

PCI Express Hotplug

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Hotplug facts :

- PCIe Hotplug needs a hotplug capable motherboard. Most low cost motherboards do not support hotplug. Therefore make sure with the motherboard vendor, that hotplug is supported.
- Hotplug must be enabled in the BIOS. Typically there are options for surprise removal or presence detect in the PCI Express sections.
- Hotplug or surprise removal is detected with the presence pins of the PCIe edge connector. If FPGA reconfiguration is part of a Hotswap procedure, make sure, that the presence pins are disconnected in case the PCIe endpoint remains in the slot while the PCIe link goes down. Otherwise a bluescreen might be encountered on Windows 10
- Windows 10 supports PCI Express Hotplug, however it must be running in PCI Express native mode, which is typically selected via the BIOS settings
- Linux also supports PCI Express Hotplug. In order to enable hotplug, the kernel must be configured to support hotplug. See next slide for details.

To configure the system for PCIe driver hot plug:

1. Open the `/etc/modprobe.conf` or `/etc/modprobe.conf.local` file in a text editor.
2. Add the following command `install acpihp /bin/true`
3. Either, persistently load the `pciehp` module per OS as follows:
open the `/etc/sysconfig/kernel` configuration file in a text editor.
Change: `MODULES_LOADED_ON_BOOT=""` to: `MODULES_LOADED_ON_BOOT="pciehp"`
4. Or, execute the following command at a terminal prompt before performing a hot plug action:

```
# modprobe pciehp
```