Multinational Capability Development Campaign (MCDC)

Federated Mission Networking and Mission Partner Environment (FMCM) Information Sharing Project
Purpose and Agenda

• Purpose. Provide information to the NATO C2 Community of Interest regarding the Federated Mission Networking (FMN) and Mission Partner Environment (MPE) efforts, and the FMN and MPE Civilian – Military information sharing project (FMCM2) in order to encourage adoption and promote a collaborative relationship with related activities.

• Agenda

  • NATO Federated Mission Networking (FMN) and US Mission Partner Environment (MPE)
  • Multinational Capability Development Campaign (MCDC) and the FMN and MPE Civilian – Military information sharing project (FMCM)
  • Relationship with CIV-MIL Coordination, Projecting Stability, Protection of Civilians and Stability Policing
  • Relationship with VIKING18 Event
FMN and MPE meet the Operator’s Need to....

- Operate in a “Transregional, Multi-Domain, Multi-Functional” environment (TMM)
  - “Globally integrate” vice being regionally focused
    - “Globally operate with Allies and partners”

“Operate across regions, domains and functions...”

“....a bias to share information with our partners, our Allies, and those interested in taking the fight to the enemy, as opposed to a need to know.”
CJCS remarks, NDU, 2016
**NATO FMN and US MPE Relationship**

- Based on lessons of the Afghan Mission Network
- US MPE is an application of the NATO Federated Mission Networking (FMN) concept
- Federation of “REL TO Mission” mission networks model
- Episodic in nature (temporary, built for mission)
- Nations agree to trust and security criteria to “connect” mission networks
- Trusted and protected connections made through Joining, Membership, and Exiting Instructions (JMEI)
- Nations provide their own equipment, federating capabilities and using common TTPs
- Partners replicate releasable, operational capabilities and TTPs within respective mission networks

**All flags representative only – notional laydown**
Federated Mission Networking (FMN) and MPE are one in the same!
Non-Materiel Enablers

- CONOPS
- Doctrine & TTP
- Policy & Governance
- JMEI (Joining, Membership and Exit Instructions)
- Common technical standards
- Coalition Interoperability, Assurance and Validation (CIAV)
- “Train As We Partner”

Core Services (Materiel)

- Chat
- Email w/attachments
- Voice Over IP
- VTC
- GAL
- Web-browsing

Core services support operations by enabling human-to-human information exchange; mission threads define information exchange requirements and C2 systems.
**Historic Examples of Civil-Military Coordination**

The diagram illustrates the range/continuum of strategies of approaches in civil-military coordination, from cooperation to coexistence, with different scenarios and events as examples.

**Co-location**
- Mozambique 2000/2001
- Indonesia – Aceh 2004
- Haiti 2010
- Philippines 2011
- Japan Earthquake 2011
- Nepal Earthquake 2015
- East Timor 2000
- Kosovo 1999
- Bosnia-Herzegovina 1996
- Pakistan Earthquake 2005
- Pakistan Floods 2010
- Myanmar 2008
- Lebanon 2006

**Liaison Exchange**
- Operation Barkhane 2014
- Afghanistan Barkhane 2014
- Iraq - 2003
- Iraq - 2014
- Central African Republic 2014

**Liaison visits**
- Mali 2013
- Libya 2011

**Limited Liaison**
- Jordan 2010
- Zealand 2006

**Conduit or interlocutor**
- Haiti 2010
- Lebanon 2006
- Central African Republic 2014

UN OCHA provided much of this data
• Military deficiency in CIV-MIL information sharing is typically a result of:
  
  – lack of prior planning and poor doctrine implementation
  – cultural and training shortcomings, need for leader emphasis
  – lack of common interoperability standards and procedures
  – lack of a common information space for sharing data
  – inadequate policies and procedures
  – lack of universal understanding of CIV-MIL roles and organizational framework

• The FMN/MPE must include a capability which enables information sharing at the unclassified level between the networked forces and those entities external to the Mission Network. The Mission Network needs:
  
  – as a minimum, to be able to support those services commonly used by external entities to convey information.
  – Typical services include email with attachments, web browsing, and voice over internet protocol, chat, video teleconferencing, and file sharing.
**Enhanced FMN/MPE CIV MIL Information Sharing**

FMN/MPE affiliates need capabilities that support information sharing between the federation partners operating on a mission network and external actors, including civilian entities, outside the mission network.
MCDC Global Force Development Community

MCDC PROVIDES NON-TRADITIONAL ACCESS TO GLOBAL FORCE DEVELOPMENT PARTNERS

- United Kingdom Ministry of Defence Development, Concepts & Doctrine Centre
- United States Services/CCMDs
- Austria Military Strategy Division Ministry of Defence
- Canada National Defence HQ Force Development
- Denmark Defence Command
- European Defence Agency
- Finland Plans Defence Force Ministry for Foreign Affairs
- France CICDE (Centre interarmées de concepts, de doctrines et d’expérimentations)
- Germany Bundeswehr Planning Office
- Switzerland Armed Forces Doctrine Research & Development
- Sweden Armed Forces Policy and Plans
- Spain Joint Concepts Development Center
- Republic of Korea Experimentation & M&S Development
- Norway Armed Forces Cyber Force
- Netherlands Plans Directorate Ministry of Defence
- NATO Capability Engineering & Innovation Supreme Allied Command Transformation
- Italy Center for Defence Innovation
- Poland Armed Forces Training and Doctrine Center
- Turkey Naval Forces HQ Maritime Security
- Colombia Military Forces (Observer Status)
- Japan JS, Defense Policy Joint Staff (Observer Status)
- Romania Military Forces (Observer Status)
- Netherlands Consultative Military Council
2016 Capability Solutions

- **FMN/MPE CIV-MIL Operational Concept** includes gap analysis, Use Cases and DOTmLPF-PI change recommendations, and functional capabilities description

- **Guidebook** for CIV-MIL information sharing in an operational FMN/MPE environment

- **Mission Thread Package** for CIV-MIL HA/DR capability development using NATO Architecture Framework

- Exercise and training scenario to support HA/DR mission environment

**DOTmLPF-PI:** Doctrine, Organization, Training, materiel, People, Facilities, Policy and Interoperability

Note: The full range of military operations were not developed due to limited resource and time constraints.

FMCM1 concentrated on Humanitarian Assistance/Disaster Response use case to determine the CIV-MIL information sharing dynamic. FMCM2 extends to other use cases, especially Peace Keeping and Stability Operations (PKSO)
FMCM – Identified Capability Gaps Across the Spectrum of Operations

**Cooperation Use Case**
- Open Information Sharing
- Availability Based Task Division
- Integrated Planning
- Colocation

**Coexistence Use Case**
- Intermediated Information Sharing
- Independence Based Task Division
- Separate Planning
- Physical Separation

Humanitarian actors must maintain their neutrality per international law; apparent and substantive neutrality both matter.
Operational Concept - FMCM as FMN/MPE Option Z

Multinational Military Network

Sharing information with multinational, civilians and other non-military partners and actors such as these

Standards based information sharing capability is the core of the FMCM approach


Public Internet

NGOs

Affected State & Local Agencies

Foreign Gov’t Agencies

UN

Red Cross Movement Organizations

IGOs

PVOs

Interlocutor
Objective of the Op Concept
The Operational Concept for CIV-MIL information sharing is to describe the current attributes, and enable improvements that enhance information sharing where and when deemed necessary by the involved parties.

Contents
- Capability Need
- Operations and Support
- Use Cases
- Functional Capabilities
Contents
Civilian-Military Planning
Best Practices
FMN Concept in a CIV-MIL Environment
Operations and Support Description
Information Sharing and Services

Objectives of the Guidebook
Help commanders position their assets to:

• Improve information sharing between civil and military participants in a shared environment
• Improve mutual understanding of planning perspectives to support CIV-MIL information sharing requirements
• Improve CIV-MIL planning response time
A hurricane scenario is provided to enable forces to exercise FMCM concepts, processes and standards.
<table>
<thead>
<tr>
<th>NAV-1</th>
<th>Overview and summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAV-2</td>
<td>Integrated dictionary</td>
</tr>
<tr>
<td>NCV-1</td>
<td>Capability vision</td>
</tr>
<tr>
<td>NOV-1</td>
<td>Operational concept</td>
</tr>
<tr>
<td>NOV-2</td>
<td>Operational nodes</td>
</tr>
<tr>
<td>NOV-3</td>
<td>Information requirements</td>
</tr>
<tr>
<td>NOV-4</td>
<td>Key organizations</td>
</tr>
<tr>
<td>NOV-5</td>
<td>Activity model</td>
</tr>
<tr>
<td>NOV-6C</td>
<td>Event sequence</td>
</tr>
</tbody>
</table>

Reference: NATO Architecture Framework
Mission Threading Using Architectural Framework

All-View

Describes the Scope and Context (Vocabulary) of the Architecture

Operational View

Identifies What Needs to be Accomplished and Who Does It

Systems and Services View

Relates Systems, Services, and Characteristics to Operational Needs

- What Needs to Be Done
- Who Does It
- Information Exchanges Required to Get It Done
- Systems and Services that Support the Activities and Information Exchanges

Technical Standards View

Prescribes Standards and Conventions

- Specific System Capabilities Required to Satisfy Information Exchanges
- Technical Standards Criteria Governing Interoperable Implementation/Procurement of the Selected System Capabilities
FMCM NATO Architecture Framework Capability View One (NCV-1)

- As coalition partners implement the NATO Federated Mission Networking (FMN) and US Mission Partner Environment (MPE), Coalition and Joint Force Commanders must ensure these frameworks support and enable the planning and execution required for the timely establishment of effective information sharing with non-military entities across the range of Civilian-Military (CIV-MIL) interaction.
FMCM NATO Architecture Framework Capability View One (NCV-1) continued

• Goal 1: Improved access to and sharing of information
• Goal 2: Improved mutual understanding of Information Exchange Requirements (IER)
• Goal 3: Improved response time for enhancing CIV-MIL information-sharing
**Architectural Framework: Operational View 1 (Use Case 1)**

**MCDA: Mil Civ Defence Assets**
*i.e. Multinational Coordination Center (MNCC)*

**Organization and node relationships are non-hierarchal**

---

**National Command**
- **Multi-National Military Coordination Center (MNMCC)**

**Affected State**
- CJTF/Lead Network Nation
- Assisting MCDA 1
- Assisting MCDA 2
- Assisting MCDA 3

**FMN based MIL Network**

**MIL – to – CIV Interface**
- HuMOCC
- 3rd Party Interlocutors

**International Humanitarian Community**
- UN Humanitarian Country Team
- Assisting Nation Country Teams
- OSOCC
- Int’l Aid Organizations & NGOs
- UN Cluster System
- International Federation of Red Cross and Red Crescent Societies
- Non-UN associated International Aid & NGO Organizations

---

**UNCLASSIFIED**

---

6/15/2017 MCDC FMCM Info Sharing
Success will result in more timely, reliable and clear information sharing between FMN/MPE Affiliates and non-FMN/MPE entities. Enhanced information sharing will support improved overall situational awareness, de-confliction of operations, and better coordination for the mission partners, civilians and other actors.
Use Cases Across the Spectrum of CIV-MIL Coordination

Use Cases 1, 2 and 3 focus areas

<table>
<thead>
<tr>
<th>Coordination Spectrum</th>
<th>Use Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation</td>
<td>Humanitarian Assistance/Disaster Response (HA/DR)</td>
</tr>
<tr>
<td>De-confliction</td>
<td>Indirect Assistance</td>
</tr>
<tr>
<td>Coexistence</td>
<td>Hostile Operations</td>
</tr>
</tbody>
</table>

Peace Support and Stability Operations include Stability Policing and Projection of Stability
The overall frame of the exercise VIKING 18 should be a UN chapter 7 mandated Peace Support Operation, conducted in an asymmetric threat environment.

Themes:
- Cyber Defense
- Safe & Secure Environment
- Air space Control
- Maritime Security
- Irregular Forces; Including Organized Crime and Private Military Companies
- Cooperation and Coordination
- Humanitarian Assistance
- Protection of Civilians
- IDP’s & Refugees
- Human Rights
- State Building
- Gender
- Rule of Law
- Prevention of sexual violence in conflict
ANNEX B to EXSPEX VIKING 18 – Training Audience

TRAINING AUDIENCE (DRAFT)

- Response cells - Higher Control
  - Training Audience
  - Operational level
    - Land Component
    - Air Component
    - Maritime Component
    - SFCC
- Training Audience
  - Tactical level
    - Brigade HQs
    - Combined Air Operations Centre
    - Navy Task Groups
- Response cells - Lower Control
  - Subordinate units

VIKING 18 Training Audience includes Key FMCM2 Actors
• NATO Federated Mission Networking (FMN) and MPE are one in the same

• FMN and MPE represent a capability framework

• Solution is not a one-size-fits all federation: the mission, the partners, and the commander’s intent drive the mission network design

• Cross Domain Solution requirements complicate information exchanges

• Cultural mindset of network architects, engineers, operational users, and commanders need to understand the capability framework

• Capability must be educated, trained and exercised across leaders, headquarters staffs, communicators and forces
Questions and Discussion