



Freescale – Linux BSP

Developed, maintained and ported the Linux kernel BSP and Linux bootloaders for the ARM9 / ARM11 based Freescale chips MX27, MX31/32, MXC91321, MXC91231, MXC91311, MXC92323 etc.

Challenge

- Linux Power Management subsystem for Freescale chip
Development/maintenance of Linux BSP for various ARM chip based boards from Freescale

Outcome

- Hibernate and DeepSleep functionalities for Linux BSP on ADS5121.
- Ported the LP107X Freescale SDIO WLAN driver stack to the 2.6.22 kernel with the community SDIO support patches.
- Ported the Redboot, Nandboot and Norboot (Freescale Proprietary) bootloaders to five new development platforms.

What did Gadgeon do?	Platforms/ Technologies used
<p>Design and implementation of the power management subsystem for Linux BSP on Freescale's ADS5121 platform. The hardware power states provided by MPC5121e SOC were mapped to the Power management framework provided by the Linux kernel.</p>	<ul style="list-style-type: none"> • Design and Implement the Hibernate and DeepSleep functionalities for Linux BSP on ADS5121 • This required changes to Linux kernel and the Uboot bootloader. • Mapped the DOZE and NAP power saving modes supported by MPC5121e to the kernel idle loop. • PowerPC assembly coding was required for implementing the Low level functionalities. • All the different power saving modes was tested under different load scenarios.
<p>Linux BSP for Freecale chips</p>	<ul style="list-style-type: none"> • MMC/SD/SDIO and Fast IR Interface (FIRI) Linux kernel device driver owner. • Ported FIRI & MMC/SD driver across different Freescale platforms. • Handling Interoperability requirements for FIRI driver by testing with Linux and WindowsXP IrDA stacks. • Ported the LP107X Freescale SDIO WLAN driver stack to the 2.6.22 kernel with the community SDIO support patches. This involved modifying the class driver to work with the 2.6.22 kernel as well as using the SDIO driver model. • Ported the Redboot, Nandboot and Norboot (Freescale Proprietary) bootloaders to five new development platforms. • In these bootloaders, ARM assembly code was optimized to reduce bootup time and features like watchdog module, System revision ATAG passing to kernel etc were added. • For chips with new NFC IP, the NAND driver code in the boot loaders was rewritten. Fixed kernel crash issues applied in the Linux kernel IrDA stack.





GADGEON SYSTEMS INC

881 Yosemite Way, Milpitas, CA 95035, USA

CONTACT - USA

Wes Schropp – VP Sales : +1-408-621-2570

CONTACTS - INDIA

Hari Nair : +91 9895 01 58 80 | Sreenandh : +91 9747 08 66 88

GADGEON SMART SYSTEMS PVT LTD

VI 405/E1, Fathima Tower, Malepally Road, Thrikkakara PO, Kochi, Kerala, INDIA, Pin: 682 021



sales@gadgeon.com