AGENDA

1. CSFEE GENERAL PRESENTATION
2. PERSPECTIVE FROM JADEX14
3. ELLIPSE : A FRAMEWORK FOR INTEROPERABILITY (France)
This simulation system is deployed in France since 1999. CSFEE is the simulation center in charge of supporting French CAX for operative HQ’s
3 pillars

**Instruction**: École de Guerre/War college

**Training**: Joint French HQs’/EMIA-FE/FR-RRC

**Experimentation**: French joint doctrine center/DGA/CATOD
CSFEE GENERAL PRESENTATION

**Chief of center**

**OPS cell**
- Coordination of CSFEE planification;
- Contribution to scenarii coherence and MEL-MIL animation.

**SIMULATION cell**
- To set up the simulation software and to create JTLS DDB;
- To provide experts from components to animate the training audience units.

**TECHNICAL cell**
- To ensure maintenance and exploitation of servers.
- To support with logistic assets CIS network.

**RLS office**

5/13/0/2
(11 Army, 4 Air Force, 3 Navy, 2 civilians) + 2 reserve augmentees

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CSFEE GENERAL PRESENTATION
PERSPECTIVE FROM JADEX14

**Simulator Assisted – Joint Air Defence Exercise**
PERSPECTIVE FROM JADEX14

09H00 - 10H00: TACTICAL BRIEFING
10H00 - 11H00: WARM UP
11H00 - 12H00: DIREX BRIEFING
12H00 - 13H00: MEL/MIL BRIEFING
13H00 - 14H00: VIGNETTE 4 HOURS
14H00 - 15H00: DIREX/RLS/VOB PREPARED DAILY HOT WASH UP
15H00 - 16H00: SUB UNITS DEBRIEFINGS
16H00 - 17H00: DAILY HOT WASH UP
17H00 - 18H00: PREPARATION OF NEXT DAY
- To promote a distributed and shared simulation;
- Two levels of simulation coordinated: tactical (VBS2), operational (JTLS);
- Original executive phase: one day = one vignette, ARR and replay during four days IOT consolidate process and well adapt technical issues.
OBSERVATIONS

- Strong will to organize simulation simultaneously on three levels: strategic, operationnal and tactical (COALITION) = main efforts to improve interoperability of simulation systems;

- Difficulties to provide an INTEL picture for strategic level with JTLS system
French legacy system for simulation interoperability
INTEROPERABILITY NEEDS

Command & Control Information Systems

Messages (ADatP-3, specific data model …)

Data link (ICC…)

JTLS

Objects and interactions

Tactical Simulations

Event synchronization (MELMIL)

Exercise control (simulation management, data collect, replay…)

Training Staff Support Tools
SIMULATION – C2IS INTEROPERABILITY

**SUISSE prototype:**

- **Concept:** use of a pivot model in aim to avoid multiple gateways between simulations and C2 systems,

![Diagram showing pivot model concept](image)

- French legacy joint pivot model (MPIA), related to the JC3IEDM,

- Available interfaces in SUISSE:
  - *Import from simulations:* JTLS
  - *Export to C2 systems:* MPIA, ADatP-3, SICF, MSDL and CBML.
INTERFACE BETWEEN JTLS AND C2IS
Since 2008 – Prototype with ORACLE database

- Extraction of simulated situations by side view (from two to five extractions by day),
- Use of time filter to extract relevant detection events,
- Creation of tactical situations by LOCON response cell (division, brigade…),
- Use of dictionaries to map enumerative data (services, echelons…),
- Adding of complementary data not included in JTLS (logistics codes…).
INTERFACE BETWEEN JTLS AND VBS2
2013 – Prototype with JODA interface

- Subscription of persistent and transient simulated objects from JODA bus (controller side view),
- Check of orders (creation of unit, update…) by OMA before sending to JODA,
- Use of High Level Architecture (HLA) evolved standard (IEEE 1516-2010), NETN FOM (NATO) and Pitch Products,
- Use of interpolation process between JTLS and VBS2 modeling (disaggregation of air mission to aircrafts, aggregation of vehicles to battalion unit…).
INTERFACE BETWEEN JTLS AND CBML
2014 – Prototype with ORACLE database

- Data exchange from JTLS to SICF by using MSDL/CBML as pivot data model (experimentation before legacy transition),
- Generation of MSDL scenario to define the initial reference situation (order of battle, logistics allocation...),
- Generation of CBML reports (general status report and logistics reports),
- CBML & MSDL server used as repository (no process inside).

MSDL: Military Scenario Definition Language
CBML: Coalition Battle Management Language
JTLS ELLIPSE CONNECTOR (1/2)
2015 – Legacy connector with JODA interface

- **ELLIPSE** is the French legacy interoperability system
JTLS ELLIPSE CONNECTOR (2/2)
2015 – Legacy connector with JODA interface

- Concept of the JTLS ELLIPSE connector:
QUESTIONS?
HISTORY

- **1999** – Installation of JTLS in French War College (simulation division) in aim to support the education of officers,
- **2006** – Transformation of the simulation division to CSFE (simulation center for education, training and experimentation),
- **2008** – Development of SUISSE prototype (link between JTLS and the French Joint Command Information System SICF),
- **2009** – First support of a Joint CAX (Computer Assisted eXercise),
- **2014** – Experimentations with interoperability simulation standards (HLA, DIS, MSDL and C-BML),
- **2015** – Development of ELLIPSE connector (French legacy system for simulation interoperability).
JADEX14 C2 Architecture