



New Operations Decision Support Requirements derived from a Control Theory Model of Effects-Based Thinking

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Hi-resolution pictures to be added at conference



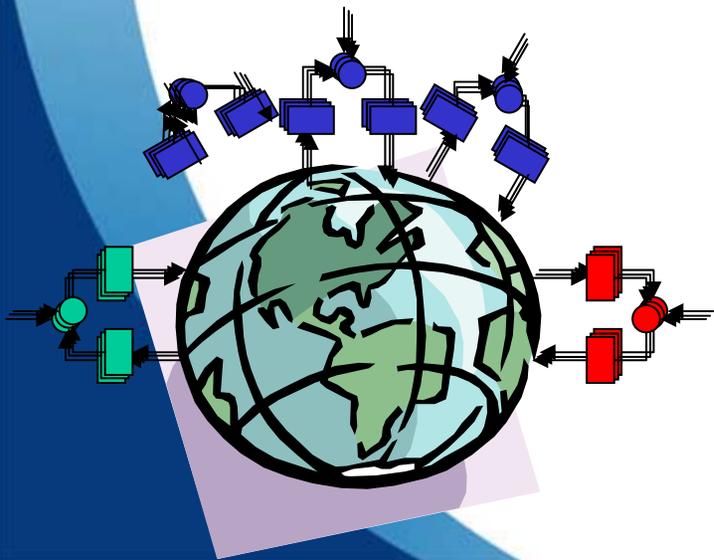
Presentation

- NEOps: Canada's version of NCO
- Effects Based Thinking system model
- Human Engineering Systems Analysis
- Decision Support Requirements
- Conclusions



NEOps: Canada's version of NCO

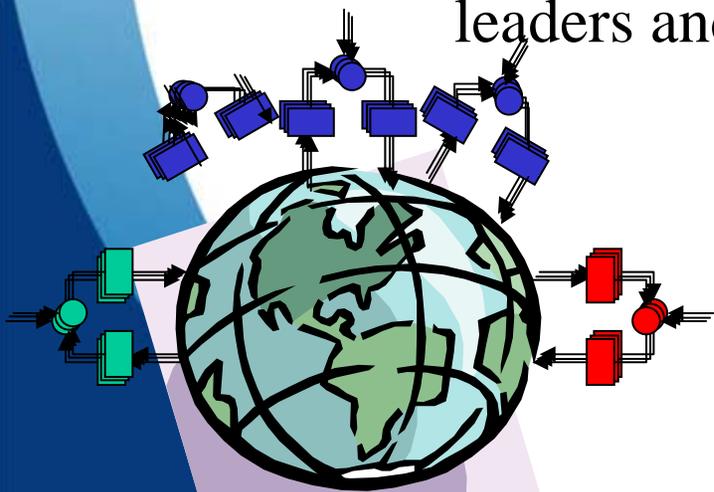
- Network Enabled Operations (NEOps)
- Net Centric Warfare (NCW)
- Net Centric Operations (NCO)
- Net Enabled Capabilities (NEC)
- NATO Net Enabled Capabilities (NNEC)





NEOps: Canada's version of NCO

- “An evolving concept aimed at improving the **planning** and **execution** of operations through the seamless **sharing** of data, **information** and **communications** technology to link people, processes and ad hoc networks in order to facilitate effective and timely interaction between sensors, leaders and **effects** (Babcock, 2006).”





NEOps: Canada's version of NCO

- “The NEOps definition is about **people** communicating and sharing information during the planning and execution phase of an **operation** using computer networks and associated software applications and hardware peripherals as the basis for **Technology** action and interaction towards effective mission completion. (Farrell, 2008)”



NEOps: Canada's version of NCO

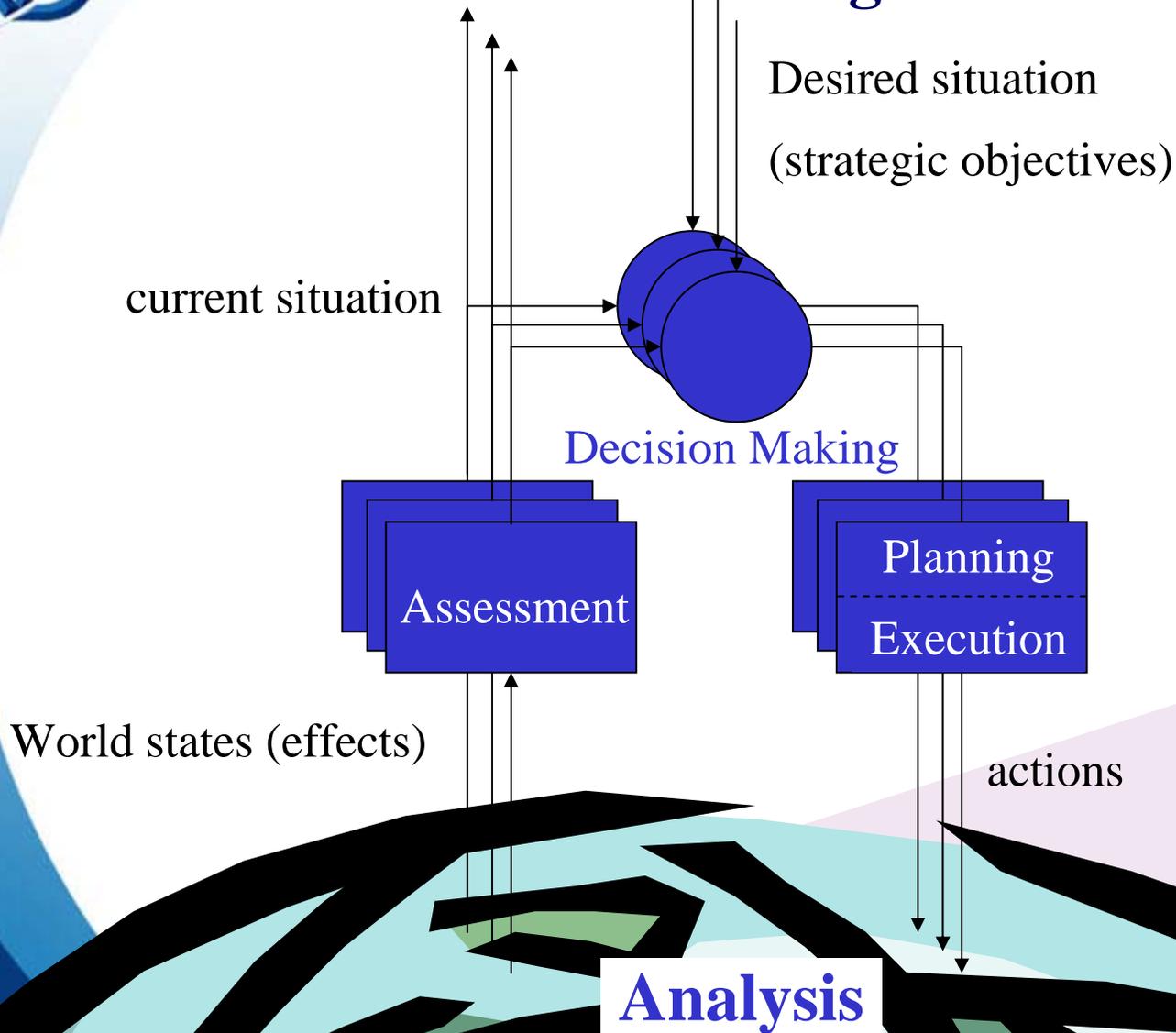
People, Operations, and Technology (POT)

or

Process, Organizations, and Technology (POT)

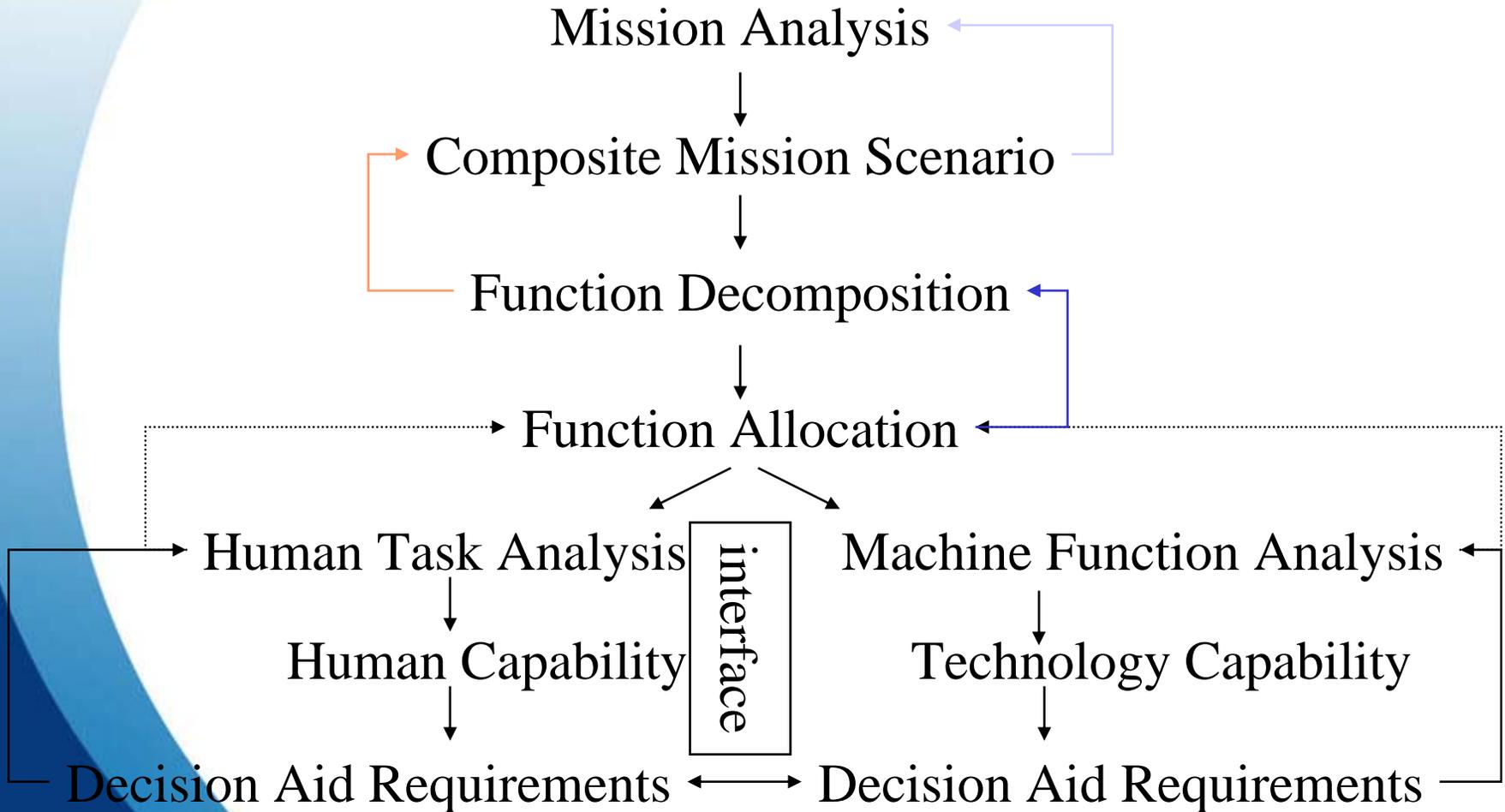


Effects-Based Thinking





Human Engineering Systems Analysis





Human Engineering Systems Analysis (Simplified)

- Process (Tasks)
- Organization (People)
- Technology (Capabilities)



NEOps Systems Analysis

- Process (Tasks)
 - Effects-Based Approach to Operations
- Organization (Structure)
 - Comprehensive Approach to Operations
- Technology (Capabilities)
 - Network Enabled Operations

Decision Aids



NEOps Systems Analysis

- Process (Tasks)
 - Planning
 - Execution
 - Assessment
 - Decision-Making
 - Analysis
 - States, Actions, Effects, Situation
- Organization (People)
 - JIMP, Integrated, Whole-of-Government
 - Information sharing (Communication, Data Transfer)



Decision Aid Requirements

- Decision-Making (lowest levels)

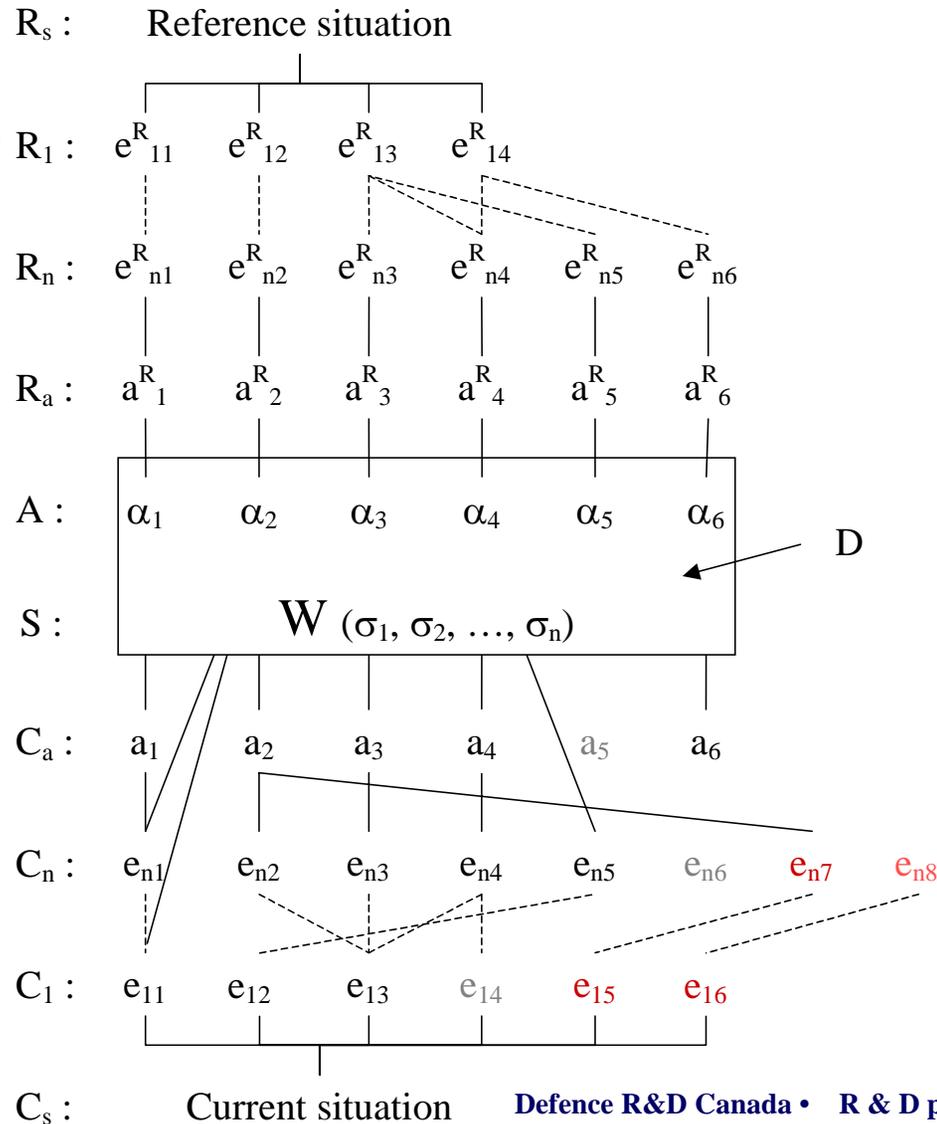
		Action complete?		
		No	Partially	Yes
Effect realised?	No	<u>Start</u>	Execute	Change
	Partially	Assess	<u>Continue</u>	Assess
	Yes	End	End	<u>End</u>

A Decision Matrix for the Action feedback loop



Decision Aid Requirements

- Effects status





Conclusions

- Decision Aid Requirements include:
 - Process
 - Decision Matrices
 - Effects Status Board
 - Organization
 - Communicate Decisions across organization
 - Understand Roles and Responsibilities
 - Technology
 - Communication technologies
 - Data Transfer technologies



Questions?