

Contested Satcom Capabilities & Techniques

Interference Scenario

GEO or NGSO

① Blue Team



Operational Signal

Blue Hub
Mission
Critical
Link

④



Link Interrupted

Blue Hub
Active Signal
Analysis
Alerts of
"Red" Jammer

⑤



Operational Signal Resumes

Blue Edge
Signal Changes
to Counter
Attack

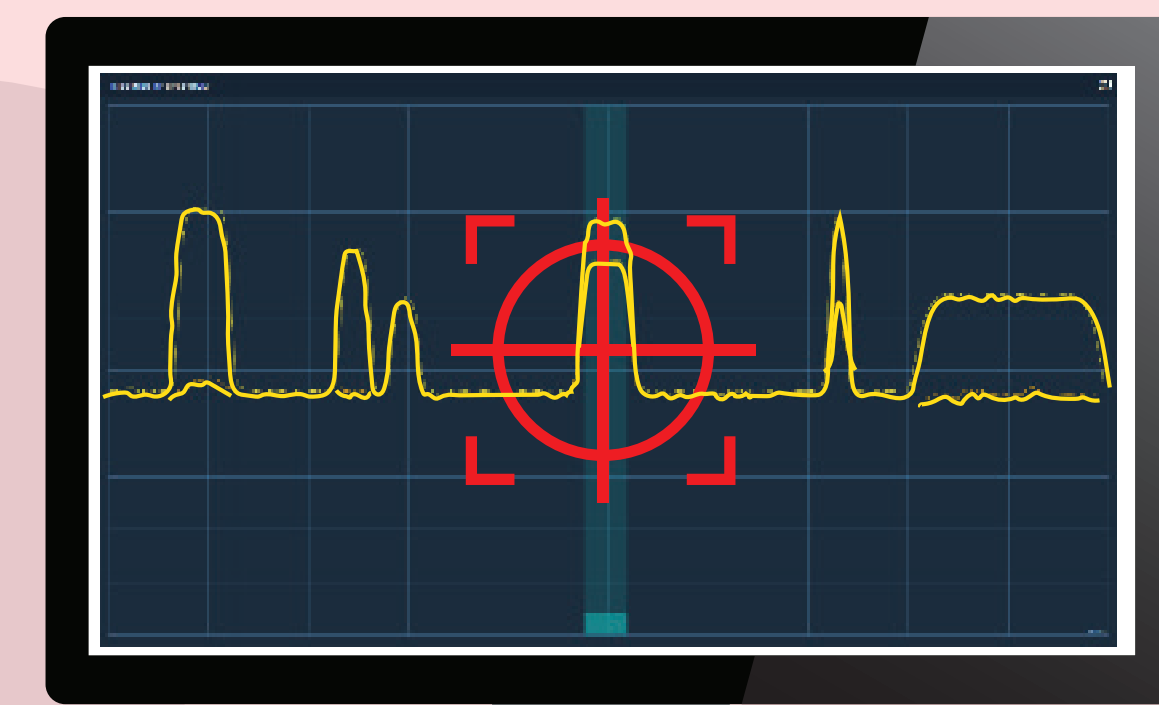
Red Team ②



Scanning for Targets

Red Hub
Satcom Link
to Jamming
Enabled
(Remote Site)

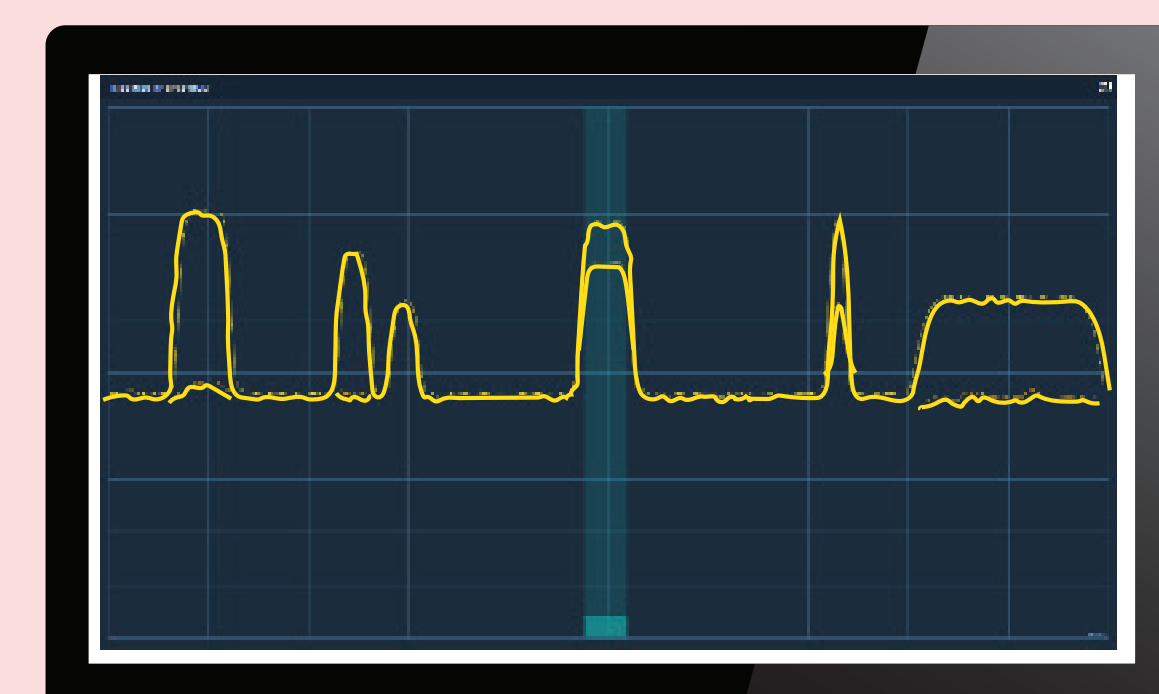
③



Jammer Introduced

Red Edge
IDs Signal
of Interest

⑥



Scans for New Target

Red Hub
Satcom Link
to Jamming
Enabled
(Remote Site)

Resiliency Through Software-Defined Networks



BACKGROUND

SATCOM can face interference, intentional or otherwise, that can result in prolonged outages at the remote terminal.

METHOD

Build a standards-based software-defined network utilizing vendor-agnostic components including DIFI digitizers, general purpose compute and virtual network functions including RF analyzers to detect interference.

RESULTS

RF monitoring and analysis running in tandem with SATCOM in virtualized environments shortens the time between realization and reaction to near real time.

CONCLUSIONS

Network resiliency, even in contested environments, can be a reality with standards-based, software-defined networks.