Co-OPR
Collaborative Operations for Personnel Recovery

Collaborative Sensemaking, Planning and Execution
via sharing of issues, activity options, constraints and annotations

Summary Slides of Compendium’s deployment
Compendium: Background

- Compendium is a tool for the rapid construction of task-specific knowledge management environments.
- Specific emphasis on the real time capture of the human intelligence in f-f/virtual meetings to support *collective sensemaking* when there are complex connections between knowledge elements, and diverse perspectives.
- It is interoperable with other systems whose output may need to be linked into a discussion, and can export in diverse formats.
- An IBC-application for Personnel Recovery (PR) was created, seeded with:
  - PR workflow
  - PR doctrine
  - Example ONA content
- See Co-OPR Briefing slides for more details
- See www.CompendiumInstitute.org for software
Compendium: Key Points from Expt. B

- 0950 spec. received from Plans Director for Crisis Action Planning process to be followed. CAP navigational template for each CAP step ready for mission planning at 1130
- Compendium used as primary working display by Plans Director during mission planning and COA analysis
- Compendium used to brief JTFC, Joint Chiefs of Staff and Senior Mentors
- Semiformal argument mapping is well suited for COA and DIME sensemaking which requires the structuring and integration of formal/hard constraints and informal/soft factors
- Compendium received Issues and Options from Co-OPR I-X planning tool
- Example shown of how output from PMESII Effects Predictor (PEP) tool could be imported for subsequent analysis in Compendium
- Issues and Options received from I-X planning tool (see I-X Expt. B outputs for details)
- Plans Director enquires about availability of Compendium for Vignette 2
Grey Matter and Silicon

I-X Inputs to Compendium during Expt B

- Issues and Responses
- Activity Options
- Constraints/Maps
- Annotations/Notes
The default tool for discussion capture and mission briefing is PowerPoint (as used in Vignette 2).

Used trivially Compendium can be used like PowerPoint, but how does it add value when used fully?

- Points can be added cumulatively over time, in a structured fashion using the Issue/Option/Argument network grammar. Very hard to do on a slide.
- Compendium ‘nodes’ are date/author stamped, and can be combined and compared in multiple ways (= discussions/contexts).
- Nodes are aware of their presence and attributes in multiple contexts, and assist navigation between those contexts.
- Full relational database is queryable.
- Real time data interchange via API and peer2peer interfaces.
- Rich metadata.
- Views can be arbitrarily large (not limited to a slide).
- As a long term group memory, its value grows with time.
Selected screens from Compendium deployment in Expt. B
Possible options within this COA
Dialog map capturing the planners’ discussion of this option
Summary of how COAs trade off against each other, derived from each COA worksheet
PR Doctrine for Situation Analysis extracted as an Issue Template

Link to the source doctrine document

Issues that require attention (as specified in the doctrine document)

Relevant extract from doctrine publication inside the node for reference
We prepared for the Mission Briefing with a set of Issue templates to focus planning deliberations. The structure was derived from the XML schema circulated by Doug Dyer. For each category (menu item on left) there are a number of issues awaiting answers.

```xml
<page>
  <element>
    <tag>Forces</tag>
    <type>entry</type>
  </element>
  <element>
    <tag>Force</tag>
    <type>entry</type>
  </element>
  <element>
    <tag>ForceType</tag>
    <type>listbox</type>
    <values>
      <!-- List of values here -->
    </values>
  </element>
  <element>
    <tag>ForceNumberOfPersonnel</tag>
    <type>entry</type>
  </element>
  <element>
    <tag>ForceLocation</tag>
    <type>listbox</type>
    <values/>
  </element>
  <element>
    <tag>ForceAttributes</tag>
    <type>entry</type>
  </element>
</page>
```
Answers to template issues provided in the JTFC Briefing. Answers may be constrained by predefined options, as specified in the XML schema.
Crisis Action Planning template built in an hour

Following distribution of the Crisis Action Planning process which was to be followed, a CAP template was created at short notice to support the process.
Example ONA database maps

- Maps of multimedia data from the ONA db
- (ONA connection is simulated in Expt. B)

Response Mechanism
Force data converted to Issue template by drag+drop from Excel spreadsheet
Compendium: Future Trajectories

- Deploy on a longer term to show how the **whole sensemaking lifecycle** can be supported for a mission: pre/execution/post
- Add **deeper intelligence** (as already started with I-X) to:
  - Raise new Issues, Options or Criteria
  - Retrieve data on the fly updating discussion maps
  - Guide analysts through templates like a tool ‘wizard’
- **Explore alternative visualizations**
- **Grey matter+silicon**: synergistic human and software input
- Acquire **deeper knowledge of end-users** in order to build more powerful templates to scaffold work practices
- **Interoperability**: Compendium as ‘sensemaking interchange’ format (already done with NASA) based on an underlying ontology
- Develop **team process models** (eg. using I-X) to better understand how Compendium pays back in different contexts
- **Training**: it is most effective as a ‘power tool’ for skilled personnel (although many people use it as a personal knowledge management tool)
- As a by-product of discussion capture, generate relevant documentation/briefings
- **Voice recognition** for discussion capture is a long term challenge