

Science & Technology for Chem-Bio Information Systems (S&T
CBIS) Conference

Providing Capabilities-Based Analytic Support In Dynamic Operational Environments

Albuquerque, NM
26 October 2005





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- ▶ Use Cases and Architectures
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Scenarios, Use Cases and Mission Threads Provide...

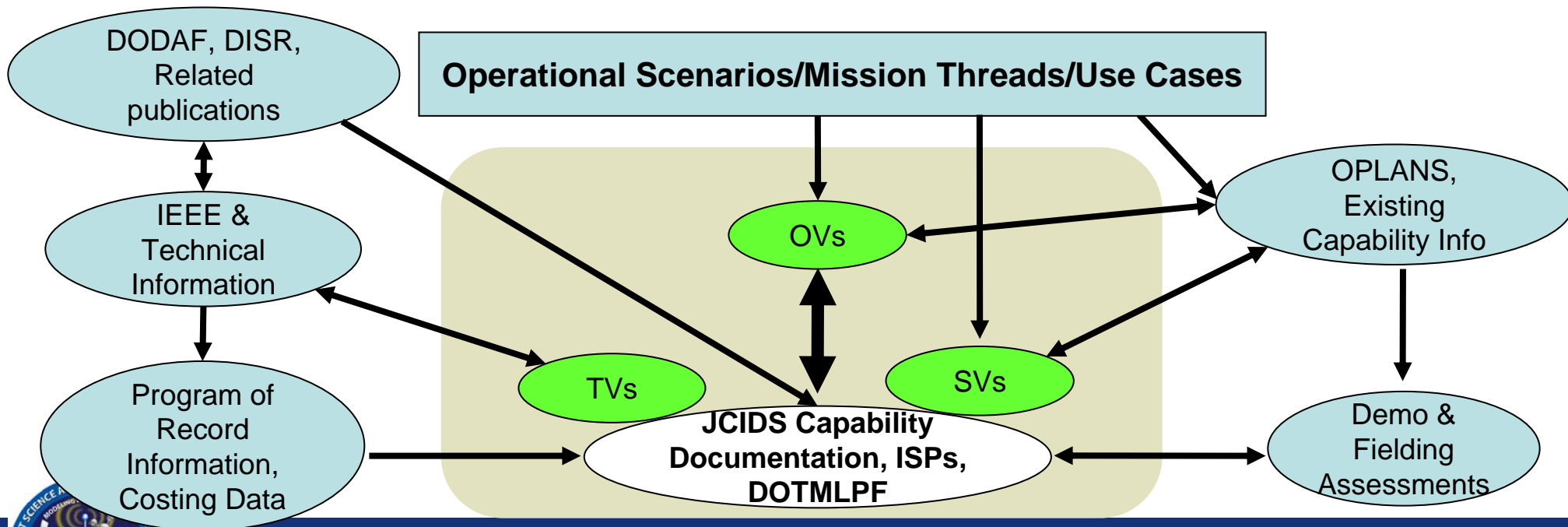
- ▶ A ***common baseline and lexicon*** to facilitate discussion between operators, systems engineers, software engineers, developers, and architects
- ▶ A consistently executable **analysis and management** tool to address the development, synchronization, monitoring, assessing, and refining of joint warfighter capabilities across the DOTMLPF spectrum and across Warfighting Domains
- ▶ A conduit for moving capability development along a spiral evolutionary pathway toward the net centric goals of Joint Operational Concepts, Joint Integrated Concepts, and Joint Functional Concepts
- ▶ **Tied with systems – allows for direct tie to Acquisition decision-support.**

Mission Threads/Use Cases - a Common Integrating Core Across Warfighting Operations, Systems And Processes

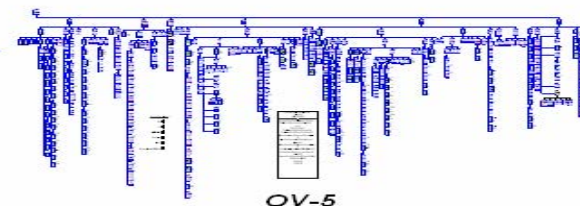
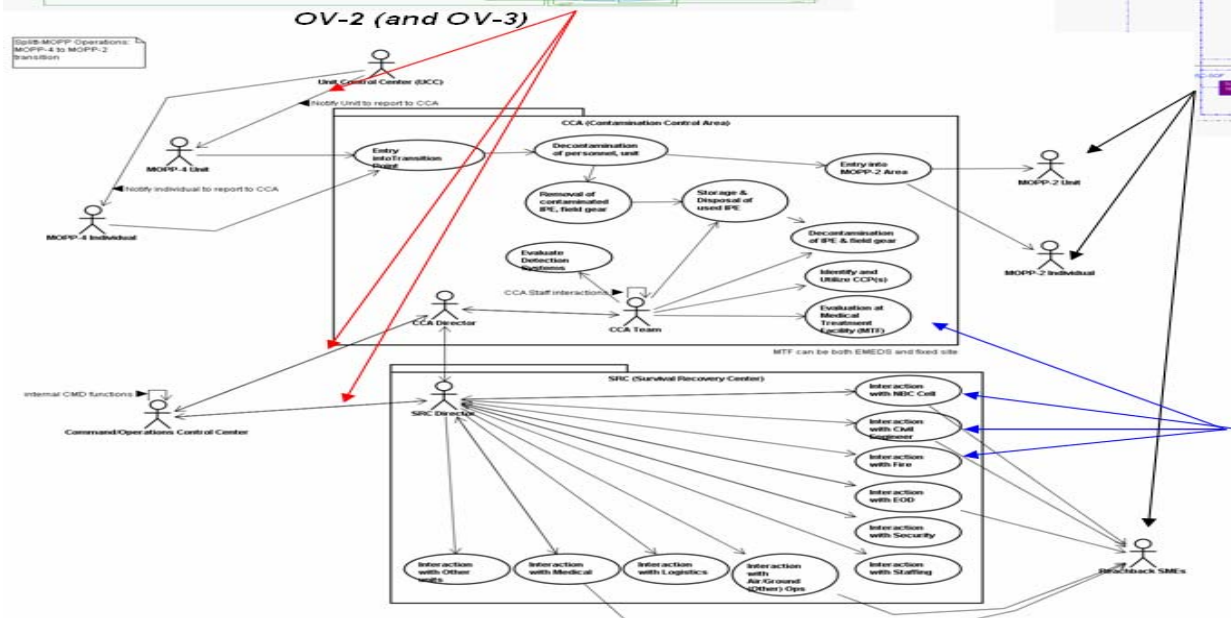


Operational Scenarios, Mission Threads, and Use Cases Assist In Structuring the Overall Architecture

- ▶ Allows for quick relationships to architecture products and development of Demonstration & Exercise Plans and Data Collection and Analysis Plans (DCAP) for *Execution*...

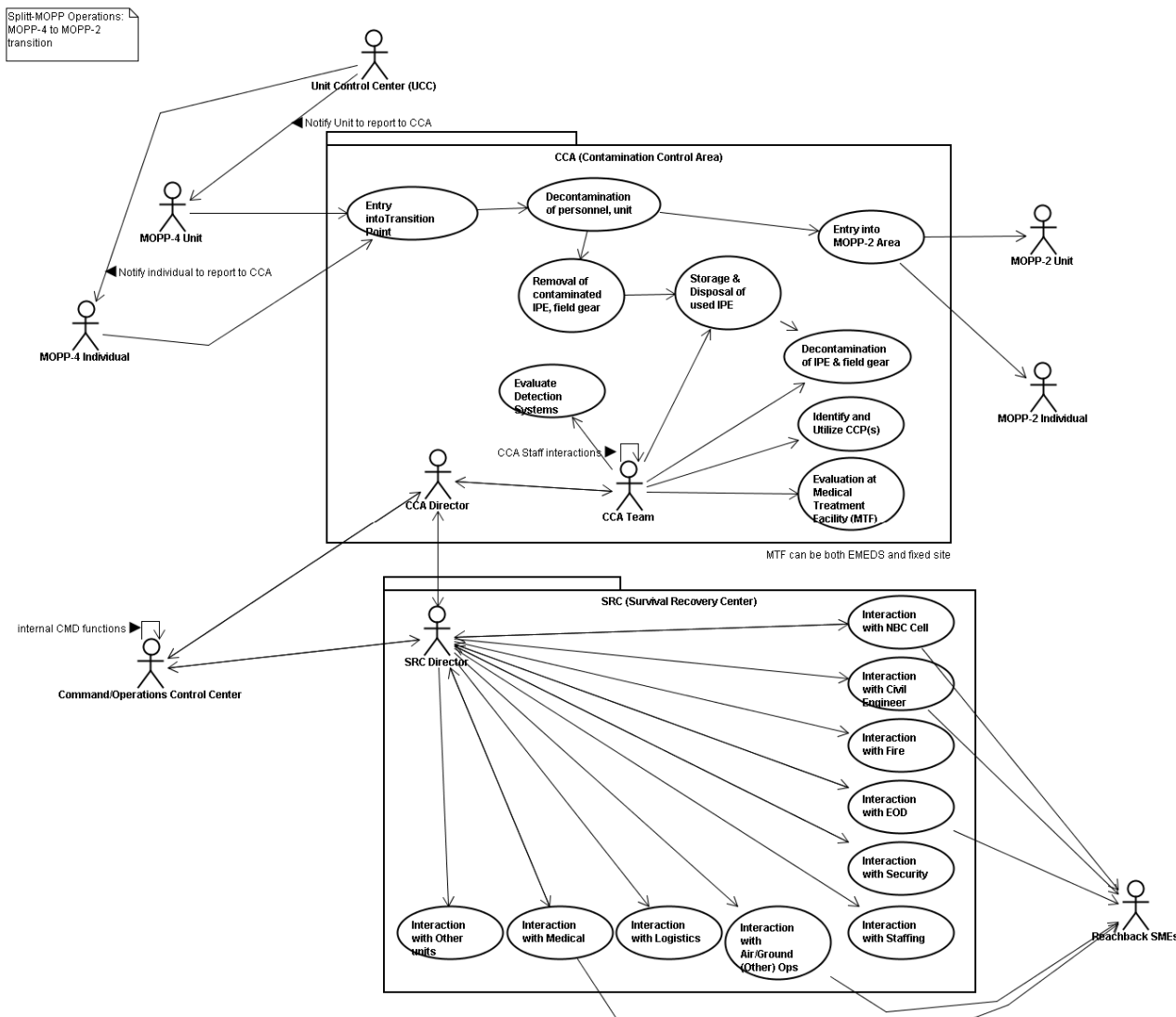


Operational Scenarios, Mission Threads, and Use Cases Structure the Overall Architecture



- ... and tighter architecture and requirements refinement spirals for *requirements and regulatory needs*.

Developing And Implementing Use Cases



- Provides Context to the Architecture By Providing a use case or set of use cases within a scenario
- Easily Understood By Most Engineers and Easily Explained To Operators and End Users
- Provides a set of potential needs and capabilities to use in T&E and Exercise events
- Supports MSELs, DCAP, and ExPlans

Process Layout: Use Case Development

- Process Supports

- Initial Development

- For discussion and warfighter inputs

- Threshold Refinement

- Verification of by warfighters, engineers, and developers

- Analysis

- Objective Validation

- T&E, Analysis

USED AT:	AUTHOR: Mark Neff PROJECT: Use Case Development NOTES: 1 2 3 4 5 6 7 8 9 10	DATE: 12/1/2004 REV: 12/1/2004	WORKING DRAFT RECOMMENDED PUBLICATION	READER	DATE	CONTEXT: A0
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Develop Initial Baseline Use Cases
 \$0 A1

SME, Developer, and Operator Inputs

Revise Initial Use Cases to Threshold
 Use Case scenarios for Testing
 \$0 A2

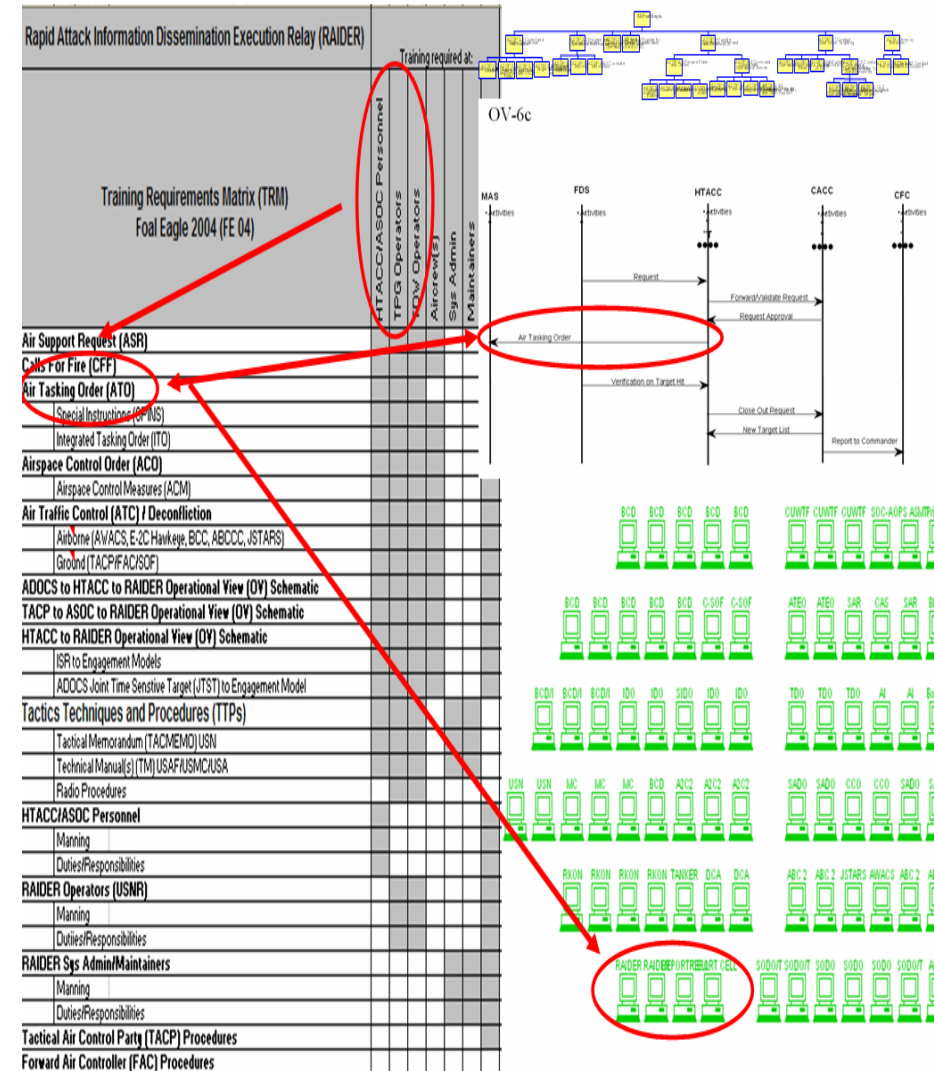
Observation and Analysis of Testing

Revise Threshold Use Cases against
 Testing Obs. and Analysis to
 validated Objective Use Cases
 \$0 A3

NODE: A0	TITLE: Develop Use Cases	NUMBER:
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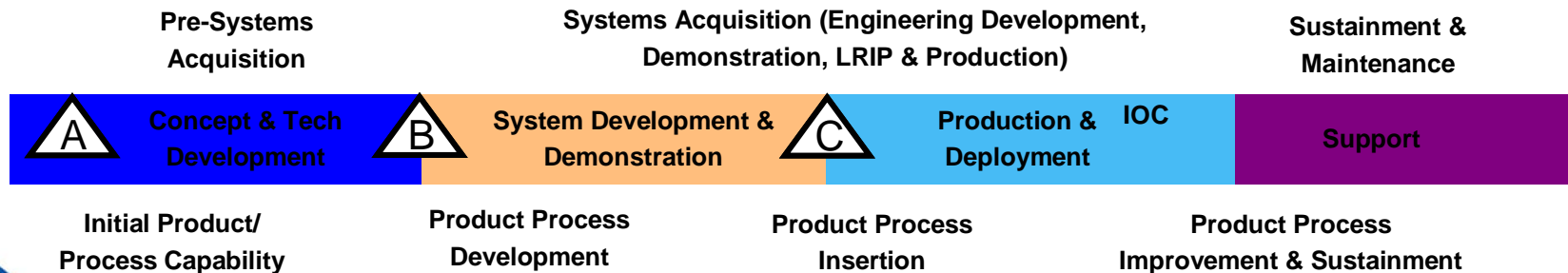
Capability-Based, Event-Driven Analysis Supports DOTMLPF Needs

- ▶ Event Drivers (Scenarios, Threads, and Use Cases) and the subsequent analysis and tools provide the capture and dissemination of war fighter needs to rapidly transition to capability solutions while ensuring required data capture and documentation via overarching architectures and JCIDS requirements.



Capability-Based, Event-Driven Analysis Supports DOTMLPF Needs

- ▶ Using this methodology ensures both *rapid delivery* of War fighter capability and continued *sustainability* and *enhancement* to the capability delivered.
 - “Event-Driven” provides quick Return-on-investment through requirements development, testing, analysis, validation, and solution identification.
 - “Capability-Based” provides the integration, linkages, data capture, architecture refinement, and documentation to meet POM and POR requirements for sustainment and enhancement.



Event Drivers Such As Use Cases Ensure Linkages & Tie-Ins Leading To End-to-End Documentation

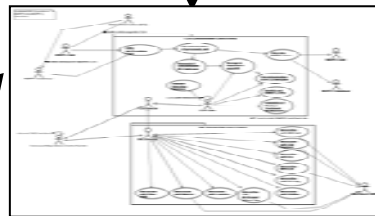
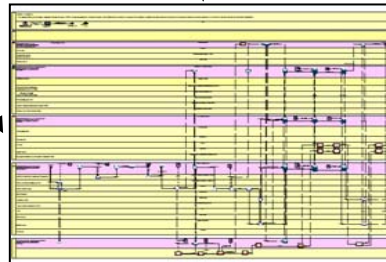
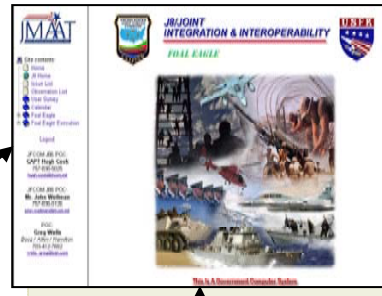
Requirements

Urgent Needs, IPLs, L/Ls
Capability Development



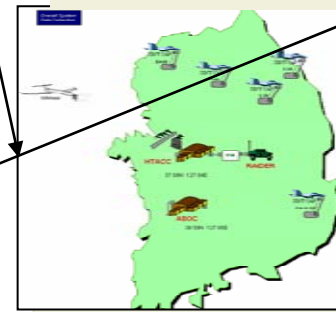
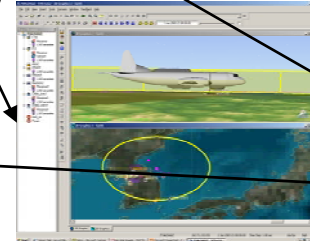
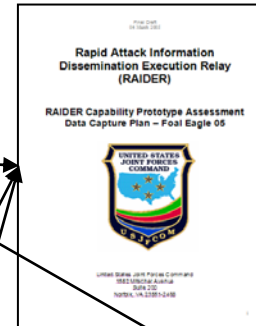
Concepts

CONOPS, Mission
Threads, Use Cases

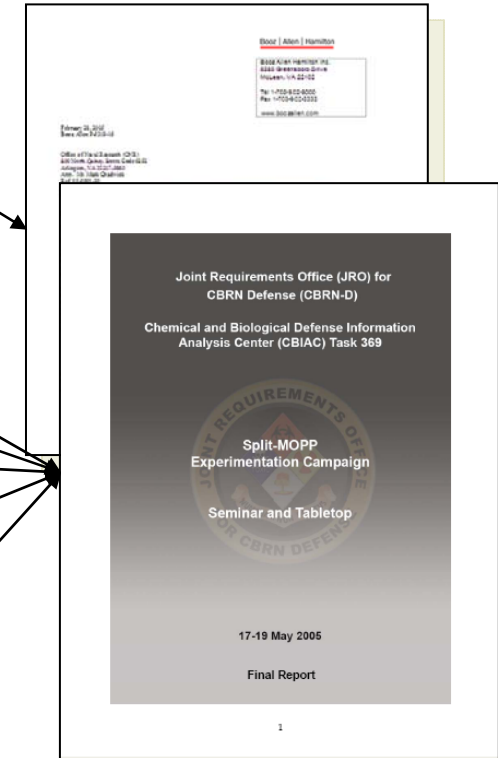


Data Collection & Analysis

Architectures, M&S

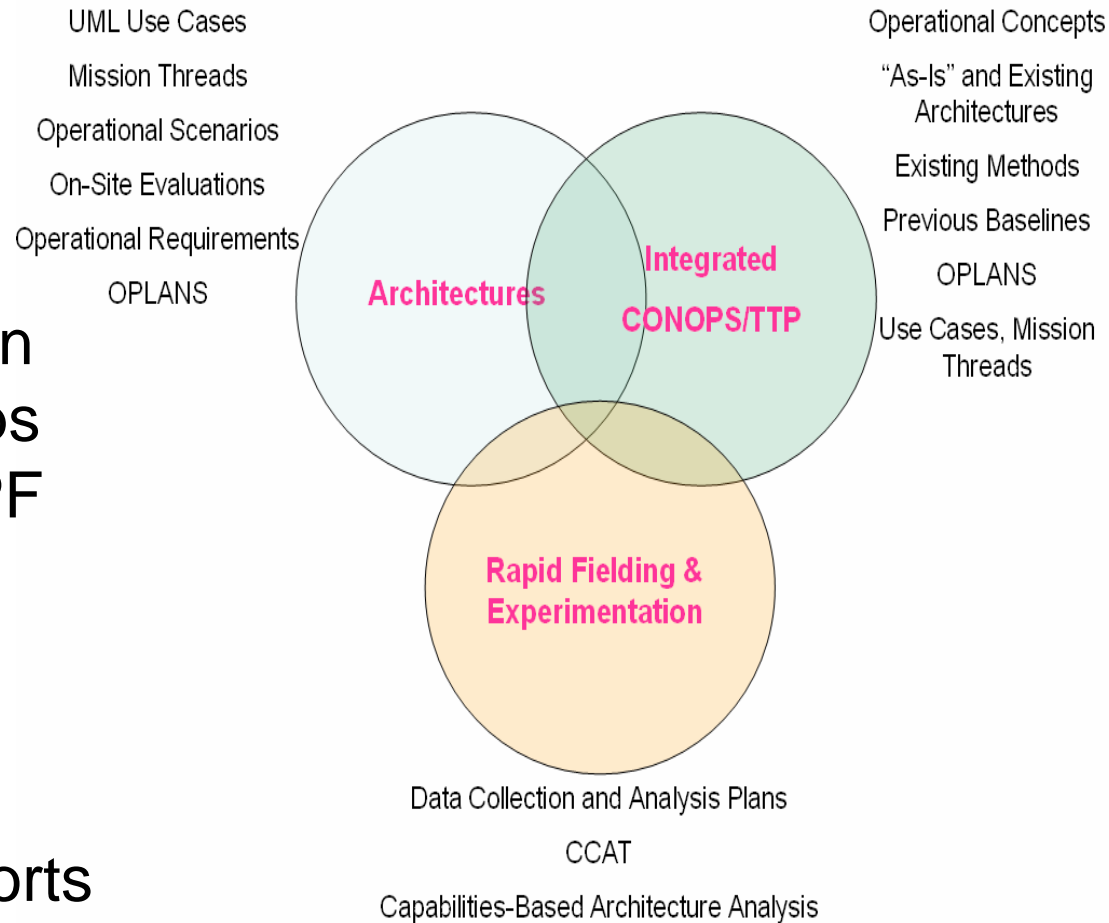


Final Report/Deliverables



Capability-Based Event Analysis Ensure Linkages & Tie-Ins Leading To End-to-End Documentation

- ▶ Ensures direct linkage to OPLANs, CONOPS/TTP, UJTLs, etc.
- ▶ Ensures rapid identification of deficiencies and overlaps & recommended DOTMLPF solutions
- ▶ Leverages and integrates existing and developing architectures and M&S efforts



Questions, Discussion, Contact Information

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