

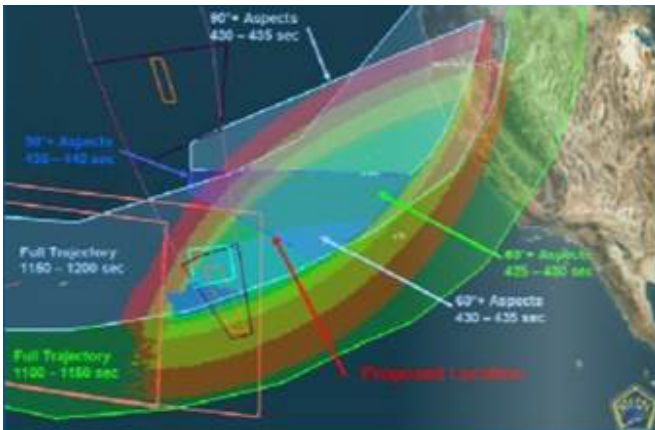
Addressing the need:

The System Test and Evaluation Planning Analysis Lab (STEPAL) serves the Missile Defense Agency (MDA) Ballistic Missile Defense System. It provides an analytical resource to develop and assess flight test events. These tests are designed to demonstrate the BMDS's inherent performance capability. STEPAL assesses how flight tests fit into the operational space by examining threat capability, operational characteristics of the system, range safety compliance, and engagement parameters. Since it was established in 2002, STEPAL has relied on STK and other AGI products to fulfill its mission.

Analysis capability realized a greater benefit

STK analysis content is essential to most STEPAL products. Key STK functionality examples include:

- Timing and geometric
- Asset location optimization
- RF Link analyses
- GPS navigation quality predictions
- Graphics and animations



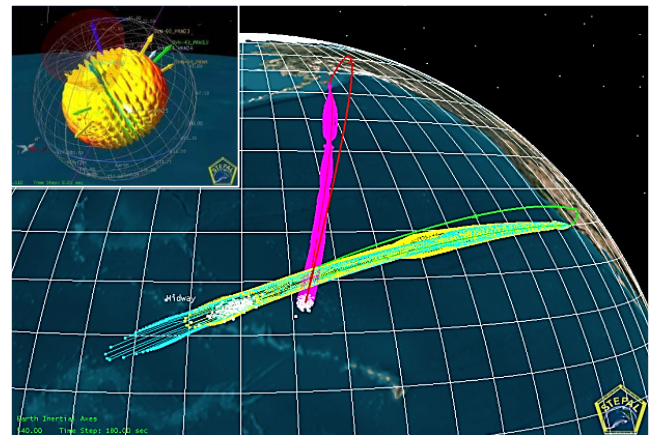
“Much of STEPAL 's work went to the President, essentially unchanged.”

— Lt. Gen. Obering, Former Director MDA

Test planning optimization analysis

STK analysis tools help optimize complex test-range requirements, such as where to place coordinated range assets:

- Desired aspect angle
- Maximum time at desired aspect
- Maximize desired trajectory viewing
- Avoid safety keep out regions
- Optics
- Radar
- Data links



Test execution support

STK answers the question “when will GPS navigation accuracy ensure a safe launch?” The test day GPS constellation modeled:

- Missile trajectory and attitude flow
- Receiving antenna pattern
- Links analyzed over time per criteria
- Nav solution quality
- IIP uncertainty
- Go/NoGo recommendations

“STK’s off-the-shelf capability and flexibility allows STEPAL to successfully execute challenging analysis tasks.”

— Frank Grose, senior space systems analyst, SAIC