Adaptable and Extensible Networked Fire Control
Platform and Weapon System Provider
Objectives

- Modernize vehicles and weapon systems, develop new vehicles and weapon systems and field emerging technology more rapidly
- US Army generated common command and control system architecture that defined basic C4ISR/EW architecture
  - Open, flexible, adaptable to improve overall system of systems performance
  - Can be applied to a family of vehicles
  - Purpose
    - Reduce development time
    - Reduce costs
    - Reduce risks
- Other services have worked to address the same problems
- Extend this concept to the fire control system
  - Ground platforms
  - Surface weapon platforms
Motivation

- Open Standards facilitate development of new weapon systems
  - Lower life cycle costs
  - Technology obsolescence risks
- Previous Architecture Efforts
  - Provided descriptions of how to build and characterize systems
  - Computational and interface standards
  - Middleware
    - Common operating environment
    - Common computing environments
- Next Steps
  - Standardized combat system component interfaces

Commoditized Components (mouse, printer, display, network card) similar to personal computers
Open Architecture Example – Naval Open Systems

From Overview of Naval Open Systems

THOMAS J. STREI, CAPT, USN
PROGRAM EXECUTIVE OFFICE, INTEGRATED WARFARE SYSTEMS
http://sstc-online.org/2004/PDFFiles/TJS6252.pdf
Representative Fire Control System Components
Approach

- Establish common fire control system development framework
  - Generated a reference architecture for fire control systems
  - Generated reusable and adaptable software
  - Implemented a reusable development and test environment
  - Developed reusable software processes and tools
Results

- Reference Architecture based on components that is open, flexible and adaptable
- Improves fire control system performance and integration into systems of systems
- Supports network-centric fire control systems
- Supports stand alone fire control systems
- Uses Open Standards
- Uses Design Patterns
  - Support different computing environments
  - Support technology evolution
- Adaptable, common interfaces for common components
- Facilitates supply chain enhancement
- Facilitates component technology improvement
Contact Information

- Greg Smith
- BAE Systems
- (763) 572-7552
- Greg.A.Smith@baesystems.com