(U) Broad Agency Announcement (BAA) Overview

(b)(3)
(U) Agenda

+ (U) BAA Overview
+ (U) BAA Process
+ (U) Past BAA Efforts and Benefit
+ (U) Current BAA Efforts
+ (U) Questions?
(U) **Purpose:** Identify key concepts and ideas used to:

+ Shape the future of IA; evolve and enhance CSM’s mission in developing encryption solutions securely passing information between systems
+ Improve ways to detect, report, and respond to cyber threats

(U) **Objective:** Develop cutting-edge concept demonstrations and prototypes delivered as technical reports and/or functional demonstration models providing critical information and insight to reduce risk and enhance future cryptographic and technology capabilities

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**Early risk reduction to remove IA and crypto off the critical path**
(U) Details: BAA projects are awarded to determine technological feasibility of high technological risk, potentially high payoff ideas. Submissions are limited in project scope
+ \leq 12\text{ months duration}
+ \leq 500,000\text{ cost}

(U) Duration: In FY16 the BAA is an open BAA whereby submissions may be provided at anytime during the fiscal year

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(U) Past BAA Efforts and Benefit

+ (U) Secure Carrier Ethernet
  + ViaSat Corp.

+ (U) High-Speed Space Crypto System In a Package
  + ViaSat Corp.

+ (U) Advanced Detection of Evolving Cyber Attacks
  + Applied Research Labs: University of Texas Austin
(U) Secure Carrier Ethernet

(U) Developer: ViaSat Corp. (FY12)

(U) Objective:
+ Develop a comprehensive set of tools to thoroughly evaluate Ethernet Security Specification (ESS) (MACsec) and Secure Carrier Ethernet protocols
+ Develop simulation-based and HW-based tools to evaluate and demonstrate key aspects of the security protocols including:

(U) Outcome: Technology and results used by the NRO and NSA to develop ESS, core requirement for the KG-142 (100 Gbps Ethernet Encryptor)
(U) High-Speed Space Crypto System in a Package (HSC-SiP)

(U) Developer: ViaSat Corp. (FY15)

(U) Objective: Develop and validate a new high-speed architecture for space-based Full Crypto System In a Package (SiP) with order of magnitude improvement in SWaP, providing > 1Gbps throughput, suitable for CubeSat application.

(U) Outcome: Technical report and hardware prototype delivered. Risk reduction for advanced packaging techniques. Technology and lessons learned leveraged in CSiP formal development/production acquisition (SCHWALL) in FY17 (competitive).
(U) Advanced Detection of Evolving Cyber Attacks

(U) Developer: Applied Research Labs: University of Texas at Austin (ARL:UT) (FY14)

(U) Objective: Enhance automated cyber threat detection capabilities targeting advanced persistent threats (APT) by creating an automated approach generating large amounts of attack data used to train robust APT detectors.

(U) Outcome: Transitioned detection algorithms to Developed enhanced detection capabilities for NRO’s existing enterprise security information event management tools.
(U) Current BAA Efforts

+ (U) Space Cyber Threats and Countermeasures – SHAMUS
+ (U) Tractable Attack Pattern Detection (TAPD)
  + Applied Research Labs: University of Texas Austin
+ (U) High Speed Crypto Enabling Technology
  + ViaSat
(U) Space Cyber Threats and Countermeasures - SHAMUS

(U) Developer:

(TS//TK//NF) Objective:

+ Will transition technology to SAO

+  

Approved for Release: 2019/08/21 C05108250
(U) Tractable Attack Pattern Detection (TAPD)

(U) Developer: Applied Research Labs: University of Texas at Austin (ARLUT)

(U) Objective:

Will transition technology...
(U) High Speed Crypto Enabling Technology

(U) Developer: ViaSat

(U) Objective:

+ Begin next generation ethernet encryptor (EE)
+ Leverage current 100G EE technology (same vendor) to show proof of concept via architectures and VHDL demos
+ Emerging requirement from NISP and C2S environment
  + Will be utilized to develop requirements if development effort (formal acquisition) is needed
(U) Other BAAs

+ (U) Not all BAAs successfully transition due to various reasons
  + (U) Naval Postgraduate School
  + (U) Multilevel Security
  + (U) Hosted Payloads Architecture
  + (U)
# FY16 Summary

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Various reasons

Total FY16 Budget $  
Unc obligated $  

Table is Unclassified
Academy Outreach

+ [ ] annually sponsors [ ] of Military Service
  Academy Outreach
  + USAFA & USMA - [ ] ea (summer internships)
  + USNA

+ Outreach is focused on training, education, and senior project sponsorships promoting STEM (specifically computer sciences and mathematics)
+ USAFA & USMA typically send 1-2 cadets to support a 4-5 week summer internship

+ Funds typically expend within 12 months ARO
(U) Questions?