



F Prime Introduction

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NASA Jet Propulsion Laboratory
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Background

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Goal	Explanation

 Flight Software & Embedded Systems Framework

[View on GitHub](#)

`F'` is a software framework for the rapid development and deployment of embedded systems and spaceflight applications. Originally developed at NASA's Jet Propulsion Laboratory, `F'` is open-source software that has been successfully deployed for several space applications. It has been used for but is not limited to, CubeSats, SmallSats, Instruments, and deployable.

`F'` has the following features:

- Component architecture with well-defined interfaces
- C++ framework providing core capabilities like queues, threads, and operating-system abstraction
- Tools for designing systems and automatically generating code from systems design
- A standard library of flight-worthy components
- Testing tools for unit and system-level testing

`F'` Information and External Resources

- [Features](#)
- [Projects](#)
- [GitHub Repository](#)
- [Discussions](#)
- [Issues](#)
- [Community GitHub Organization](#)
- [Architecture Overview](#)



F: A Component Architecture

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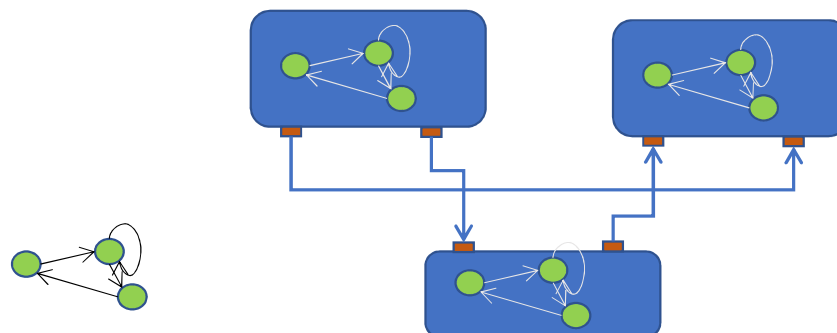
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Characteristics of Components

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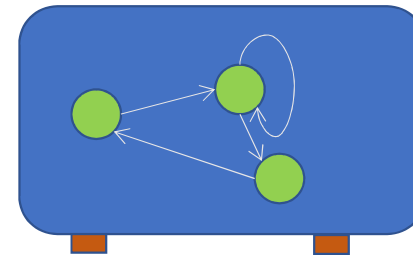
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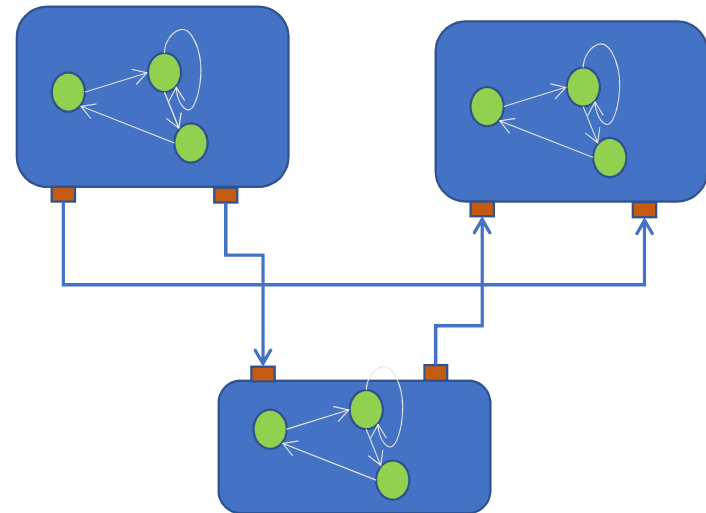


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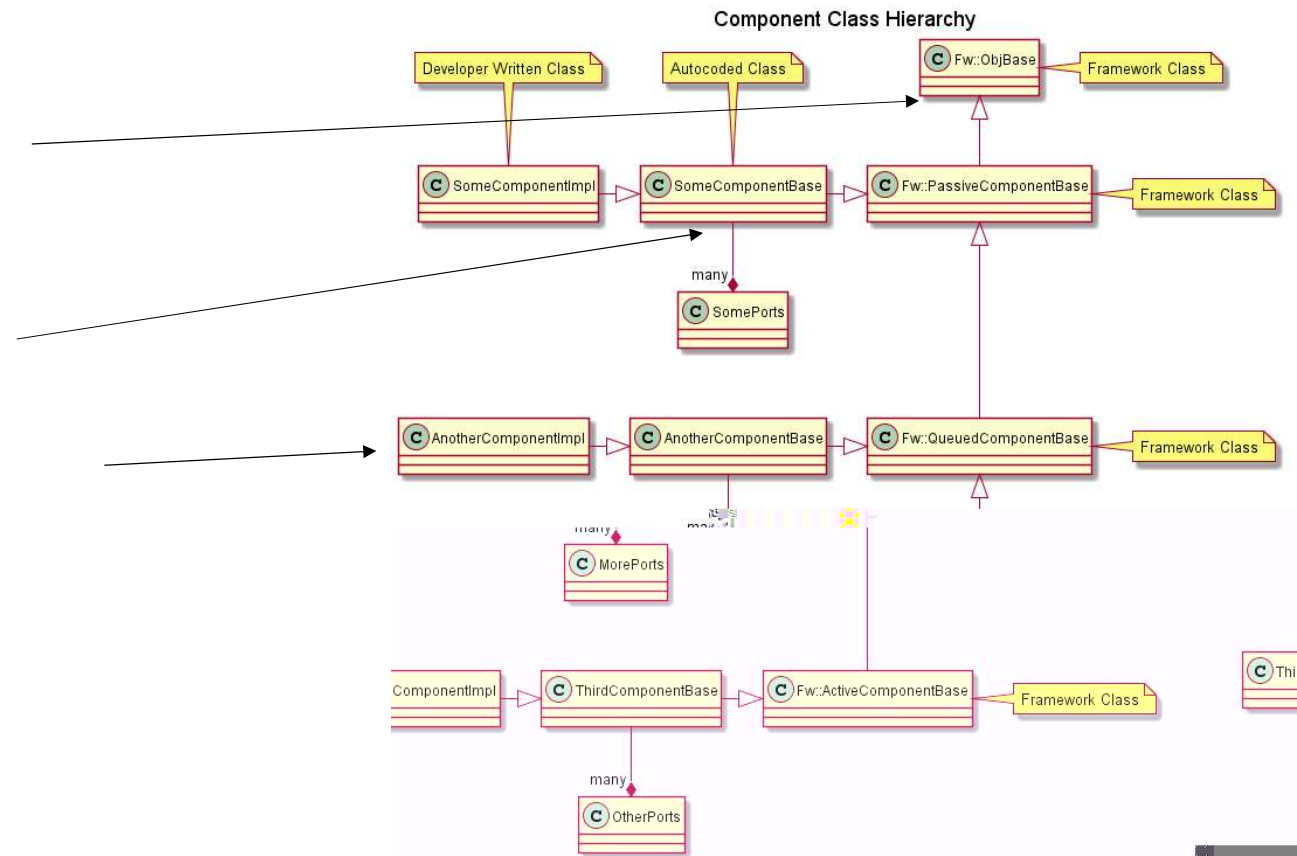
A Component Topology

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Component Type Hierarchy



Component Types

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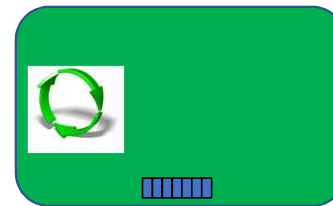
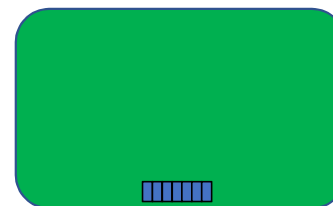
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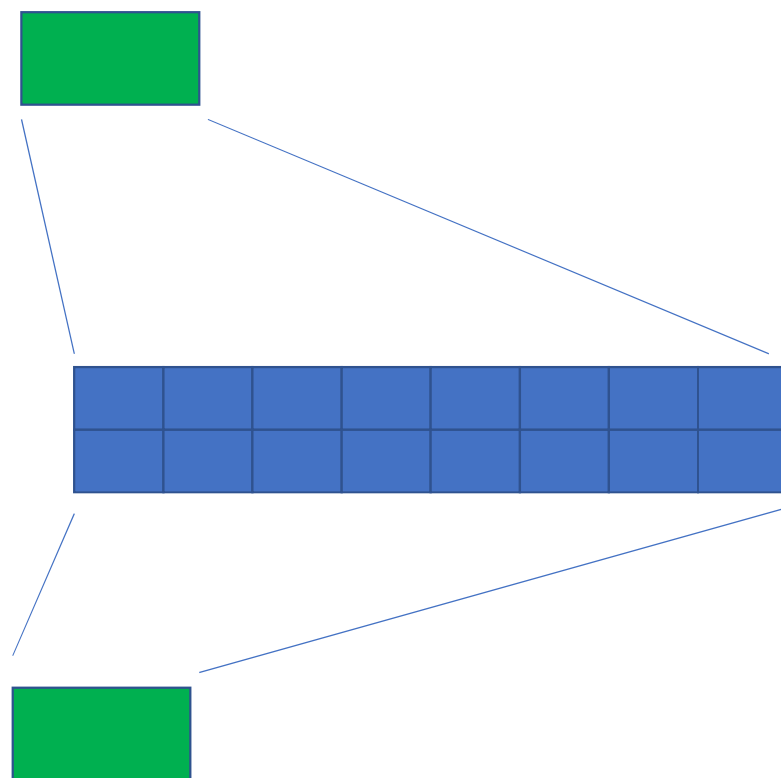


Port Characteristics

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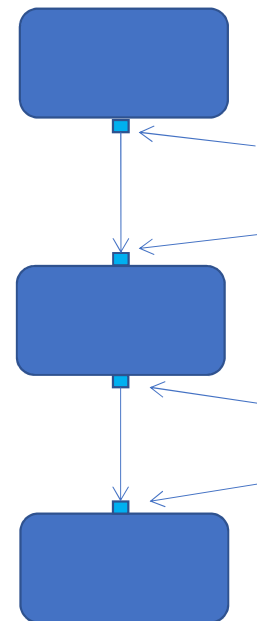
Serialization

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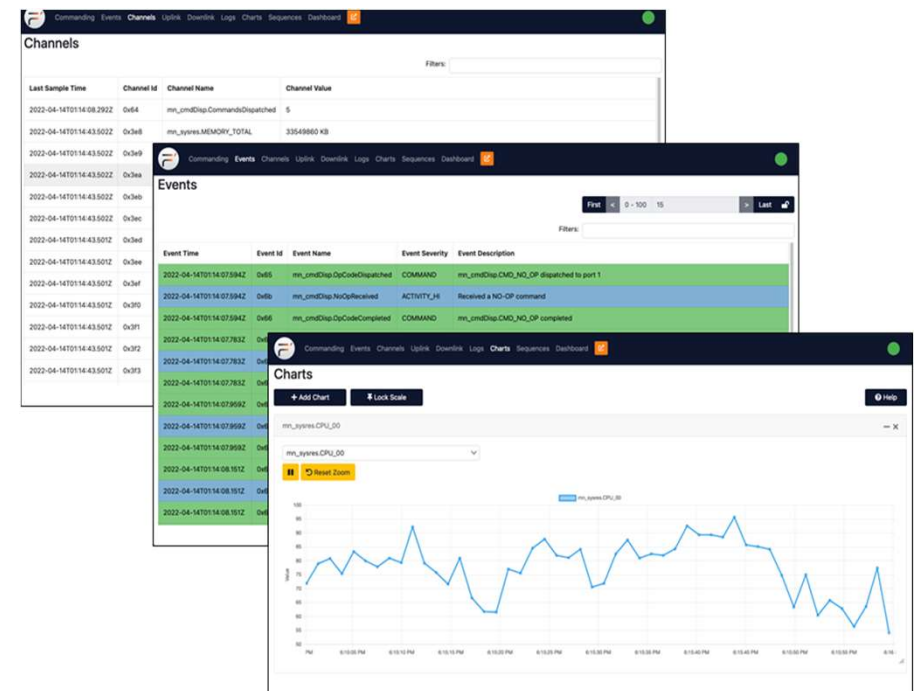
Serialization Ports

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Commands, Telemetry, Events and Parameters

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Commands





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Parameters

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- A full-body image of Ant-Man in his suit, crouching in a ready position. The suit is primarily black with red accents on the chest, shoulders, and gloves. He is wearing a helmet with red visors and a communication antenna.

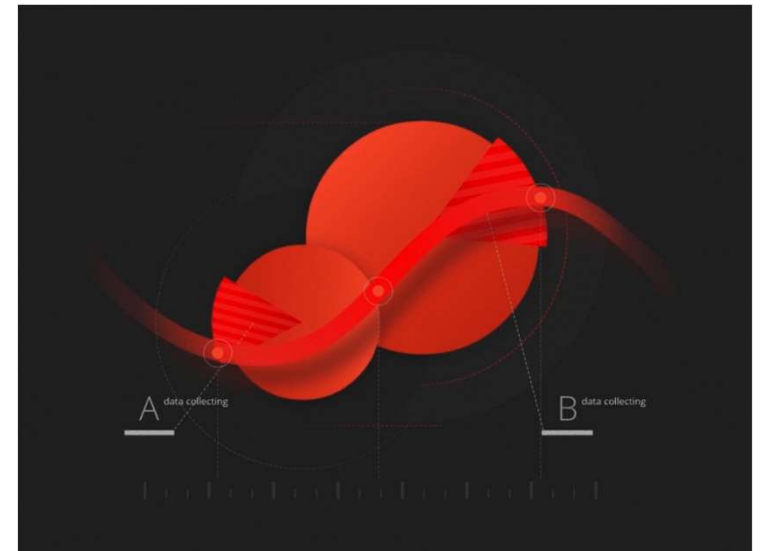
F Prime Core Components

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Component	Description

Upcoming New Features

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Summary

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