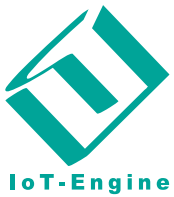


IoT-Engine: Make Everyday Devices IoT Ready



Open IoT Platform IoT-Engine Development Kit

- All-in-one hardware and software package for rapid IoT device development
- Easily develop applications connected to the Cloud, to aggregate sensory data and control IoT-Engine devices
- Reduce application development time with the lightweight real time OS μ T-Kernel 2.0 and included libraries prepared for controlling sensors and Arduino compatible I/O ports implemented on the UCT's IoT-Engine Starter Board
- IoT-Engine Development Kits supporting IoT-Engines from various manufacturers are scheduled to release in the near future

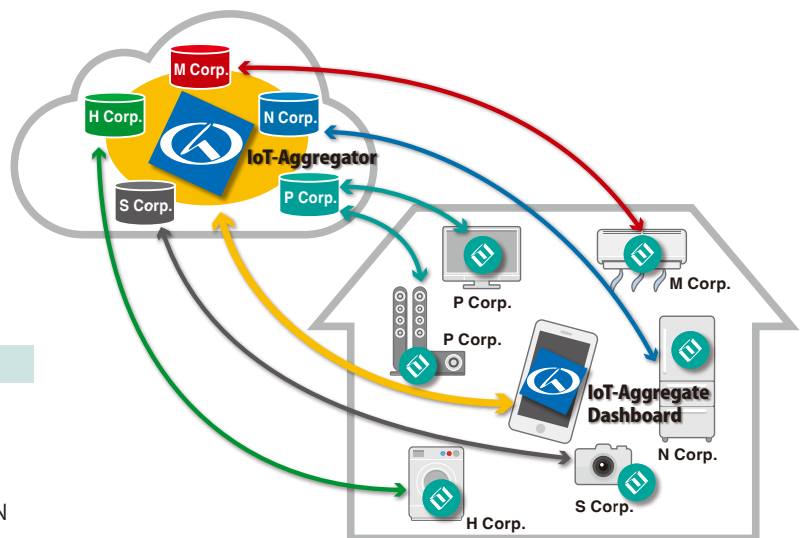
What is IoT-Engine?

The IoT-Engine module from UCT is a MCU module with wireless PAN (Personal Area Network) to make everyday and embedded devices IoT ready.

The IoT-Engine Development Kit includes the UCT 6LoWPAN Border Router which operates as a PAN coordinator to let multiple IoT-Engine modules to directly connect to the Cloud.

The IoT-Engine Specification published from TRON forum requires an IoT-Engine module to have a standardized connector. UCT provides standardized communication API sets to let developers to efficiently develop application devices using IoT-Engine modules.

The IoT-Engine module has a capability to connect to the IoT-Aggregator which is envisioned by TRON forum, to achieve the Aggregate Computing which is a next generation system that connects Cloud services and IoT-Engines.



Aggregate Computing

What is 6LoWPAN?

6LoWPAN is an acronym for "IPv6 over Low-Power Wireless Personal Area Network."

It is a set of communication specifications to use IPv6 over a low power wireless network considered suitable for IoT devices.

Nano120 IoT-Engine Starter Kit



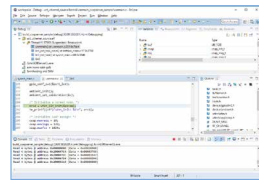
Hardware

- Nano120 IoT-Engine
 - Mounted the Nuvoton's ARM Core-Based (Cortex-M0)
- RF Module
 - Conforms with the Japan ARIB STD-T108 (920 MHz) and IEEE 802.15.4g
 - Installed the UCT 6LoWPAN Protocol Stack
- IoT-Engine Starter Board
 - Loaded with Arduino Compatible I/F, temperature sensor, photo sensor, motion sensor, joystick, RC servomotor I/F, USB-serial, LED, switches and the rest
- Packet Sniffer Board
 - Monitors 6LoWPAN packets transmitted over air
 - The board can be used to update the firmware installed on the RF module
- 6LoWPAN Border Router
 - Connects WLAN and WPAN seamlessly

- Packet Sniffer Tool
- Peripheral I/O drivers for the IoT-Engine Starter Board (Conforms with the T-Engine Device Driver Interface Library Specification)
 - I2C, analog-to-digital converter, GPIO, environment sensors, LED, serial communication, Arduino compatible I/F, analog joystick
- Sample Software to Demonstrate the Cloud Connection
- Software Development License for IoT-Engine
 - Includes 3 months free technical support. Additional 6 months technical support can be purchased.

Software

- GCC/Eclipse Development Environment
 - Includes GCC compilers and the Eclipse IDE
 - Includes ready-to-use configuration files for the development environment
- UCT μT-Kernel2.0 Lightweight task-based RTOS
- UCT WPAN Communication API Libraries
 - UDP and CoAP API sets
 - Sample software includes a CoAP client and a server



GCC/Eclipse Development Environment

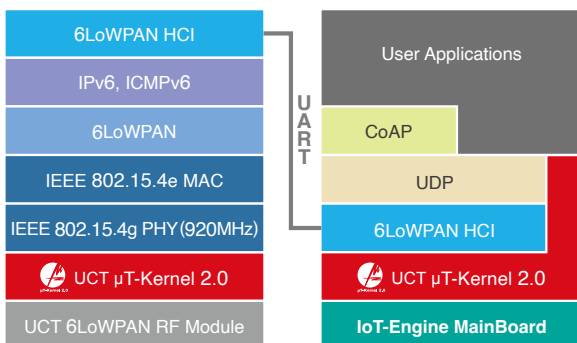
Documents

Options

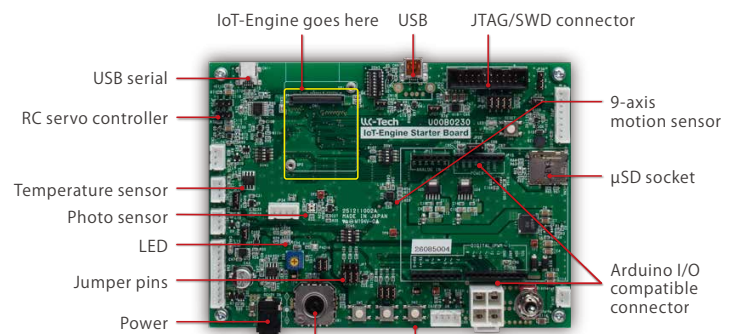
- SEGGER J-Link Debug Probes



Nano120 IoT-Engine Starter Kit



Software stacks of UCT 6LoWPAN for IoT-Engine



IoT-Engine Starter Board

For questions or more details on IoT-Engine technologies and our consulting services to build a Cloud platform for the Aggregate Computing, please feel free to contact us.



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