

Focus on the Future:  
System of System (SoS) Testing –  
A Journey... Starts at the Beginning... Essential!!!



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# FROM LEADERSHIP

*“. . .CAN THE SYSTEMS WE DEVELOP BE COMMONLY USED ACROSS ALL PLATFORMS? CAN THE COMMAND AND CONTROL SYSTEM USED IN ONE PLACE BE USED IN ANOTHER? ARE THE SYSTEMS WE DEVELOP INTEROPERABLE?”*

ADMIRAL GARY ROUGHEAD, FORMER CHIEF OF NAVAL OPERATIONS

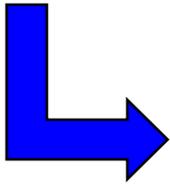


***Global Mission vs Budget***



# Current Acquisition System

## Warfighter's Requirement



## Resources



## Provider



## Operational Test



## System vs SoS

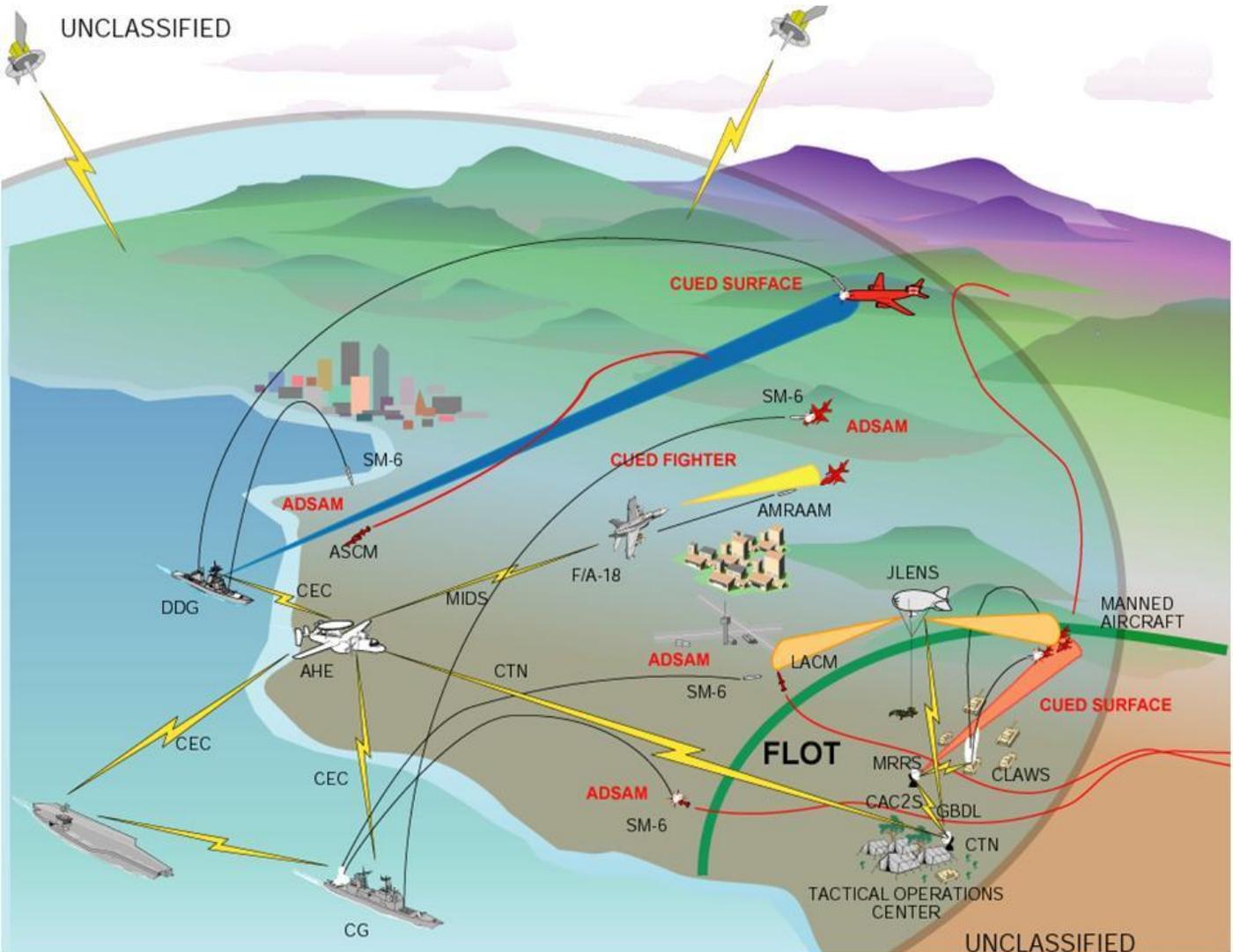
A SoS Approach Is Possible



The Right Investments Are Critical  
SoS System Engineering is Essential



# But That's Challenging





# Coordinated Implementations

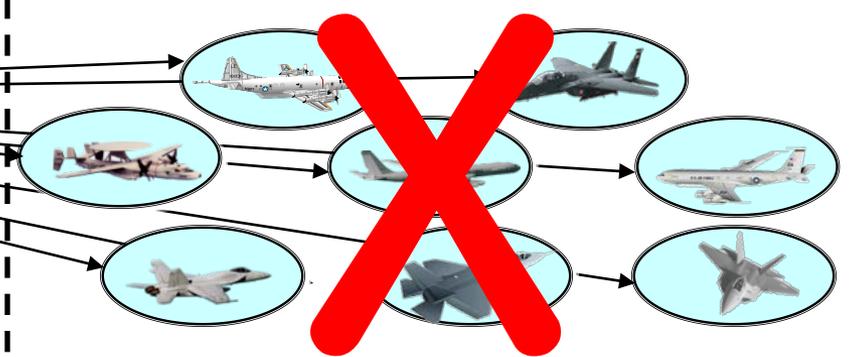
Standards: complex and open to interpretation



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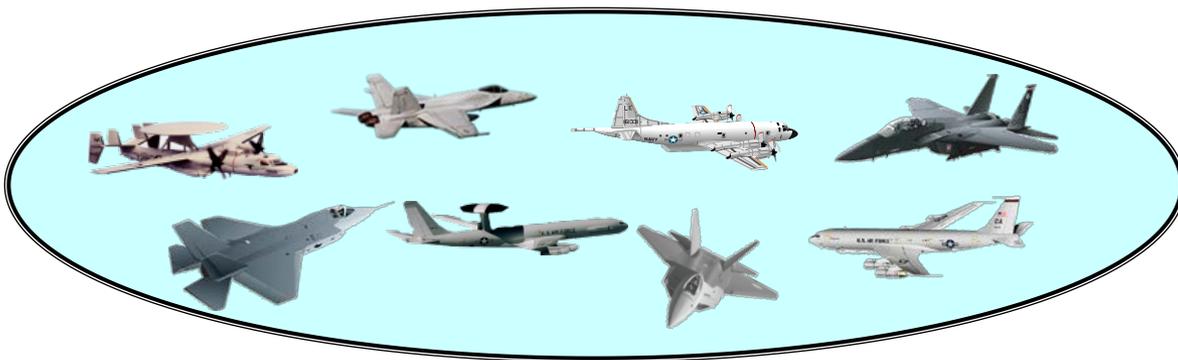
Independent Implementations

Different programs, contractors, and services creating stovepipes (minimum overlap)



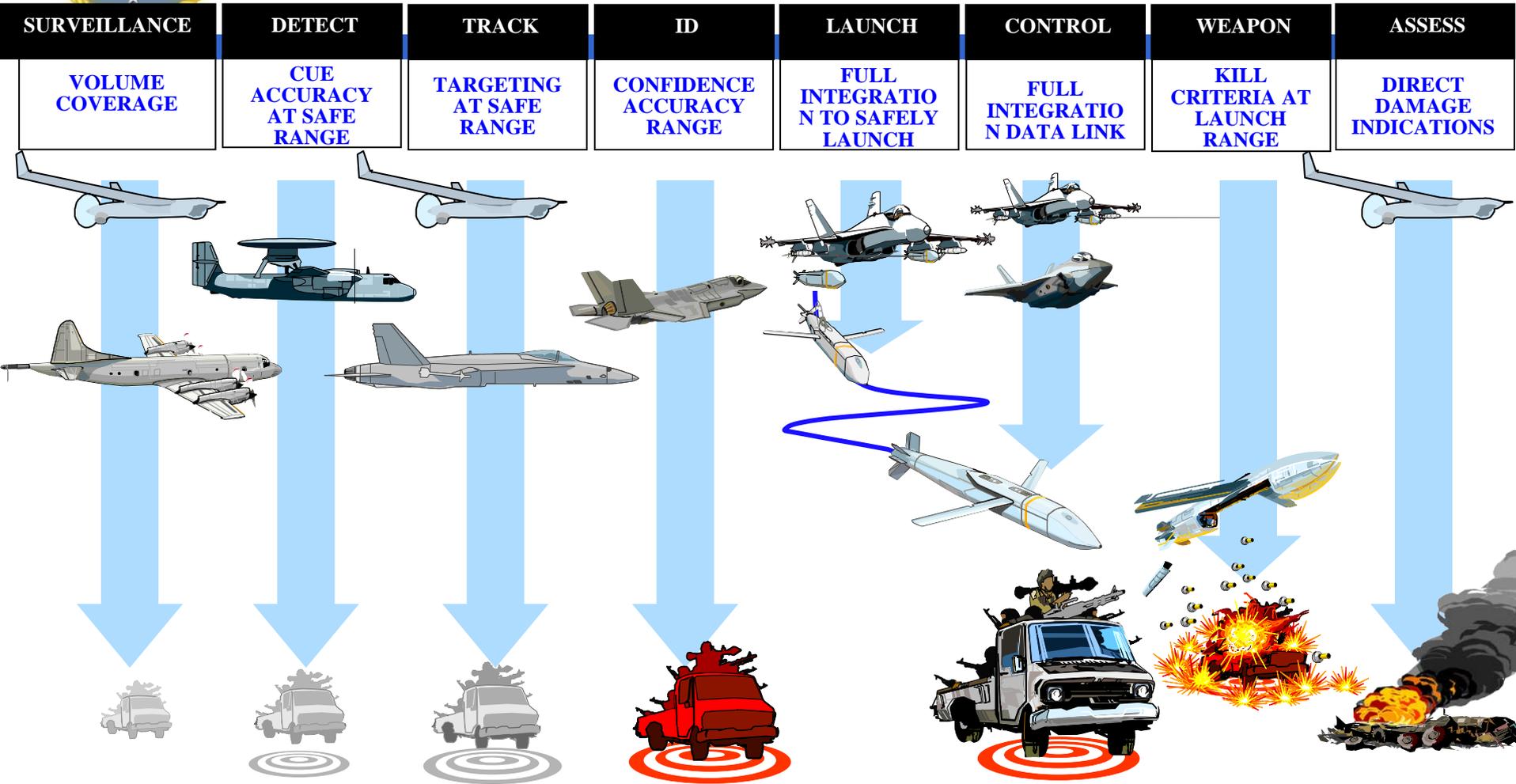
Government Defined Implementation

Coordinated Implementation





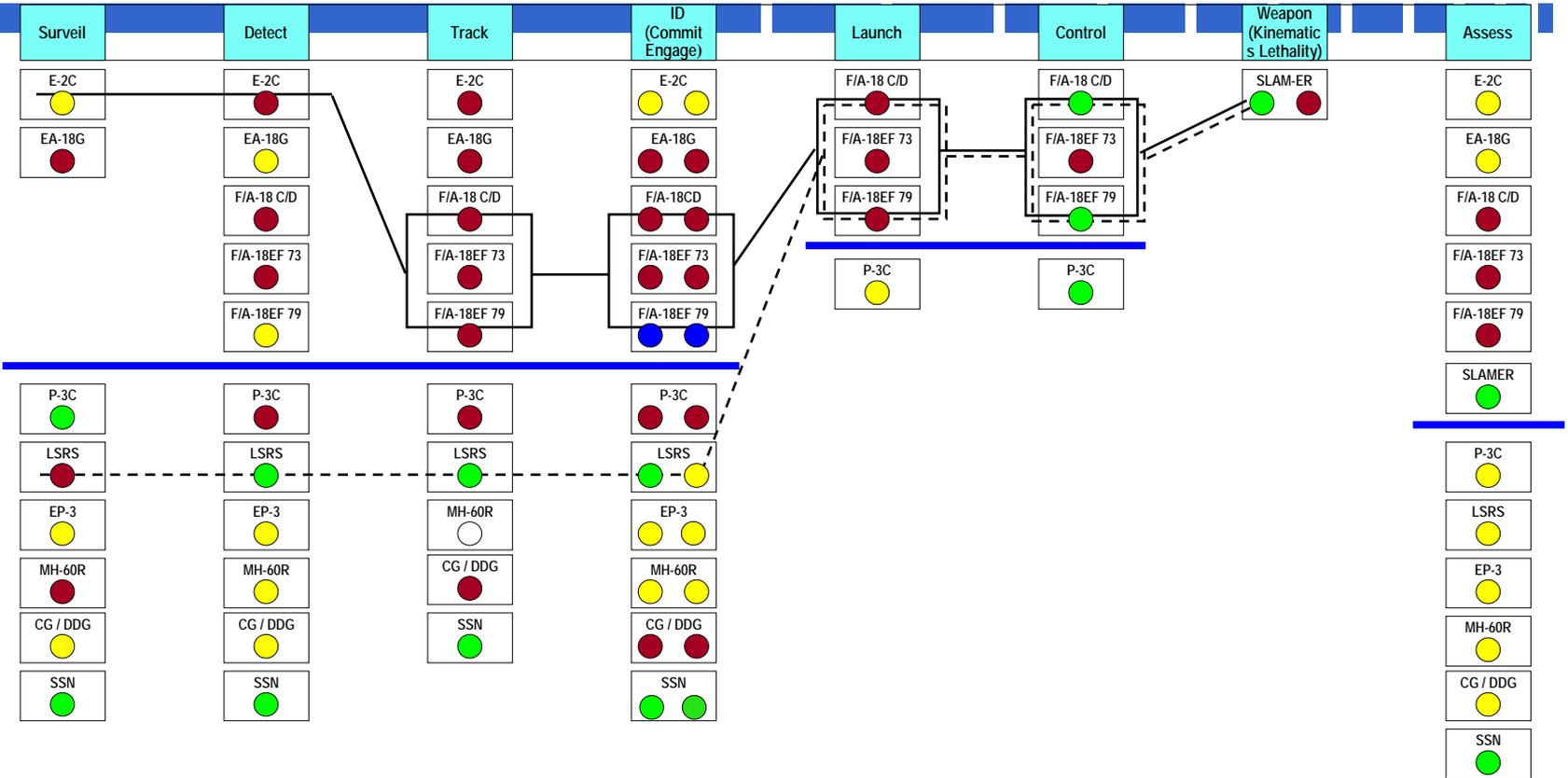
# Where We Need To Head Effects Chain Functions



Requiring, Resourcing, Managing/Developing/SE,  
Testing, at Capability/SoS Level



# Effect/Kill Chains



Seams Matter!



# COTF Initiatives

- System Under Test (SUT)
  - Test of OPNAV's investment
  - Blue Sheets
  - Program Accountability
- System of System (SOS)
  - Rest of the story...
  - Tactical context = SOS
  - Kill / Effect chain application – when feasible
  - Gold sheets
  - Broader Accountability
- Warfare Capability Baseline



# Challenges

- Paradigm shift from system to System of system
  - Acquisition Process
  - System Engineering
  - More dollars associated with one program/capability
  - Management complexity
  - Development complexity
  - Test complexity
  - Etc etc

But... better product at the end!!!



Questions / Comments???!!!