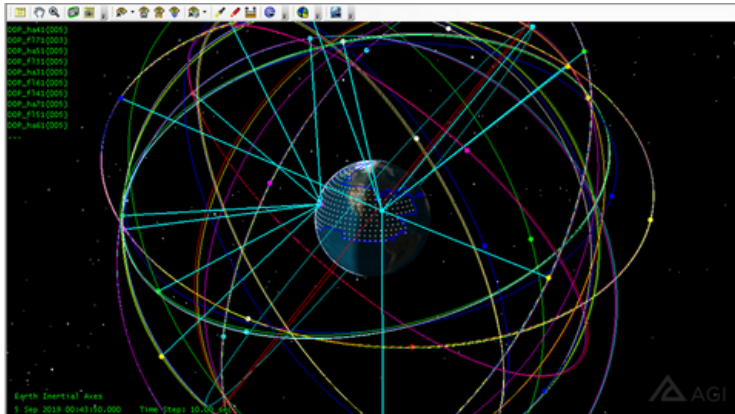# Astro Scheduler

Don't just find any solution, find an optimized solution. Replace manual planning with Auria's Astro Scheduler to create and update plans faster and with fewer resources. Astro Scheduler provides flexible resource modeling, configurable constraint implementation, and task definition for any type of space system scheduling challenge. Complex satellite system scheduling problems can be defined in minutes and solved in seconds using Astro Scheduler. Astro Scheduler can integrate with STK Pro's flight dynamics and analysis capabilities to accurately model your mission, or can integrate with other flight dynamics providers via Astro Scheduler's comprehensive API. Auria's unique approach to task and resource definition along with the powerful algorithm implementation in Astro Scheduler finds better solutions faster with easier configuration than traditional rule-based planning systems.

Key Features

- Schedule optimization and deconfliction
- Manual and automated planning
- Seamless interface with STK
- Robust task specification and flexible resource definition
- Multi-satellite / constellation planning
- Modern, secure, web user interface that allows users to all use the schedule at once

3D Schedule Animations in STK or Embedded Cesium Display

Ops Concept Overview

- User defines resources and attributes
- User defines tasks to schedule and constraints
- Algorithms find optimized schedule solutions
- Software provides validation of manual changes
- View schedule in Gantt, tables, reports, or STK
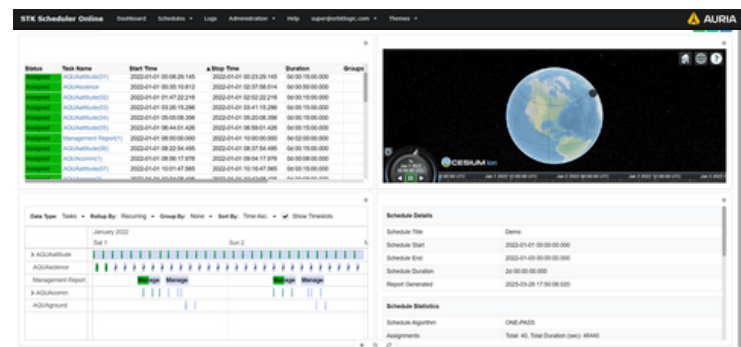
Flexible Resource Definition

- Setup and breakdown times
- Resource availability and blackout schedules
- Associate resources with STK objects
- Configurable resource capacity definitions
- No limit on the number or type of resources

Schedule Optimization and Deconfliction

- Automated schedule deconfliction
- Select from multiple standard algorithms
- Plug-in custom algorithms
- Algorithm-builder tool supports algorithm adjustments
- Configurable figure of merit allows tuning of scheduling goals

Manual and Automated Planning

- Assign tasks manually or adjust algorithm-generated schedule solutions
- Influence algorithms with lock and defer controls
- Run with or without the GUI
- Command file import and execution
- Comprehensive REST API for integration with external ground system elements
- Configurable automated workflows based on files, emails, or time
- Role-based permissions -user roles can be used to limit users to appropriate features as well as limiting them to only being able to use relevant schedules and resources
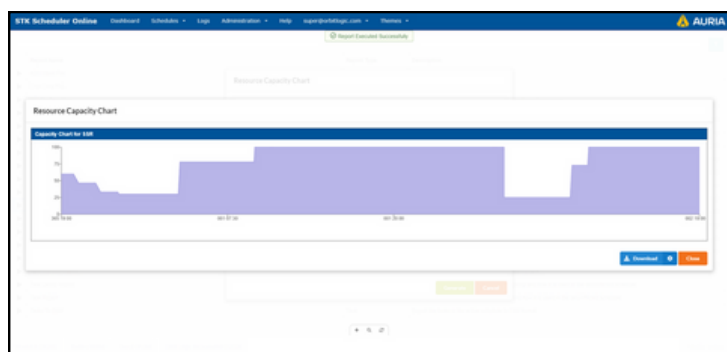

Astro Scheduler Online Dashboard

Flexible Deployment Options

Astro Scheduler can be deployed on Linux and Windows OS, depending on your program's software environment.

Web App

Container

AWS Cloud

Windows Service

Scheduler Resource Capacity Tracking Chart

Robust Task Specification

- Recurring or single-instance tasks
- Fixed or variable task durations
- Configurable task priorities
- Predecessors and other task dependencies
- Task-specific resource requirements
- Configurable resource capacity usage per task
- No limit on the number or type of tasks

Task and resource attributes in Astro Scheduler allow any kind of task or resource to be defined at any level of detail to meet any planning requirements.

Integration Enabled

- Comprehensive REST API
- Full automation and integration with 3rd party software
- STK Connect command format
- Direct COM and TCP/IP interfaces
- Programmatic option for all GUI functions
- File import and export
- Run Astro Scheduler in the background as a service

All Mission Types and Phases

- LEO, GEO, interplanetary, lunar, asteroids
- Satellites, ground stations, sensors, antennas, payloads, operators, equipment racks, etc.
- Spacecraft manufacturers, mission planners, satellite and network
- operators, long-range forecasters
- Feasibility, near real-time, mid-range, long-range
- Modeling and analysis, integration and test, pre-launch, launch and early-orbit, on-orbit operations

Multi-Mission Space and Ground Resource Management

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