Joint Experiment Life Cycle

Module 2

Experiment Preparation, Execution, and Reporting

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GS14, Solution Development
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Instructor

- Kenneth R. Pierce, GS 14, Joint Staff J7 – JCW, Solution Evaluation
- Current Project: Experiment Designer/Controller Phased Adaptive Approach to Ballistic Missile Defense
- Plank holder in JFCOM J9 – 10 years experience in joint experimentation.
- Twenty-six years in US Army, Infantry Officer, Command at Company and Battalion; 2 combat tours; 2 joint assignments in USEUCOM and USFK both in joint exercises.
Experimentation Life Cycle

Experimentation and Analytical Rigor is provided by detailed planning.

 Effort

10%

90%

Execution

Control

Design

Planning

Continuous Efforts

EST Throughout Project
Experiment Framework

Reports are accomplished throughout the experiment to capture the results of events such as the IPC, MPC, FPC, or SLS.
Final Preparations

• Final preparations prior to experiment execution include:
  – Set up & testing of the technical architecture
  – Training of players, assessors, control staff, & other participants
  – Assign specific responsibilities to players, controllers, & others as required
  – Conduct needed rehearsals
  – Finalize arrangements for visitors & media
  – Make refinements to the Data Collection & Analysis Plan
Final Preparations

• Preparation Phase outputs:
  
  – Final Training Plan, to include material development & execution
  
  – Refined Risk Assessment & Mitigation Plan
  
  – Final Operation Security (OPSEC) Guide
  
  – Final Transition Implementation Plan
  
  – Technical / Operations Spiral & Rehearsal Plans
  
  – Initial assembly of DOTMLPF & policy Change Recommendations (DCR) & solution products based on findings, insights & conclusions realized to this point in the experiment’s life cycle
• Should be conducted on all parts of an experiment to bring together design, control, & analysis elements in a dress rehearsal of the experiment

• Ensures the integrity of the experiment process

• Does not predetermine the experiment’s outcome

• Trains the experiment controller, data collection team, & system operators on experiment runs

• Rehearsals work out the kinks prior to experiment runs for record
Rehearsals & Dry Walk-Through

• Scheduled after all systems’ end-to-end testing is complete
• Should be done 2 weeks before the experiment to allow time for any needed changes
• Experiments can “fail” to prove their hypothesis, but they cannot fail to execute the elements of the experiment as designed
The Execution Phase

• This phase is where the actual “trials for the record” for the experiment are completed

• Once execution begins, an Experiment Lead should be assigned who is overall charged with the experiment’s successful execution. Key roles that should be assigned include (as applicable):
  – Lead Controller
  – Lead Analyst
  – Lead Technical/M&S Support

• These positions form the core of the Control Cell. This staff may be augmented by other controllers for specific cells or functions or may be representing various partners
  • The role of the Control Cell (often called the White Cell) is to monitor play and ensure the experiment is progressing according to schedule and is addressing the analytical objectives

• In cases where the design of the experiment is in a distributed environment it will be necessary to use a distributed Control Cell schema where key controllers, analyst, data collectors, and possibly technical support personnel are forward deployed to remote site locations
Execution Steps

- Establish the control team and promulgate team battle rhythm
- Coordinate closely with analysts monitoring the progress of the experiment
- Leverage unexpected opportunities, as they arise
- Develop periodic assessments for the Experimentation Lead and recommend changes as required to ensure the event achieves the experiment objectives
- Modify key control elements such as MSEL, scenario timeline, forces available, deployment timelines, etc. as needed
- Execute DCAP and document all findings, expected and unexpected, for use in later follow-on experiments
- Conduct end-of-the-day Hot Wash meetings to address issues and develop solutions to barriers and impediments
Daily Pre-Brief and Hot Wash

• The Daily Pre-Brief is a meeting to discuss the plans for the day, any potential problems, etc.

• It can include a PowerPoint presentation with the results from the previous day’s Quick Turn Analyses

• It is recommended that the template for these briefs be created prior to and tested in the training and rehearsal weeks

• The Daily Hot Wash is a meeting at the end of the day to discuss what happened during the day, any problems, and any work lists for the evening
Data Collection and Initial Analysis/Observation

- During the execution of the event the analytical team is executing the collection plan.

- Ensure measures are in place to supervise the collection and storage of all the data.

- Integrity of the data is critical. Be prepared to be flexible and responsive to ensure data is recorded.

- Despite the best efforts of the analytical team, it may become apparent during execution that significant data is not being collected.

- If this occurs, be prepared to make the adjustment while keeping the rest of the project team informed of the change.
Data Collection and Initial Analysis/Observation (cont.)

• Execution Phase Output
  – The endstate of experimentation is data collection to support the analysis and assessment that is used to learn more about a specific capability
  – To prove or disprove a hypothesis, answer the analytical questions, and provide insights regarding the products and solution sets explored
  – To demonstrate that the stated capability does what it advertises
H owever, this training module deals only with Reporting Phase reports such as the Quick Look Report, Analytical Report, and Final Report that document the results of an actual experiment event.
Where Reporting Phase Fits in Experiment Timeline

**NOTE:** May require multiple instantiations if multiple Lines of Joint Exp (LoJX)

**LoJX 1:** Proj Lead/Proj Analyst, FED EST

**LoJX 2:** Event Team/Event Analyst

**LoJX 3:** Event Team/Event Analyst
Why Report?

- Provides the basis for understanding experiment event results.
- Preserves a record of the research.
- Identifies how manpower and resources were expended in pursuing war fighter challenges.
- Provides the principle means for communicating experiment results to partners, stakeholders, and members of JCD&E Enterprise.
- Provides an archival basis for storing of results as well as providing a source of experiment results that can be used to produce other official documents.
Post Event Data Interpretation

• Effective execution of an experimentation event is based on a well thought out DCAP. In addition, the DCAP helps guide the analysis effort following the event.

• A well thought out post event vetting process must be developed and implemented to ensure data collected from the event can be effectively analyzed, interpreted, displayed, and reported.

• Objectives of the post event analysis effort include:
  – Vetting event results.
  – Determining whether research questions were sufficiently answered.
  – Determining whether there is sufficient experimental evidence to support desired outcomes and any hypothesis.

• A separate Analyst Workshop may be required to work objectives.

• Post event analysis efforts inform development of:
  – Observations, insights, and findings.
  – Recommendations.
  – Quick Look Report.
  – Analytical Report.
  – Final Report.
Quick Look (QL) Report

• QL Report is the first assessment of a specific experiment event. It is:
  – Produced anywhere from 24 hours to 30 days following an event.
  – Frequently briefed to senior leaders from JCW as well as experiment partners and appropriate stakeholders.

• QL Report informs planning for follow-on events and related efforts throughout the JCD&E Enterprise.

• QL Report results should be considered “preliminary” since:
  – Important themes and results may not have emerged from the ongoing analysis effort.
  – Analysis and assessment efforts are likely not complete.
  – Emerging insights and findings are still being developed.

• Experiment Project Team with Analysis Team support prepares the QL Report.

• QL Report is sent to senior leaders and experiment partners and stakeholders.

• QL Report is archived in Virtual Operations Center Event Reports Library.
Contents of QL Report

• Experiment background:
  – Who, what, where, when, why, and how.
  – Desired experiment output and the intended audience.

• Experiment objectives and degree to which they were achieved:
  – Preliminary observations, insights, findings and recommendations.
  – Potential trends, themes, or patterns.
  – Preliminary answers to research questions and study issues.

• QL Report should:
  – Address sources of information used to develop preliminary observations, insights, findings, and recommendations.
  – Stress quantifiable, objective results.

• Discussion of analysis, reporting, and transition way ahead:
  – Analytical Report.
  – Final Report.
  – Transition Solution Products.
Observations, Insights, and Findings

• Experiment event information is recorded in the form of observations, insights, and findings.

• CJCSM 3010.02 definitions:
  – Observation: A behavior, statement, or action seen (observed) during an experiment. Unlike a finding or insight, an observation is a statement of fact or occurrence and requires no reference from collected data.
  – Insight: The synthesis of a set of observations that reveal a capability or an impact. New thoughts or patterns that emerge as the project analyst looks at the observations and reviews them in light of the larger body of knowledge.
  – Finding: A conclusion reached after examination or investigation, normally based on the corroboration of an insight from multiple venues. A finding is usually supported by a combination of quantitative and statistical comparisons of various cases or treatments examined, supplemented, and amplified by qualitative observations and assessments.
• Analytical Report carries out guidelines contained in DCAP.

• Analytical Report contains a section that describes the analytical methodology and approach that was taken and a discussion of qualitative versus quantitative results.

• Analytical Report contains an annex/appendix of all the assimilated data and, when necessary, applicable raw data as well.

• Analysis Team produces Analytical Report.

• Analyst findings and conclusions should be confined to stating whether:
  – Research questions were sufficiently answered.
  – There was sufficient experimental evidence to support the proposed hypothesis or military problem statement.

• Analytical Report informs QL and Final Reports.
Analytical Report (Cont’d)

• Analytical Report contents are integrated into or contained as an annex to Final Report.

• Analytical Report documents:
  – Experiment objectives, issues, and research questions.
  – Mapping of experiment objectives to metrics and observations.
  – Answers to research questions.
  – Key observations, insights, and findings.
  – Potential areas for future experimentation and research.

• Recommendations for taking specific actions should be developed in a separate Recommendations Writing Workshop or via a dedicated Project Team effort. Analytical Report informs this process.
Final Report

- **Documents** what was accomplished during the experiment event:
  - Experiment design and objectives.
  - Potential solutions.
  - Key insights and findings that need to be communicated to JCS J7 leadership, experiment partners and stakeholders, and members of JCD&E Enterprise.
  - Recommendations that inform the WFC problem statement, desired outcomes, and hypothesis.

- Contains **defensible** results and provides a foundation for future experiment activities.

- Contains a section that covers event lessons learned; e.g., deficiencies in event mechanics, false assumptions made, and anything that adversely impacted the conduct of the event or analytical results.

- Identifies any new potential solutions discovered during the event that should be transitioned.

- Is archived in Virtual Operations Center Event Reports Library.

- Project Team with Analysis Team support prepares Final Report.
Final Report Preparation and Format

• NO “one size fits all” format for the Final Report.
  – Project team must determine desired output for the experiment event and intended audience for the report.

• Preparation considerations should include:
  – Developing and gaining early approval of report format and assignment of writing responsibilities.
  – Developing Final Report “boilerplate” information prior to experiment event.
  – Methodology for integrating Analytical Report.
  – Allocating adequate time for report staffing and coordination with experiment partners and stakeholders to allow report completion within 60 days following event.
  – Determining report distribution.
  – Determining how information security, classification, and releasability will be handled.
Transition Solution Products

• Final Report **DOES identify** new potential solutions that merit transition that were discovered during the experiment event if they had not been *previously* identified.

• Final Report **DOES NOT** include completed transition solution products that can be provided to WFC sponsor and/or Transition Change Agents.

• In accordance with the Transition Implementation Plan, transition solution products will be:
  – Completed and provided to the WFC sponsor for acceptance.
  – Provided to applicable Transition Change Agents after they have been accepted by the WFC sponsor.
• Principle 11. An effective experimentation control regime is essential to successful experimentation. *(Applies to post event analysis efforts and development of QL Report)*

• Principle 12. A successful experiment depends upon a comprehensive data collection and analysis plan (DCAP). *(Applies to post event data analysis efforts and conduct of post event Analyst Workshop)*

• Principle 14. Frequent communication with stakeholders is critical to successful experimentation. *(Applies to vetting event results for analysis purposes; development, coordination, and dissemination of Quick Look and Final Reports; development and presentation of event related briefings to senior leadership; and development of Transition Solution Products)*
References / Recommended Reading

- CJCSM 3010.02, Manual For Joint Concept Development And Experimentation, 1 Nov 09. (Appendix B to Enclosure D, Paragraph 3f, After Action Review/Reporting Phase, Pages D-B-31 through D-B-34)

- CJCSM 3010.02, Manual For Joint Concept Development And Experimentation, 1 Nov 09. (Appendix A to Enclosure E, Event Results Reporting, Pages E-A-1 through E-A-2)

- CJCSM 3010.02, Manual For Joint Concept Development And Experimentation, 1 Nov 09. (Appendix B to Enclosure E, JCD&E Enterprise Annual S&R Report, Pages E-B-1 through E-B-2)

- CJCSM 3010.02, Manual For Joint Concept Development And Experimentation, 1 Nov 09. (Appendix C to Enclosure E, JCD&E Enterprise Support to the Report to the Congress, Pages E-C-1 through E-C-2)

- Code of Best Practices, Aug 05. (Chapter 11, Products, Pages 281 – 315)

- Guide for Understanding and Implementing Defense Experimentation (GUIDEx) / The Technical Cooperation Program (TTCP), Ver 1.1, Feb 06. (Overview, Page 31, and Principles P11, P12, and P14)

- JFCOM J9 ESG Research and Analysis Department Briefing: Experiment Reporting Overview, 2 Nov 09.
Transition Pathways

Deliver capability to the warfighter through the most direct, rapid and prudent pathway possible.

Recent shift to incorporate Science & Technology in JE

Categories

Materiel
Non-Materiel

Paths

Formal
Informal

DCR
CBA
ICD
JUON
QRSP/QRP
IWR

Focus of most J7 projects

Direct: WFC Sponsor or Change Agent
Non-materiel Informal – Some Examples

• Changes to customer-specific internal processes, organizational structures, architectures, tools, etc. through WFC Sponsor

• Inputs to requirements documents for planning systems, decision support tools, etc.

• Joint Doctrine changes effected through the Joint Doctrine Development System (CJCSI 5120.02) through J7 JCW as CHANGE AGENT

• Updates to TTP through the WFC Sponsor Air, Land and Sea Application (ALSA) Center change process as CHANGE AGENT

• Changes to the Keystone, Capstone, and Pinnacle courses maintained by the Joint Warfighting Center (JWFC) as CHANGE AGENT

• Changes to military education submitted to the Military Education Coordination Council (MECC) and Military Education Coordination Council Working Group (MECC WG) as CHANGE AGENT

• Changes to organization, personnel and facilities which have portfolio impacts submitted to the appropriate Capabilities Portfolio Manager as CHANGE AGENT
**Doctrine:**
- Joint Doctrine Publications
- Service Doctrine Publications
- Tactics, Techniques, and Procedures
- Allow new application of existing capability
- Modification of force posture
- Changes requiring interagency cooperation

**Organization:**
- OPLANS
- Business Process
- Process Charts
- Goals and Objectives
- Standard Operating Procedures
- Support Plans
- Organizational Charts, and
- Deployment of equipment and troops

**Training:**
- Training Content
- Delivery Methods Training Support Infrastructure
- Training Evaluation
- Training Goals and Objectives
- Training Personnel
- Tasks, Conditions, and Standards

**Materiel:**
- Equipment
- Weapons platforms
- Programs of Record
Leadership & Education:
• Change management actions
• Implementation support
• Policy direction
• Funding support
• Plans of Action

Facilities:
• Field fortification support
• Force bed down
• Main supply routes
• Operations and maintenance
• Roads/trails
• Other physical infrastructure
• Engineering support services

Personnel:
• Occupational specialties and sub-specialties
• Recruitment and Staffing
• KSAs
• Competencies
• Aptitude

Policy:
Transition Process

Objective: <50 days total

JCD&E

Submit WFC Sponsor
Baseline Collective Assessment
Gap Analysis

WFC Sponsor Transition Agent Engagement

Experimentation

J7 JCW

J9 JCD&E Staffing
JFCOM X-Dir Staffing
CoS Approval Process
Rework

30 days 15 days 5 days

WFC Sponsor Transition Agent

Define/Refine Solution
Transition MOA

Solution Transition Conference

Assign Transition Mgr
Content Format Data Std

Early & Continuous DCR Production

CPM

JCIDS JCB FCB JROC

DAS

Enterprise Partner Transition Agent

War Fighter
Transition Activities and Outputs

**Focal point of EST support**

**Shape this**

**Understand this**
Transition Implementation Plan
(ref: TQCP Module 8c)

- Evolves during the course of the experiment and become more detailed as project products near completion
- Key elements include:
  - Agreement/Commitment/Participation
  - Overall Transition Strategy (JE and WFC Sponsors)
  - Roles and Responsibilities
  - Strategic Engagement
  - Programmatic Requirements
  - Solution Transition: products and deliverables defined
  - Exit Criteria/Handover Process
- Requires close attention of the Experiment (Project) Lead and Transition Manager
Responsibilities

• Experiment (Project) Lead – works closely with the Transition Manager supporting the development and execution of the Transition Implementation Plan; update J9 Dashboard on Transition Product status

• Transition Manager (XM) - responsible for supporting the Transition Strategy and developing and executing the Transition Implementation Plan in collaboration with WFC/JE Sponsors, appropriate Change Agents, and other key stakeholders. XM responsibilities include:
  – Providing day-to-day transition direction and guidance to the Experiment Planning Team, keeping the Experiment Lead abreast of progress and issues. This includes conducting transition-focused training for the Experiment Planning Team.
  – Organizing and leading transition implementation planning and working groups
  – Identifying and defining transition pathways and funding requirements/sources for experiment deliverables. Ensures these are aligned with the Transition Strategy developed by the JE Sponsor.
  – Communicates transition status regularly to the WFC and JE Sponsors; identifies risks to effective transition of experiment solutions.

CJCSM 3010.02
Responsibilities

- Transition Case Officer (TCO)
  - Could also be designated as XM
  - Provides training and guidance
    - Transition training for government lead and core team
    - Transition briefing at stakeholder’s conference
    - Support the development of the Transition Strategy and Transition Implementation Plan
- Actively participate with Project Management Team (PMT)
  - Facilitate cross directorate support to obtain command expertise
  - Development of supporting ESA, MOU, MOAs, charters, et al
- Submit and track documents through staffing
  - Submit draft report to USJFCOM J8 Secretariat for entry into KM/DS and submission to Joint Staff Gatekeeper
  - As required for formal transitions assist with FCB/CPM contacts and maintain visibility on FCB/CPM assignments
  - Track actions in KM/DS and complete subsequent submissions
Current Example

THE PHASED ADAPTIVE APPROACH TO BALLISTIC MISSILE DEFENSE
Solving the Problem (U)

Campaign level effort across multiple FYs, impacting the entire BMDS

Experimentation Process

- Analyses
  - DOTMLPF
- JMT
- M&S
  - Architecture
  - Capabilities

Training & Education Exercises

- Doctrine/TTP

Architecture

- Sensors

- Weapons

X % increase (~1 year)

X % increase (~18 months)

X % increase (~2 years)

X % increase (~6 years)

X % increase (~8 years)
BMDS Wargame – Jan 2011

- MDA-sponsored event
- Sub-theme will focus on Phases III/IV of the EPAA (using BMDS for CY 2018 and 2020)
- Warfighter runs based on BMDS Program of Record
- Excursions examined during developer runs
- DIA-approved threat for 2019
- Uses BMDS International Simulation (I-SIM)

Joint Capabilities Mix III Study

- JIAMDO-sponsored study of force sufficiency issues in the 2019 epoch using MDA 2018 PAA architecture
- Expected publication in Mar or Apr 2011
- Many specific details classified
- Uses MSFD scenarios incorporating combatant command adjustments, intelligence updates and firing doctrines

Guidance and Plans

- Includes but not limited to:
  - BMD Review Report (Feb 2010)
  - STRATCOM Global Missile Defense CONOPS (Feb 2010)
  - 2010 MDA Summer Study
  - BMDS Assess to Criteria (Jul 2010 but not signed)
  - Theater BMD Plans and Processes
  - JIAMDO IAMD Architectures

Leveraging Efforts (U)

Shaped our experiment design

Provided insights into a larger set of BMDS issues

Shaped the baseline assessment
### PAA-BMD Lines of Operation (U)

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<th>Month</th>
<th>Events</th>
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</thead>
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<td>FY10</td>
<td>Aug</td>
<td>MDA BMDS Wargame</td>
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<tr>
<td>FY10</td>
<td>Sep</td>
<td>NWC BMD Workshop</td>
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<td>FY10</td>
<td>Oct</td>
<td>Simulation Assessment Report</td>
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<td>FY11</td>
<td>Jan</td>
<td>JMT Architecture Development Workshops</td>
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<td>FY11</td>
<td>Feb</td>
<td>Interoperability Matrices Development</td>
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<td>FY11</td>
<td>Mar</td>
<td>JS J8 DDC4 Support</td>
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<td>FY12</td>
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<td>TODAY</td>
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<td>FY12</td>
<td>May</td>
<td>Test</td>
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<td>FY12</td>
<td>Jun</td>
<td>Development</td>
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<td>FY12</td>
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<td>Assessment</td>
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<tr>
<td>FY12</td>
<td>Aug</td>
<td>Solution</td>
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<tr>
<td>FY12</td>
<td>Sep</td>
<td>Transition</td>
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<tr>
<td>FY12</td>
<td>Oct</td>
<td>Enhance Models (MDA)</td>
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<td>FY12</td>
<td>Nov</td>
<td>GT 12</td>
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<td>FY12</td>
<td>Dec</td>
<td>DoDAF Architectures</td>
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<tr>
<td>FY12</td>
<td>Jan</td>
<td>Final Report</td>
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<tr>
<td>FY12</td>
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<td>Road Show</td>
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<tr>
<td>FY12</td>
<td>Mar</td>
<td>CDR NC Brief</td>
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<tr>
<td>FY12</td>
<td>Apr</td>
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**Research & Gap Analysis**
- MDA BMDS Wargame
- NWC BMD Workshop
- Simulation Assessment Report

**JMT Tier II Architecture**
- JMT Architecture Development Workshops
- Interoperability Matrices Development
- JS J8 DDC4 Support

**Constructive Simulation**
- Test (Jun - Aug)
- Development (Sep - Oct)
- Assessment (Oct - Dec)
- Solution (Dec - Jan)

**Transition**
- COI Engagements
- JIAMDO/JMT Mtg
- NC/100th BDE Demo
- PCL Development
- White Paper
- GA Tech/ASDL Visualization Tool
- Road Show

**BMD & C2I Transition Event**
**Joint Mission Threads** (Tier 2) - DoDAF Repository / JIAMDO

- **Aegis BMD 3.6.1 w SM-3 IA**
- **AN/TPY-2 (FBM)**
- **C2BMC AOC (Ramstein)**
- **ALTBMD Interim Capability**

- **Aegis BMD 4.0.1/5.0 w SM-3 IB**
- **Aegis Ashore 5.0 w SM-3 IB** (one site)
- **AN/TPY-2 (FBM)**
- **C2BMC Updates – ALTBMD Lower Tier**
- **THAAD**

- **Aegis BMD 5.1 w SM3 IIA**
- **Aegis Ashore 5.1 w SM3 IB/IIA** (2 sites)
- **AN/TPY-2 (FBM)**
- **C2BMC Updates – ALTBMD Upper Tier**
- **THAAD, PTSS, ABIR**

**BMDS Metrics White Paper**

**Joint Doctrine and TTP Recommendations**

- **JP 3-27**
- **JP 3-**
- **Countering Air and Missile Threats**
- **Homeland Defense**

**Joint Mission Threads** - **100 BDE / J-DIAMD JT&E**

- **JP 3-**
- **Austere Challenge**

**Sensor/Weapons/C3I Recommendations**

- **Global Series**
- **Global Series**
- **Global Series**
- **Global Series**
- **Global Series**

**BMD Training & Education Group (BTEG)**

- **Vigilant Shield (VS)**
- **BTEG**
- **JBTEC**
- **Global Thunder & Lightning Series (Observe)**
- **Global Thunder & Lightning Series**
- **-CCDR Exercises (Vigilant Shield, Global Thunder, & Global Lightning, Austere Challenge)**
- **-BMDS Wargames**

**Aegis Ashore**

- **5.0 w SM-3 IB**
- **AN/TPY-2 (FBM)**
- **C2BMC Updates – ALTBMD Lower Tier**
- **THAAD**
- **PTSS, ABIR**

**Global Series**

**Aegis Ashore 5.1 w SM3 IIA**

- **AN/TPY-2 (FBM)**
- **C2BMC Updates – ALTBMD Upper Tier**
- **THAAD, PTSS, ABIR**

**Aegis Ashore w SM3 IIA**

- **AN/TPY-2 (FBM)**
- **Enhanced C2BMC**
- **THAAD, PTSS, ABIR**

**Aegis Aegis BMD 3.6.1 w SM-3 IA**

- **AN/TPY-2 (FBM)**
- **C2BMC AOC (Ramstein)**
- **ALTBMD Interim Capability**

**2011**

**2012-2015**

**2016-2018**

**2019-2020**
Transition Focused (U)

Joint Training and Wargames

Combatant Command Exercises (Vigilant Shield, Global Thunder & Global Lightning)

BMDS Wargames

Joint Doctrine Modifications

JP 3-01 and JP 3-27

Metrics White Paper

COI, Academic and Scientific Community Socialization

BMD Community Acceptance

PES = P_{AVAIL} P_{REL} P_{DETECT} P_{TRACK} P_{P&T} P_{GUIDE} P_{TARSEL} P_{DESTROY} P_{ASSESS}
JCW must determine the mechanism of engagement into every aspect of BMDS development.
# Experiment Campaign Timeline (U)

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<tr>
<th>Phase</th>
<th>Test</th>
<th>Development</th>
<th>Assessment</th>
<th>Solution</th>
<th>Transition</th>
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</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Proof of principle</td>
<td>Identify vulnerabilities and design assessment runs</td>
<td>Assess BMD against raids: 2015, 2018, 2020</td>
<td>Assess solutions</td>
<td>Present results and recommendations to leadership</td>
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<tr>
<td>Exit Criteria</td>
<td></td>
<td>Run matrices to support assessment</td>
<td>Prioritized gaps and proposed solutions for experimentation</td>
<td>Validated solutions recommended for transition</td>
<td>Decision on solutions to be transitioned and pathways</td>
</tr>
<tr>
<td>Duration</td>
<td>75 days</td>
<td>55 days</td>
<td>46 days</td>
<td>48 days</td>
<td>90 days</td>
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<tr>
<td>Timeline</td>
<td>Ongoing - 15 Aug</td>
<td>15 Sep – 9 Nov</td>
<td>01 Nov – 16 Dec</td>
<td>04 Jan-21 Feb</td>
<td>30 Jan - 30 Apr</td>
</tr>
<tr>
<td>Other Events</td>
<td>White Paper</td>
<td>1 Nov: ESC</td>
<td>12-16 Dec: ESC</td>
<td>NLT 10 Feb: ESC</td>
<td>Late Feb: Brief NC CDR</td>
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<td></td>
<td>Algorithm development</td>
<td>19-23 Sep /18-21 Oct: Assess Phase Planning Workshops 1 &amp; 2</td>
<td>12-16 Dec: Gap/Solution Workshop (SAIC)</td>
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<td>Mar-early Apr: Road show</td>
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<td>Late Apr: Culm Event (2 days NCR)</td>
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<tr>
<td>Products</td>
<td>Approved algorithms</td>
<td>Assessment DCAP</td>
<td>Tier 2 JMT</td>
<td>Draft Campaign Report</td>
<td>Final Campaign Report</td>
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<tr>
<td></td>
<td>DCAP</td>
<td>Final White Paper</td>
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<td>Transition deliverables</td>
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<tr>
<td>Tasks</td>
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