

Title of your submission: Forging the Future of Defense: The Department of War Modeling and Simulation Strategy for Engineering

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Abstract:

Forging the Future of Defense:

The Department of War Modeling and Simulation Strategy for Engineering

In an era defined by rapidly evolving, technology-advantaged threats, the U.S. Department of War (DoW) must maintain an insurmountable technological overmatch. Central to this national security imperative is the computational power of digital engineering. Modeling and simulation (M&S) serves as the operational bedrock of this digital transformation, providing the essential proving ground for emerging capabilities—including artificial intelligence (AI), machine learning (ML), and data as a strategic asset. By enabling highly realistic, comprehensive testing environments, M&S directly enhances operational readiness and accelerates informed decision-making, all while significantly driving down the costs and risks inherent to mission execution and capability fielding.

Recognizing that M&S underpins the entire acquisition lifecycle, the newly drafted DoW Modeling and Simulation Strategy for Engineering establishes a resilient, forward-looking foundation for capability development. The strategic vision does not seek to dictate rigid, all-purpose federation across the ecosystem. Instead, it empowers the unified DoW engineering community by connecting specialized, best-of-breed tools through rigorous data standards and seamless collaboration. This adaptable, integrated, and reusable M&S architecture ensures that the workforce can rapidly assess technologies and field solutions without stifling grassroots innovation.

To align M&S capabilities across the DoW engineering community and establish a common operational framework, the strategy introduces five uncompromising goals:

1. Create a technical framework for joint, community-wide modeling and simulation.
2. Foster M&S community trust through the use of reliable, authoritative data sources.
3. Enhance acquisition and program management skills using M&S professional development systems.
4. Advocate for integrating enterprise-level M&S services in DoW and the broader M&S community.
5. Adapt M&S policies, processes, and infrastructure for agile technology assessment and procurement.

Through these goals, M&S enables program managers to rigorously assess technology maturity, conduct data-driven analyses, and actively manage risk. Furthermore, as the DoW aggressively implements digital workflows, the overarching M&S architecture is being streamlined into three core concentrations: Training, Engineering, and Analysis. This simplification deliberately pushes decision-making authority back to the operational nodes.

Successful execution of this strategy relies on dynamic collaboration. While individual DoW Components will own and execute their specific implementation plans, the Office of the Under Secretary of War for Research and Engineering (OUSW(R&E)) will orchestrate the overarching effort. This coordination will aggressively close capability gaps, eliminate redundant efforts, and propagate best practices across the DoW, allied partners, industry, and academia.

For over three decades, M&S has been a critical enabler of DoW dominance. Today, it is the vital catalyst for outpacing our adversaries. It is imperative that M&S is seamlessly integrated throughout the program lifecycle and across all acquisition and sustainment processes. This presentation will deliver a comprehensive overview of the DoW Modeling and Simulation Strategy for Engineering, detailing its core goals, targeted focus areas, and the actionable roadmap for implementation that will secure the Department's technological edge for decades to come.

Projected track for submission: Mission Readiness

