Leading Transformation

- The US Army “At War and Transforming”
  - 781,000 to 480,000 active duty since 1990
  - Forces currently deployed in 120 countries
  - Army’s transformation effort announced in Oct 1999
  - Leading implementation of network-centric operations
  - Driving Joint interdependency and standards

- FCS: Transformation in Multiple Dimensions
  - Warfighting, logistics, technology, business
Program Overview

Customer: US Army
OTA Ceiling Price Value: $14.78B
POP: Award May 2003 thru Dec 2011
Industry: Boeing & SAIC and the Best of Industry

- Network-centric system-of-systems approach to land combat
- Dominant across spectrum of conflict
- FCS is primary mechanism to transform the Army to a lighter, more responsive lethal force
FCS Network Centric Architecture
A New Way of Warfighting

Interoperability

Key Performance Parameters
1. Joint Interoperability
2. Networked Battle Command
3. Networked Lethality
4. Transportability
5. Sustainability/Reliability
6. Training
7. Survivability
8. Affordability

FCS Advantage:
- Conflict duration
- Survivability
- Logistics footprint
Setting the Program

- SDD Program definition completed in CTD phase
  - Defined critical technologies and risk mitigation plans
  - Joint/collaborative environment DARPA/Army/LSI
  - Detailed SOW, WBS, IMP/IMS
  - Joint cost estimate in non-competitive environment
  - Detailed plan for cost estimates

- Alpha contracting approach for SDD phase leading to DAB Milestone B decision and definitization

- Numerous independent reviews
  - Government (CAIG, Welch Panel 1, 2 & 3)
  - Internal Army Senior Advisory Group
  - Internal LSI (Independent technical review, Red Team)
Leverages Industry / Industry Relationships

Lead System Integrator Approach

- LSI is not a type of contract
- LSI is a style of operation
  - Conventional Prime
    - Develops/builds what it can
    - Subcontracts what it can’t
  - LSI
    - Focuses on systems engineering, systems integration, systems planning and control to provide a “System-of-Systems”
    - Gets the best systems industry provides
Future Combat Systems – One Team

Best of Industry
System of Systems Common Operating Environment (SOSCOE) Overview

Implementation Reference Model
Version 1.5

SOSCOE is composed of a series of service families

Service Families
- Administrative services
- Knowledge services
- Information services
- Communication services
- Data store services
- Information assurance
- Interoperability
- System management services
- Analysis services
- System services
- Configuration and control
- I/O services
- Web services
- User profile and policy services
- OS abstraction

Domain Applications

Operating System

Network Foundation

SOSCOE

Human Machine Interface

Domain Applications

Software Services

Operating System Abstraction

Operating System

Common Domain Services

Knowledge Management

Distributed Infrastructure

Interoperability

Basic Services

Administration

C2

Sustainment

Training

Vehicle

Airspace Distribution

Profile & Policy

Configuration & Control

Application Systems

System Management

Information Assurance

Communication

Discovery

Transport

Marshalling

Distributed Data Store

Analysis

Services

Agent Services

Distributed Services

Event - Faults

Time Distribution

Logging - Heartbeat

Knowledge Management

Deconfliction

Air

Track

Terrain

Vehicle

Airspace

Human Machine Interface

Field

Track

Air

Vehicle

Airspace

Deconfliction

Human Machine Interface

Impact

Sustainment

Training

Vehicle

Airspace Distribution

Profile & Policy

Configuration & Control

Application Systems

System Management

Information Assurance

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Knowledge Management

Deconfliction

Air
FCS System of Systems
Horizontal and Vertical Integration

SoS Spec

Combat Systems
- PIDS
- C2 Vehicle
- NLOS Cannon
- Mounted Combat System
- UAV
- Armed Robotic Vehicle
- R&S Vehicle
- Soldier Combat System
- PCD's
- PCD's
- PCD's
- PCD's
- PCD's
- PCD's
- PCD's
- PCD's

Distributed Systems
- Command & Control
- Information Management
- Communications
- Sensing
- Logistics
- Training

Integration Points
We Are Currently Operating In Several Allocation and Design Activities and Solidifying Plans for Verification
Summary

- **Executable program from Day One**
  - CAIG Estimates
  - Contract Type
  - Funding stability

- **Manage System of Systems Engineering / Requirements Process**
  - LSI
  - Robust requirement disaggregation and verification and validation processes
  - Baseline management

- **One Team Alignment**
  - Shared Values
  - Shared Processes and Best Practices
  - Shared Destiny

**Single Vision & Purpose**