PERSPECTIVES ON INTEROPERABILITY INTEGRATION WITHIN NATO DEFENSE PLANNING PROCESS

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Interoperability is not a new area of effort at NATO level. In fact, interoperability and more specifically standardization, has been a key element of the Alliance’s approach to fielding forces for decades. But as the security and operational environment has been in a continuous change, the need to face the new threats and the current involvement in challenging operations in Afghanistan and elsewhere alongside with the necessity to interoperate at lower and lower levels of command with an increasing number of nations, including non-NATO ISAF partners, NGOs, and other organizations, have made the task even more challenging. In this respect Interoperability Integration within NATO Defense Planning Process will facilitate the timely identification, development and delivery of required forces and capabilities that are interoperable and adequately prepared, equipped, trained and supported to undertake the Alliance’s full spectrum of missions.

Key words: capability, defense planning process, interoperability

“I see interoperability as taking first place: it is called a force multiplier. To me, interoperability means making our existing capabilities interoperable, as well as making sure the future ones will be. This pragmatism calls for closer coordination with nations, notably in developing and implementing capability improvements for forces preparing to deploy on operations.”

General Stephane Abrial, Supreme Allied Commander Transformation

1. INTRODUCTION

NATO has been engaged in continuous and systematic transformation for many years to ensure that it has the policies, capabilities, and structures required in the changing international security environment to deal with current and future challenges, including of course the collective defense of its members. With Allied forces engaged in operations and missions across several continents, the Alliance needs to ensure that its armed forces remain modern, deployable, sustainable and thus interoperable [1].

In the old Cold War days, NATO was planning to defend against a Soviet attack by using what was called
a “layered cake” approach, namely National Corps after national Corps standing shoulder to shoulder, from the Baltic Sea to the Alps. Only at the boundary between those Corps, or in the case of reserve forces who might be called upon to reinforce the line, or break through to attack the enemy in the flanks, was interoperability much of an issue. But today, with the new NATO missions and engagement in operational theatres there has been a shift from a single nation fighting on its own to coalitions where multinational units, down to the level of platoons, are working together.

This reality has made achieving greater interoperability not just a “nice to have” but rather an essential element of NATO’s operations which is also recognized as one of, if not the most important force multiplier.

In the meantime, it is important to stress what is the impact of the lack of interoperability. First, it can endanger operational mission success. Second, it can have a major negative impact on resources and on logistical footprint, as it makes it difficult, or even impossible, to share spare-parts, ammunition, fuel, and therefore affects the efficiency of the force, in general. But in certain areas non-interoperability can have a dramatic impact, like blue-on-blue fire or unnecessary loss of lives. That proves that enhancing interoperability improves the effectiveness of NATO operations and saves lives and resources.

As a result, of the need to improve interoperability within the Alliance, a NATO Interoperability Initiative was initiated with the main purpose to integrate interoperability in the new NATO Defense and Operations Planning Processes.

The new NATO Defense Planning Process will facilitate the timely identification, development and delivery of required forces and capabilities that are interoperable and adequately prepared, equipped, trained and supported to undertake the Alliance’s full spectrum of missions. The Alliance will have to maintain existing and, in some cases, develop new capabilities, and adapt its structures to address the emerging security challenges and the changing character of war.

2. NATO INTEROPERABILITY INITIATIVE

2.1. ACTION PLAN FOR ENHANCING INTEROPERABILITY (APEI)

At the April 2008 Bucharest Summit, the heads of state and government directed the North Atlantic Council to review and recommend ways of improving the state of interoperability within the Alliance. In the first stage of this effort, formally known as the Action Plan for Enhancing Interoperability (APEI), key NATO defense planning committees and the NATO military authorities (NMAs) completed a questionnaire on the current and projected state of interoperability within their areas of responsibility.
Nations were invited to provide input as well. The results of Phase I reported in spring 2009 were not surprising. Widespread shortfalls in interoperability exist across many capability areas within nations, between national forces, and among national and NATO forces and their systems and equipment. The most critical shortfall identified by the NMAs was the inability to communicate at all levels of command, caused by a combination of human factors, such as lack of language skills, and the lack of interoperable equipment. The NMAs also identified shortfalls in equipment, logistics, education, training, and doctrine.

Respondents from NATO and its allies agreed that the mechanisms for achieving interoperability are poorly understood and that one of the causes of insufficient interoperability was the nations’ failure to implement agreed-on NATO standardization agreements (STANAGs). At the same time, the Phase I report noted that interoperability is inherently a long-term challenge that must be addressed as part of a new or adapted NATO defense planning process, not as a standalone process. A critical element of such a long-term approach is the identification of interoperability requirements and the validation of interoperability solutions. Tellingly, the Phase I report also highlighted the long-term need to facilitate national implementation of NATO STANAGs and Allied publications.

Additional Phase II work also included tasks related to the development of a long-term plan to resolve remaining interoperability shortfalls and the revision of the NATO policy for interoperability. The APEI is bringing badly needed high-level attention and an operational perspective to the management of NATO interoperability, and it has the potential to formalize and nest interoperability planning within NATO’s core defense planning processes. The on-going and prospective efforts to prioritize interoperability shortfalls and identify long-term interoperability requirements are crucial to the ultimate success of the APEI, and these need strong political and
technical support from each single member nation.

In order to implement APEI several tasks were established by the Secretary General for relevant NATO Committees, bodies and NMAs, as follows:

- To revise the NATO Interoperability Policy, including the definition of interoperability and to develop and coordinate the reviewing process;
- To ensure that long term interoperability will be addressed through its full integration into the NDPP and not as a separate standalone process, and that interoperability requirements are made an integral part of the NATO Capability Target within NDPP;
- To develop a plan for continuous review of the implementation status of STANAGs.

2.2. NATO INTEROPERABILITY POLICY REVIEW PROCESS

As a first step, the reviewed NATO Interoperability Policy superseding the earlier Policy on Interoperability CM(2005)0016 introduced the following elements: a changed definition for interoperability which was more general and more practical and viewed the concept as an integral part of the NATO defense and operations planning processes, and not a separate process, as well as the principles of interoperability [2].

Approved in December 2009, the Policy was complemented by a Strategy for Enhancing Interoperability that provides the necessary guidance for the implementation of the policy, covers the interim period until the NDPP is fully implemented and defines objectives, methods, tools, coordination and responsibilities. These documents have set the scene for the follow-on work, explaining the why, what, who, when and how of the Alliance’s efforts to develop the underpinning elements of interoperability.

A key aspect of the new policy is the new definition of NATO interoperability: “Interoperability is the ability to act together, coherently, effectively and efficiently to achieve Allied tactical, operational and strategic objective” [3].

The new policy identifies several important principles: holistic approach to the achievement of interoperability, completeness and level of detail, consistency and coherence, timeliness, level of ambition, continuity of effort and commitment and application.

Also the policy stated that achieving meaningful interoperability supposes coordinated and sustained effort in the following areas: definition of interoperability requirements, identification of interoperability solutions, implementation of all parties agreed solutions and the test and validation of fielded solutions. All of these areas will be covered in detail within the fourth chapter of this paper, “Interoperability Integration within NATO Defense Planning Process”.


Standardization will continue to be a key element in achieving interoperability. Hence, Nations and NATO bodies will continue to develop, approve, and collectively implement Allied standards. Other additional methods that could concurrently be applied include:

- Assuring close linkage between operational certification of forces prior to deployment and interoperability tests;
- Making better use of NATO common funds, multinational and civil-military approaches and encouraging nations to commit time and resources to improve interoperability, in addition to implementing agreed standards;
- Strengthening national commitment to information sharing, particularly in the deployed operations environment, to include, through the lessons learned process and NATO’s relationship with industry, the definition and fielding of interoperability solutions.

As such, the lead committees and NMAs play an essential role by continuously and permanently addressing interoperability within their respective planning domains.

The various tools available for achieving interoperability should be selected in accordance with the specific dimension addressed (as identified in NATO Interoperability Policy, i.e. the technical, procedural, and human dimensions, including information as a cross-cutting element) and used either individually or in combinations as follows: standardization, training, exercises, education and evaluation, lessons learned, cooperative programs (i.e. multi-national, NATO common funded), and technical and other kind of demonstrations, trials, tests.

3. OVERVIEW OF THE NATO DEFENSE PLANNING PROCESS

3.1. EVOLUTION OF DEFENSE PLANNING WITHIN NATO

In essence, defense planning existed during the Cold War but “operational planning”, in the sense currently used, did not. This was because it was the task of force (and nuclear) planning to identify all the forces required to implement the collective defense war plans and members were expected to assign and employ the requested forces virtually without any questions asked. These war plans were, actually, the only “operational plans” of the era.

When, after the Cold War, the Alliance started to get involved in non-Article 5 operations, the situation had to change. Since these missions are, by agreement, case-by-case and the provision of national forces is discretionary, the automaticity of availability associated with force planning during the Cold War period was lost. This led to the requirement for “force generation conferences” to solicit the necessary forces and “operational planning” to develop the plans.

Existing processes were adjusted so that “defense planning” disciplines no longer focused exclusively
on meeting collective defense requirements and the needs of static warfare. Forces, assets, capabilities and facilities had to be capable of facing threats posed by failed states, ethnic rivalry, the proliferation of weapons of mass destruction and terrorism. In fact, acknowledging the ever-changing situation and recognizing the benefits of harmonization and coordination, the existing procedures were reviewed on a regular basis and adjusted as appropriate.

In practical terms, there was no standard defense planning process or defense planning cycle per se. Each of the seven principal disciplines was managed by a different NATO body and applied special procedures. They also contributed differently to the overall aim of providing the Alliance with the forces and capabilities to undertake the full range of its missions.

With the differences between the various components of the defense planning process and interrelated disciplines, the need for harmonization and coordination is essential.

While force planning had provided, to a certain extent, a basis for this harmonization and coordination, at the Istanbul Summit NATO leaders concluded that more was required. They directed the Council in Permanent Session to produce comprehensive political guidance in support of the Strategic Concept for all Alliance capabilities issues, planning disciplines and intelligence, responsive to the Alliance’s requirements. They also directed that the interfaces between the respective Alliance planning disciplines, including operational planning, should be further analyzed.

With the adoption of a new Strategic Concept in November 2010 at the Lisbon Summit, Alliance leaders committed “to ensure that NATO has the full range of capabilities necessary to deter and defend against any threat to the safety and security of NATO member states’ populations”[4].

Furthermore, the Alliance’s 2010 Strategic Concept sets out NATO’s strategic priorities and defines the organization’s vision of Euro-Atlantic security for the next decade. It provides an analysis of the strategic environment and a framework for all Alliance capability development planning disciplines and intelligence, identifying the kinds of operations the Alliance must be able to perform and setting the context within which capability development takes place.

Defense planning, on the other hand, takes a more systematic approach and has a medium and longer-term perspective, including requirements identification, capabilities development and delivery, military and civilian structures adjustment personnel issues, equipment procurement and the development of new technologies.

A package of capabilities representing the Alliance’s most pressing capability needs was endorsed at the Lisbon Summit. The
package goes hand in hand with and underpins the new Strategic Concept. It was developed to help the Alliance meet the demands of on-going operations, face emerging challenges and acquire key enabling capabilities. The package is based largely on existing plans and programs, as well as on a realistic projection of resources. It therefore provides a renewed focus and mandate to ensure that in the competition for resources the most urgent capabilities are delivered.

### 3.2. IMPLEMENTATION OF THE NEW NATO DEFENSE PLANNING PROCESS

In April 2009, NATO leaders endorsed the Outline Model of the new NATO Defense Planning Process. The latter aims to improve the harmonization of the planning domains, including their related committee structure and staffs, and encourage member countries to harmonize and integrate their national defense planning activities so as to complement NATO efforts. In his introductory remarks to defense ministers in June 2009, Jaap de Hoop Scheffer, NATO Secretary General at the time, underlined:

“If successfully implemented, the NDPP will mark the most profound change to defense planning in decades and has a very high potential to deliver tangible practical results”. [4]

In the meantime, defense ministers endorsed the Implementation and Transition Plan of the NDPP. The NDPP introduces the concept of a more coherent and comprehensive defense planning process. It applies a specific approach and mechanism through which NATO is bringing its civilian and military side closer together engaging them in a common, functionally integrated approach to the issue of defense planning.

This has two major implications. Firstly, work will have to be done in a functionally integrated manner while at the same time ensuring that products are fully coordinated, coherent, persuasive, clear, and result-oriented and delivered on a timely basis. This has required a cultural shift in the way in which the HQs and staffs conduct business, particularly between the civilian and military experts and the various staffs supporting the committees responsible for the planning domains. Consequently, the demand for communication, consultation, coordination and for finding feasible and realistic solutions which are supported by all stakeholders is increasing.

Secondly, Allies themselves, in the delegations at NATO HQ and in capitals, have to exploit the full potential of the NDPP and coordinate and consolidate expert community views prior to presenting them in the various NATO fora. In this respect, it is crucial that individual members speak with one voice in the various NATO committees.

Therefore, the NDPP provides a framework within which national and
Alliance processes can be harmonized to meet Alliance objectives. It establishes in detail how to meet the mandates of the political guidance and sets targets for nations and the Alliance collectively, thereby guiding national and collective capability development. Implemented in a four-year cycle, the NDPP seeks forces and capabilities that are deployable, sustainable and can contribute to the full range of Alliance missions, allocating the totality of the Alliance’s requirements to nations on the principles of fair burden sharing and reasonable challenge. The forces provided by Allies have to be able to operate together in a multinational context, prepared, trained, equipped and supported to contribute to the full range of missions, including in distant and remote areas.

3.3. NATO DEFENSE PLANNING PROCESS FRAMEWORK

Defense planning in the Alliance is a crucial tool which enables member countries to benefit from the political, military and resource advantages of working together. Within the defense planning process, Allies contribute to enhancing security and stability, and share the burden of developing and delivering the necessary forces and capabilities needed to achieve the Organization’s objectives. The defense planning process prevents the renationalization of defense policies, while at the same time recognizing national sovereignty [5].

The aim of NATO defense planning is to provide a framework within which national and Alliance defense planning activities can be harmonized to meet agreed targets in the most effective way. It aims to facilitate the timely identification, development and delivery of the necessary range of forces - forces that are interoperable and adequately prepared, equipped, trained and supported - as well as the associated military and non-military capabilities to undertake the Alliance’s full spectrum of missions [6].

The NDPP consists of five steps: establish political guidance, determine requirements, Apportion requirements and set targets, facilitate implementation, and review results. Although the process is sequential and cyclical in nature (four year cycle with bi-annual elements), some elements occur at different frequencies and implementation is a continuous activity.

The first step (Establish Political Guidance) provides the overall aims and objectives to be met by the Alliance within the framework of Alliance defense planning. It clearly defines what the Alliance should be able to do in broad quantitative and qualitative capability terms as well as the associated priorities. Political guidance should reflect the political, military, economic, legal, civil and technological factors which could impact on the development of the required capabilities. It will, inter alia, aim at defining the number, scale and nature of the operations the Alliance should be able to conduct in the future (commonly referred to as NATO’s Level of Ambition).
The next step (Determine Requirements) consists in a comprehensive and detailed analysis in order to identify the capabilities required to achieve its Level of Ambition (LoA) and to steer capability development efforts of Allies and within NATO.

Thereafter comes apportioning the requirements to nations and setting targets for them, on the basis of fair burden sharing and reasonable challenge. These targets can be met either individually or multinationally. In addition, some targets or appropriate elements thereof can be assigned for collective (i.e. NATO common-funded) implementation.

The fourth step, Facilitate Implementation, as stated before, is a continuous activity. This step seeks to acquire the capabilities required by the Alliance by monitoring and encouraging national implementation, by facilitating and supporting multinational implementation and by executing collective implementation.

Finally, the fifth step, Review Results, seeks to examine the degree to which the aims and objectives set out in the NATO Political guidance and the associated targets have been met. It also seeks to assess the ability of NATO to meet its ambitions, and to offer feedback and direction for the defense planning process and its associated activities for the next cycle and/or any necessary mid-term and out-of-cycle actions.

The detailed model for the NATO Defense Planning Process is presented in Diagram 1.
Furthermore, the NDPP consist of several processes that allow the development and/or improvement, allocation and implementation of the capability.

The first one is Capability Requirement Review, formerly known as Defense Requirement Review, which is the analytical process and the associated support tool set used by the SCs that support all related planning domains to determine the Minimum Capability Requirement needed by the Alliance to meet its Level of Ambition and other agreed objectives set out in political guidance. Its construct has to logically and convincingly lead to the apportionment of identified requirements and their translation into capability targets which support nations in harmonizing their plans with NATO targets and priorities.

In order to be credible, reliable and transparent with respect to nations, the CRR adopt a capability-based approach by describing first the way NATO would conduct its operations in the future, and deriving from this description the functions that would have to be performed and the capabilities needed to support these functions.

The second one is Set Targets, formerly known as Force Planning. Initially the process includes the apportionment of the overall set of Minimum Capability Requirements to nations in the form of target packages for the delivery of required capabilities and mitigation of shortfalls while respecting the principles of fair burden sharing and reasonable challenge. It also includes the development of targets to be implemented by using common funding. This step in the process is a quadrennial effort, although the possibility for the introduction of out-of-cycle targets will be retained to remain responsive to the needs of the Alliance and individual Allies. Similarly, the option of a full revision or an update at the mid-term point will be retained to react to a change in the security environment or a change in political guidance.

Last but not least, the NATO Capability Review, or Defense Review, scrutinizes and assesses allies’ defense and financial plans, as well as their collective efforts with a view to providing an overall assessment of the degree to which the combined forces and capabilities of the Alliance are able to meet the political guidance, including the NATO Level of Ambition. In addition, the NCR provides a key mechanism for generating feedback, any associated recommendations, and input to the next cycle.

4. INTEROPERABILITY INTEGRATION WITHIN NATO DEFENSE PLANNING PROCESS

As stated before, the Action Plan for Enhancing Interoperability Phase I report noted that interoperability is inherently a long-term challenge that must be addressed as part of a new NATO defense planning process, not as a standalone process. In this respect, a critical element of such a long-term approach is the
further development of the Guidance for Defense Planning (GDP). In its content GDP will include a specific chapter providing detailed guidance on the methodology, techniques and tools to be used in order to enable interoperability integration within NDPP.

Then, on NDPP step 2, during the Capability Requirement Review process, Strategic Commands will identify the requirements and associated shortfalls, with all planning domains joining in the analysis, in order to develop the single set of required Capabilities, the so called Minimum Capability Requirements (MCR) that will be made available to Nations. The complete set of capabilities needed by the Alliance to meet its Level of Ambition and other agreed objectives set out in political guidance will constitute the Minimum Capability Requirements, formerly referred to as Minimum Capability Requirements. They will also cover other areas such as Long Term Capability Requirements (LTCRs) and interoperability requirements.

Achieving interoperability is a shared responsibility of all stakeholders involved (including NATO staffs, lead committees for planning domains, NMAs, and in particular nations) and requires a constant and comprehensive coordination of all efforts between them.

In order to achieve meaningful interoperability, the following 4 areas listed in the NATO Interoperability Policy must be integrated into the NATO Defense Planning Process:
- Definition of interoperability requirements;
- Identification of interoperability solutions;
- Implementation of interoperability solutions;
- Test and validation of fielded solutions.

In the meantime, interoperability must be addressed systemically and continuously during the NDPP and may need to concentrate on certain areas in greater detail. The appropriate level of detail has to be defined by the relevant planning domain and the lead committee responsible.

To begin with, the Political Guidance that establishes in broad terms what the Alliance should be able to do, how much it should be able to do, as well as sets priorities, thereby guiding procurement and other key activities in the context of the NDPP is developed in the first step of NDPP. This Policy will provide the necessary information and guidance for the further development of the Guidance for Defense Planning (GDP). In its content GDP will include a specific chapter providing detailed guidance on the methodology, techniques and tools to be used in order to enable interoperability integration within NDPP.

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requirements and documents, will continue with the development and implementation of concepts, doctrines, and procedures in order to achieve and maintain the required levels of compatibility, interchangeability or commonality in the operational, procedural, material, technical and administrative fields to support interoperability. The latter provides a main contribution to the combined operational effectiveness of the forces of the Alliance and supports the better use of economic resources. As such, Nations and NATO Bodies will continue to develop, approve, and collectively implement Allied Standards.

Finally, the plan for continuous review of the implementation status of STANAGs is the first step towards integration of interoperability, and of

Diagram 2: Interoperability integration throughout the NATO Defense Planning Process
largely depends on the smooth and close cooperation between national, multinational and NATO assets.

NATO forces must have the capacity to defend Alliance territory, undertake demanding missions at strategic distance, contribute to a more secure international environment, and respond to unpredictable contingencies when and where that is required. Thus, there is a permanent need to transform NATO forces from the powerful but static posture of the Cold War into a posture that is more flexible, mobile, and versatile. With resources stretched thin in almost every NATO capital city, the Alliance must also make a firm commitment to smarter spending through a variety of efficiency and reform measures.

But to properly use existing and futures capabilities to confront these and many other challenges, a major issue that NATO and the NATO nations are working to contend with is interoperability.

Interoperability is not a new area of effort at NATO. In fact, interoperability has been a key element of the Alliance’s approach to fielding forces for decades. But as the security and operational environment is continuously changing, the need to face the new threats and the current involvement in challenging operations, with the need to interoperate at lower and lower levels of command with an increasing number of nations, including non-NATO partners, NGOs, and other organizations, have made the task even more challenging.

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An important element of the NATO continuous transformation process is interoperability. The latter
is recognized as a force multiplier and a key factor in increasing the military effectiveness of Allied forces and as an integral part of the NATO Defense Planning Process. As such, it will support the identification, development and implementation of appropriate further capabilities and improve the existing ones. Thus, NATO will be enabled to adapt and respond to the new challenging security environment. Even if the framework and responsibility of integration are presented in the reviewed NATO Interoperability Policy and Strategy, methodology and details on how to fulfill this challenging task are still under the concept and development phases.

In this respect, this paper provided a perspective on how the process of interoperability integration within NDPP should take place, based on the key documents already approved, as well as on the assumptions and on the on-going developments and activities.

ENDNOTES


REFERENCES