IAF SPACE OPERATIONS SYMPOSIUM (B6)
Ground Operations - Systems and Solutions (1)

Author: Mr. Matt Noble
Clyde Space Ltd, United Kingdom, matt.noble@aac-clydespace.com

A SYSTEM FOR SPACECRAFT SCHEDULING AUTOMATION

Abstract

At AAC Clyde Space we operate satellites for various customers who need to schedule activities onboard those satellites. As we scale our operations, serving these requests manually would require significant manpower and be prone to human error.

In order to provide a robust service with minimal human involvement, we have developed an Application Programming Interface (API) through which customers can submit activities, and a set of services which manage the lifecycle of these requests.

Activities transition through a lifecycle from submission to acceptance, planning, uplink to spacecraft and ultimately success or failure. Each transition is logged in the database and customers can retrieve their activities' full lifecycle history from the API.

Mission-specific services automatically transition activities based on criteria such as whether they overlap with other activities which have already been planned on the platform. Mission-specific tools generate onboard schedules based on the set of activities which are planned.