One Semi Automated Forces

Program Overview

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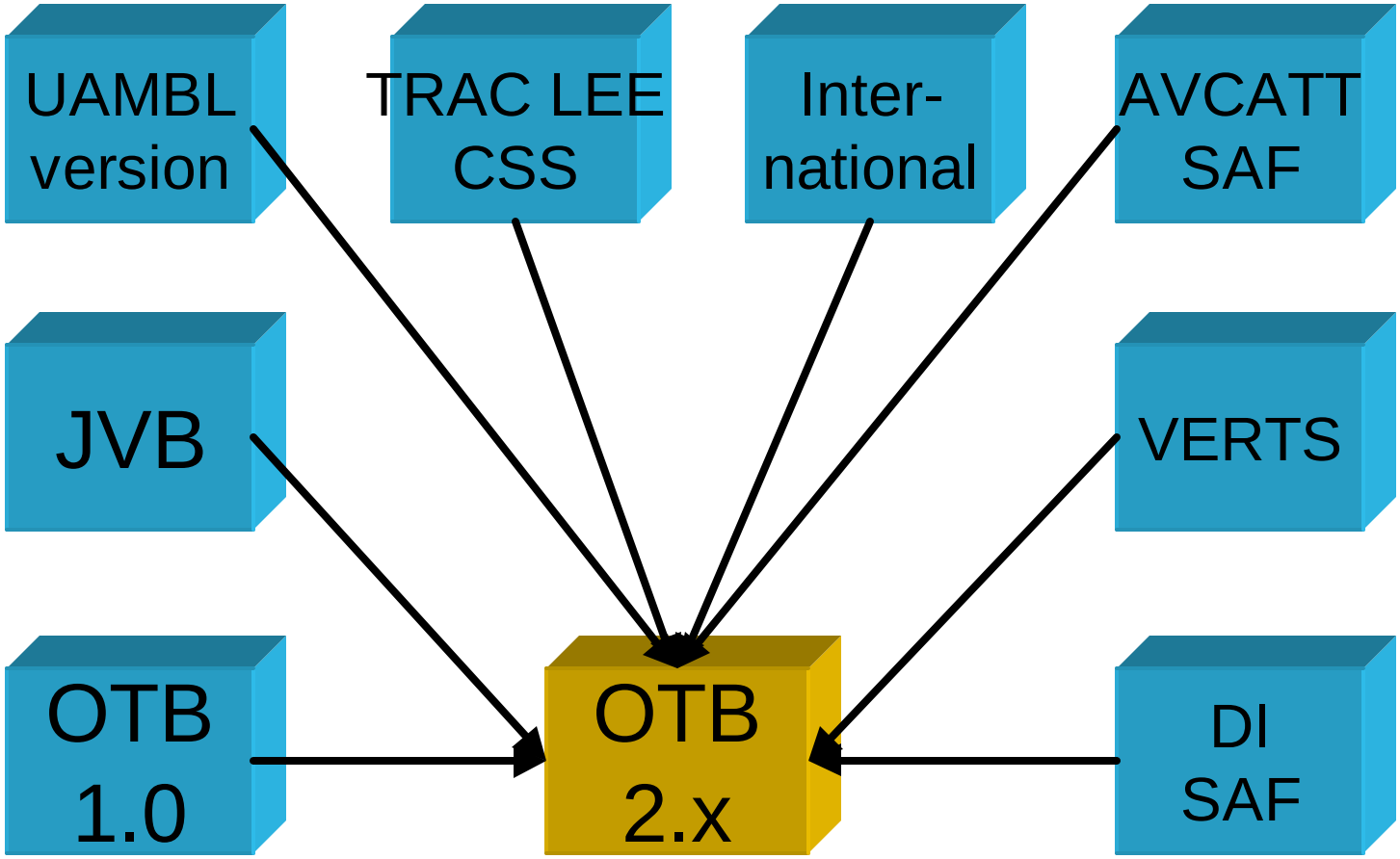
OneSAF Consists of two separate programs: OTB

FY2003 → FY2004 → FY2005 → FY2006

1.0 2.0 2.1 Retired!

OTB is an interactive, high resolution, entity-level simulation that represents combined arms tactical operations up to the battalion level.

Composition of OTB



OneSAF Consists of two separate programs: OTB and OOS

FY2003 → FY2004 → FY2005 → FY2006

FOC Fielding

OOS is new development, with a new core architecture. It is a* composable, *next generation CGF that can represent forces from the entity to the brigade level.

OOS will replace BBS, OTB, Janus (A/T), AVCATT/CCTT SAF, and JCATS MOUT.

OneSAF Objective System

OneSAF Consists of two separate programs: OTB and OOS

FY2003 → FY2004 → FY[illegible]5 → FY2006

Fielding

OOS is ***not*** just the next version of OTB.

It is a completely ***new*** simulation!

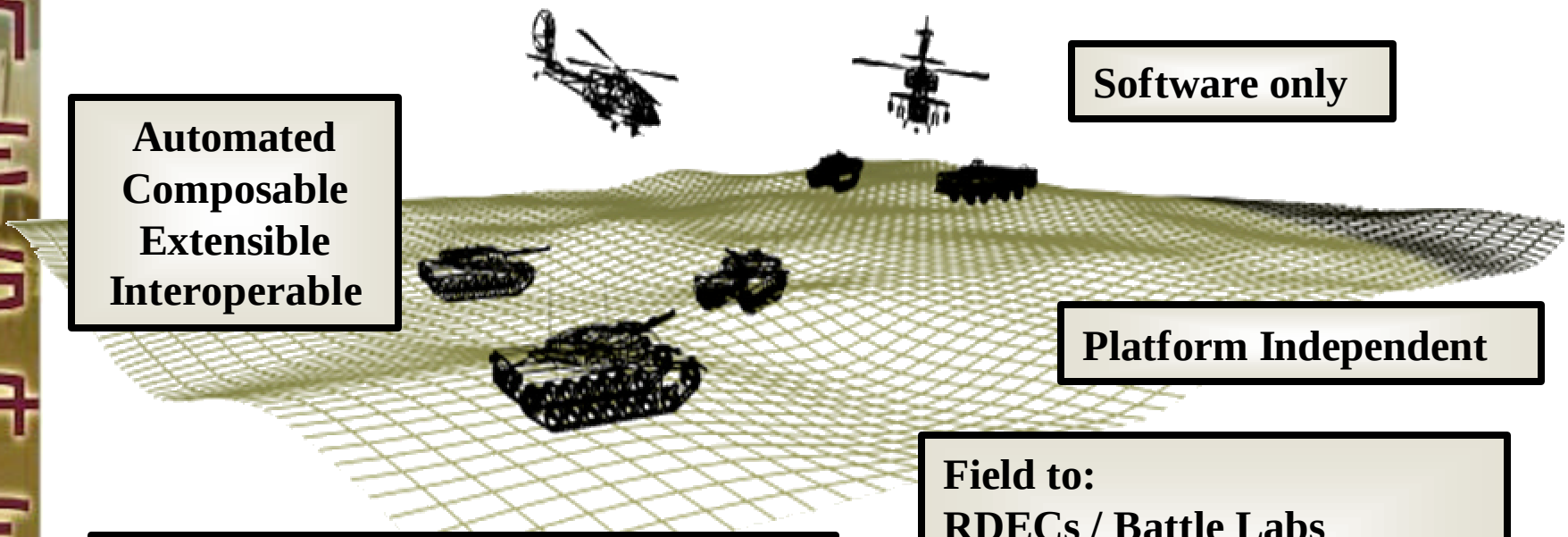
OOS [illegible] core arch[illegible] next genera[illegible] rep[illegible] brigad[illegible]

OOS [illegible] us (A/T), AVCAT[illegible] TT [illegible]AF, and JCATS MOUT[illegible]

OneSAF Objective System

What is One Semi-Automated Forces (OneSAF) Objective System (OOS)?

A composable, next generation CGF that can represent a full range of operations, systems, and control processes (TTP) from entity up to brigade level, with variable level of fidelity that supports multiple Army M&S domain (ACR, RDA, TEMO) applications.



Software only

Automated
Composable
Extensible
Interoperable

Platform Independent

Capable of replacing legacy entity-based simulations: BBS, OTB/ModSAF, CCTT/AVCATT SAF, Janus, JCATS MOUT

Field to:
RDECs / Battle Labs
National Guard Armories
Reserve Training Centers
All Active Duty Brigades and Battalions

OOS Spiral Development:

Block A: "Architecture and Tools"

FY2003 → FY2004 → FY2005 → FY2006

FOC Fielding

Block A (Completed FY02)

- Working simulation infrastructure
- Environmental data model, runtime component, etc.
- Military Scenario Development Environment
- Composer tools
- KA/KE, data specifications, user interfaces, and system flow work begins
- AAR tools
- C4I adapter

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OneSAF Objective System

OOS Spiral Development:
Block B: "Some Janus-like Functionality"

FY2003 → FY2004 → FY2005 → FY2006

EOC Fielding

Block B (Current Block) *Goals*

- First military capability with primitive behaviors
- Synthetic environment: weather and its effects, terrain, natural illumination, obscurants
- Unit representations: BLUFOR combat to battalion, OPFOR combat to brigade, CS/CSS to company
- Full automation: BLUFOR to company, OPFOR to battalion
- Command entities: BLUFOR to battalion, OPFOR to brigade
- Minimum of 9 distinct sides
- HLA compliance
- ATCCS & FBCB2 interoperability

OOS Spiral Development:

Block C: "Most OTB Functionality"

FY2003 → FY2004 → FY2005 → FY2006

FOC Fielding

Block C *Goals*

- Enhanced synthetic environment: dynamic weather, man-made illumination, improved MOUT terrain, NBC
- Unit representation: BLUFOR combat to brigade, OPFOR combat to division
- Full automation: BLUFOR to battalion, OPFOR to brigade
- Command entities: BLUFOR to brigade, OPFOR to division
- Mixed fidelity physical models
- Up to 25 composable sides
- CCTT/AVCATT interoperability

JCATS MOUT.

AF
ive
System

OOS Spiral Development:
Block D: "CCTT/AVCATT SAF, BBS, ++"

FY2003 → FY2004 → FY2005 → FY2006

FOC Fielding

Block D

- Expanded CSS
- Dynamic, high-resolution terrain
- Unit representation: BLUFOR to brigade, OPFOR to division
- Full automation: BLUFOR to brigade (command entities), OPFOR to division
- Enhanced MOUT and some SASO capabilities
- WARSIM interoperability

(A/T), AVCATT/CCTT SAF, and JCATS MOUT.

OneSAF Objective System

OOS Development "Beta Sites"

User Feedback: Early and Often

BLOCK A	BLOCK B	BLOCK C
		TBD
		TBD
		TBD
	UK	UK
	AUSTRALIA	AUSTRALIA
	CANADA	CANADA
USMC	USMC	USMC
JFCOM (J9)	JFCOM (J9)	JFCOM (J9)
NSC (Futures)	NSC (Futures)	NSC (Futures)
BLCSE (UAMBL)	BLCSE (UAMBL)	BLCSE (UAMBL)
MATREX **(AMRDEC)**	MATREX **(AMRDEC)**	MATREX **(AMRDEC)**
TPO	TPO	TPO
AMSAA	AMSAA	AMSAA
NSC (Next Gen)	NSC (Next Gen)	NSC (Next Gen)
TRAC MONT	TRAC MONT	TRAC MONT
USMA	USMA	USMA
TRAC WSMR	TRAC WSMR	TRAC WSMR
OTC (Scheduled)	OTC	OTC
DBBL (Scheduled)	DBBL	DBBL

OneSAF Uses: Serving Three Masters

ACR

- *Experiments with new concepts* and advanced technologies to develop requirements in doctrine, training, leader development, organizations, materiel, and soldiers
- Evaluates the impact of horizontal technology integration through simulation and experimentation

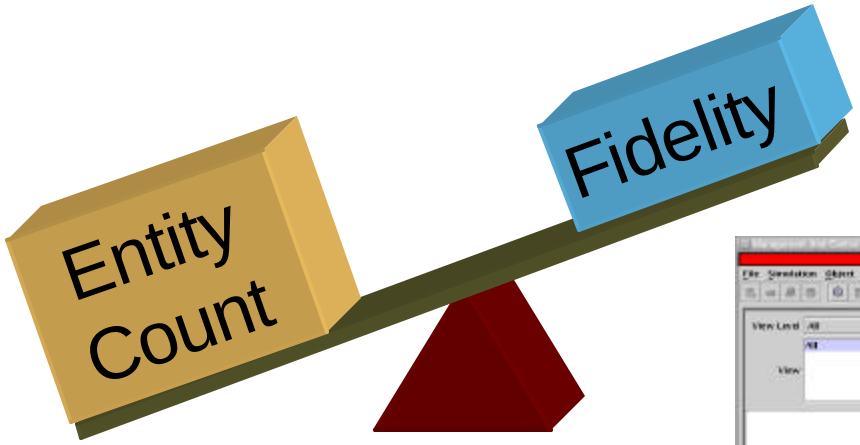
RDA

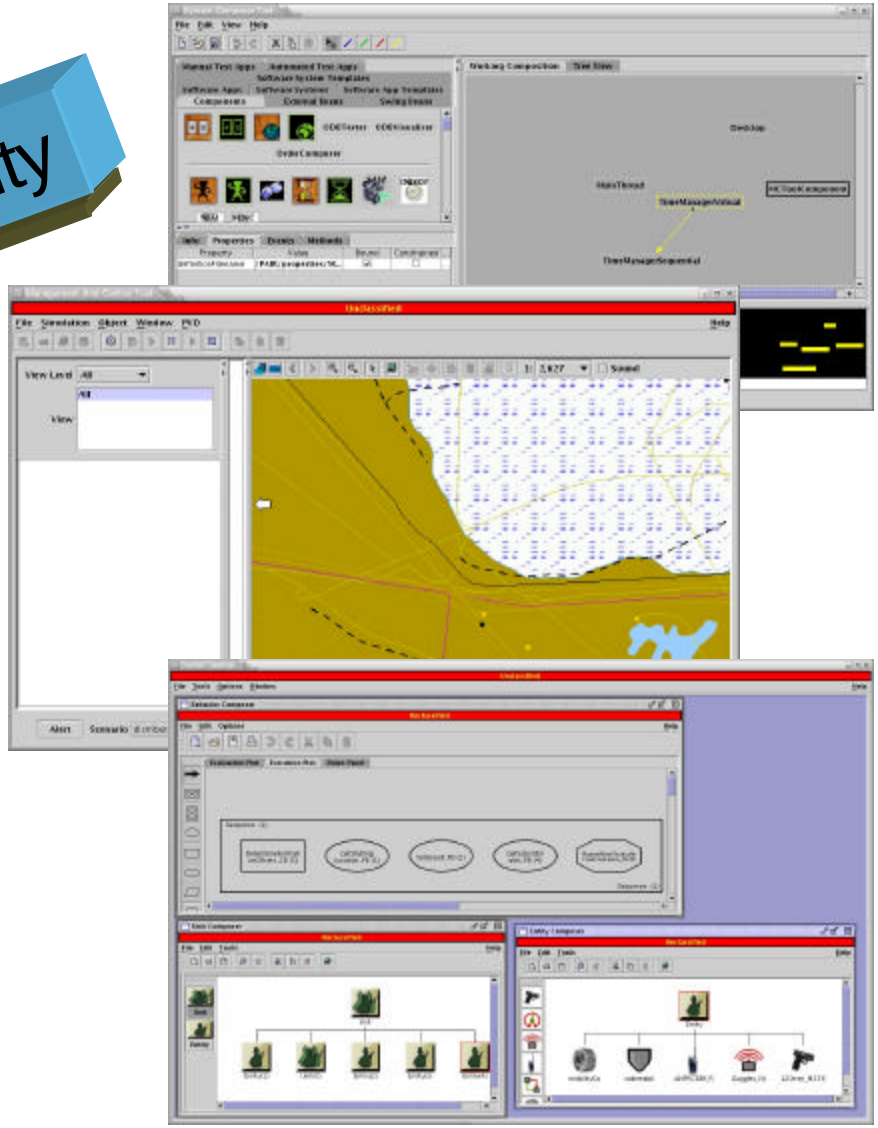
- *Designs, develops, and acquires* weapons systems and equipment
- Performs *scientific inquiry* to discover or revise facts and theories of phenomena, followed by transformation of these discoveries into physical representations

TEMO

- Includes most forms of *training* at echelons from the individual soldier through collective, combined arms, joint and/or combined exercises
- Includes *mission rehearsals* and evaluations of all phases of war plans
- Includes analysis during the *rehearsal* or evaluation to validate the plan

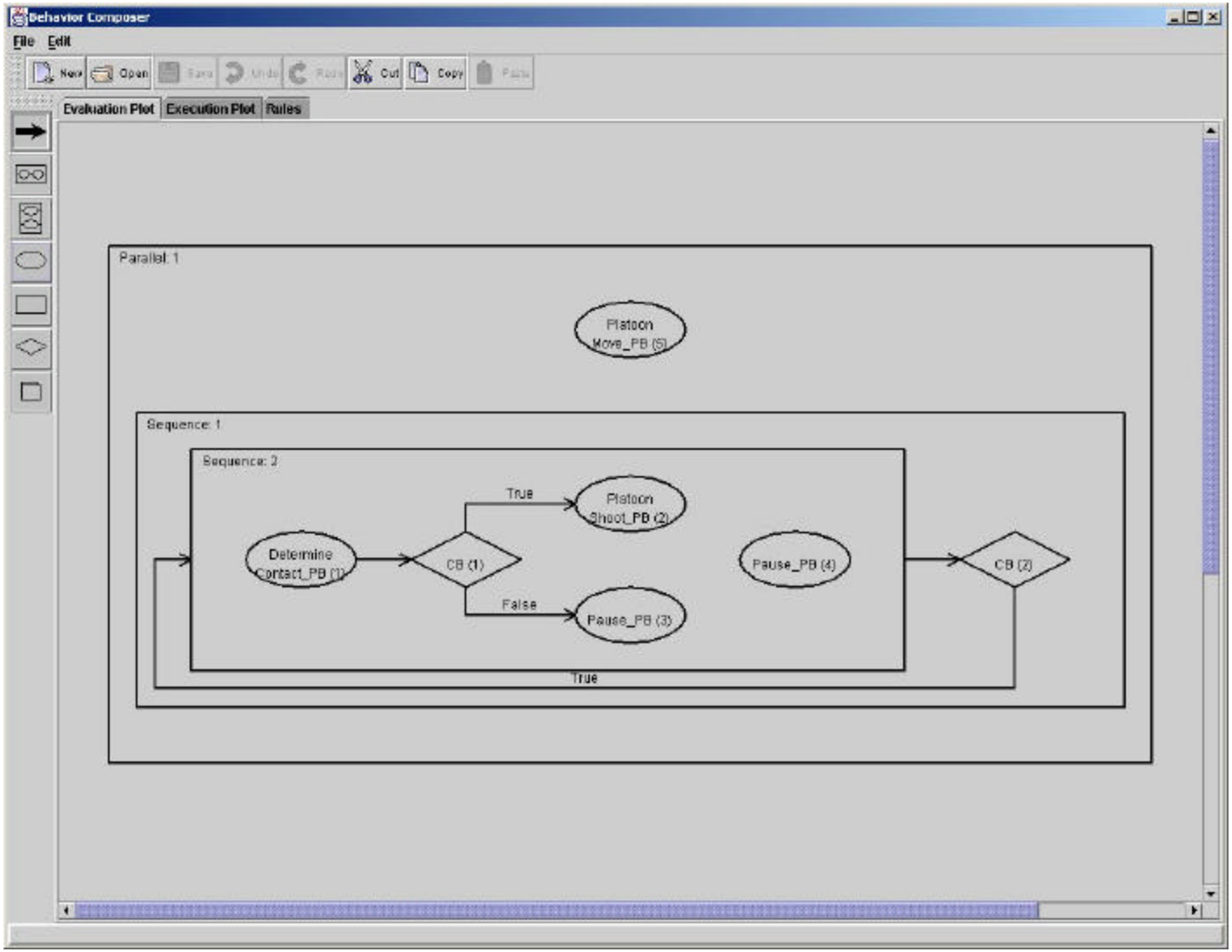
OOS' Composability: Solution to the ORD Dilemma





- System composer
- Entity composer
- Unit composer
- Behavior composer

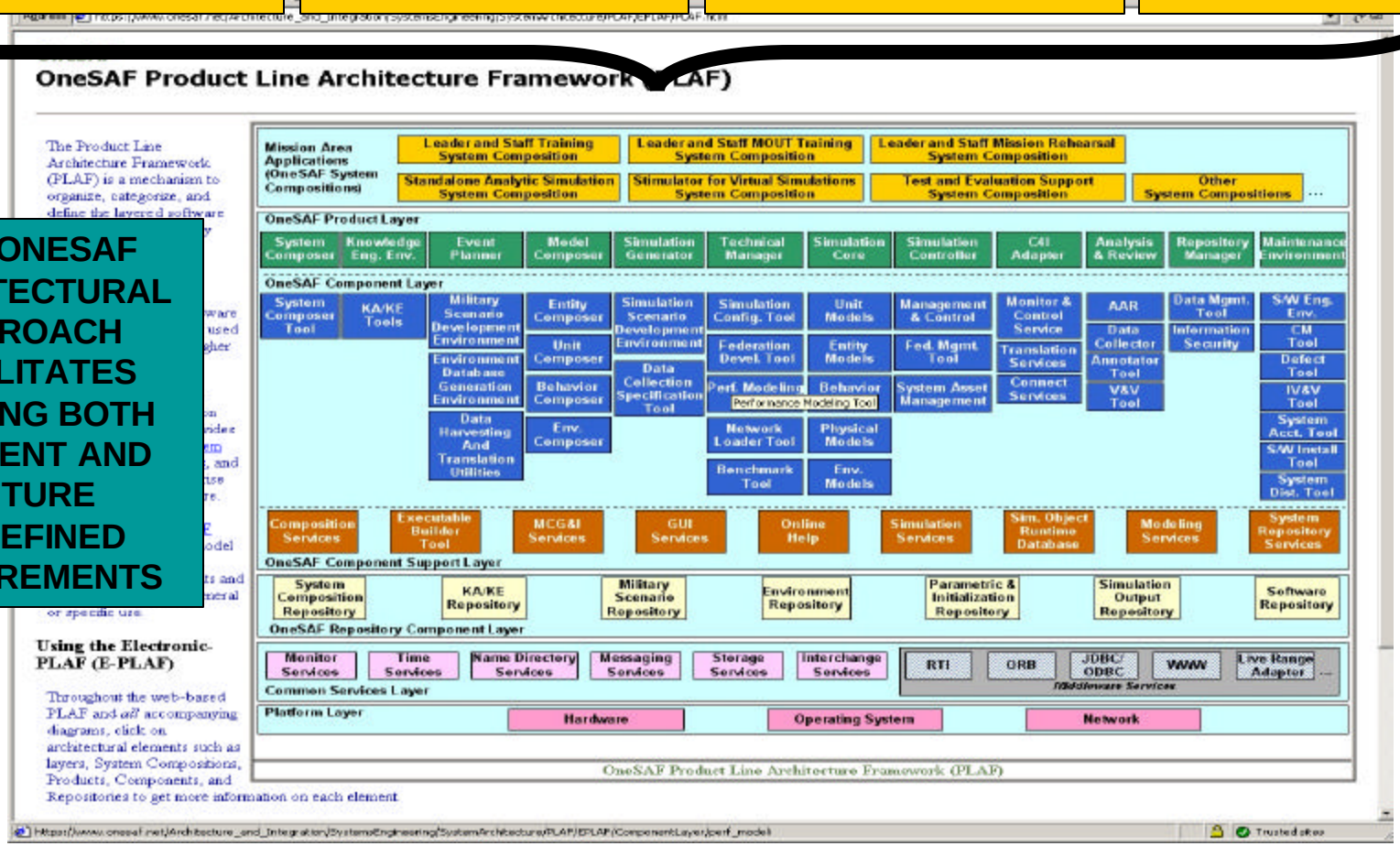
Composer Tools:
Behavior Composer



What is Composability?
"OOS is a Box of Tools"

Leader and Staff Training System Composition	Leader and Staff MOUT Training System Composition	Leader and Staff Mission Rehearsal System Composition

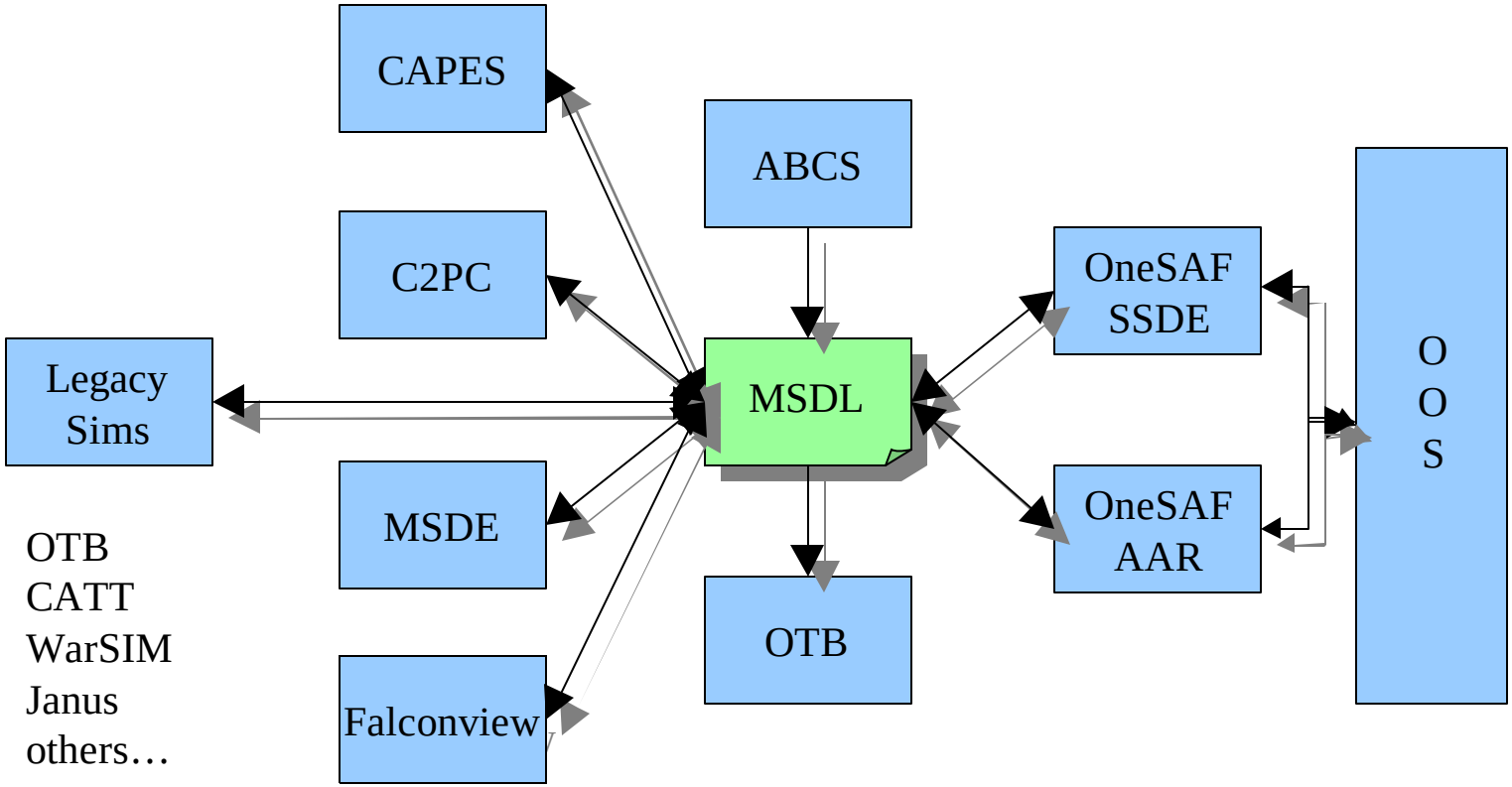
Standalone Analytic Simulation System Composition	Stimulator for Virtual Simulations System Composition	Test and Evaluation Support System Composition	Other System Compositions



THE ONESAF ARCHITECTURAL APPROACH FACILITATES MEETING BOTH CURRENT AND FUTURE UNDEFINED REQUIREMENTS

OOS API Example – MSDL
"Committed to Open Standards"

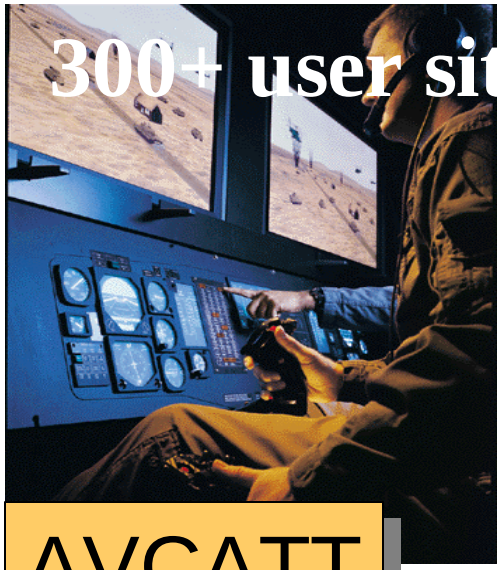
MSDL is the **Military Scenario Development Language**. Formatted in XML, MSDL is utilized to exchange scenario data for interoperability across systems.



OneSAF is REAL

- OneSAF Testbed Baseline (OTB)
  Current Contributions and Uses
- OneSAF Objective System
  Planned Contributions and Uses

OneSAF Technology Empowering the Current Force (OTB)



AVCATT

CAV SIM

VERTS

FCS Analysis

USMC
CAST UP, CACCTUS & DVTE

BLCSE

MATREX

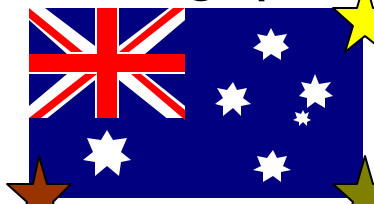
JSAF, SAGIS, CFFT

JVB

DI SAF

OneSAF Technology Empowering our Allies

Singapore



Australia

Canada

OTB V1.0 International

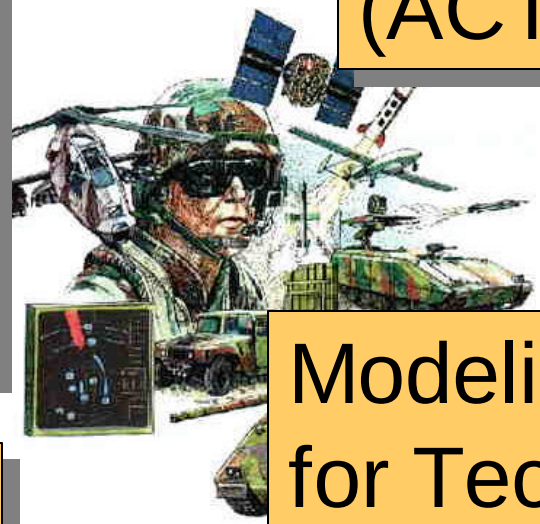
OTB V1.0 ABCA

ModSAF International

OneSAF Technology Empowering the Future Force (OOS)

Battle Laboratory Constructive Simulation Environment (BLCSE)

Army Constructive Training Federation (ACTF)



FCS Embedded Training

Modeling Architecture for Technology, Research & Experimentation (MATREX)

Questions?

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