



Services

- BSP development, porting, enhancements and customization
 - Boot loader
 - Kernel porting
 - Device drivers
 - File systems
 - CETK
 - KITL
- Debugging
- Testing using CETK
- Compliance testing
- Network and communication protocol stacks
- Physical validation
- Integration and maintenance



Skills:

- Windows CE flavors:
- Windows CE 6.0
 - Windows CE 5.0



Focus areas:

- Point of Sales terminals
- Home automation
- Multimedia applications
- PDA and mobile devices

Overview

Windows CE is a component-based, real-time operating system from Microsoft. It is widely used for variety of applications including industrial controllers, consumer electronic devices, point of sale terminals.

Aftek's Expertise

Aftek has rich expertise in Windows CE BSP and application development on various hardware platforms. Aftek's ability to deliver end to end solutions enables it to deliver variety of embedded solutions to its customers.

Architectures and Processors

- **Application processors** - ARM (ARM4VI, ARM9, ARM11), x86
- **Multimedia processors** - TI DaVinci, TI OMAP
- **Mobile/PDA processors** - XScale (PXA27x), Samsung (S3C2410)

Boot Loaders

- EBOOT
- UBL
- ARMBoot

Device Drivers

- **Displays** - Graphical LCD's (TFT, STN)
- **Camera interfaces** - Digital camera, quick capture on-chip interface
- **Audio interfaces** - I2S, AC97, codec engines
- **Video encoder and decoder** - TVP, DSP codecs
- **Memory devices** - Flash (NAND / NOR), SDRAM, SD/MMC, IDE, EEPROM
- **Communication peripherals** - WiFi, GSM, GPS, Ethernet
- **Bus interfaces** - USB host and device, SDIO, I2C, SPI, IDE, RS-232, RS-485
- **Others** - Power management, touch screen, RTC, printer, magnetic strip reader

File Systems

FAT32, TFAT, BinFS

Protocol Stacks and Libraries

WiFi, USB, TCP/IP, customized SDK libraries, audio

Others

KITL, CETK, ARM/DSP BIOS link

About Aftek

Aftek Limited is a full spectrum technology services company from India. Over last 20 years Aftek has gained significant exposure to variety of technologies. Rich technological capabilities, focused investments in Research & Development and industry exposure enables us to reach beyond the basic IT services to design and deliver projects, products and implement end-to-end solutions to customers in variety of industries. Our service spectrum covers key services as Hardware Development, Firmware Development, Embedded Systems, Application Development, Application Maintenance and Testing Services.

Case Studies

Home automation console

This home owner console provides a rich user interface for configuration and monitoring of various parameters in a home automation system.

- Aftek developed Windows CE 5.0 BSP for platform based on PXA270. Optimized
- OEM abstraction layer and customized the boot loader.
- Implemented support for redundant image.
- Customized TFAT file system.
- Implemented power management optimization.
- Enhanced USB serial class driver for increasing throughput.
- Ported, customized and tested device drivers for graphical LCD and communication peripherals.

Windows CE 6.0 for DaVinci processor



Texas Instruments' DaVinci family of processors is well suited for multimedia and network streaming applications. Aftek developed a board support package (BSP) for DaVinci DM644x multi-core processor. This BSP helps in reducing time to market and cost of development for solutions based on DaVinci. **Aftek was one of the firsts to develop Windows CE 6.0 BSP for DaVinci processor. This BSP was demonstrated at Microsoft conference in Japan in 2006.**

- Aftek ported Windows CE 6.0 on TMS320DM644x DaVinci processor.
- Enhanced EBOOT boot-loader to support functionality like power-on self test and TFTP based firmware upgrade and redundant image.
- Ported and optimized TFAT, FAT file systems.
- Ported and customized drivers for display, Ethernet, USB host, I2C, ATA hard disk, IDE, audio, SD/MMC, NAND and NOR flash, EEPROM and GPIO.
- Optimized IDE driver for performance.
- Enhanced display driver to remove jitter on LCD.
- Enhanced Ethernet throughput.
- Ported and optimized RTC, KITL, ARM/DSP BIOS link.
- CETK testing.