



An Introduction to C2 Information Exchange Data Model (C2IEDM)

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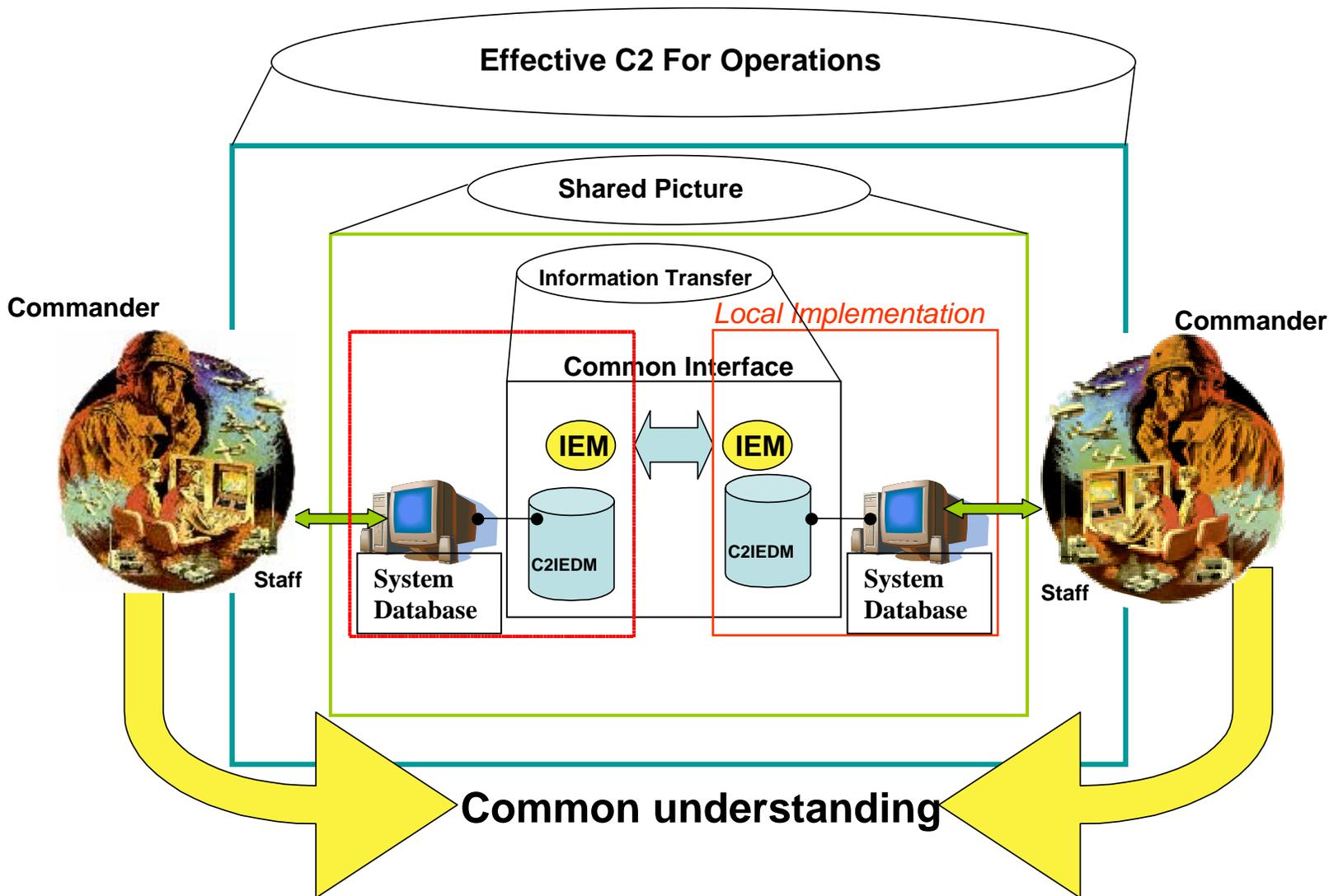
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Objective of the Initiative

To define the *minimum* operational and technical requirements to be included within system specification which will allow national C2 systems to interoperate by the automatic exchange of data i.e. Level 5 of System Interconnection.

The Exchange Concept





Operational Requirements

- General, based on military experience
- Crisis Response Operations (518 elements)

Arrest Report

Border Crossing

Camps

Civil Military Operations

Confiscated Equipment

EOD Incident

Holdings Parties

Host Nation Support

Incident Report

Mass Graves

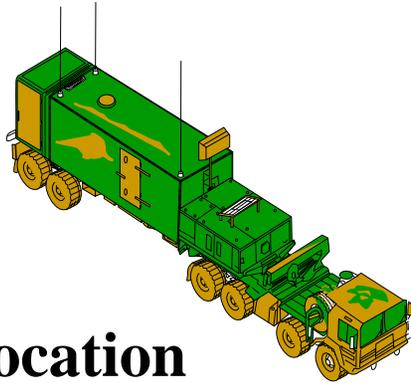
Meteorology

Personnel Identification

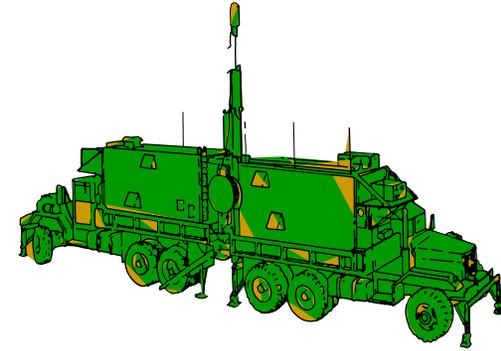
Psyops

Refugees and DPs

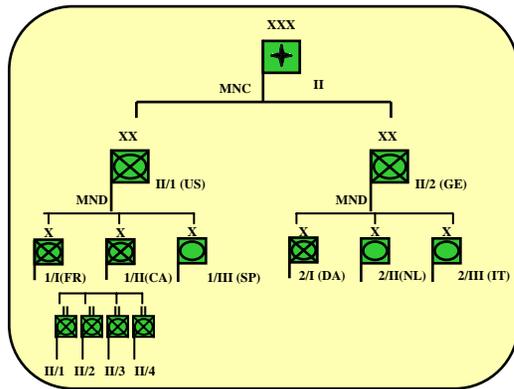
Representative Data for Common Picture



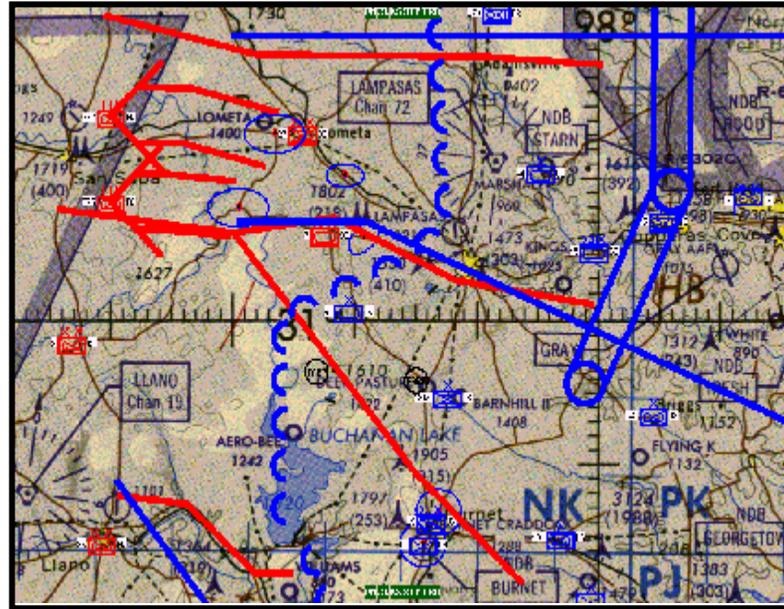
Location
Objects status



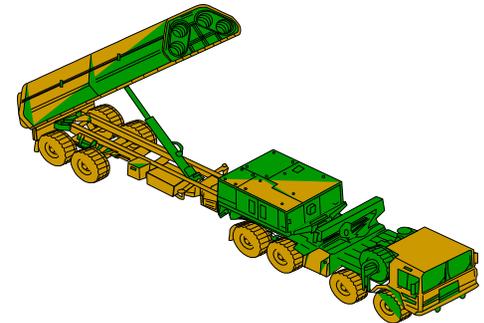
Plans & Orders
Reports
Activities



Org structures
Unit holdings



Map overlays
Control measures
Geographic features
Weather



Area of operations
Objects
Capabilities



Focus on Fundamental Elements

- Facility, materiel, organization, person, feature (geographic, control, weather)
- Representation of objects:
generic (by class) and specific (by item)
- Location and geometry
- Status of items
- Capabilities by class and by item
- Authorizations and inventories
- Relationships between items (e.g., ORBAT)

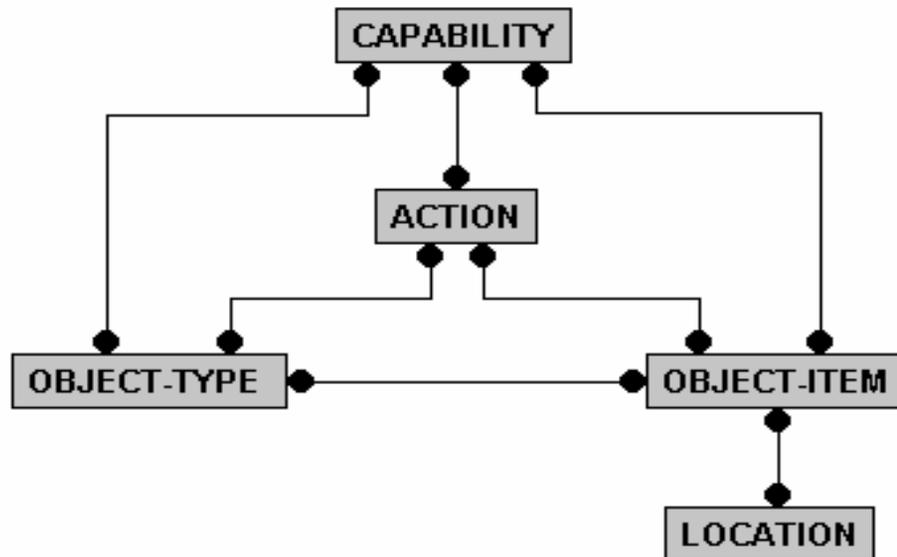


Focus on Activity

- Events, plans, orders, and requests can be represented
- Objects serve as resources and objectives: “Use these objects against these objects this way”
- Activities can be grouped and structured to specify sub-activities, modifications, and (time) dependence

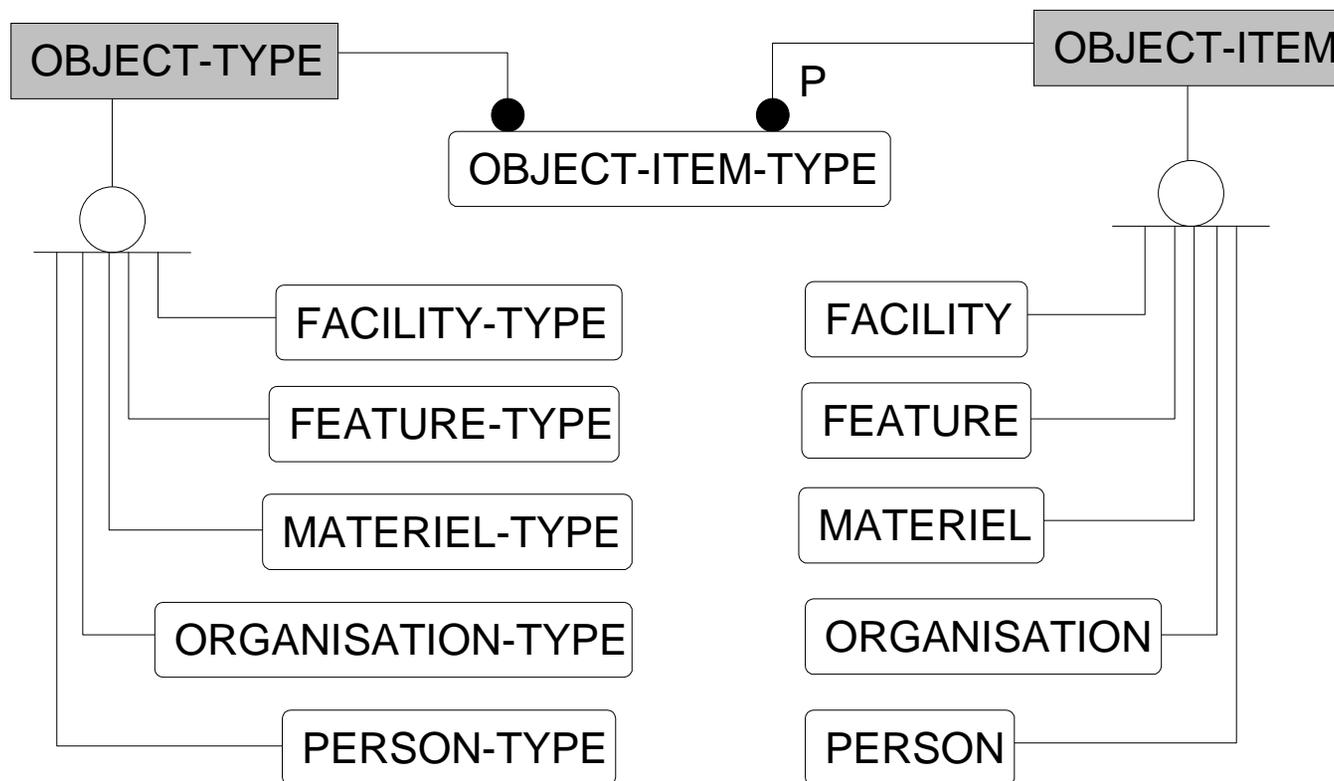
High-Level Entity Relationship Diagram (ERD) of C2IEDM

Utmost simplicity and great flexibility is achieved by focusing on the essentials of command and control:



The C2IEDM Objects

Everything is directly derived from this kernel or supports it.



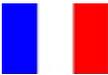


Multilateral Interoperability Programme (MIP)

- Long-term development by a voluntary consortium of (mostly NATO) nations
- Configuration control for C2IEDM data specifications is exercised by NATO nations
- Management process is in place for further evolution

Organisation Members

FULL MEMBERS

	CA	LFCIS
	DA	DACCIS
	FR	SICF, SIR
	GE	HEROS-2/1
	IT	SIACCON
	NL	ISIS
	NO	NORTaC/NORCCIS
	SP	SIMACET
	UK	ATacCS/ComBAT
	US	MCS

ASSOCIATE MEMBERS

	AS	JCCS, BCSS		RO	TBD
	AU	PHOENIX		SI	TBD
	BE	SICBEL		SW	IS MARK SLB
	CZ	GF-TCCS		TU	TKKBS
	FI	TBD			AFNORTH
	GR	HARCCIS			ACT BiSC AIS
	HU	HAVIR			
	LH	TBD			
	PL	SZAFRAN			
	PO	SICCE			



Advantages of C2IEDM as a Reference for Data Exchange

- Broad applicability
- Tightly integrated and understandable structure
- Well documented data schema
- Central concepts have been stable for 12 years
- Easy to extend
- Adopted and tested by several nations
- Basis for the NATO C2 Reference Model