



# Missions & Means Framework: Theory

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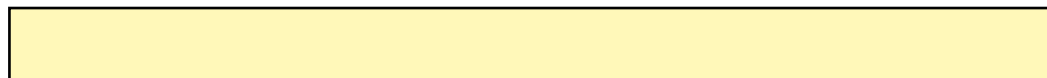
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**1 March 2004**



## **To Make It Work ...Need Five Things**

- 1. Composable Framework and supporting Procedures**
- 2. Critical Mass of End-User Content and supporting Access**
- 3. Business Model for Life-Cycle Sustainment and supporting Program Elements**
- 4. Tools, Utilities and supporting Standards**
- 5. Education, Training, and Certification**

# Fundamental Missions and Means Framework Principles

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# A Two-Sided Missions & Means Framework

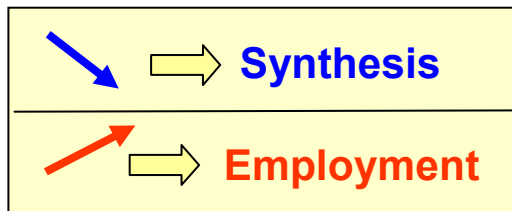
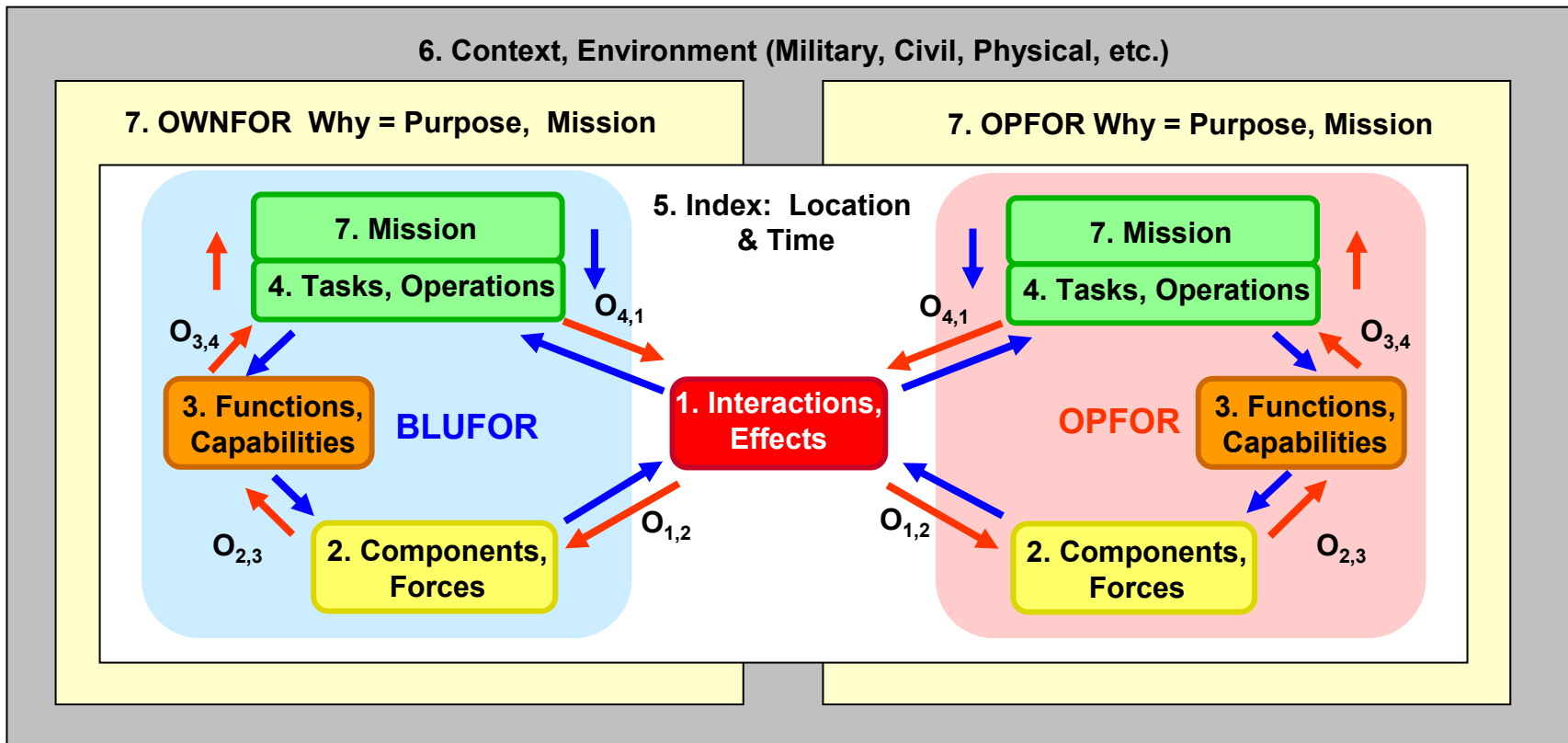
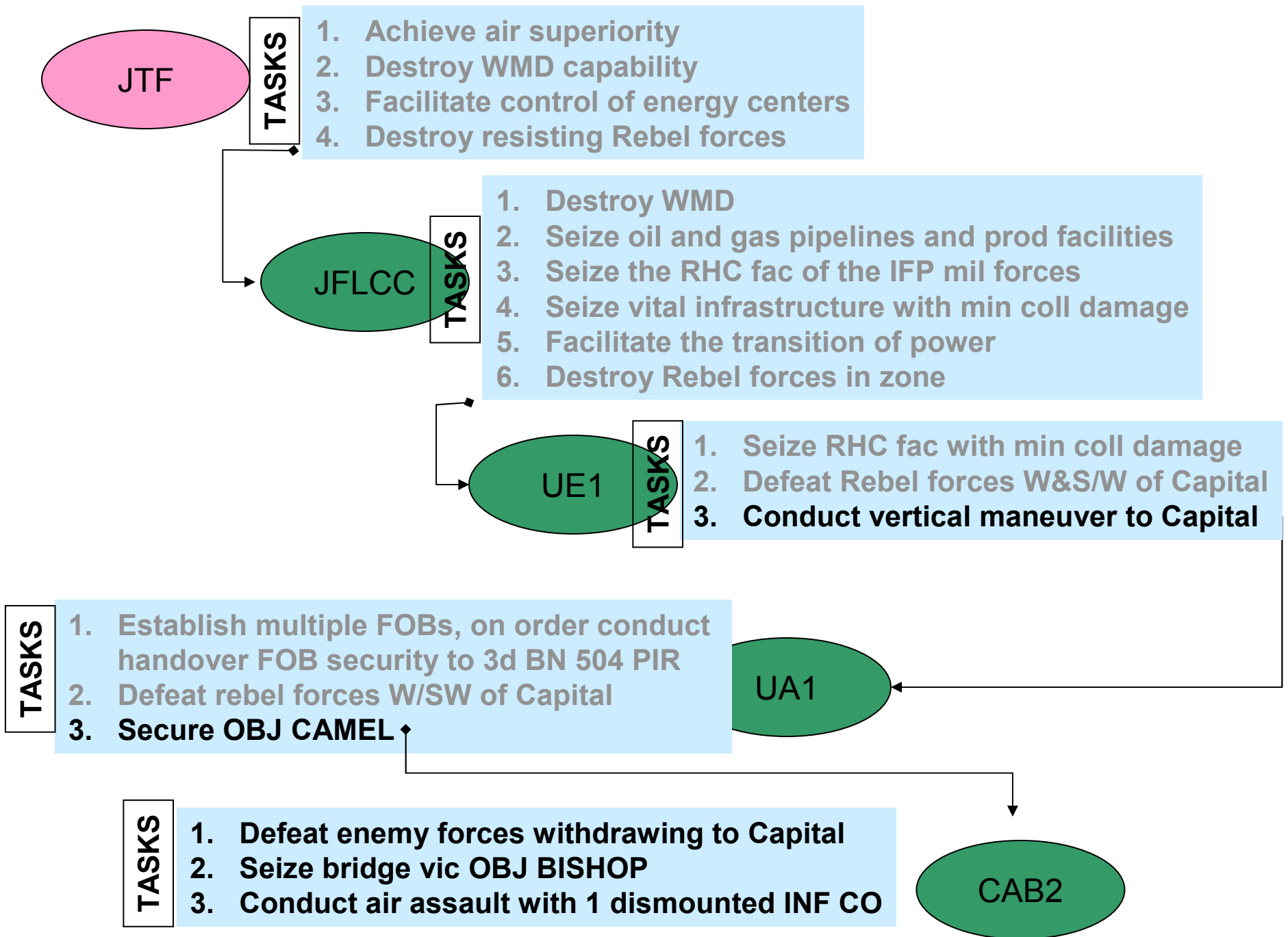


Figure 1



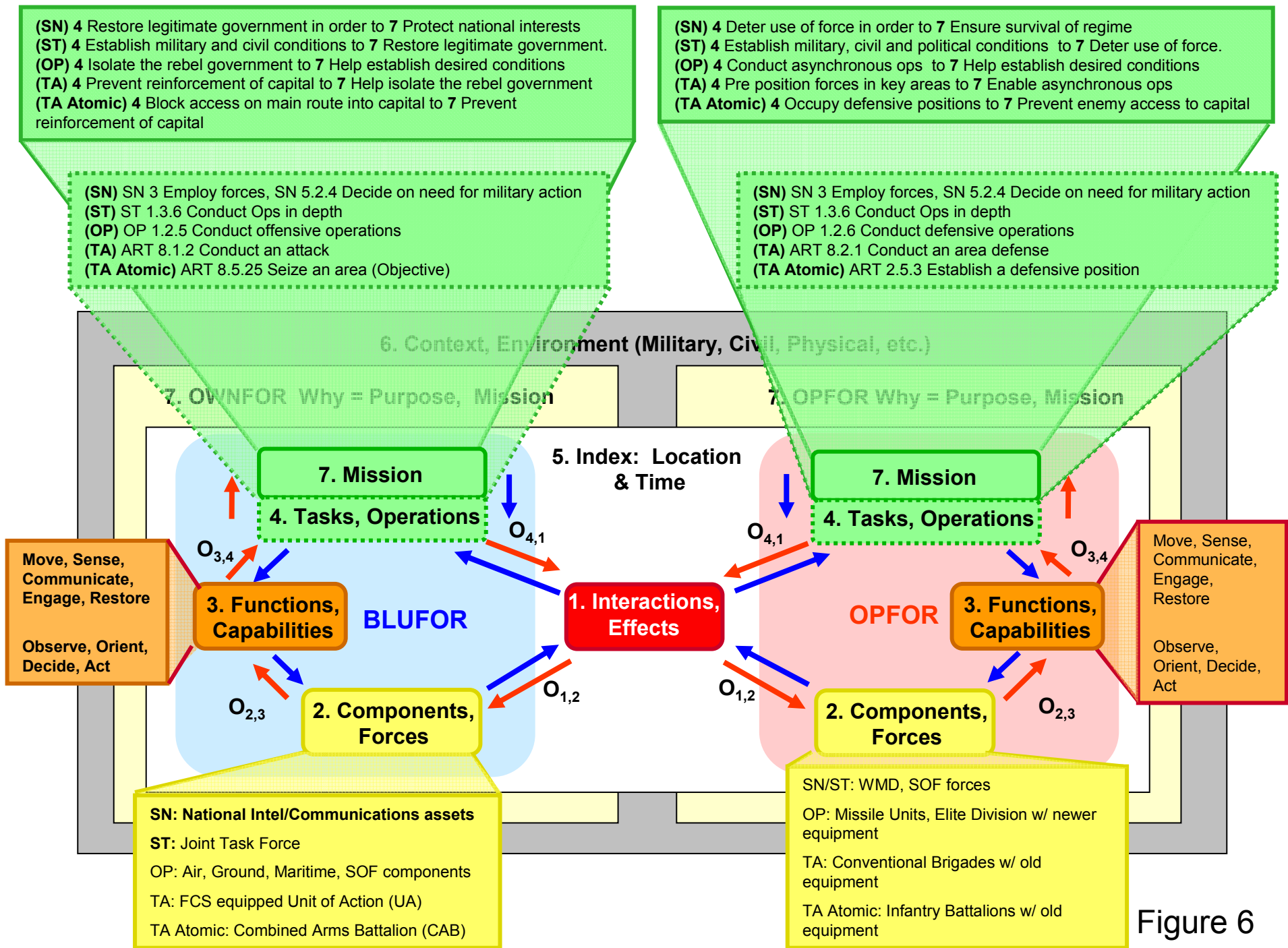
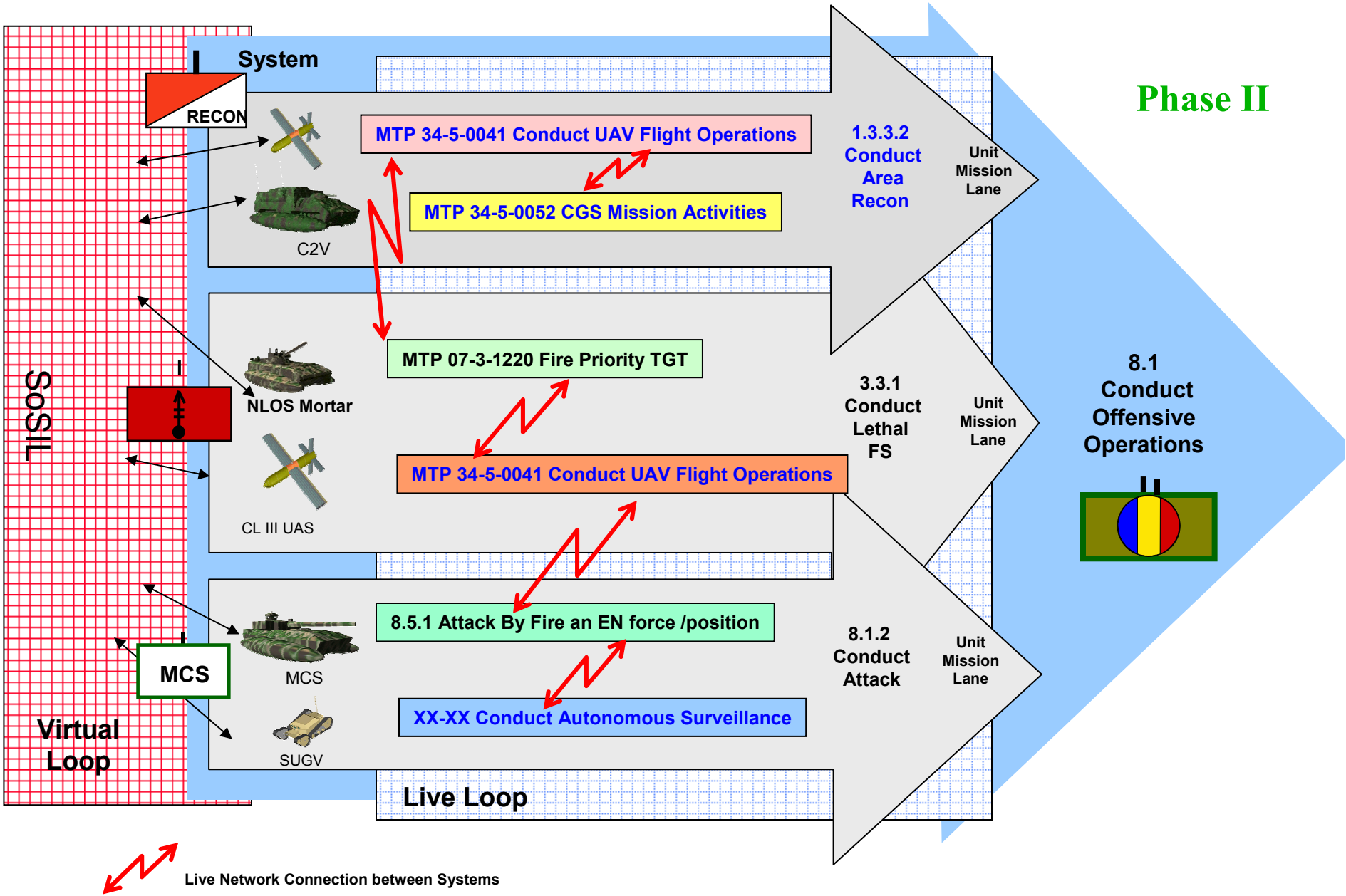


Figure 6

# Sample Task Set Applied to Generic OT Model

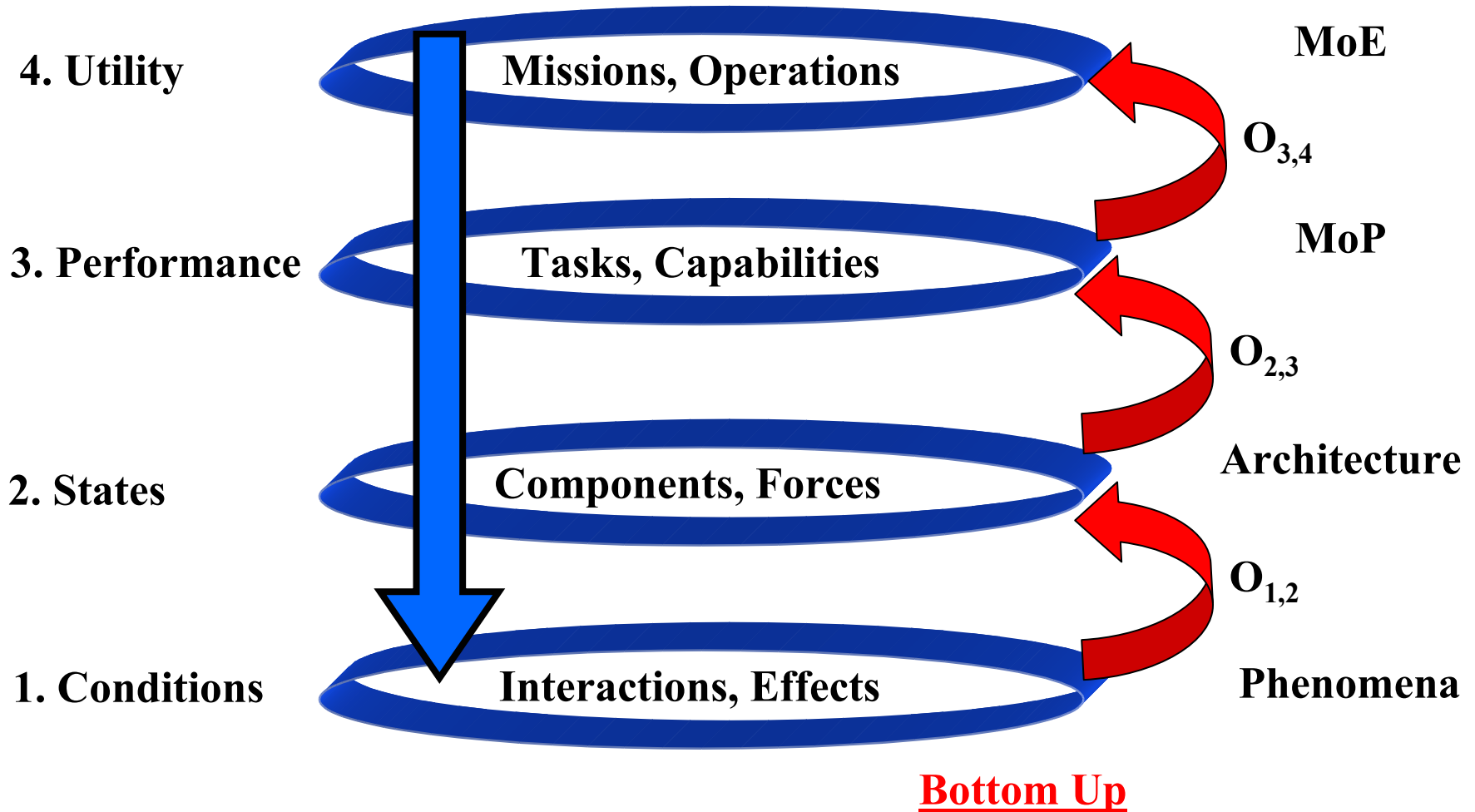


# First **Synthesis**, Then **Employment**

Organized By

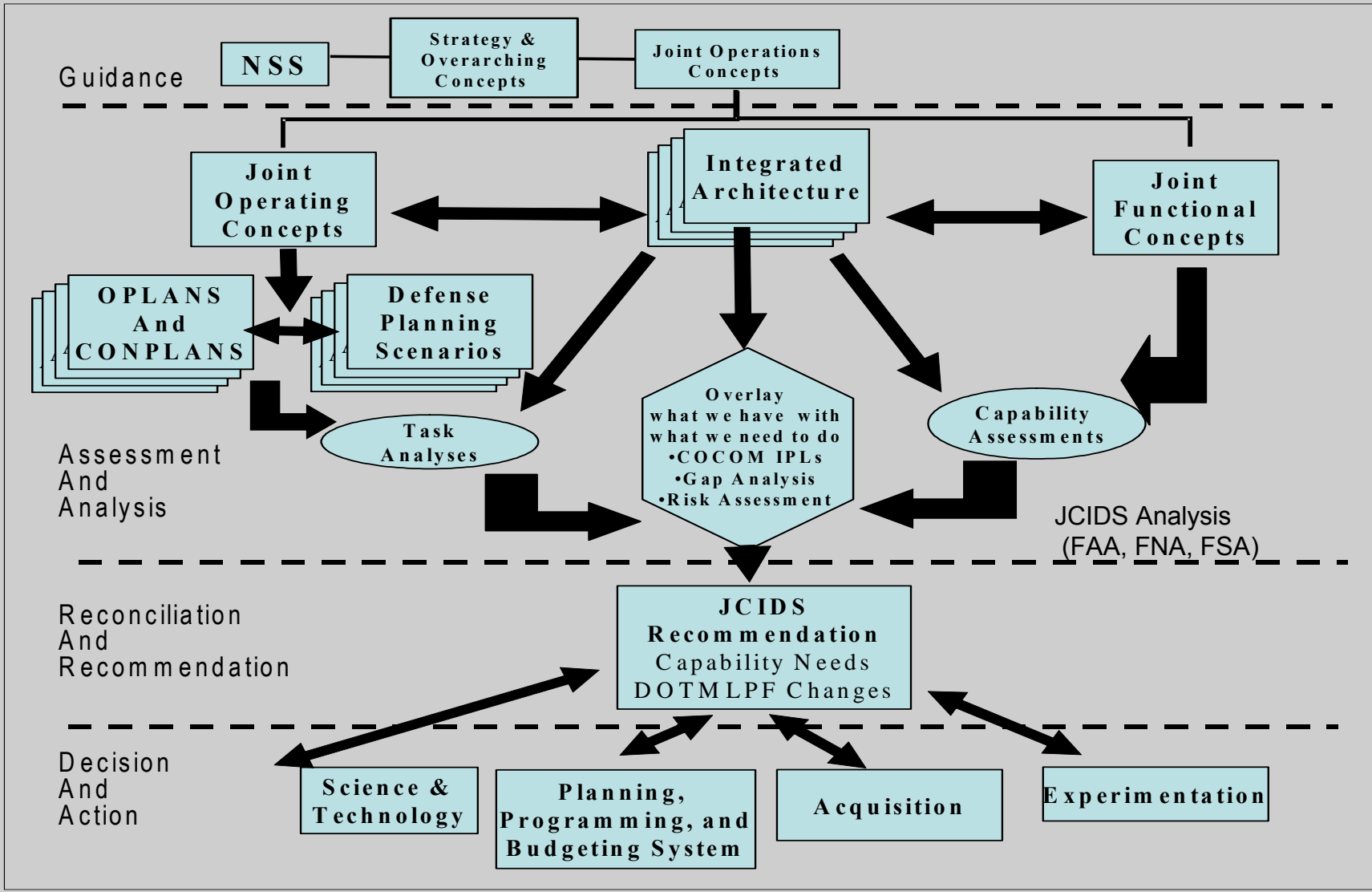
Top Down

Expressed As





# CJCSI 3170 Signature Version



# Transformation Support

**Mission Definition:** JCIDS requires formal statement of national security strategy, strategy and overall concept for accomplishing, and joint operational concepts

MMF records this in the multi-sided (OWNFOR / OPFOR) specifications: L-7 Purpose/Mission referencing L-6 Context/Environment and L-5 Index/Location/Time

**Mission Analysis:** JCIDS terms FAA – JTS calls METL-based readiness requirements

MMF employs MDMP to derive specified / implied tasks, identify conditions, select measure, and assign standards

**Capability Assessment:** JCIDS requires a functional concepts decomposition (to do what)

MMF employs O3,4S synthesis operator to derive “catholically agnostic” decomposition of L-3 Functions/Capabilities based on L-4 Tasks/Operations

**Integrated Architectures:** JCIDS / DoD 5000.2 require integrated Operational, Systems, and Technical standards architecture views

MMF employs integrated architectures to provide concepts, rules, and technologies to assemble Stocking Perspective parts into Assembly Perspective packages

**Mission Evaluation:** JCIDS requires an FSA to determine degree to which alternative DOTMLPF solutions do / do not remove FNA-identified capability gaps

MMF conducts FSA as follows:

- O1,2E Employment operator provides the degraded (or enhanced) states generated by L-1 Effects packages on L-2 Component parts
- O2,3E Employment operator uses architectures to determine L-3 Capability package performance based on L-2 Component part states and appropriate architecture rules and constraints

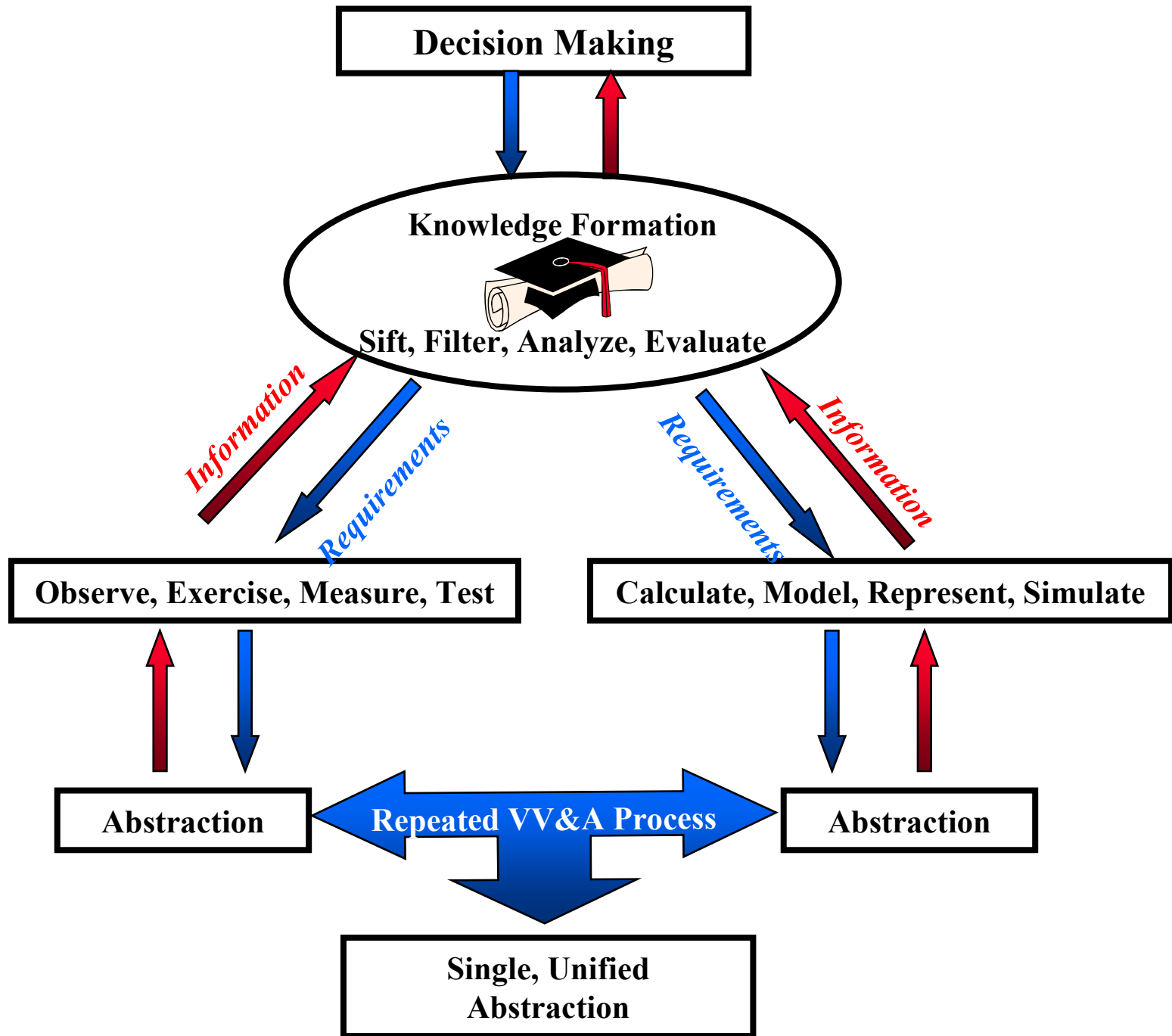


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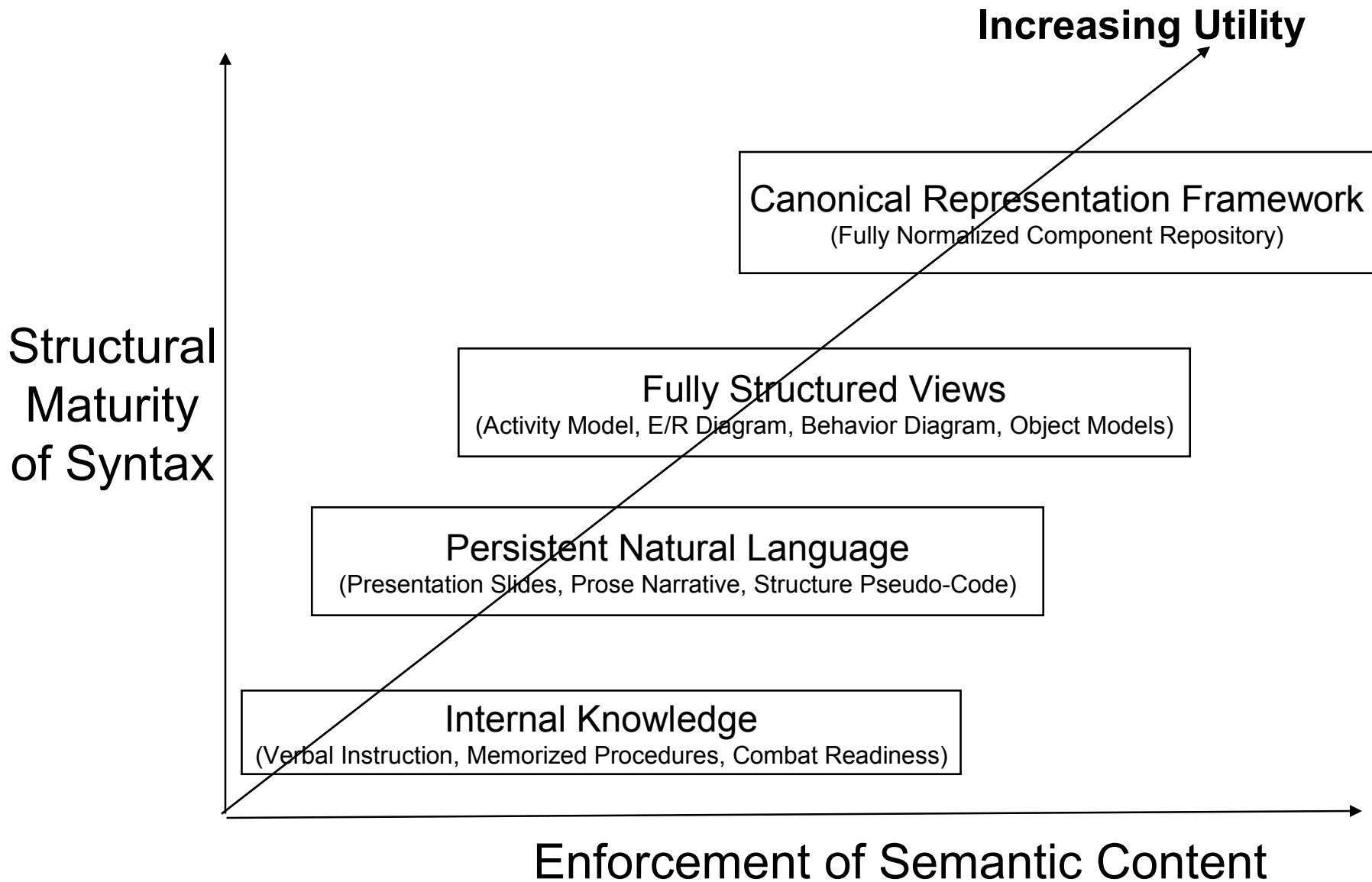
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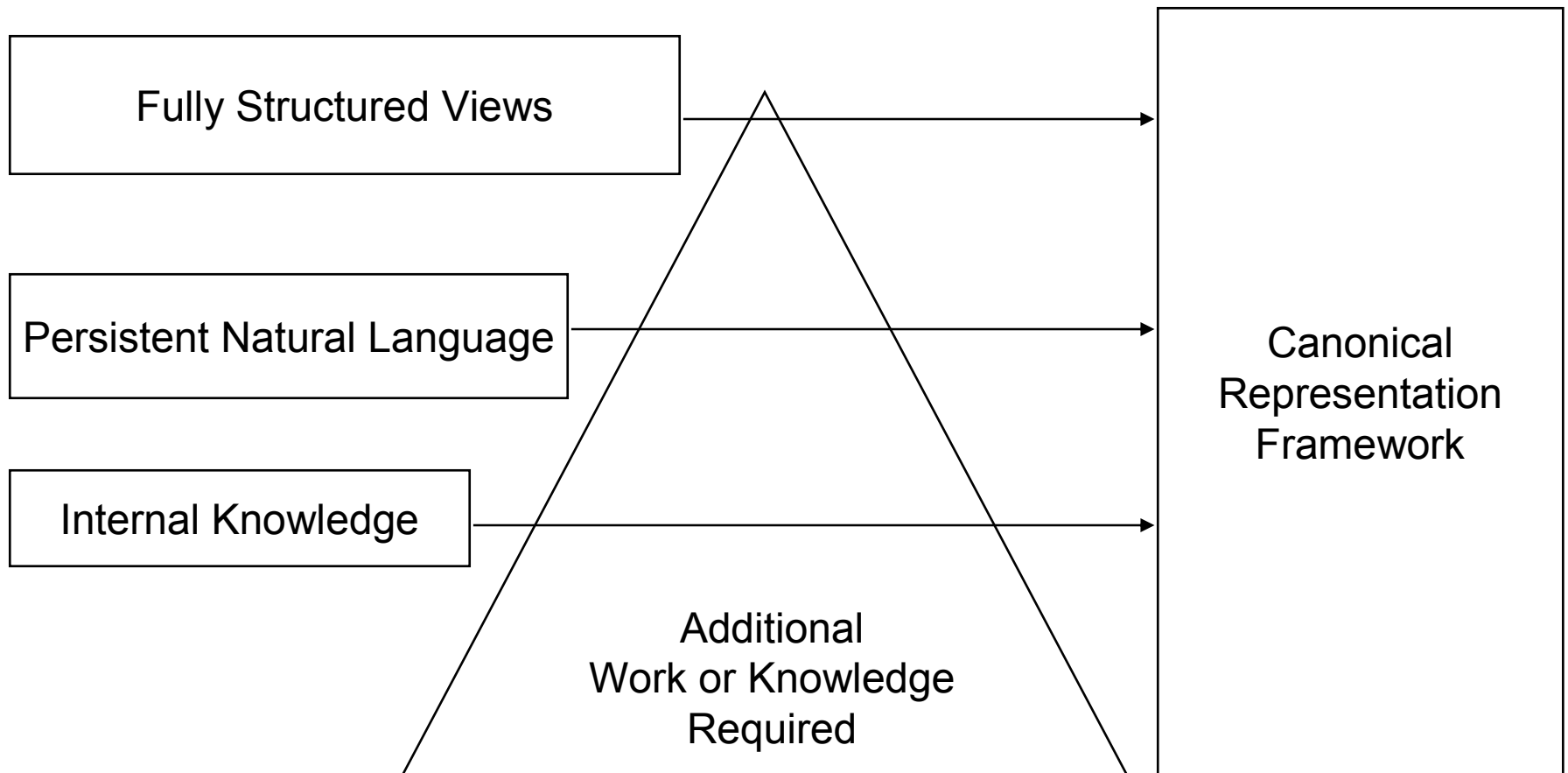
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# Representation Dimensions



## Migrating Representations at Multiple Levels of Structural Maturity and Semantic Enforcement





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**What We Do Not Show You!**

**XML-based Semantics and Syntax**

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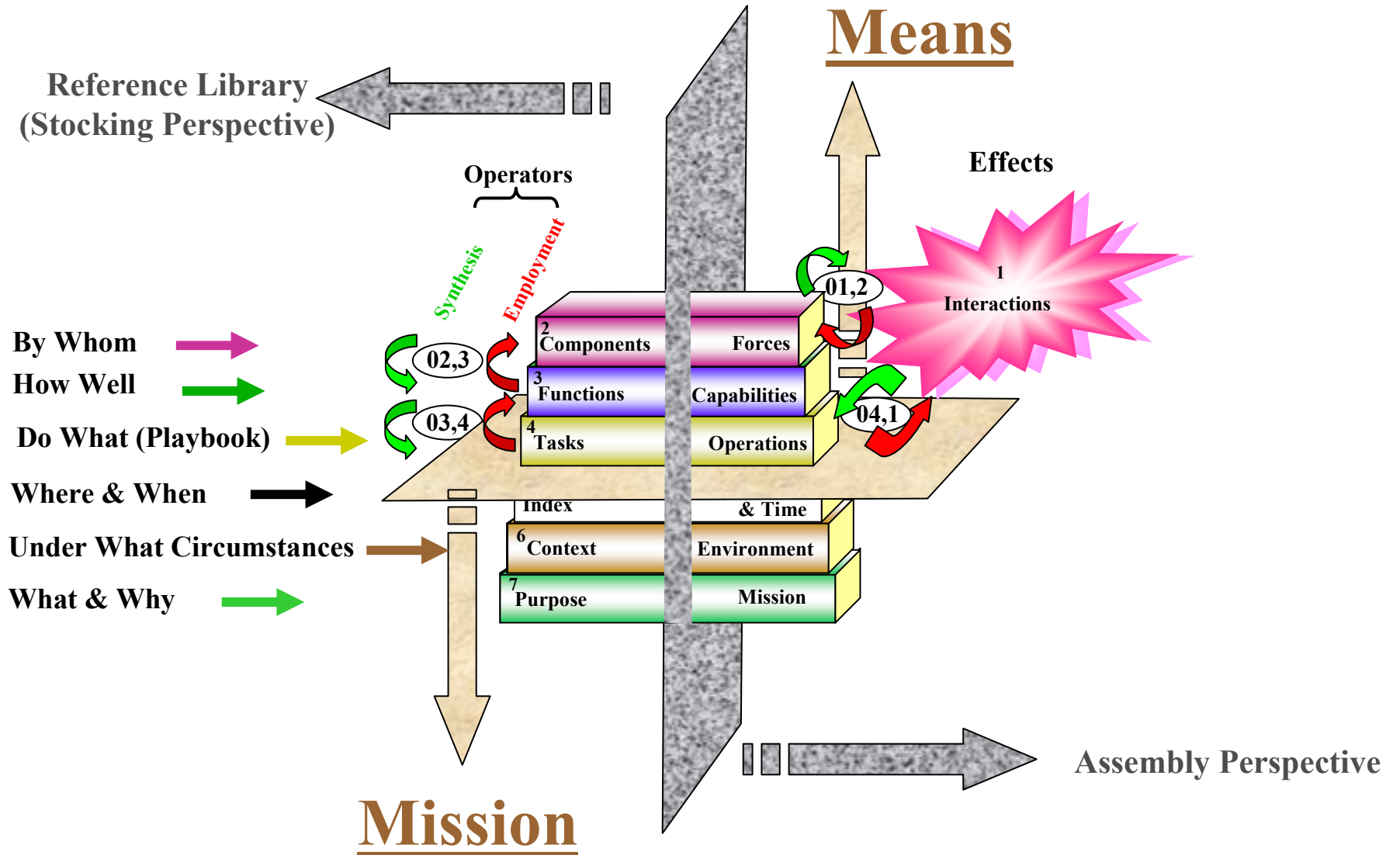
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# Mission & Means Framework



# Fundamental Missions and Means Framework Principles

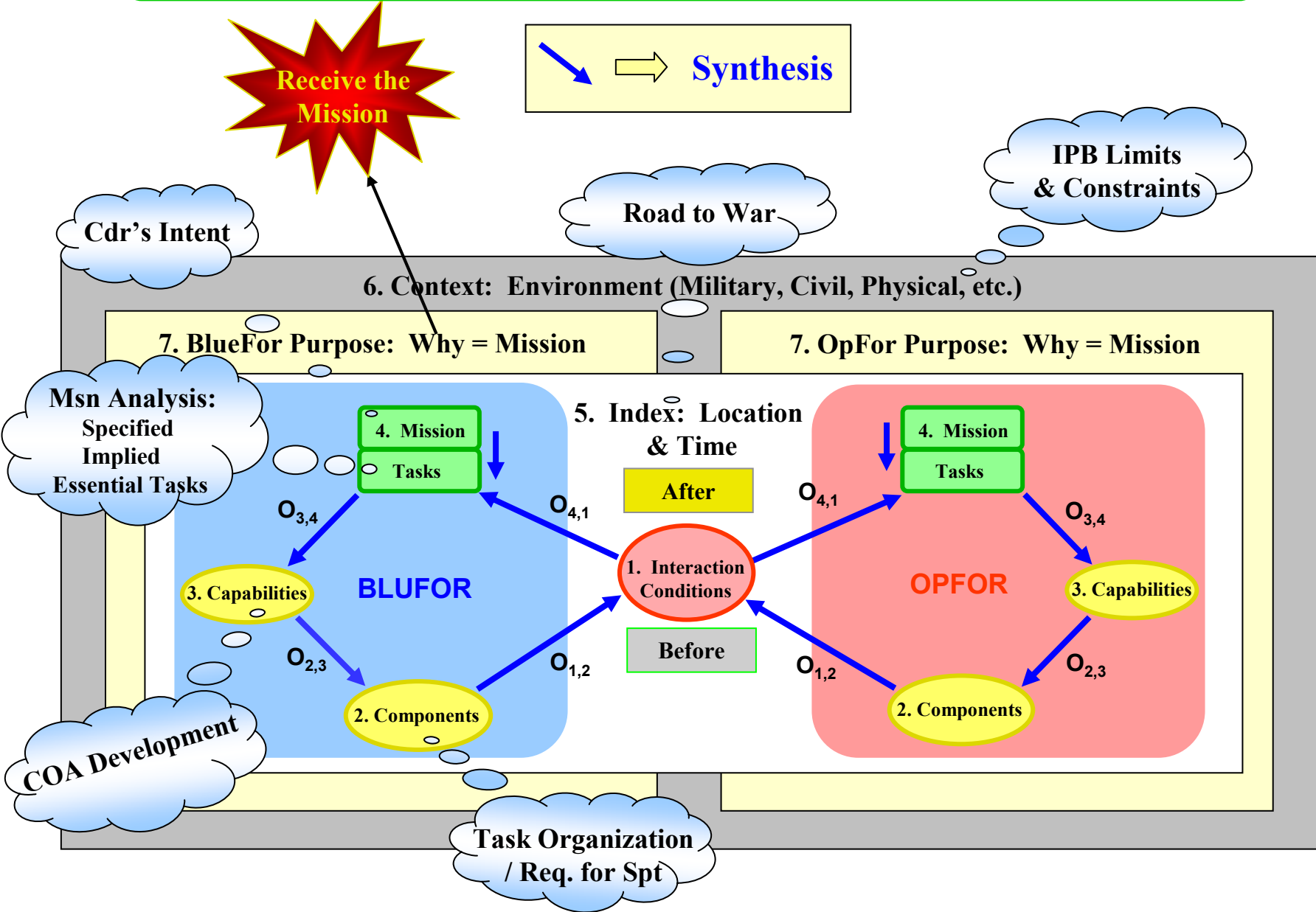
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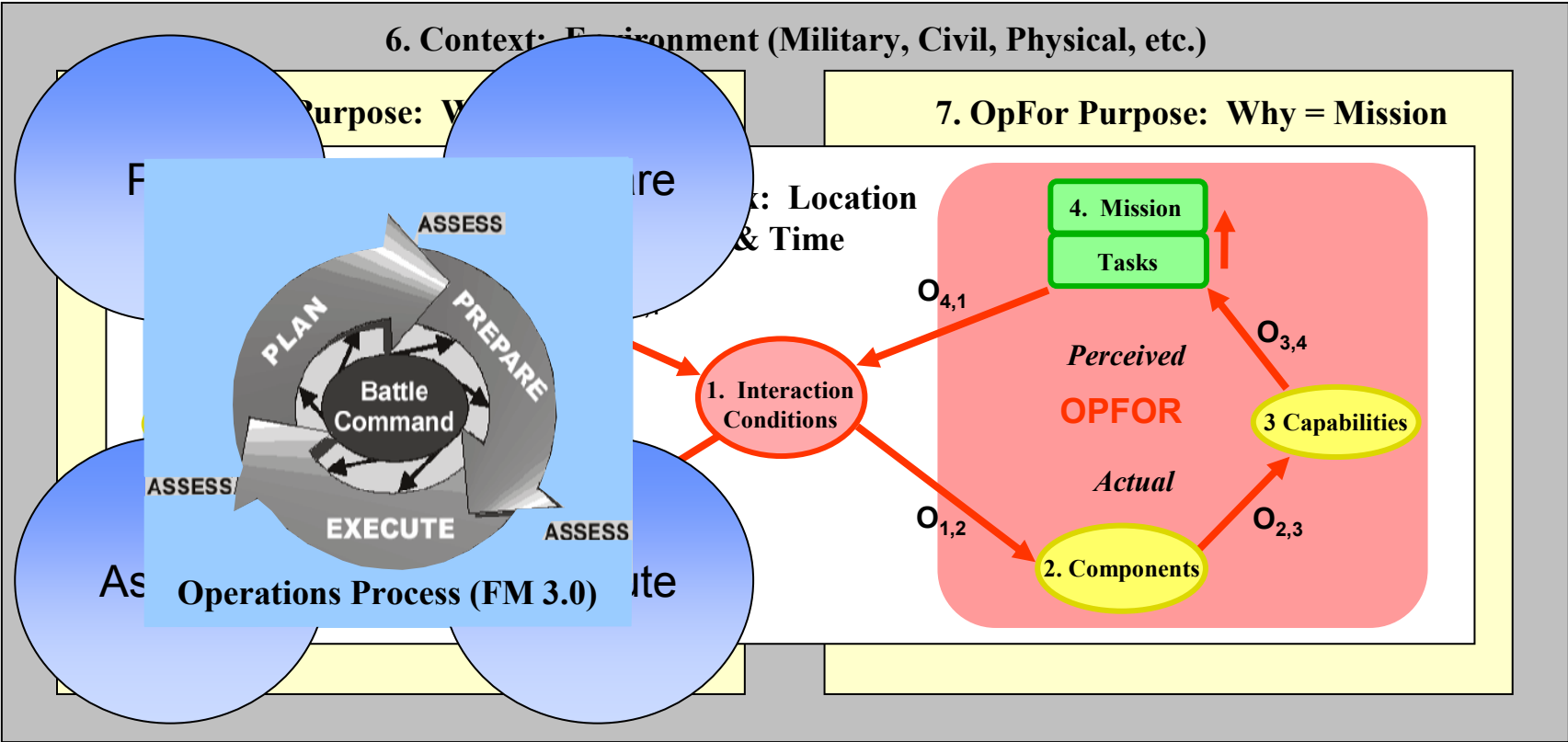
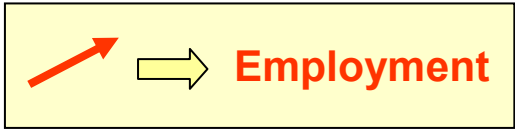
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# A Two-Sided Missions & Means Framework



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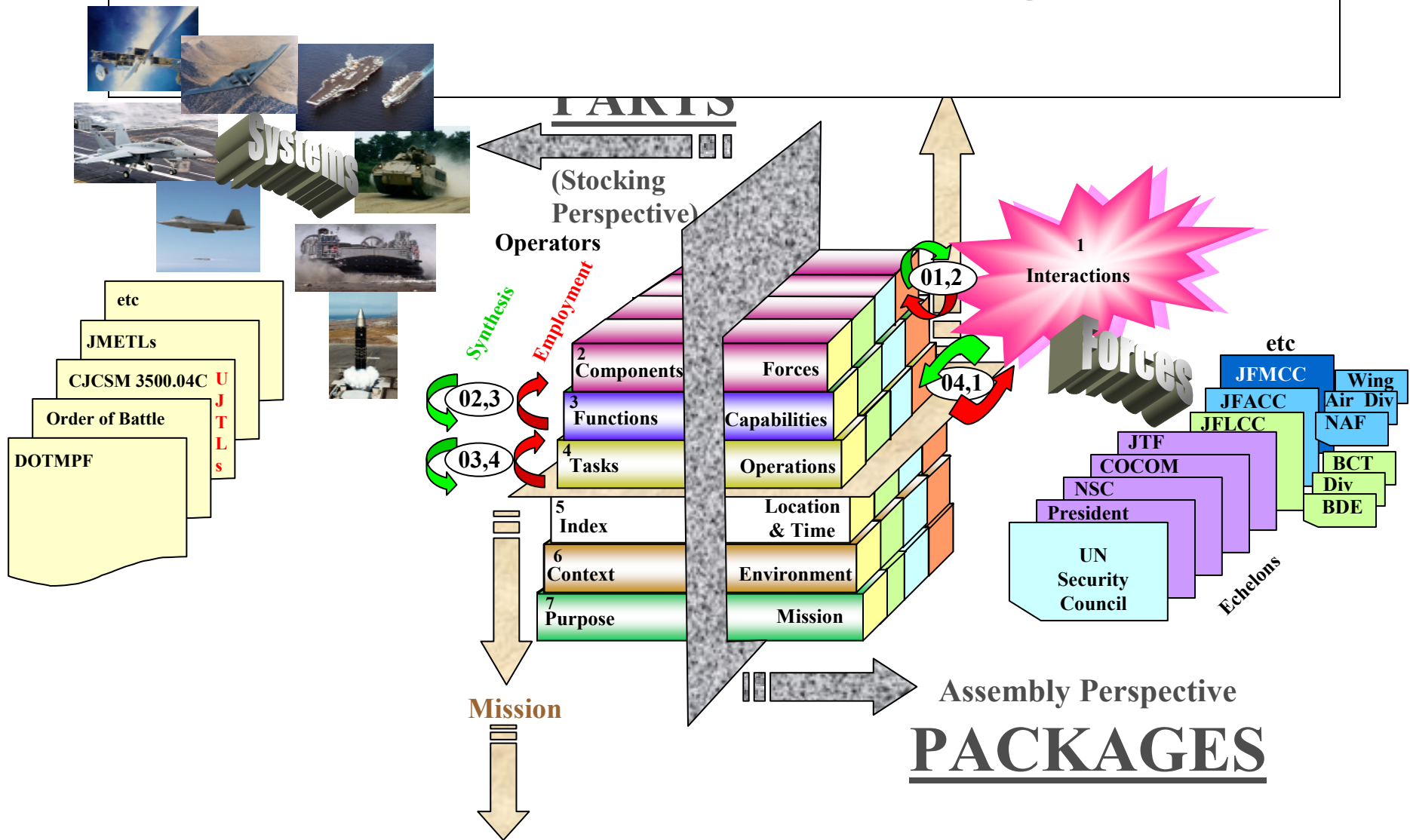
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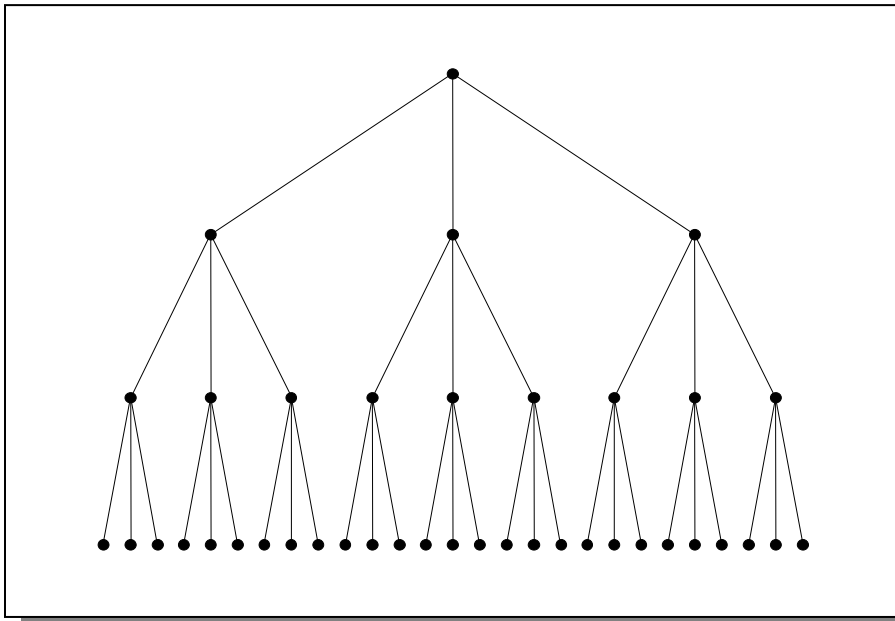
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# MMF: Parts and Packages



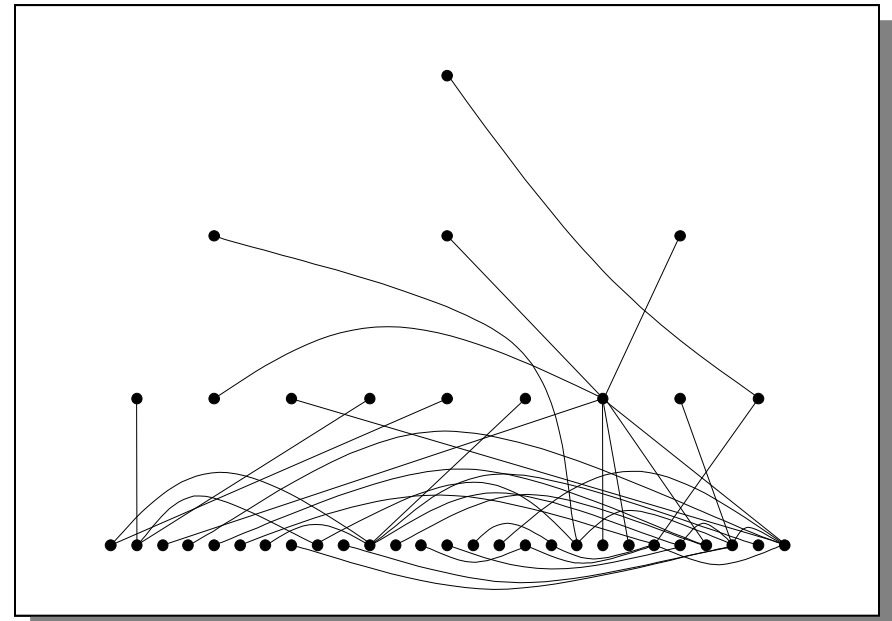
# Chains versus Networks



## Chain

*Too brittle, simple pattern, simple control, scaled*

*“business end” most poorly connected, hard to reconfigure or change flow*



## Network

*Very robust, complex pattern, complex control, scale free*

*“business end” best connected, natural to reconfigure or change flow*

*Arthur K. Cebrowski, Director, Force Transformation, 18 January 2004*

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Employ a Layered Decomposition

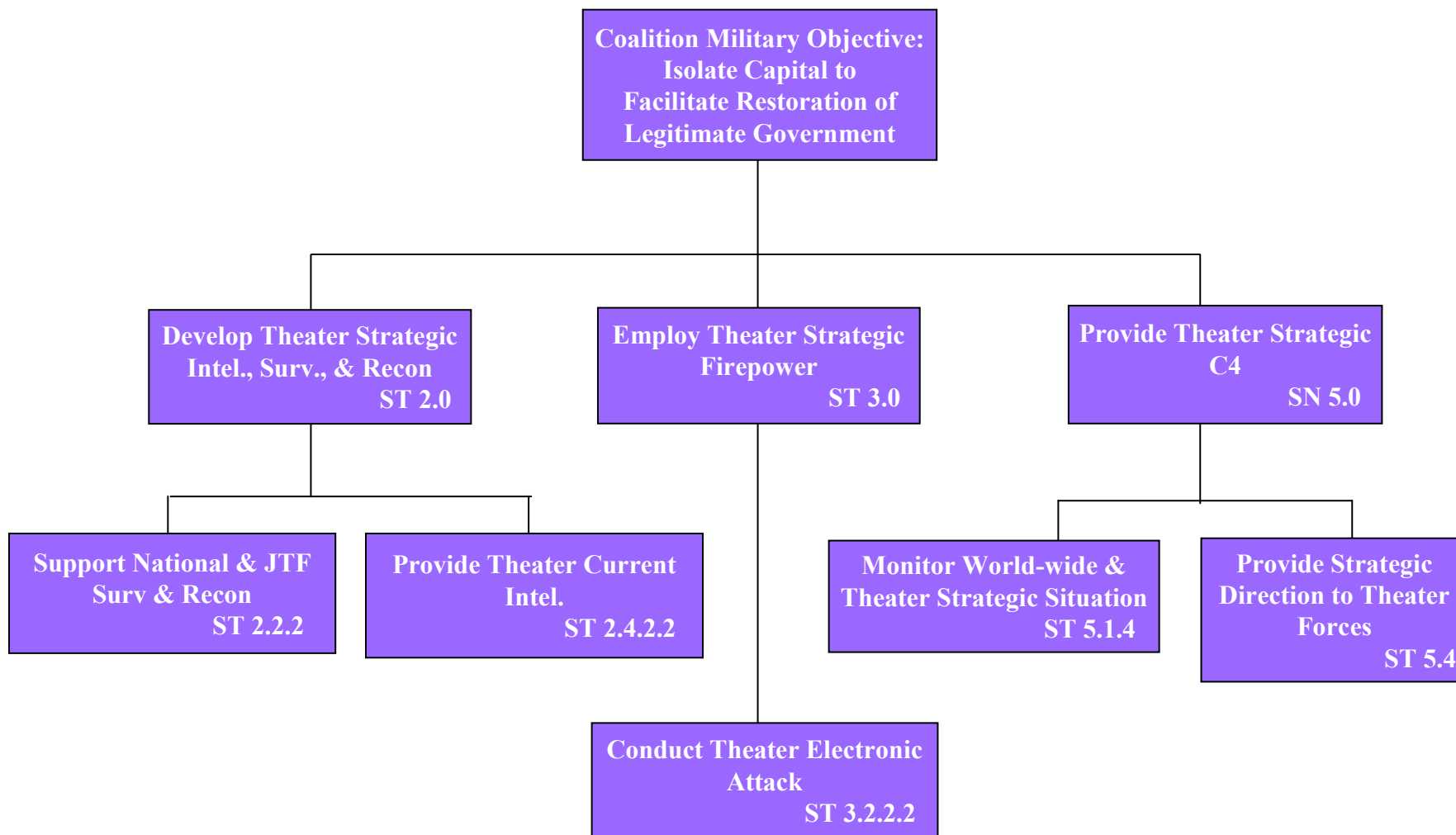
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## Tasks Semantics by Level-of-War

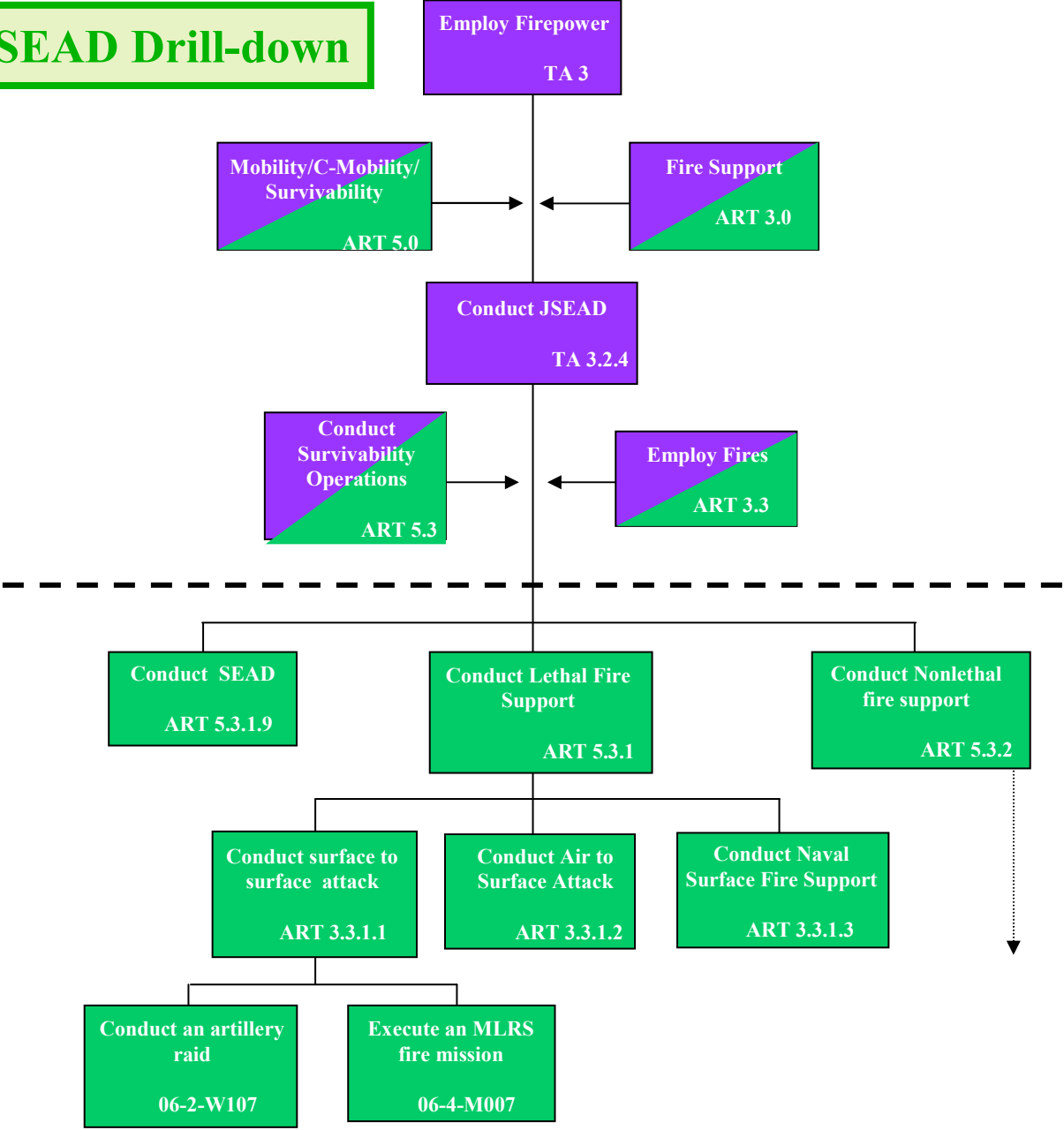


Figure 2

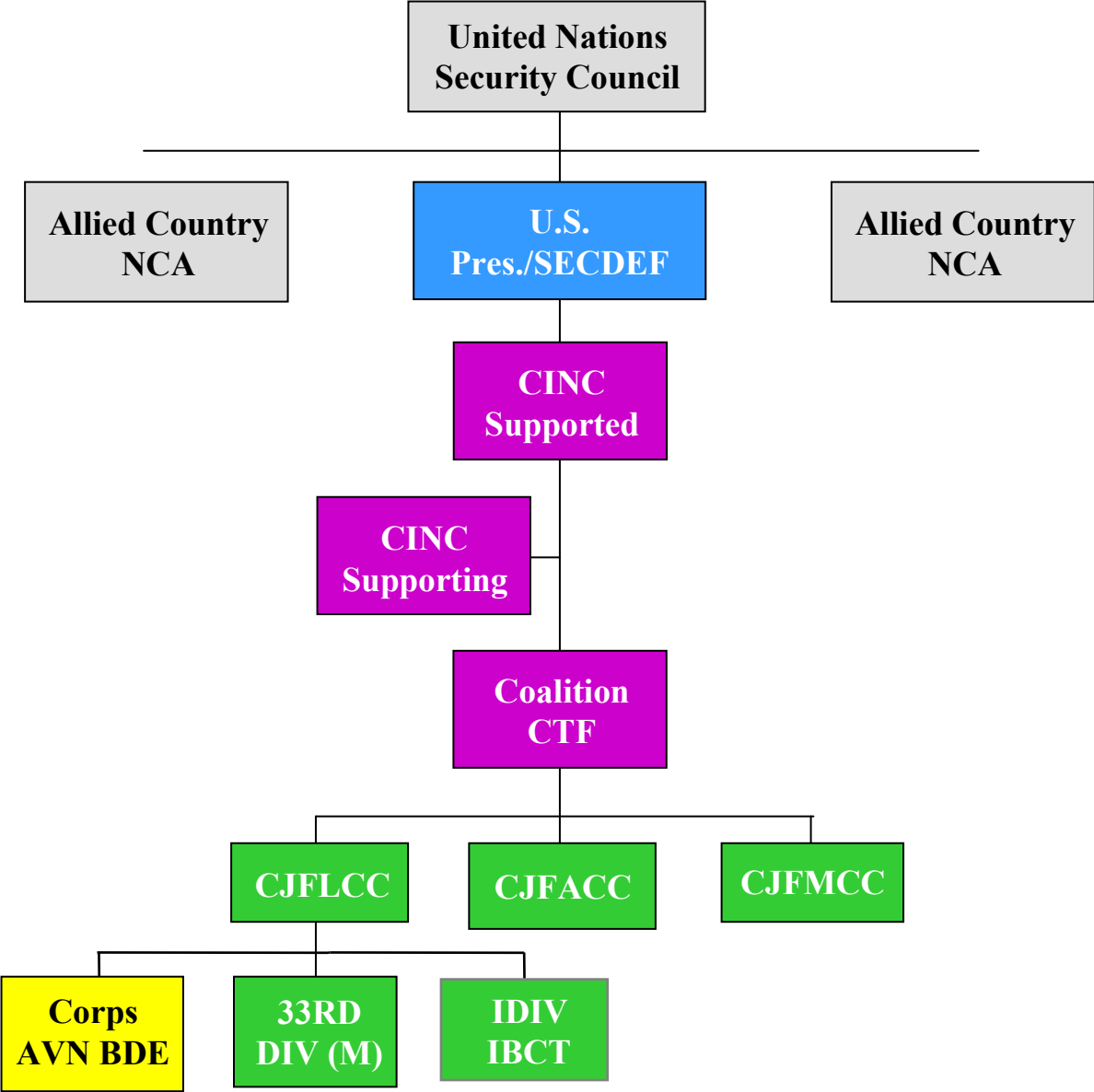
# Level 4: Strategic Theater



# Level 4: SEAD Drill-down

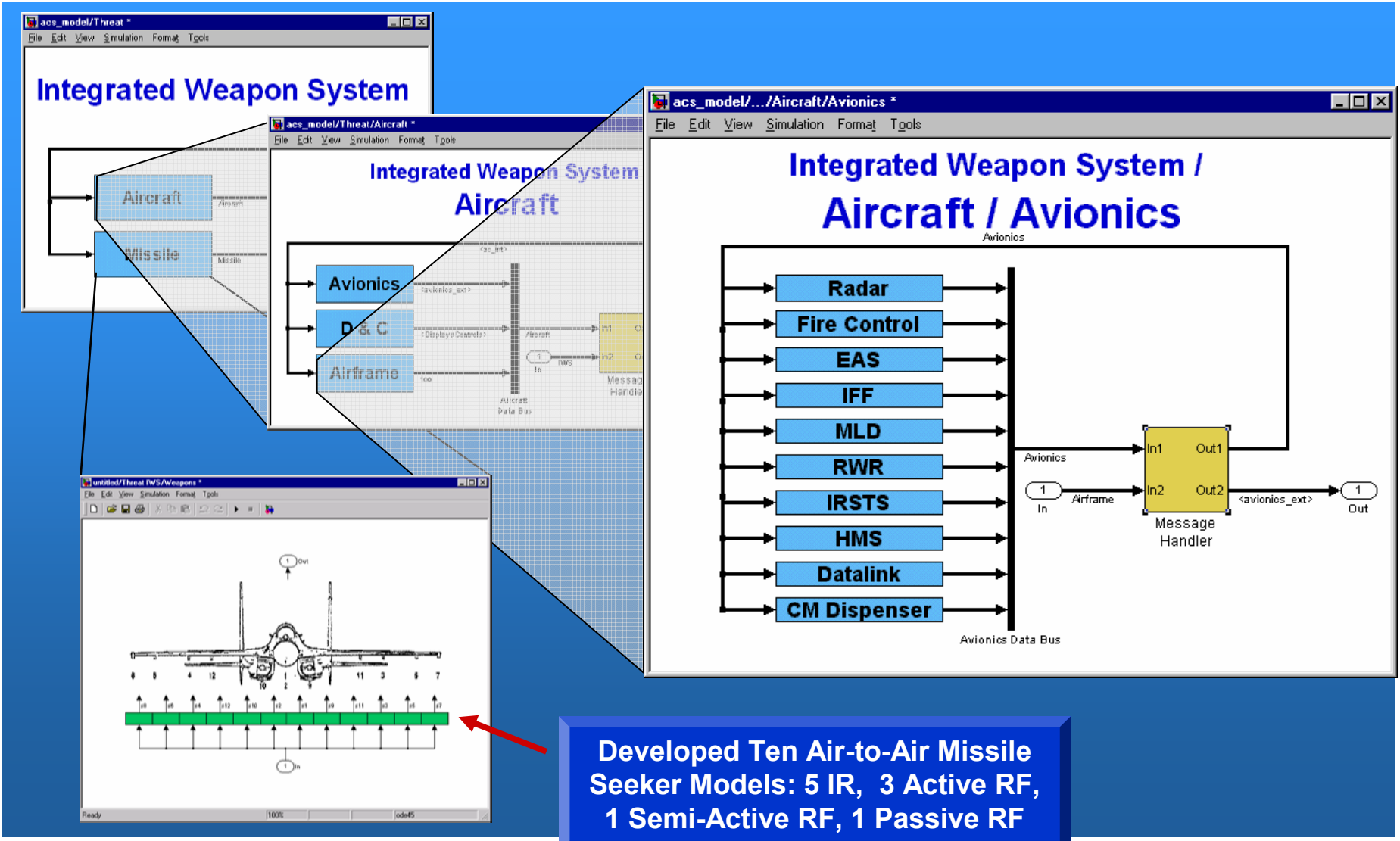


# Level 2: Force Structure





# Hierarchical Integrated Aircraft Avionics Models



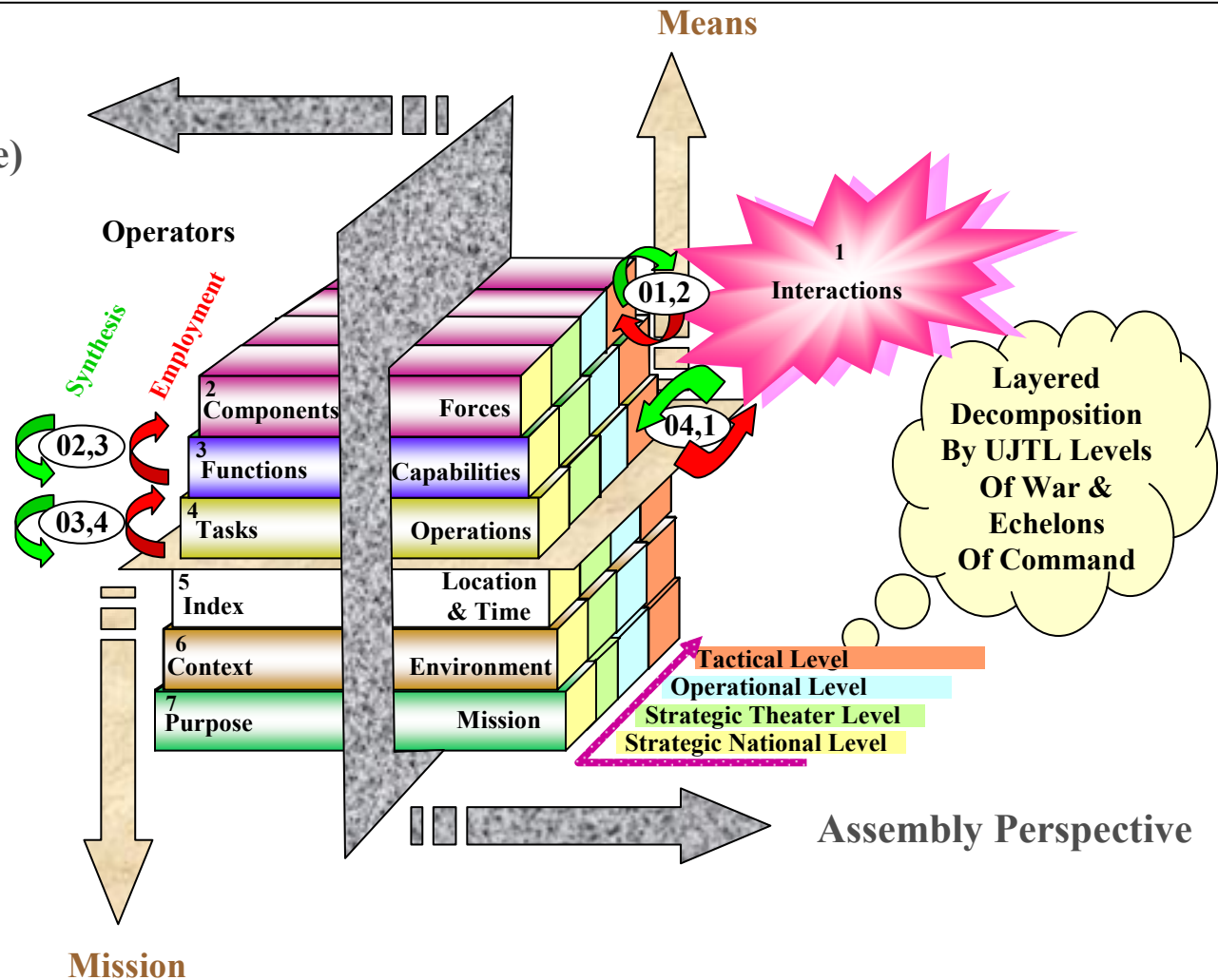
Developed Ten Air-to-Air Missile Seeker Models: 5 IR, 3 Active RF, 1 Semi-Active RF, 1 Passive RF

Source: National Air Intelligence Center TMAP Office



# MMF: Layered Decomposition

Reference Library  
(Stocking Perspective)



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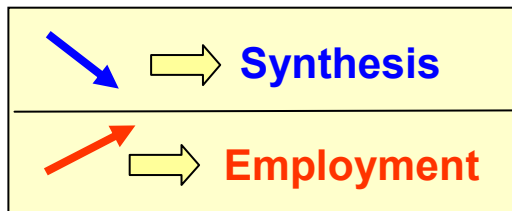
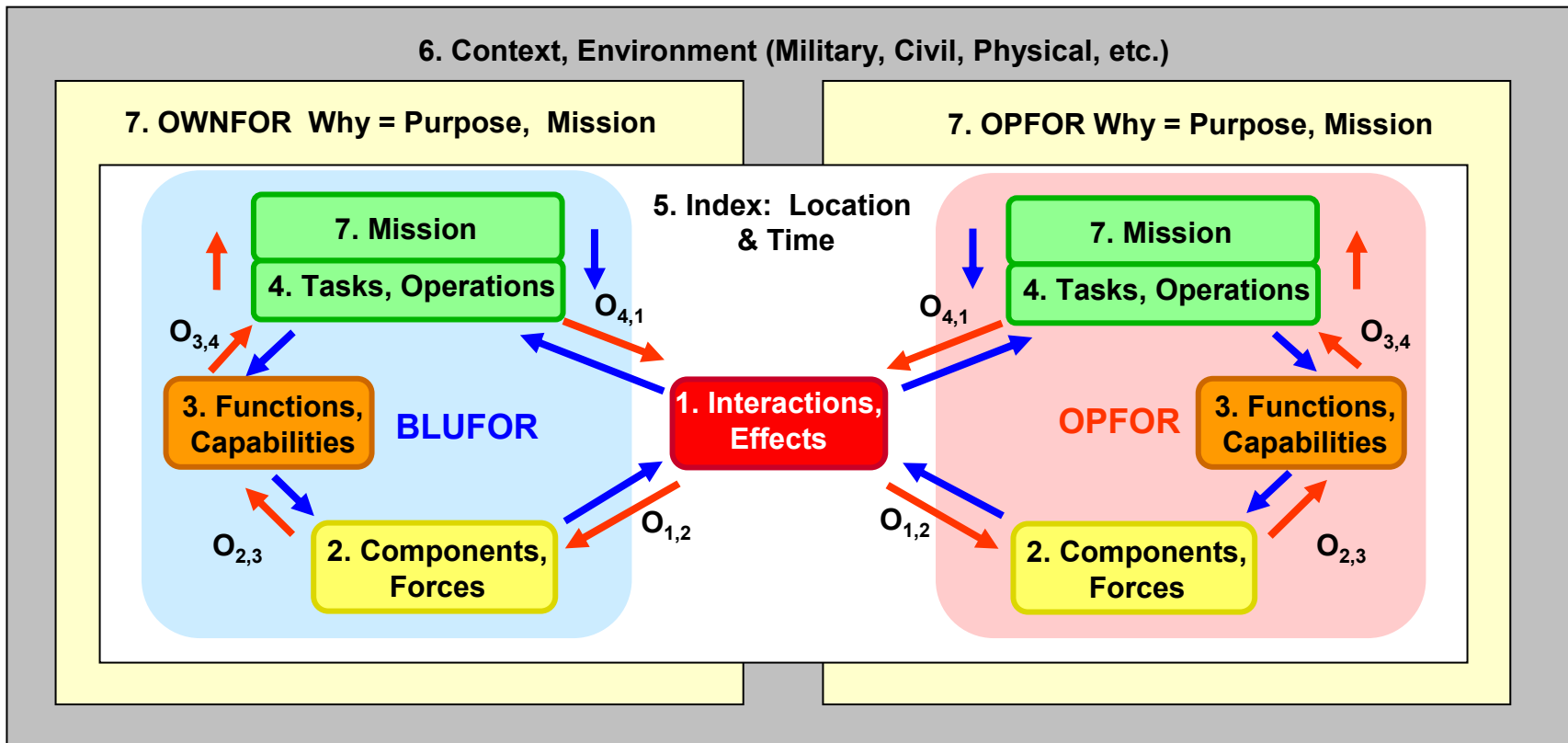


Figure 1

# Traditional Capabilities

Move

Communicate

Sense

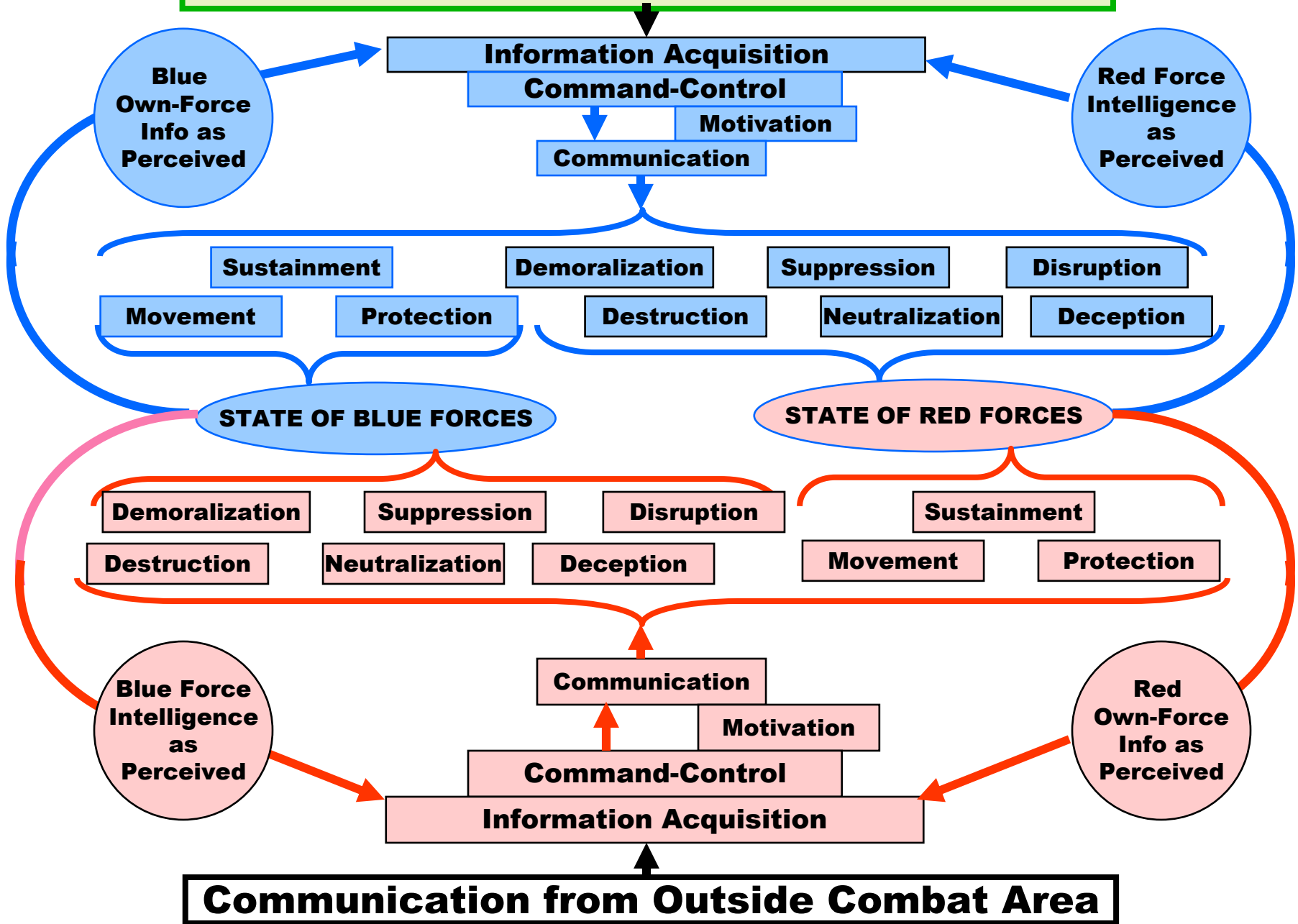


Engage

Replenish



# Communication from Outside Combat Area



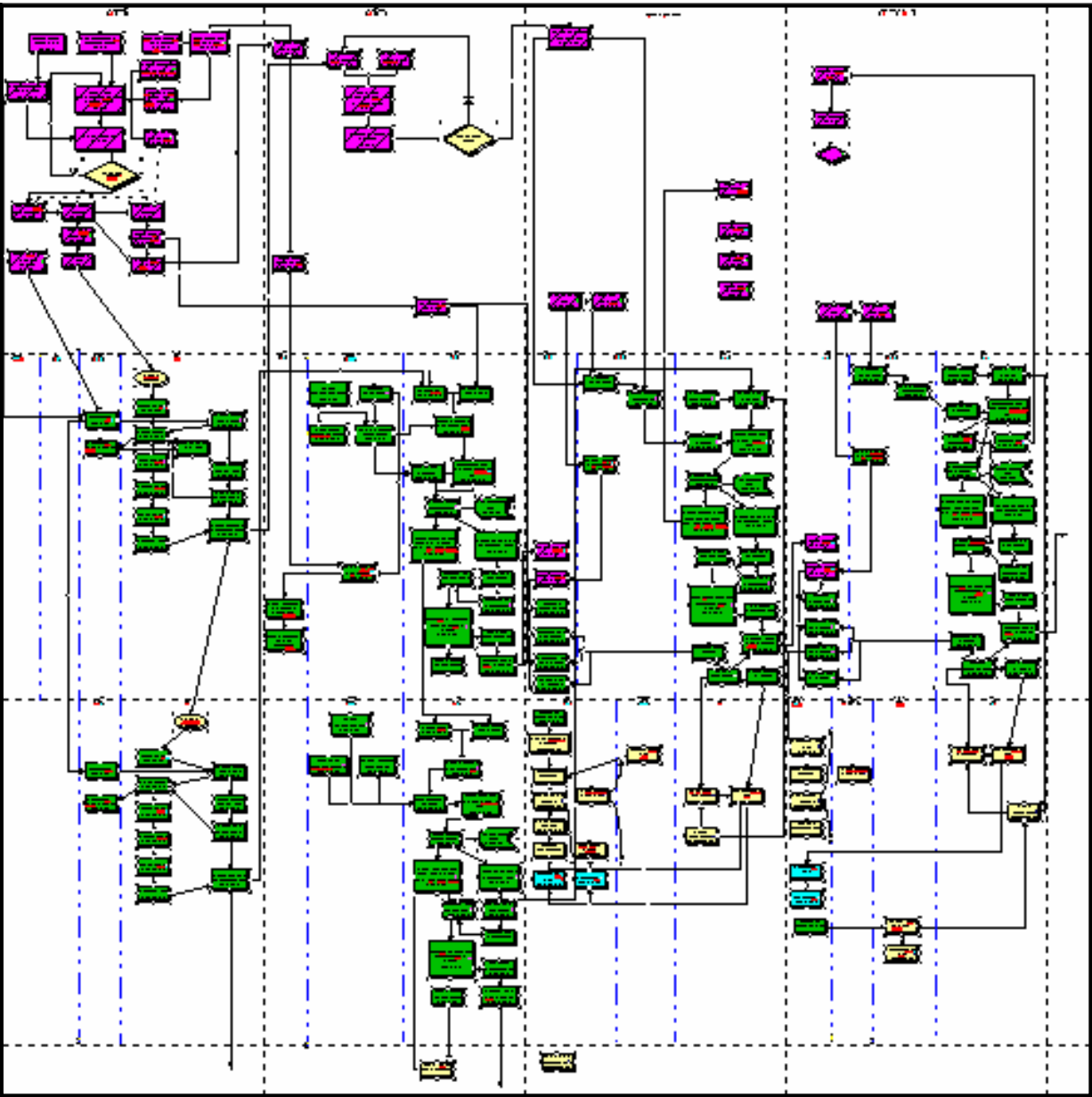
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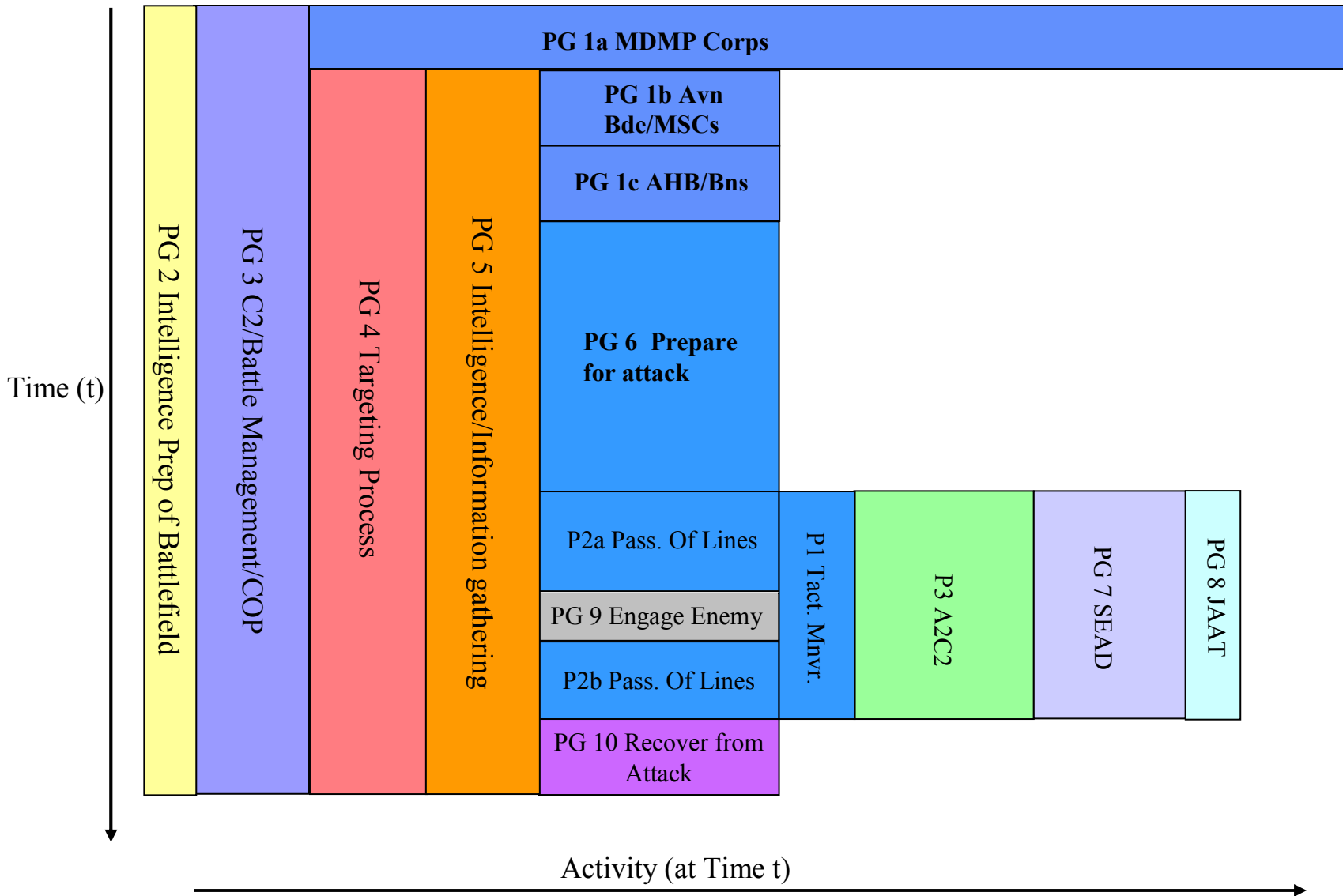
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Link each Mission with Means in Packages

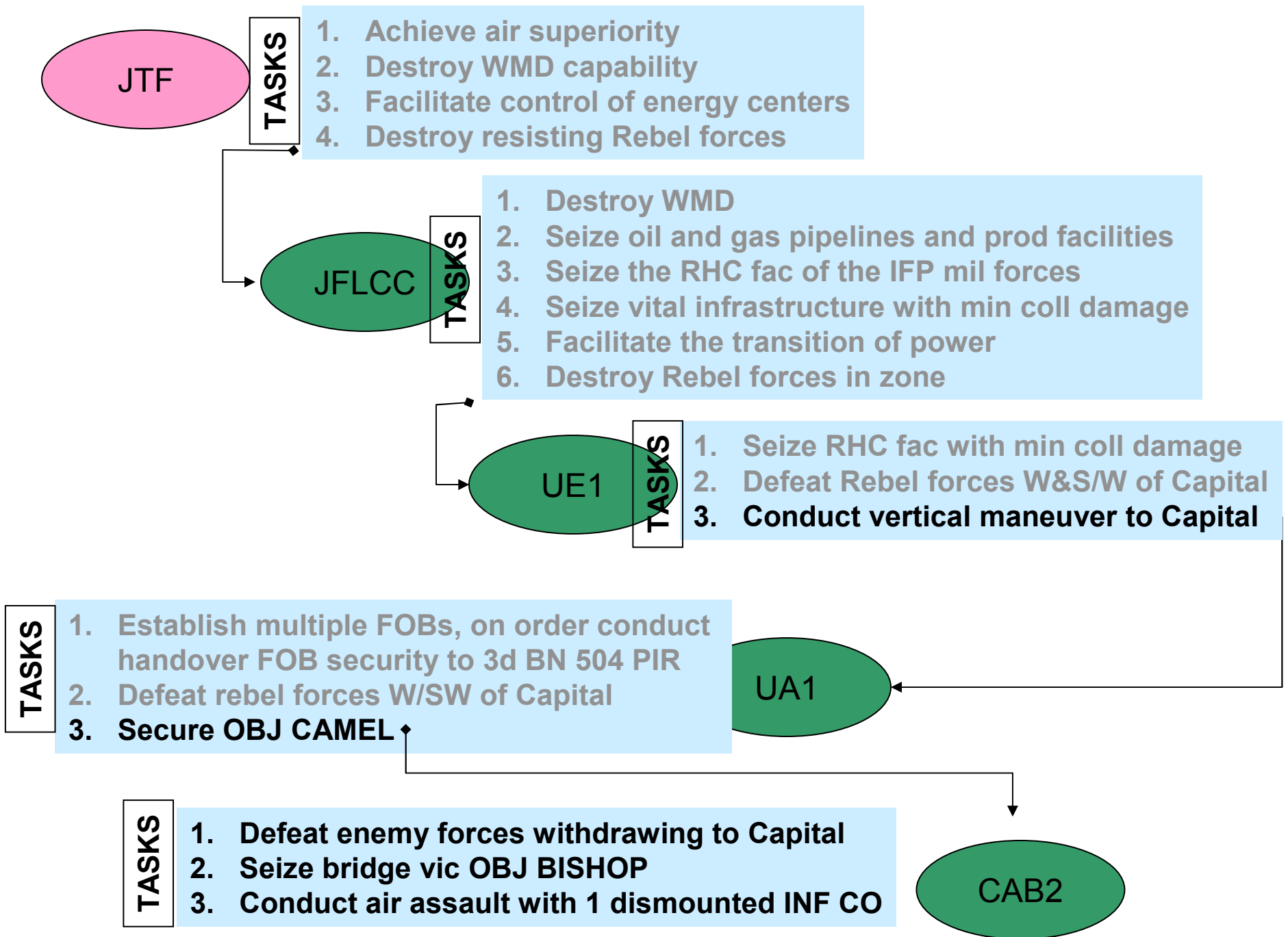
# Task Explosion



# Deep Attack Process Group







# Mission & Means Framework

## Two-Sided Representation

