



Recommendations for DoD Acquisition of Information Services and SOA Systems

AFEI Executive Forum, SOA Acquisition Working Group

Briefing for

Honorable John G. Grimes

ASD (NII) / DoD CIO

December 5, 2008



Today's Purpose

- Tell you what was done and why
- Discuss most important findings and recommendations
- Recommend some further action AFEI can pursue with your support



Why Are We Here?

- To tell you about the study and discuss results
- Support CIO thought leadership
 - Important enabler of cultural change across the Department
 - Vision aligns mission and technology evolution
- To continue this collaboration
 - Raise awareness, further address key issues
 - Co-evolve DoD/industry understanding
 - If you find value in it



Sponsors and Participants

■ Broad Industry Contribution

Accenture

BEA

Booz Allen Hamilton

Computer Associates

EDS

EM Solutions

IBM

Level Consulting

Lockheed Martin

ManTech International

McDonald Bradley

MITRE

Northrop Grumman

Oracle

SAIC

■ Government Advisors/Sponsors

– Michael Krieger, Deputy CIO, US Army/G-6

– Tim Harp, ASD (NII)

– Don Johnson, ASD (NII)



An Executive Forum on Business Change

**Industry Recommendations for DoD
Acquisition of Information Services and
SOA Systems**

July 7, 2008

SOA Acquisition Working Group

The Association for Enterprise Integration
An Affiliate of the National Defense Industrial Association

Association for Enterprise Integration
2111 Wilson Boulevard, Suite 400
Arlington, Virginia 22201
www.afei.org

A collaboration between
DoD and industry

For Government Program
Managers and Government
personnel involved in all
information-centric systems

Actionable results and
recommendations can be
implemented on very next
acquisition

- The Big Idea
 - SOA changes the game
 - impacts procurement, governance, and business models
 - How will DoD achieve a services-based information environment? (and drag the DIB along?)

- Our Tasking
 - Give actionable near-term recommendations on how to buy services (tactical)
 - DoD milestone process and testing approach
 - Industry best practices
 - Language for RFI's, RFPs, and SOO's

- We believe
 - Implementing the Net-centric vision requires more fundamental change than we originally thought
 - More than technology
 - Requirements, acquisition, funding (What and how you buy)
 - Visionary philosophy should continue
 - “Joint-ness”, horizontal, capabilities focused
 - Converging vectors, but not at the same rate
 - Evolving joint mission operations
 - Building technology-enabled information environment
 - Slowly changing traditional acquisition environment
 - Example of “Conway’s Law” at work
 - Interplay between systems design and organization



You Defined the Problem

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
SUBCOMMITTEE ON TERRORISM,
UNCONVENTIONAL THREATS AND
CAPABILITIES,
HOUSE ARMED SERVICES COMMITTEE

STATEMENT BY

THE HONORABLE
JOHN G. GRIMES

ASSISTANT SECRETARY OF DEFENSE
(NETWORKS AND INFORMATION INTEGRATION)

AND

DEPARTMENT OF DEFENSE CHIEF INFORMATION OFFICER

BEFORE THE
SUBCOMMITTEE ON TERRORISM, UNCONVENTIONAL
THREATS AND CAPABILITIES
HOUSE ARMED SERVICES COMMITTEE

ON

DEFENSE INFORMATION TECHNOLOGY

MARCH 28, 2007

NOT FOR PUBLICATION
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HOUSE ARMED SERVICES COMMITTEE

Much of today's information environment is still...stovepipes and systems in which information is...hidden and hoarded, rather than visible and shared.

... existing IT systems cannot talk to each other without the benefit of time-consuming, costly, pre-engineered interfaces

Enterprise services and net-centric solutions are the only way we can overcome these legacy inefficiencies.

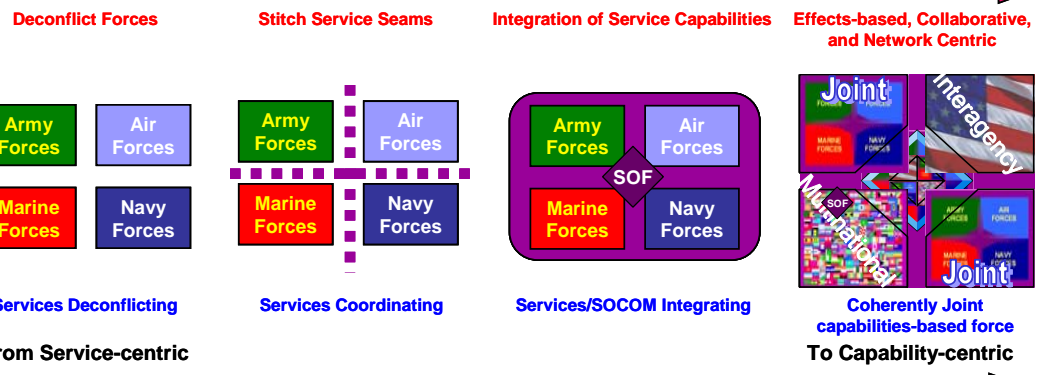


We Understand the Challenge

- DoD Needs
 - Speed of Innovation
 - turn new ideas quickly into capabilities for warfighters
 - respond to threats in near-real-time (information agility)
 - Enterprise Focus
 - organizations and competencies that combine to create unique capabilities that would not be possible separately
- DoD Has
 - Few incentives for programs to share services as provider or consumer
 - An acquisition model for systems, not capabilities
 - A mostly static and change resistant system environment
 - An avoidance of external dependencies

- Specify Open Architecture (OA) and Capabilities-based modeling in RFP
 - More SOO focus on enterprise aspects and interfaces
 - Reduces OCI concerns
- Increase adoption of agile model based on mission threads
 - Accommodates evolving requirements
 - Gets the right capability faster
- Start small, continuously evolve
- Continue to explore innovative risk management and cost models for services

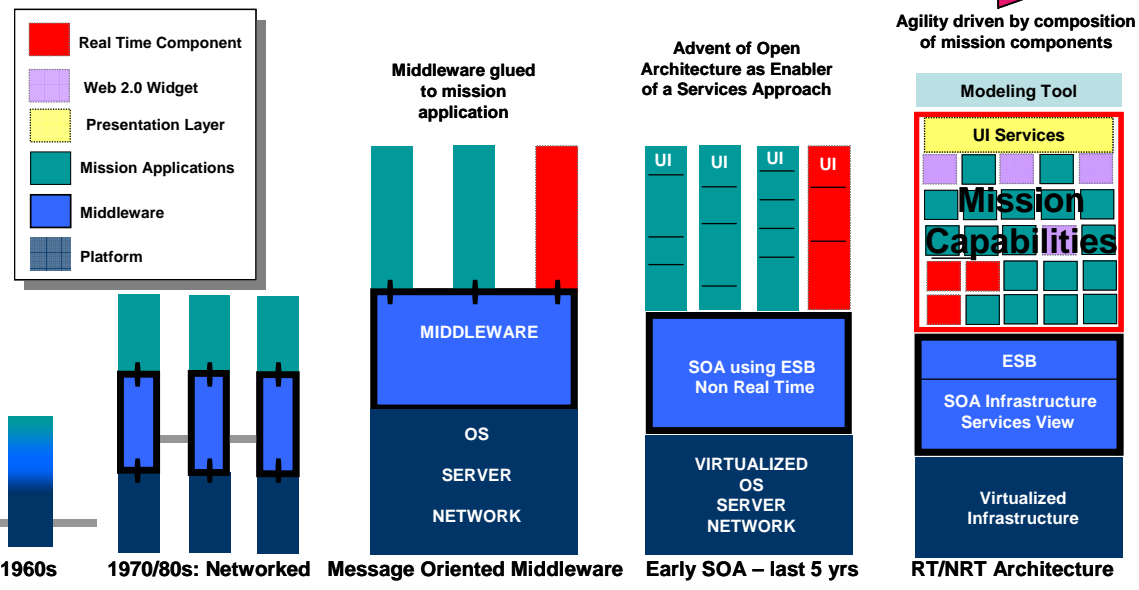
Evolution of DoD Operational Environment



Mission requires this transformation

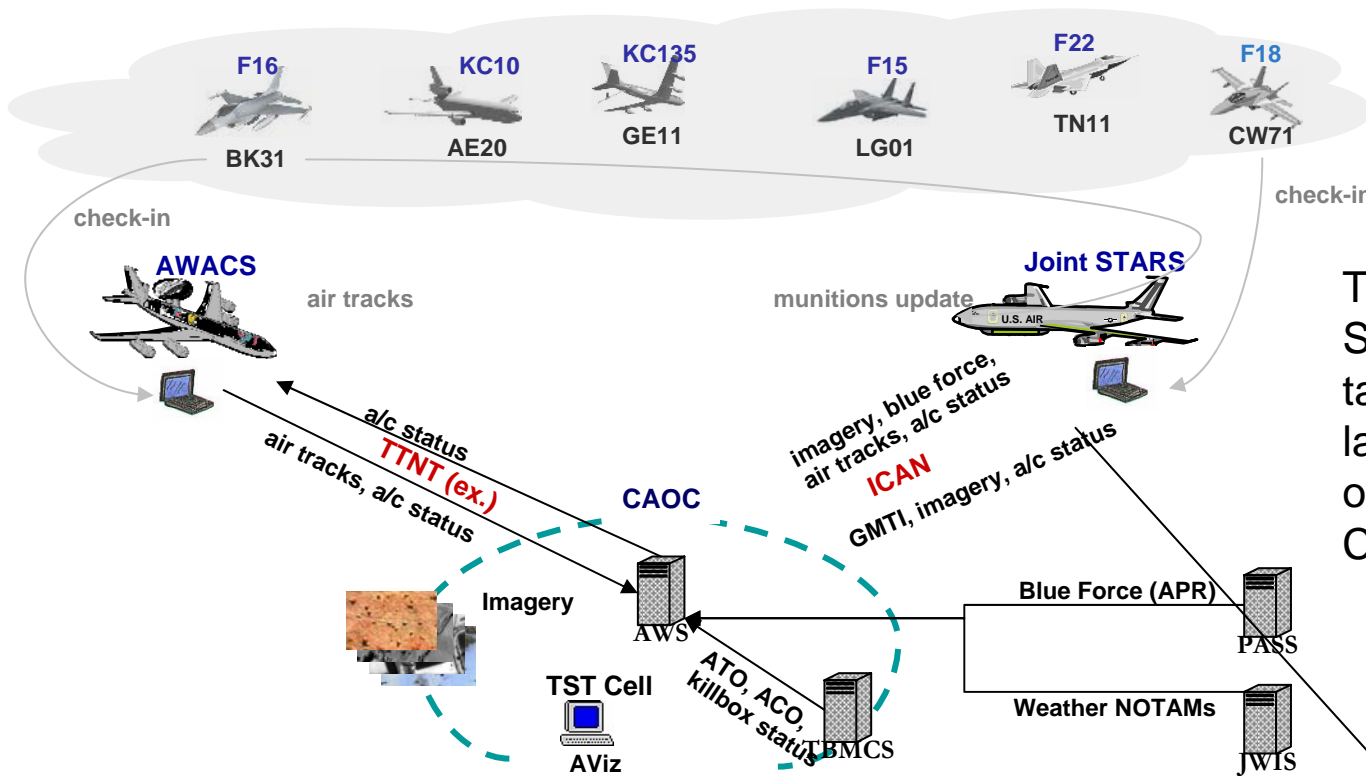
Challenge is to achieve and maintain alignment and balance

Transforming of Information Environments



IT is driving this transformation

Connecting AWACS and JSTARS with SOA



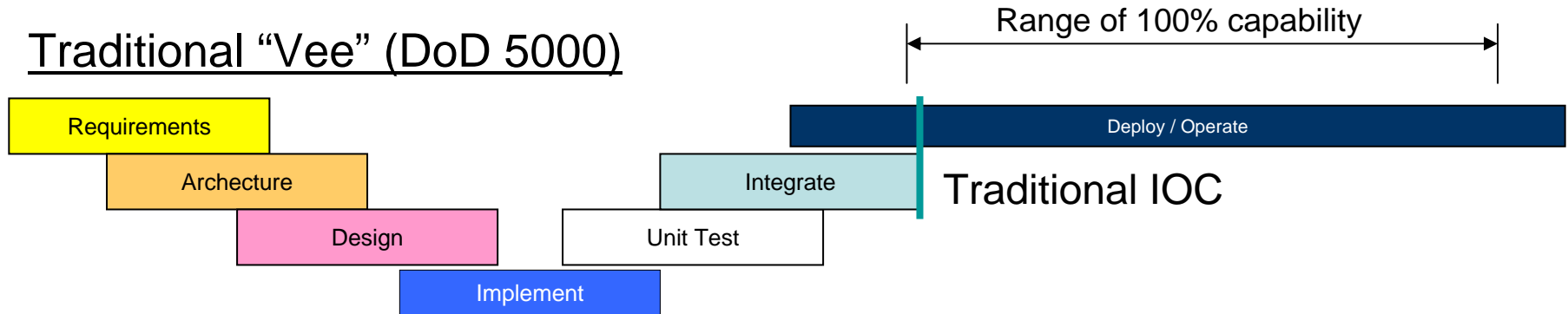
This application of SOA replaces manual tape exchange upon landing with exchange of mission data thru CAOC connectivity.

- Proof of concept effort linking of legacy weapon systems in real time using SOA over operational Disconnected, Interrupted, and Low-bandwidth (DIL) networks.
- Live-fly demonstrations at JEFX06 and Empire Challenge 08
- Non-program horizontal capability

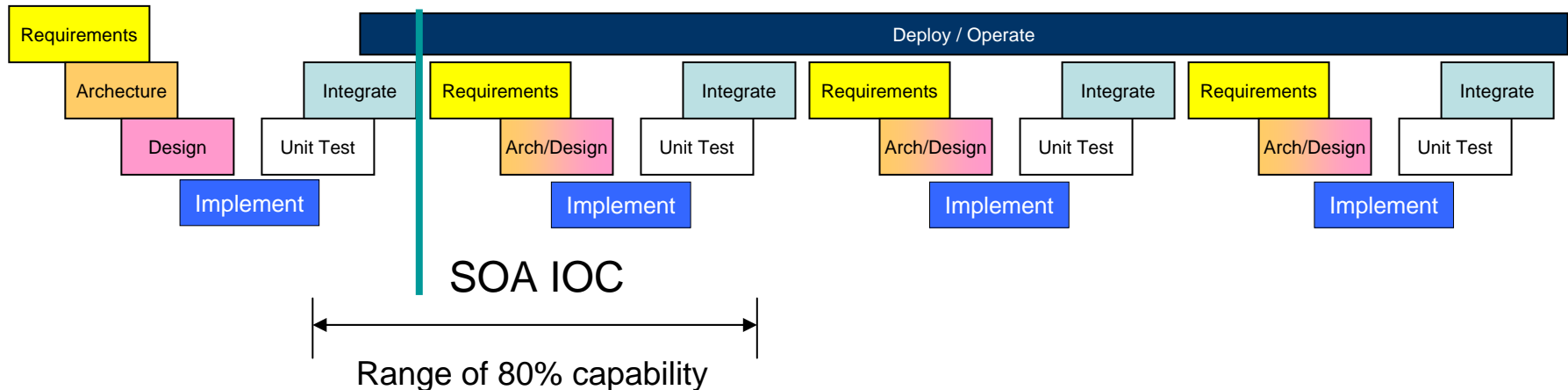


SOA Gets Results Quicker

Traditional “Vee” (DoD 5000)



SOA’s “Saw tooth” (Spirals in an agile environment)

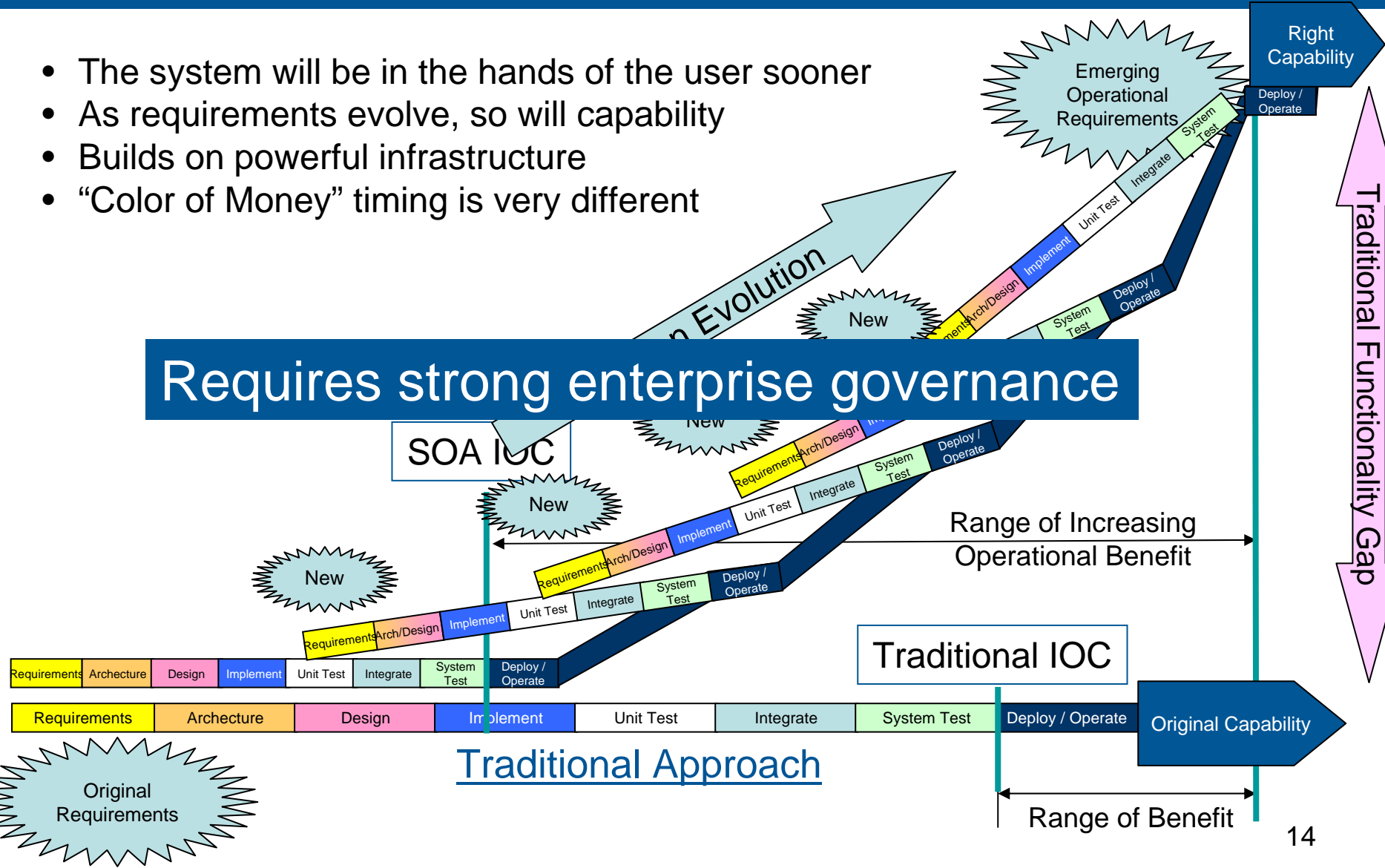


Gartner research indicates organizations embarked upon SOAs are twice as likely to use agile delivery model
Implication: role of requirements, color of money and process different

SOA Creates New Value

- The system will be in the hands of the user sooner
- As requirements evolve, so will capability
- Builds on powerful infrastructure
- “Color of Money” timing is very different

Requires strong enterprise governance

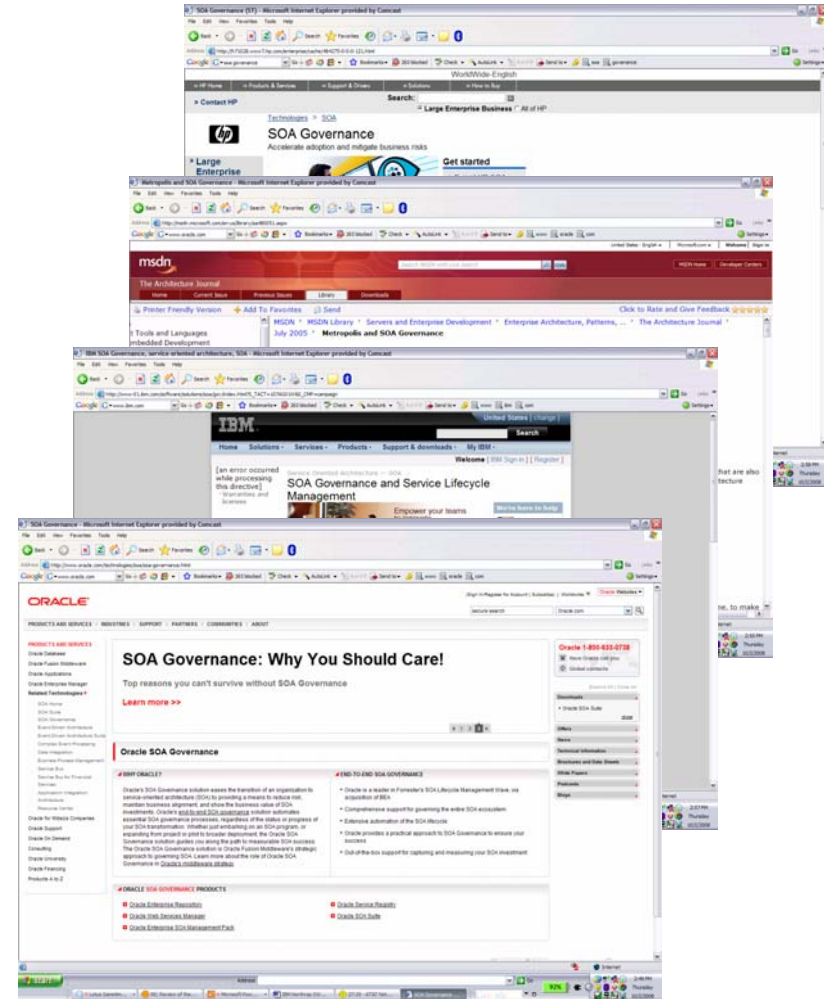


- Critical because
 - central “gate” to SOA value creation at the enterprise level
 - drives investments in technology and service delivery

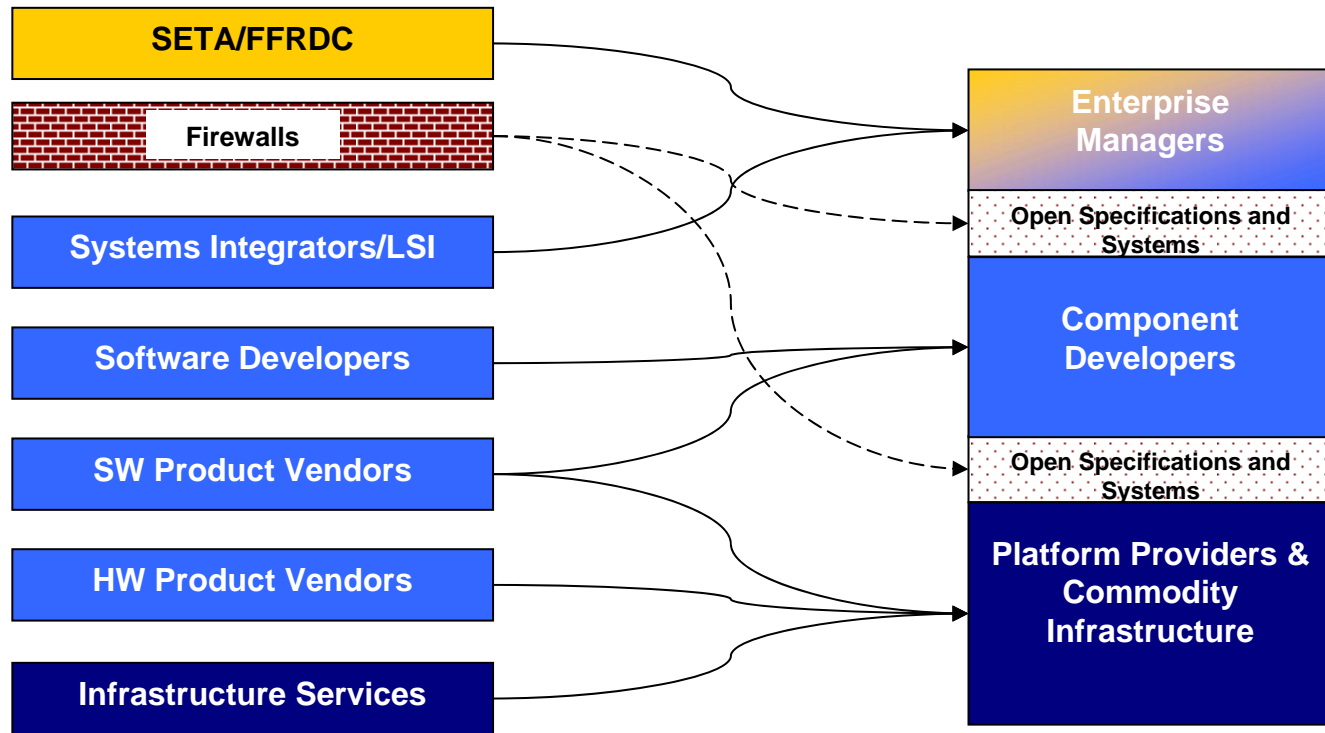
“SOA is about behavior, not something you build or buy. You have to change behavior to make it effective.”

Anne Thomas Manes, *The Elephant has Left the Building*, Intelligent Enterprise,

July 2005



- Services environment means different roles
 - Government
 - Enterprise-wide standards and architectures
 - Emerging DoD enterprise-wide governance models
 - New models for funding, requirements, acquisition, testing
 - Industry
 - “Prime” role is deconstructed and re-assembled (loosely coupled)
 - Interface between infrastructure providers and mission experts moves “up the stack”
 - Risk/reward model transacted in smaller delivery units
 - OCI model will permit more opportunity to deliver high-value from capabilities
 - Opportunity grows for small business



Current Capability-based Taxonomy

Proposed Role-based Taxonomy

As the market evolves, the roles and how contractors interact must evolve as well. The traditional firewalls become published open system specifications.

- Continue to assess business model
 - Integrators, vendors, consultants, small businesses
 - Enhance/expand on findings and recommendations
 - Small groups, quick response, broad exposure (wiki?)
- Refine procurement language for agile model
 - Legal & contracting experts involved
- Explore specific pilots in communities of interest that prove out SOA value
- Expand Forum collaboration
 - Architecture, security, testing

- From Net-centric Vision to Reality
 - Emphasize COIs and Capability Portfolio Management
 - Drive the evolution of the Defense Information Enterprise and Net-centric JCA
 - Enables joint warfighting and information sharing
 - Enable Evolution to Agile Lifecycle Model
 - Incrementally leverage SOA technology where feasible
 - Use COI pilots to demonstrate validity
 - Co-Evolve Acquisition & Contractor Business Models
 - Drive “thought leadership” across the Department
 - Requirements, acquisition, funding, programs

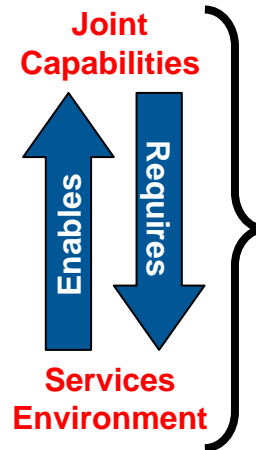
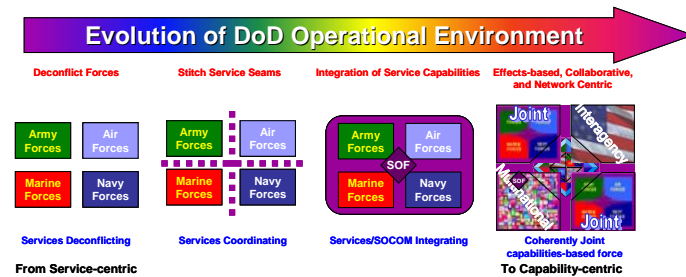
Backup Slides

Any organization that designs a system (defined more broadly here than just information systems) will inevitably produce a design whose structure is a copy of the organization's communication structure.

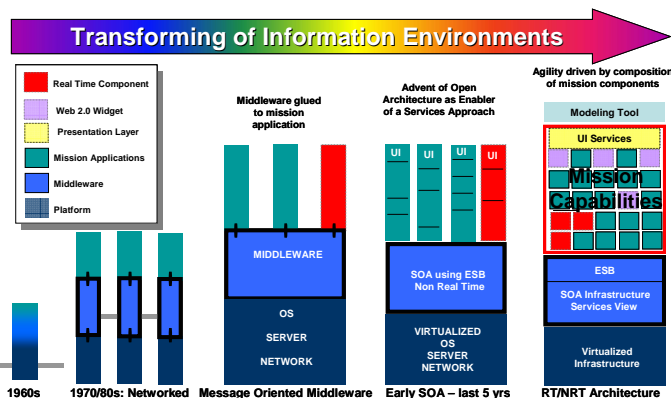
How Do Committees Invent?

Melvin E. Conway

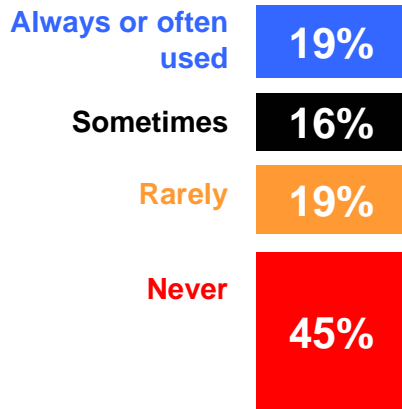
Copyright 1968, F. D. Thompson Publications, Inc.
Datamation magazine, April, 1968.



Net-centric vision REQUIRES alignment of operational and technical environments



Industry-wide survey results
on software features*



- Standish Group reports nearly **two-thirds** of the features built into technology solutions represent **waste**
- 2 of top 3 reasons for program failure due to lack of user involvement and incomplete or misunderstood requirements

Source: "The Chaos Chronicles," The Standish Group, 2003.
<http://www.standishgroup.com/chaos/toc.php>

- PfM: Aligning the investment in IT programs
- SOA spiral acquisition model offers multiple opportunities
 - Prioritize requirements based upon user feedback
 - Realized risk (knowledge based decisions)
- Greater chance of getting the right capability when it is required

- OCI rules implemented differently with open interfaces
- Pre-acquisition cooperation on interface
- Business models for new contractor roles
- Risk/Reward for each role
- IP ownership
- Goal is to buy cooperative development vs. stovepipe SOAs

Services Vision

