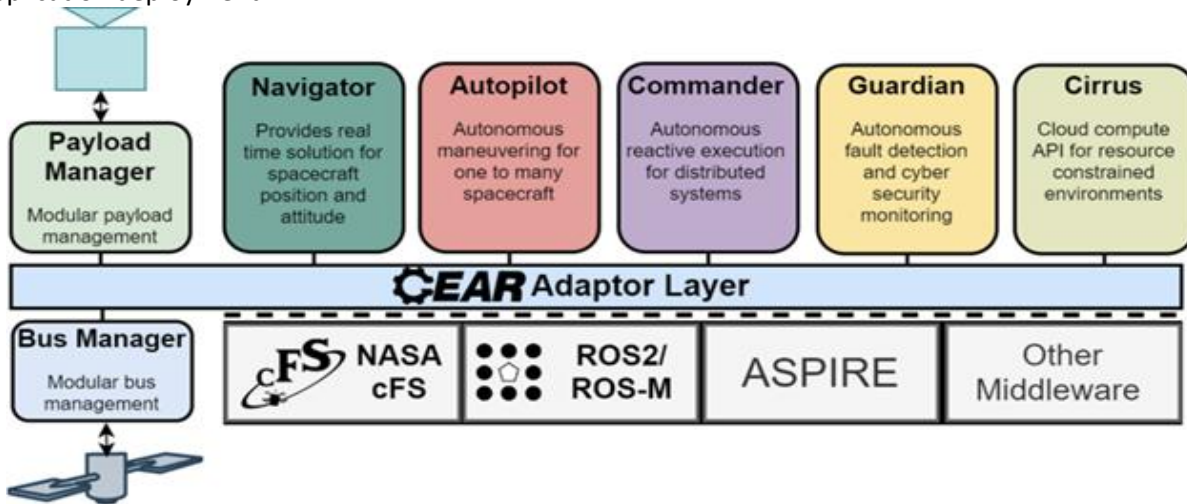


## Adapt to Your Solution

The space industry has been rapidly moving toward proliferated commodity Space Vehicles (SVs) for future missions. These SVs must be customized to achieve your mission objectives. Gear is the flight software infrastructure solution that adapts to the various commoditized SV operating systems and middleware to achieve cross-platform deployment of mission flight software applications.

Gear is a flight software framework that enables rapid deployment of applications to existing, new, and future software platforms. Embracing the diversity of hardware and software solutions on the market, it expedites new deployments. Gear applications are portable to middleware cFS, ROS-2/M, ASPIRE, ZeroMQ, and NATS. The design adheres to a modular, open system architecture where message definitions are shared among performers and enables quick upgrade of existing applications and new application deployment.



## Modules/Components

Gear includes a minimum set of applications that implement the most useful services for space flight software.

### Bus Manager

A template for communication to a space vehicle bus or flight computer.

### Payload Manager

A template for communication to flight hardware including sensors and mission payloads.

### Telemetry Logger

An application that logs a configurable set of messages from traffic on the message bus to files on the disk.

### App Loader

An application that manages upload for an execution of applications developed with Gear SDK.

### Gear SDK

Software developer's kit that makes it easy for third party developers to build and test Gear compatible applications.

## Specifications

- Linux OS
- Runs on x86\_64 and armv71 processors
- Integrates natively with multiple message-oriented middleware
- Provides interfaces for communication with other processors
- Provides interfaces for communication with other flight hardware
- Integrates seamlessly with Ascent for rapid development, integration, and test

## About Emergent

Emergent Space Technologies, Inc. researches, develops, integrates, and tests advanced systems and software solutions for civil, military and commercial space missions. We are industry leaders in the development of flight software for multi-spacecraft missions, including constellations, formations and clusters of small satellites. Our core competencies are systems engineering, integration and test; guidance, navigation and control; orbital mechanics; positioning, navigation and timing; advanced modeling and simulation; and SW architecture, design, development and test. Our domain expertise and experience, combined with our knowledge of current and emerging technology, make Emergent the team of choice in the aerospace industry.