**CFS Domain for CPN Analysis**

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The Core Flight System (CFS) is a modular software framework developed by NASA and intended to reduce development time and cost of spacecraft flight software. CFS contains a core application environment providing a set of common flight software services, as well as a set of reusable flight-qualified applications. The Plan Execution Interchange Language (PLEXIL) is a general plan execution language intended for use in a variety of autonomous applications. These plans can be executed by the PLEXIL executive, and typically act as a high-level, script-based controller.

The goal for this project is to implement a DSML suitable for modeling systems built on the CFS framework and using the PELXIL autonomy engine. Additionally, a WebGME plugin for generating a Colored Petri Net (CPN) model from the graphical model will be created. This DSML and corresponding plugin will support current work using CPN models to perform timing analysis of CFS based systems. To achieve this goal, the modeling language must be able to represent the relevant attributes of CFS applications needed for CPN modeling.

Milestones:

1. Constructing domain for generic CFS apps
2. Constructing domain for generic PLEXIL plans
3. Writing interpreter plugin to generate CPN compatible model from CFS/PLEXIL model.
4. Syntax/model checking to verify model is a valid CFS system.