ASTROLABE
PLANNING & SCHEDULING

Astrolabe is a customizable suite of microservices capable of fully defining and operating one or more Network Operations Centers (NOCs). It can fulfill the planning, scheduling, and management needs of ground resources, and can simultaneously be used by multiple Satellite Operations Centers (SOCs) thanks to the underlying customer management system tied to role-based access control.

Astrolabe has the ability to plan and schedule individual NOCs on a low level (from an entire network to a single bespoke piece of equipment), as well as manage a NOC of NOCs – forming an amalgamated network from several networks to allow for intelligent scheduling across them.

The product follows open API and SDK standards and integrates with other software products such as Compass, Horizon and SpaceMesh Orchestrator.

USE CASES

Ground resource management	NOC of NOCs
Opportunity generation and schedule deconfliction	Orbit visibility and propagation calculations

COMPONENTS

Core Services	Infrastructure	NOC of NOCs
• Antenna, aperture, service/band, vehicle, payload, orbit and user/role definitions • Performs deconfliction for tracked allocations/reservations • Constraint checking and general schedule deconfliction • Ad hoc operations and maintenance windows	• All services are containerized with a default template for deployment • All services are loosely-coupled with standard RESTful APIs • Follows open API and SDK standards and integrates with other Lockheed Martin product lines	• Optional, enhanced version of Astrolabe that extends the capabilities of core offering by adding a layer of abstraction between network provider(s) and our core services • Enables algorithmic scheduling across many providers for the best possible options

KEY FEATURES

- Supports multiple propagators
- Supports multiple orbit definitions
- Scheduling

- User management
- Customizable/swappable planning algorithm
- NOC of NOCs adapters

- Lights-out design
- Modern, scalable web architecture

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