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**Integrating the Coalition Battle Management
Language (C-BML) into the Military Scenario
Definition Language (MSDL)**

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Integrating the Coalition Battle Management Language (C-BML) into the Military Scenario Definition Language (MSDL)

Paper 10S-SIW-003

Curtis Blais and Jeff Abbott

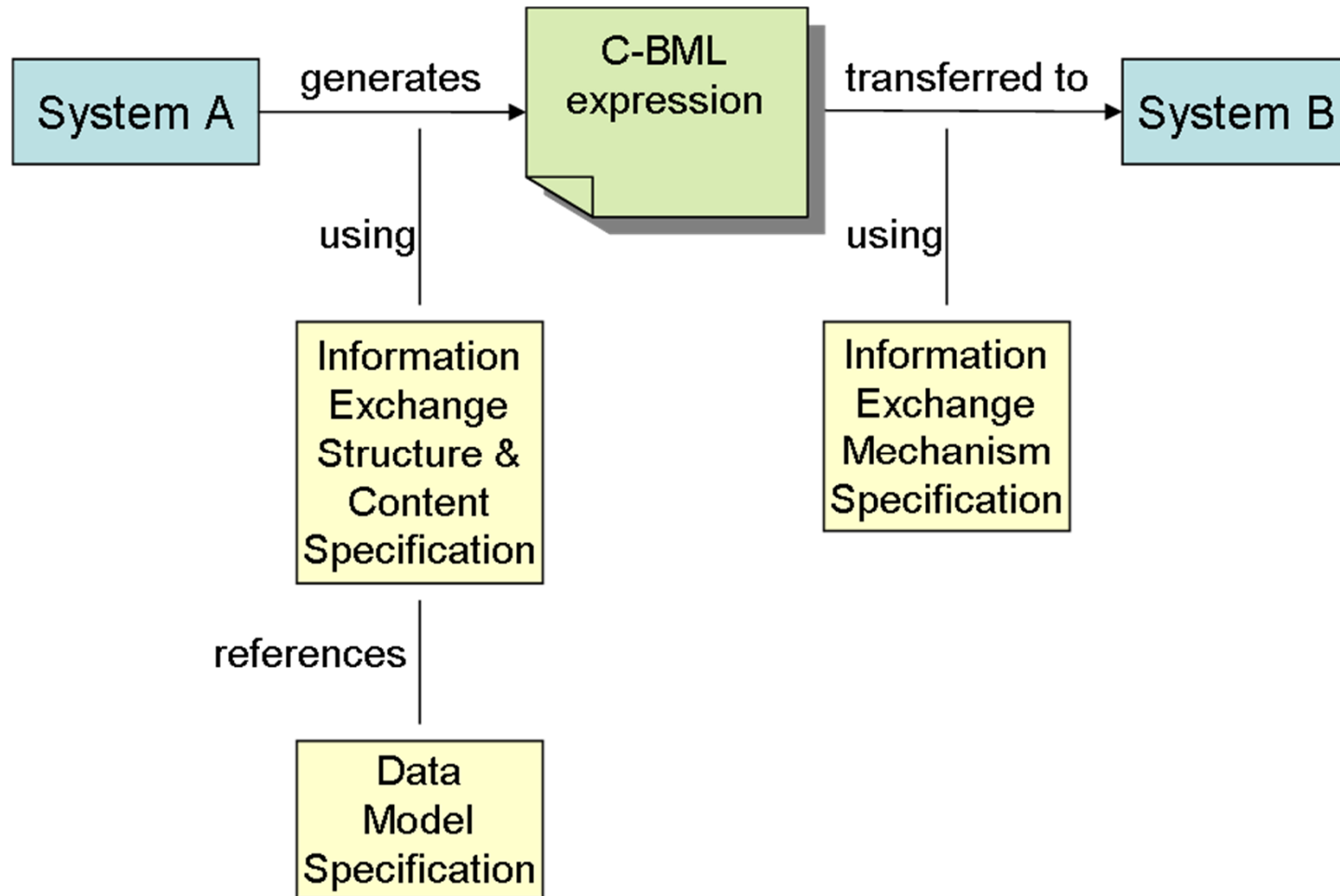
Military Scenario Definition Language (MSDL)

- Common storage and interchange format for describing military scenarios for initialization of diverse simulation systems
- Version 1.0 approved in October 2008 as a SISO standard (SISO-STD-007-2008)
- SISO Product Development Group working toward Version 2.0

Coalition Battle Management Language (C-BML)

- The C-BML is an emerging international standard for the unambiguous expression and exchange of plans, orders, and reports across command and control (C2) systems, live, virtual and constructive modeling and simulation (M&S) systems, and robotic systems participating in Coalition operations.
- Phase 1 Specification being drafted
- Joint Working Group between MSDL and C-BML PDGs to define a common tasking grammar

Basic Concepts: C-BML Specification Elements



MSDL XML Schema Structure

MilitaryScenario -
The Military Scenario for the exercise.

msdl: MilitaryScenarioType

ScenarioID +

Identifier of the scenario.

Options +

Scenario Options.

Environment +

The terrain area of interest, weather, METOC graphics, and scenario time.

ForceSides +

Forces and Sides for the scenario.

Organizations +

The mission/scenario specific organizations and equipment of the Military Scenario, to include all military services, governmental, and nongovernmental organizations.

Overlays +

The Overlays defined in the context of this scenario.

Installations +

List of Installations.

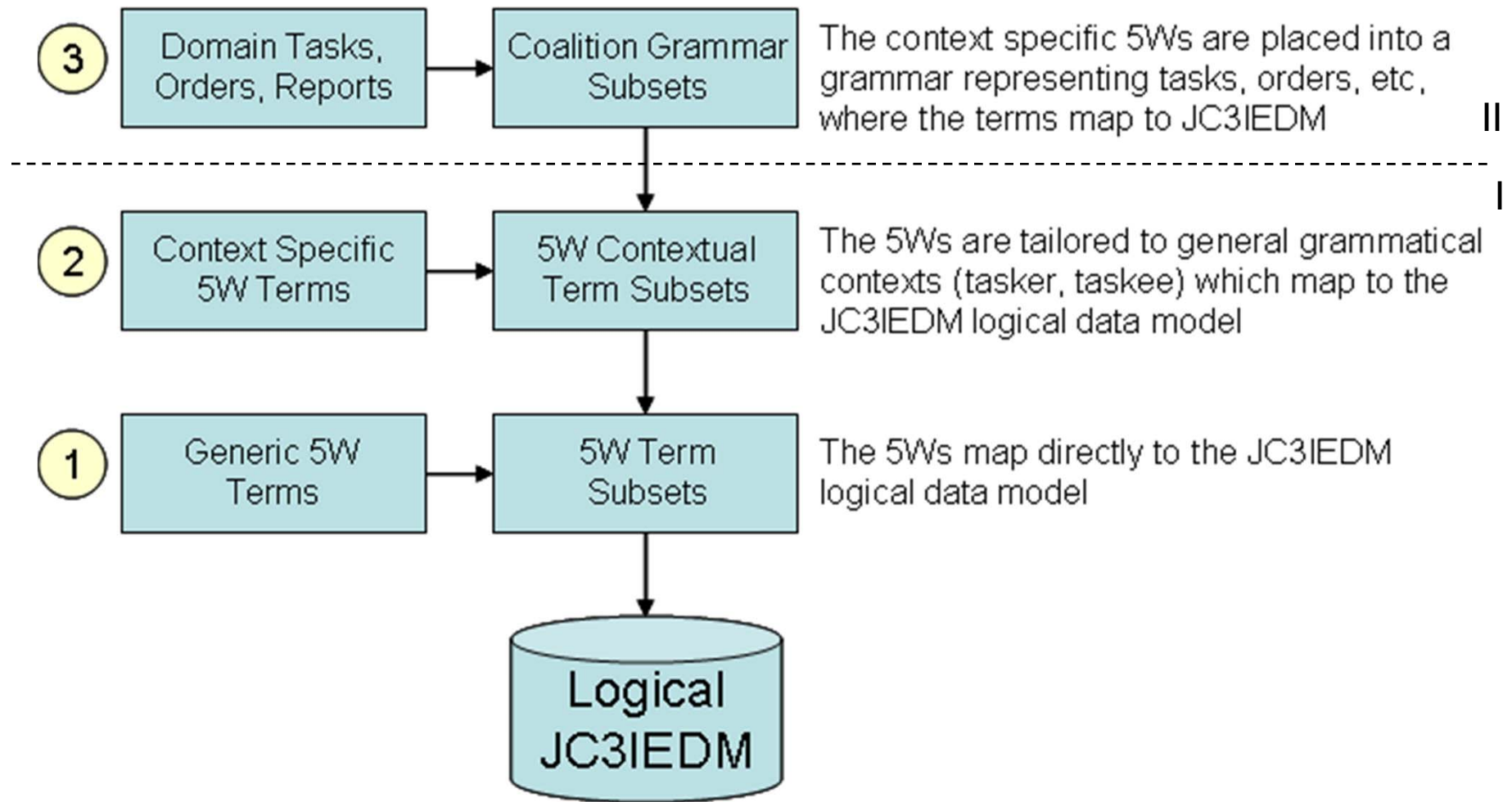
TacticalGraphics +

Container for TacticalGraphic elements representing the control measures for the scenario.

MOOTWGraphics +

The collection of MOOTW Graphics for the scenario.

C-BML Information Exchange Content and Structure Specification: Layered Approach

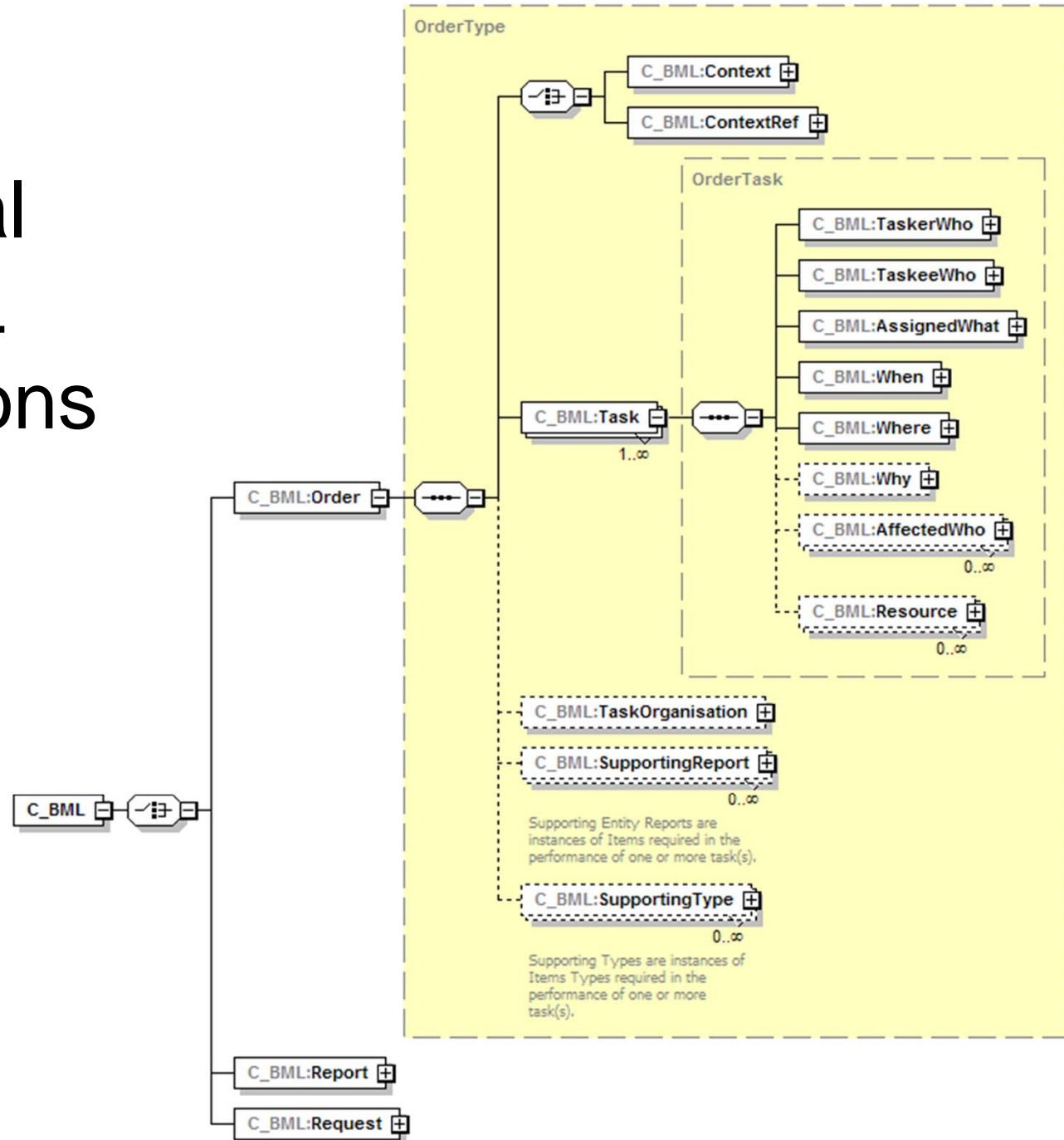


C-BML Information Exchange Structure and Content Specification

- XML Schema for the building blocks of the language mapped to the JC3IEDM* data model
 - Generic 5Ws (Who, What, When, Where, Why)
 - Context-Specific “W” Terms
 - e.g., for Who: Tasker, Taskee, Reporter, Reported, Requester, etc.
 - Informed by grammatical expressions developed in previous BML research
- Notional schema for C-BML expressions

*Joint Consultation Command and Control Information Exchange Data Model; see <http://mip-site.org>

Notional C-BML Expressions



Near-Term Integration Approaches to Support Prototyping/Experimentation

1. Insert C-BML constructs into the <xs:any> portion of the MSDL modelIdentificationType

(from the <http://www.sisostds.org/schemas/modelID> namespace)

- Insert as the final child element in the MilitaryScenario/ScenarioID element
- Resulting file will validate against the MSDL schema
- With xs:any attribute processContents set to “strict”, validation will also employ the C-BML schema for the C-BML expressions

2. Combine MSDL and C-BML content into a hybrid XML document governed by a new schema employing both namespaces

Future MSCL/C-BML Integration Approach

- Define a new complex type in the MSDL schema for holding C-BML orders (referencing the C-BML namespace):

```
<xs:element name="Orders" minOccurs="0">  
  <xs:complexType>  
    <xs:sequence>  
      <xs:element name="Order"  
        type="C_BML:OrderType"  
        minOccurs="1"  
        maxOccurs="unbounded"/>  
    </xs:sequence>  
  </xs:complexType>  
</xs:element>
```

Issues/Conclusions

- At one time, MSDL was going to map to JC3IEDM, which would create greater conceptual agreement between the languages
 - Not clear if those intentions persist
- As the Phase 1 C-BML standard goes through final review and balloting, MSDL and C-BML PDGs can engage more actively in determining appropriate approaches for use of C-BML expressions in MSDL

Questions?

You are invited to attend the PDG meetings this week:

C-BML PDG meeting:

Thursday 0830-1000 and 1030-1200

in Boardroom 4

MSDL PDG meeting:

Thursday 1330-1500

in Boardroom 4