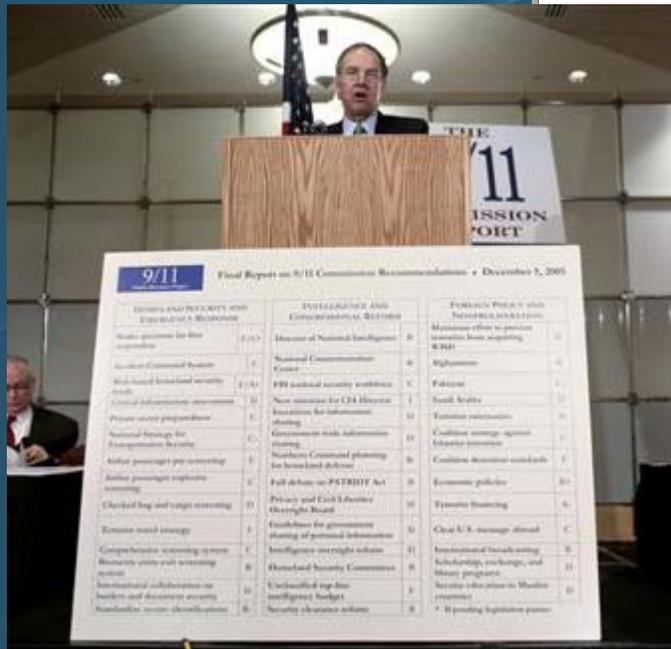


Re-Architecting the Department of Defense Transformation: Transition to the Information Age



Relevancy

9/11 Commission - Progress Report



Beyond Goldwater-Nichols: U.S. Government and Defense Reform for a New Strategic Era

Phase 2 Report

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David R. Scruggs
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July 2005



Testimony before the
Subcommittee on AirLand
Committee on Armed Services
United States Senate

Hearing on
Problems with and Improvements to
Defense Procurement Policy

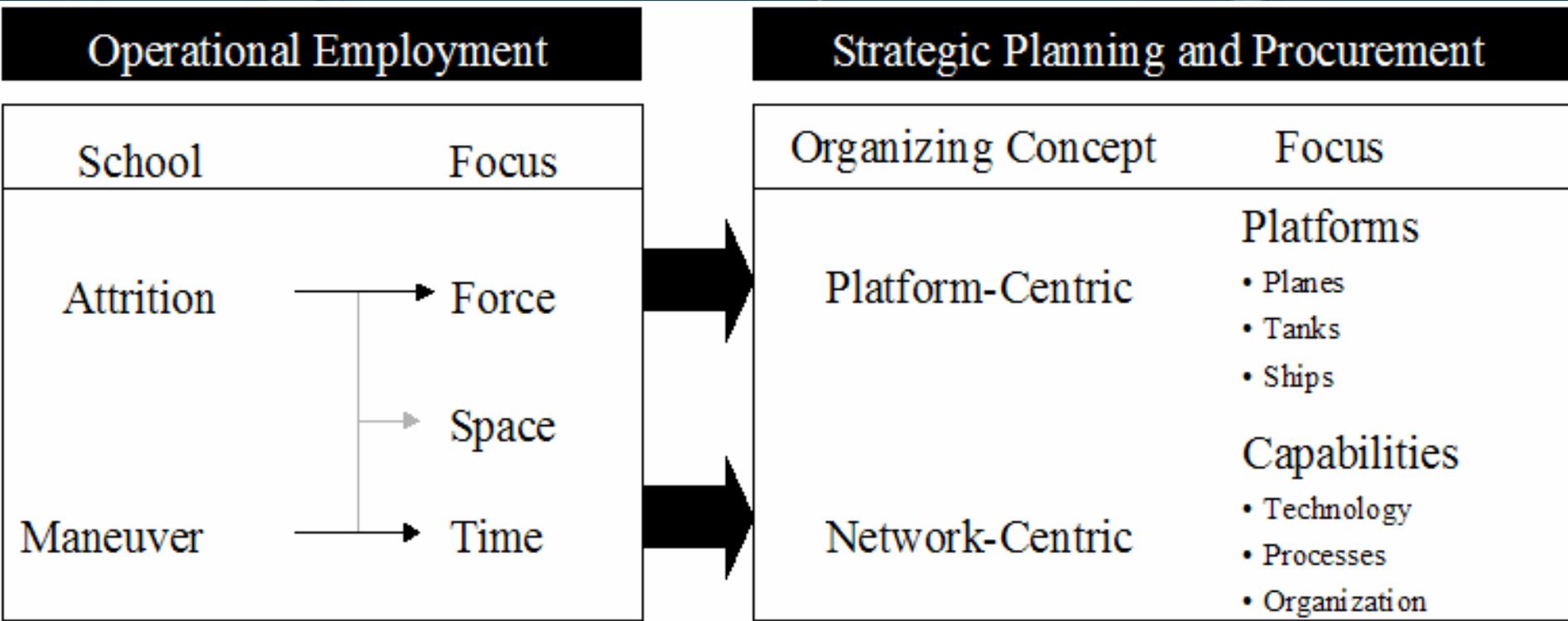
November 15, 2005

Statement by

John J. Hamre
President and Chief Executive Officer
Center for Strategic and International Studies

CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES, 1800 K STREET, NW, WASHINGTON, DC 20006
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The Evolution of War Theory – Driven by Technology Change



Network-Centric Warfare



Creating a Decisive
Warfighting Advantage

NETWORK CENTRIC WARFARE

Alberts • Garstka • Stein

CCRP

NETWORK CENTRIC WARFARE

Developing and Leveraging
Information Superiority

— 2nd Edition (Revised) —

David S. Alberts
John J. Garstka
Frederick P. Stein

CCRP

Case Studies in NCW



OFFICE OF FORCE TRANSFORMATION NETWORK-CENTRIC OPERATIONS

- NCO HOME
- CASE STUDIES
- TRANSFORMATION RESEARCH PROGRAM (TRP)
- SHORT COURSE
- TRANSFORMATION CHAIRS
- CONTACT US

NCO Case Studies

These are just the initial NCO case studies that have been cleared for unlimited distribution/public release. We have a wide array of case studies under various stages of development and will post them on this page as they are cleared by Security and Policy for release.



Network Centric Operations Case Studies

<http://www.oft.osd.mil/initiatives/nco/studies.cfm>

Getting the Decision Rules and Metrics Right



Office of Force Transformation		
Major Combat Operations	Stability/Peace Keeping	Military Support to Crisis
<p>Task Force-50 (OEF) NSWG I (OEF/OIF)</p> <p>Stryker BCT (JRTC) V Corps/3 ID (OIF)</p> <p>Air-to-Air (JTIDS)</p> <p>Air-to-Ground (DCX-I/OEF/OIF)</p> <p>Air-to-Ground w/ SOF</p> <p>US/UK Coalition (OIF) NATO ACE Mobile Force Land</p> <p>NATO Response Force</p> <p>Coalition Maritime Ops (OIF) Fallujah I/II</p>	<p>Stryker BCT (SASO)</p> <p>NCO in SASO</p> <p>UK Low Intensity Conflict</p> <p>NATO Task Force Fox</p>	<p>SARS - Singapore</p>

Completed

Near-Complete

On-Going

Planned

Basic Concept of NCW

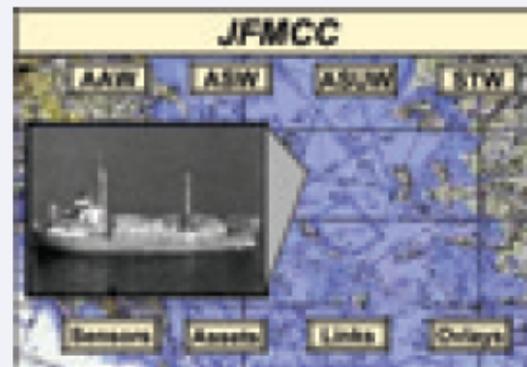
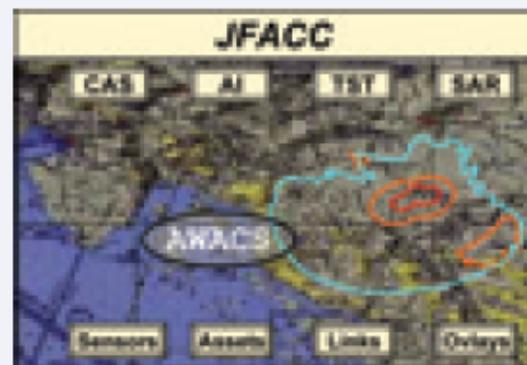
Translates an **Information Advantage** into a decisive **Warfighting Advantage**
Information Advantage—enabled by the robust networking of well informed geographically dispersed forces

Characterized by:

- Information sharing
- Shared situational awareness
- Knowledge of commander's intent

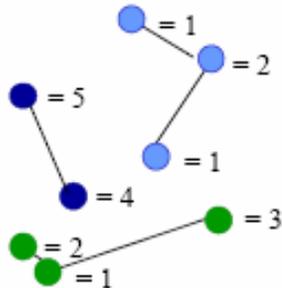
Warfighting Advantage—exploits behavioral change and new doctrine to enable:

- Self-synchronization
- Speed of command
- Increased combat power



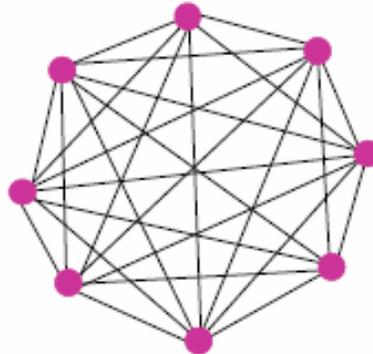
Exploits Order of Magnitude Improvement in Information Sharing

The Math Proof



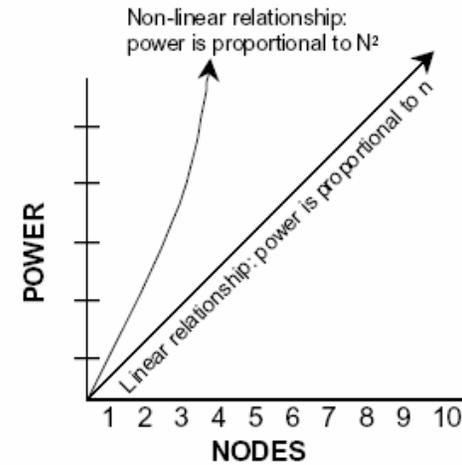
Total Force Value = 19
 $(N+N+N+N+N+N+N)$

Platform-Centric Warfare



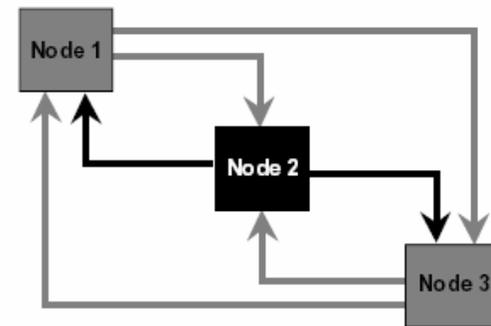
Total Force Value = 64
 (N^2)

Network-Centric Warfare



Each node in a network of "N" nodes is capable of initiating "N - 1" interactions

Total number of potential interactions between nodes in the network is:
 $N \cdot (N - 1)$ or $N^2 - N$



Network with N=3 has

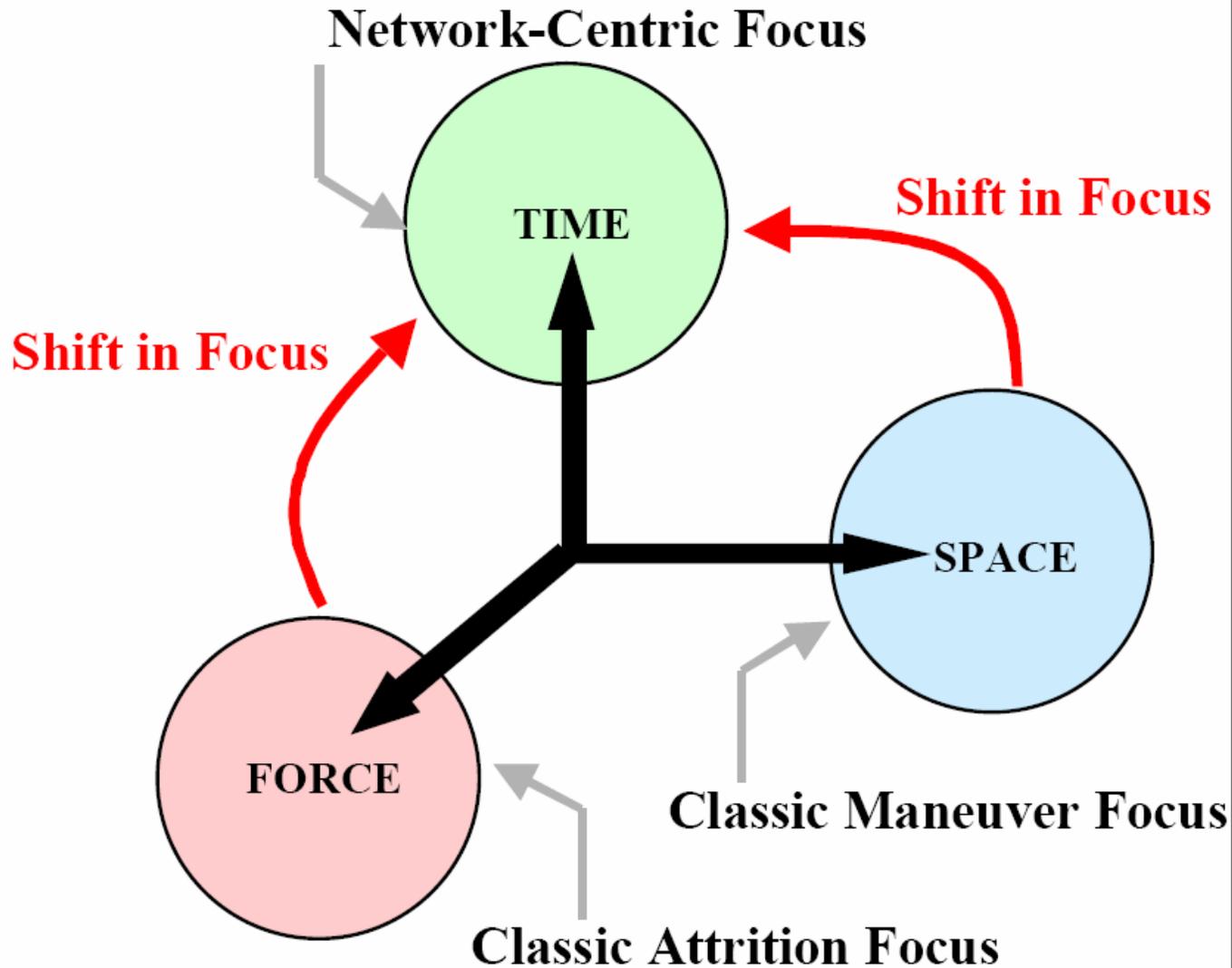
$3 \cdot 2 = 6$ Potential Information Interactions

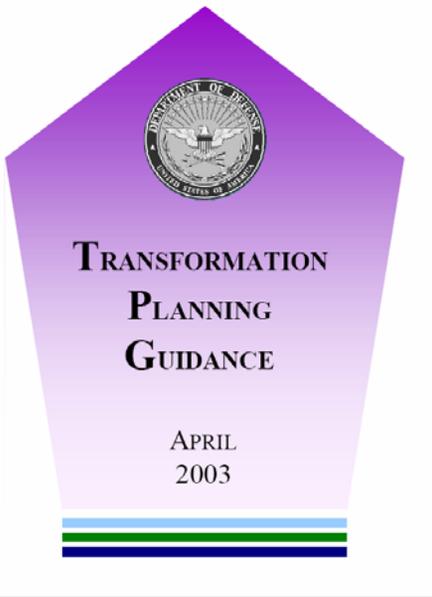


NCW – Governing Principles

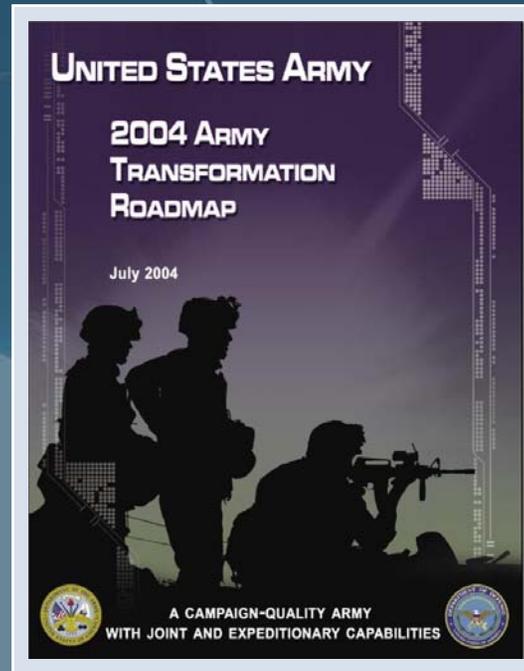
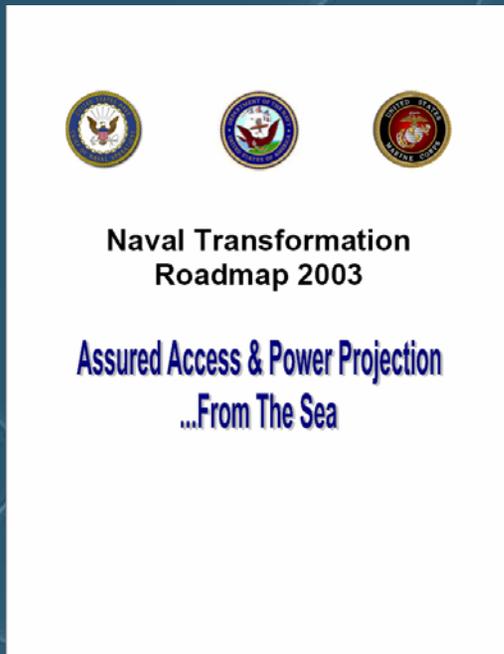
- Fight first for **information superiority**
- Access to information: **shared awareness**
- **Speed of command** and decision making
- **Self-synchronization**
- **Dispersed forces:** non-contiguous operations
- **Demassification**
- **Deep sensor reach**
- **Alter initial conditions** at higher rates of change
- **Compressed operations** and levels of war

The Time Dimension

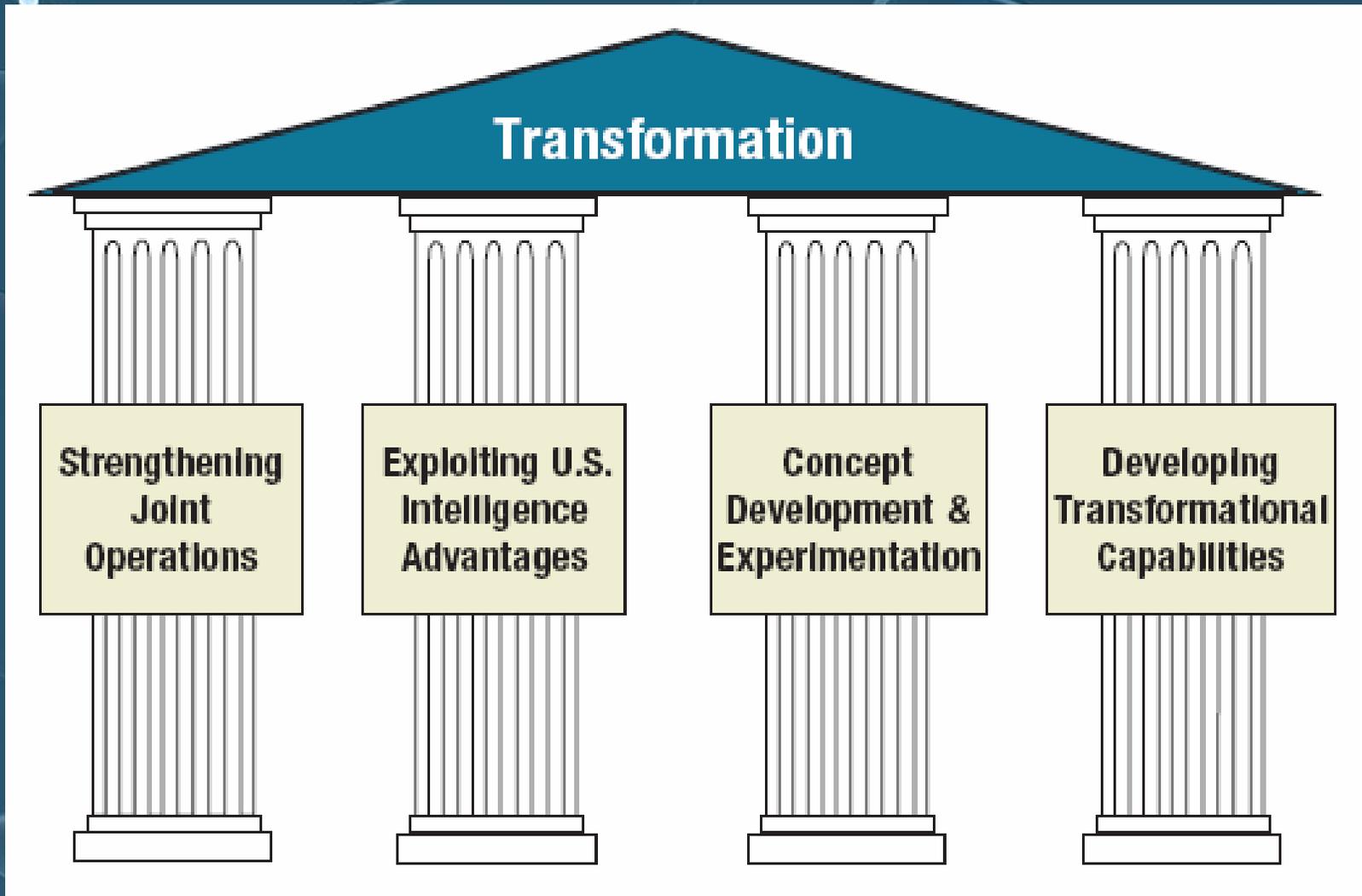




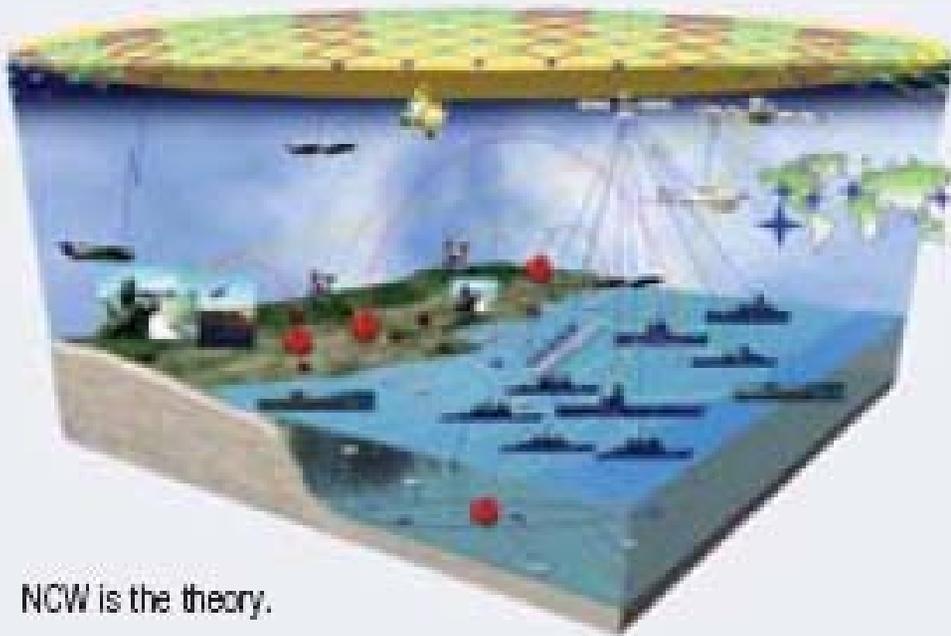
The Transformation Plans



The Department of Defense Mental Model



Navy's Response to Transformation



- NCW is the theory.
- NCO is the concept.
- FORCEnet is the architectural framework to make the theory and concept a reality.

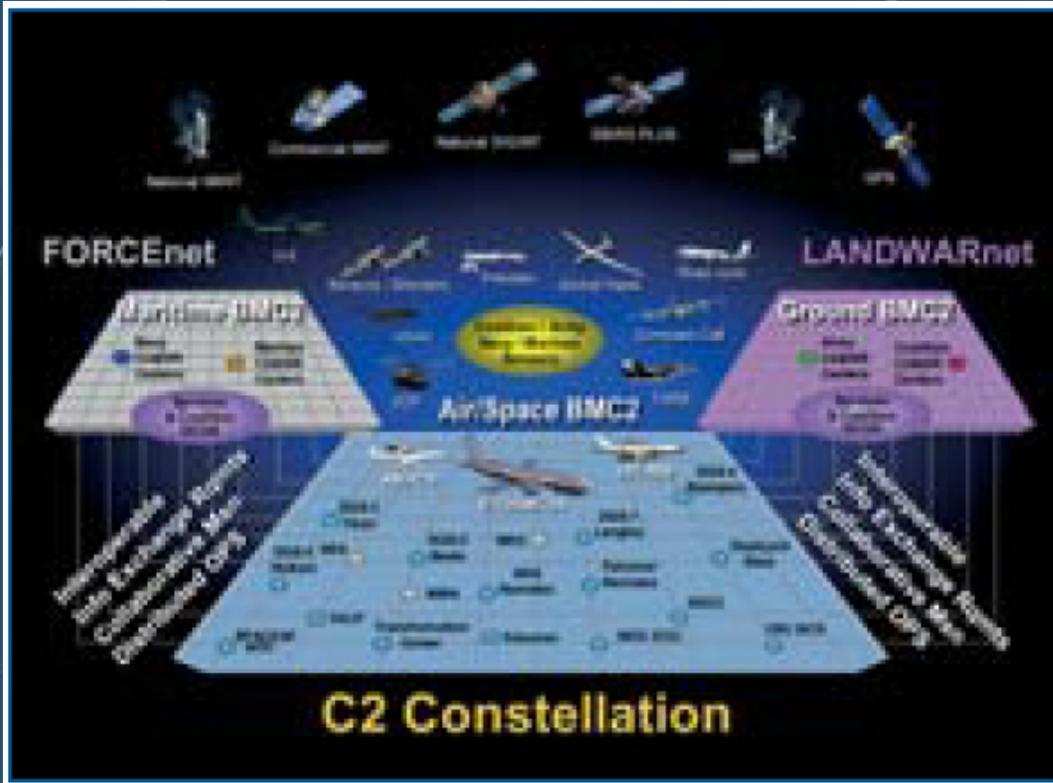
Concept - Seabasing

NCW – FORCEnet

Objective – provide (insert verb here) platform to fight next war from sovereign US territory

Needs – All other branches connect to its network

Air Force Response to Transformation



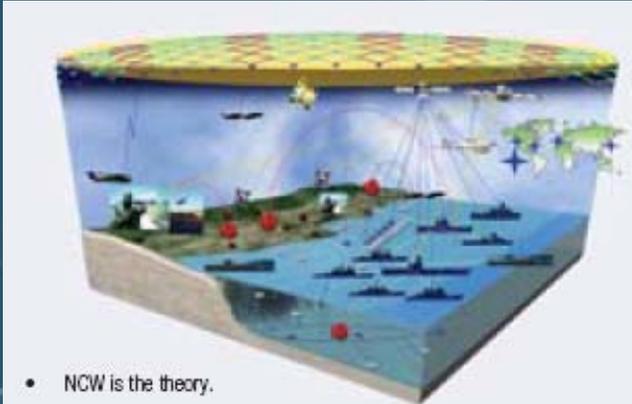
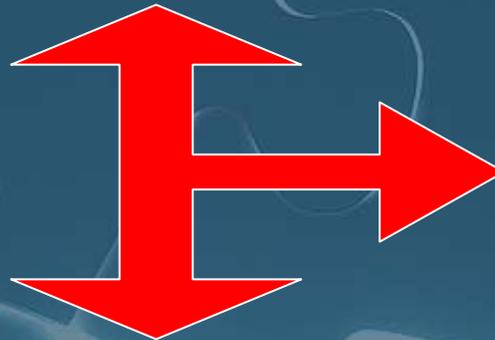
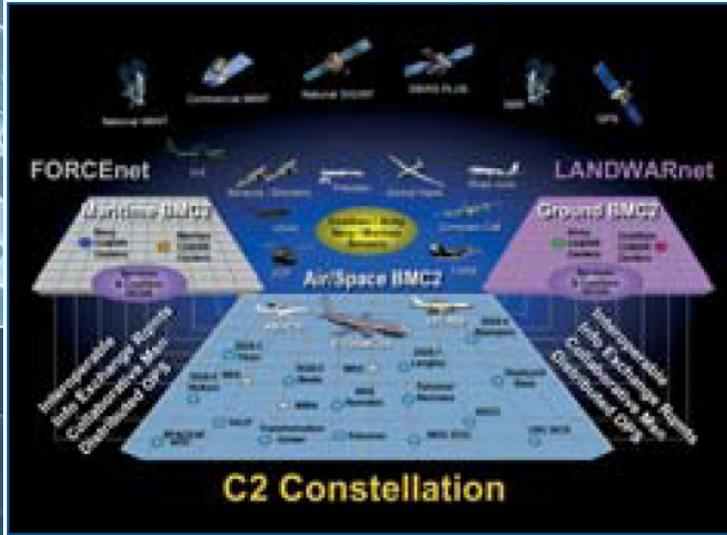
Concept – Global CONOPS

NCW – Air/Space C2

Objective – Air Force is coordinates air assets to engage global targets

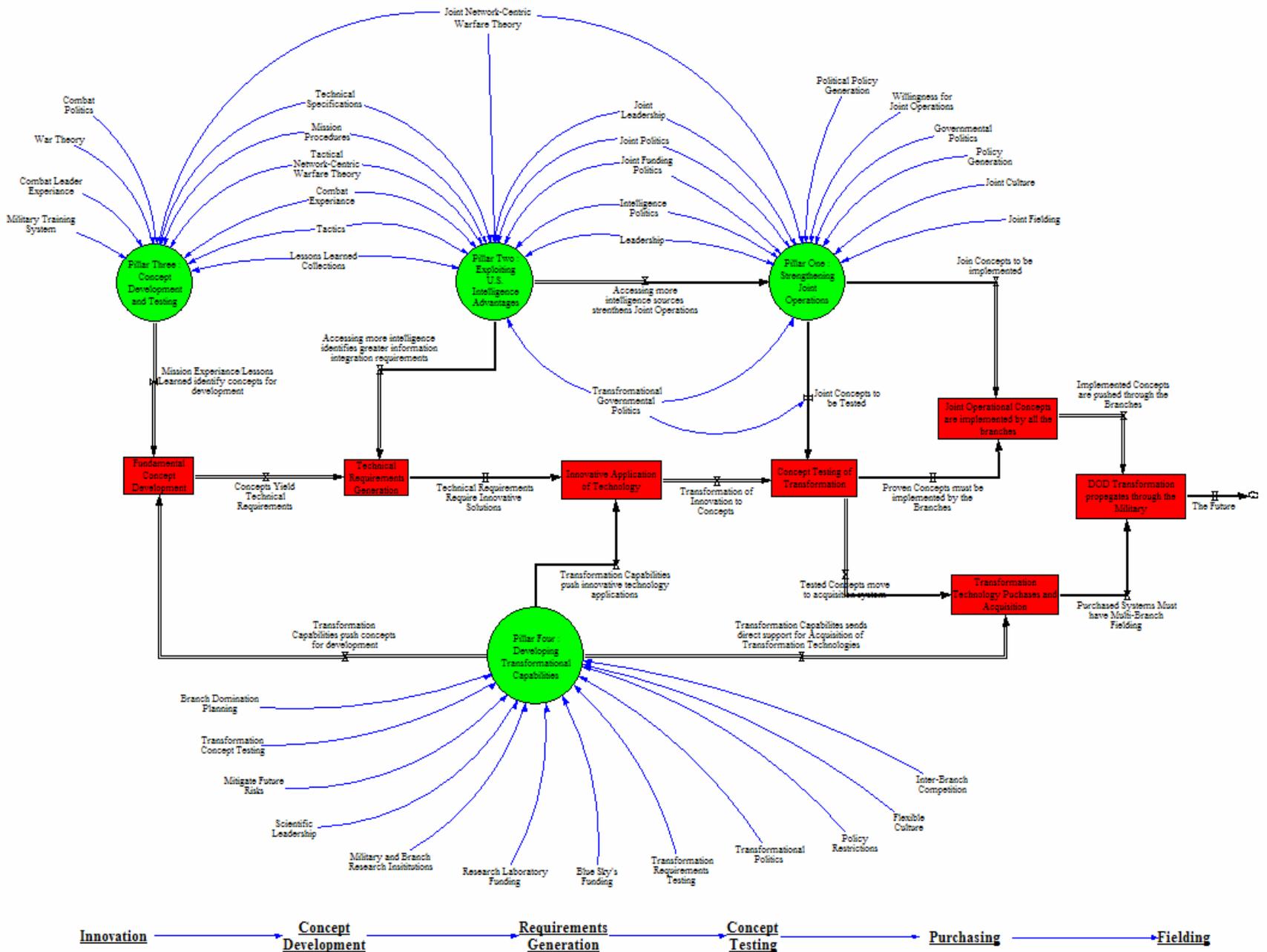
Needs – All other branches connect to its network

The Problem....



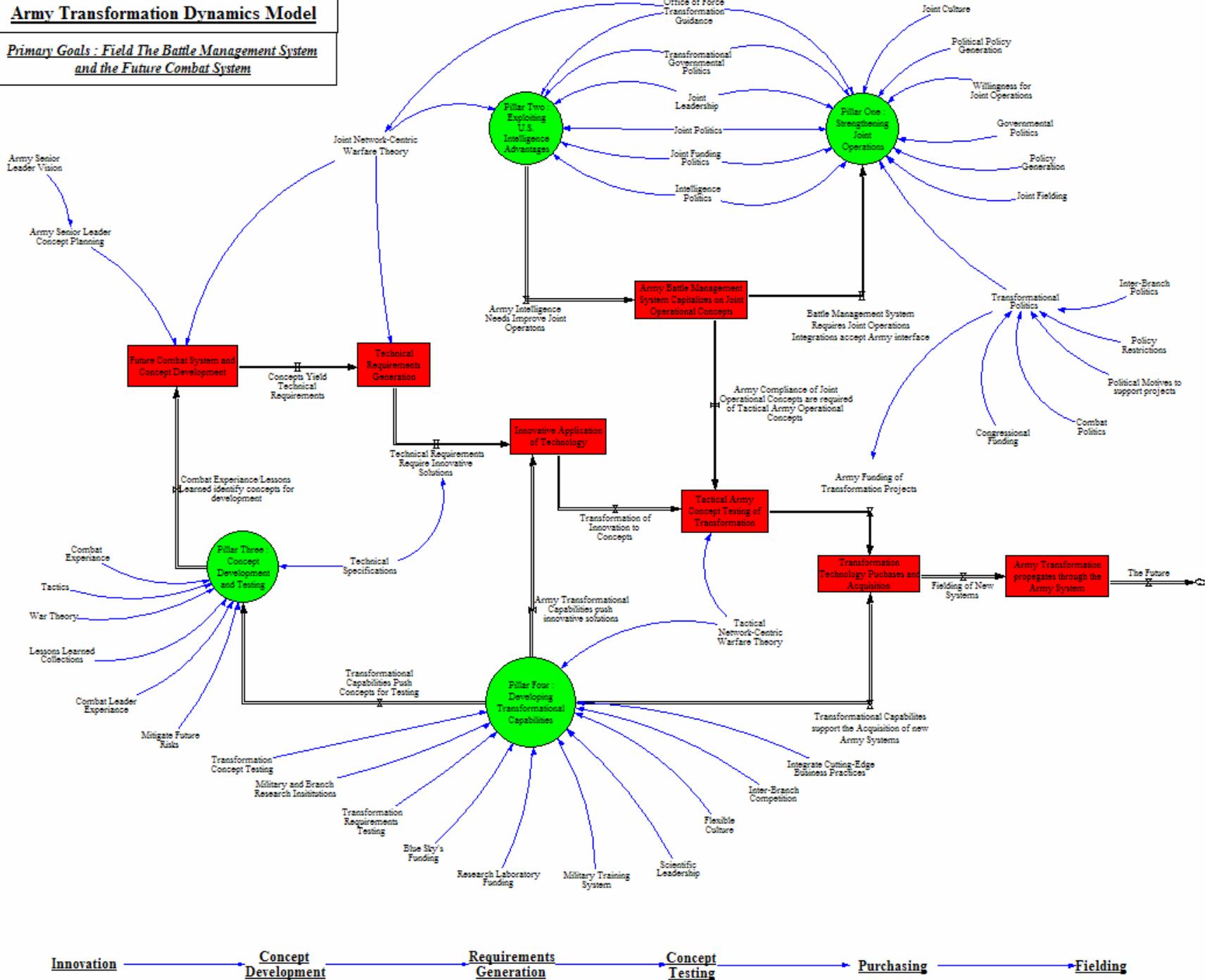
- NCW is the theory.
- NCO is the concept.
- FORCEnet is the architectural framework to make the theory and concept a reality.

Department of Defense Transformation Architecture and Dynamics Model - Ideal Vision



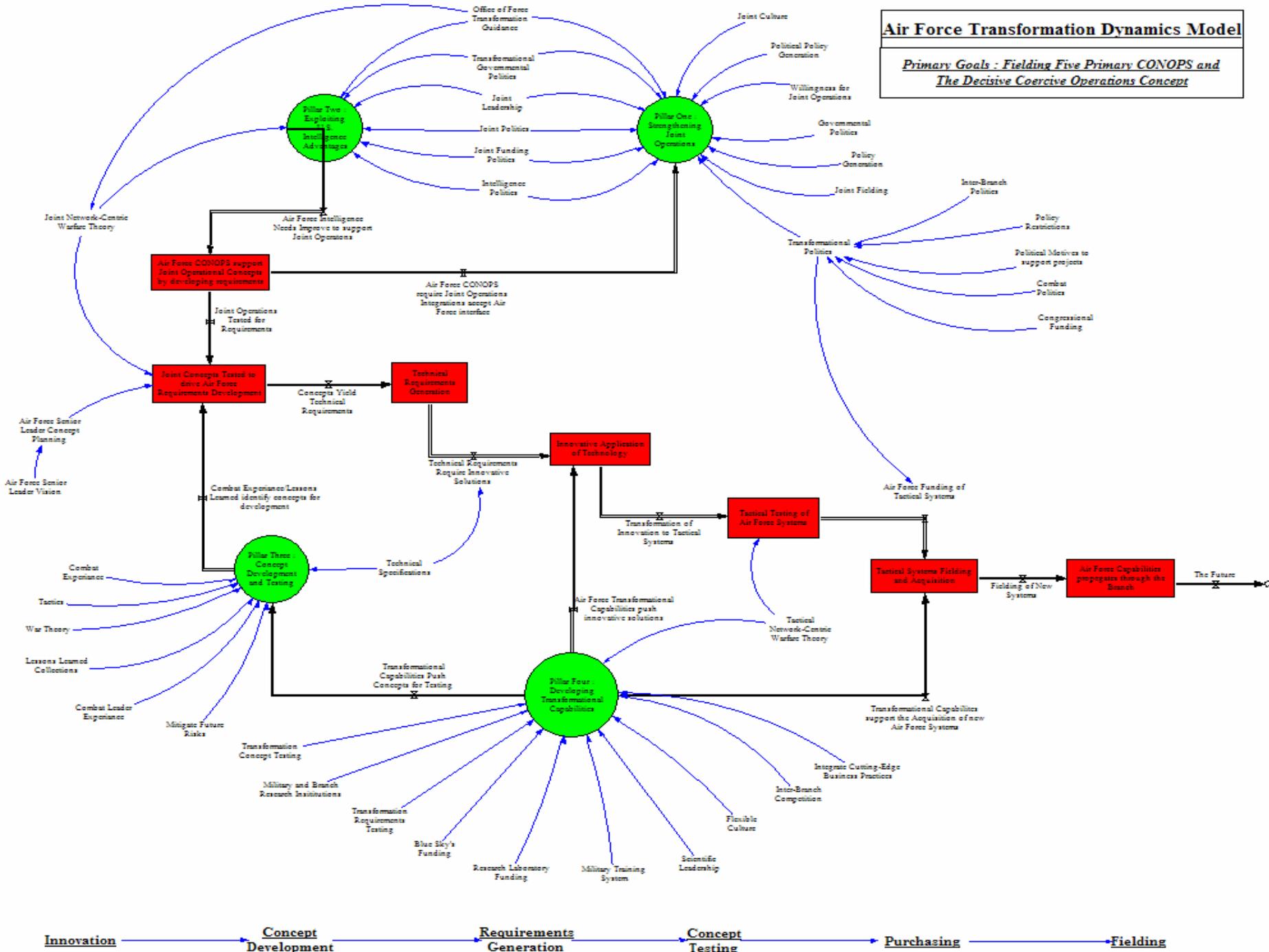
Army Transformation Dynamics Model

Primary Goals : Field The Battle Management System and the Future Combat System



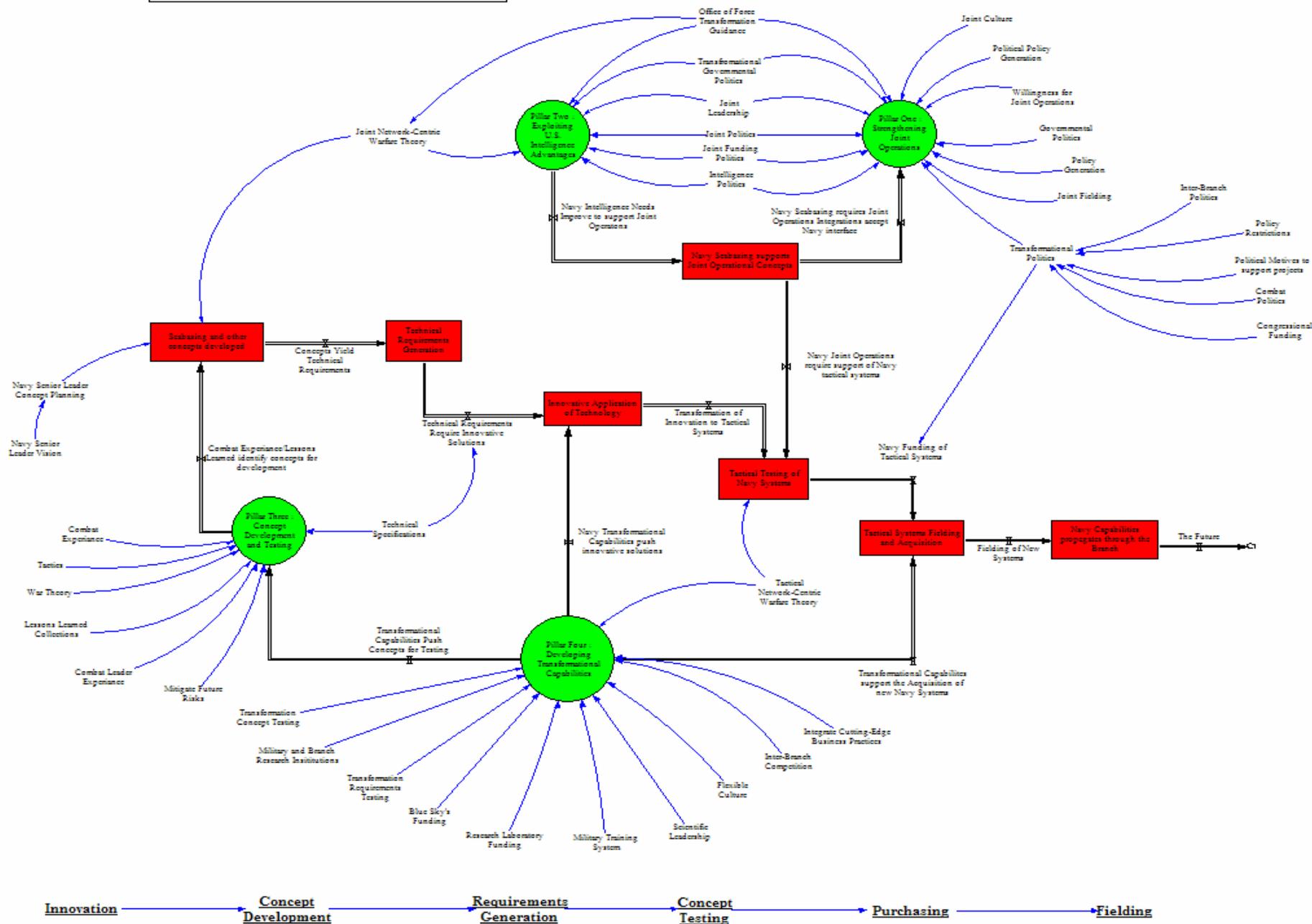
Air Force Transformation Dynamics Model

Primary Goals : Fielding Five Primary CONOPS and The Decisive Coercive Operations Concept

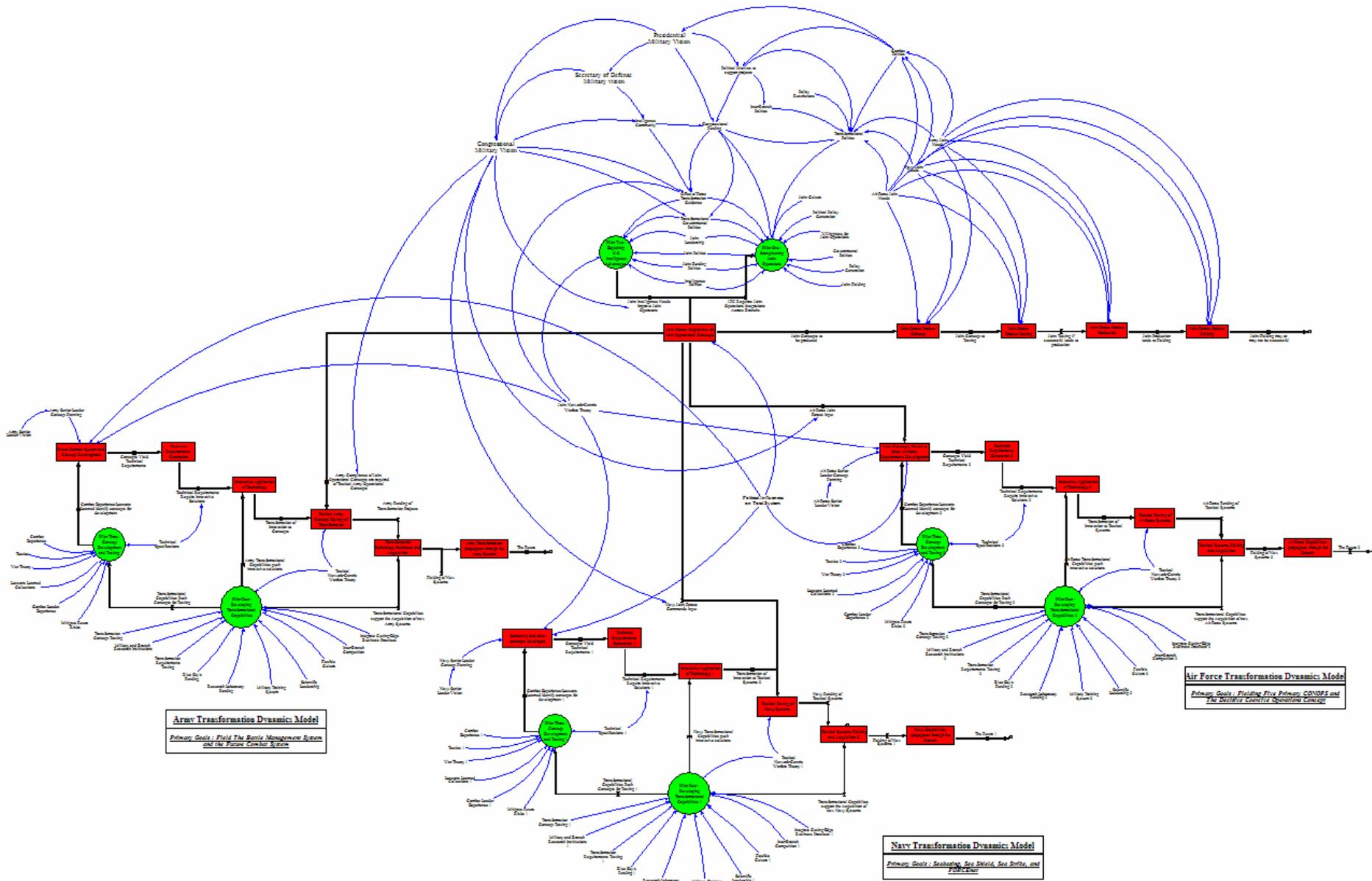


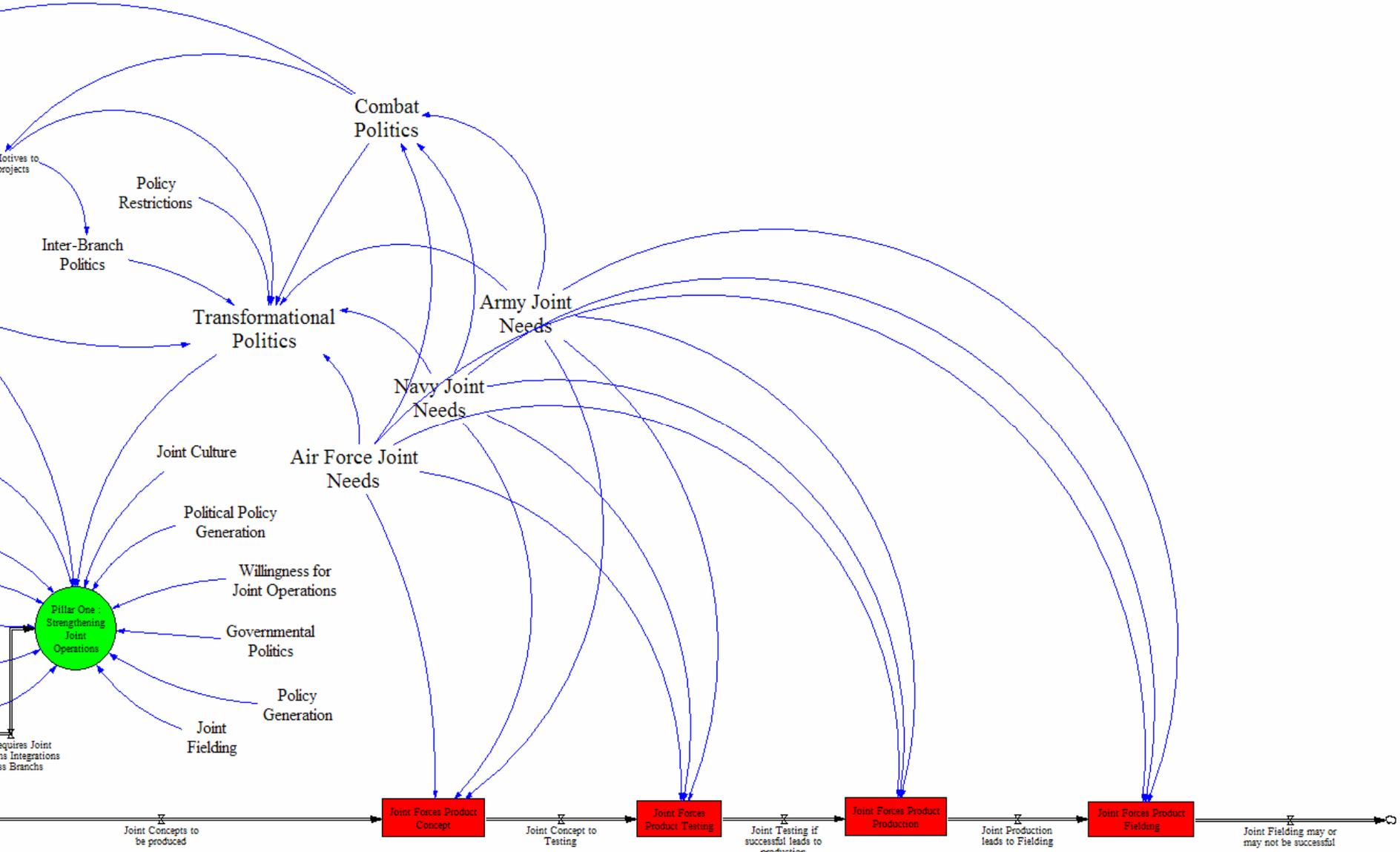
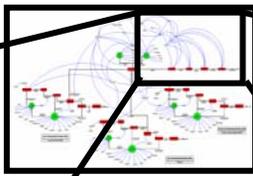
Navy Transformation Dynamics Model

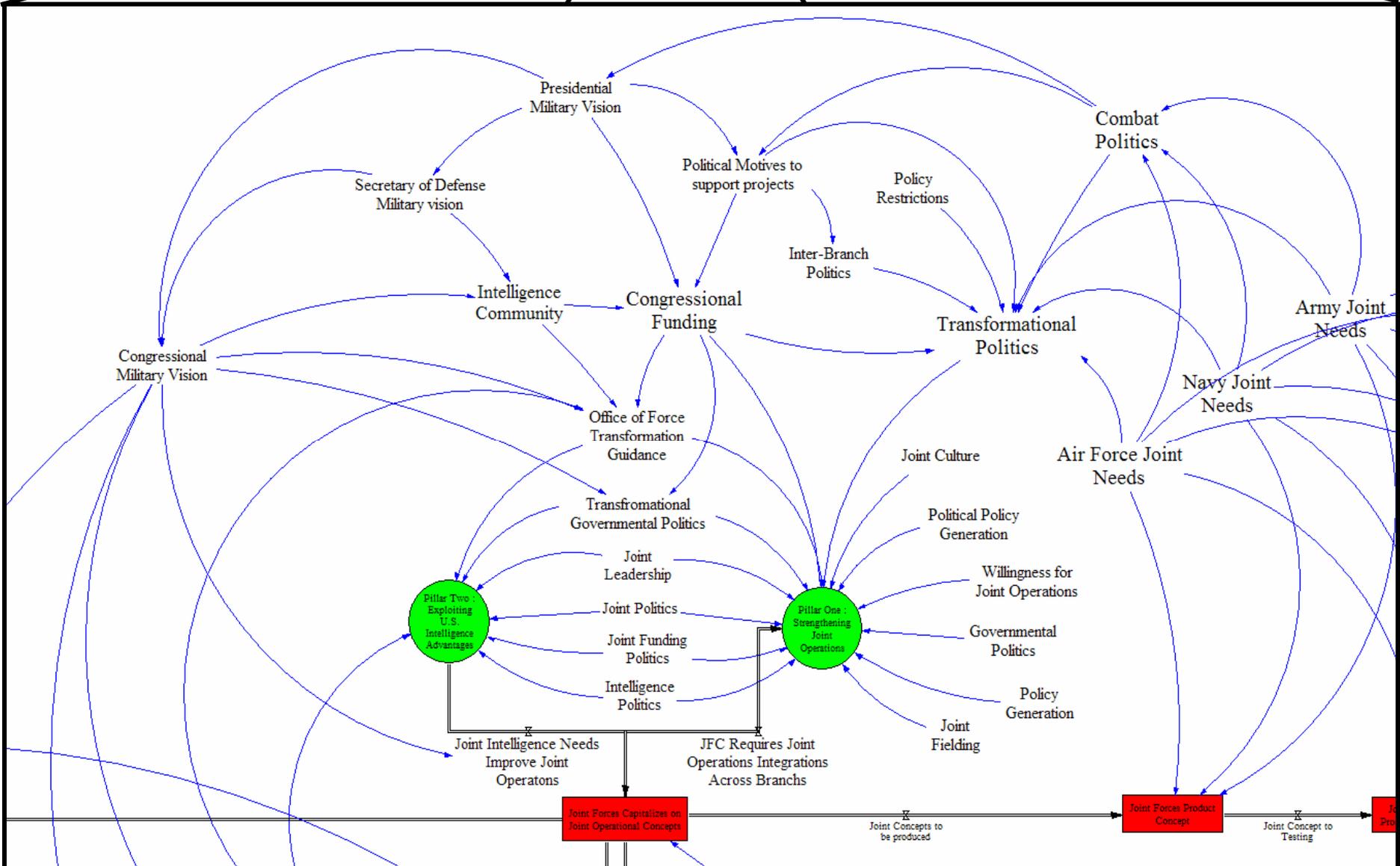
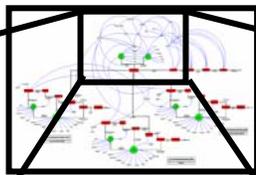
Primary Goals : Seabasing, Sea Shield, Sea Strike, and FORCENet



Current DOD Architectural View



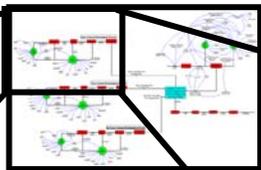




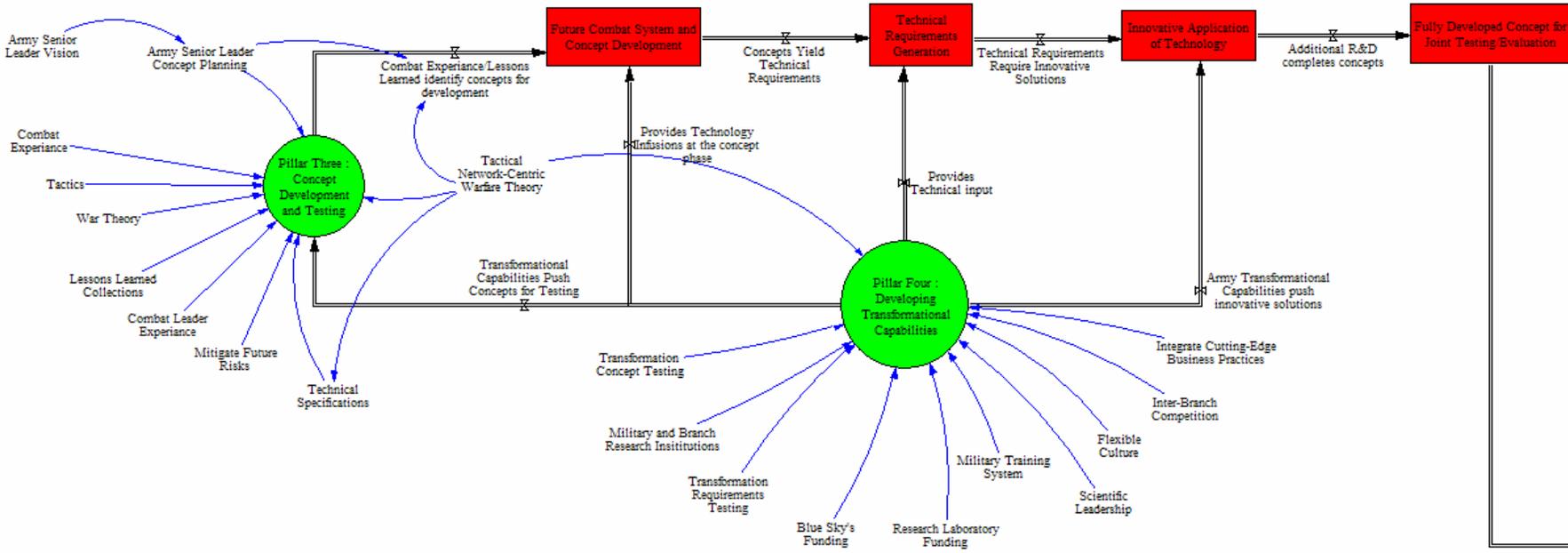


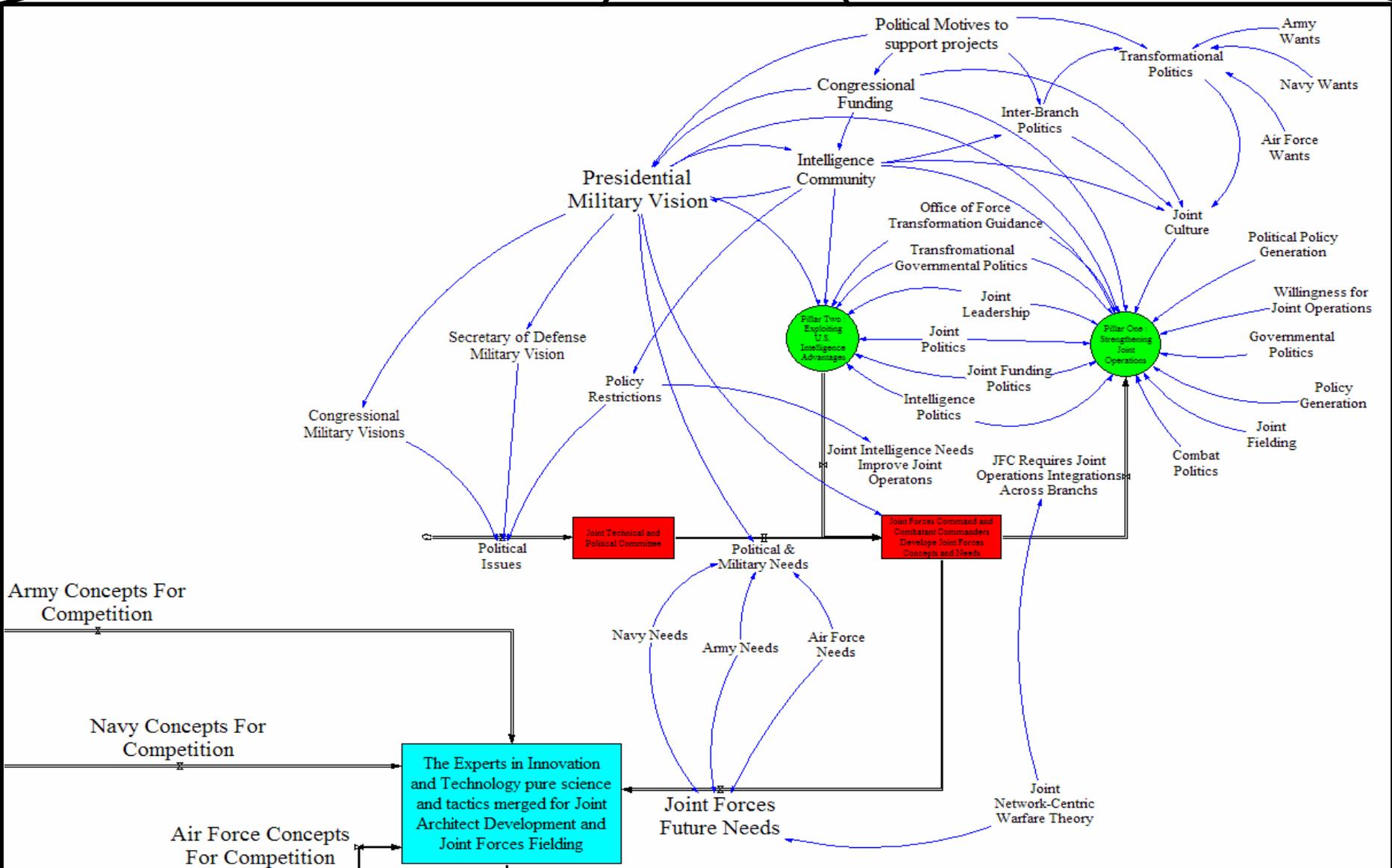
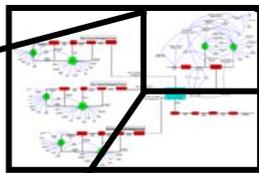
New Architecture Recommended Changes

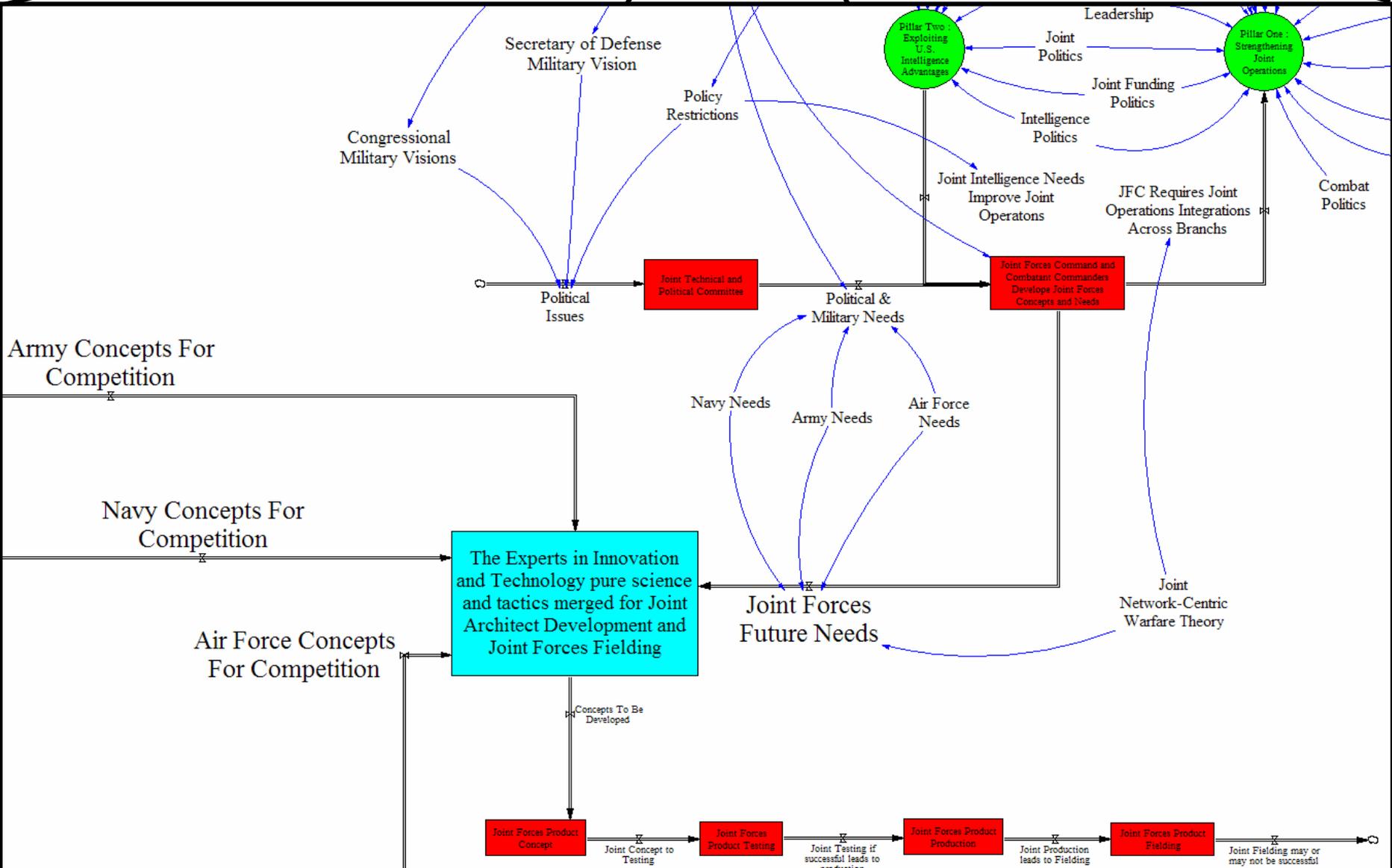
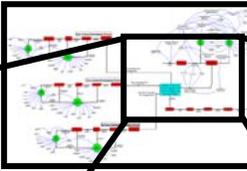
- Fundamentally re-structure the acquisition process
- Establish DOD wide architectural standards
- Insulate acquisition from politics
- Move executive purchasing authority to the Office of Force Transformation
- Sec. Def and Joint Chiefs select from packages of transformational purchases – no line item
- Increase tactical funding at combatant commander level – for rapid purchasing capability
- Create inter-branch innovation competition
- Remove levels of oversight as much as possible



Army Concept Development Process









The Full Details Can be Found in.....

Re-Architecting the DOD Acquisition Process:
A Transition to the Information Age

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Masters of Science, Engineering Management
University of Missouri, Rolla, MO

SUBMITTED TO THE SYSTEM DESIGN AND MANAGEMENT PROGRAM IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN ENGINEERING AND MANAGEMENT
AT THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

January 2006

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Signature of Author.....
Kevin M. Brown
System Design and Management Program

Certified by
Donna Rhodes

Available Upon Request

