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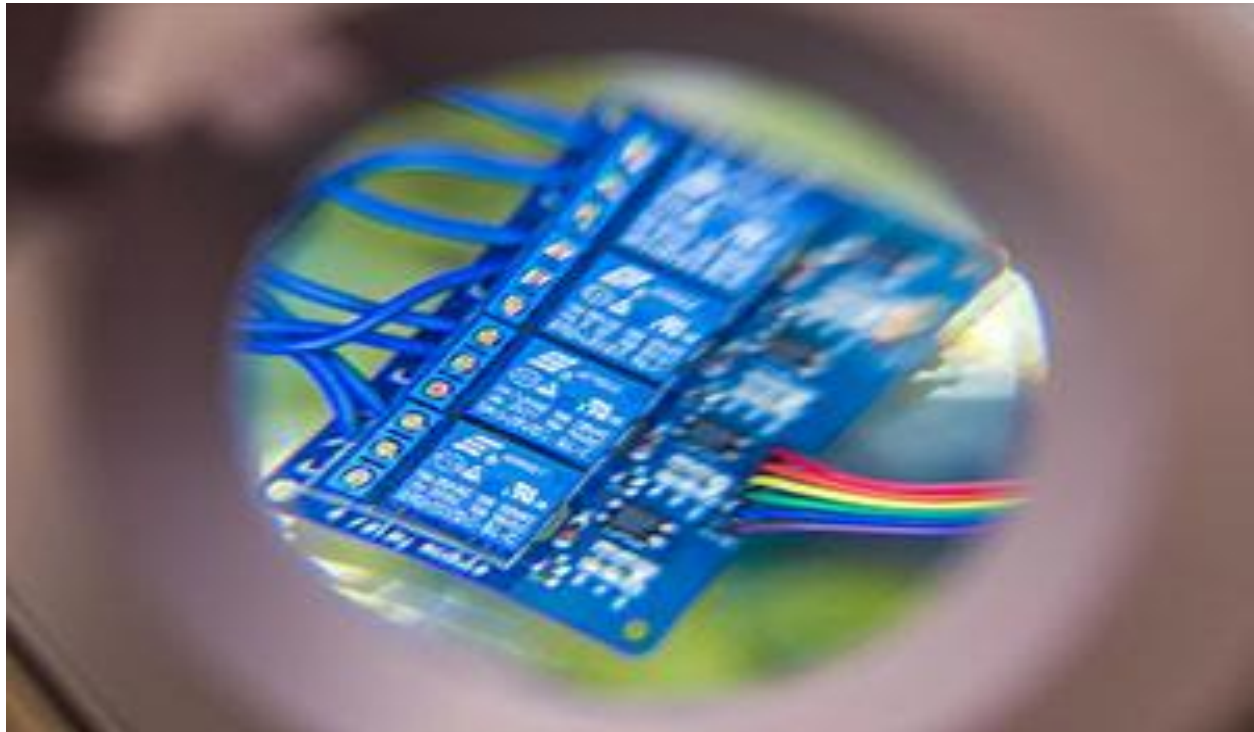# Early prototype of IPv6 communication over BLE for constrained IoT devices
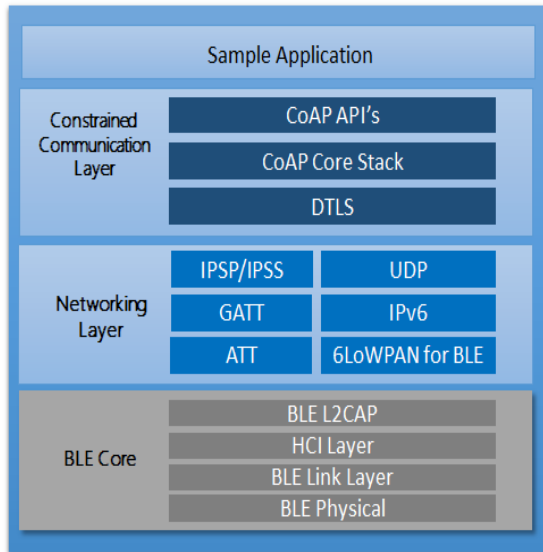

Client

North American semiconductor design and manufacturing company

Problem statement

Client had developed a new Bluetooth low energy capable integrated chip based on Bluetooth 4.1 specification. For low power wireless IoT use cases, client wanted to develop "Bluetooth direct to internet" connectivity using 6LoWPAN for BLE and IPSP profile

Altiux Solution

Altiux provided a complete "IPv6 over BLE" solution consisting of networking, security, transport and application layer components.

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Key components of the solution included

- Internet Protocol Support Profile (IPSP) revision v1.0.0 as adopted by Bluetooth SIG

- 6LoWPAN for BLE compliant to ietf-draft 6lopan-btle-12

- IPv6 and UDP layers

- Security component as per DTLS

- Lightweight implementation Constrained application protocol (CoAP based on RFC 7252)

Client Benefits

Accelerated development – With its extensive expertise in developing BLE and 6LoWPAN based solutions, Altiux provided time to market advantages to client reducing the development time by approximately 50%

Low memory footprint – Altiux's "IPv6 over BLE" solution was highly optimized for client's BLE chipset ensuring that BLE stack, "IPv6 over BLE" solution and application software can seamlessly run without requiring any memory extensions.

Industry demonstrations – The IPv6 over BLE solution was successfully demonstrated at several industry events by customer and Altiux alike

About Altiux:

Altiux Innovations is a software and product engineering services organization focused on designing, developing and deploying Internet of Things (IoT) enabled products and solutions for the smart connected world. Our clientele spans verticals like Consumer Electronics, Smart Homes/Buildings, Smart Cities and Industrial automation. Our flagship offering - IoT Toolkit – is a comprehensive suite of ready to use software frameworks for IoT implementations. It helps our clients offer differentiated solutions while accelerating time-to-market, reducing overall product development expenses and future proofing investments. Our services portfolio encapsulates our collective expertise in areas of smart devices, Mobility, Big Data, Cloud and Analytics with the goal of providing hands-on support for customers as they embark on their IoT product development journey. To know more, visit us at www.altiux.com or write to us at info@altiux.com