

Fix for SuSE multiple hotplug network interfaces race condition?

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In SuSE 8.2, all USB and PCMCIA network interface hotplug events are funneled through a single 1-line file, `/var/run/hotplug/net`. As alluded to in `/etc/sysconfig/hotplug`, this causes serious race condition problems if you have more than one hotplug network interface:

```
> # At the moment we write HW descriptions at USB or PCI hotplug events, which  
> # then can be read by the NET event. This may cause race conditions if you  
> # plug several devices at a time.
```

There's a hack in `/sbin/hotplug` to attempt to serialize USB network interface hotplug events, but it doesn't always work. And there's not even an attempt to serialize PCMCIA network interface hotplug events.

My company is developing an embedded Linux device, and during our deployment test phase, we need to be able to boot the box (note it must be at boot time -- we can't require an operator to plug in devices one at a time) with four hotplug network interfaces attached:

1. Belkin F5D5050 on mobo's USB 1.1 port 1
2. Belkin F5D5050 on mobo's USB 1.1 port 2
3. Belkin F5D5050 on PCMCIA USB 2.0 card
4. IBM Token-Ring PCMCIA card

(These are in addition to a non-hotplug Ethernet interface built into the motherboard.)

With SuSE's versions of the hotplug scripts, where all four of those interfaces want to overwrite the `/var/run/hotplug/net` file, with unpredictable timing between them, often some interfaces won't come up at boot time, and/or the system will freeze in the middle of a shutdown/reboot because the race condition caused incorrect information to get written to `/var/run/hotplug/*remover*` scripts.

Why are SuSE's hotplug scripts written this way? The copies of the scripts on my Red Hat 9 system and at

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<<http://linux-hotplug.sourceforge.net/>> don't use a /var/run/hotplug/net file...

Has anyone made any attempts to fix the race conditions in the SuSE system? I looked at the scripts for a long time and tried a few things, but I couldn't see how to fix them, since the net.agent script gets launched in parallel with the usb.agent and/or pci.agent scripts (possibly multiple invocations of each), and there doesn't seem to be any environment variables or commandline parameters available that would allow you to match up a given net.agent script with its correct usb.agent / pci.agent brother.

Oh, and one more question (sorry). Just above the lines I quoted above from /etc/sysconfig/hotplug appear the lines:

```
> # In future hotplug will hopefully be able to know which piece of hardware is  
> # behind a given network interface. But currently there is no easy way to get  
> # this information easily.
```

"No easy way to get it easily" implies that it's possible, but hard.
;^> How can one relate the USB bus + port information seen in /proc/bus/usb/devices to a given logical network interface name like eth1, if you have multiple USB devices using the same driver?

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