Special Operations Forces Industry Conference

Ms. Valerie Shuey

Program Manager - Intelligence

Intelligence

Program Management Office, Intelligence

System Acquisition In Direct Support Of The Director Of Intelligence And The Intelligence Elements Of USSOCOM Components And Theater Commands

**Program Manager Intelligence
(PM-IN)
Ms Valerie Shuey**

| Distributed Common Ground System – SOF (DCGS-SOF) | SOC Research, Analysis, and Threat Evaluation System (SOCRATES) | SOFPREP/Distributed Mission Training & Rehearsal System (DMTRS) | Systems Integration Management Office (SIMO) | SIGINT SYSTEMS/ Joint Threat Warning System (JTWS) | Counter-Proliferation Analysis And Planning System (CAPS) | Integrated Survey Program (ISP) |

Program Capabilities For:

- Situational Awareness
- Intelligence, Surveillance, And Reconnaissance
- Tasking, Collection, Processing, Exploitation, And Dissemination
- Integrated Broadcast Systems (IBS)

JTWS Ground SIGINT Kit (GSK)

JTWS Precision Geo-Location (PGL)

JTWS Air/IBS

JTWS Maritime

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Technology Areas of Interest

- Networked Tactical SIGINT Systems

- Lightweight, Adaptable Tactical SIGINT Systems

- Improved Direction Finding (DF) And Geo-location (GEO) Antenna Arrays

- Exploit Modern Communication Systems

- Data Discovery And Enrichment In Support Of Intel Analysis

- Advanced Data Management Systems

- Network Multi-Level Security/Cross Domain Security Services

- Full Motion Video / Motion Imagery (FMV/MI) Exploitation

- Multi-Intelligence Fusion And Correlation

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Networked Tactical SIGINT Systems

- **Current State of The Technology**
  - Techniques for Collaborative DF And Geo-Location Operations
- **Ongoing Efforts**
  - Networking Concepts And Devices To Communicate Between Tactical SIGINT Operators
- **Where We Want to Be**
  - DF and Geo-Location of Signal Sources Using All Available Overhead, Air, Maritime And Ground SIGINT Assets
- **Potential Game Changers**
  - Lightweight VHF-UHF Mesh Networking Radios; Miniature Communications Devices; JICD 4.0 Collaborative Geo-Location Messaging; Time/Frequency Direction Of Arrival (T/FDOA) Sensors; Geo-Location Algorithms

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Lightweight, Adaptable Tactical SIGINT Systems

- **Current State of The Technology**
  - Heavy, Power-Hungry, Inflexible Products; Focused Use
- **Ongoing Efforts**
  - Reduce Equipment Size, Weight and Power (SWAP); Expand Platform Integration; Versatile HW/SW
- **Where We Want to Be**
  - Common Low-SWAP Adaptable SIGINT Equipment
- **Potential Game Changers**
  - Miniature T/FDOA-capable Receivers; Versatile Antenna "Toolkits"; Low-Profile and Body-Wearable DF Antennas; Flexible Industry-Standard Equipment Interfaces and Software Applications

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Improved DF and GEO Antenna Arrays

- **Current State of The Technology**
  - Bulky, Narrowband, Limited-Accuracy DF Antennas
- **Ongoing Efforts**
  - Phased Array and Beam-Steering Antennas; Body-Wearable DF Antennas; T/FDOA Techniques
- **Where We Want to Be**
  - Wideband High-Gain Antenna Systems; Flexible Multi-Platform High-Accuracy DF and GEO Antenna Systems; Body-Wearable, Concealable DF Antennas; All-Azimuth/ Elevation
- **Potential Game Changers**
  - Phase-Coherent DF Systems; Beam-Steering Antenna Design; T/FDOA Signal Measurements

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Exploit Modern Communications Systems

- **Current State of The Technology**
  - Collection, Exploitation of Current Communications Signals
- **Ongoing Efforts**
  - Develop Collection and Exploitation Techniques for New Emerging Systems
- **Where We Want to Be**
  - Worldwide Collection and Exploitation of Advanced Communications Systems
- **Potential Game Changers**
  - Advanced Signal Processing Algorithms; Demodulation and Decryption Techniques; Versatile, Wideband Tactical SIGINT Systems

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Data Discovery and Enrichment in Support of Intel Analysis

- **Current State of The Technology**
  - Rule And Statistical Based Entity Extraction And Analysis Tools
- **Ongoing Efforts**
  - Actionable Intelligence Visualization Proof-of-Concept
  - SIKLOPS, SIDMS
- **Where We Want to Be**
  - Reduce Time To Analyze Data
  - Automate Appropriate Data Tagging
  - Increase Effectiveness Of Finding The "Answer"
- **Potential Game Changers**
  - Effective And Easy To Use Application Interfaces
  - Advanced Algorithms In Support The Intel Analysis Process

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Advanced Data Management Systems

- **Current State Of The Technology**
  - Relational Data Base Management Systems (RDBMS)
  - XML Databases
  - Object-oriented Databases
- **Ongoing Efforts**
  - SIDMS
- **Where We Want To Be**
  - Enable The Effective/Efficient Management Of Unstructured Data
  - A Distributed Data Management System That Reduces The Overhead And Complexity Of Current RDBMS.
- **Potential Game Changers**
  - Advanced XML Databases At A Maturity Level Of RDBMS

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Network Multi-Level Security/Cross Domain Security Services

- **Current State Of The Technology**
  - Cross Domain Solutions Are Complex, High In Cost, And Lack Operational Flexibility In Addressing User Needs
- **Ongoing Efforts**
  - Evaluating Solutions – E.G., Trusted Virtual Environment (TVE)
- **Where We Want To Be**
  - Enable SOF Users To Exchange Information, Collaborate On-Demand, And Utilize SOF Required Applications Between Security Domains
- **Potential Game Changers**
  - Certified/Accredited Classification Labels To Unstructured Data Types
  - Flexible And Robust Algorithms That Enable Current Cross Domain Guards To Support Complex Data Types

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Full Motion Video (FMV) Exploitation

- **Current State of The Technology**
  - Human Analysis, Few Automated Tools
- **Ongoing Efforts (Research)**
  - Content/Semantic Based Search Capabilities
  - Change /Activity/Object Detection Within FMV Files To Support Video Processing, Exploitation, Dissemination (PED) Processes
- **Where We Want to Be**
  - Enable Detection of Objects and Activities Of Interest Within Real-Time and Archival Video
- **Potential Game Changers**
  - Object/Activity Auto-Tagging In High Definition Video

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Multi-Intelligence Fusion And Correlation

- **Current State of The Technology**
  - Multi-INT Data Collections Using Single-INT Stove-Piped Systems And Processes—Limited Post-collection Fusion
- **Ongoing Efforts**
  - MASINT Tactical Information Fusion (MASTIF) ACTD
- **Where We Want To Be**
  - Improve Target Geo-Location/Identification Accuracy, Confidence And Speed
  - Enable Cross Cueing Of Intelligence, Surveillance, And Reconnaissance (ISR) Collection Assets
- **Potential Game Changers**
  - Automated, Real-Time Detection, Identification, And Geo-location Of Target Of Interest, Auto-Project/Predict Movements

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Questions?

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