CASE STUDY

ALTEN CALSOFT LABS
AN ALTEN GROUP COMPANY

CUSTOM MOTOR CONTROLLER FOR CONSUMER DEVICES

THE CLIENT

The client is a consumer device vendor.

BUSINESS NEED

The client envisaged to develop a next generation firmware to control and upgrade the firmware of the L2L motor controller module based on TI/Luminary Micro Stellaris series Microcontroller - LM3S5632-IQR50-A0 devices using the USB CDC class drivers on various Windows and Macintosh platforms.

The L2L device firmware has to implement all the motor functionality present in 1.0 while still using the USB CDC class driver and support DFU. It also needs to support Macintosh platform.

TECHNOLOGY USED

- **OS:** Windows 7 64 bit, Vista and XP
- **Hardware Setup:** L2L motors using a test setup
- **Tools:** CodeRed
- **Languages/Skills used for automation:** C Programming on Linux
- **Team Size:** 3 Engineers

SOLUTION DELIVERED

- The L2L device was modeled as a CDC class device and motor control commands were re-implemented to handle multiple commands without dropping any command.
- Additional features such as battery measurement, LED control, Power save modes and new motor pre-defined patterns were implemented.
- Firmware upgrade feature was implemented ground-up using DFU protocol and Stellaris libraries.

BUSINESS BENEFITS

- Multiple motor functionality implementation
- DFU Support

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