The Swedish Armed Forces
Operational Challenges for Command and Control

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Approved for public release, distribution unlimited

See also ADA564685. 2010 Coalition Battle Management Language Workshop (Atelier 2010 sur le langage de gestion du champ de bataille pour les operations en coalition). RTO-MP-MSG-079
The Swedish Armed Forces
SwAF Transformation – issues & goals (1)

Changing Security Environment

• Globalization, dynamic global environment. New challenges & threats.
• Dramatically changed Security Policy
  – EU member & NATO partner
  – “From isolation to participation”
  – “Defending Sweden abroad”

Key issues
From large National, Territorial force ->
Interoperable, Deployable Force ->
Contracted Expeditionary Force

Challenge - transforming the Manning system

Swe Lead nation for EU NBG 11 + NBG 14
SwAF Transformation – issues & goals (2)

Background – Society and Technology changing
• Changing Societies and rapidly developing Technology
• Sweden
  – Advanced parts of the SwAF, for example data-links within the Air Force since 1970-ies
  – Defence-, IT- and Telecomm industry

Key issues
• Joint Force
• Networked Force
• New strategies for:
  – Procurement
  – Research & Development
• Overall - Building interoperability capacity through permissions, authorisation, processes, materiel, methods, exercises and more

• New interoperable capabilities within the C4I area as Link 16, Link 11, Link 22, Beyond Line of Sight, Have Quick, Battleforce Email, Identification Friend or Fool
Multinational Experimentation (MNE) Series

- **MN LOE 1**: November 2001 (AUS, DEU, GBR, USA)
  - Technical Distributed Collaboration
  - (South Pacific Vignettes)

- **MN LOE 2**: February 2003 (added CAN and NATO)
  - Multinational Information Sharing
  - (Pacific Rim Vignettes)

- **MNE 3**: February 2004 (added FRA)
  - Effects-Based Planning
  - (Afghanistan Scenario)

- **MNE 4**: February / March 2006 (added FIN and SWE)
  - Effects-Based Operations (Afghanistan Scenario)

- **MNE 5**: Spring 2008/Spring 2009
  - Comprehensive Approach (African Scenario) + Effects-Based Approach to Multinational Operations (military portion)

**MNE 5 Partners**
- Canada
- Finland
- France
- Germany
- Sweden
- United Kingdom
- United States
- NATO ACT

**MNE 5 Participants**
- Australia
- Austria
- Denmark
- Spain

**MNE 5 Observers**
- Czech Republic
- Greece
- Hungary
- Japan
- Poland
- South Korea
- Singapore
- European Union
C2 and Training interoperability

Exercise Management System (EXONAUT)
National simulation systems (TYR, JCATS, GESI, TCT)

Exercise Control
Voice
IP
VTC
Web
Air & Combat operations simulation (ASCOT)
Radio and Voice simulation (PLEXCOM)

Common Operational Picture (SITAWARE)
Information Management Portal (SHAREPOINT)

Training Audience
Voice
IP
VTC
Web
Tactical Situaiton Awareness (SLB)
Map Tool (~ Arc Explorer, Google Earth)

Email
POT

Email
POT
The VIKING concept

- The premier Multinational and Comprehensive Approach exercise in the world
- Executed in VIKING 99, 01, 03, 05, 08
- Based on the Persistent Partner Simulation Network Concept
- Political impact & flagship for the Swedish Armed Forces
- Important in building Partnership Capacity before deployment in operations
- Provides a wider “Network” building

MAIN PARTNERS 1999-2008:
The VIKING 08

The fifth VIKING Computer Assisted Command Post Exercise based on the Partner Training & Simulation Network Concept

2 000 participants from 31 nations and 47 organizations

Main Training Audience on Land, Maritime, Air and Infooperations Component Command level

NATO procedures

Crises Response scenario (BOGALAND) including NATO- and EU-led operations
- Execution 4-15 April 2011
- Force HQ concept (mission tailored)
- Swedish main Training Audience – one of our readiness HQ’s
- Downsize Exercise Control – “few to train many”
- Increase Concept Development & Experimentation
- Develop and increase Comprehensive Approach
- Civilian Partner (Folke Bernadotte Academy) to co-chair
- Increase Partner support through planning phase
- Core Planning Team to be formed at the Joint Training Centre
- Increase participation from Central Asia
- Open for identified Partners (by SWE&US), not only PfP – like NATO contact nations, African Union and EASBRIG
- Increase the use of designed ADL support
The Swedish Joint National Training Capability Demonstration

Network

CATS TYR
Joint level constructive simulator. Wargaming for Combined Joint Operations and Other Operations Than War

Filter

DMOCS
Distributed Mission Operators Control System, Prototype concept for Exercise Control

Demo C2 ADS
Command & Control Air Defence System
Site: Air Defence School, Uppsala

ASCOT
Advanced Simulation Combat Operations Trainer
Battle Management and C2 Live Virtual Constructive
Synthetic environment generation for Air, Ground and Maritime domains.

GBAD RBS 70
Ground Based Air Defence
Surface to Air Missile simulator
Site: Air Defence Combat Training Centre, Halmstad

Google Earth Pro Adapter
Scenario Viewer and Common Operational Picture through Google Earth.

Internet VPN encrypted

PLEXComm
PLEXComm Suite is a high fidelity radio simulation

T3SIM
Virtual Fighter/attack aircraft simulator.

For distributed training, connect training facilities at various sites. Aiming to create a system available for joint exercises on a daily basis.
SW AF NATIONAL TRAINING CAPABILITY
List of Ten Command & Control challenges:

1. To meet Warfighters operational requirements of tomorrow
2. Mission rehearsal and planning
3. Available in Theatre
4. Mobile platforms
5. Interoperability and Standardised languages
6. Federations and integration of training and C2 systems
7. Information sharing – alliance and partners
8. A Comprehensive Approach – Civilian dimension
9. Persistent low-cost concept – Multinational Capabilities
10. Multilevel security