Services and Skills

case study

Linux Device Driver Projects

Access Control System Project

- Real-time access control system based on the Linux server PC.
- The system combines control of the 67 active and passive devices accessible via Ethernet and RS 232, 12 embedded Linux graphical terminals using VNC technology and SQL database access.
- The system registers over 50,000 events a day with the reaction time below 500 ms.
- System up time is now over 3 years.
- Whole system is written in pure C/C++.

Embedded Linux PC-based Terminals Project

- Embedded Linux flash-based terminal software with dedicated access control software based on microchips cards.
- Project required Linux kernel driver to control presence of the microchips authorization card and dynamic processor speed control driver to optimize power usage, temperature control, and bootstrap time.

Micro Linux Control Board Firmware for the GSM/UTMS Power Amplifiers Control

- TCP/IP software to control and drive power amplifiers by the cell phone base station.
- Real time communication protocol with strictly defined response time.
- uClinux operating system running on the Motorolla ColdFire 5407.

Organic LED Live Time Test Server

- Linux-based TCP/IP server software to control up to 250 Live Time tester devices with 32 active measurement channels each over an Ethernet connection.
- The server registers data from up to 250 testers with maximum rate of 20000 packages per second from all active channels.
- It allows up to 10 Windows client workstations to observe test process progress on any of the 250x32 channels in real-time.

RT Linux IEEE1394 (FireWire) Driver

- Real-time Linux driver to control movement of the 16 flying probes of the dual sided PCB tester.
- The driver sends up to 50,000 four byte blocks per second to drive in real-time DSP controlled measurement probes.

Creation of drivers for Linux for 4-port telephone card Voicetronic VPB-4

- Linux kernel driver to convert telephone voice signal in to UPD stream for the VOIP application.