Recommended Patch to use with the SiI3826 Port Multiplier and Linux Kernels

Contents

Abstract

The SiI3826 port multiplier has a performance issue under the Linux system because of limitations within the Linux kernel. This application note describes a method to accommodate this limitation.

Overview

This document describes a recommended change to the Linux kernel for proper SiI3826 performance. This change, commonly known as a patch, is a documented example of a way to resolve this limitation.

Upon system startup, Linux has to disable the LPM of the PMP device and set all link class codes (ATA/SEMB) to create the links under certain configurations. In these configurations, the system can take up to an additional 5 minutes to start up. This patch significantly reduces the start-up time.

Note: This change does not ensure proper functioning of the Linux kernel or other software used in a system using the SiI3826 port multiplier.

Instructions

1. Create a file containing the text in the Patch section of this document.
2. Use the patch utility to update your Linux kernel.
3. Recompile the kernel.

For detailed instructions about how to use the patch utility, refer to the *man* command in your Linux system.

For detailed instructions about how to recompile the Linux kernel, refer to the T*he Linux Kernel HOWTO* article posted at kernel.org and linuxdocs.org.

Patch

```
Index: work/drivers/ata/libata-pmp.c

--- work.orig/drivers/ata/libata-pmp.c    2006-06-25 20:41:36.000000000 +0900
+++ work/drivers/ata/libata-pmp.c   2006-06-25 20:41:38.000000000 +0900
@@ -720,6 +720,24 @@ static void sata_pmp_quirks(struct ata_port *ap)
{
      u32 *gscr = ap->link.device->gscr;
      u16 vendor = sata_pmp_gscr_vendor(gscr);
      u16 devid = sata_pmp_gscr_devid(gscr);
      struct ata_link *link;
```

```
-       if (vendor == 0x1095 && devid == 0x3726) {
-               /* sil3726 quirks */
+       if (vendor == 0x1095 && (devid == 0x3726 || devid == 0x3826) {
+               /* SiI3726 and SiI3826 quirks */
```

Additional Information

To obtain additional information, contact your local Silicon Image sales office, or visit the Silicon Image web site at www.siliconimage.com.

Revision History

Rev.	Date	Description
A	5/17/2011	First release.