U.S. Army Research, Development and Engineering Command

APS Common Architecture Industry Overview

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TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

Briefer: Scott Rogan

Hit Avoidance Integration Team Leader

Ground System Survivability, TARDEC

Report Documentation Page

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GROUND VEHICLE SYSTEMS ENGINEERING AND TECHNOLOGY SYMPOSIUM (GVSETS), SET FOR AUG. 21-22, 2013

14. ABSTRACT
-Armor combined with an Active Protection System (APS) will provide the most efficient system level protection for space, weight, and performance -Army and industry have made significant investments into APS point designs; none have been fielded by the US because of cost, reliability, and integration challenges -Common Architecture (CA) for APS will allow commonality across the vehicle fleet, tailored systems to meet PM needs, and facilitate transition.

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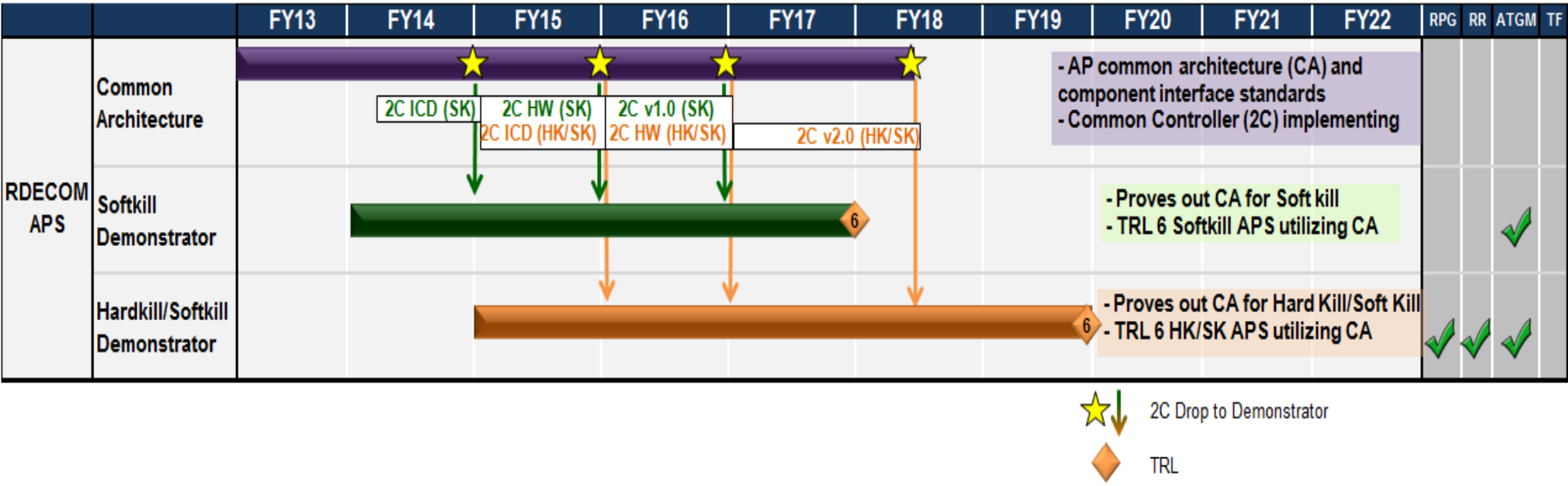
Topics

- What is the Common Architecture?
- How can Industry get involved with the APS Common Architecture effort?
- What is the schedule for events that industry can engage?

Overview

- **Armor combined with an Active Protection System (APS) will provide the most efficient system level protection for space, weight, and performance**
- **Army and industry have made significant investments into APS point designs; none have been fielded by the US because of cost, reliability, and integration challenges**
- **Common Architecture (CA) for APS will allow commonality across the vehicle fleet, tailored systems to meet PM needs, and facilitate transition.**



Key Technical Components

Key Program Component: APS Common Architecture; development of an affordable flexible common (integration of components) architecture suitable for the timelines and environment of a APS.

Issue(s): Flexibility for integration of various technologies and components into a APS.

Plan to Approach: Develop and publish standard bus protocols with common interfaces, develop an AFSRB-compliant processor and software with a fire control module.

Key Program Component: Mature sensor and countermeasure technologies with common architecture interfaces for advance threat detection and defeat.

Issue(s): Level of effort necessary to build in common interfaces. Quantify performance impacts, issues and concerns using the common interface.

Plan to Approach: Partnership with Industry, Government engineering centers and labs to overcome any interface issues and obstacles.

Industry Engagements

- **Why**
  - This will allow industry to be proactive with influencing CA and ensure the broadest inclusion of potential components
  - Foster component competition to obtain the optimum components and to drive down cost
- **When**
  - CA updates have been provided to industry at annual TARDEC/Survivability Industry days since FY12
  - Technical industry engagements will be entry criteria to all major demonstrator reviews and feedback will shape deliverables – starting with Demonstrator System Requirements Review (~2QFY14)
  - Additional engagements to ensure industry contact will occur quarterly
- **How**
  - Formal substantive information sharing is a challenge currently being worked
  - Researching lessons and mechanisms used by other efforts (VICTORY, Robotics ,and F22)

Program	POC
Hit /Kill Avoidance DAD	Suzanne Culkin
Modular APS PM	Jason Morse
APS CA Lead	Scott Rogan
APS Eval Lead	Steve Caito
HA Chief Engineer	Will Norton