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distribution is unlimited (30 April 2012)".



2012 DHS S&T/ASD(R&E) CYBER SECURITY SBIR WORKSHOP



Radio Security Software and Device Simulation for High Fidelity Waveform Evaluation

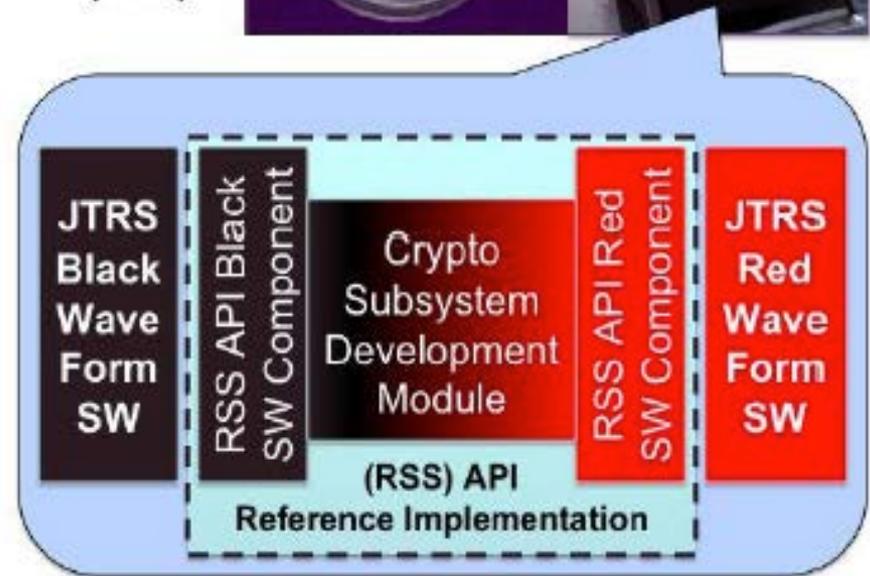
SCA Technica, Inc. (CAGE: 1ZEJ1)

David Murotake Ph.D.

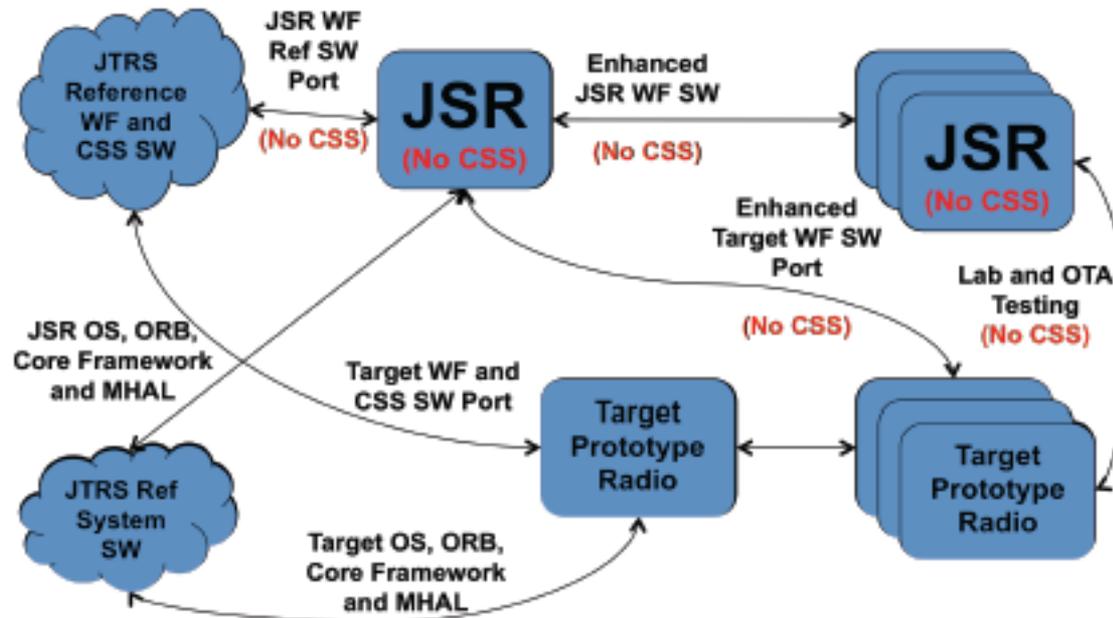
HAWCS[®]

- SPAWAR Joint Tactical Radio System (JTRS) JPEO
 - Network Enterprise Domain (NED)
 - JTRS Surrogate Radio (JSR)
 - Ground Domain, Airborne Maritime Fixed Domain users
- JTRS Surrogate Radio (JSR) contains outdated hardware (HW)
 - Addition of Communication Support System (CSS)
 - Developing and testing new networking waveforms/enhancements for software defined radios (SDRs) needs improvement

JTRS
Surrogate
Radio
(JSR)

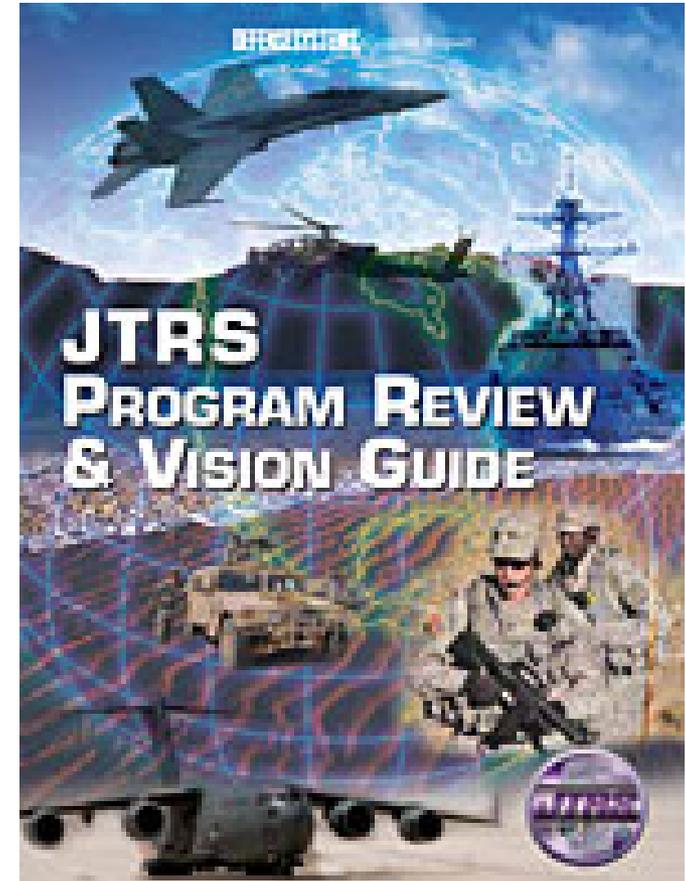


- Commercial RF, DSP, and GPP components housed in 6U Compact Peripheral Component Interconnect (cPCI) chassis
- JSR - system T&E platform for Ground Mobile Radio (GMR).



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- Unclassified prototype JSR
 - ✓ Revised hardware (compatible with legacy)
 - ✓ Unclassified, non-CCI CSS development system
 - ✓ JTRS Software Communications Architecture (SCA) waveform and operating environment specification compatible software adapters



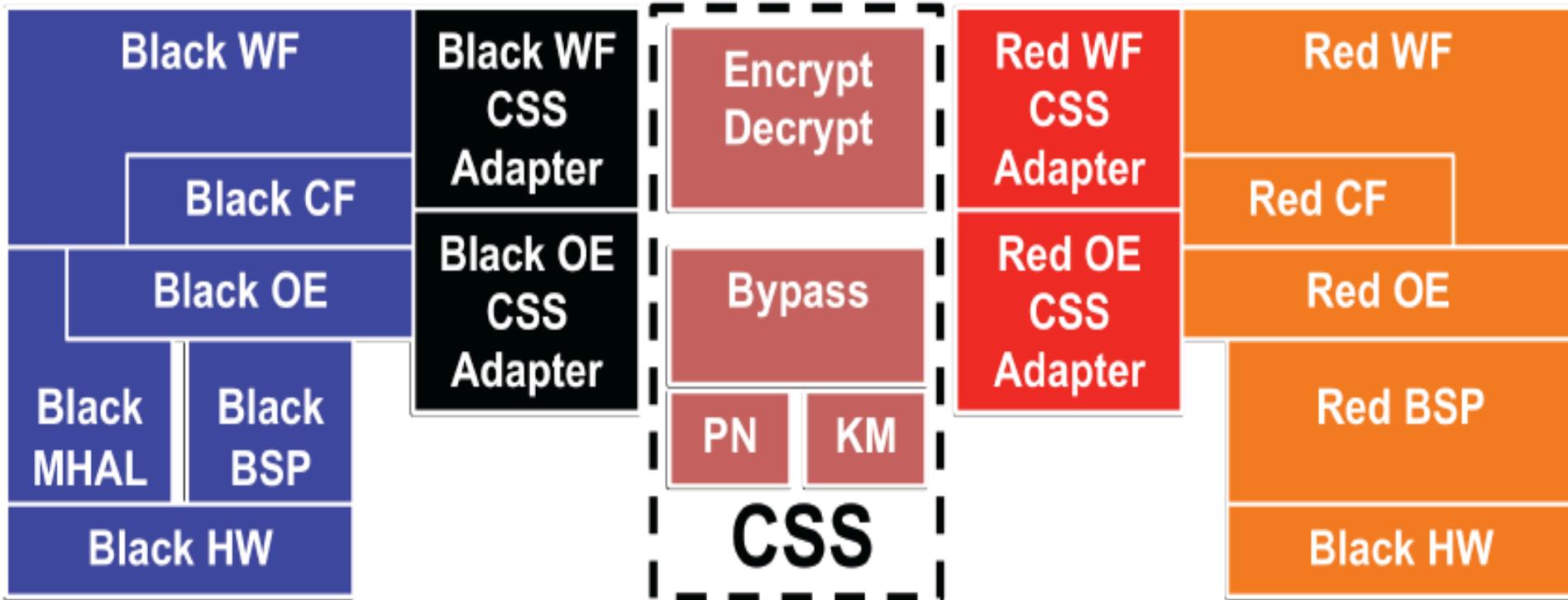
LEGACY

NEW

NEW

NEW

LEGACY





Transition to Fleet



Milestones	Risk	Measure of Success	TRL/Date
Delivery of modified PSIAM Type I Crypto Development Module to SCA Technica	Low	Successful acceptance test by SCA Technica	5: 4Q FY11
Completion of "New JSR" with integrated PSIAM CSS and Wideband Networking Waveform (WNW) waveform with SCA SW components	Medium	Successful demonstration to JTRS NED program office	6: 3Q FY12
Modification of JSR OE with patented HAWCS® architecture to replace Local Interconnection Layer (LIL) and address JTRS CP-295	Medium	Successful demonstration to JTRS NED program office	6: 2Q FY13

NEED & CUSTOMER REQUIREMENT

Need: A better method is needed for developing and testing new networking waveforms/enhancements for Software Defined Radios (SDRs).

Value to the Warfighter: Future waveform developers and system integrators can more rapidly develop, test and deploy new waveforms and enhancements to the warfighter.

Operational Gap: The existing Joint Tactical Radio System (JTRS) Surrogate Radio (JSR) contains outdated hardware and can benefit with the addition of a new Comprehensive Software Systems (CSS) development component with selected Software Communications Architecture (SCA) compliant software modules.

Customer Specifications: An unclassified prototype JSR that includes revised hardware, the CSS development system, JTRS Software Communications Architecture (SCA) waveform and operating environment specifications.

Technology Description: SCA Technica, with support of Joint Program Executive Office (JPEO) JTRS, is pursuing the design of SCA compliant hardware and software for use in surrogate tactical radios and Mobile Ad Hoc Networking (MANET) systems. SCA Technica is developing a prototype surrogate radio with the CSS development system, including selected SCA compliant Application Program Interface (API) simulations. The software includes waveform and Original Equipment (OE) Platform representative components used on an unclassified platform to simulate SCA radio devices and services during waveform development.

SPONSORSHIP of original SBIR/STTR Topic

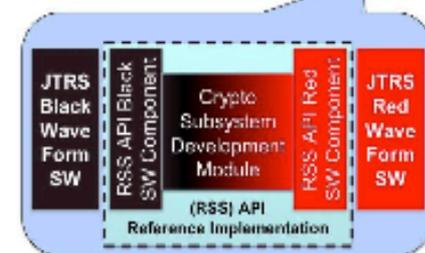
SYSCOM: SPAWAR

Transition Target: JTRS Network Enterprise Domain (NED) - JSR

Original Sponsoring Program: JPEO JTRS

TPOC Phone Number: 843-218-6393

JTRS
Surrogate
Radio
(JSR)



TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Pass vendor sell-off test	3	Low	Analytical and experimental critical function and/or characteristic proof of concept	August 2011
Evaluation by JTRS NED	4	Moderate	Component and/or breadboard validation in a laboratory environment	May 2012
Evaluation by JTRS NED	4	Moderate	Module and/or subsystem validation in a laboratory environment	March 2013

Open contract: N00039-11-C-0028 ending March 23, 2013

Image Citation: "SCA Technica AF05-108 Narrative Briefing", 2012 Navy Transition Assistance Program

TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

Other Potential Applications: SCA compatible Commercial Off-The-Shelf (COTS) software development platform with simulated hardware CSS and security software adapters; components of future versions of SCA test equipment and applications; COTS JSR surrogate radio platform components and updates to latest configuration. HAWCS(r) cyber defense server utilizing CSS and specialized software.

Business Model: SCA Technica will license this technology. Under contract, it will develop additional customizations for other radio platforms and waveforms, including commercial versions for use on surrogate and high assurance radios. It will manufacture additional new JSRs with CSS, and also manufacture Cyber Defense Servers incorporating related technology, with possible applications to funded competitive programs including JTRS Software In Service Support (SwiSS), Cyber Operations IDIQ, and Agile Cyber TECHNOLOGIES (ACT) IDIQ.

Objective: SCA Technica seeks additional contracts from prime contractors for developing customized software implementations. The company also seeks to manufacture new JSR and cyber defense server systems incorporating this technology.

- Veteran-owned, SBA-certified 8(A) SDB
- Nashua, NH; Merrimack, NH, founded in 2002
- Research & development, system engineering
- SBIR awards (SDR, MANET, cyber-security, high performance computing)
 - 5 Phase I, 4 Phase II
- Patents
 - 4 U.S. issued: Self-Booting SDR, HAWCS[®] mobile and network security
 - 1 additional sold prior to issue (FPGA ORB)
- Cleared storage, processing (DoD SECRET)
- Cleared US Citizen personnel (DoD, DHS)
- ITAR certified, full access to JTRS Information Repository (IR) and NESI API data base

