

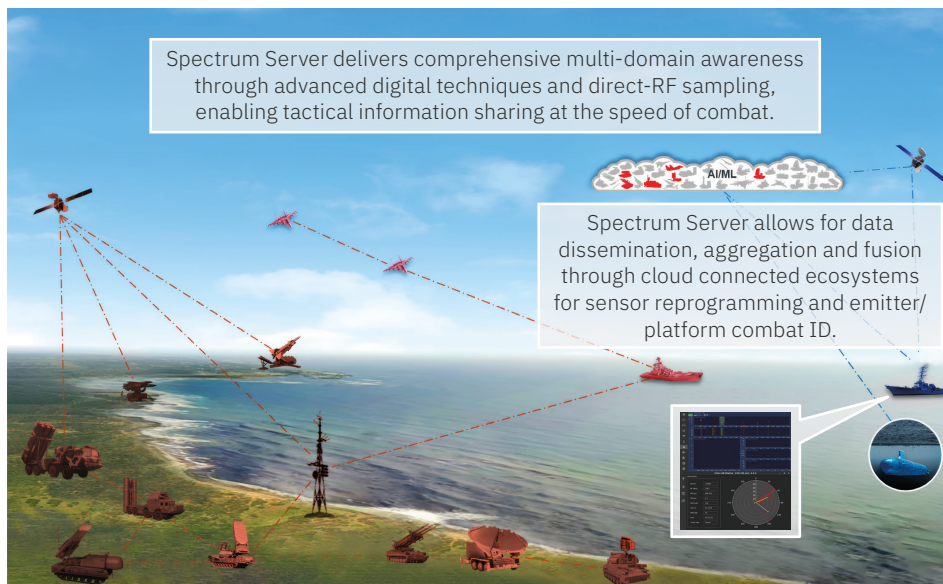
## **SPECTRUM SERVER™**

### Stacked, channelized, digital electronic support measures and intelligence (ESM and ELINT)

The Spectrum Server family of systems is designed to identify and differentiate between various signals in busy environments, enabling operators to quickly respond to modern threats. As a form, fit and function replacement, Spectrum Server enhances automated threat recognition in crowded radio frequency environments. This new capability upgrades older electronic support measures (ESM) and electronic intelligence (ELINT) systems used for surface and coastal defense, allowing them to focus on specific frequencies based on mission needs.

The signal environment is increasingly crowded and complex, with adversaries using advanced low probability of intercept techniques that are difficult to detect. To address these challenges, operators need advanced digital technology with flexible, software-driven features.

The Spectrum Server's software-defined digital RF capability and powerful processing keep up with rapidly changing frequencies and pulse rates of agile emitters.



#### FEATURES

- > Spectrum monitoring and management across the entire radio frequency spectrum
- > Significant performance enhancement over analog system, 100% (POI, POD)
- > Reduction of current life-cycle costs and obsolescence through commercial off-the-shelf (COTS) upgrades
- > MOSA, SOSA, VITA, scalable, future-proof flexibility for frequency expansion, processing power, memory, third-party applications and more

#### BENEFITS

- > Advanced ESM/ELINT for detecting evolving threats such as rapidly evolving software-defined radios (SDRs)
- > Interface with third-party hardware to support mission
- > Robust data distribution supporting multiple data formats

## KEY SYSTEM CAPABILITIES

Features	Benefits/Outcomes
Direct RF sampling receiver	Efficiency and reduced SWaP-C
4+ million PPS per card	100% probability of intercept/detect
Operator automation	Reduced workload, instant threat ID
Weapon system integration	Ingest, process and rapidly disseminate data directly relevant to threat mitigation
Agile, non-traditional waveform	Automated alert with pulse descriptor words (PDW) generation improving analysis time
Automated recording and alerts	Disambiguate threats and targets of interest for focused attention
Improved HMI	Decluttered desktop environment

## KEY PERFORMANCE

Frequency Coverage	100 MHz to 40 GHz (0.5 to 18 GHz typical), scalable
Sensitivity	< -75 dBm RMS (0.5 to 18 GHz), configurable for application
Instantaneous Dynamic Range	54 dB+, configurable for application
Direction Finding	As low as 1° RMS (antenna dependent)
Instant Bandwidth	2 to 18 GHz typical (HF to W band scalable)
Total Dynamic Range	85 dB, configurable for application
Pulse Repetition Interval Range	1 µsec to 20 msec (to 100msec) programmable
Pulse Width Range	50 ns to CW
Frequency Accuracy	<100 KHz w/ >100 ns PW
Data Recording of Emitter	PDW and I&Q

### IN SERVICE

- > Legacy HMI/GUI
- > Hardware defined
- > Analog, proprietary system
- > HW and SW limitations

### SPECTRUM SERVER

- > Advanced HMI/GUI
- > Software-defined EW
- > Digital, open system
- > Scalable HW/SW

- > Reduced operator workload
- > New processes for greater efficiency
- > Significantly improved combat effectiveness

## UPGRADEABLE AND MAINTAINABLE

- > 3U Open VPX Chassis, SOSA, VITA 49.2
- > Supports existing and advanced antennas enabling ease in initial and future upgrades
- > Future-proof frequency expansion to cover entire threat spectrum today/tomorrow
- > Memory and storage upgrades without design modification
- > COTS modules makes upgrades and replacements easy
- > Capability upgrades through software-defined functionality

### Spectrum Server™

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