

Synchronizing Army Force Generation (ARFORGEN)
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Summary

The ARFORGEN tool provides a predictive methodology and mechanism for global synchronization of Army capital, which did not previously exist. Additionally, it harmonizes actual force requirements with projected force structure and the POM processes, which is also a first within the Army. The ARFORGEN tool now provides prognostic analysis on force generation to previously intuitive or stove-piped assessments.

Problem Statement

Develop an automated Army Force Generation (ARFORGEN) tool with a rapid capability to predictively synchronize United States Army resources with national and global mission requirements.

Background

The United States Army is transforming its structure, organization, and processes to create a joint and expeditionary army prepared to combat uncooperative and adaptive enemies. The Army realizes that they will be unable to sustain their global presence to combat terrorism unless they can synchronize resources, predict impact of future requirements on funding and optimize the use/reuse of forces. ARFORGEN is the answer.

ARFORGEN is a force management process, leveraging modular unit designs and operational cycles, to provide a sustained deployment posture of operationally ready units in predictable patterns while retaining the capability to surge combat power for major combat operations. The necessary manning, equipping, resourcing and training processes are synchronized to generate ready forces from all components thus achieving a sustained or surge deployment capability to satisfy the requirements regional combatant commanders will place on the Army. The ARFORGEN tool synchronizes these resources and formations 6-12 ARFORGEN provides flexible, expeditionary, requirements-based force packages. years into the future to minimize the risk to satisfy all mission requirements. Units move through a progressive readiness cycle of reset/train, ready and available force pools. The ARFORGEN process focuses on unit level readiness. Utility of the entire force is maximized through allocation of the correct mix of resources to requirements. The ARFORGEN tool implements transformation strategies in support of the US Army.

Study Methodology

The aggressive adaptation of the ARFORGEN process required an equally aggressive variation to traditional development of an associated decision support tool. The simple, yet profound variation adapted a proven scalar industrial manufacturing model to a multi-dimensional man-in-the-loop military capabilities generation process. The Commercial-Off-The-Shelf (COTS) discrete event simulation is the core component of the automated solution. It handles the multitude of complex inter-dependent events and accounts for variability within and between each event over time to produce a synchronized, predictive portrayal of Army force generation in the future. The decision support tool enables people to apply “What –if” analysis to current or planned business processes and procedures.

Technical Approach:

The technological advances with the ARFORGEN tool are not in the in the development of new algorithms but in the holistic integration of numerous stand-alone tools integrated with undocumented always changing human decision logic. The ARFORGEN tool is unique in that it integrates data warehousing, discrete event modeling, scheduling, optimization algorithms and data visualization into a Scenario Management infrastructure that will change the way the Army sources its missions. This is a dramatic cultural change). ProModel is providing the US Army with an innovative tool and methodology that incorporates Lean and Six Sigma capabilities in the resourcing of units and their associated processes.

Impact on Army Decisions

- ARFORGEN tool provides visibility of requirements, total capabilities and requirement-based capability shortfalls.
- ARFORGEN tool provides visibility of units within their various progressive readiness cycles and force pools
- ARFORGEN tool provides visibility of critical shortfalls early in the Program Objective Memorandum and can influence the force management process.
- ARFORGEN tool provides the ability to conduct “What if” and course of action analyses on unit utilization over time, policy decisions, and business practices
- The ProModel AST technology allows decision makers to make informed decisions while accounting for risk, constrained resources, and business rule/process changes.

Conclusions

The ARFORGEN tool provides a predictive methodology and mechanism for global synchronization of Army capital, which did not previously exist. Additionally, it harmonizes actual force requirements with projected force structure and the POM processes, which is also a first within the Army. The ARFORGEN tool now provides prognostic analysis on force generation to previously intuitive or stove-piped assessments.