Department of the Navy SBIR/STTR Transition Program

PTT Adversary

SOL

Concept Drawing shows ANDRO app on handheld radios and at a decision laptop enable detection

of adversary's push-to-talk (PTT) radios. Platoon and Squad leaders coordinate via SRW.

Statement A: Approved for public release, distribution is unlimited. (8 December 2015)

WHO

SYSCOM: SPAWAR

Sponsoring Program: JTNC

Transition Target: PM Tactical Radio (PM TR)

TPOC: (443)395-2651

Other transition opportunities: Any legacy radio paired with a capable sensor can be used in a coordinated effort to geolocate the signal of interest's (SOI) origin: - MBITR2

- Software Defined Radio

Notes:

SOI - Signal of Interest SRW - Soldier Radio Waveform EWO - Electronic Warfare Officer MBITR2 - Multiband Inter/Intra Team Radio

JTNC - Joint Tactical Networking Center

Platoon Leade or EWO Squad Leaders

ANDRO Conceptual Drawing 2015.

Idier Radio

Waveform

(SRW)

Topic # N122-150

Advanced Software Defined Radio Capabilities and Information Dominance - Adapting ANDRO's Transmission Cyberspace for a Five-node SDR Prototype Network ANDRO Computational Solutions, LLC

WHAT

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antop

Operational Need and Improvement:

- Support decision-makers in operational missions and force protection
- Improve software defined radio capability
- Improve mesh network capability
- Use incidental locations of deployed radio assets to enhance spectrum awareness

Specifications Required:

- Spectrum sensing receiver can be either time-allotted or augmented by a dedicated sensor
- Sensing: tunable (frequency, bandwidth) with an adequate clock (sampling, scheduling)
- Networking: small control messages and large sensing data
- Computing: signal processing on each node (to reduce network data traffic)

Technology Developed:

- Concept of operations for multi-node spectrum sensing
- Software for decision: tasking, data handling, processing, geolocation of SOI
- Software for sensing: tuning, SOI detection, data processing

Warfighter Value:

- Improves spectrum situational awareness
- Enables detection and location of adversary's radio
- Improves "Force Protection" ability
- Supports "Every Soldier is a Sensor" Program

Contract Number: N66001-14-C-5214 Ending on: March 29, 2016			
Risk Level	Measure of Success	Ending TRL	Date
N/A	Feasibility study and simulations for the family of ANDRO's Transmission Cyberspace solutions.	3	June 2012
N/A	Develop application for SOI detection, software modules, interfaces with host hardware/software.	4	April 2015
Low	Test and Verify geolocation of adversarial signal in representative environment	6	October 2015
Med	Test and verify detection of interference source	6	March 2016
	Risk Level N/A N/A Low	Contract Number: No6001-14-C-5214Risk LevelMeasure of SuccessN/AFeasibility study and simulations for the family of ANDRO's Transmission Cyberspace solutions.N/ADevelop application for SOI detection, software modules, interfaces with host hardware/software.LowTest and Verify geolocation of adversarial signal in representative environmentMedTest and verify detection of interference source	Risk LevelMeasure of SuccessEnding TRLN/AFeasibility study and simulations for the family of ANDRO's Transmission Cyberspace solutions.3N/ADevelop application for SOI detection, software modules, interfaces with host hardware/software.4LowTest and Verify geolocation of adversarial signal in representative environment6MedTest and verify detection of interference source6

OW

jected Business Model:

- censing agreement with radio manufacturer and technical assistance with production
- ell directly to the Program Offices

mpany Objectives:

- xpand technology to SDR markets
- tilize Intellectual Property rights
- dvance the spectrum sensing technology to a wider spectrum
- dvance the geolocation technology to a broader set of signals

tential Commercial Applications:

- aw Enforcement and Public Safety locating objects or persons utilizing frequency spectrum
- ommercial Trucking Industry location of GPS jammers that mask off-route destinations
- earch and Rescue locate radio beacons
- oftware Defined Radio

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