

PTS Flash 126: Wkgrp Server 9150/80 SCSI Hang Problems (7/95)

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TOPIC -----

The following is a WWPTS hardware flash.

DISCUSSION -----

Subject: 126 - Workgroup Server 9150/80 SCSI Hang Problems Contact: WWPTS - Vivian George Morgan

OVERVIEW: A small number of customers have reported SCSI operation problems with the Workgroup Server 9150/80. The problem occurs on both the internal and external SCSI buses. The root cause of this problem has been traced to the I/O controller. While this problem can occur on either SCSI bus, the external SCSI bus seems to be more likely to exhibit the problem than the internal bus. The internal SCSI bus seems to be less sensitive because its implementation is slightly different from the external SCSI bus.

Symptom

The symptoms are likely to be observed when running applications that heavily exercise the internal or external SCSI buses. For Workgroup Server customers, common applications include (but are not limited to): Retrospect, Apple RAID, and CopyDoubler.

• With Retrospect, a system hang or freeze may occur when more than one backup is occurring. An example is backing up a local volume on the server to disk while two fast clients also back themselves up to tape on the same server.

• With CopyDoubler, you may see a dialog box indicating that an I/O error has occurred and the transaction should be tried again. This is more likely to be seen when large files (greater than 1 MB) are being duplicated or copied from one volume to another.

• With Apple RAID, mirrors out of sync are reported.

External SCSI bus

The problem is more likely to occur when writing large files (for example the Retrospect catalog file) to disk drives on the external SCSI bus. During a large write, it is common for a disk drive to disconnect while performing time consuming operations such as a head seek. If the drive happens to disconnect in the middle of a 64K DMA transfer, the external SCSI and I/O controller chips don't handshake the bytes correctly at the disconnect (external SCSI overflows but DMA transfer count decrements). This results in extra bytes being written to disk. This is not guaranteed to happen with all large writes and disk drives since disconnect algorithms depend on drive size, rotation speed, track caching, manufacturer, and so on. In general, faster drives are less likely to experience the problem since they disconnect less often. Also, there are instances where utilities such as CopyDoubler from Norton Utilities can cause this problem to appear. (CopyDoubler requests data in larger, variable size chunks than the Finder for copy and duplication of files. The Finder requests 64KB maximum.) Removing CopyDoubler may make the problem disappear.

Internal SCSI Bus

Problems are commonly observed when Retrospect is performing a back-up, of a disk volume on the server to another disk volume, on the same server with several (fast) clients simultaneously performing full back-ups (over Ethernet) to tape.

How to resolve this problem

If your customer is experiencing the above described problems, the solution is to replace the 9150/80 main logic board. The new service part number to order is 661-0993. This is a new assembly which contains the hardware fix to this problem.

In addition to the 9150/80 main logic board upgrade, we strongly recommend upgrading the Operating System to 7.5.1 for Workgroup Servers. This should be available in early April, 1995.

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