There will be no new MAVLink version anytime soon! You can relax and focus on "proper" MAVLink 2 adoption- but we'd like to get your feedback for improvements.

MAVLINK - What is this thing?

MAVLINK is not a single thing - it has layers of value

CURRENT STATE

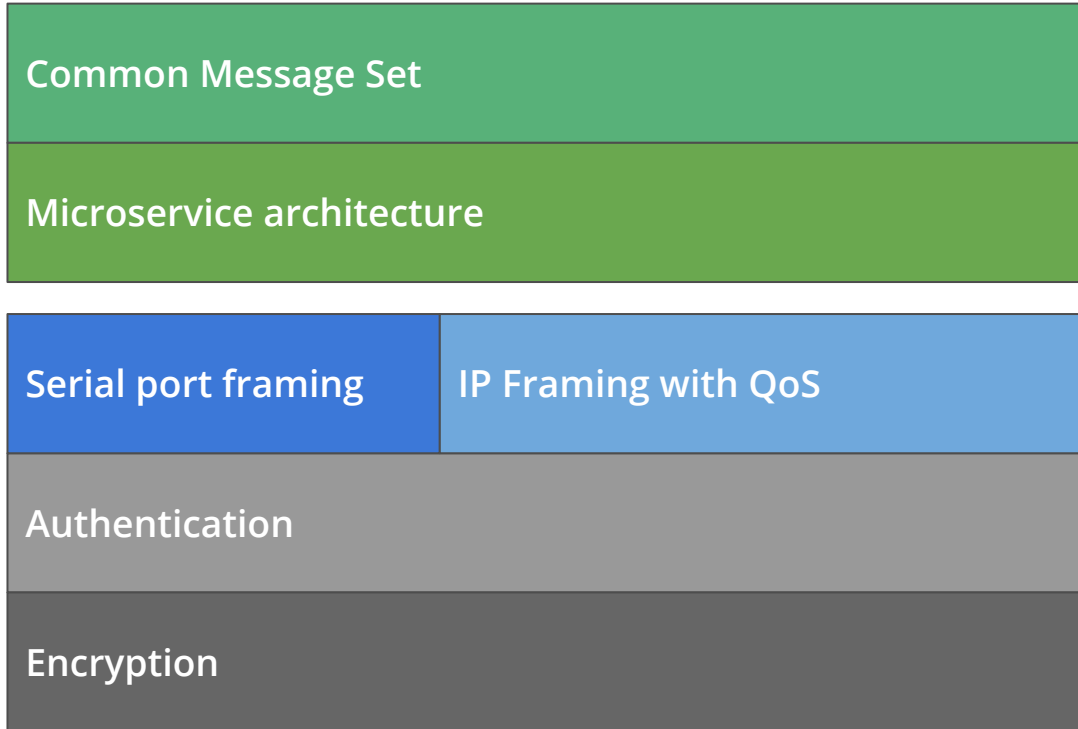|	
Common Message Set (common.xml)	Interoperability
Microservice architecture (parameters, mission, camera)	Reusable components
Serial port framing (mavlink packet & parser)	Easy to use with UART
Authentication (MAVLink 2.0)	Basic security (symmetric key)
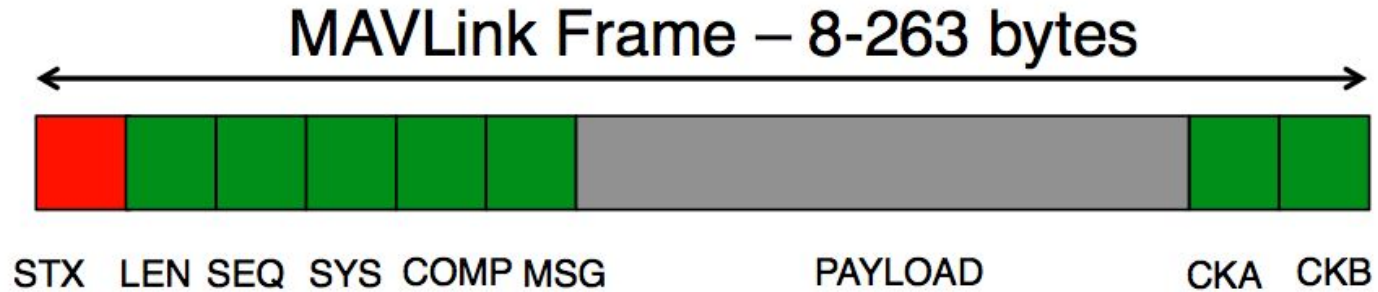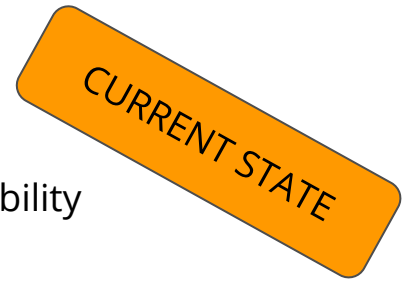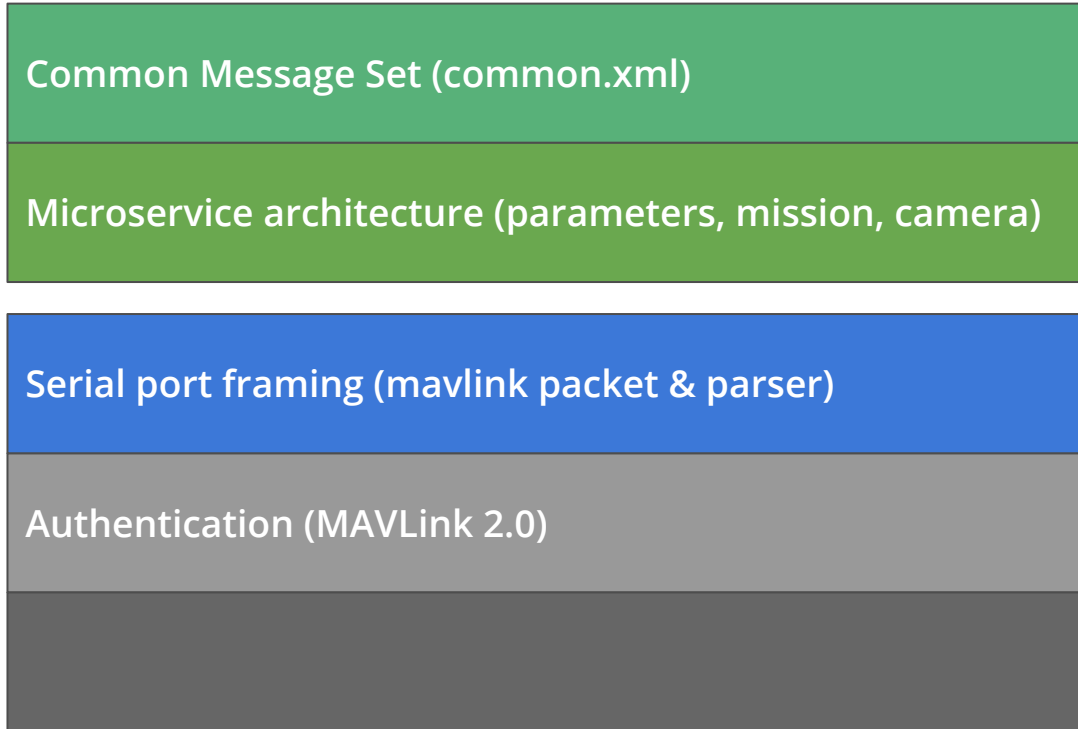
Futureproof Hybrid System architecture

PX4 supports native communication with ROS2 via FastRTPS. This enables integration of a companion computer using industry-standard middleware with safety-critical implementations available. ROS nodes can communicate **today** natively with PX4 without the need for a translation layer like MAVROS.
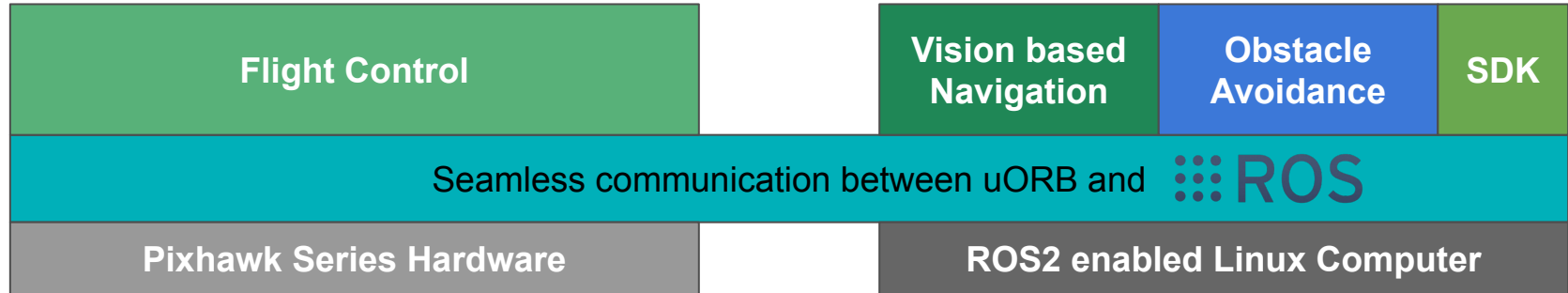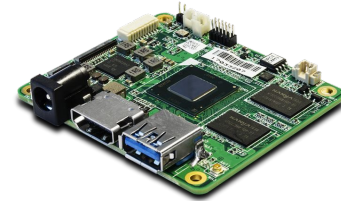
Flight Control		Vision based Navigation	Obstacle Avoidance	SDK
Seamless communication between uORB and ⠿ ROS				
Pixhawk Series Hardware		ROS2 enabled Linux Computer		

https://dev.px4.io/en/middleware/micrortps.html

MAVLINK is not a single thing - it has layers of value

MAVLINK
MICRO AIR VEHICLE COMMUNICATION PROTOCOL

FUTURE

Common Message Set	Interoperability
Microservice architecture	Reusable components

Serial port framing	IP Framing with QoS	Easy to use with UART
Authentication		Basic security (symmetric key)
Encryption		
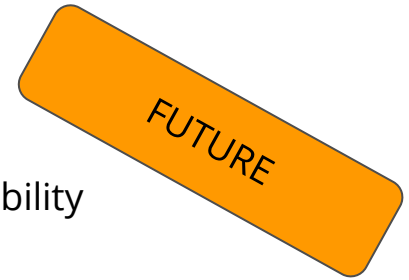
MAVSDK is the SDK for MAVLink vehicles

- Language bindings to Python, Swift (iOS), Java (Android), C++

- High-performance core written in C++

- Simple, easy to use API

- For mobile apps and onboard applications

- Extensible by plugins

- Compiles for Linux, macOS, Windows, iOS, Android

iOS app	Onboard app

MAVSDK

MAVLink

PX4

Documentation:

- http://github.com/mavlink/MAVSDK
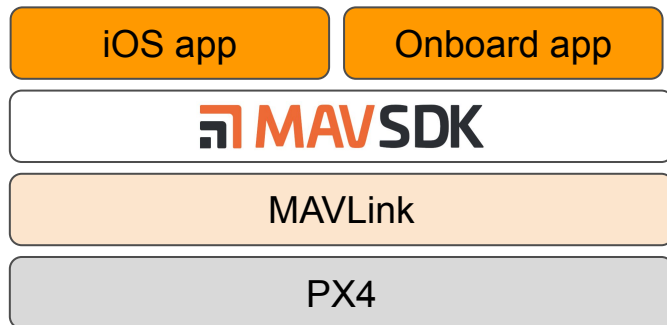
Discussion: Main Discussion Items

- Current Limitations (in v2)?

- Scalability?

- How to engage?

Discussion: MAVLink - Current Limitations?

- Message size limitations
- Security: Robustness of parser
- Abstraction of message retransmission
- Revisioning of the protocol / micro services / messages
- NED vs. ENU coordinate frame
- Need to recompile all system components
- Routing: Requires reliance on transport-layer checksum

Discussion: MAVLink - Scalability?

- Leveraging the full potential of IP links
- Need for added security (authentication and encryption)
- Quality of service (implicit in v2)
- Guaranteed delivery of messages
- Security: In-built access control
- Routing in IP networks

Discussion: MAVLink - How do you engage?

- Bi-Weekly Dev call:
  https://www.dronecode.org/calendar/
- Participate in Slack: #mavlink