NAVY Transition Assistance Program

Statement A - Approved for public release, distribution is unlimited (28 January 2011)

N07-143 - Shared Spectrum Company

Cognitive Radio Capability for Software Defined Radios

NEED & CUSTOMER REQUIREMENT

Need: Software Defined Radios (SDR) and other communications devices are subject to crowded spectrum and interference from other devices. This results in communications outages that impact UAS, UGV and soldier communications. Dynamic Spectrum Access (DSA) addresses this problem.

Value to the Warfighter: Spectrum adaptability for SDR platforms enables higher network bandwidth and eliminates dropped calls, enabling better mission effectiveness. Automatically adapts frequency based on set of polices.

Operational Gap: Fixed frequency assignments results in blue on blue jamming and RF interference. DSA resolves spectrum interference and spectrum management issues in real-time at the local, network and system level.

Customer Specifications: Provide cognitive radio functionality to enable Software Defined Radios to be capable of perceiving network conditions and providing spectrum adaptability.

Technology Description: Radio and wireless device software called Dynamic Spectrum Access (DSA) identifies interference and enables SDR to maintain communications by automatically switching to unused local spectrum. Can be integrated to any tactical or commercial radio.

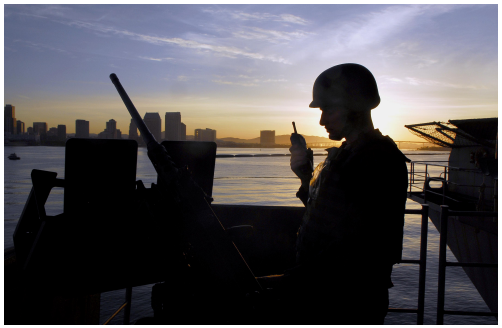
SPONSORSHIP of original SBIR/STTR Topic

SYSCOM: SPAWAR

Transition Target: JTRS

Original Sponsoring Program:
JTRS NED

TPOC Phone Number:
842-218-4209



TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Develop Architecture for WNW	3	Moderate	Completed documents	12/2010
OPNET Simulation	4	Moderate	OPNET model	6/2011
Initial Software Port to GMR	6	Moderate	Integrate DSA into JTRS GMR	10/2012
Field trials	8	Moderate	Field DSA into existing GMR test bed	7/2013

Open contract: N00039-10-C-0041 ending 2013

TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

Other Potential Applications: UAVs, Ships, Marine soldier radios, Spectrum Planning and Management Systems, Situational awareness systems where a view of the spectrum is critical

Business Model: SSC intends to license the software to SDR and other RF communications device manufacturers.
Real-time spectrum planning and management

Objective: SSC wishes to initiate and develop relationships with JTRS program managers, UAS program managers and SDR contractors to integrate DSA into their communication systems.

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