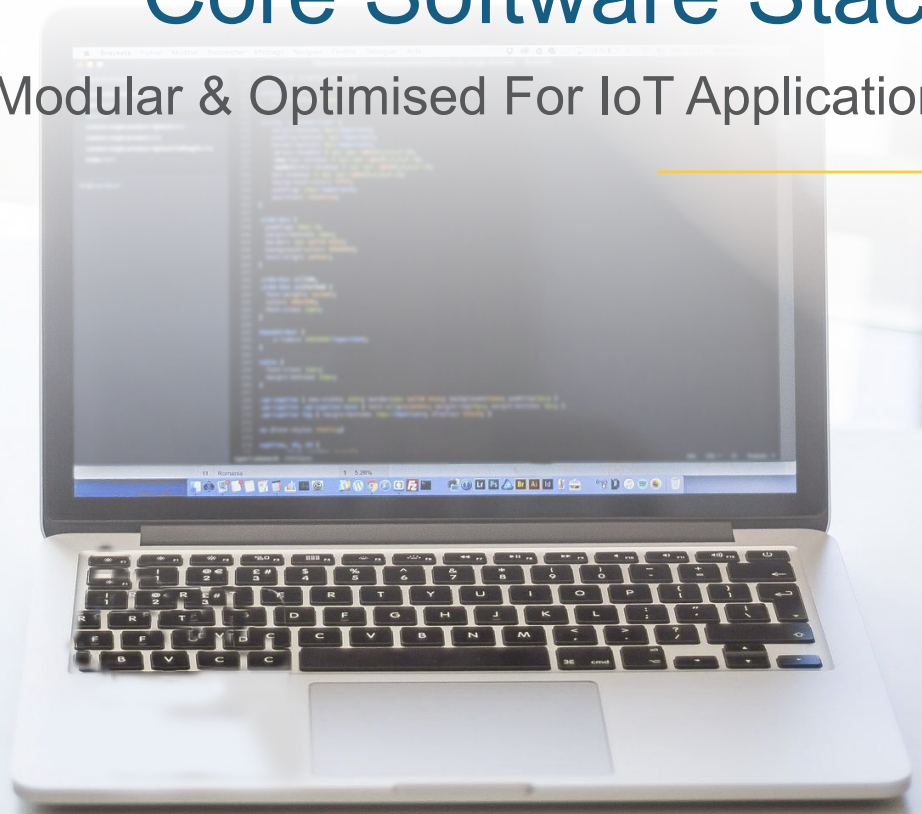




Core Software Stack

Modular & Optimised For IoT Applications



“The Core Stack has significantly enhanced our ability to deliver designs rapidly with high quality, maintainable and power-efficient software.”

Steve Braithwaite,
Electronics Team Leader

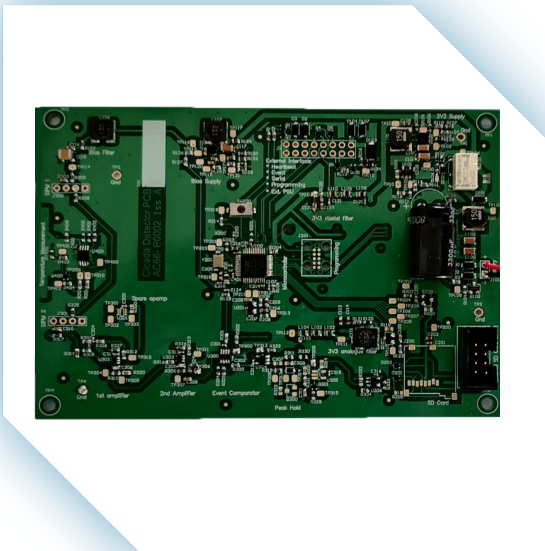
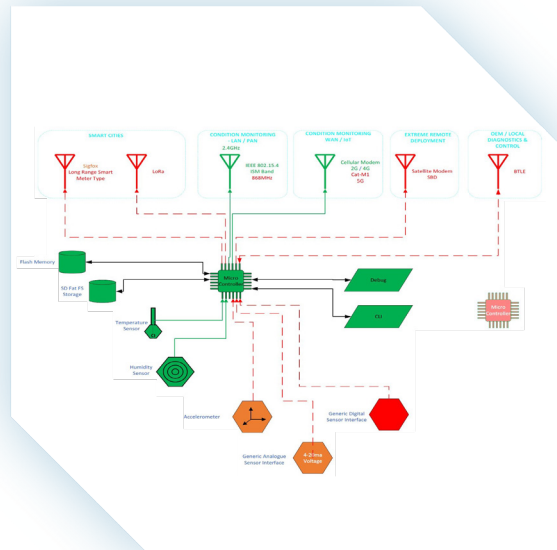
The Captec Core Stack is a reusable set of software modules designed for power efficiency and ease of maintenance. They are available for use in low-power applications using microcontrollers, typically using ARM Cortex M3, M4 and D0 cores.

Requirements & Issues

- ▶ Develop software drivers for use in a reusable software stack architecture
- ▶ Full target hardware abstraction, optimised to use sleep modes
- ▶ Integrate cellular modem and TCP and UDP socket servers
- ▶ Binary transfer protocol
- ▶ TLS and MQTT client support

The Solution

- ▶ An adaptable, reusable software stack supporting key IoT radio types
- ▶ Optimised for use in battery-operated, power-efficient designs
- ▶ Supports rapid and lower cost software development
- ▶ Maintainable software geared toward IoT sensor applications
- ▶ Support for delivering data to standard Cloud databases (e.g. AWS)



The Outcome

- ▶ The software has been utilised for the rapid development of a low-power gamma ray spectrometer (MCA)
- ▶ It has been used in the software upgrade (including over-the-air software updates) for the FloodFlash flood level meter
- ▶ The implementation of the software can also be seen in the KeLVN Linkswitch for controlling and monitoring under-pavement KeLVN link switches



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