

Bringing Full Stack to Small Sats

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This presentation contains no US Export Controlled (ITAR) information.



Here's What We'll Be Covering

- What are we building?
- Why build something new?
- How are we building it?
- Why should you care?

What Are We Building?



Why Build Something New?

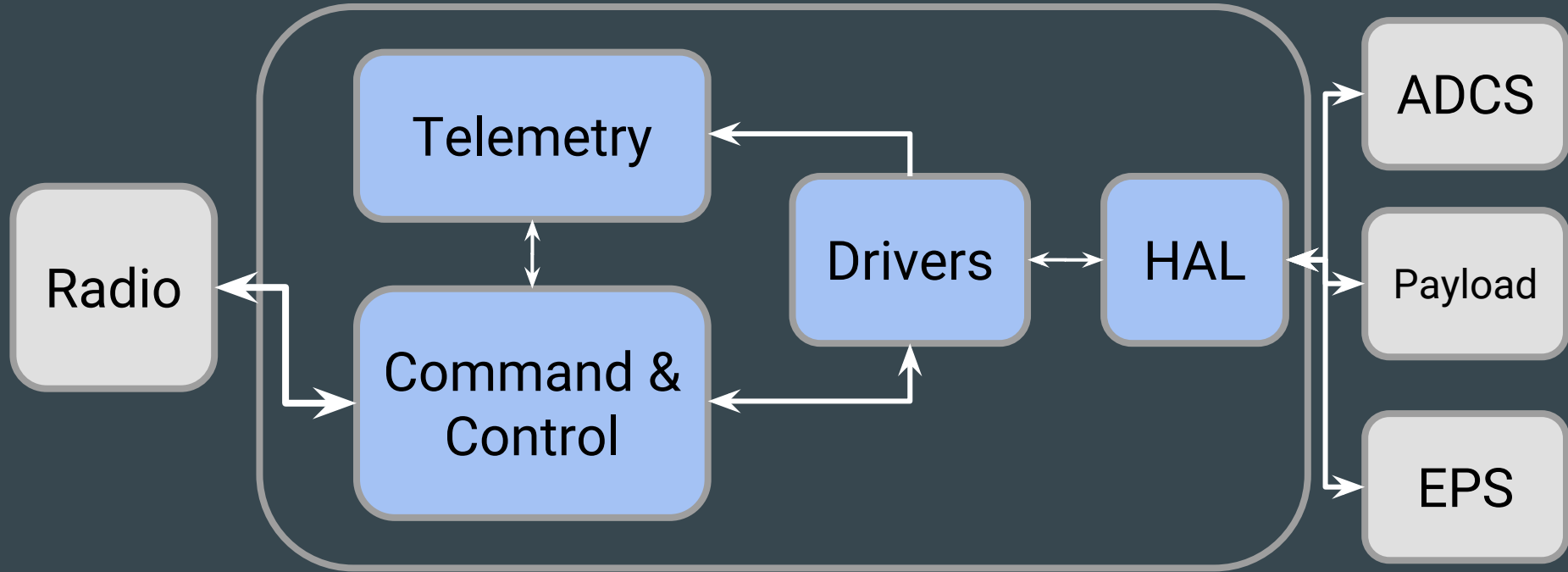
- Software as a first class citizen
- Vertical software integration
- Horizontal hardware compatibility

How Are We Building It?



KubOS High Level Architecture

Middleware Environment



Portability Layers

Operating System

OS Abstraction
Layer

Hardware
Abstraction Layer

FreeRTOS

Linux

CSP
IPC

Threading
Timing

GPIO
I2C
SPI
UART

Portability - Supported Hardware

- STM32F407 Discovery Board
- MSP430F5529 LaunchPad
- NanoAvionics SatBus 3C1
- ISIS iOBC
- Coming Soon - Pumpkin SuperNova OBC

Development Environment

- SDK-in-a-box VM
- Yotta
- Toolchains
- Flashing
- Debugging

Why Should You Care?

- Accessibility
- Reusability
- Transparency
- Collaboration

Questions?

Visit us at <http://www.kubos.com/>

