge CPUs

• Delivered By: Replace DREMulator gpatch (156), epch 1 Resource v7 in the enabler

5) Drive spin up 1

• Problem: When a Power Macintosh is powered on, it may not boot from the hard drive selected in the "Startup Disk" control panel. This problem only occurs with Virtual Memory turned off. If this problem occurs, it will happen on every boot there after, even if VM is turned back on.

• Fix: Clear the PRAM value at location 1. This fix will only take effect after a restart with the Startup Tuner installed.

• Radar Number: 1334391, 1334335, 1334394, 1237101, 1334385

• Models Affected: all

• Delivered By: Startup Tuner INIT

6) SCSI bug

• What Is It: Fix the IBM disconnect/reconnect problem by assuming that if we are disconnecting from a write and that we have transferred all the data we are going to transfer then the drive really _meant_ to issue a save data pointers message and we do it for them. Thus when the drive reconnects to give status and we default to restoring ptrs everything is cool and we don't forget about the data that was transferred and generate a residual length error.

• Fix: Enable the fix that is currently shipping with the vers F1 of the ROM.

• Radar Number: Not Available

• Models Affected: PowerSurge CPUs using the 1 gigabyte IBM drives.

• Delivered By: Replacing the 'nitt' resource in the enabler

Article Change History:
11 Jun 1996 - Corrected article for technical accuracy.
06 Jun 1996 - Changed distribution at product introduction.

Keywords: sys75

19960612 07:49:54.00

Tech Info Library Article Number: 19879