

# Challenges for Modeling and Simulation



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# REPORT DOCUMENTATION PAGE

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# *Challenges for the Analytic Community*

## Peacetime Engagement/SSCs

- Prioritizing regional security objectives
- Measuring effectiveness of peacetime engagement
- Combined exercising
- Assessing long-term deployments
- Developing compellence models
- Use of force criteria for SSCs
- Effects of SSCs on MTW readiness

## Crisis Response and War

- Re-defining MTWs
- MTW base case assumptions
- Improving MTW modeling to take account of information, NBC, coalition interoperability, etc.

## Prepare to Meet Future Threats

- Linkages between modernization and transformation
- Facilitating meaningful trade-offs among defense capabilities

# *Modeling and Simulation Strengths and Weaknesses*

- *Strengths*
  - Study processes that rarely or never occur
  - Evaluate a wide range of alternatives
  - Generate new ideas, new concepts, innovative solutions
- *Dilemma*
  - To provide rapid response to decisionmakers and adequate visibility to know how to implement recommendations
- *Weaknesses*
  - Time needed to complete comprehensive work
  - Current state of data management
  - Integration of multiple models

## *Future Initiatives*

- *Improve Simulation Models*
  - JWARS
  - JSIMS
  - Coordination with Service initiatives
  - Coordination with studies program
- *Improve Data Management*
  - Joint Data Support
  - DMSO
- *Improve Collaborative Analysis*

# *Integrated Models Will Organize Better Data Management and Reduce Response Time*

**JWARS**

- Destruction of strategic deployment assets
- Disruption of strategic deployment network

## **Strategic Logistics**

(Strategic movement of units and supplies from POE to POD)

- Strategic network
- Simplified APODs and SPODs
- Movement via strategic lift assets -- aircraft and ships

## **Theater Logistics**

(Within theater movement of units and supplies)

- Detailed theater network
- Movement via theater transportation assets

## **Joint Warfighting**

(Combat, maneuver, C3)

- Air, land, and sea C3
- Air, land, and sea operations (-)
- Chemical defensive operations
- Naval blockade
- Detailed Air Tasking Order
- Forcible entry operations
- Theater Missile Defense

## **Perception**

- Provide intelligence information

- Assess operational situation

