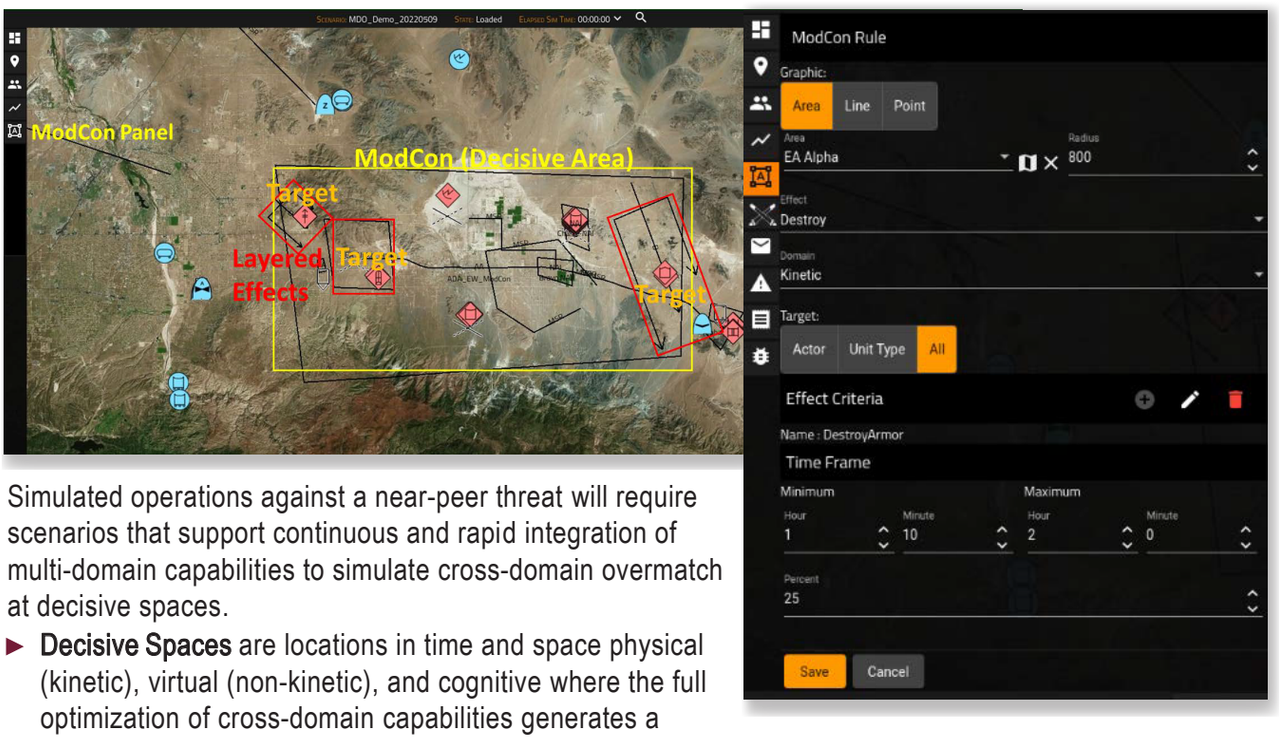
Modeling Convergence

Integrating convergence activities into Multi-Domain Operation (MDO) scenarios.

The Modeling Convergence (ModCon) project delivers a unique opportunity to modernize the leading simulation capability to model effects which support the Army's concept for how forces will maneuver in 2028. ModCon in OneSAF Control offers a tangible way to define layered effects that represent convergence in simulation in order to measure effectiveness across multiple domains.

Convergence as *"…the new operational context informs the military problem to determine how Army forces achieve positions of relative advantage and generate overmatch. The central idea calculates success on simultaneous multi-echelon convergence from all domains, and promotes enhanced joint and operational command and control, echeloned maneuver, and decisive campaigns."* (Maneuver in Multi-Domain Operations 2028; AFC Pamphlet 71-20-1)



Simulated operations against a near-peer threat will require scenarios that support continuous and rapid integration of multi-domain capabilities to simulate cross-domain overmatch at decisive spaces.

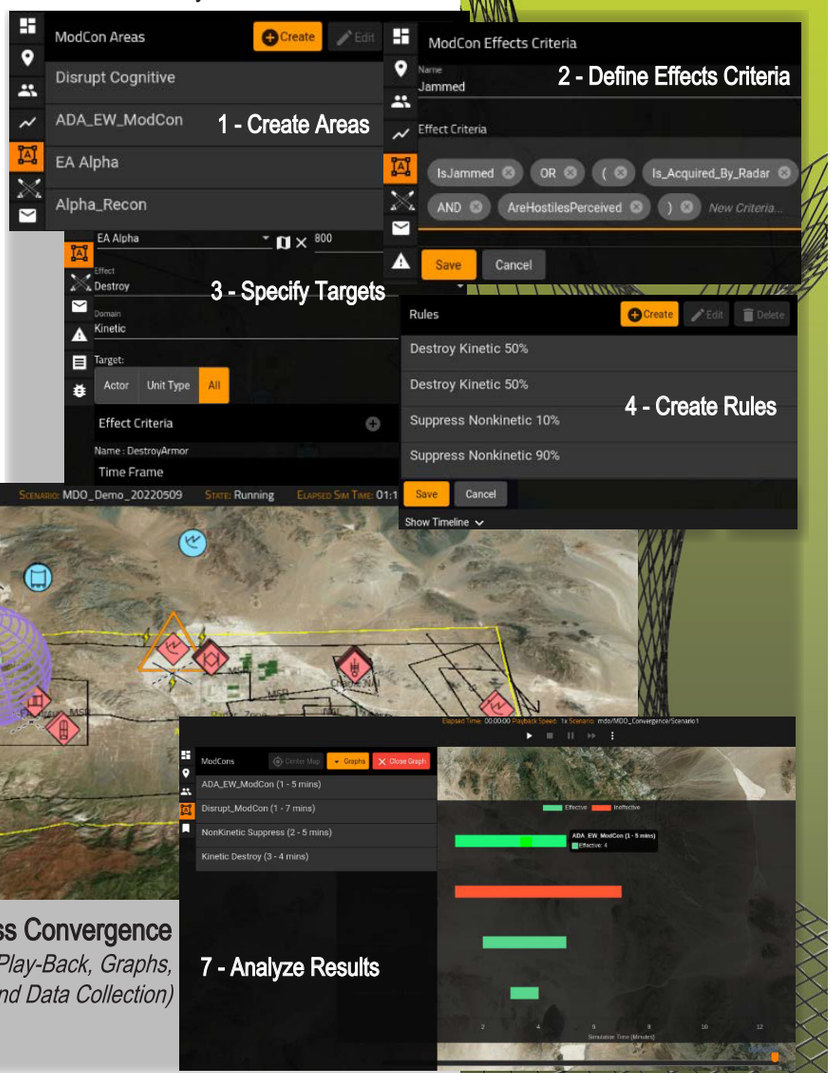
- **Decisive Spaces** are locations in time and space physical (kinetic), virtual (non-kinetic), and cognitive where the full optimization of cross-domain capabilities generates a marked advantage over an enemy and greatly influences the outcome of an operation.
- To support converging capabilities in time and purpose at decisive spaces, MDO proposes five elements–preparation time, planning and execution time, duration time, reset time, and cycle time–to visualize the convergence of capabilities.
- Multi-domain formations, at echelon, utilize convergence during competition and conflict to apply capabilities against vulnerabilities in enemy's systems.

Modeling Convergence (continued)

ModCon in OneSAF aids the Army's transformation into a force designed to withstand and prevail in competition and conflict, enabled by multi-domain formations of the future.

OneSAF MDO Convergence
Define | Execute | Assess | Repeat

Using the Management and Control Tool or OneSAF Control, the ModCon Areas feature provides enhancements to OneSAF's ability to define, monitor, measure, and analyze layered effects during scenario execution through the implementation of a Convergence Gateway that leverages the ModCon Manager, Convergence Effects Monitor, Logical Rule Processors, Predicate Factory, and Data Collection.



Execute Convergence *(Scenario and Gateway)*

Assess Convergence *(ModCon Play-Back, Graphs, and Data Collection)*

ModCon in OneSAF Control delivers the following:

- Convergence Gateway framework of ModCon Areas
- ModCon Areas Rule Specification Editor
- Customization of rule effects within OneSAF Control to support the layering of specific effect behaviors related to each ModCon Area
- Sampling of physical (kinetic), virtual (non-kinetic), and cognitive effects within OneSAF Control Plan and Execute
- Expansion of the MDO Convergence Gateway and Effect capabilities in OneSAF Control Plan and Execute
- ModCon Data Collection for analysis
- ModCon Areas integration into OneSAF Control Assess for playback and graphs

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