SAND2009-5994P

Red Cell Point Of View

National Academies

Sandia National Laboratories

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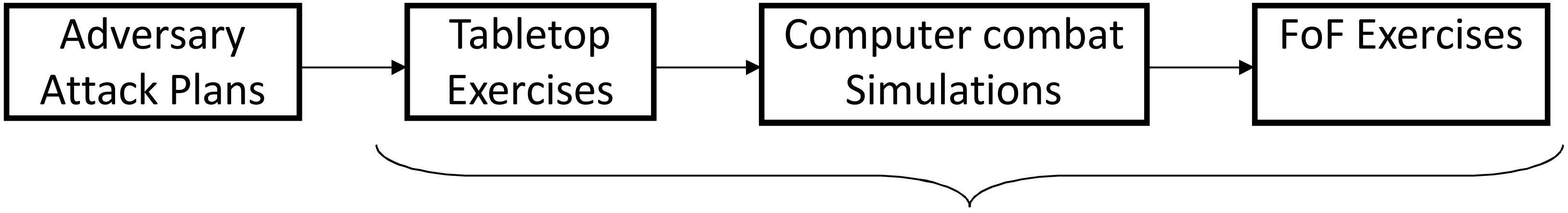
September 16, 2009

Performing Simulations to Determine System Effectiveness Against Scenarios

- Adversary Attack Plans and Adversary Timeline are considered the Foundation for the VA Methodology.
  - Tabletop exercises can often foresee the analysis and logistic issues that will arise in computer simulations and FoF exercises
  - Joint Conflict and Tactical Simulations (JCATS)
  - Force On Force (FOF) Exercises



Adversary Attack Plans → Tabletop Exercises → Computer combat Simulations → FoF Exercises

Combine simulation results to estimate P_N

Analysis Tool Concept

- Run each scenario against the site’s PPS
- Measure the PF Casualty Rate, Duration of Engagement, and Access to Target.
- Identify Vulnerabilities
- Redesign PPS
  - Minor adjustments : Continue with other tool
  - Major adjustments: Run the table-top again with made adjustments.

Scoping Agreement

Scoping Agreement: A contract amongst appropriate stakeholders that identifies the parameters of the Vulnerability Analysis.

- Define requirements
- Threat Statement (DBT)
- Facility Characterization
- Target ID (type of targets)
- Identify credible SME's for attack planning
- Types of attacks & numbers of scenarios
  - Sabotage/ theft
- Identify & agree on assumptions
- Determine Type of Insider (Passive/Active, etc.)
- Memorandum of Understanding with Local Law Enforcement

Attack Planning

B. Design attack scenarios

- Utilize DBT
- Determine attack objective
- Determine how to get adversary team from offsite to the target
- Consider ambushes and diversions as ways of delaying/defeating the response force
- Identify:
  - Target selection
  - Minimum delay path
  - Inclement weather
  - Time of adversary attack (day or night)
  - State of facility (operational/non-operational hours)
  - Breaching techniques
- Determine PPS Timeline

Adversary Data Collection

- Approximate PF Numbers
- Facility and Target Locations
- Detection/Assessment Capability
- Facility Design
- Target Detail? (IND or Theft)

- Adversary Planners were provided enough information to stress existing PPS and did not provide to much information to where scenarios were not credible.

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Topics of Discussion

- Credible SME’s for Attack Planning
  - Utilized Special Forces SME’s
  - Utilized Master Breachers
  - Created Realistic Attack Scenarios
  - SME Feedback
- IND
  - How hard is it to construct?
  - Can an adversary have the true capability and knowledge to construct?
- GSP Scrub (Adversary # and Capabilities)
- Some DOE Oversight may be Risk Adverse

QUESTIONS?