

[SLE] HOWTO: Installing SuSE 9.1 on a DPT/Adaptec RAID Controller

Source: <http://linux.derkeiler.com/Mailing-Lists/SuSE/2004-08/2306.html>

From: L. Mark Stone (LMStone_at_RNoME.com)

Date: 08/18/04

To: "Suse-Linux-E" <suse-linux-e@suse.com>

Date: Wed, 18 Aug 2004 15:42:21 -0400

Greetings from Maine, USA...

Many on this list have reported difficulties installing SuSE 9.1 on SCSI drives connected to DPT and Adaptec SCSI RAID controllers. SuSE's policy is not to provide installation support for these devices.

After a good deal of testing, I have a solution that works for me and my DPT 2865U3 controller. This solution should also work for derivative controllers like the Adaptec 2100S. Please test with a non-production system before you risk your production data!

If the SuSE crew are listening, this situation could be easily fixed for SuSE 9.2 (and presumably SLES9). (See note below.)

::History::

In SuSE 8.2 and earlier, these controllers were accessed via the `dpt_i2o` module.

In SuSE 9.0 the `dpt_i2o` module was partially broken, although you could still install the operating system under certain configurations.

In SuSE 9.1 it was impossible to install using these controllers, even using the `aacraid` module, the presumed replacement for `dpt_i2o`.

::Solution Overview::

The trick is to access these drives using the `i2o` subsystem exclusively, and forego any SCSI emulation provided by the `dpt_i2o`, `aacraid`, or `i2o_scsi` modules. By loading ONLY the `i2o_core` and `i2o_block` modules, SuSE Linux 9.1 can access drives connected to these controllers seamlessly, as `/dev/i2o/hda`, etc. See

<http://i2o.shadowconnect.com/faq.php> for more info on `i2o`.

::9.1 Installation Problem::

I tried to do a manual install of 9.1, selecting the `i2o_block` module from the list of SCSI modules (this also loads the `i2o_core` and

SuSE: [SLE] HOWTO: Installing SuSE 9.1 on a DPT/Adaptec RAID Controller

i2o_config modules). But, when the system goes through its first reboot during the installation process, the system hung with a kernel panic.

Adding "insmod=i2o_core insmod=i2o_block" to the boot parameters line when grub loaded did not help.

The reason for the kernel panic is that the SuSE installer did not add i2o_core and i2o_block to the INITRD_MODULES line in /etc/sysconfig/kernel (thanks to Carlos Robinson for suggesting this). So, when the installer ran mkinitrd, the boot ramdisk was created without these modules. Grub loads fine, but then the initial ramdisk can't find the real root partition (or any other for that matter...) and you are stuck.

::9.1 Installation Solution::

To fix this partially installed system, I needed a way to:

1. Edit /etc/sysconfig/kernel, and;
2. Run mkinitrd.

```
*****
* NOTE TO SuSE: If you edited the installation
* scripts so that the i2o modules were indeed added
* to /etc/sysconfig/kernel during the installation process (assuming
* a manual install in which the user selected these modules), then
* this family of controllers would likely work just fine.
*****
```

How to fix the initrd?

I first tried booting the rescue system, but the i2o modules are unavailable to the rescue system.

At the end of the day, I wound up installing an IDE drive in the box, configuring the system BIOS to boot from the IDE drive, and then installing a vanilla 9.1 system on the IDE drive. I did this with the installation half finished on the SCSI drives connected to the DPT controller, and with the DPT controller and SCSI drives still installed in the box.

Next, from the IDE system I opened a terminal session as root and ran the following commands:

```
# modprobe i2o_core
# modprobe i2o_block
# mkdir /mnt/temp
# mount /dev/i2o/hda3 /mnt/temp
# mount /dev/i2o/hda1 /mnt/temp/boot
(Note: The above two commands should be tailored to your specific
partitioning scheme. I configured my hardware RAID array with separate
```

SuSE: [SLE] HOWTO: Installing SuSE 9.1 on a DPT/Adaptec RAID Controller

partitions for /boot, /, swap and /home.)

At this point you can use your favorite editor (as root) to add the i2o modules to the INITRD_MODULES line in /mnt/temp/etc/sysconfig/kernel. On my system, the edited line looks like this:

```
INITRD_MODULES="reiserfs i2o_core i2o_block"
```

Now, go back to the root terminal session and run:

```
# chroot /mnt/temp /bin/bash
# mkinitrd
```

mkinitrd generated an error about not being able to find subdirectories in the sys tree. This error appears benign.

Now it's time to reboot, and configure the BIOS to completely hide the IDE drive from the system or just physically remove the IDE drive from the box (and change the BIOS back to the way it was when you started the 9.1 installation on the SCSI drive(s)).

As the machine now attempts to boot the partially installed system on the SCSI drives attached to the DPT controller, initrd will load the i2o drivers and the 9.1 installation should continue normally -- at least it did for me.

Many thanks to Carlos Robinson, Phillip Lemon and Leendert Meyer for their help with this.

I would be interested in hearing from others with this family of controllers if this solution works for you. Or, if you have a more elegant way editing the /etc/sysconfig/kernel file and running mkinitrd.

With best regards,
Mark

--

A Message From... L. Mark Stone
Reliable Networks of Maine, LLC
477 Congress Street
Portland, ME 04101
(207) 772-5678

--

Check the headers for your unsubscription address
For additional commands send e-mail to suse-linux-e-help@suse.com
Also check the archives at <http://lists.suse.com>
Please read the FAQs: suse-linux-e-faq@suse.com