

Information technology and the management of complex information environments are at the core of how you do business and how your business model itself evolves.

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INFORMATION TECHNOLOGY & MANAGEMENT



Photos by JWC PAO and Eurocorps PAO





LEFT: HQ SACT-led Bi-Strategic Command (Bi-SC) Study Workshop on the Coordination of Communications and Information Systems and Information Management Support to Training and Exercises, held at Joint Warfare Centre, June 12 to 14, 2019. Photo by JWC PAO

ingly, it has been difficult to keep track of the desired technical adaptations and adjustments. So, what's the strategy for the future?

Unsurprisingly, the JWC has a key role to play. ACT had already provided a Bi-Strategic Command (Bi-SC) synchronized analysis of the current shortcomings in the coordination of CIS support for exercises, based on the JWC-developed deep-dive analysis and lessons identified from past ISAF Mission Rehearsal Trainings, and almost a decade of NATO Response Force (NRF) exercise experience. Subsequently, in July 2017, a brief was given to the NATO Military Committee Working Group for CIS, which resulted in the Bi-SC headquarters being tasked to investigate the current situation, and to identify and recommend improvements to CIS support to exercises.

The milestones of the study were divided into the following main topics:

- Run a multi-stakeholder study — involving NATO Headquarters, Allied Command Operations (ACO), HQ SACT, NATO Communications and Information Agency, NATO Single Service Commands — on CIS and IM exercise planning support considerations, including Command and Control (C2) agreements and structures for exercises,
- Update the Bi-SC 075-003 Directive Collective Training and Exercises to refine and clarify the following within the exercise planning process and exercise specifications: (1) IM roles and responsibilities, (2) CIS milestones and timelines,
- Propose methods, timelines and responsibilities for the synchronization, alignment and standardization of CIS and IM activities and milestones across the entire exercise community in order to set the StartEx conditions for all exercises.

MILITARY ORGANIZATIONS are often confronted with many Information Management (IM) and Communications and Information Systems (CIS) challenges at all levels, especially when organizational change is involved. The constant transfer to new systems and the demand for qualified expertise when it comes to new IM styles require a level of organizational change management that is notoriously difficult to deliver. To enable new forms of IM and CIS, there might be, for example, a shortfall in the requisite resources, a delay to acknowledge new classes of information as well as the new procedures that use them, and a lack of a clear vision perspective for their development. However, implementing new forms of IM and CIS planning leads to multiple operational benefits, and is therefore, of vital interest to NATO.

The interaction of people exchanging information and services among federated mission participants through processes and technology include, but is not limited to, the use of a set of interconnected mission networks for the conduct of coalition operations as well as training and exercises in expanding, increasingly complex information environments. The phrase, "growing complexity in NATO training and exercise events" is overused, but, accurate. Adding increasingly complex scenarios in air, maritime and land modelling and simulation

designs and advanced Main Events List/Main Incidents List (MEL/MIL) scripts all play into the training and exercise activities in NATO, and are consequently causing a sharp increase in technical complexity as well as the necessity for state-of-the-art IT platforms in both static and deployed domains.

It has been observed and acknowledged over the years that the lessons from NATO's International Security Assistance Force (ISAF) mission towards federated mission environments require a long-lasting, holistic approach to synchronize efforts, management, governance, development and funding across the entire spectrum of doctrine, organization, training, materiel, leadership, personnel, facilities and interoperability (DOTMLPFI).

On behalf of NATO Supreme Allied Commander Transformation (HQ SACT) Joint Force Developer, the Joint Warfare Centre (JWC) has been capturing and articulating shortcomings in CIS and IM support to training and exercises since 2011. Evidently, there is still room for much strategic thinking in efforts to improve synchronization within the CIS and IM community of interest. Otherwise, the CIS support will remain sub-optimal, impacting our major deliverables. ACT recognizes that all the rapid and complex changes in NATO's Level of Ambition, with the concurrent organizational restructuring of headquarters and commands, has caused a level of uncertainty, and accord-



In November 2018, HQ SACT approved both the study plan and pre-scheduled meetings to discuss milestones for the first half of 2019. A preparatory academic workshop was conducted at the JWC to identify shortcomings and develop in-depth problem statements in the context of CIS and IM support to exercises. During a multi-stakeholder kick-off meeting at ACT Staff Element Europe, Mons, Belgium, in January 2019, all relevant players in CIS and IM planning were invited to present their perspectives and desires for improvement. The "big rocks", aka the outcome of this meeting, triggered the discussion during the subsequent weeks and months, and prepared the ground for the coordination workshop at the JWC, held between 12-14 June 2019.

I. CIS and IM planning community coordination

The above HQ SACT-led kick-off meeting showed a desire from all stakeholders to synchronize efforts, standardize and define common terminologies, processes and procedures. A roadmap and an action item list were agreed and milestone meetings were scheduled.

II. Requirement management and development

All management and consolidation mechanisms in the context of CIS and IM planning must be a coordinated effort, which must then be well-synchronized.



III. Exercise preparation and testing

Establishing the best StartEx conditions requires a synchronized and standardized CIS set up and validation phase, which again needs to be defined through test objectives, and supported through close functional service manager involvement. Milestone deliverables have to be incorporated into the respective directives and test plans.

IV. Terminology standardization concerns in roles, responsibilities and authorities (RRAs)

During the kick-off meeting, it was evident that the entire stakeholder community had different understanding about the key RRAs, and consequently, the stakeholder community also had different understanding of the C2

structure for CIS and IM in training and exercises. A straightforward description about the RRAs and synchronized terminology is crucial framework for interaction and C2.

V. Handover of J6/IM planning to the NATO service provider

Since the CIS/IM exercise process is led by the Officer Coordinating the Exercise (OCE) J6/IM staff, a gap in synchronization and coordination in addressing operational requirements has been identified. Defined formats and requirements for processes, templates and handovers towards the service provider are not yet complete at the time of writing.

ABOVE: The author, photo by Tudor Jelescu
BELOW: The IM/C4 team, with ACT Joint Force Developer, Mr Stuart Furness, second from left. Photo by JWC PAO



VI. Training

The CIS and IM planning is part of training courses at the NATO CIS School. Since the study identified a need for better coordination between operational and technical communities with regards to the requirement management process, the CIS and IM planning should also be incorporated into the existing exercise and operational planning courses to improve mutual understanding and dependencies.

VII. Information Sharing and Data Availability

A common desire to get a single, easily manageable and accessible collaborative workspace has been identified.

IN A VERY CONSTRUCTIVE and forward-leaning meeting, the CIS/IM community was able to agree on a study timeline with fixed milestones and action items over a six-month timeframe. The idea was to build on previously sched-



“Exercise **TRIDENT JUPITER 2019-1** is the first exercise for which the new operational testing scheme was utilized.”

uled, high-value meetings and workshops, and regular conferences for CIS and IM in order to generate maximum synergy and synchronization by diving into the big challenges and identify gaps. The NATO Exercises CIS Support Meeting in March 2019, the NATO Bi-SC Information and Knowledge Management Working Group Meeting, and the Information Exchange Requirement Workshop were only a few examples of intensive cooperation during the last few months.

The synergy of having IM and CIS core staff at the kick-off meeting has been acknowledged as a major step forward; in other words, the cooperation and coordination of the operations and the CIS communities are important. Apart from the common sense of improving immediate information sharing across the entire exercise planning process, the implementation of IM in all phases of the process, accepting to make changes to the BI-SC 75-3 and other major directives in the IM/CIS domain, as well as to synchronize relevant changes and to agree to Education and Training Command and Control in static/deployable set ups are years' overdue achievements.

The obvious take-away is the strong desire for synchronization and standardization of terms, milestones, deliverables, roles and responsibilities within the CIS/IM community of interest. It has to be considered as a major improvement that the direct link between the CIS and IM communities has finally been accepted. Inter-dependencies between those functional areas will drive requirements, service support models, capability development projects and the entire exercise planning process in the future. Combined workshops, planning activities and synchronization are imperative to manage and govern increasingly complex information environments. The findings and deliverables from the Final Coordination Workshop hosted at the JWC between 12-14 June 2019 were presented to ACT and ACO in order to provide the substance needed to come up with the recommendations to the Military Committee. In light of the ongoing adaptation of the NATO Command Structure, there has been a strong focus on reviewing the relevant directives, standard operating procedures, and the general processes.

On 11 July, and as the final step, a Military Committee CIS Working Group briefing took place at the NATO HQ. The briefing was

delivered by HQ SACT Joint Force Developer Mr Stuart Furness and ACO SHAPE J6. The big rocks for the JWC — improve pre-exercise testing, review the IM/CIS training programme and establish a new scheme of manoeuvre for operational system verification and validation, amongst others — have a direct impact on JWC core business processes, and have therefore received major interest for several years. All lessons identified and exercise reports generated over the years are aimed at triggering a coordinated effort to change outdated procedures and stimulate innovated ideas, with ultimate aim of a more efficient StartEx.

The JWC's initiative and effort have been to convince the IM and CIS community to take major steps to imbed operational readiness testing into Phase III/A. The Military Committee CIS Working Group finally approved the proposal, resulting in an updated Bi-SC 75-3. The most recent example of improvement was during the preparation phase for exercise TRIDENT JUPITER 2019-1, which was the first exercise for which the new operational testing scheme was utilized. For the first time in years, the CIS/IM was reporting green at StartEx. The exercise is now over, but the work continues on the modernization project to further improve the IT infrastructure and service quality.

As of 2020, the CIS/IM training courses will be much more synchronized and harmonized with the operational community. The Exercise Planning Course, for instance, will be improved by adding elements of CIS and IM aimed at increasing Operations Division's awareness. A NATO-wide newcomers training course specifically aimed at CIS/IM staff will be planned and organized by the JWC IM/C4 Branch. Best practices and lessons learned will be incorporated into the training course in a more effective way to ensure that new NATO CIS information management staff is able to implement complex planning within a short time frame.

As a sum up, thanks to the CIS/IM study initiative there has finally been established effective communication between technical CIS experts and the operational community, represented through the Information Manager. More effective processes and procedures have resulted in improved warfare development within the NATO CIS/IM domain. Additional tasks and action items have been suggested for implementation into the Bi-SC in order to improve further. ✦