DISCLAIMER

The findings of this report are not to be construed as an official Department of the Army position, policy, or decision unless so designated by other official documentation. Comments or suggestions should be addressed to:

Director
Center for Army Analysis
ATTN: CSCA-CA
6001 Goethals Road
Fort Belvoir, VA  22060-5230

The following was used as a reference source for this report:

This report documents the MANHATTAN 2001 Political-Military Game, conducted by the Center for Army Analysis (CAA) for Headquarters, Department of the Army (HQDA), Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS), now the Deputy Chief of Staff, G3, Operations, Readiness, and Mobilization Directorate (DAMO-OD). The purpose of this report is to provide an overview of MANHATTAN 2001, to include a summary of insights gained from the game. The intent of MANHATTAN 2001 was to obtain an executive-level view of Army infrastructure assurance as it supports the Department of Defense Critical Infrastructure Protection program, to further refine Army infrastructure assurance as a mission area for Army Homeland Security, and to examine the Army’s infrastructure assurance strategic challenges.
MANHATTAN 2001 POLITICAL-MILITARY GAME

SUMMARY

THE PROJECT PURPOSE was to obtain an executive-level view of Army infrastructure assurance as it supports the Department of Defense Critical Infrastructure Protection program, to further refine Army infrastructure assurance as a mission area for Army Homeland Security, and to examine the Army’s infrastructure assurance strategic challenges.

THE PROJECT SPONSOR was Headquarters, Department of the Army (HQDA), Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) (now designated as the Deputy Chief of Staff, G3), Operations, Readiness, and Mobilization Directorate (DAMO-OD).

THE PROJECT OBJECTIVES were to:

1. Determine the end-state of infrastructure assurance in the Army
2. Identify policy gaps in Army infrastructure assurance.
3. Determine fixes to infrastructure assurance challenges associated with privatization, outsourcing, and acquisition.

THE SCOPE OF THE PROJECT was to examine Army infrastructure assurance challenges out to 2020.

THE PRINCIPAL FINDINGS are that:

1. Army infrastructure assurance requirements must be prioritized, consolidated, and synchronized.
2. Army infrastructure assurance must be institutionalized.
3. Current outsourcing and privatization contracting processes must be reviewed to determine their ability to support Army infrastructure assurance requirements for personnel and services.
4. The competition for infrastructure assurance services must be examined.

THE PRINCIPAL RECOMMENDATIONS are to:

1. Develop and publish Army infrastructure assurance planning and programming guidance.
2. Review current acquisition policies and procedures to ensure they fully support Army infrastructure assurance activities.
3. Examine the impact of competing with the private sector for infrastructure assurance services.
THE PROJECT EFFORT was conducted by Mr. Greg Andreozzi, Conflict Analysis Center, Center for Army Analysis (CAA).

COMMENTS AND QUESTIONS may be sent to the Director, Center for Army Analysis, ATTN: CSCA-CA, 6001 Goethals Road, Suite 102, Fort Belvoir, VA 22060-5230.
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1 BACKGROUND AND METHODOLOGY

1.1 Introduction

This report documents the MANHATTAN 2001 Political-Military Game, the capstone event of the Army Infrastructure Assurance (AIA) project, conducted by the Center for Army Analysis (CAA) for the Operations, Readiness and Mobilization Directorate (DAMO-OD), Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS), Headquarters, Department of the Army (HQDA).

1.2 Purpose

The purpose of this report is to provide an overview of MANHATTAN 2001, to include a summary of insights gained from the game. The intent of MANHATTAN 2001 was to obtain an executive level view of Army infrastructure assurance as it supports the Department of Defense Critical Infrastructure Protection program, to further refine Army infrastructure assurance as a mission area for Army Homeland Security, and to examine the Army’s infrastructure assurance strategic challenges.
1.3 Background

Figure 2 provides a timeline of key events associated with the MANHATTAN 2001 Political-Military Game. Its conception began following the conclusion of the Homeland Security Initiative (HLSI) conducted by CAA for the Strategy, Plans and Policy Directorate (DAMO-SS) of HQDA ODCSOPS. DAMO-OD looked at leveraging insights gained through HLSI to further develop Army Infrastructure Assurance. The Conflict Analysis Center (CSCA-CA) provided the Chief, Military Support Division (DAMO-ODS) of DAMO-OD with a project proposal and then briefed the Army Infrastructure Assurance Working Group chaired by DAMO-ODS. Next, DAMO-ODS and CAA established an AIA project work group on 24 August 2000 to lay the ground work for the effort. An issues workshop was conducted on 27-28 September 2000 to prepare for the 22 March 2001 executive-level MANHATTAN 2001 Political-Military Game.
1.4 Pol-Mil Gaming Methodology

Figure 3. Pol-Mil Gaming Methodology

Figure 3 depicts CAA’s political-military gaming methodology. This methodology was used to execute the AIA Issues Workshop and the MANHATTAN 2001 Political-Military Game.

Overview

CAA conducts issue workshops and political-military games in support of Headquarters, Department of the Army, US Army major commands, and Army components of US unified commands. All political-military games are developed in direct coordination with the sponsor and are designed for use as a tool in policy development and decision making.\(^1\)

A CAA political-military game provides direct feedback for issue identification, prioritization, and clarification of questions involving the application of national power. Experts

\(^1\) Future references to political-military games also describe methodology for conducting issues workshops. The exception is that some issues workshops do not use opening and special situations (scenarios) as part of their methodology, which was the case for the AIA Issues Workshop.
attending political-military games draw from their professional experience to address specific issues as part of the political-military game scenario. The political-military game scenario provides a specific structure for issue analysis and the development of key insights.

**Political-Military Game Structure.** The political-military game structure is composed of three phases: preprocessing, gaming, and postprocessing (see Figure 3). CAA developed the three-phase structure to increase efficiency and ensure successful execution. During the preprocessing phase, issues are identified and a scenario is developed. The participants are then grouped, based on their background and perspective, and assigned to teams. Finally, within the framework of the scenario, the teams are charged with addressing the issues in a logical, disciplined manner. Their responses form the basis of the preliminary key insights (PKIs) for the political-military game. These PKIs are then briefed to a Senior Council, composed of executive defense planners and decision makers.

**Preprocessing.** Preprocessing takes the conventional form of a discussion that yields concept definition. This process is initiated by an Army component commander, member of the Army’s senior leadership, Army staff principal, or a noted expert. Preprocessing includes initial research and data collection.

**Onsite Research and Discussion.** An action officer assigned to the project by the sponsor is the main point of contact during the preprocessing phase. The CAA project director coordinates directly with the action officer to determine the purpose, scope, and objectives for the political-military game. Research is conducted by the project director to establish specific details on the project, within the context of the sponsor’s original guidance.

**Issue Identification.** Draft issues are provided by the sponsor as a set of objectives or concerns for the subject of the political-military game. The issues are tied directly to the objectives of the political-military game and may be revised and enhanced as preprocessing progresses. Once the issues are finalized, they are logically grouped and synchronized with the scenario.

**Political-Military Game Design.** The design consists primarily of establishing an individual plan for a specific political-military game. The process involves determining the most productive combination of team assignments, confirming an appropriate sequence for the presentation of objectives and charges, and ensuring that the detailed scenario encompasses all aspects of the overarching problem or hypothesis. Based on this sequencing, the game is broken up into a series of moves, each addressing one or more objectives.

**Political-Military Game Participant Roster.** Identification of appropriate participants is absolutely key to a successful political-military game. The sponsor identifies principal participants during the initial stages of planning. Additions or deletions are made based on the scope and experience required.

**Political-Military Game Scenario.** The scenario provides perspective and establishes a platform from which to address the objectives of the game. Ideally, the scenario will consist of a realistic situation that tasks the participants to draw from their professional
experience to conduct problem solving and decision making. A majority of the situations carry the participants forward in time and project a future state of events that requires consideration. This intentional displacement serves the additional benefit of removing any preconceived notions or current day issues that may complicate the problem.

**Political-Military Game Objectives.** The number of political-military game objectives is determined by the scope of the political-military game. A standard political-military game might examine four or five objectives. Each objective, in turn, may have four or five charges (questions) that should be addressed.

**Conduct of the Political-Military Game.** Participants are welcomed and then given a series of introductory briefings before breaking into teams to address the objectives and related issues.

**Scenario Briefing.** Participants will come from various backgrounds and must be brought together to interact towards the common objectives of the political-military game. This interaction is synchronized through the use of a special scenario developed specifically for the political-military game. The scenario answers questions and provides information on assumptions required in order to accurately address the issues.

**Political-Military Game Dynamics.** Team composition, and the small number of personnel on each team (normally 15 or less), allows for unique interaction that encourages individual participation. In the small group setting, the ability to elicit a response under the constraints of the scenario and time schedule comprises the group dynamic.

**Preliminary Key Insights (PKIs).** The product of each team discussion is a set of responses to each charge and PKIs, representing the most important insights gained during that particular move. The charge responses and PKIs are carried forward to the plenary session at the end of each move and presented to the other team(s). Summary PKIs are briefed to the Senior Council at the end of the game.

**Record of Proceedings.** In addition to a team leader, each team is assigned a CAA analyst who assists the team leader and records insights. The insights are recorded on a computer and take the form of bullet comments augmented by text passages where required. At the conclusion of the political-military game, all comments are compiled to form a nonverbatim, not-for-attribution written project report of proceedings for the political-military game. This report includes all key insights and provides the sponsor with a complete accounting for all phases of the political-military game.

**Postprocessing.** During the postprocessing phase, the sponsor determines the steps to take in order to maximize the benefits of the political-military game (based on the impact of the insights, applicability of the scenario, Senior Council’s instructions, etc.). Normally, the results and project report are presented as a series of briefings to key decision makers throughout the Department of Defense. New objectives and issues derived as a result of the game’s cardinal insights could form the basis of another related or unrelated political-military game, as required.
1.5 Pol-Mil Game Dynamics

The key to successful game execution is the use of a structured process to ensure the events flow and all important issues are addressed. This is accomplished by working closely with the sponsor to formulate objectives and key issues to be addressed. The game is then organized into a series of moves where each move addresses a series of charges to respond to one or more objectives. Participants are divided into teams to address the charges. The number and size of teams depend on the number of participants and the desired game dynamics. The completion of each move is followed by a plenary session where each team briefs its responses to the charges. This also includes discussion, and, for some issues, consensus is reached on specific charges, while for others, lack of consensus is noted. Upon completion of the moves and plenaries, preliminary key insights are briefed to a Senior Council made up of senior leaders. Consensus PKIs may be briefed or individual team PKIs can be briefed. Completion of the Senior Council ends the game, and then PKIs are refined into Cardinal Insights in the postprocessing phase of the effort. This process is portrayed in Figure 4.

Figure 4. Pol-Mil Game Dynamics
2 AIA ANALYTICAL ARCHITECTURE

2.1 AIA Analytical Architecture

Figure 5 provides a pictorial look at the AIA project. AIA uses our standard three phased analytical approach of work group (WG)/issues workshop (IW)/political-military game. A work group was established in August 2000 to define key infrastructure assurance issues, establish terms and concepts, and identify subject matter experts and stakeholder organizations. The 27-28 September 2000 action officer-level issues workshop, in addition to examining roles and responsibilities in infrastructure assurance, allowed participants to prepare their senior leadership for the follow-on political-military game. The 22 March 2001 executive-level MANHATTAN 2001 Political-Military Game focused on the end-state of infrastructure assurance in the Army; policy gaps in Army infrastructure assurance; and infrastructure assurance challenges associated with privatization, outsourcing, and acquisition.
2.2 AIA Issues Workshop

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<td>Examine the Army's requirements in Infrastructure Assurance</td>
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<tr>
<td>SCOPE:</td>
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</table>
| OBJECTIVES: | - Identify DoD and Army challenges in infrastructure assurance  
  - Examine sources of friction  
  - Identify existing or potentially new programs that can be leveraged to support Army infrastructure assurance  
  - Describe the desired infrastructure assurance end-state for DoD and the Army |
| PROJECT DIRECTOR: | Mr. Greg Andreozzi (703) 806-5665 |

Figure 6. AIA Issues Workshop

Figure 6 presents the framework for the 27-28 September 2000 Issues Workshop. Subject matter experts from key stakeholder organizations convened to address the objectives identified in Figure 6. More importantly, this workshop was used to refine the game plan for the MANHATTAN 2001 Political-Military Game.
2.3 MANHATTAN 2001 Pol-Mil Game

**MANHATTAN 2001 POL-MIL GAME**

**SPONSOR** DAMO-OD

**PURPOSE:** Examine the Army’s Infrastructure Assurance strategic challenges

**GAMERS:** OASA(IE), OSAAA, OSA(SAMS), OCPA, ODUSA(QR), ODISC4, OTJAG, ODCSINT, ODCSLOG, DAMO-OD, DAMO-SS, DAMO-ZS, ODCSPER, OACSIM, OCAR, ODARNG, MDW, JALS, MTMC (TEA), USACE, TRADOC, LIWA, and CAA

**SCOPE:** Examine Army Infrastructure Assurance challenges out to 2020

**OBJECTIVES:**
- Determine the end-state of infrastructure assurance in the Army
- Identify policy gaps in Army infrastructure assurance
- Determine fixes to infrastructure assurance challenges associated with privatization, outsourcing and acquisition

**PROJECT DIRECTOR:** Mr. Greg Andreozzi (703) 806-5665 (DSN 656)

**NEXT STEPS**
- 4 May 00: Working meeting w/ DAMO-ODS
- 18 May 00: IA Concept Update
- 2 Jun 00: Army IA WG Established
- 24 Aug 00: AIA WG Established
- 11 Sep 00: Update Dir, CAA
- 27-28 Sep 00: Update Dir, CAA
- 2 Mar 01: AIA WG Established
- 22 Mar 01: MANHATTAN 2001 Pol-Mil Game

Figure 7. MANHATTAN 2001 Pol-Mil Game

Figure 7 presents the framework for the MANHATTAN 2001 Political-Military Game. MANHATTAN 2001, the capstone event of the AIA project, was conducted on 22 March 2001 and included senior level participants from across the Army Staff and Secretariat as well as other key stakeholder Army organizations. The purpose of the game was to obtain an executive-level view of the subject of Army infrastructure assurance as it supports the Department of Defense Critical Infrastructure Protection program. The game examined the Army’s infrastructure assurance strategic challenges. Its objectives were to determine the end-state of infrastructure assurance in the Army, to identify policy gaps in Army infrastructure assurance, and to determine fixes to infrastructure assurance challenges associated with privatization, outsourcing, and acquisition. Key insights from MANHATTAN 2001 are presented in Figures 10 through 13. (Note: ODCSLOG is now designated DCS G4, ODCSPER is now DCS G1, and ODCSINT is DCS G2.)
2.4 Game Concept

Figure 8 outlines the game concept for MANHATTAN 2001. Following a brief introduction and overview, the game was set up with two moves. A scenario, consisting of an opening situation and two special situations, set the stage for the game and provided a framework for discussing the charges within each move. The scenario involved the deployment of forces in support of a Central Command (CENTCOM) operation plan (OPLAN) during a hurricane in the Gulf of Mexico. The scenario played out from August 29 to September 16, 2001. While we used a scenario to frame the discussion, we challenged the game participants not to “fight the war” or to consider the “consequence management” aspects of the natural disaster. The game participants were asked to consider how a degradation of infrastructure affects the Army’s ability to support the warfighter. Move 1 addressed OPLAN-based infrastructure assurance challenges, and Move 2 looked at OPLAN-based infrastructure assurance fixes, with emphasis on outsourcing, contracting and privatization issues. Each move concluded with the team leaders presenting their groups’ responses to the move charges in a plenary session. Following the second move plenary session, the teams presented their preliminary key insights to the Senior Council.
2.5 Game Organization

The game participants were organized into two teams based upon their functional expertise, broad executive experience, and our need to provide the appropriate discussion environment. The team leaders provided guidance, directed the discussion, prepared the key insights, and briefed team results to the Senior Council. The team composition is shown in Figure 9. Booz Allen and Hamilton, Inc. (BAH) personnel assisted CAA analysts in capturing game insights as part of a contract with the project sponsor, DAMO-ODS.

Figure 9. Game Organization
3 KEY INSIGHTS

3.1 Key Insights - Synchronization

- Army infrastructure assurance requirements must be prioritized, consolidated and synchronized
  - Requires resource review in support of CIP
  - Must be able to tie all component pieces together
    - DA/MACOM/Installation must periodically review critical infrastructure with appropriate local/state/federal agencies
      - Review all strategic deployment data (e.g., key bridges, railroad interstate, utilities, industry, personnel, and facilities)
      - Examine interdependencies between Army, DOD, other Federal, and private infrastructures
      - Capture best practices from past deployments and mobilizations
      - Develop plans to overcome actions that could prevent mission accomplishment
  - Must be a priority for commanders at all levels

Game participants identified a large number of defense, public and private sector infrastructures supporting the Army’s execution of its United States Code (USC) Title 10 responsibilities. Figure 10 highlights the need for Army infrastructure assurance requirements to be prioritized, consolidated, and synchronized. OPLAN-based analysis, allowing a detailed review of the infrastructures required to support individual OPLANs, is one tool that can assist this effort.
3.2 Key Insights - Institutionalization

- Institutionalize Army infrastructure assurance
  - Army must clearly establish definition and mission statement with attendant MOEs
  - Leverage existing protection programs and standards
  - Integrate proposed AR and supporting publications
  - Include focused standardized training program for Installation Commanders and others with IA responsibilities
  - Use modeling and analysis tools and exercises to assess IA
    - Will help identify and examine weak and choke points
  - Establish an Army infrastructure assurance fusion cell to oversee vulnerability assessment(s) of Army Critical Infrastructure
    - Recommend measures to reduce/mitigate risk
    - Establish ability to respond to loss of critical infrastructure capabilities

Figure 11. Key Insights - Institutionalization

MANHATTAN 2001 served as an exploratory effort to gain insights from Army executives on infrastructure assurance. Army infrastructure assurance is designed to ensure the continued performance of functions required to execute the mobilization, deployment, sustainment, redeployment, and reconstitution missions in support of a unified combatant command operation plan. Army infrastructure assurance leverages five existing protection programs (Army Physical Security, Personnel Security, Information Systems Security, Antiterrorism Force Protection, and Operations Security). However, infrastructure assurance is more than the protection of assets and personnel. Headquarters Department of the Army and commanders assure Army infrastructure through plans, operations, and contracts that preserve the capability to perform the functions required to support the commanders in chief of the unified combatant commands across the full operational spectrum. These plans, operations, and contracts emphasize not only protection activities, but also courses of action, workarounds, and contingency plans to ensure that the Army can mobilize, deploy, fight, sustain, redeploy, and reconstitute forces to support an operation. The full operational spectrum includes the range of threats from natural disasters.
(hurricanes, tornadoes, floods, and earthquakes) to civil disturbances, to terrorist and criminal acts, to general war.

Figure 11 identifies several mechanisms to institutionalize infrastructure assurance in the Army. A starting point would be to publish Army Infrastructure Assurance Strategic Planning Guidance. This planning guidance can be used as a road map for integrating Army infrastructure assurance with Army Homeland Security. It can also be used to document Army infrastructure assurance as an integral part of the Department of Defense Critical Infrastructure Protection Program.

### 3.3 Key Insights – Outsourcing and Privatization

- Examine current outsourcing and privatization contracting processes to determine their ability to support Army infrastructure assurance requirements for personnel and services
  - Ensure continued provision of services by contractor personnel put at risk due to battlefield/hazardous work areas
  - Mitigate security risks associated with outsourced and privatized functions and services
    - Analyze operations security, physical security, personnel security information security, and antiterrorism/force protection
  - Review acquisition policies and procedures to ensure they fully support infrastructure assurance activities

**Figure 12. Key Insights - Outsourcing and Privatization**

Figure 12 addresses issues associated with contracting, outsourcing, and privatization. Game participants recommended the review of policies associated with contractual agreements for all outsourced and privatized functions and services. Participants’ insights indicated there are potentials for failure in those instances where the functions that may be necessary to support the warfighter have been outsourced or privatized. Participants recommended the review of the policies associated with contractual agreements with an eye toward maintaining operations security. The Army’s operations security policies and procedures must be addressed with respect to the protection of contractor and host nation personnel performing vital functions in direct support of the warfighter. Participants recommended proponents for any actual or potential outsourced function be tasked, via appropriate policy documents, to consider vulnerability, risk mitigation, and risk management as key parameters when making outsourcing decisions. Finally, Army contracting organizations at all levels must be familiar with the requirements for
assuring the infrastructure necessary to support the warfighter. Acquisition policies and procedures must provide for the availability of contractual support before, during, and after any event that takes place across the full operational spectrum.

### 3.4 Key Insights – Resource Competition

- Assess the competition for infrastructure assurance services
  - Personnel
  - Utilities
  - Communications
  - Funding

**Figure 13. Key Insights – Resource Competition**

Competition for infrastructure assurance services can take many forms, as noted in Figure 13. An installation may be competing with the local community for limited utility availability during a crisis. Reserve Component and contractor personnel required by the Army during a crisis may be needed in their communities as emergency first responders. Competition for scarce resources potentially could exist between local, state, and federal civil entities as well as the private sector. The Army must be aware of and properly plan for these types of circumstances.
APPENDIX A  PROJECT CONTRIBUTORS

1. PROJECT TEAM
   
a. Project Director
      Mr. Greg Andreozzi, Conflict Analysis Center
   
b. Team Members
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      Mr. Howard Hall

2. PRODUCT REVIEWERS
   
   Dr. Ralph E. Johnson, Quality Assurance
   Ms. Nancy M. Lawrence, Publications Center

3. EXTERNAL CONTRIBUTORS
   
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   Mr. Tom Burrell, Booz • Allen and Hamilton, Inc.
   Mr. Doug Gaskell, Booz • Allen and Hamilton, Inc.

   Issues Workshop and MANHATTAN 2001 Political-Military Game Participants (see Figure 9 for MANHATTAN 2001 participants)
**APPENDIX B  REQUEST FOR ANALYTICAL SUPPORT**

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<tr>
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<td>Original Signed</td>
<td>Phone#:</td>
<td>703-806-5665</td>
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<tr>
<td>Study Director/POC:</td>
<td>Mr. Gregory Andreozzi</td>
<td></td>
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If this Request is for an External Project expected to consume 6 PSM or more, Part 2 Information is Not Required. See Chap 3 of the Project Directors' Guide for preparation of a Formal Project Directive.

**Background:**

DAMO-ODS is the action office supporting the Dir/DAMO-OD and the DDir/DAMO-OD, the Army's appointed Chief Infrastructure Assurance Officer (CIAO). As part of this responsibility, DAMO-ODS has asked CAA to conduct an analytical effort to examine Army infrastructure assurance role(s) and responsibilities in the context of its Title X responsibilities. The MANHATTAN 2000 Pol-Mil Game follows up on an issues workshop conducted on 27-28 Sep 00.

**Scope:**

Examine Army Infrastructure Assurance requirements out to 2020

**Issues:**

1) Examine capabilities that can be leveraged to support IA. 2) Examine interfaces in support of externally controlled assets. 3) Identify areas of concern

**Milestones:**

1) Refine game objectives. 2) Update Senior leadership. 3) Develop list of prospective participants. 4) Develop/distribute pol-mil game invitation memo. 5) Identify prospective team leaders. 6) Develop game concept to include opening and special situations, moves, and charges. 7) Conduct MANHATTAN 2000 Political-Military Game, 14 Dec.

**Signatures**

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MANHATTAN

B-1