

# Assembled Coalitions

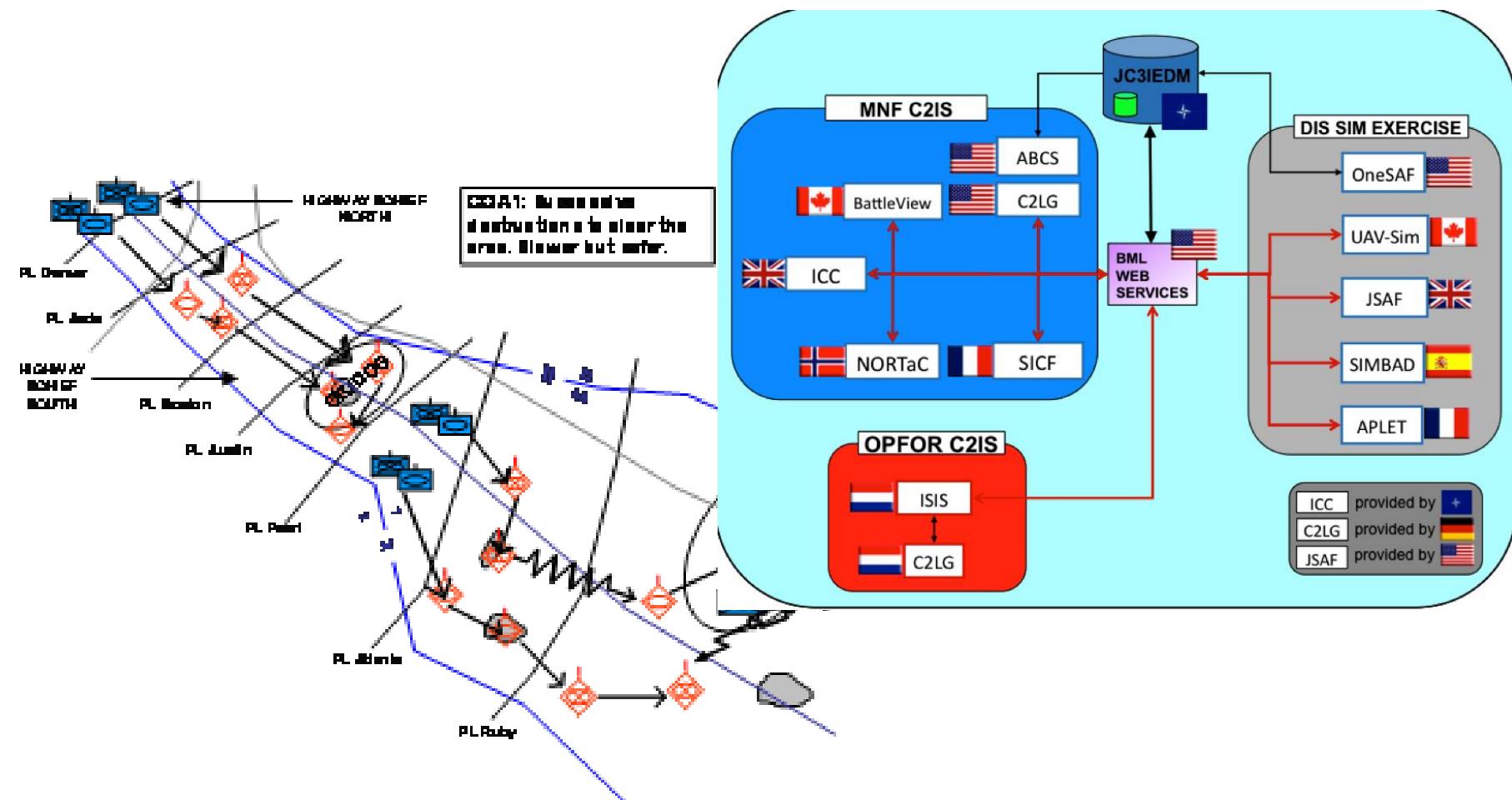
**Dr. Robert Wittman**

**Presented by Dr. Mark Pullen**

# C2SIM Coalition Activities

- **NATO MSG-048 Final Experimentation**
- **NATO MSG-085 Coalition Initialization Demonstrations**
  - ITEC 2011
- **German-French COMELEC Experiments**
  - Ottobrunn 2011
- **NATO MSG-085 Coalition C2SIM Demonstrations**
  - I/ITSEC 2011, 2012
  - ITEC 2013
  - I/ITSEC 2013
  - Ft Leavenworth Final Demo Dec 2013

## MSG-048 2009 Final Experiment Architecture



## MSG-048 National Systems

- **Command and Control**
  - Canada BattleView: Fielded workstation - JC3IEDM Compliant
  - France SICF: Land forces C2 for French Division and Brigade CP
  - Netherlands ISIS: Army staff C2 system; served as OPFOR C2
  - Norway NORTaC-C2IS: Tactical army operations - Bn Cdr Planning
  - UK ICC/JADOCs: Air planning tool for ACO and ATO and BML reporting
  - US ABCS: Army Maneuver Control System (MCS)
- **Simulation Systems**
  - Canada UAV-SIM: UAV-agents with UAV system simulation
  - France APLET: CoAA tool in conjunction with SICF
  - Spain SIMBAD: Constructive simulator for battalion-level task for CP training
  - UK JSAT: air element representation
  - US OneSAF: US ground maneuver simulation
- **US and German Supporting Software**
  - US Scripted BML Server from GMU
  - Germany C2LG BML GUI/Editor from Fraunhofer FKIE

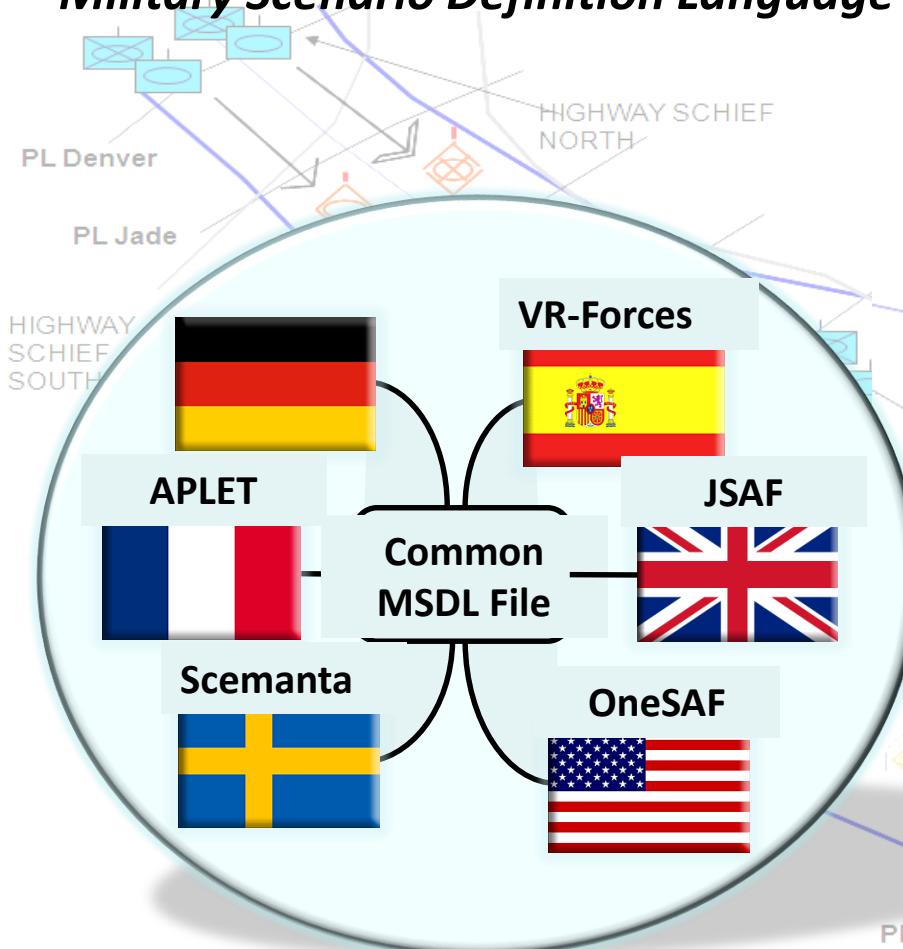
# ITEC 2011

**Cologne, Germany**

**May 2011**

## ITEC 2011 Demonstration

### *Military Scenario Definition Language (MSDL) for simulation initialization*



**Able to initialize multiple systems with common MSDL file.**

**Need more tools to support and manage MSDL data.**

**Some nations considering the use of MSDL to initialize C2 systems.**

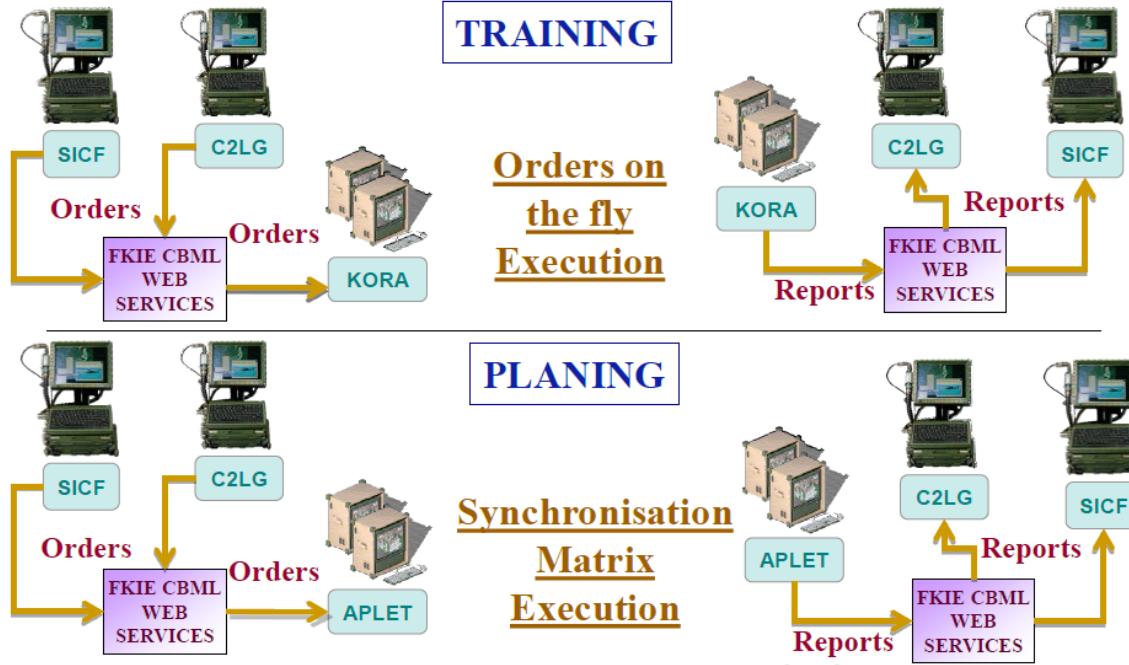
# The German French COMELEC Experiments

Ottobrunn, Germany

December 2011

# Ottobrunn 2011 COMELEC

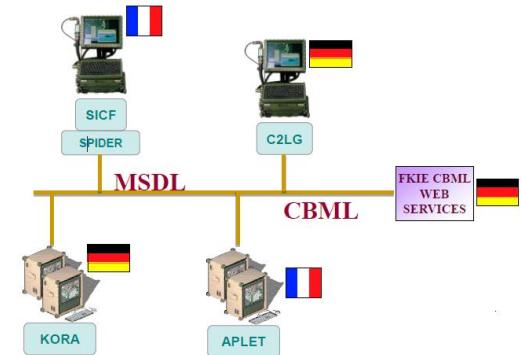
## COMELEC Experiments – Use Cases



## Goals

- Task Synchronization using BML
- Automated execution of C2 generated orders
- Logistic report enhancements
- Improved C2 & Sim initialization consistency

## COMELEC Experiments – Architecture

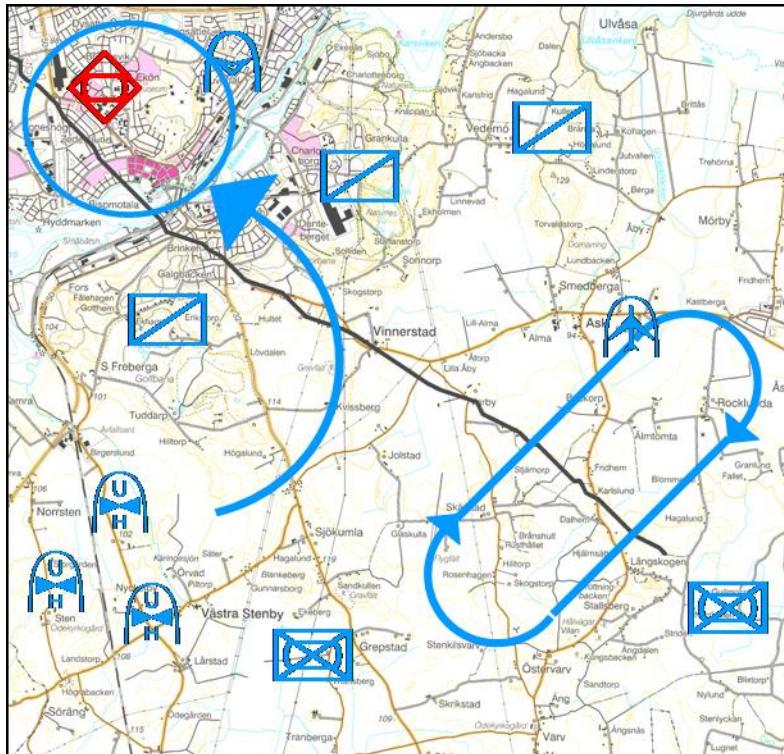


# I/ITSEC 2011

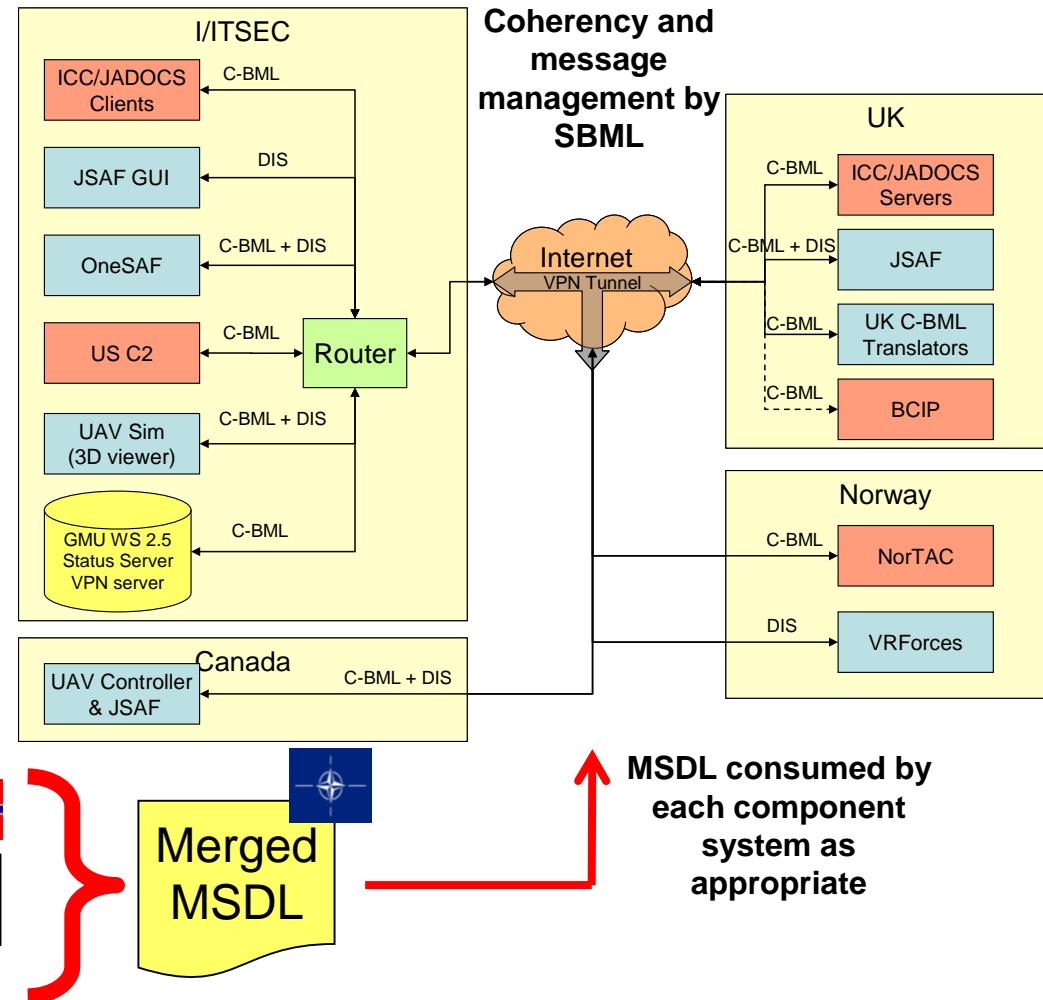
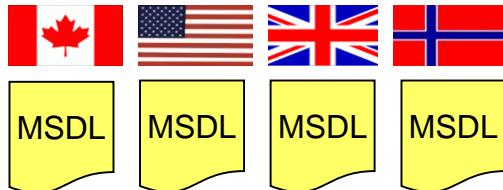
**Orlando, FL**

**28 Nov – 1 Dec 2011**

# I/ITSEC 2011 Air/Ground Reconnaissance Vignette

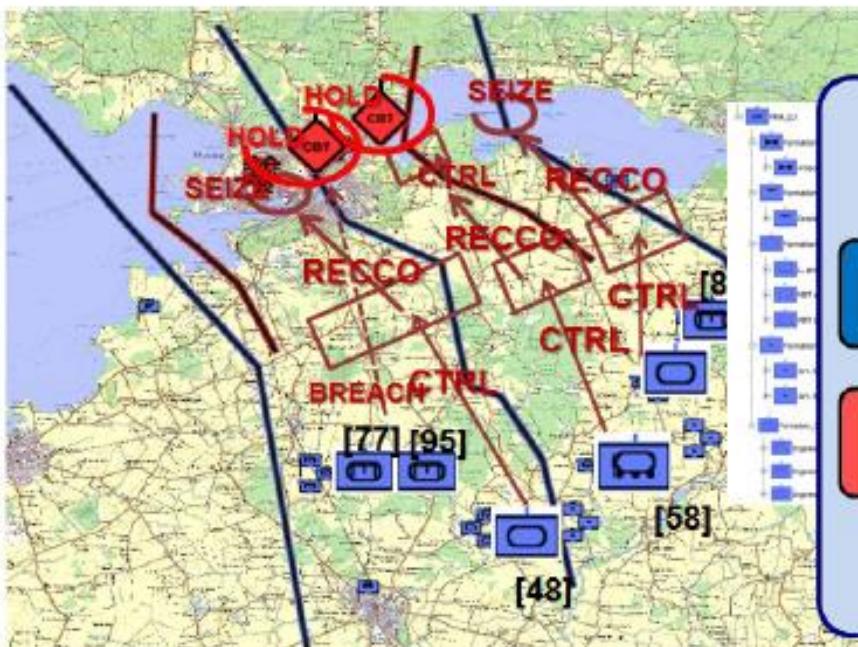


National C2/M&S systems create MSDL for their own Units, Equipment & Overlays



# I/ITSEC 2011 Combined Operations and Logistics Vignette

## Operational Overview



## Technical Architecture Overview

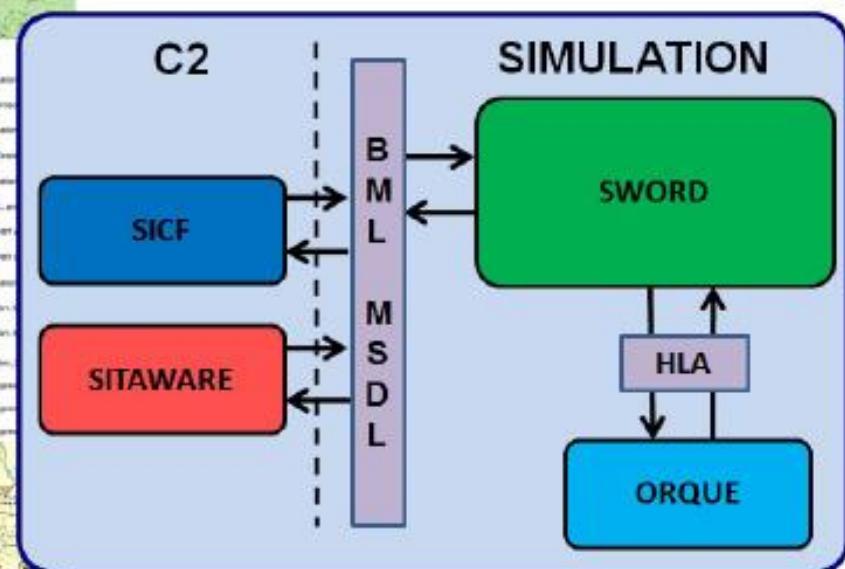
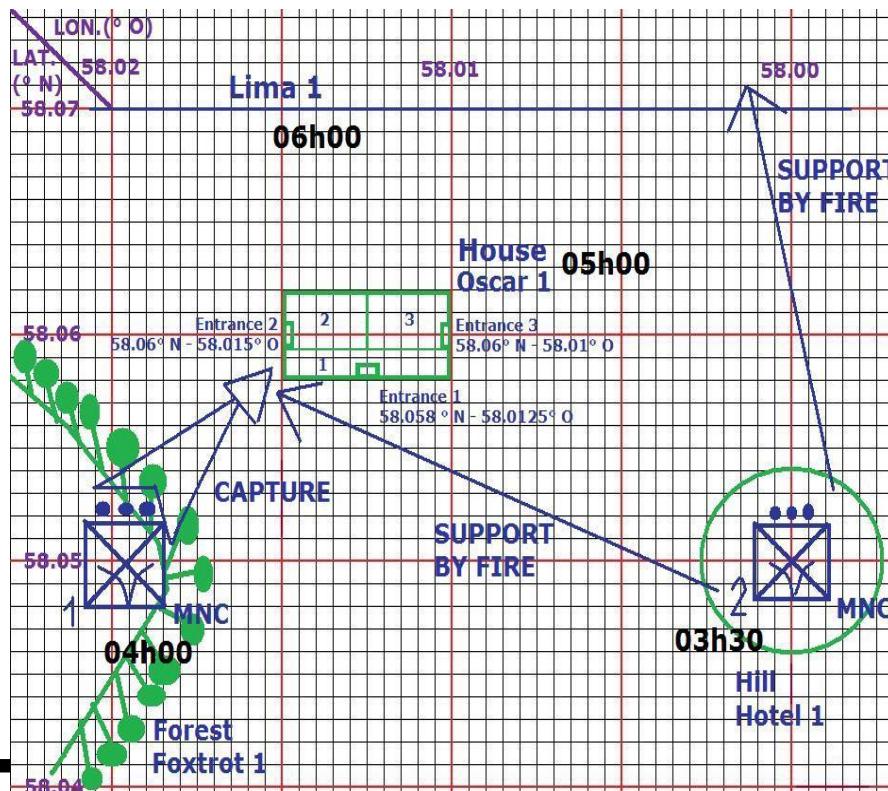


FIGURE 5-4 : COMBINED OPERATIONS AND LOGISTICS VIGNETTE AND ARCHITECTURE

# I/ITSEC 2011 Ground Maneuver Vignette

## Operational Overview



## Technical View

### DEMO HARNESS 2 CBMS WEB SERVER

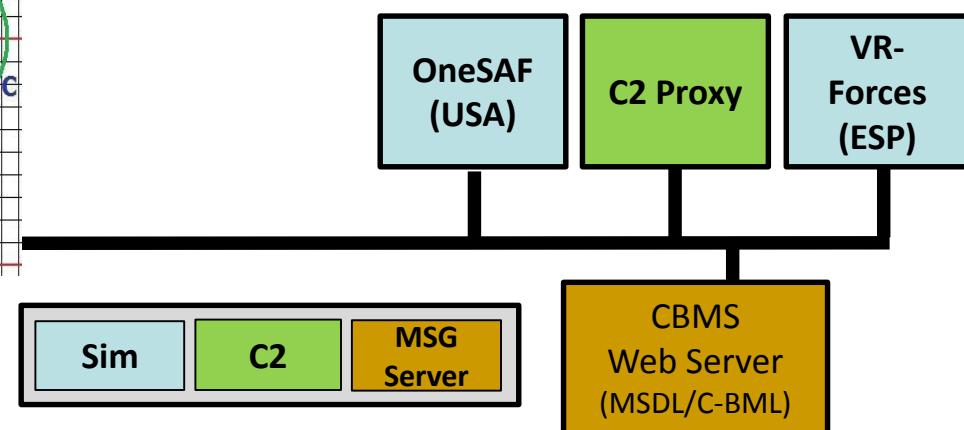
Serves MSDL and C-BML Initialization Data over standard TCP/IP Network to interested C2 Systems, Simulations, and Tools

#### MSDL:

Common Task Org;  
Tactical Graphics;  
Playbox;

#### C-BML:

Planned Tasking Set

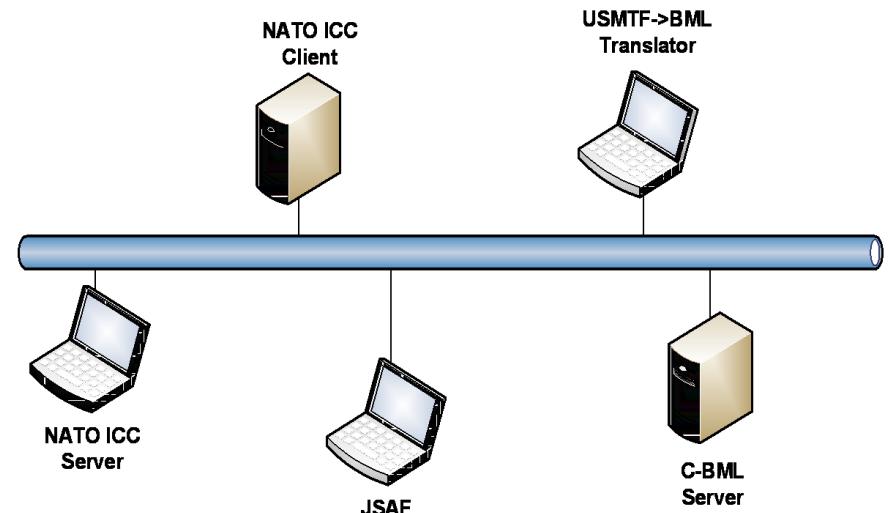
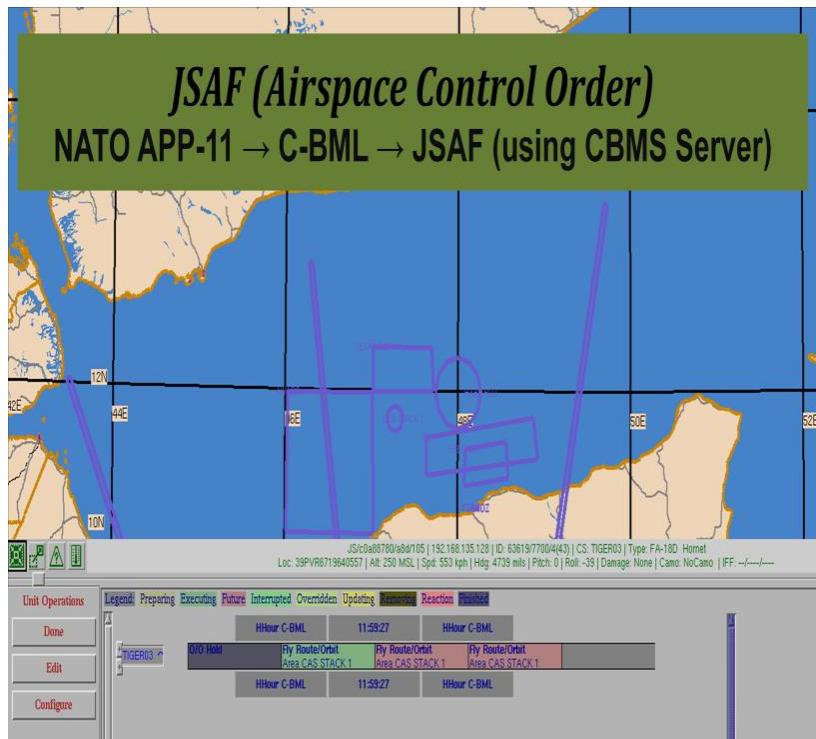


# I/ITSEC 2012

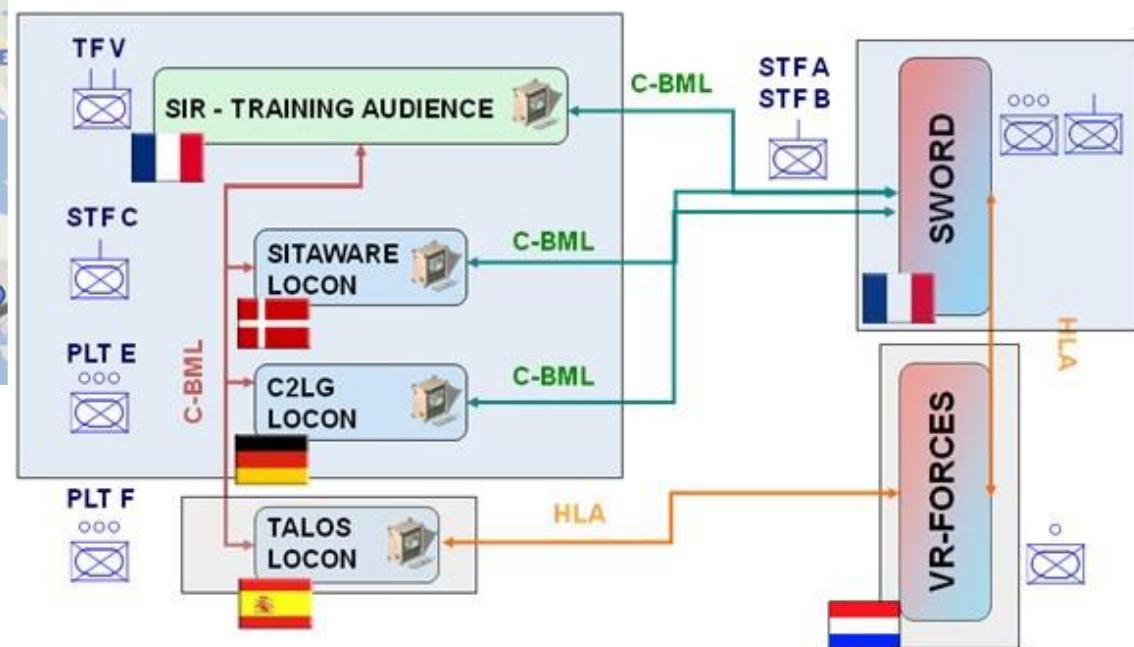
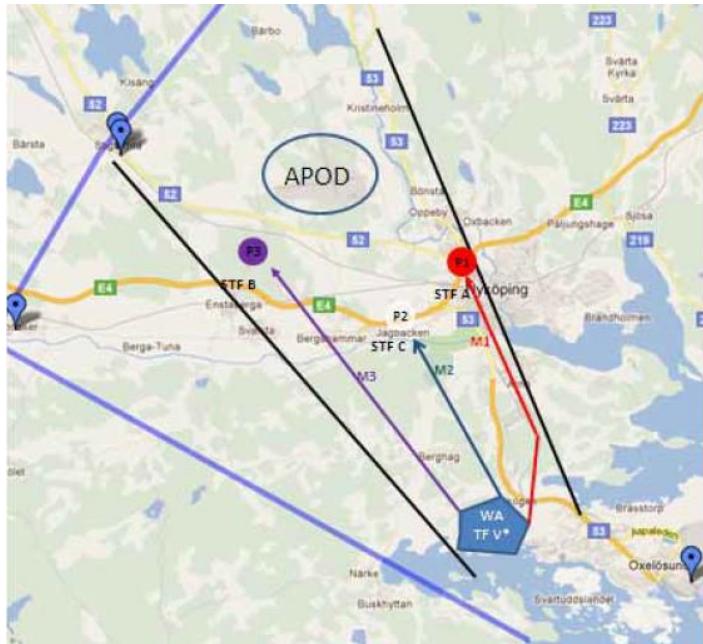
**Orlando, FL**

**3 Dec – 6 Dec 2012**

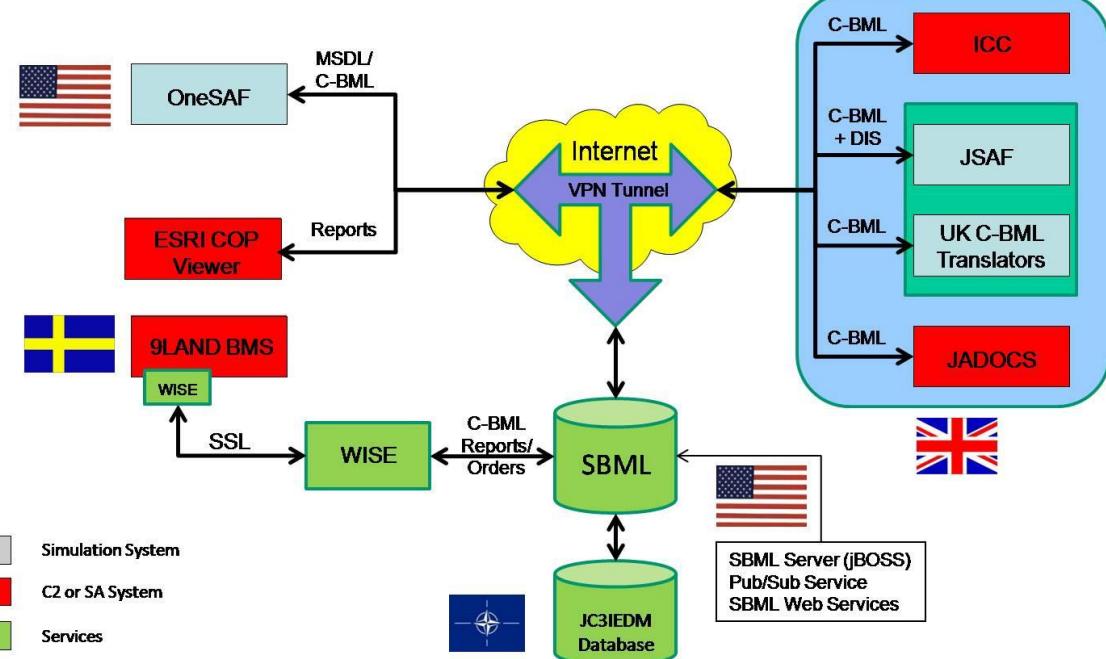
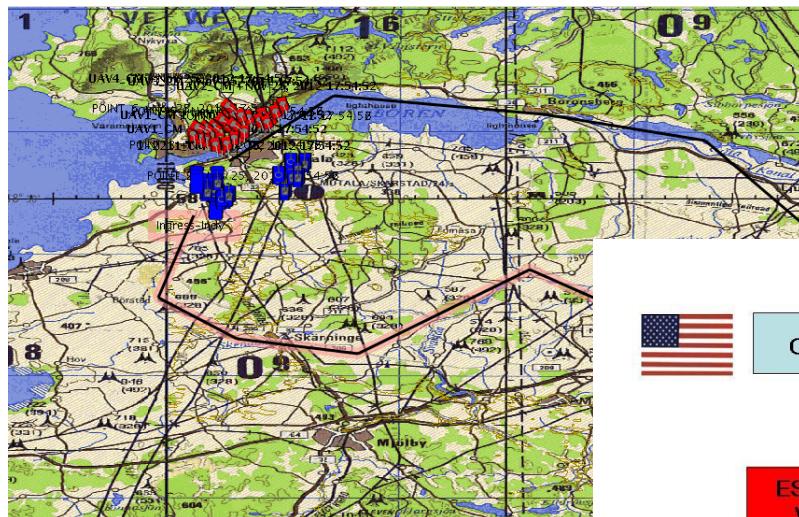
## I/ITSEC 2012 BML-Enabled Air Ops Architecture



## I/ITSEC 2012 Land Ops Demo Architecture



# I/ITSEC 2012 – ITEC 2013 Air/Ground Reconnaissance Vignette

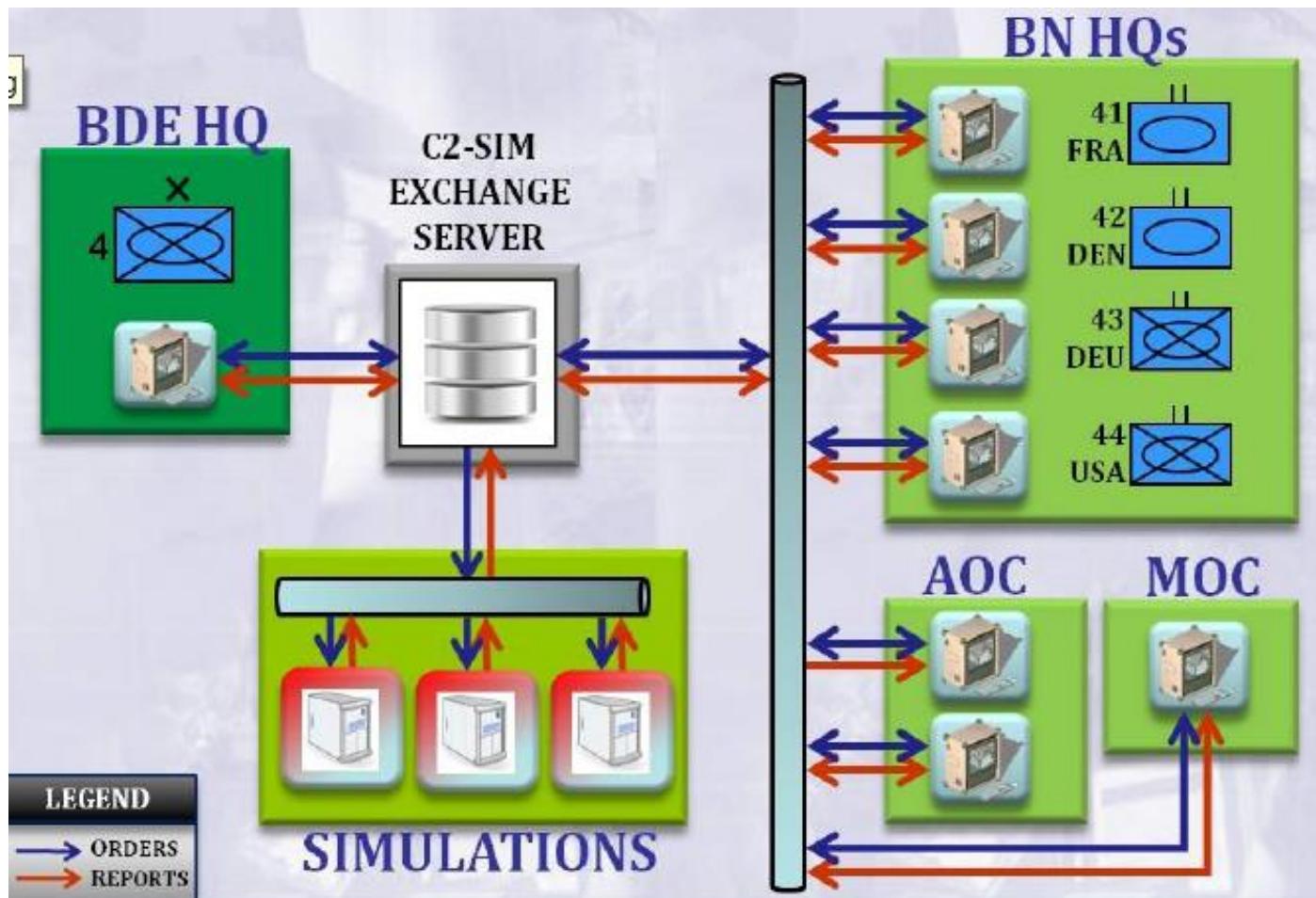


# I/ITSEC 2013

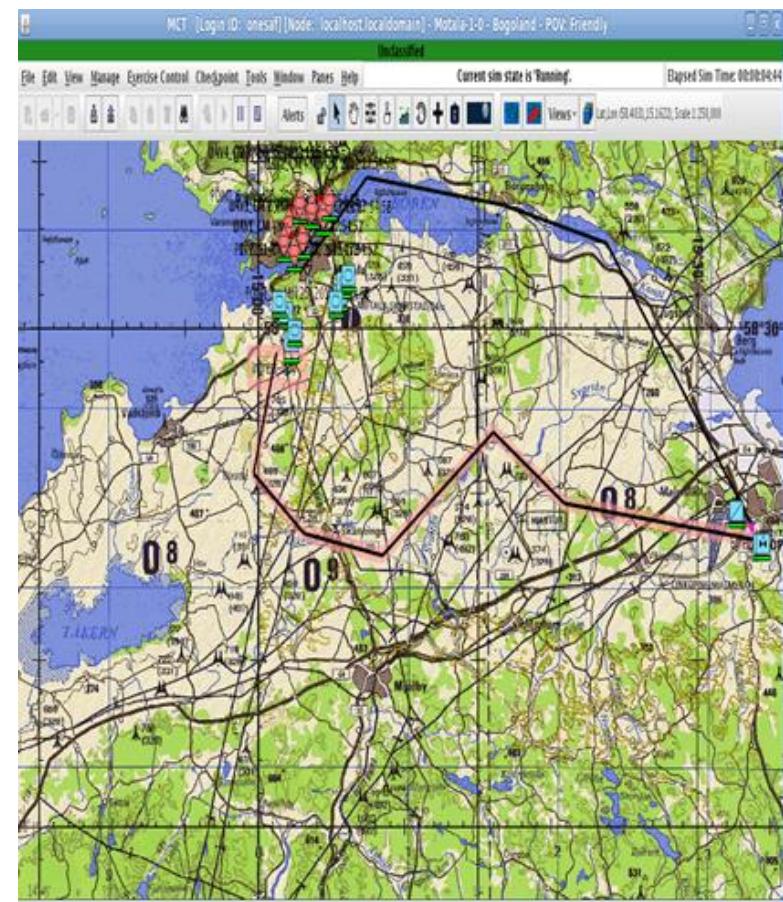
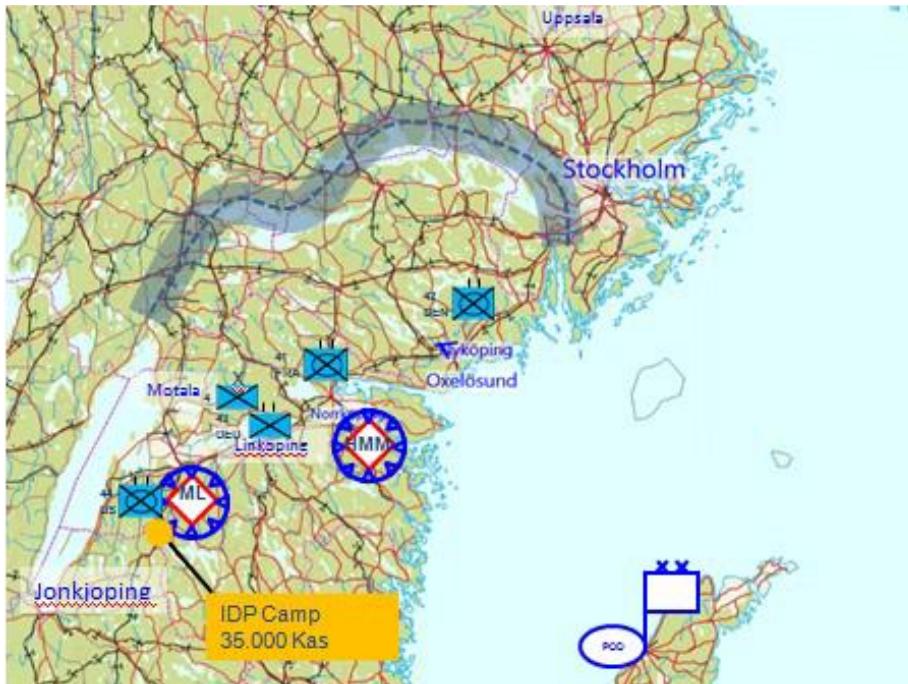
**Orlando, FL**

**1 Dec – 5 Dec 2013**

## I/ITSEC 2013 Demonstration



# I/ITSEC 2013 Combined Bogaland Demonstration



# MSG-085 Final Demonstration

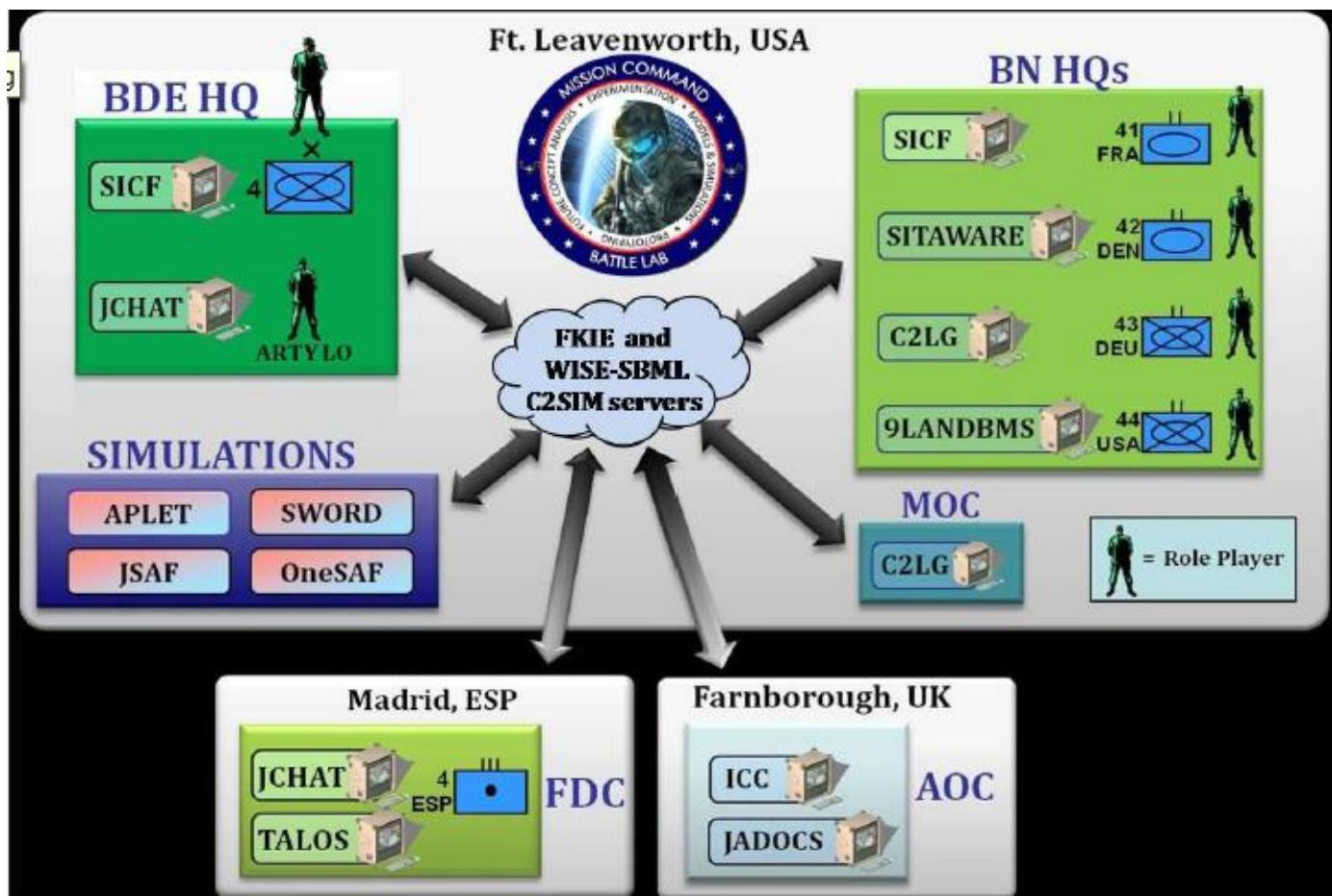
**Ft Leavenworth, Kansas**

**12 Dec 2012**

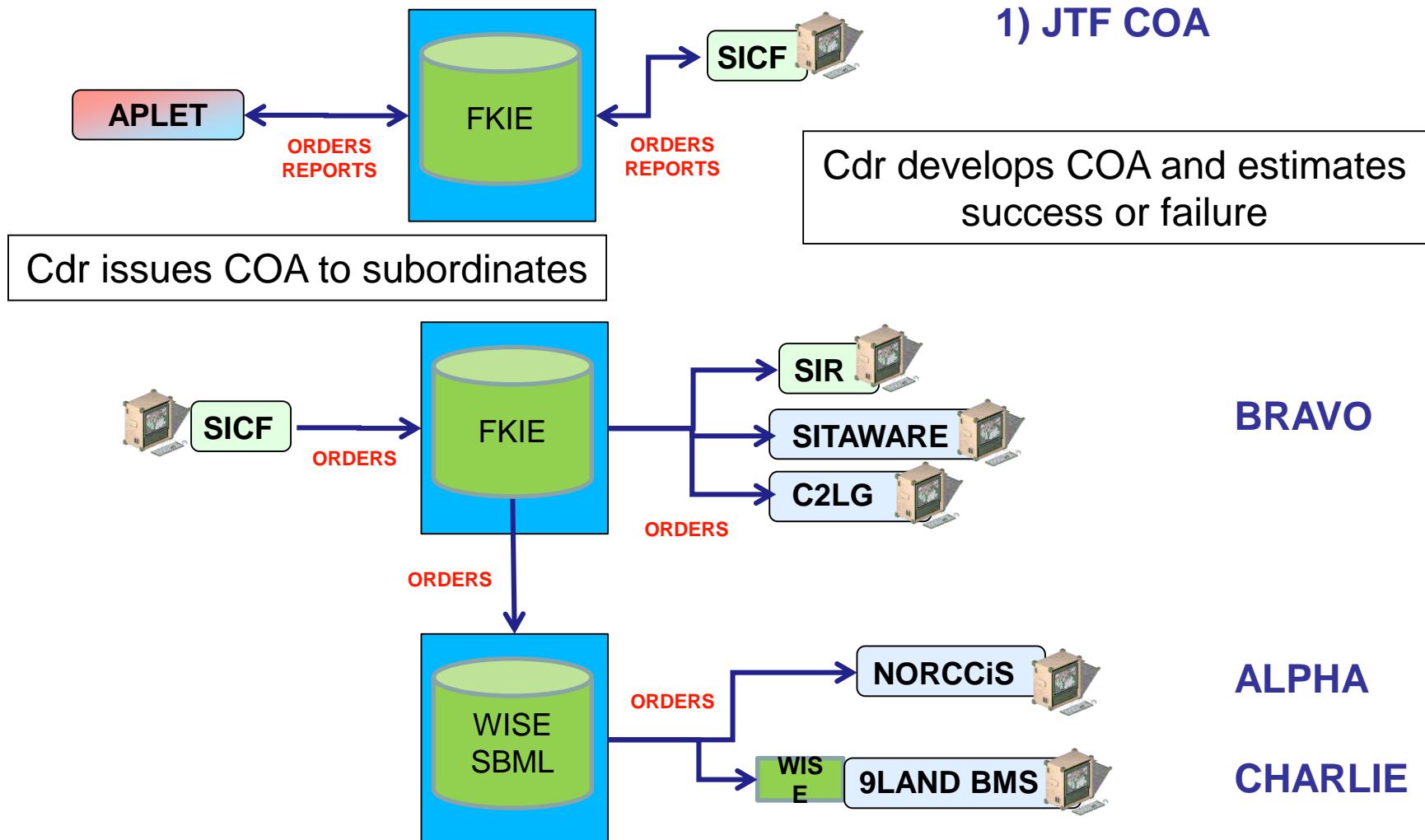
# MSG-085 Final Demonstration Ft Leavenworth December 2013

- **Joint Task Force**
  - SICF/APLET
- **JTF Subordinate Battalions and Companies COA refinements**
  - Alpha (Norway): NorCCiS/NorSIM
  - Bravo (Multi-National):SIR–SITAWARE–C2LG/SWORD–VR-Forces
  - Charlie (Sweden): 9LandBMS/OneSAF
- **JTF estimates subordinates COA refinements**
  - SICF/SWORD
- **JTF Mission Rehearsal**
  - Alpha: NorTAC/OneSAF
  - Bravo: SIR-SITAWARE-C2LG/OneSAF
  - Charlie: 9LandBMS/OneSAF
  - Air: ICC/JSAF
  - Navy: C2LG/JSAF

# Ft Leavenworth Final Joint & Combined Mission Planning Demonstration Architecture December 2013



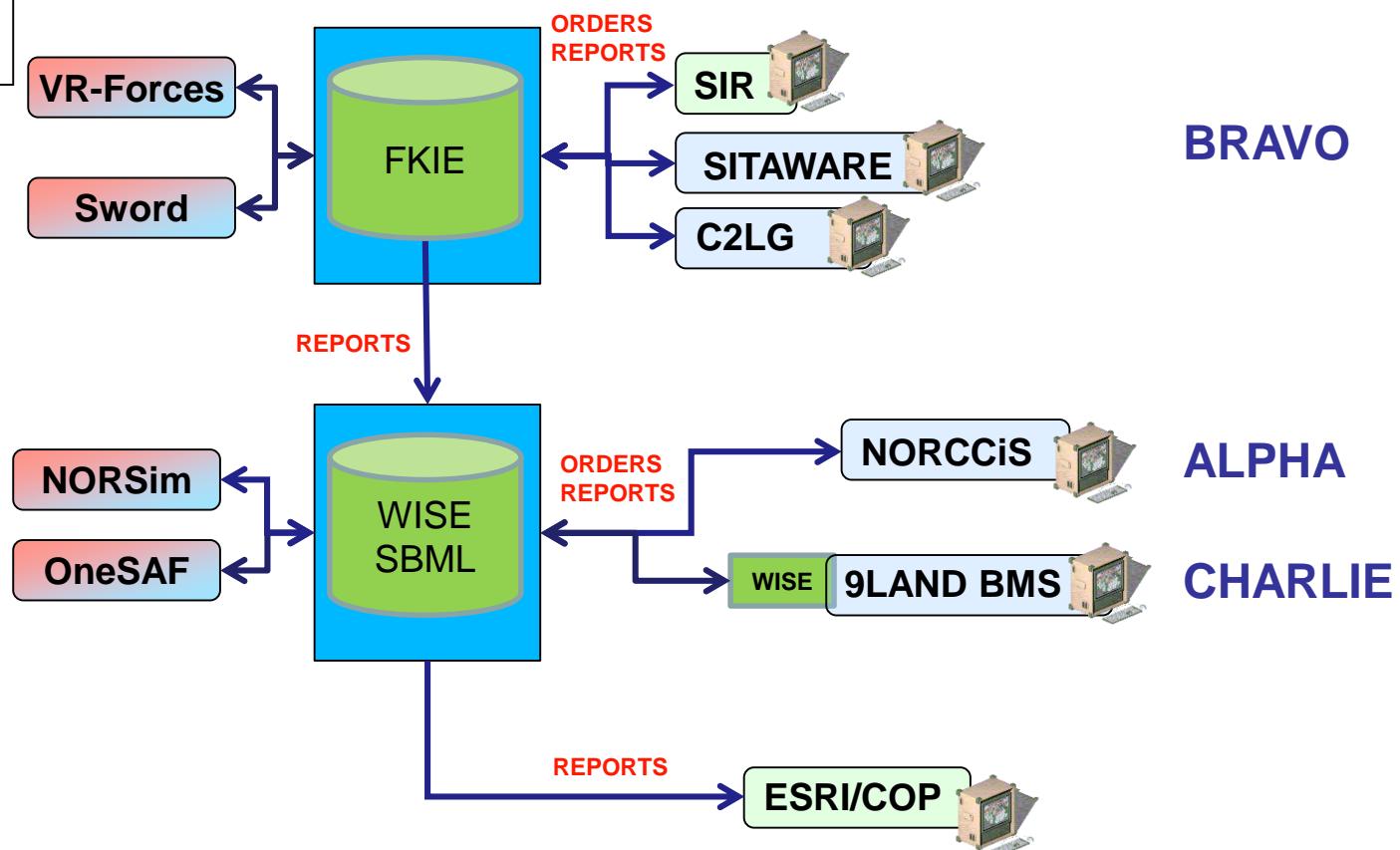
## MSG-085 Final Demonstration 2013 Technical Architecture



# MSG-085 Final Demonstration 2013 Technical Architecture

distributed planning  
&  
parallel planning

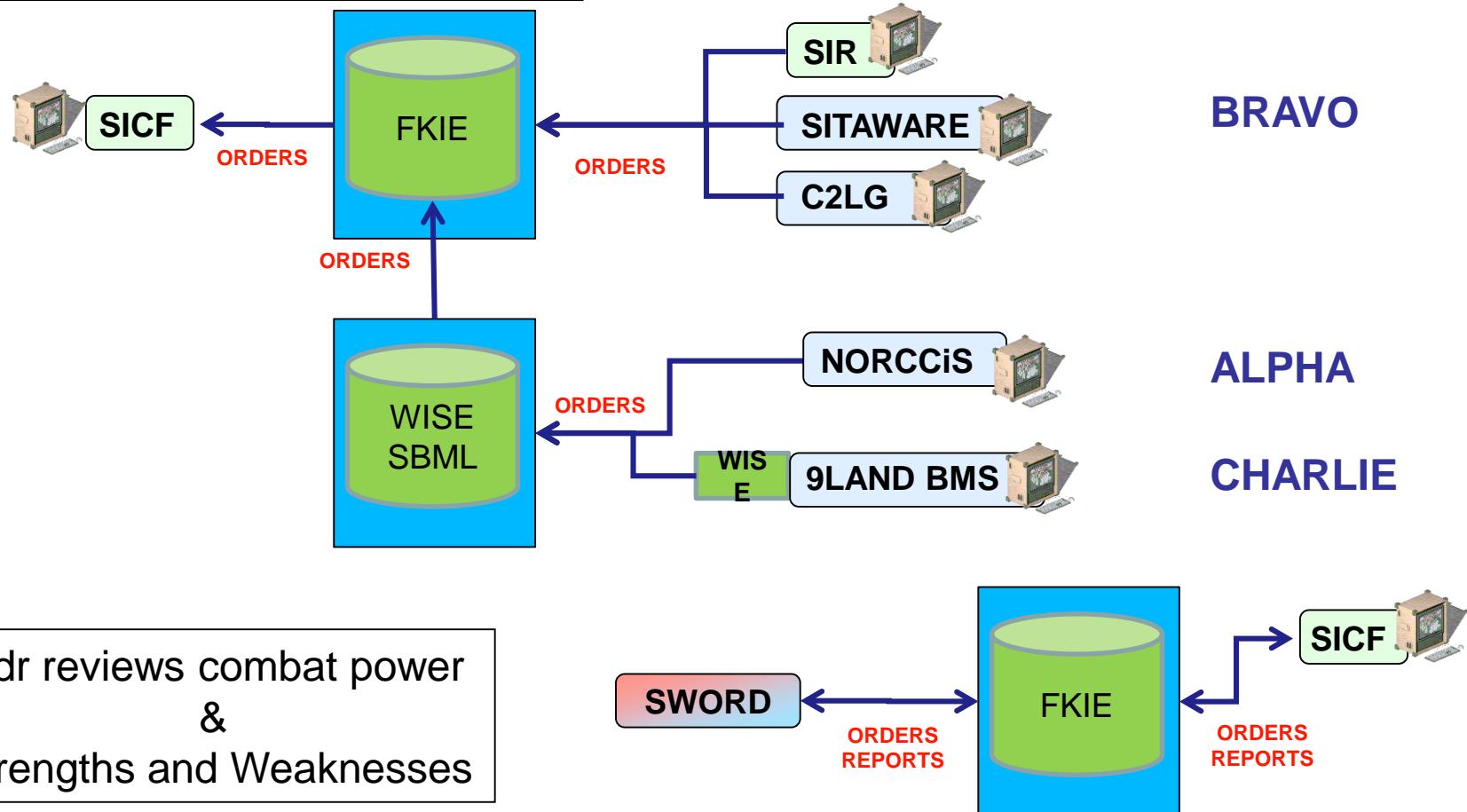
## 2) JTF Subordinates Battalions and Companies COA refinements



## MSG-085 Final Demonstration 2013 Technical Architecture

Subordinates issues COA to Cdr

3) JTF estimates Battalions and Companies COA refinements



Cdr reviews combat power  
&  
Strengths and Weaknesses

## MSG-085 Final Demonstration 2013 Technical Architecture

### 4) JTF Mission Rehearsal

