

Master's thesis internship

Research, development, implementation and evaluation of MATTER.



INTRODUCTION

VERHAERT is an SME with a clear focus on innovation and development of new products for international customers in various sectors. We offer a broad range of product development services, from business consultancy to series production.

Nowadays we're talking about IoT, Smart Solutions, Connected Homes with evolving business models such as 'Light as a Service' or 'Security as a Service'.

With these evolutions a variety of protocols have been developed. All of them tackling specific issues, yet challenging decision makers in approach, technology and future proofness.

A new player in this field is called Matter with a strong focus on interoperability between devices. Interoperability between protocols, protocol stack implementations and chip vendors. This shifts the focus of developers to the application rather than the challenging task of integrating a solution onto a single piece of silicon.

Matter as a protocol adds some extra layers ... what is the benefit of the layers? What does it take to practically use it in a product that goes to market? How does security ripples through all the layers and ties with the hardware?



SCOPE OF THE INTERNSHIP

Where do you come into play? During this hands-on internship, you will develop a practical application on microcontrollers running Matter and evaluate this onto different microcontrollers and software platforms:

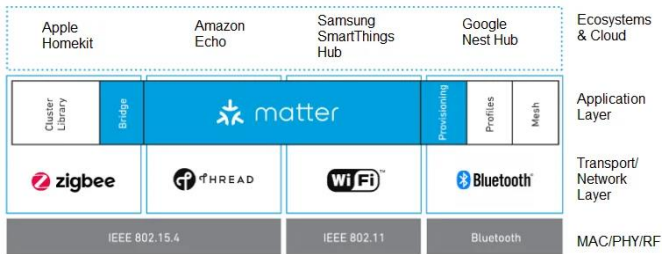
- STM32 (Cortex M) / ESP32 / Nordic NRF series
- Zephyr / ...

The application will cover different topics, such as:

- Matter concepts
- OS integrations
- Tracing
- Available libraries

As outcome we expect the following:

- Have an understanding on Matter as a solution architecture
- Have an understanding on the choices to make for a Matter application
- Have a clear view on the different steps to take to get a Matter application to the market.
- Have a clear view on the complete lifecycle of a product, covering:
 - development
 - production
 - installation/commissioning
 - usage
 - decommissioning

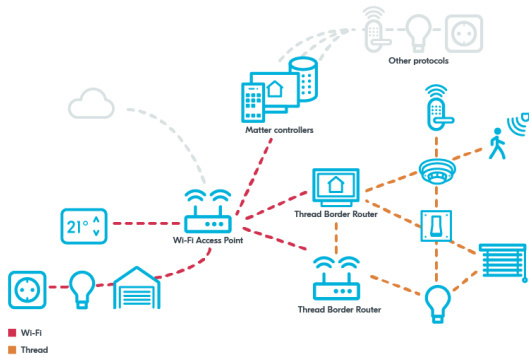


APPLICATION:

Hey Google, what is the status of my house?

Make an application that integrates with a Google Nest using Matter. Applications might allow to use existing API's, yet the goal is to develop your own Matter device/network.

We believe this 'status' is determined by different factors and allows to use a mixture of technologies. For example, a temperature over zigbee, a person detection with BLE beacons, ...



YOUR PROFILE

- You have a keen interest in embedded digital applications.
- You have knowledge of C/C++
- You know or want to learn about MATTER
- You have experience with mcu's

OUR OFFER

Next to an in-depth and practical experience with Matter, we offer you a view within an inspiring and innovative company, a very pleasant atmosphere and professional coaching.

COACHES



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