


Bringing Analytical Rigor
To
Joint Experimentation

October 2006


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Analytical Rigor: Performance Standards

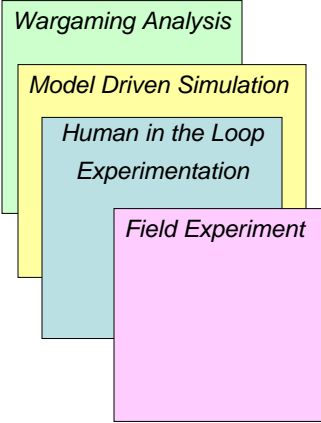


Relevance

- Customer oriented
- Critical issue focused
- Metrics validated results

Productivity

- Coherent product strategy
- Cost effective execution
- Value proven by transition



Development Model for Capability Solutions

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Transition to Procurement & Sustainment

- Joint Training

Readiness & Suitability Confirmation

- Test & Evaluation
- Military assessment of utility

Functional Validation; Tailored Form/Fit/Function

- DOTMLPF construct development and confirmation
- Demonstration/Tactics, Training, Procedures Development

Technical Concept Design & Development

- Prototyping

Alternatives Development & Assessment

- Experimentation
- Red Teaming Analysis

Conceptualization

- Needs identification/lessons learned/assessment
- Tech push exploitation

OSD Joint Experimentation Strategy



- JE Product Focus: Promote experimentation as part of an integrated strategy for refining joint operational concepts and fielding relevant warfighting capabilities
- Encourage CoCom/Component Cdr experimentation to validate capability gaps and develop capability gap remedies
- Balance experimentation investment between overarching joint concept development and local theater commander needs
- Balance investment between current operational requirements (CoCom customers) and future concept development (Service partners)
- Integrate operational, experimentation and training capabilities to avoid redundant investments
- Integrate Service and Agency experimentation to reflect joint operational environments
- Develop the USJFCOM Future Lab as hub of a distributed M&S network serving CoCom joint experiment needs

OSD JE Goal: Support CoCom capability to execute assigned military missions

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What are Joint Capabilities? Experimentation /Acquisition Perspective



Unique Regional/Specified Mission Needs

Capabilities beyond common core military elements required by warfighters to effectively function in operational environments for joint regional or specified missions.

Joint Enabling Capabilities

Additional capabilities required by warfighters to exercise joint command, and to enable core military elements to function effectively as a coherent joint force.

Multi-Service Core Capabilities

Common denominator Military forces provided worldwide as self-integrated, self-sustaining echelons by the Services.

Challenge: *Addressing immediate CoCom HQ needs as well as joint seams between subordinated Component Commands*

Understanding Critical JE Outputs Need – Solution Dynamics to Deliver Capabilities



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Critical Elements For Experimentation & Capability Delivery:

- ➔ What do joint commanders need to execute their mission?
- ➔ What can joint commanders “live without” to offset costs?
- ➔ Does cost to the nation align with DoD overall needs & existing capabilities?
- ➔ Is there a compelling case made by JE to spend national resources?
- ➔ What is the most effective path for development and transition to fielding, then sustainment?

JE Customers: Processes & Roles



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Needs Process

1. Develop & specify needs
2. Review & comment on budget-based programming and acquisition solutions
3. Allocate resources to joint/combatant commanders

Needs Roles

CJCS/JCS
CoComs
Joint Staff
Military Staffs
CoCom/Component Cdr Staffs

Acquisition Solutions Process

1. Consult with needs authorities in development of acquisition solutions
2. Acquire material solutions based on validated needs and budget-based programming
3. Deliver resources (acquisition products) for allocation to joint/combatant commanders

Solution Roles

USD (AT&L)/DAE
Service Secretaries/SAEs
OSD (AT&L) Staff
Service Secretariat Staffs
Systems/Materiel Commands
Military Agencies



PPBES: Program – Budget Process

Capability Transition Effort Caveats: Maintaining Momentum and Credibility



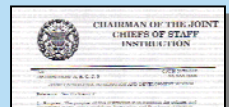
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- **Systematically, honestly develop options: technologies and operational concepts...resist the human urge to hop on the first pony at the petting zoo**
- **Assess alternatives honestly and brutally to discern optimal solutions**
- **Have a “business plan” roadmap for the capability: No “miraculous” options**
- **Manage risk with progressive options: don’t bet the farm on the plow horse**
- **Use a diversity of development and transition tools**
- **Get T&E involved early: best contribution is skepticism and thoroughness**
- **Invest in disciplined, rigorous independent validation (e.g. TRL, MUA)**
- **Plan beyond technology delivery: Don’t forget MRL**
- **Keep all three tires on the ground: address needs, PPBES & acquisition**

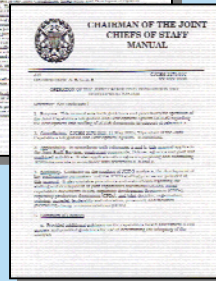
Joint Capability Integration & Development System (JCIDS)



- **Experiments must deliver actionable results**
- **Aim should be delivering decisive advantage to warfighters**
- **Advantage hinges on acceleration of transition from concept to capability**
- **Compliance with JCIDS removes obstacles to rapid transition**



CJCSI 3170.01F
JCIDS Instruction



CJCSM 3170.01C
JCIDS Manual

Functional Need Assessment Criteria for Transition



Requirement
Has the experiment considered the relevant doctrinal approaches to the military problems posed in the scenarios?
Has the experiment identified which objectives have an unacceptable likelihood of being achieved in those scenarios?
Has the experiment identified which capabilities and tasks limit the ability to produce the desired effects?
Does the experiment use the standards developed in the FAA to characterize the severity of the capability gaps?
Has the experiment produced and documented sufficient analytical results to justify the capability gaps it describes?
Does the experiment prioritize the gaps using a framework derived from current strategic guidance?
Does the experiment contain sufficient information to determine how the gaps were prioritized, and the main factors driving the prioritization?
Does the experiment make a compelling case for which gaps pose the most significant risk and must be resolved?

Functional Area Assessment Criteria for Transition



Requirement
Does the experiment accurately portray the mission, function or concept to be assessed?
Does the experiment contain a set of relevant scenarios and military objectives?
Do the conditions, as expressed by the scenarios, cover the breadth of the defense strategy and reflect current DOD priorities?
Does the scope of the experiment address the issues but still allow the assessment to be done in a responsive amount of time?
Are the desired capabilities directly linked to the military objectives of the scenarios?
Does the task structure support a concise depiction of the military objectives and doctrinal approaches?
Is the task structure flexible enough to accommodate approaches envisioned in applicable concepts or CONOPs?
Are the standards derived from both the strategic guidance and the attributes in the Joint Concepts?
Are the evaluation criteria associated with the standards broad enough to allow subsequent analysis of the trades between effectiveness, cost, and risk?
Does the experiment identify the timeframe when the capabilities are required?

Functional Solution Assessment Criteria for Transition



Requirement

Does the experiment evaluate spectrum of non-materiel approaches, particularly policy alternatives?

Does the experiment investigate the full spectrum of materiel approaches, including use of interagency or foreign systems and new uses of existing systems?

Does the experiment evaluate the range of sustainment alternatives for each approach?

Does the experiment investigate at least one alternative CONOPS?

Does the experiment present alternative CONOPS where necessary for its approach?

Does the experiment provide estimates of the responsiveness, feasibility, and attainability of its proposed approaches?

Does the experiment fully document assessment of effectiveness and risks?

In cases where an approach has high uncertainties but promising payoffs, does the experiment identify it as a candidate for joint experimentation or advanced technology development?

If the experiment contains approach portfolios, does it propose a cost-neutral and a cost-unconstrained portfolio?

If the experiment contains portfolio recommendations, does it show how recommendations might change given strategic shifts described in defense guidance?