Hardware Enablement for SLED11

Philip Oswald
Project Manager OPS
Hardware Enablement
poswald@novell.com
01 October 2008

Novell®

Background

- In general we are pulling from the 2.6.27 kernel.
- Hardware that is supported in the 2.6.27 kernel is generally supported in SLED 11.
- Some back ports coming from 2.6.28 such as the FCoE stack (Server for the most part).
- There is a policy for SLE11 to only include packages that are L3 (Engineering Level) supportable. This means if it is not upstream than typically it is not considered L3 supportable.
  - Current Atheros (Proprietary) package found in SLED10 is being removed for SLED11.

© Novell Inc. All rights reserved

Graphics

- New Intel Graphics support
- Added Matrox support for G200
- Will continue to update the ATI and Nvidia Repositories
  - ATI Catalyst 8.9 support
  - The ATI repo will now have a fglrxG02 package
- VIA and SiS coming with Open Source drivers post SLED11 possibly available through the PLDP
  - PLDP (Partner Linux Driver Process)

© Novell Inc. All rights reserved

WLAN support

- All of Intel wireless hardware should be supported
  - Behind on the 5xxx drivers
- Atheros is supporting the ath9k however not all of their desired changes have made it to the project. A possible PLDP candidate
  - We will include the ath9k driver in SLED 11
- Broadcom concerned their interpretation of FCC restrictions so the Broadcom sanctioned driver will not be in SLED 11.
  - Available from the PLDP on a Broadcom website
  - Moving to GPL with exception of the FCC portion

© Novell Inc. All rights reserved

LAN support

- Broadcom Drivers
  - tg3, bnx2, bnx2x
- Intel Drivers
  - igb, ixgbe, e1000, e1000e
- Realtek
  - 8111CP/8111DP
- List your favorite driver that is upstream ...
  - In most cases the upstream 2.6.27 drivers will be included

© Novell Inc. All rights reserved

Storage Drivers

- Same as LAN, If upstream it should end up in our distribution.
- New Fibre Channel Companies showing up.
  - Brocade
  - Cisco
- SATA support for the new Intel systems

© Novell Inc. All rights reserved

New or enhanced support

- Support “Smart Battery”
- IDE Hotplug for Laptops
- Support for Smartcards
- Docking support for notebooks
- Support PC Card housed smart card readers
- ICH10 SATA, USB, HD Audio and 12C(SMBUS)
- PCI Express ASPM support
- Support for 92HD71B7 IDT audio codec
- ALSA driver for ICH10
- PulseAudio (Implementing)

© Novell Inc. All rights reserved

New or enhanced support continued

- Support for S3 and S4 Power States
- Suspend to ram (sleep)
- Suspend to disk (hibernate)
- Full suspend/resume for HP workstations

© Novell Inc. All rights reserved

Tainted Flags with Kernel Modules

GPL/NON-GPL!, UNSUPPORTED!	Closed-source Module delivered by 3rd-Party Vendor. Not built in Alignment with Linux Driver Process. High risk to the customer. Not supportable by Linux Distributor.
NON-GPL!, Externally Supported!	Closed-source Module delivered by 3rd-Party Vendor. In Alignment with Linux Driver Process, packaged as KMP. Very restricted Support by Linux Distributor, no Support by Community. Testcase/Patch required from Driver Vendor. No reverse Engineering by Novell.
GPL, Externally Supported!	Open-source Module delivered by 3rd-Party Vendor. In Alignment with Linux Driver Process, packaged as KMP. Limited Support by Linux Distributor and Community, Testcase/Patch required from Driver Vendor.
GPL, Supported!	Open-source Module delivered by Novell. Accepted Upstream, packaged as KMP. Regular Support by Linux Distributor and Community!

© Novell Inc. All rights reserved

Novell Partner Linux Driver Process

Partner Linux Driver Process (PLDP)

- Enable new Hardware Support
- Enable Kernel Modules not included in Distro
  - Upstream and GPL
  - Not upstream but GPL
  - Open Source but non-GPL
  - Proprietary
- Establish L3 Support Channels
- kABI Notifications

© Novell Inc. All rights reserved

Partner Linux Driver Process - cont'd

- Consistent KMP Creation
  - Spec-File Template
  - Linux Foundation, Driver Backport Project (In Development)
- KMP Distribution
  - Novell controlled Repositories (GPL only)
  - Partner controlled Repositories
  - Driver Kit Creation
- Upstream Guidance

© Novell Inc. All rights reserved

Partner Linux Driver Process - ref.

- PLDP References
  - http://developer.novell.com/wiki/index.php/Partner_Linux_Driver_Process
  - http://developer.novell.com/wiki/index.php/Requesting_kABI_Notifications
  - http://developer.novell.com/wiki/index.php/Requesting_a_KMP
  - http://developer.novell.com/wiki/index.php/Requesting_Driver-level_Product_Enablement
- Linux Foundation – Driver Backport Project
  - http://www.linuxfoundation.org/en/Driver_Backport

© Novell Inc. All rights reserved

Novell®

Unpublished Work of Novell, Inc. All Rights Reserved.

This work is an unpublished work and contains confidential, proprietary, and trade secret information of Novell, Inc. Access to this work is restricted to Novell employees who have a need to know to perform tasks within the scope of their assignments. No part of this work may be practiced, performed, copied, distributed, revised, modified, translated, abridged, condensed, expanded, collected, or adapted without the prior written consent of Novell, Inc. Any use or exploitation of this work without authorization could subject the perpetrator to criminal and civil liability.

General Disclaimer

This document is not to be construed as a promise by any participating company to develop, deliver, or market a product. Novell, Inc., makes no representations or warranties with respect to the contents of this document, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to revise this document and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes. All Novell marks referenced in this presentation are trademarks or registered trademarks of Novell, Inc. in the United States and other countries. All third-party trademarks are the property of their respective owners.