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Net Assessment: Overview and Resources

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Overview

Introduction

On the whole, net assessment is the study of different ways in which the United States can identify and exploit emerging trends in an increasingly complex geopolitical environment.[1] Throughout the available literature, however, there is disagreement as to what net assessment (NA) actually constitutes. It is best understood as a core set of practices rather than a single type of activity.[2]

The term 'net assessment,' pioneered by the Department of Defense which has not published an official definition, is often described as an examination of a country, its competitors, and their relative strengths and weaknesses in order to identify strategic risks and opportunities. Lovinger (2014) concludes that NA is "what you do before strategy to get your strategy right," and said if net assessment is conducted correctly, strategy will naturally emerge.[3]

Skypek (2010) calls NA a multidisciplinary approach to national security analysis that is comparative, diagnostic, and forward-looking. It is a framework for evaluating the long-term strategic political-military competitions in which states engage. As the word "competition" implies, net assessors view the interactions of states as inherently competitive rather than inherently cooperative. The aim of NA is to diagnose strategic asymmetries between competitors and to identify environmental opportunities in order to support senior policymakers in the making of strategy. As a multidisciplinary framework, it incorporates elements of economics, military history, political science, and organizational behavior and employs a variety of quantitative and qualitative methodologies.[4]

Net assessment brings order to the study of war and statecraft by decomposing complicated political-military relationships into understandable zero-sum competitions.[5] Whereas traditional analysis techniques tend to focus on statistical inputs or "bean counts," such as the number of missiles each side has, this author writes that net assessment takes the analysis deeper, shifting the emphasis toward such organizational outputs as cost and time required to achieve a given objective.[6]

According to Skypek (2010), NAs fall into one of two categories: geographical or functional. Geographical examine the military balance of a particular region, whereas functional examine the military balance in specific military domains such as air, land, maritime, space, or nuclear. While there are certain distinguishing characteristics and a basic structure that differentiates net assessment from other modes of defense analysis, it is a malleable framework. The assessor has significant creative license in how the NA is conducted in terms of the questions asked and the methodologies employed. There are four pillars:
1. Trends (with an emphasis on long-term trends)
2. Doctrine (provides insight into a state's military goals)
3. Asymmetries (areas of comparative advantage)
4. Scenarios (to test hyphotheses, i.e. wargaming)[7]

An Institute for Defense Analyses report (1990) states that NAs are used to evaluate external security threats and identify strategic opportunities, as well as to study patterns of behavior that go back 20+ years and to look into the future. At the time, they were seen as two-sided (or many-sided) comparative evaluations of the balance of strengths and weaknesses of countries, groupings of countries, or other regional and institutional entities of interest for strategic

planning. NAs compare U.S. weapons, forces and policies with those of other countries. According to IDA, net assessments also are:

- Tailored to help answer "what if" questions during the planning of broad courses of action.
- Better suited for higher levels of government, due to their complex nature, and as a result contribute to high-level decision making;
- Eclectic in that they pull together both quantitative complexities as well as qualitative, such as cultural bent and organizational capability of potential participants in events, frames of reference, and training of key individuals;
- Oriented towards diagnosis of complex relationships to understand the nature of their actual and potential interactions over the long run;
- Not designed to be prescriptive.[8]

Methodological Approach

There are no formal rules available, and NA remains a mystery for many people.[9] This has led to the creation of variable methodologies. One approach often applied in the conduct of NAs is summarized by Karber (2017) in five sequential steps:[10]

• Measurements: collecting empirical data in a comparable format (Note: NA relies heavily on data, as well as an understanding of the value of what the intelligence community can provide in the way of "good data.")[11];
• Estimates: discovering, describing and distinguishing those elements that are unmeasurable but important;
• Analysis: evaluating competitive strengths, weaknesses, vulnerabilities and opportunities;
• Balancing: anticipating opportunities for the application of strength to vulnerability in juxtaposed postures;
• Triumph: identifying and projecting into the future opportunities for the conversion of favorable balances (i.e. imbalances) into political outcomes.

Basic Principles

The basic principles of a NA include seven themes:[12]
1. Multi-disciplinary comparative breadth: Net assessments should aim at a broad and comprehensive examination of the area of interest.
2. Focus on interactive "action-reaction" dynamics and trends: NAs should look at rivalries and the various types of competition that ensue.
3. Side-by-side comparisons should be placed in an operational environment, theater of conflict, or contingent scenario: NAs should evaluate the status of the competition in terms of outcomes of potential conflicts and confrontations.
4. Conclusions about combatant effectiveness need to be modulated in terms of production and support efficiencies which are key to sustaining a long-term advantage: NAs should compare efficiency with which the various powers, including the US, are conducting the competition. Where there are areas of apparently great efficiency, or inefficiency, NAs should explain them.
5. Claimed competitive efficiencies need to be deconstructed so they can be better understood, borrowed, and/or targeted: NAs highlight efficiency and inefficiency in the way things are done, and areas of comparative advantage with respect to rivals.
6. Include a range of potential competitors, and include both allies and enemies of enemies: The implications of multiple rivalries and balances, rather than bipolar simplicity, should be

examined. It can be focused to deal with real or at least credible adversaries, rather than the fictitious, highly abstracted and oversimplified antagonists found in present study efforts.
7. To be of maximum benefit to security policy and defense planning NA should be descriptive, not prescriptive: Aim at providing diagnosis of problems and opportunities, rather than recommended actions.

Office of the Director Net Assessment (ODNA)

Historical Structure

In 1971, DoD established an organization within the Office of the Director, Defense Research and Engineering (DDR&E) to perform net technical assessments, in order to address a gap in the nation's national security planning capability. In particular, NA emerged in response to the limitations of systems analysis when applied to the USA–Soviet strategic competition.[13] Its focus was to improve the quality, objectivity and coverage of net threat assessments.

In 1973, the Office of Net Assessment (ONA) was created to serve as the Pentagon's internal think tank. The Director of Net Assessments was to be supported by the office of Assistant for Long-Range Planning. At this time, the Director's job integrated the elements of NA by tasking the existing functional assessment capabilities as well as the establishment of capabilities within other functional areas as necessary to give DoD a total NA capability.[14]
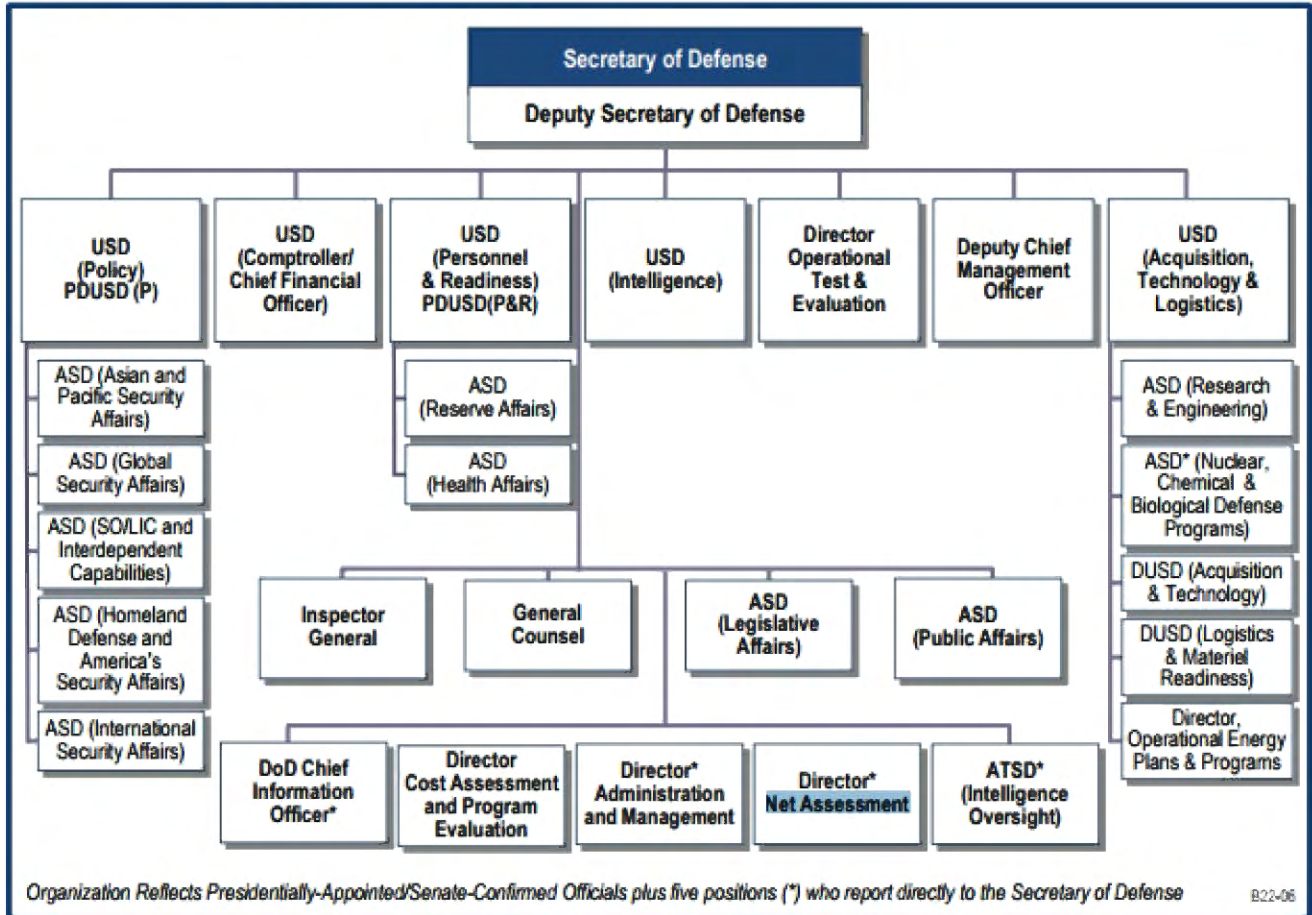
Present-day Structure

The Office of the Director Net Assessment (ODNA) is an independent organization within the Department of Defense (DoD) and is charged with identifying emerging or future threats and opportunities for the United States. To do so, ODNA develops and assesses standing trends and future prospects of U.S. military capabilities, in comparison with other countries. It supports projects of broad importance to the SECDEF and DEPSECDEF for research in support of the NA mission. These projects address near- and long-term problems and opportunities for U.S. military forces and policies, as seen from the perspective of the SECDEF. They draw on sources of expertise not available within DoD and that cannot be developed within DoD. This research differs in character and focus from other DoD research programs which are concerned with issues of current or near future policy.[15]

A 2009 DoD Directive updates the responsibilities and functions, relationships, and authorities of the Director of Net Assessment. It defines the term "net assessment" as the comparative analysis of military, technological, political, economic, and other factors governing the relative military capability of nations. The purpose of NA is to identify problems and opportunities that deserve the attention of senior defense officials .One major function of the Director is to develop and coordinate net assessments of the standing, trends, and future prospects of U.S. military capabilities and military potential in comparison with those of other countries or groups of countries so as to identify emerging or future threats or opportunities for the United States. Click HERE to view additional functions.[16]

In a June 2015 memo titled "Guidance," it was determined that ONA will focus its expertise more on current defense policy issues rather than hypothetical future threats. "The Office of Net Assessment has long been [a] source of independent, long term, deep thinking about our future," but analyzing the future of warfare should not come at the expense of up-to-date informed advice on current pressing policy issues for the secretary of defense.[17]

Organizational Structure[18]

Figure 8-3. Department of Defense Organizational Structure

Organization Reflects Presidentially-Appointed/Senate-Confirmed Officials plus five positions (*) who report directly to the Secretary of Defense

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Directors of Net Assessment

Position established in 1973 to serve as the principal staff assistant and adviser to the Secretary and Deputy Secretary of Defense on NA matters. According to Defense Directive 5111.11, the Director shall develop and coordinate net assessments of the standing, trends, and future prospects of U.S. military capabilities and military potential in comparison with those of other countries or groups of countries so as to identify emerging or future threats or opportunities for the United States.[19]

Andrew Marshall . . . . 16 November 1973–5 January 2015
Andrew May (Acting) . . . . 6 January 2015–12 May 2015
James Baker . . . . 13 May 2015-Present

Budget[20]

Resources:

Department of Defense. 2017. **Key Officials, September 1947 –June 2017**. http://history.defense.gov/Portals/70/Documents/key_officials/KEYOFFICIALS-JUN2017Final.pdf

Frank, A.B. 2017. **Toward Computational Net Assessment**. In *Journal of Defense Modeling and Simulation: Applications, Methodology, Technology*, Vol. 14, Issue 1. https://www.researchgate.net/publication/313280188_Toward_computational_net_assessment
In 1973, the Department of Defense (DoD) created the Office of Net Assessment (ONA) with a charter and unique approach to strategic analysis. This approach questioned the suitability of systems analysis to assess long-term, dynamic competition between complex military organizations, and turned to more qualitative methods as analytic alternatives. Developments in computing technology and modeling methods over the last two decades, most notably agent-based modeling (ABM), provide new opportunities to address the central analytic questions that motivated the original development of net assessment as a distinctive practice of strategic analysis. By employing ABM to simulate and analyze the behavior of strategic, adaptive, boundedly rational actors, which have previously frustrated mathematical analysis, a new generation of computational models can provide opportunities to add rigor to net assessment.

Department of Defense. February 2016. **Department of Defense Fiscal Year 2017 President's Budget. Office of the Secretary of Defense (OSD.) Defense-Wide Justification Book Operation and Maintenance.**

http://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2017/budget_justification/pdfs/01_Operation_and_Maintenance/O_M_VOL_1_PART_1/OSD_OP-5.pdf

Gady, F-S. June 2015. **The Future of Net Assessment at the Pentagon**. In *The Diplomat*. http://thediplomat.com/2015/06/the-future-of-net-assessment-at-the-pentagon/

Karber, P.A. 2015. **Net Assessment for Secretary of Defense Future Implications from Early Formulations**. The Potomac Foundation. http://www.thepotomacfoundation.org/wp-content/uploads/2015/05/Net-Assessment-for-SecDef.pdf
Evidence and arguments assembled for this paper suggest that five lessons should be drawn from the early origins of the Net Assessment concept. Lesson two, in particular, appears relevant: there is a coherent and reasonably clear methodological approach that can be applied in the conduct of Net Assessments. It is not mystical, it is not arcane; it evolved over a several year period in the early 1970s, and taken as a whole, it can be teased from the writings of Andrew Marshall in that period.

Krepinevich, A. and B. Watts. 2015. **The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy**. Published by Basic Books.
https://books.google.com/books?id=QoJzAwAAQBAJ&pg=PR9&lpg=PR9&dq=%22net+assessment%22+methodology&source=bl&ots=qS6QA9v-Gp&sig=gZRVF670i279IDPXt1VWy5CSXg8&hl=en&sa=X&ved=0ahUKEwid--fy6ODUAhWDPz4KHVf8D6E4FBDoAQg3MAc#v=onepage&q=%22net%20assessment%22%20methodology&f=false (Google e-book preview)
The authors – both former members of Marshall's staff—trace Marshall's intellectual development from his upbringing in Detroit during the Great Depression to his decades in Washington as an influential behind-the-scenes advisor on American defense strategy. The result is a unique insider's perspective on the changes in US strategy from the dawn of the Cold War to the present day. Covering some of the most pivotal episodes of the last half-century and peopled with some of the era's most influential figures, this book tells Marshall's story for the first time, in the process providing an unparalleled history of the evolution of the American defense establishment.

Berman, I. May 2014. **Learning the Pentagon's Secrets For Business Success**. In Forbes' World Affairs. https://www.forbes.com/sites/ilanberman/2014/05/21/learning-the-pentagons-secrets-for-business-success/#3ff8644d4210

Dahl, E. J. 2014. **"A Call for a Homeland Security Net Assessment."** Naval Postgraduate School. Prepared for delivery at the ISAC-ISSS annual conference Austin, Texas. http://web.isanet.org/Web/Conferences/ISSS%20Austin%202014/Archive/3bca4252-3aa4-41d9-b7ab-5d34428ea147.pdf
The concept of net assessment has long been considered an important tool for American national security strategists, and the Pentagon's Office of Net Assessment is widely regarded as a key influence in security planning. But despite calls by experts for the development of a similar net assessment office in the Department of Homeland Security (DHS), only a few tentative efforts have been made to use the concepts and methodologies of net assessment for the problem of ensuring American homeland security. This paper argues that the tool of homeland security net assessment is even more needed today, when debates over the state of the nation's security involve discussions not only about the seriousness of the threat, but about the legitimacy of the intelligence and other efforts being employed to combat that threat. It proposes a new model for a homeland security net assessment process that should be undertaken by DHS, and suggests that such an assessment would expand the discussion of homeland security

threats beyond terrorism and would encourage greater focus on civil liberties and disaster preparedness.

Department of Defense. **Overview – FY 2014 Defense Budget. Chapter 8: Performance Improvement.** http://comptroller.defense.gov/Portals/45/documents/defbudget/fy2014/FY2014_Performance_Improvement.pdf (page 8-4)

Augier, M. February 2013. **Thinking about War and Peace: Andrew Marshall and the Early Development of the Intellectual Foundations for Net Assessment**. In *Contemporary Strategy*, Vol. 32, Issue 1. http://www.tandfonline.com/doi/abs/10.1080/01495933.2013.758509#.UrCPyxA2rzQ Full text may be available via inter-library loan. Please let me know if you are interested. This article discusses some of the background and early intellectual influences of Andrew Marshall and the development of the net assessment framework. In particular, it focuses on some of the intellectual foundations for net assessment, key characteristics, and how the style, vision, and ideas of Andrew Marshall have been and continue to be influential for performing net assessment. While focusing mostly on the intellectual/biographical aspects of Marshall's ideas and thoughts, the topic demonstrates significant scholarly implications for current and future strategists, such as the significance of interdisciplinary research for strategic thinking (such as that conducted by the RAND Corporation in the 1950s and 1960s) and the importance of diagnosis in strategy.

Samaan, J-L. 2012. **The RAND Corporation (1989-2009): The Reconfiguration of Strategic Studies in the United States**. Palgrave-MacMillan. http://www.palgrave.com/us/book/9780230340923

Schutte, J.M. June 2012. **Casting Net Assessment Andrew W. Marshall and the Epistemic Community of the Cold War**. The Drew Papers, No. 16. Air University School of Advanced Air and Space Studies. http://www.au.af.mil/au/aupress/digital/pdf/paper/dp_0016_schutte_casting_net_assessment.pdf The focus of this biography is Andrew W. Marshall, including his growth and maturation as a strategist.

Elkus, A. *December* 2011. **Towards a Counterterrorism Net Assessment**. In *Small Wars Journal*. http://smallwarsjournal.com/printpdf/11953 This article concludes that net assessment is only one tool in a larger process of national security assessment, and is not a silver bullet for our strategic problems. However, some kind of competitive assessment of the dynamics of the long-term struggle with al-Qaeda is needed as the United States struggles to resource other equally (if not more) important commitments.

Skypek, T.M. Winter 2010. **Evaluating Military Balances Through the Lens of Net Assessment: History and Application**. In *Journal of Military and Strategic Studies*, Vol. 12, Issue 2. http://jmss.org/jmss/index.php/jmss/article/download/297/326 This article examines net assessment, an approach the U.S. has employed to understand the complex state-based military and security threats confronting it. The author 1) provides a clear definition of net assessment, as practiced by the Pentagon's Office of Net Assessment; 2) presents a blueprint for conducting net assessments; 3) details its history in the Department of Defense; and 4) explains its value as an analytical framework for analysts and policymakers.

Literature on net assessment is limited. Primary sources comprise the majority of work on this subject and many of these sources remain classified. As a result, net assessment is one of the more esoteric tools available to analysts and policymakers. … [T]here are no textbooks, just a few articles from former practitioners and courses they teach at a handful of American universities. Thus, knowledge is generated more from apprenticeship than academic study.

This article fills a gap in the existing literature by telling an important, largely untold narrative. … Net assessment, like the field of strategic studies, is a product of the cold war struggle for power that defined the latter half of the twentieth century. It provided analysts and policymakers in the Pentagon with a framework for conceptualizing U.S.-Soviet military competition. It remains applicable today for the U.S. as military power of states such as China and India increases.

Department of Defense. December 23, 2009. **Directive Number 5111.11 - SUBJECT: Director of Net Assessment**. http://www.dtic.mil/whs/directives/corres/pdf/511111p.pdf
This Directive:
   a. Reissues Reference (a) to update the responsibilities and functions, relationships, and authorities of the Director of Net Assessment under the authority vested in the Secretary of Defense by section 113 of Reference (b).
   b. Authorizes the Director of Net Assessment, as a Principal Staff Assistant (PSA) reporting directly to the Secretary of Defense, to promulgate DoD policy in DoD Instructions (DoDIs) within the responsibilities, functions, and authorities assigned herein

Heng, Y-K. April 2008. **Old Wine in New Bottles? Reconfiguring Net Assessment for 21st Century Security Analysis**. In *Contemporary Security Policy*, Vol. 28, Issue 3.
http://www.tandfonline.com/doi/pdf/10.1080/13523260701737737
Full text may be available via inter-library loan. Please let me know if you are interested.
Net assessment as a framework for security analysis last triggered vigorous discussion in the closing stages of the Cold War. Nearly two decades later, this paper argues that NA deserves to be revitalized and looked at again, as governments seek analytical tools to understand the strategic environment in order to properly shape their foreign and security policies. Drawing from Cold War academic debates on net assessment, this paper first clarifies its definitions, origins and methods, highlighting its strengths, failures and weaknesses. It then examines whether and how net assessment might be modified and brought forward into the 21st century as an analytical framework for two strategic problems: the War on Terror and the Iraqi insurgency. The essay concludes that greater attention should be paid to NA, both to address an urgent need for analytical tools to understand post-Cold War exigencies, and as a remedy to the worst-case scenarios that have dominated post-9/11 strategy.

Hannan, M. J. 2005. **Operational Net Assessment: A Framework for Social Network Analysis**. http://www.au.af.mil/info-ops/iosphere/iosphere_fall05_hannan.pdf
The author examines the Operational Net Assessment process. He draws from current literature on the ONA template and reviews the construct in order to create a "truth in lending" approach. LCDR Hannan attempts to identify the present limitations of ONA and provide recommendations and areas for improvement. He contends for ONA to be relevant, its level of confidence must be clearly understood by the warfighter.

Institute for Defense Analyses. May 1990. **Net Assessment: The Concept, Its Development and Its Future**. http://www.dod.gov/pubs/foi/Reading_Room/Other/Litigation%20Release%20-%20Net%20Assessment%20concept%20development%20future%20%20199005.pdf
This paper provides an overview of the May 1990 symposium at IDA on net assessment. Part I focuses on the concept of net assessment – abbreviated observations about the concept,

history, present status, and future needs and prospects are presented. Part II provides an overview of net assessment in the future. Extensive discussion was devoted to explaining the differences between net assessment and systems analysis, with NA being oriented towards diagnosis, and SA being designed to be prescriptive.

Cohen, E.A. April 1990. **Net Assessment: An American Approach**. Jaffee Center for Strategic Studies (JCSS), Memorandum No. 29. http://www.inss.org.il/wp-content/uploads/2017/02/FILE1266490070-1.pdf
This paper is based on a lecture given in 1989. It warns that the term net assessment should not be used as a buzz word, "to be hurled about in executive-congressional debates about the defense budget, which will gradually be drained of real meaning." The search for sound net assessment has been a struggle, with the U.S. facing a different kind of competition with its old opponents, and new kinds of competition with other states in different arenas.

Konecny, A.D. December 1988. **Net Assessment: An Examination of the Process**. Naval Postgraduate School. Thesis. http://www.dtic.mil/dtic/tr/fulltext/u2/a205104.pdf
The net assessment process, useful applications of net assessment, and attempts to improve analysis are addressed in this thesis. These areas are examined to evaluate the effectiveness of net assessment as a method of analysis applicable to forecasting and policy modification.

National Security Council. March 29, 1973. **National Security Study Memorandum No. 178. Subject: Program for National Net Assessment**.
https://www.cia.gov/library/readingroom/docs/LOC-HAK-32-3-8-4.pdf
Provides a chronology of net assessment between August 1972 and January 1973.

Department of Defense. 1972. **Secretary of Defense Melvin R. Laird's Annual Defense Department Report FY 1973**.
http://history.defense.gov/Portals/70/Documents/annual_reports/1973_DoD_AR.pdf
" … the business of peace is a complex one. Net Assessment in National Security Planning is an indispensable tool for coping with these complexities. In simple terms, Net Assessment, in conjunction with Total Force Planning, tells where we are, what we need to do, and how to get there."

Endnotes

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