
GadgEon
Engineering Smartness

Linux BSP Adaptation - DVB device

A custom hardware with Cavium SoC with many interfaces and FPGA, Linux and u-boot needed adaptation

Challenge

- Port and bring-up BSP (u-boot and Linux kernel) in a new hardware board
  DMA driver to transfer the data from FPGA to Processor

Outcome

- Gadgeon Adapted the Linux/u-boot for the cavium based board
- All the existing applications were tested
- HW components/peripherals were tested and corrected.

WHAT DID GADGEON DO?	PLATFORMS/ TECHNOLOGIES USED
Software BSP Architecture for Avateq's custom hardware platform based on Cavium Octeon platform, including uboot, Linux kernel and application scripts for platform upgrade.	Requirements Gathering & Analysis, Uses cases, Architecture development, identification of functional components.
Uboot enhancements to boot from SD card, download firmware into FPGA, POST, Firmware upgrade etc. Linux kernel bringup and testing of all peripherals on board including I2C, SPI, WiFi, PCI devices etc. Device driver optimizations for PCI, USB, DMA drivers for fast data transfer over USB, etc	Custom hardware platform provided by Avateq based on Octeon Reference platform, Uboot, Lauterbach JTAG hardware/software, Eclipse IDE, vi/ctags/cscope development environment, C programming
Ability to upgrade of all firmware images on board initiated remotely. Modifications to uboot, kernel, application scripts etc.	Shell scripting, C programming
Hardware modifications for PCI lines etc found when debugging issues during Software bringup.	Hardware engineer hand soldering

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