

REAL-TIME THREAT PROTECTION FOR INCREASED **NETWORK RESILIENCE**

DYNAMIC OPTIMIZER FOR RESILIENT SATCOM (DORS)

- Detects, characterizes, and mitigates SATCOM threats: Weather: Interference
- Operational controls to maximize capacity, and reliability
- Dynamic resource planning
- Detects, characterizes, and suppresses jammers and other interferers
- Real-time rain/atmospheric fade detection & mitigation
- Live feedback to Kythera Operating System (KOS) to improve performance

DYNAMIC INTERFERER/JAMMER MITIGATION & SUPPRESSION

SPECTRAL REPLANNING

DYNAMIC DOWNLINK POWER CONTROL

INTERFERER/JAMMER **GEOLOCATION**

WEATHER CHARACTERIZATION & MITIGATION

ADAPTIVE DBS **BEAM SHAPING** INTERFERENCE NULLING

COORDINATE GATEWAY HANDOVERS

INTEGRATES WITH PROS & KOS

AUTONOMOUS THREAT MANAGEMENT

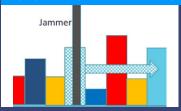
- Continuously monitors and mitigates environmental threats
- Automated Interference Mitigation System (AIMS)
- Dynamic Rain Protection System (DRPS)
- Interfaces with PROS and KOS

3 STEP PROCESS

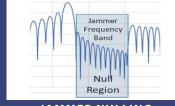
- Step 1: Detect Threat
 - Weather, Interference
- Step 2: Characterize Threat
 - Where: Probable locations
 - When: Now, next minute / hour / day
 - How Severe: Impact
- Step 3: Neutralize Threat
 - Maximize performance & capacity
 - Optimize beam/power/frequency plan
 - Orchestrate satellite & ground systems
 - Direct gateway handovers

UPLINK SPECTRUM CHARACTERIZATION USER-DEFINED FOCUS AREA POLYGON

AUTOMATED INTERFERENCE MITIGATION SYSTEM (AIMS)



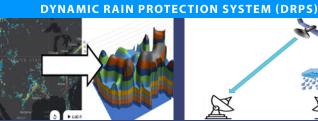




JAMMER NULLING

ADVANCED CAPABILITIES FOR BEAMFORMING SATELLITES

- Dynamically shape DBS beam
 - Respond to changing weather
 - Save power
 - Improve DBS performance
- Automated nulling of interferers/jammers
 - Create beam nulls over jammers to suppress interference





ADAPTIVE DBS BEAM SHAPING DIRECTED GATEWAY HANDOVERS

