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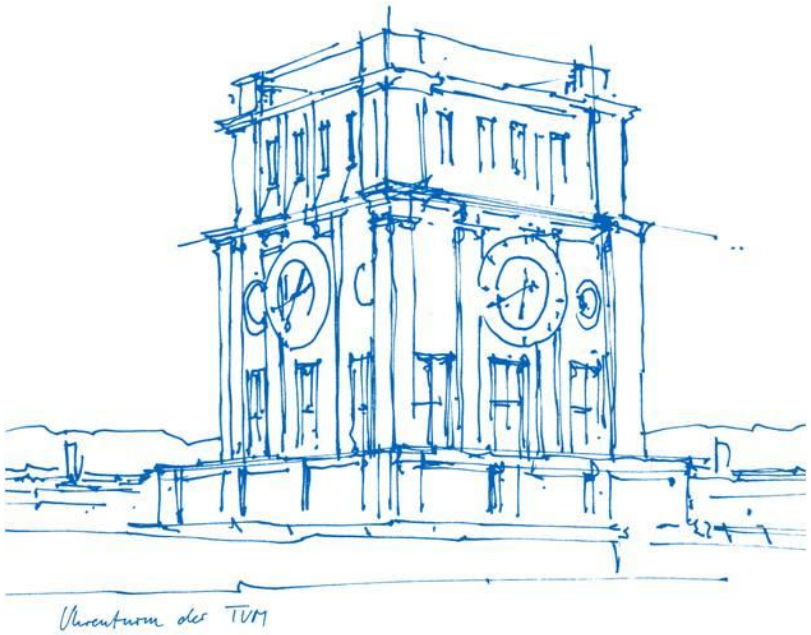
IDP - Interdisciplinary Project

Presentation - WoT-CI: Web of Things System Continuous Integration



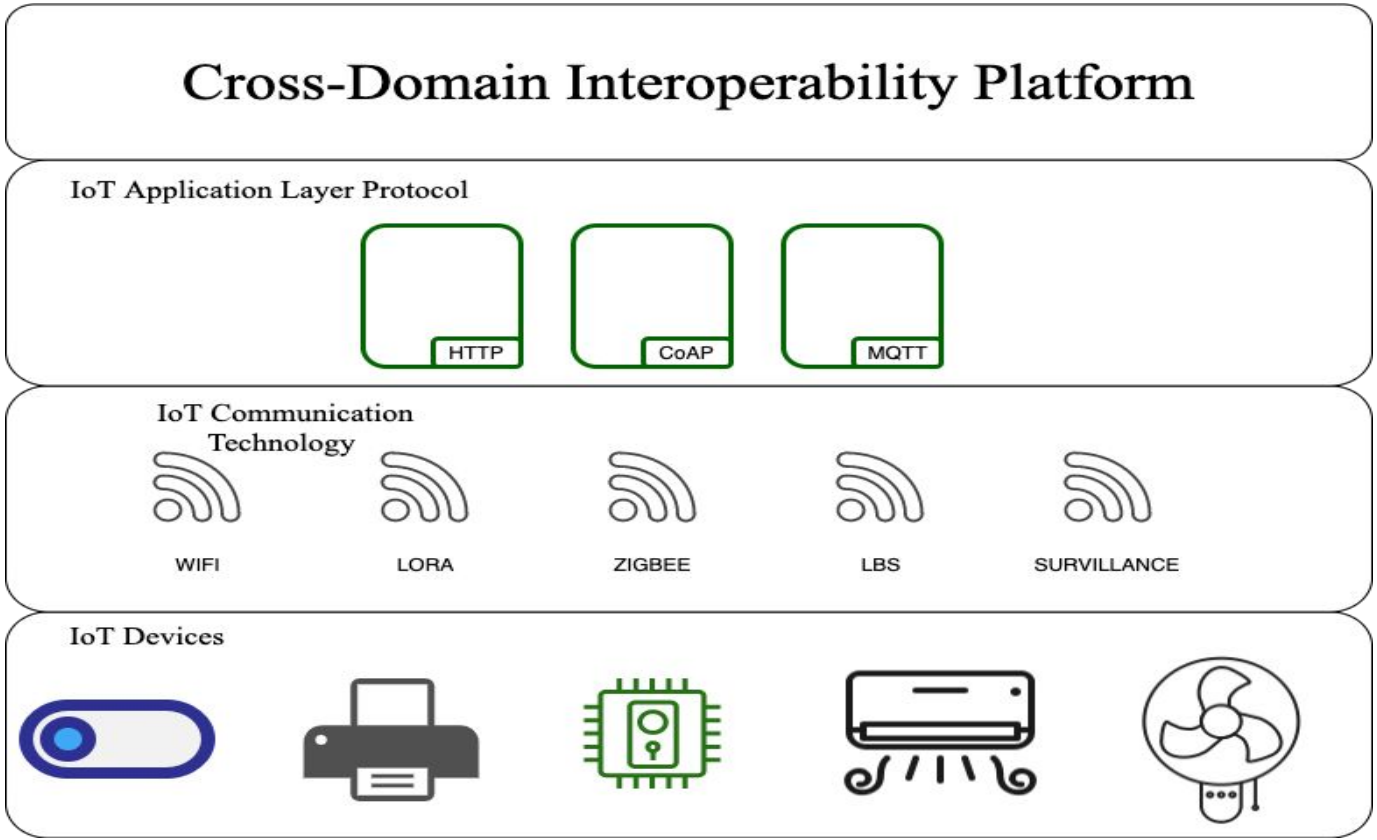
Presenter:

Muthuraman Chidambaram

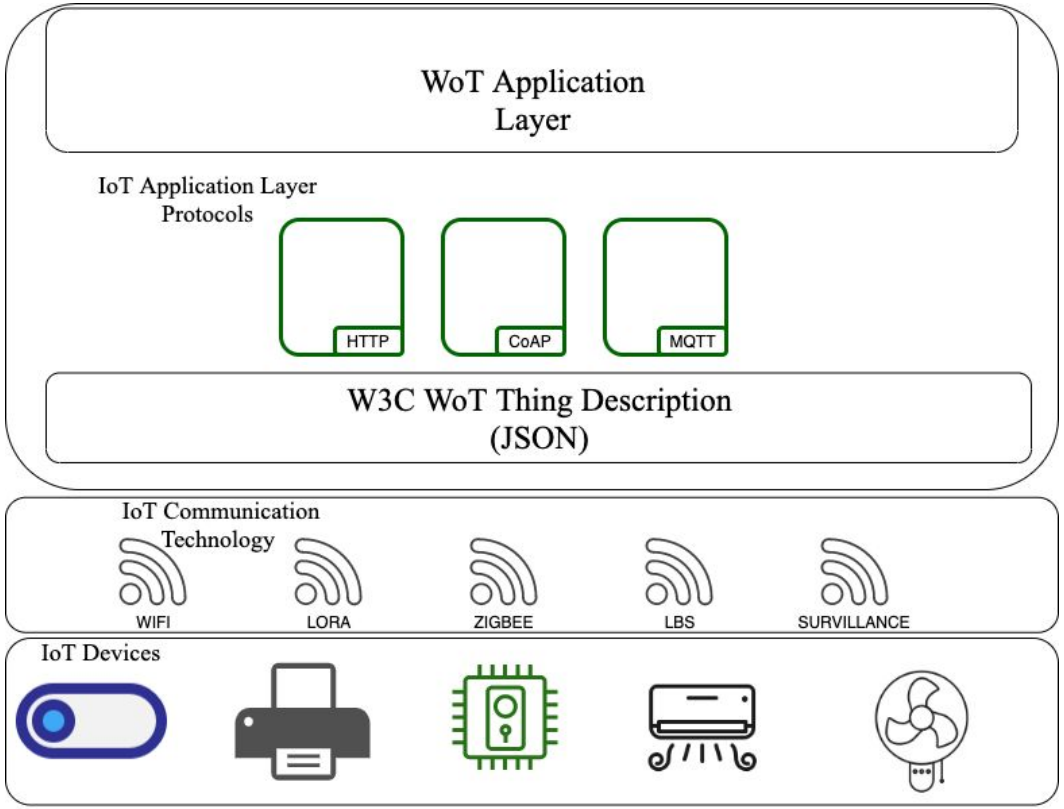
Agenda

- IoT Interoperability
- WoT Interoperability
- Continuous Integration (CI)
- CI ⇒ WoT-CI
- Architecture & Approach
- Conclusion
- Learnings
- History
- Thanks

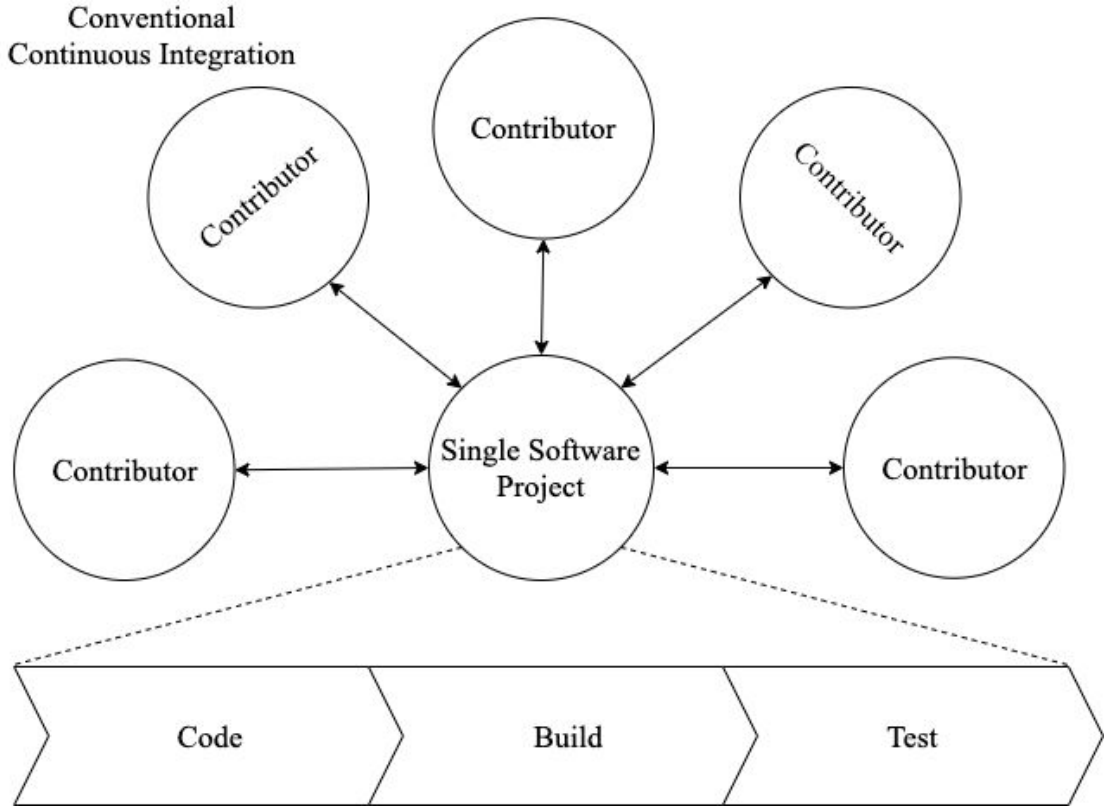
IoT Interoperability



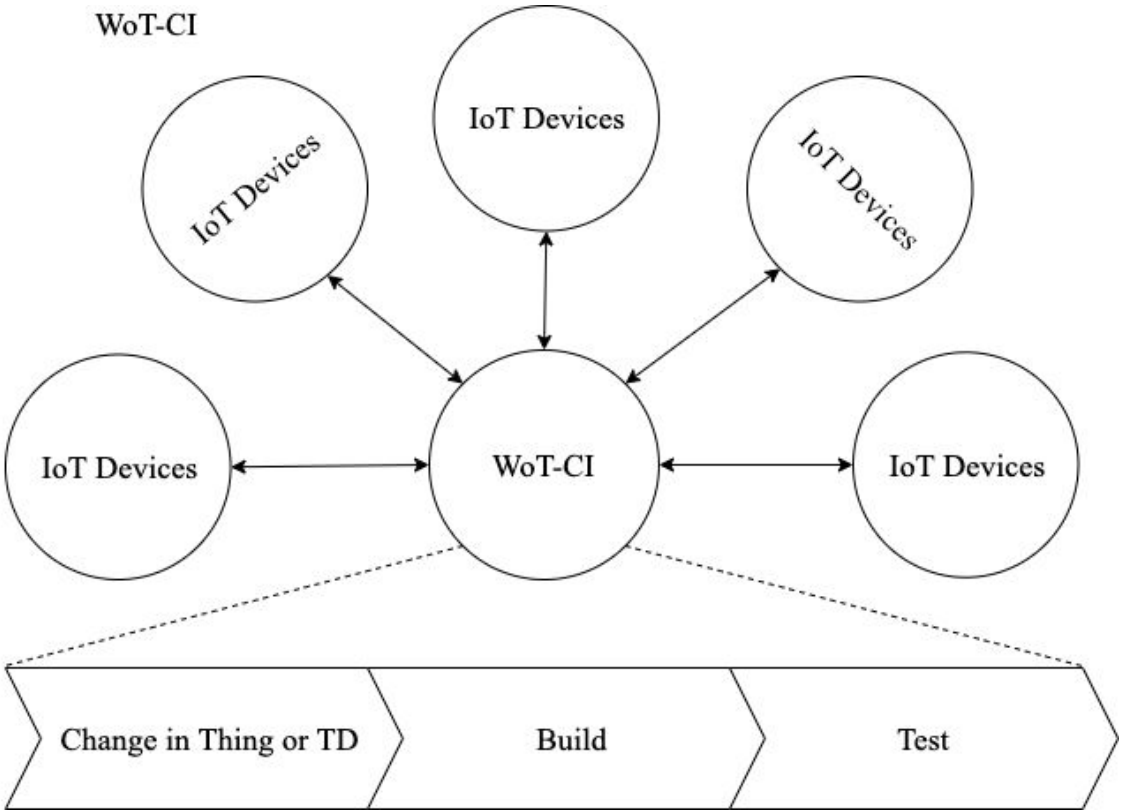
WoT Interoperability



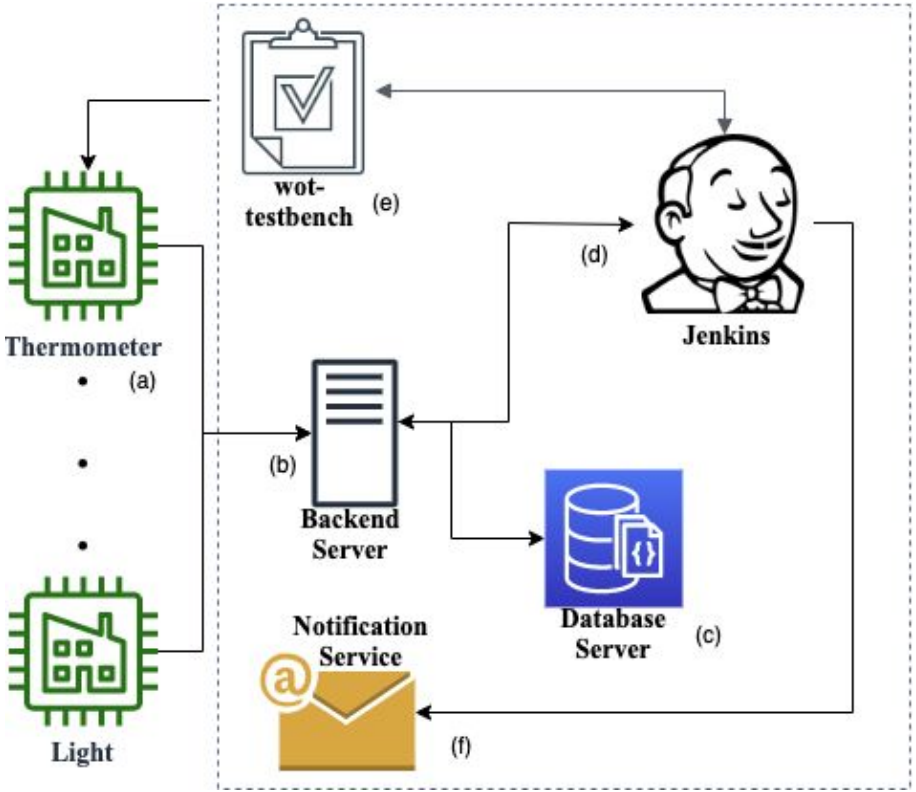
Continuous Integration(CI):



CI ⇒ WoT-CI


WoT-CI
IoT Devices
IoT Devices
IoT Devices
IoT Devices
WoT-CI
IoT Devices
Change in Thing or TD
Build
Test

Architecture & Approach



Conclusion

- The presented architecture is supposed to be used for blackbox system testing for W3C WoT ecosystem.
- In this paper we introduce WoT-CI, a method that uses the principles of Continuous Integration (CI) in the context of WoT, by considering the WoT devices as contributors and WoT system as a single software project.
- We show that this system can reduce system integration effort while requiring no manual input from the developer, thereby, assuring that the WoT devices are functioning as per the requirement after any change to the hardware, software or network.

Questions

Learnings

- Markdown
- Fork and Pull request in Git
- Node.js
- JSON
- World Wide Web Consortium Web of Things: Thing Description
- Postman
- Not to develop a application in 64 bit OS when you know you are going to deploy it in Raspberry Pi (Until 2019)
- Cron job can be used for starting applications on restart.
- Continuous Integration: Tools like Travis CI and Jenkins
- How to write a paper? (Yet to learn a lot, would be happy to do peer review)
- How to create images for paper?
- LaTeX

History


Aug 2012 - Dec 2014
Networks Administrator
Dec 2014 - Oct 2017
Software Developer in
Networks Domain
May 2018 - Oct 2019
Data Analyst
Aug 2019 - Dec 2019
DevOps Engineer

Thanks

- Thanks to Prof. Sebastian Steinhorst, for allowing me to work with the chair.
- Thanks to Ege Korkan, for his continuous and tireless support.
- Thanks to the Team, for helping and sharing their time and knowledge whenever I’m at their desk.