

Managing a Complex System-of-Systems

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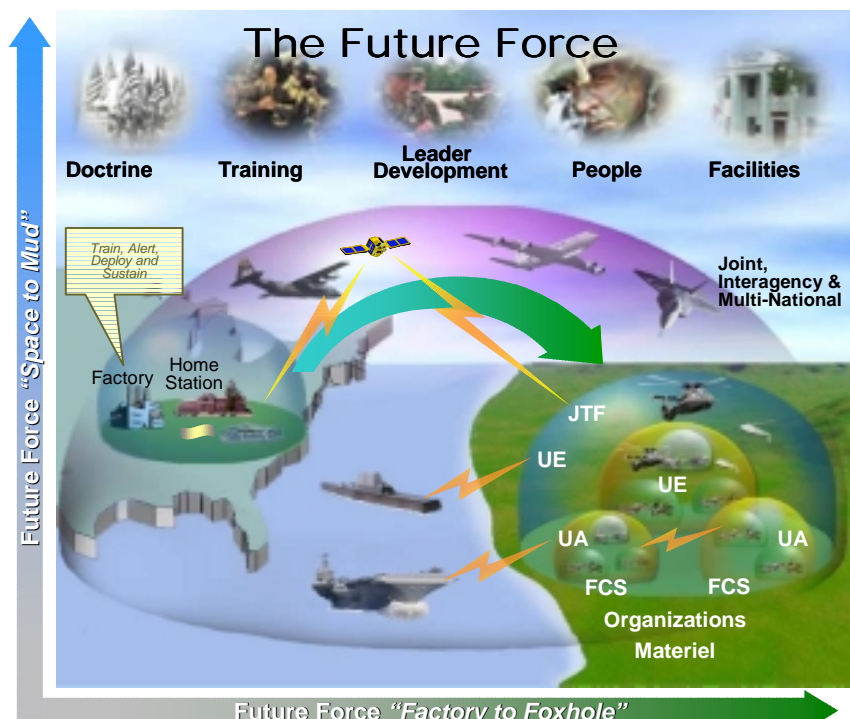
Leading Transformation

- **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



Chief of Staff of the U.S. Army
GEN Peter Schoomaker

Program Overview



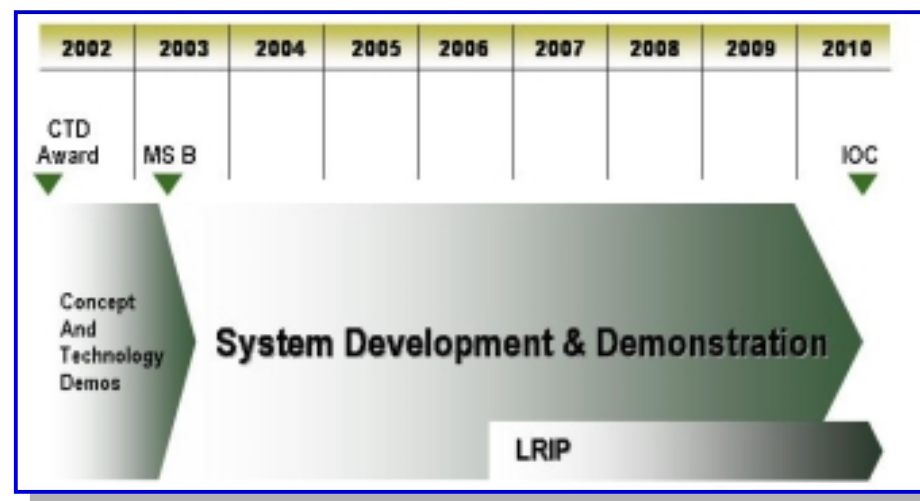
- Network-centric system-of-systems approach to land combat
- Dominant across spectrum of conflict
- FCS is primary mechanism to transform the Army to a lighter, more responsive lethal force

Customer: US Army

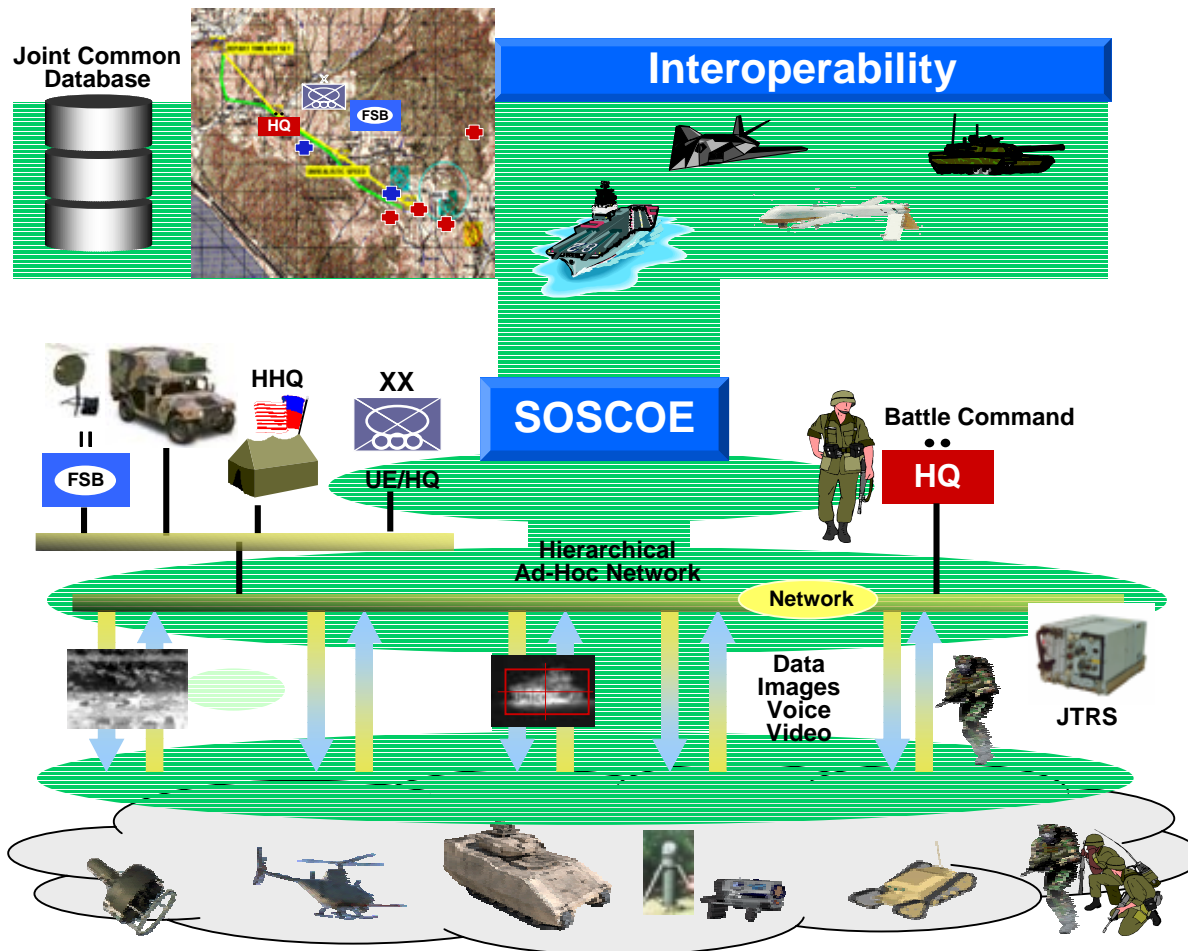
OTA Ceiling Price Value: \$14.78B

POP: Award May 2003 thru Dec 2011

Industry: Boeing & SAIC and the Best of Industry



A New Way of Warfighting



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)

SDD Program Approach Widely Reviewed

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

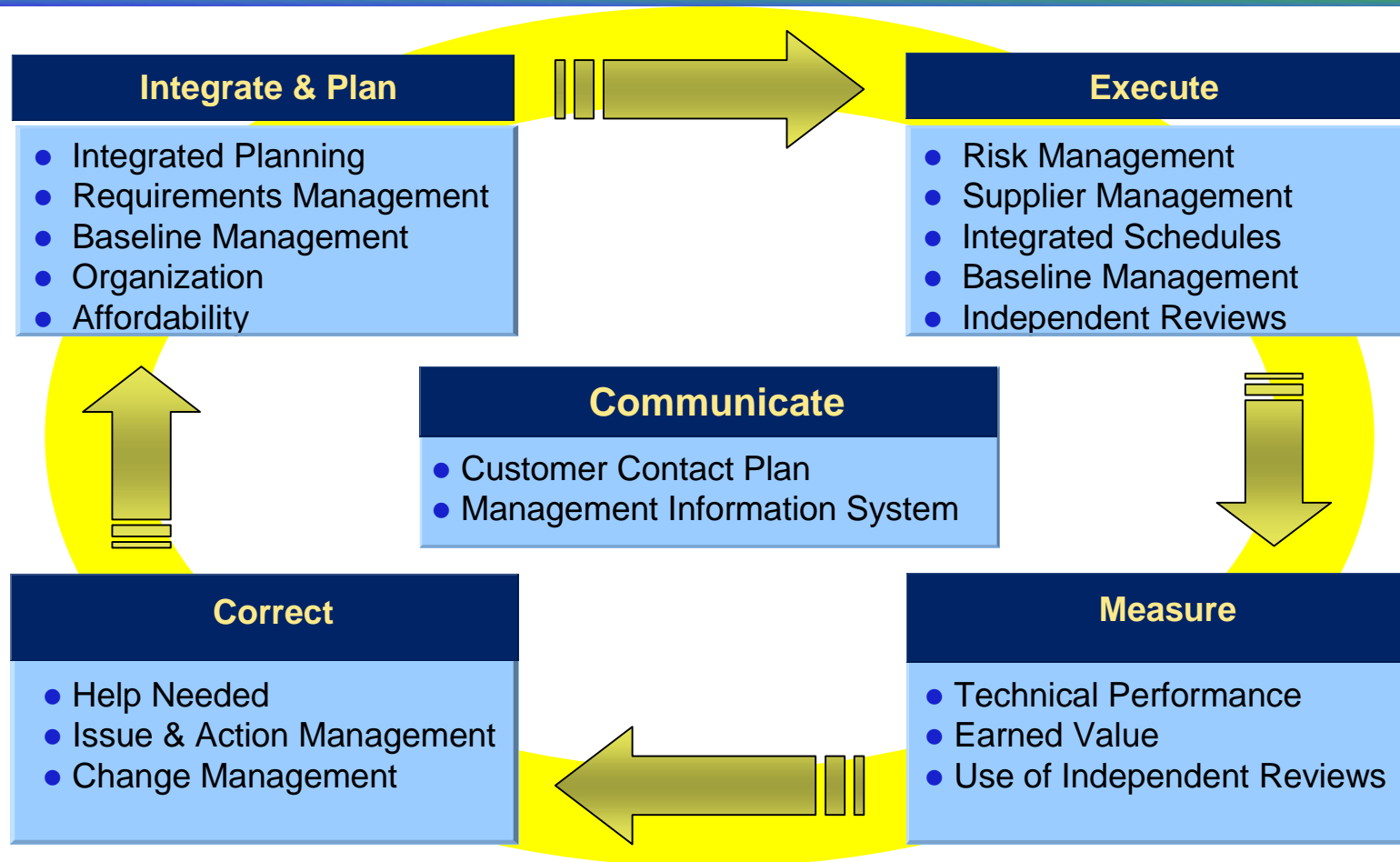
Leverages Industry / Industry Relationships

Future Combat Systems – One Team



Best of Industry

Battle Rhythm

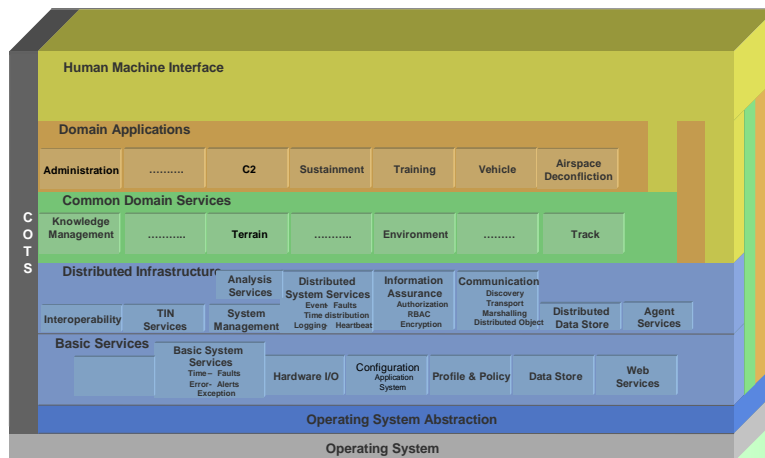


Deliver Customer Solutions

Affordable – Reliable - Supportable

System of Systems Common Operating Environment (SOSCOE) Overview

Implementation
Reference Model
Version 1.5



Domain Applications

SOSCOE

Operating System

Network Foundation

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

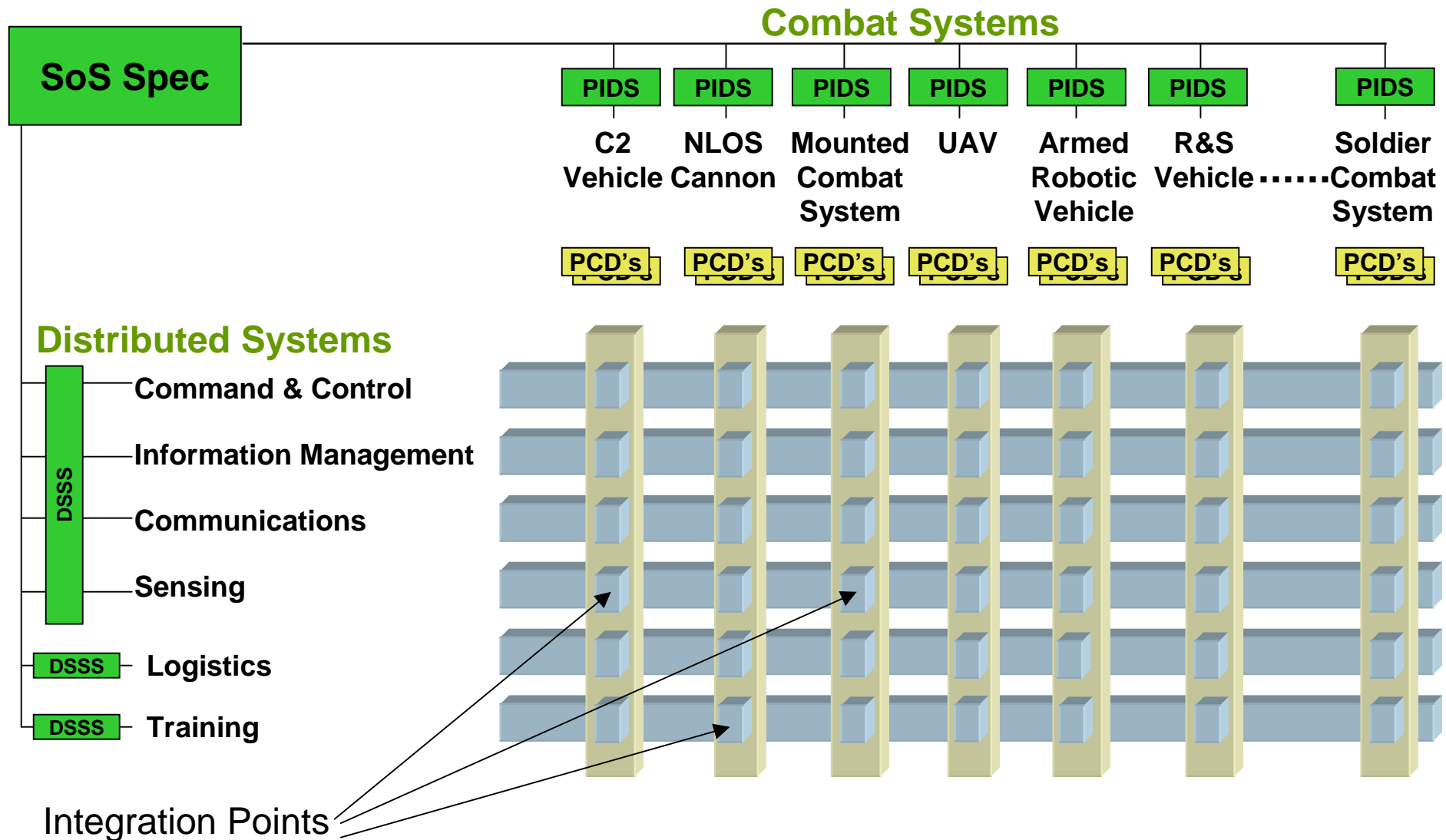
Web services

User profile and policy services

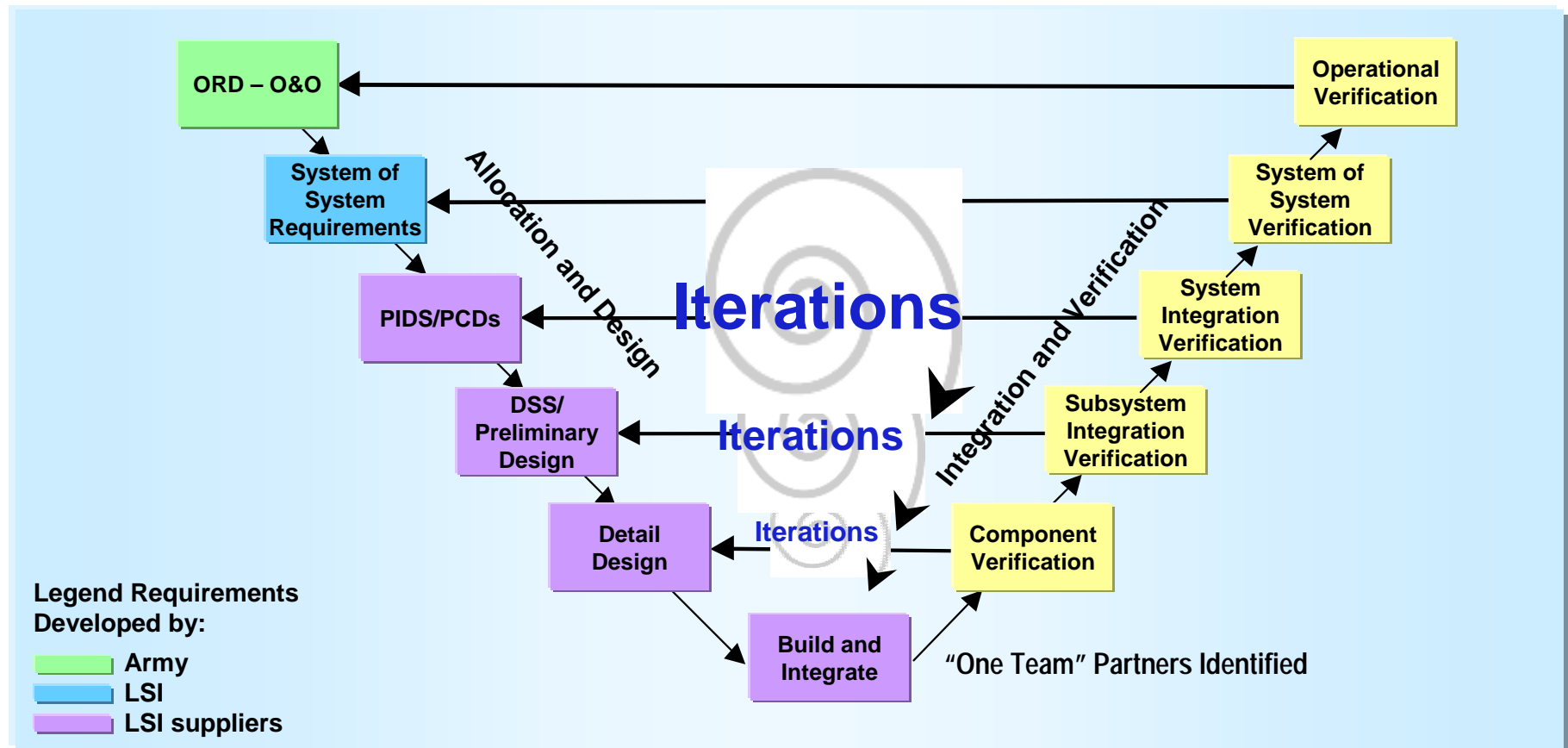
OS abstraction

SOSCOE is composed of a series of service families

FCS System of Systems Horizontal and Vertical Integration



System of Systems Engineering, Integration, and Verification - “The Big Picture” for SDD



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