

# PhD Application for The PhD Thesis "Decentralized Fog Computing Infrastructure Control"

Ali J. Fahs

Supervised by Professor Guillaume Pierre

Audition, 8<sup>th</sup> of June, 2017

# Outline

- 1 Personal Presentation
- 2 Master Thesis
- 3 State-of-the-Art for Edge Clouding
- 4 PhD Topic
- 5 Project Perspective

- A double diploma student.
  - Engineering diploma in telecommunication and computer science - **Lebanese University, Faculty of engineering (ULFG)**.
  - Master's degree in Informatics Grenoble (MoSIG) Parallel, Distributed Systems Track - **Grenoble INP** (Institut national polytechnique), **Ensimag** (École nationale supérieure d'informatique et de mathématiques appliquées de Grenoble) jointly with **UGA** (université grenoble alpes), **IMAG** (Informatique, mathématiques, mathématiques appliquées de Grenoble).
- Research interest: **Distributed systems, Networking.**
- Master's thesis "Distributed Approach for Cross-Layer Resource Allocation in Wireless Sensor Networks" Jointly between LIG (Laboratoire d'Informatique de Grenoble) and VERIMAG.

## Overview

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- Time-slotted channel hopping (TSCH), The Medium access layer control.

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- 6TiSCH: IPv6 over IEEE802.15.4e TSCH.

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## Challenges

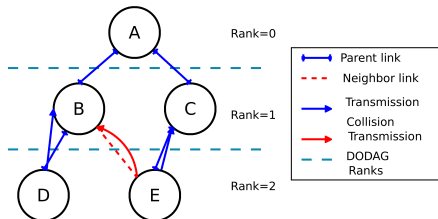
- High collision rates in TSCH dedicated cells.

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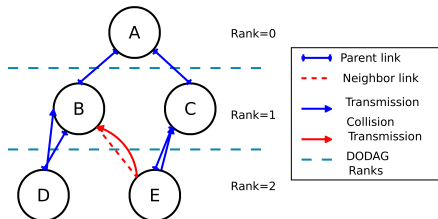




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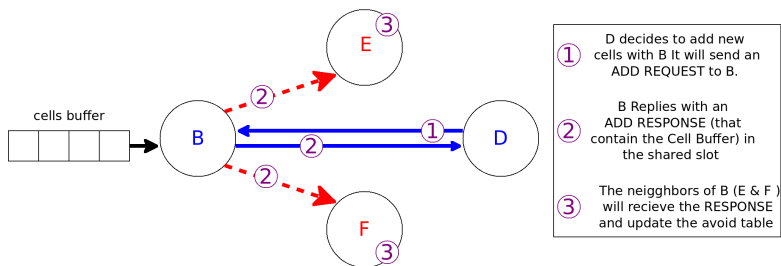


## Proposed Mechanism

- Local mutual exclusion: every node passively learn the schedule of their neighbors.

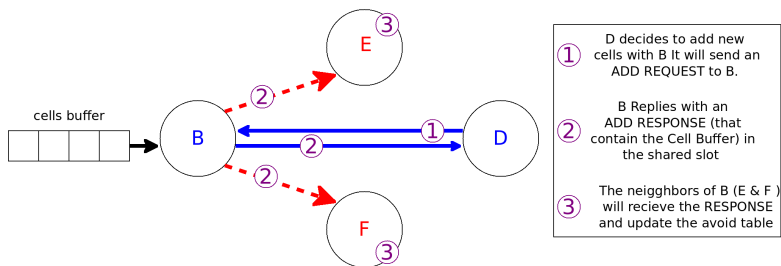
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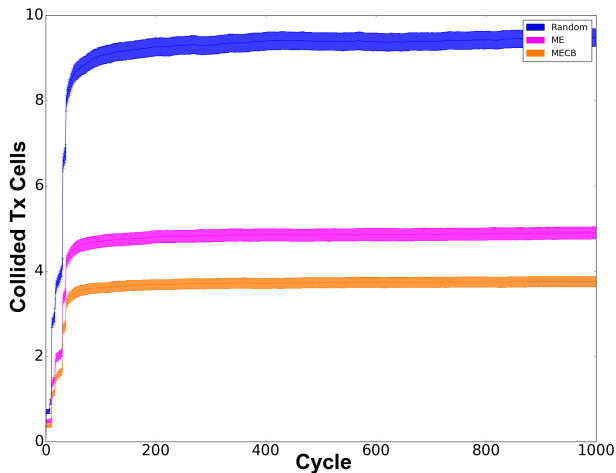


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# Master thesis Results



- Paper to be submitted to conference **WiMob 2017**.

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# State-of-the-Art for Edge Clouding

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## Edge clouds

- Idea: deploying cloud applications in the immediate end user proximity.

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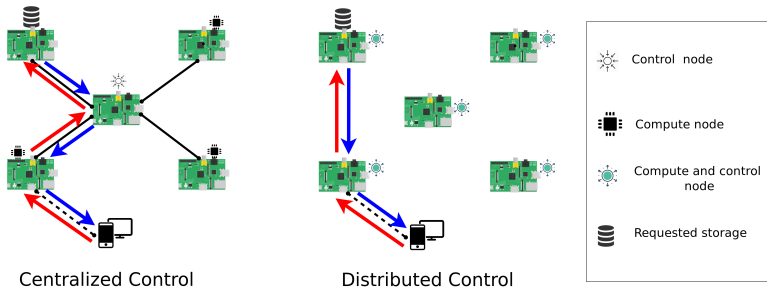
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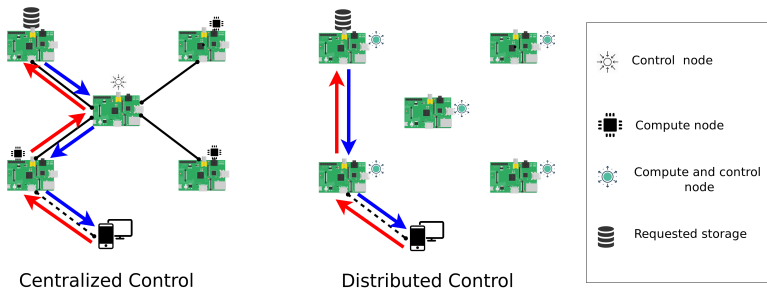
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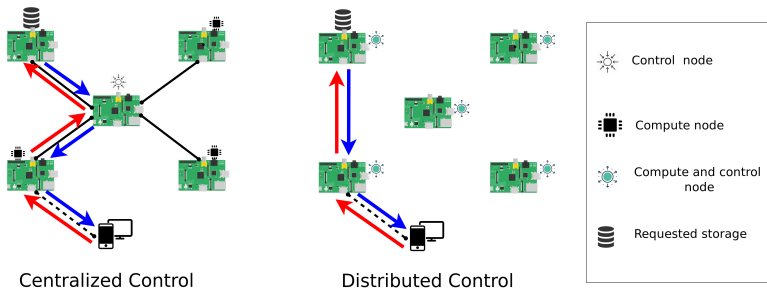
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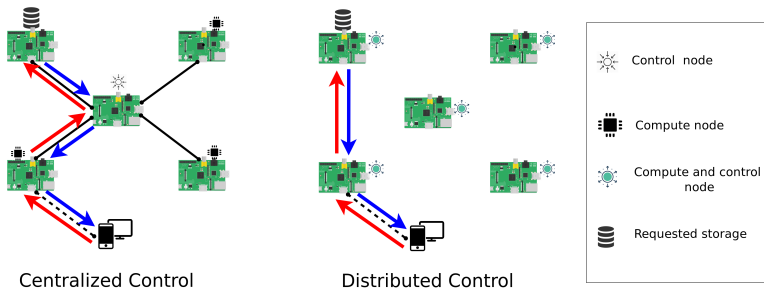
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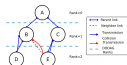
## Personal Perspective

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- The field of cloud and distributed systems is currently undergoing a revolution, and I want to be a part of this revolution.

## Master Thesis

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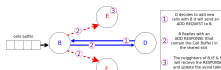
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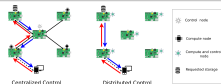


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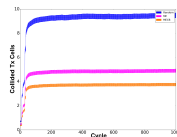
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Thanks for your attention!  
Questions?