Future-Proof Infrastructure: Planning & Executing Technology Transition

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commsignia

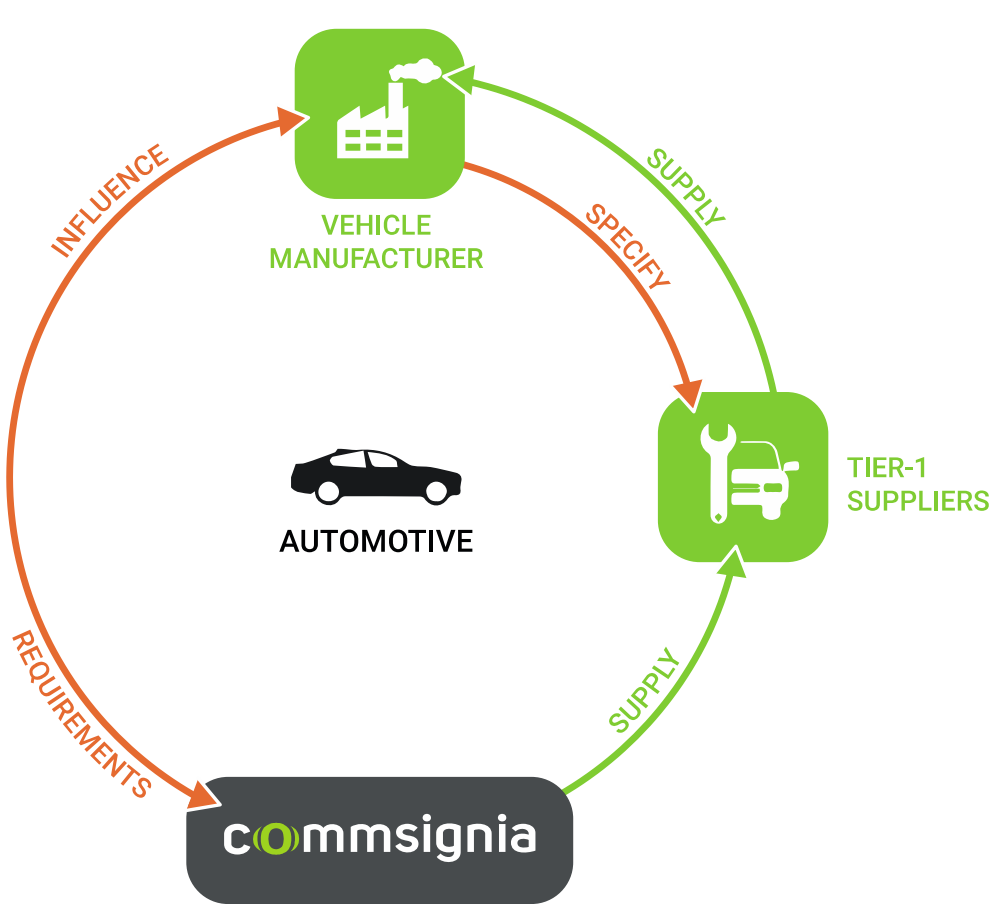
Who we are?

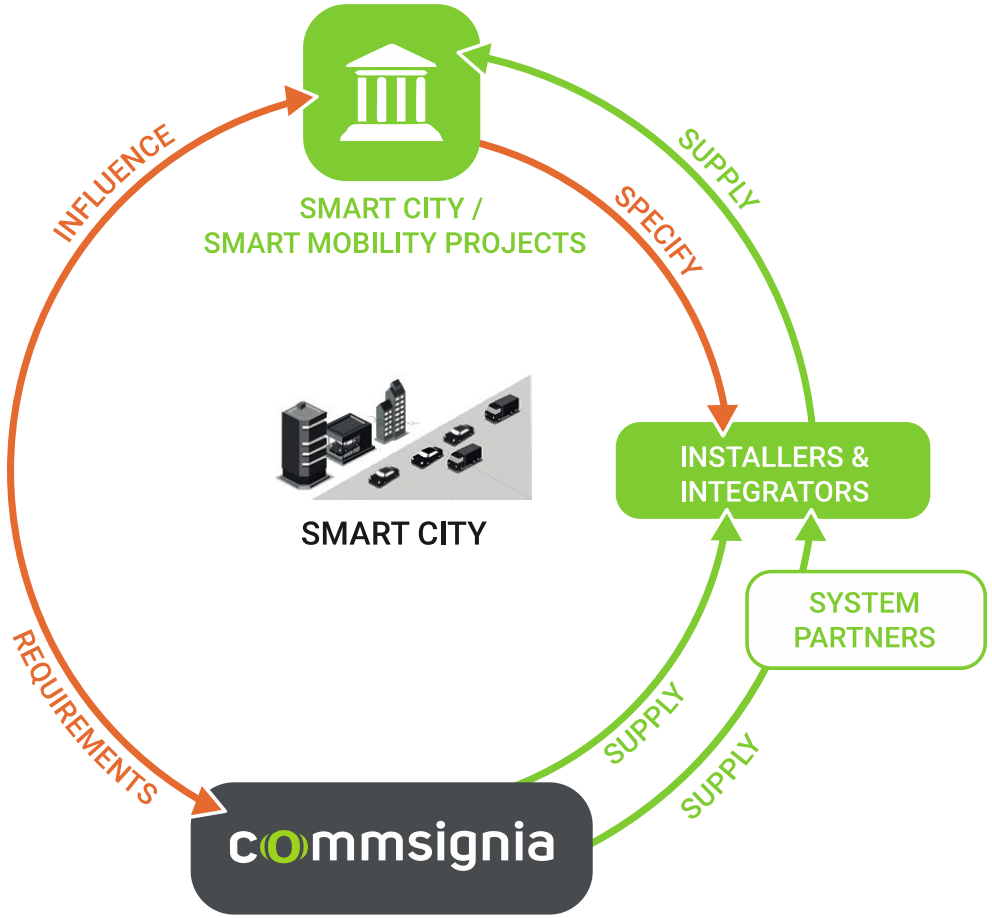
Whats C-V2X’s impact on product range?

How to upgrade existing equipment?

How to be future proof?

Our role in the V2X ecosystem





Technology evolution

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1H17 | 2H17 | 1H18 | 2H18 | 2H20

Rel14 — Rel15 — Rel16

Basic and enhanced safety
C-V2X R14/R15 with enhanced range and reliability

Autonomous driving / Automation
5G NR based C-V2X R16

- Commercially available C-V2X chipsets

- Alignment of product portfolios along value chain

New C-V2X enabled SW stack version and HW products from Commsignia

Technology evolution

- Technology evolution requires vendors and solution providers to plan and offer future proof products
- Upgrade of existing systems must be sustainable

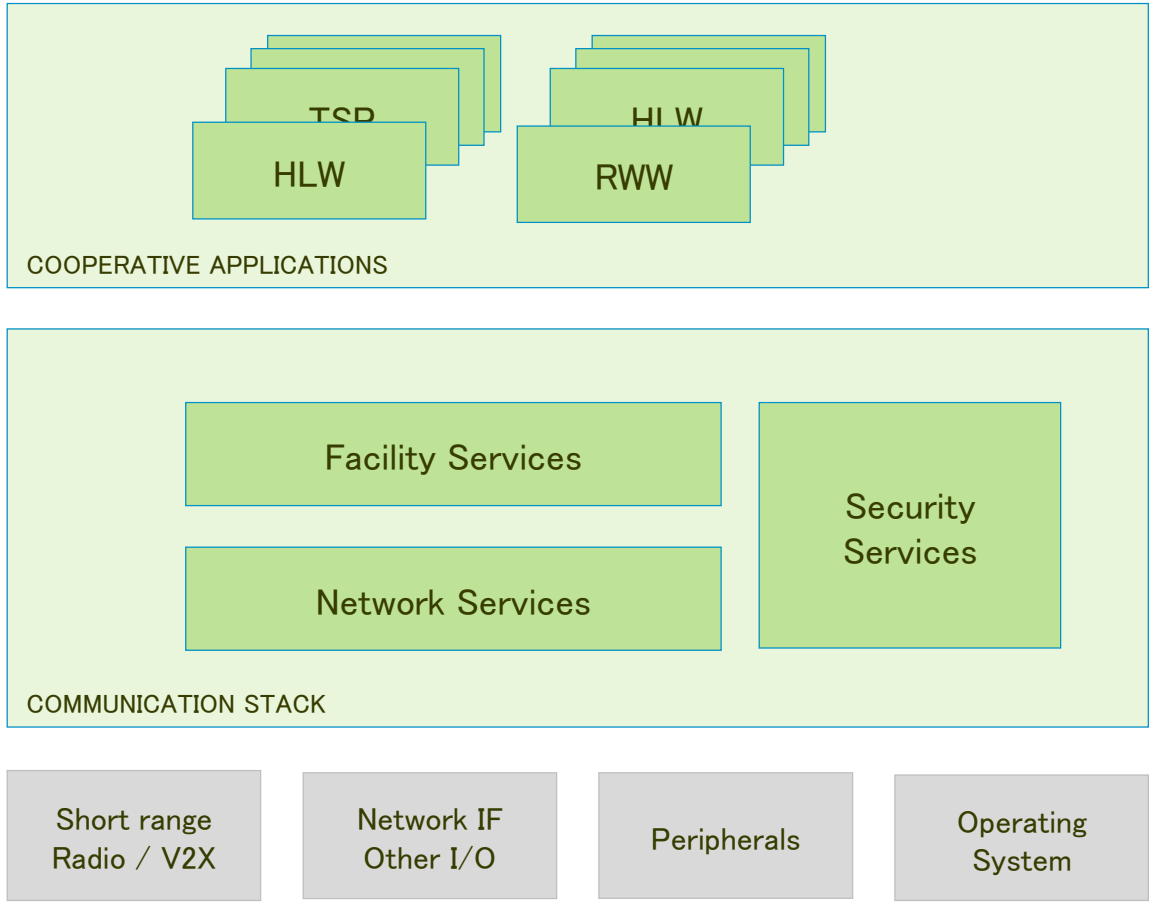
How to upgrade existing infrastructure?

How to upgrade?

- Day-1 V2X roadside units have single V2X communication system

How to upgrade?

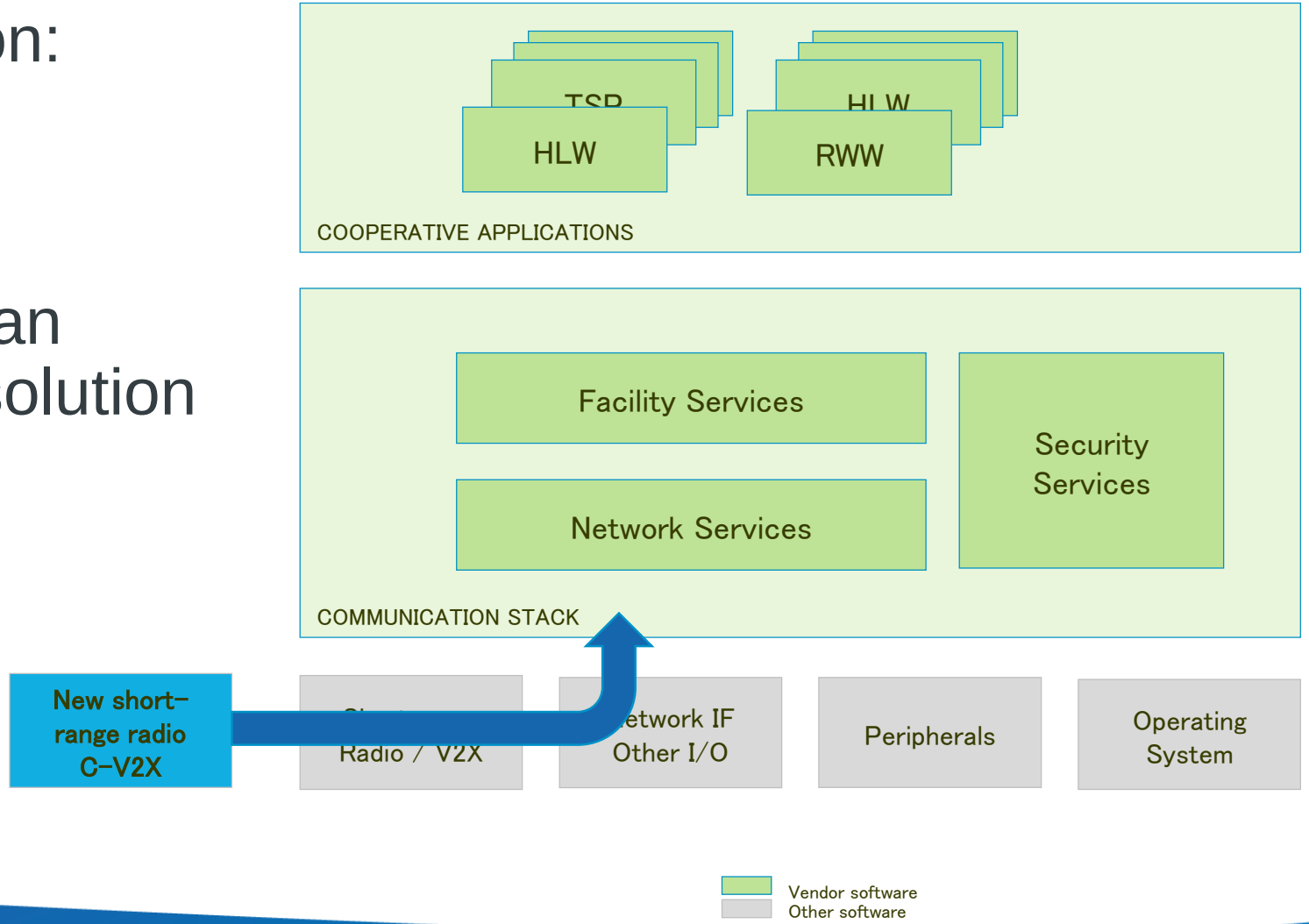
- Upgrade by complete equipment replacement is expensive



How to upgrade?

- A possible solution:
  External Add-on

- Cheaper but not an easy nor robust solution



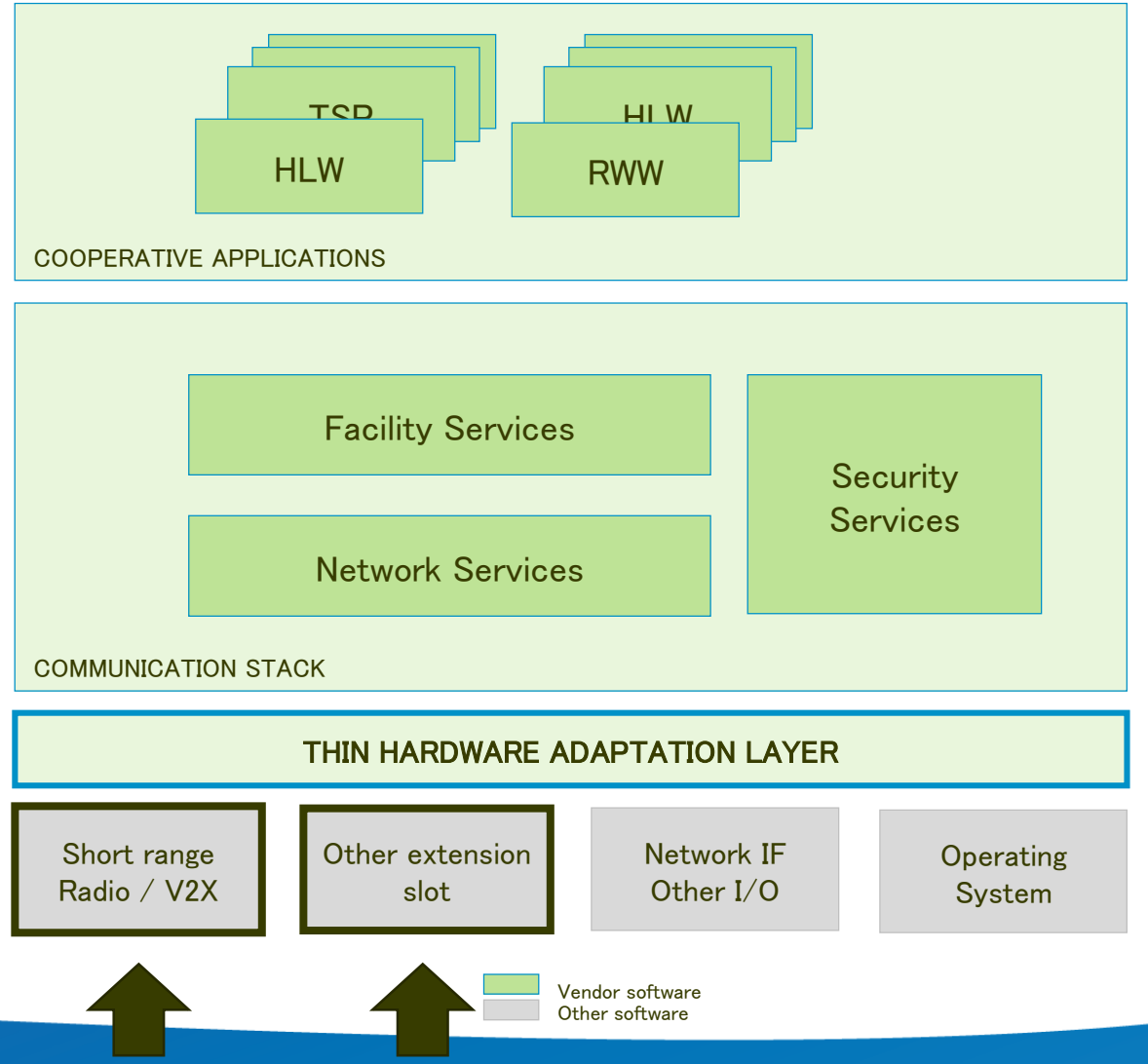
How to be prepared?

How to be future-proof?

How to be future proof?

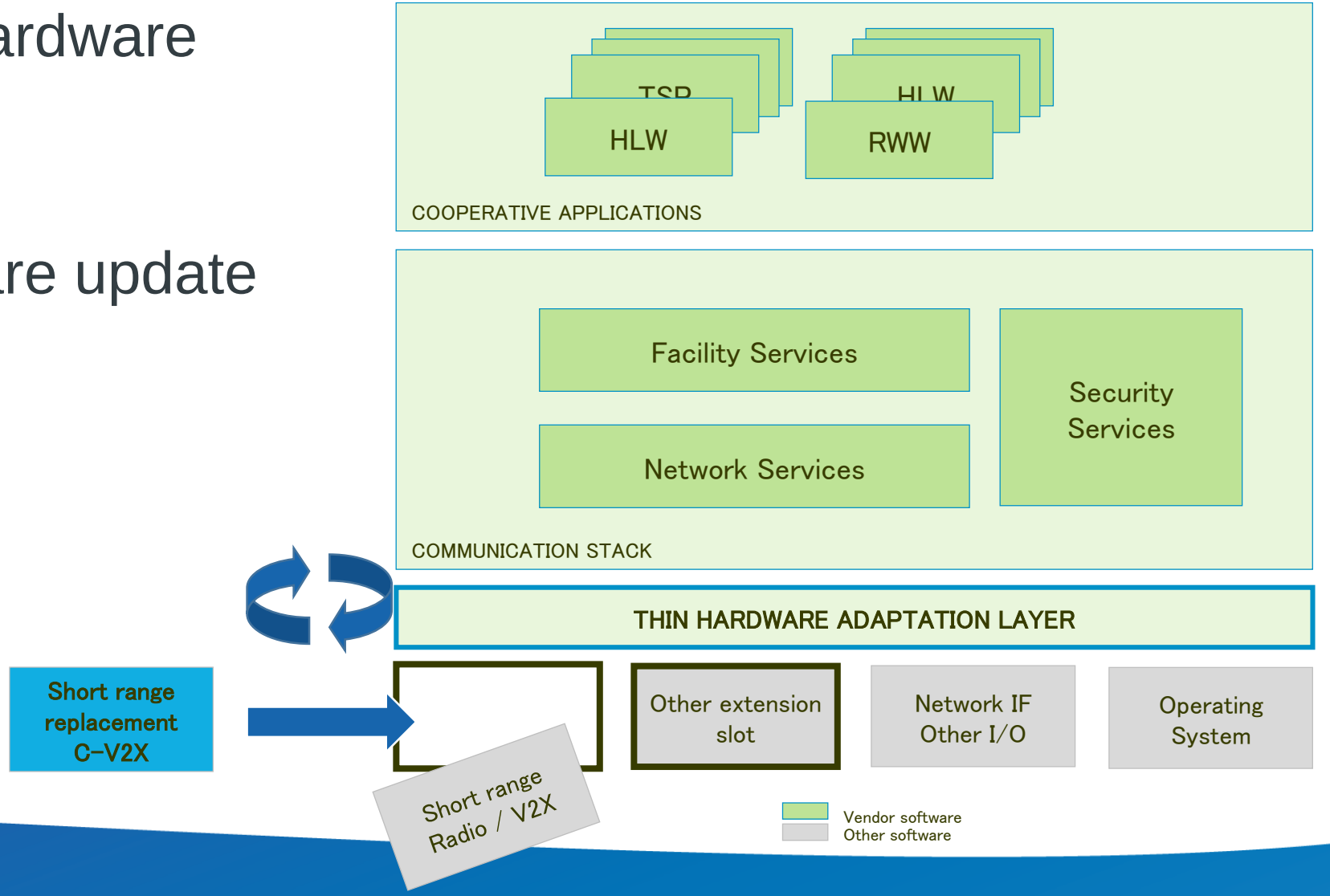
- Expansion slot on hardware

Modular software



How to be future proof?

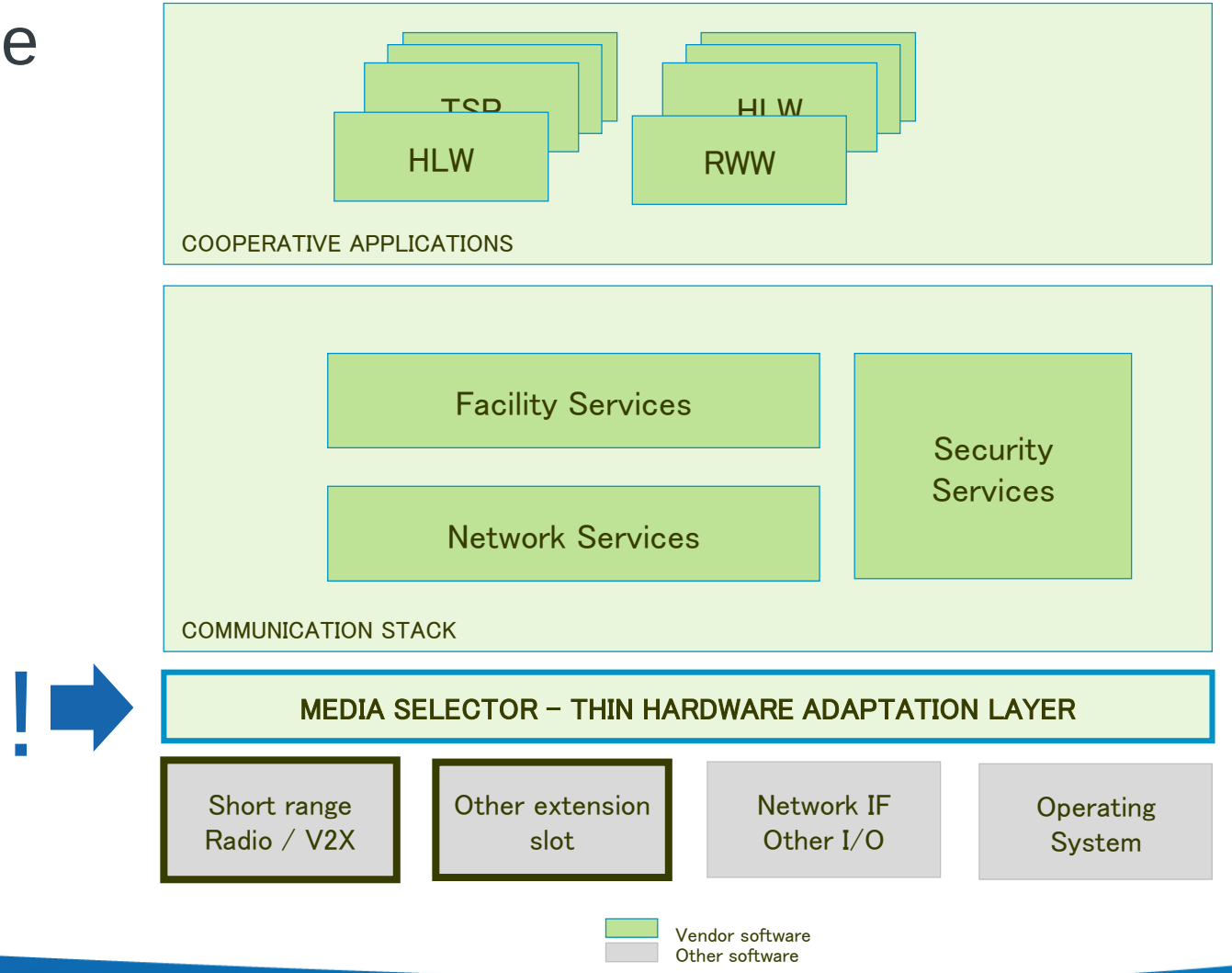
- Exchange hardware component
- Apply software update (if needed)



Upgrade or coexistence?

Upgrade or coexistence?

- Prepare SW API for the presence of multiple wireless media



Upgrade or coexistence?

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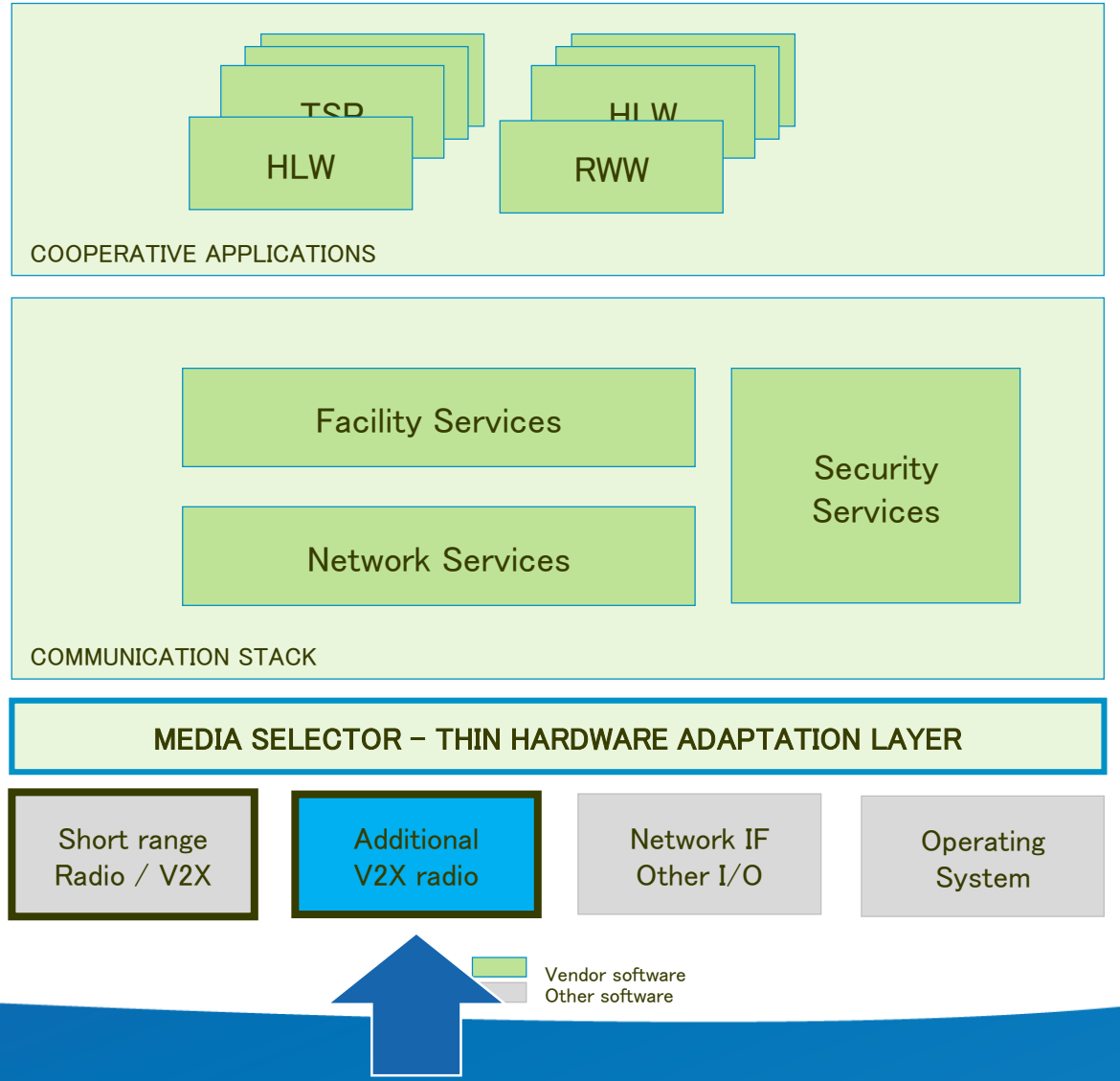
- Upgrade equipment



Upgrade or coexistence?

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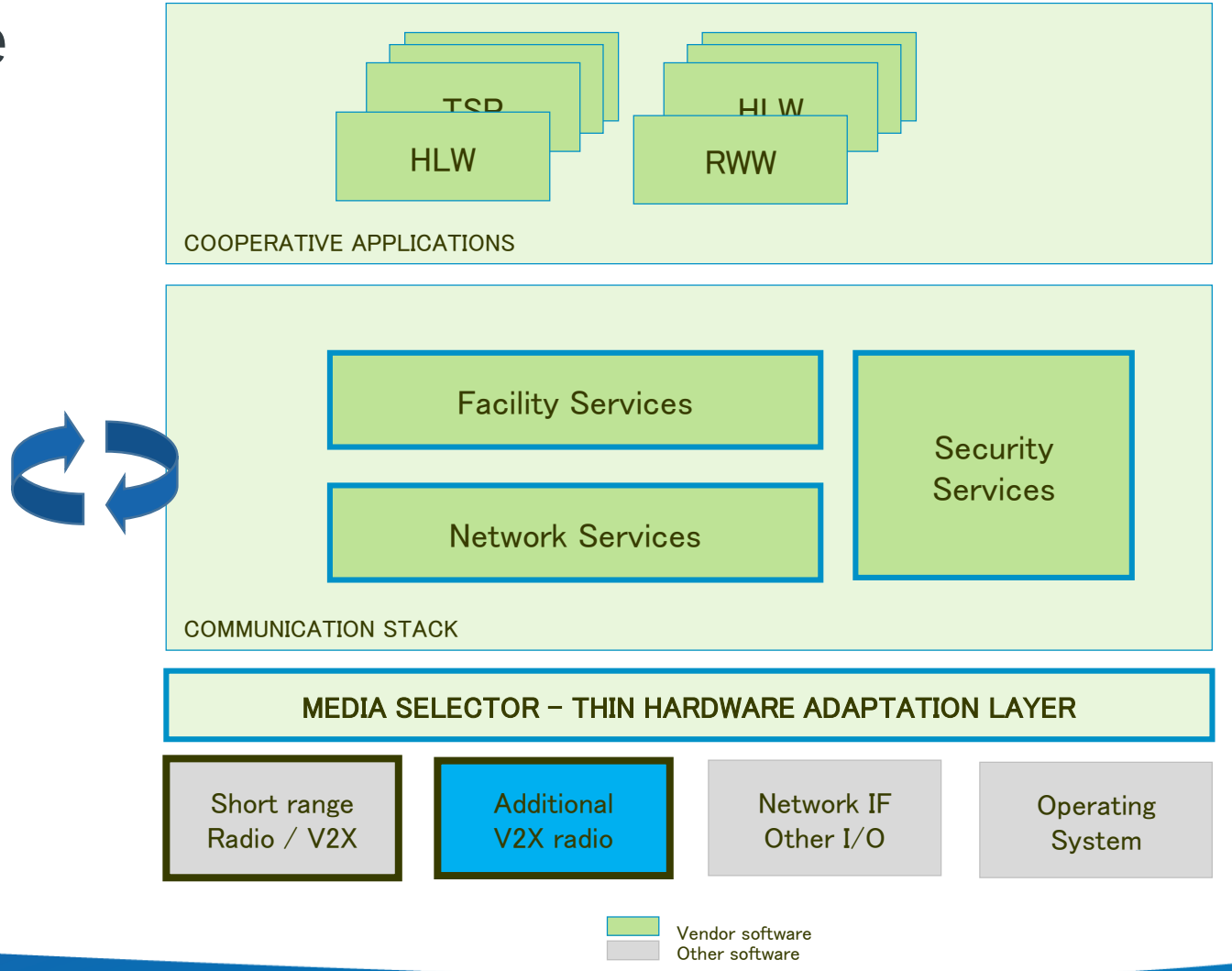
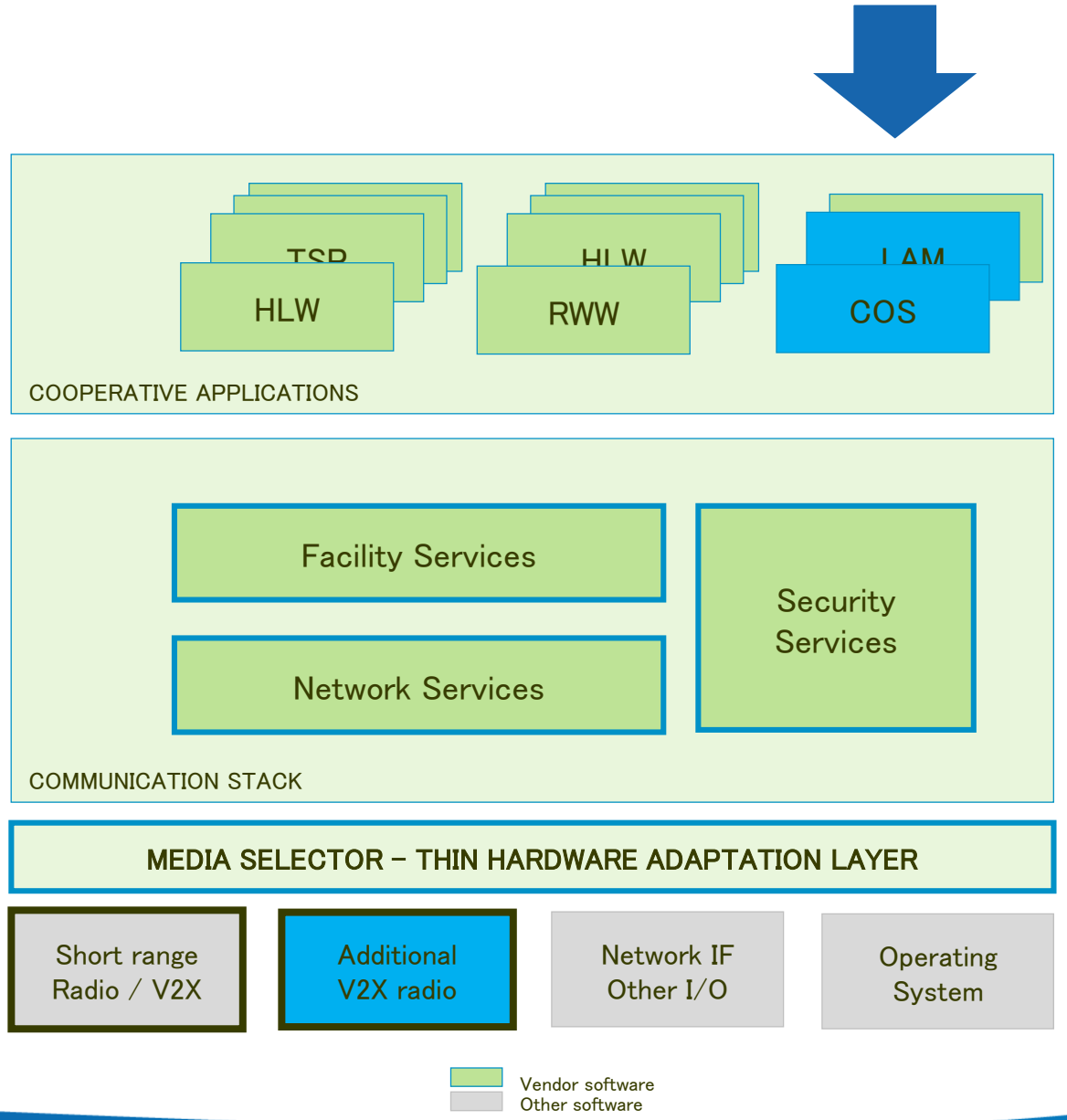
- Apply software update



Upgrade or coexistence?

- Add new applications



Upgrade or coexistence?

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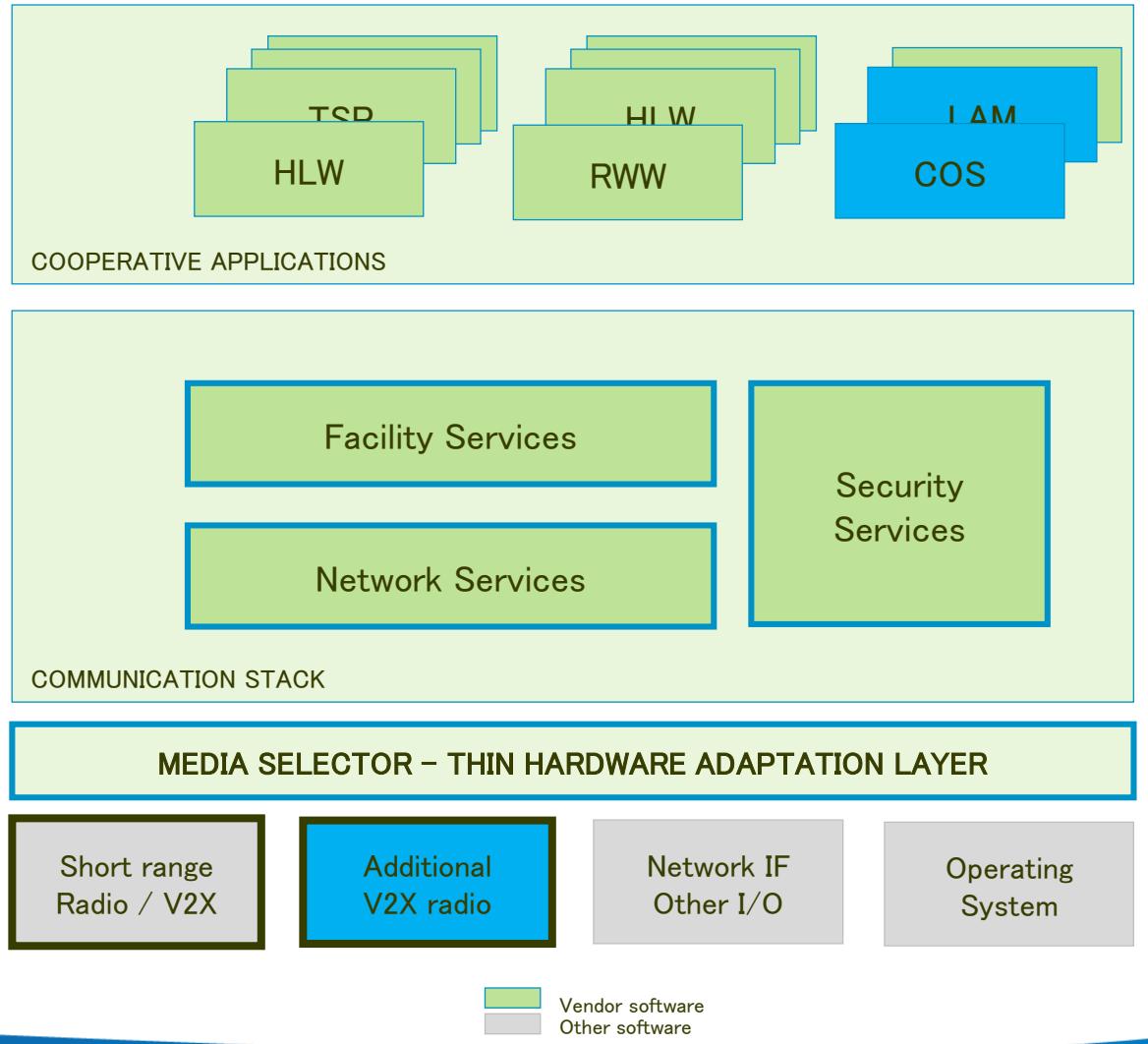
- Hybrid communication
  - C-V2X: Better channel allocation
  - DSRC: Has no scheduling algorithm

Routing causes a non-calculatable latency for bridging

However concurrent low latency communication has other benefits



Upgrade or coexistence?

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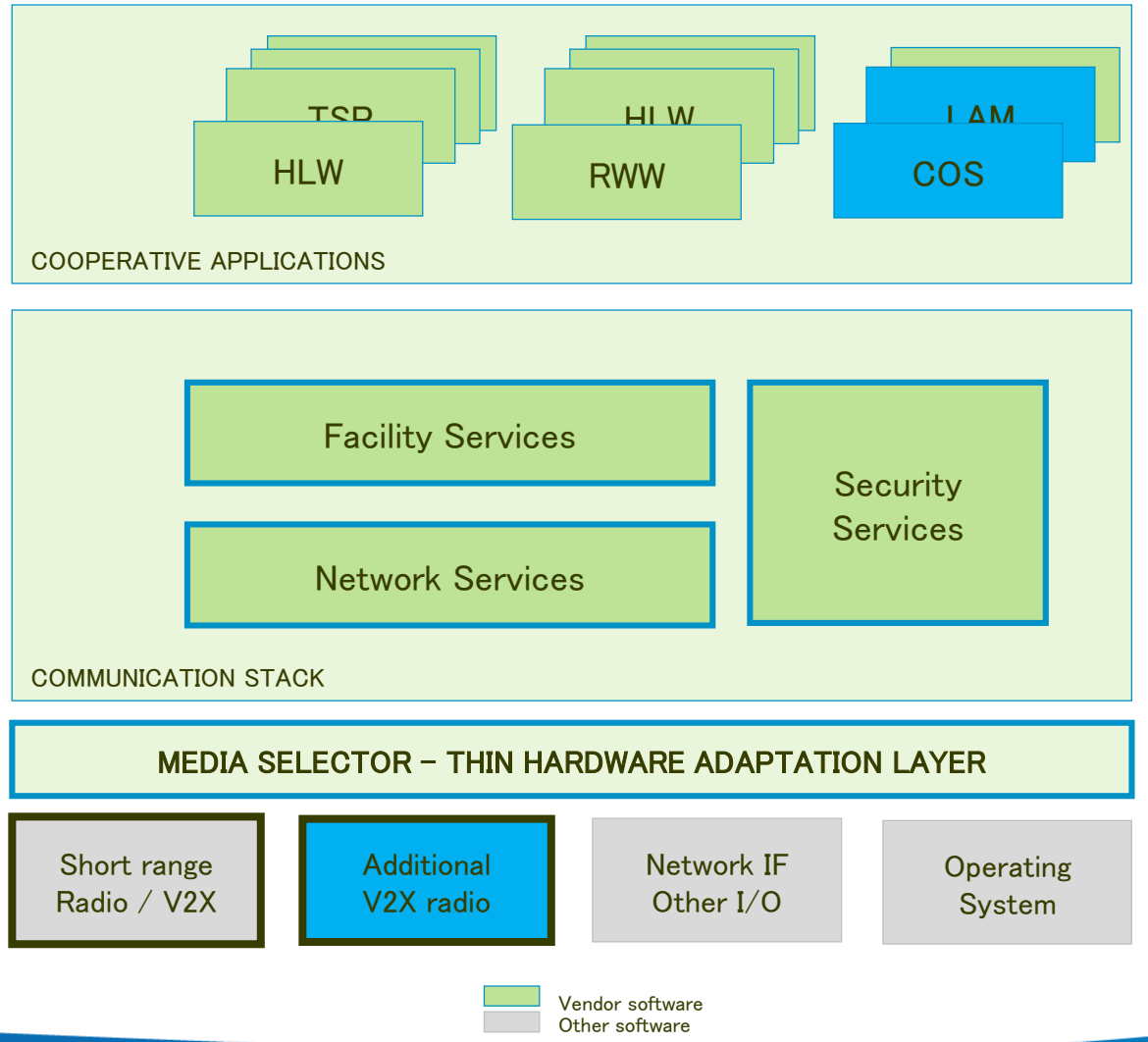
Hybrid concurrent low-latency communication

High availability (fail over)

App. Based policies

Redundancy



- **Hybrid communication can provide additional benefits (robustness, high availability)**

- **Equipment needs to be extendable**
- **Software needs to be flexible**

Thank You