

Plugfest Summary

wot - rust and dart_wot Interoperability

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WoT F2F Meeting in Munich

- Collaboration with Luca Barbato
- Work on Rust no_std applications for microcontrollers
 - Deployment on ESP32s
- Interaction with microcontrollers via Flutter app based on Eclipse Thingweb dart_wot
- Also performed interoperability tests with domus TDD and KNX IoT devices

Issues Encountered

- Identified bugs both in dart_wot and domus TDD
 - TD exposed by domus was invalid (known issue, see #1780 in TD repo)
 - TDD contained invalid OPC UA TDs, causing discovery to fail
 - dart_wot's DNS-SD discovery using mDNS did not support IPv6 yet
- ESP32s were often not able to handle writeproperty and readproperty in quick succession
 - writeproperty should also support returning values (also see WoT TD issue #875)

Issues Encountered

- Interaction with KNX IoT devices via CoAP was unreliable
 - Binding Template should support indicating non-confirmable requests and “sleep schedule”/retransmission pattern
- Supporting no_std with Rust has been challenging
 - Not as much progress as we hoped (e.g., only HTTP support on the ESP32 for now)
 - But another step towards a better support for constrained devices
- Flutter app still somewhat prototypical
 - But good foundation for adding new features quickly

Implementation Links

- <https://github.com/wot-rust/wot-esp-hal-demo>
- https://github.com/JKRhb/eclipse_thingweb_app