Braxton’s Advanced Control Equipment (ACE) Premier™ product suite includes ACE Intelligent Resource Optimizer (AceIRO), which provides enterprise-class scheduling and optimization of resources. AceIRO is hosted within a flexible, distributed product architecture, shares real-time data through an Enterprise Service Bus (ESB), and is centrally controlled by a Master Scheduling Node with an unlimited number of Remote Scheduling Nodes. AceIRO, through the ESB, accommodates customer scheduling requests, data updates, status feeds, event-based processing, and distributes real-time situational awareness. AceIRO is fully configurable enabling owners to define domain resources, tasks, constraints, and rulesets, without any changes to the software. AceIRO has machine-to-machine interfaces and communicates with Government and Commercial network scheduling systems.
CAPABILITIES

- **SOC-Side Scheduling/Optimization:** AceIRO offers a SOC-side scheduling capability, integrated with EGS, enabling fully automated event-based scheduling operations, multi-operator collaboration, mission planning, what-if analysis, and internal deconfliction as performed within multi-user configurations.

- **Multiple Ground System and Satellite Based Networks**
  - **Air Force Satellite Control Network (AFSCN):** Schedules and optimizes AFSCN resources to ensure resiliency and reliability in communications across the AF network.
  - **Dedicated/Shared:** Schedules and optimizes dedicated and shared ground resources to accommodate multi-user, multi-operator allocation of tasks to meet mission objectives.
  - **Commercial:** Has proven scheduling and optimization capability with several commercial antenna providers including Intelsat, KSAT, SSC Space, and ViaSat.
  - **Satellite Based:** Accommodates orbiting body to orbiting body scheduling optimization and resource management for satellite-to-satellite space communications based resources (i.e., TDRSS).

- **EGS Compatible:** AceIRO’s message bus is compatible with all Goddard Mission Services Evolution Center (GMSEC) messages defined in the MMSOC 2.1 Service Interface Specification.

- **Autonomous, Real-Time Operations:** AceIRO provides real-time dissemination of network schedule and resource status information through the ESB, enabling real-time operations through data synchronization across available communications links, even in bandwidth constrained environments.

- **Domain Agnostic:** AceIRO is a proven Enterprise Class Optimization solution applicable to multiple domains (i.e., USAF, NASA, Commercial) for multiple functions (i.e., resource optimization, dynamic frequency allocation, service management concepts).

AceIRO Features

- Multi-user/customer (Satellite Operations Center (SOC)) support
- Multi-level security, unclassified through system high requirements
- Powerful, multi-user planning capability to the SOC constellation planners/operators
- Enterprise Ground Services (EGS) compatible supporting the Space Warfighting Construct
- Central scheduling authority CONOPS with multi-scheduler synchronization
- Autonomous, real-time changes to the networks including ground and satellite anomalies
- Multi-network integration supporting system resiliency and increased capacity
- Real-time operations, data synchronization, and distribution throughout the enterprise
- Enables timely and cost effective systems changes without modifying the core software
- Multi-objective genetic algorithm provides optimal use of resources across the enterprise