NATO 1st Solution for NATO Force Structure
The NATO Communications and Information Agency (NCI Agency) is implementing a Comprehensive C4ISR Approach to the NATO Forces 2020 initiative. With this approach, the Agency can maximize synergies between capabilities developed through common funded programmes and services that are provided on a bilateral or multilateral basis through national funding. The main effort is to reduce the overall financial burden on the Allies by maximizing the reuse of the capabilities that NATO develops under the NATO Security Investment Programme (NSIP) and the capabilities already delivered for operational use.

Building on previous lessons learned

In this respect, the International Security Assistance Force (ISAF) provided an excellent interoperability testing forum, with around 50 nations working together. The Afghanistan Mission Network (AMN) is one of the best and most well-known achievements when it comes to multinational interoperability, but all NATO C4ISR had to be delivered to ISAF with built-in interoperability and security as well as meeting appropriate fiscal constraints. Furthermore, because of the operational imperative, the solutions had to be delivered rapidly and with minimal disruption to the users. The NCI Agency refined the key lessons learned as:

“Wherever possible, reuse NATO capabilities and always deliver C4ISR based on the principles of NATO Interoperability, Security, Affordability, Fast and Easy (NISAFe)”.

Enabling NISAFe through the NATO 1st Solution

The NISAFe principles are embodied in, and being delivered through, the NCI Agency NATO 1st Solution (N1S). The Agency is currently employing the N1S in the NATO Force Structure (NFS) and National units in the NATO Response Force (NRF) rotations under the leadership of the relevant commands. While this is a good start, the NISAFe principles and the N1S could be applied more broadly across all national forces. Following the NISAFe principles and implementing them using the N1S benefits nations and organizations in various ways including:

- Guaranteed interoperability with the NATO Command Structure through seamless integration with existing NATO capabilities;
- Cost effectiveness by leveraging existing common funded capabilities and avoiding redevelopment cost;
- Reduced complexity of the implemented solutions, by avoiding the implementation, support and training on various systems delivering similar capabilities; and
- Train as you fight by using the same infrastructure and applications during training and exercises as those used in operational theatres.

NATO Response Force and the NATO 1st Solution

In the context of the NRF, the intent of N1S is to provide a unified, yet tailored Agency CIS support package based on NRF capability requirements. Agency support under N1S covers a broad range of services including network modernization and extension, provision of NATO-owned software, COTS hardware and software, integration support, and training and exercise support.

During the implementation of the N1S for the NRF, Allied Land Command Izmir (LANDCOM) provided the critical link between the NATO Command Structure and the Land Forces of the NFS, thus creating a framework for training, readiness, interoperability, and standardization. Based on this close cooperation, a Joint Partnership Statement was signed between LANDCOM and the NCI Agency in August 2014 to collaboratively harmonize the implementation across the different elements within the Land Domain.

1 NRF capability requirements as detailed in MC593-1.
2 Commercial off the Shelf products purchased with little or no modifications directly from the commercial market.
Timelines for implementation are driven by the NRF Assignments according to the SHAPE Long Term Rotation Plan. The 1 German/Netherlands Corps (1GNC) was the first corps to benefit from the program with successful certification as the NRF Land Component Command 2015, achieved during Exercise Noble Ledger 2014. The collaborative effort, which focused on the certification of 1GNC, consisted of 8 different work packages over three different sites (Static Operational Centre, Main Command Post and Training Site) including access network bandwidth enhancement; static network infrastructure upgrade; establishment of an information exchange gateway; provision of information management tools; installation of NATO functional area services; and provision of NCI Agency integration services. A Service Level Agreement will ensure continued support to the 1GNC after the implementation of services.

For NRF 16, the intent is to implement the N1S for the rest of the Land Domain. Both NATO Rapid Deployable Corps-Italy (NRDC-Italy) and the Multinational Corps Northeast (MNC NE) have already initiated Programmes of Work with the NCI Agency to fulfil their NRF commitments. The Agency is also in discussion with the SHAPE Long Term Rotation Plan. The 1 German/Netherlands Corps (1GNC) was the first corps to benefit from the program with successful certification as the NRF Land Component Command 2015, achieved during Exercise Noble Ledger 2014. The collaborative effort, which focused on the certification of 1GNC, consisted of 8 different work packages over three different sites (Static Operational Centre, Main Command Post and Training Site) including access network bandwidth enhancement; static network infrastructure upgrade; establishment of an information exchange gateway; provision of information management tools; installation of NATO functional area services; and provision of NCI Agency integration services. A Service Level Agreement will ensure continued support to the 1GNC after the implementation of services.

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**Continued development of the NATO 1st Solution**

Conscious of the importance of training in the certification process, the Agency has already started engaging national training facilities such as the Joint Multinational Training Command Grafenwöhr, Germany, where the NCI Agency is installing connectivity to NATO Networks. The NCI Agency is currently developing support to other national Training and Simulation Centres and overall CIS Planning in support of exercises through N1S for Connected Training.

Besides its continuing work with its current partners in the Land Domain, the NCI Agency is also developing partnerships in the other domains to implement a similar approach to the rest of the NFS. Naval Striking and Support Forces NATO (SFN) was the first multinational organization to implement a service level agreement with the NCI Agency, and is currently engaged in implementing initial services from the N1S. The NCI Agency also has the aspiration to partner with Allied Maritime Command Northwood (MARCOM) to increase N1S support to the Maritime Domain. With the Air Command and Control System (ACCS) replication, the N1S is being rolled-out in the Air Domain while Special Operations Force (SOF) are addressed both individually and at the NSHQ level.

Recently under the Readiness Action Plan (RAP) Implementation Plan, the NCI Agency used the N1S as the basis for proposals for the NATO Force Integration Units (NFIUs) as well as for the units of the Very High Readiness Joint Task Force (VJTF) to offer to the Framework Nations for consideration. To bring the various N1S threads together, and to provide a forum for discussion among the community of interest, the NCI Agency is developing the N1S Cooperation Platform, which was first introduced at the Chief Information Officers Conference in November 2014.

The N1S Cooperation Platform will provide a web-based collaborative environment...
accessible to invited members of the N1S Community of Interest. Initially it will cover areas such as the services provided through N1S, the certification process, N1S technical architecture, N1S testing policy and lessons learned. The Cooperation Platform will also provide easy access to other related sites such as exercise web-sites and the NCI Agency Customer Services Catalogue.