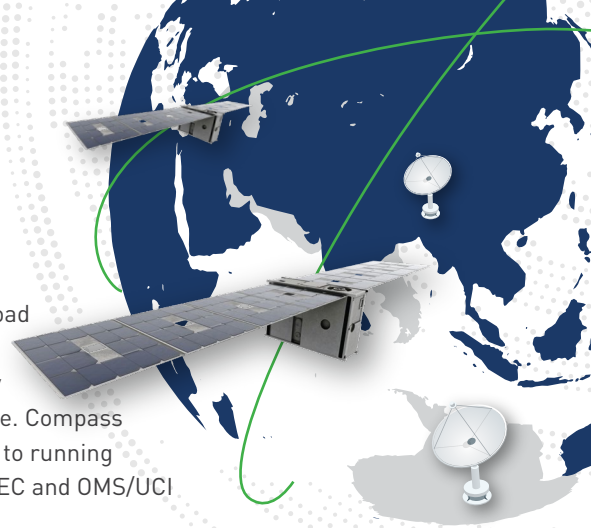


COMPASS™

MISSION PLANNING

Compass is modularized, microservices software built to solve various satellite bus, payload and communication mission planning problems. These extensible components leverage a modular architecture designed to be integrated and extended by the customer to satisfy mission needs, creating a cloud-native, mission-adaptable, data-driven planning tool suite. Compass applications are scalable, both out to hundreds of cores on a commercial cloud and down to running on-board hosted as a mission application. Plugins provide interfaces supporting the GMSEC and OMS/UCI standards, as well as being extendable to custom Interface Control Documents.



EXAMPLE CASES



On Board real-time mission planner based on vehicle feedback



Fully autonomous/lights out planning with email/text notifications for an "operator on-the-loop" model



Customization of services for slimmer deployments and tailored displays of mission measurands



Easily on/offboard vehicles with highly proliferated mission planning for constellations big or small and with mixed vehicle types.



Solar weather and space condition modeling, including solar flares and other event information integration.



Orbital analysis and orbit determination.



Formation flying

COMPONENTS

CORE COMPONENTS

Out of the Box constellation-focused mission planning provides pick-and-choose extensible, reusable core components. Role-based criteria authentication for plan and user management.

MISSION COMPONENTS

Easy to configure mission data that can be tailored and adapted to any mission profile. Acts as the extension point from Core Components to allow for augmentation and specific, complex CONOPS.

INFRASTRUCTURE

Generic components supporting a wide variety of mission workflows. Includes plan and user role management. Multiple deployment options and Cloud provider agnostic keeps costs low and shortens deployment time. Includes database, messaging, and logging.

Dashboard Visualization

- Interactive Component Displays
- Intuitive constellation metrics
- 4D system analytics
- Collaborative plan layer interfaces
- UI is designed within MilSpecs

Orbit Management

- Inertial burn planner
- Relative burn planner
- Orbit determination
- Automated station keeping
- Supports LEO, MEO, HEO, GEO, Deep Space

Feasibility Assessment

- Integrated constraint checking on payloads and targets based on flexible configuration
- Batching of opportunity requests
- Feasibility can be defined per payload/vehicle

Downlink Scheduling

- Priority-based file downlink
- Downlink activities can be tailored to meet mission needs

Attitude Control

- Attitude propagation
- Cumulative constraint audits
- Automated constraint resolution
- Attitude management and planning

Payload Scheduling

- Automate & optimize activities
- Manual planning alternatives

Rules-Based Planning

- Semi-to-full autonomous operations mode
- Operator on-the-loop notifications

Flexible Contact Planning

- Rules-based and automated planning
- Manually plan contacts
- Negotiate with external comm providers
- Ground provider agnostic