

NATO Interoperability Verification & Validation (IV&V)

Analysis of Key Events Providing Communication and Information Systems IV&V Opportunities

Project Overview

Interoperability is critical to every aspect of Communication and Information Systems (CIS) capability development; from initial concept through to operational use. Consequently, CIS IV&V is a prerequisite in achieving the appropriate level of interoperability to ensure the effectiveness of Alliance Forces—and in particular the NATO Response Force (NRF)—across the full spectrum of Alliance operations and missions. In this context, several events are available to NATO and Partner nations that afford CIS IV&V opportunities. Effective coordination and synchronization of these events is necessary to permit the effective exploitation of their outcomes to the benefit of NATO, the Allies, and Partners.

Against this background, Supreme Allied Commander Transformation (SACT) tasked the Joint Analysis and Lessons Learned Centre (JALLC) to conduct an analysis of the events that provide the main CIS IV&V opportunities and to make recommendations for their greater harmonization. The task was also identified as an opportunity to support further development of the SACT Command & Control (C2) Focus Area.



JALLC PROJECT FACTSHEET



Key CIS IV&V Events

The eight key events providing CIS IV&V opportunities that fell within the scope of this project (during the period 2014-2016) were:

- *Technology for Information, Decision, and Execution Superiority: TIDE Sprint;*
- *Coalition Warrior Interoperability eXploration, eXperimentation, eXamination, eXercise: CWIX;*
- *Federated Mission Networking Coalition Interoperability Assurance and Validation: FMN CIAV;*
- *BOLD QUEST;*
- *UNIFIED VISION;*
- *CYBER COALITION;*
- *STEADFAST COBALT; and*
- *TRIDENT JUNCTURE.*

These key CIS IV&V events are viewed as valuable events by NATO and Partner nations and considered integral to ensuring the effectiveness of Allied and Coalition Forces. Many events were attended with keen interest by high-ranking officials and various political and military dignitaries of host and visiting nations.

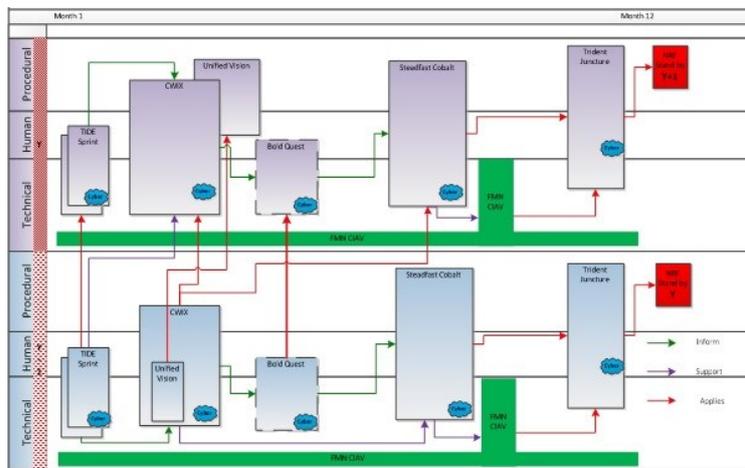
“CIS IV&V is a prerequisite in achieving the appropriate level of interoperability to ensure the effectiveness of Alliance Forces”



Numerous CIS IV&V Opportunities

The overarching conclusion of the analysis is encouraging; the CIS IV&V opportunities afforded by the reviewed events (2014-2016) were beneficial to both NATO and Partner nations and met their needs. Moreover, increased participation is foreseen for the next three years (2017-2019).

The project team further identified that the eight key events provided numerous CIS IV&V opportunities. Further, current national participation and the expressed intention for further participation shows that the CIS IV&V landscape is generous and that most nations are willing to participate in all opportunities that bring benefits to national CIS interoperability capabilities in a federated environment.



The model pictured above represents one of the project team's recommendations (see below) which is to develop a comprehensive CIS IV&V Portfolio to improve the exploitation of outputs. This model is NRF-centric, covers a three-year cycle, and shows different types of event outcomes.

Main Recommendations

Analysis of the data led the team to several key findings for the benefit of NATO and participating Allies and Partners that are related to: cyber; use of terminology; exploitation of the event outcomes; governance of the events; and, interoperability of supporting IT tools. Based on these findings, the project team were able to make several recommendations that would contribute to a greater harmonization of the events and further support the development of the SACT C2 Focus Area. These recommendations include:

- Developing a comprehensive CIS IV&V Portfolio to improve the exploitation of outputs from one event to another.
- Conducting a study on cyber IV&V opportunities, in order to identify ways for their increased harmonization.
- Defining requirements for suitable IT solutions to support NATO Interoperability Testing.
- Developing a *Governance Directive/Overarching Guidance* for each event, detailing the structures and delineating the roles and responsibilities between Governance and management entities. Such documents should be seen as long-term provisions and may be complemented by *Terms of Reference* for the management entities.
- Formalizing an advisory function and coordination function with representatives from all events in order to further increase harmonization.

Project Team

CDR Marcos Sevilla
USA N, Project Manager

CDR Sevilla is a US Navy, Supply Corps Officer. Notable assignments include: Supply Officer USS SAN JACINTO (CG 56) in support of Operation IRAQI FREEDOM and Supply Officer Medical Treatment Facility MERCY, USNS MERCY (TAH 19) in support of Pacific Partnership 2012. He was assigned to the JALLC in 2014.



CDR Marcello Fardelli
ITA N, Military Analyst

Mr Stefan Olaru
ROU NIC, Analyst

Ms Jodie Lazell
GBR NIC, Editor

If you are interested in this or any other JALLC Analysis product, please contact the JALLC.



Phone: +351 21 771 7007/8/9
Fax: +351 21 771 7098
E-mail: jallc@jallc.nato.int
www.jallc.nato.int

Avenida Tenente Martins – Monsanto
1500-589 Lisbon
Portugal

