



## **Decision Support Tools for the Operational Planning Process**

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Defence Research and  
Development Canada

Recherche et développement  
pour la défense Canada

Canada



## Outline

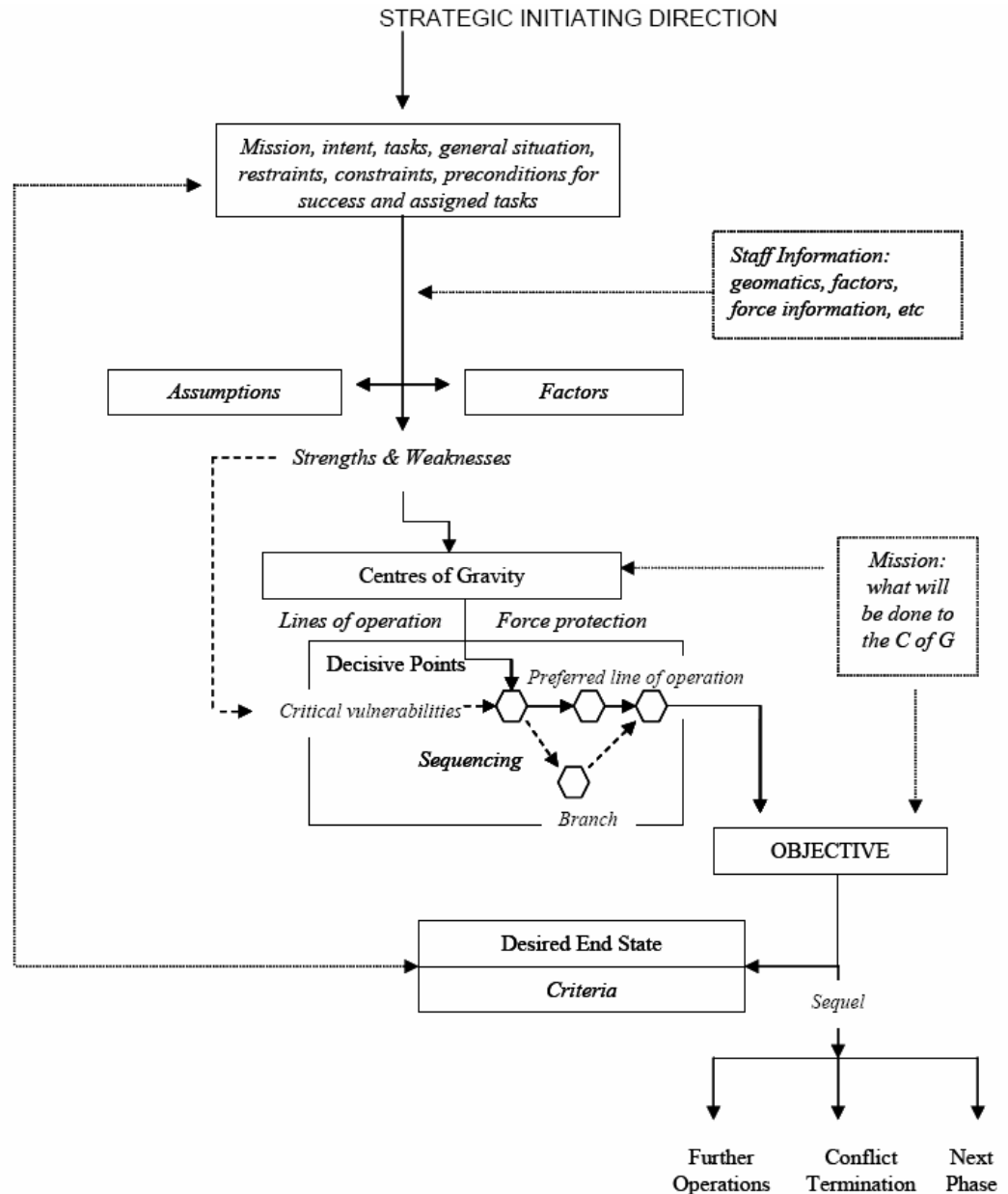
- Context of Work
- Collaborative Operations Planning System
- Decision Support Tools
- Conclusion



# Campaign Planning Tools



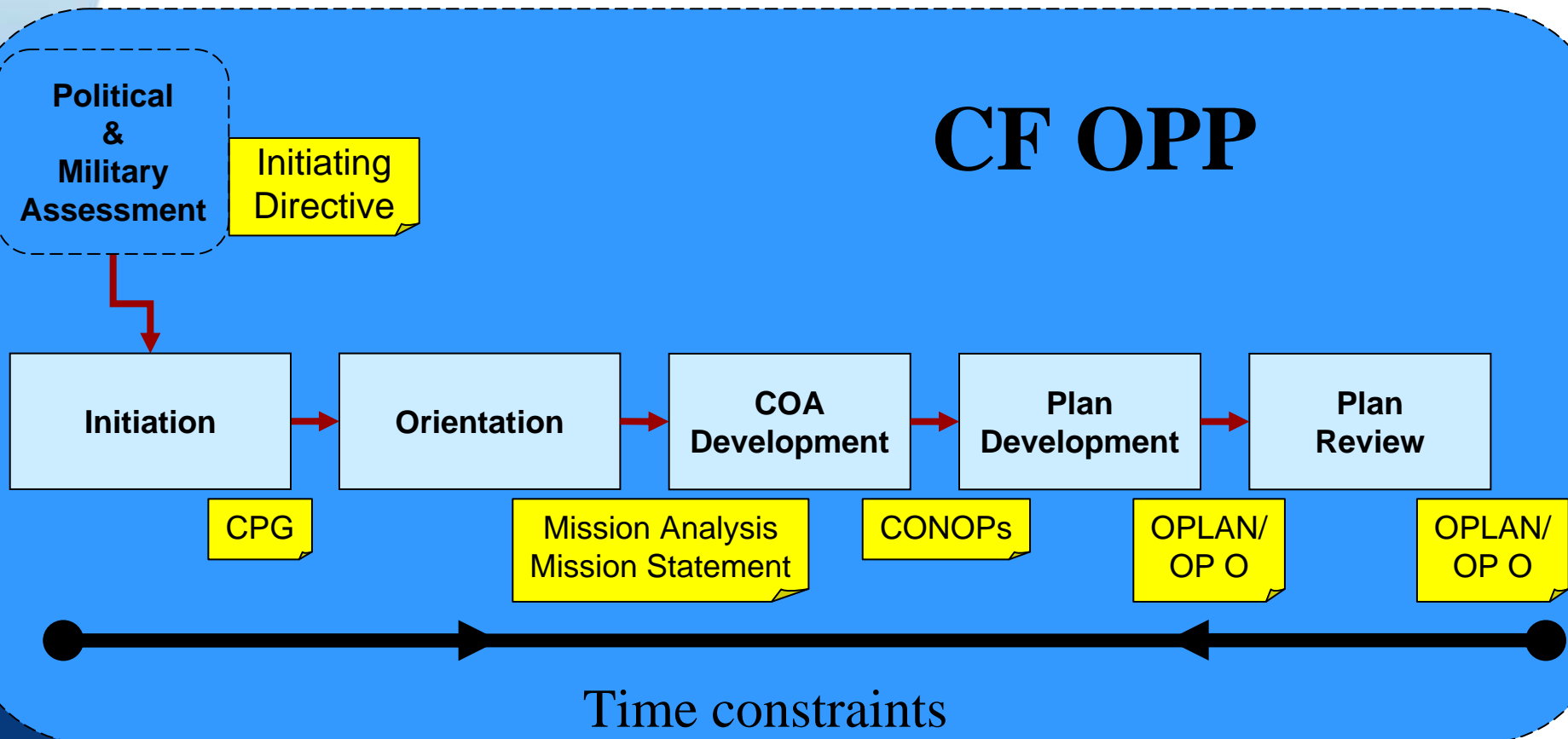
**CFOPP**





## Goal

- Develop and demonstrate concepts supporting time-sensitive operational planning process





# Process Support & Collaboration Tools



+

*Space*

Same  
"Co-located"

Different  
"Virtual"

*Time*

Same "Asynchronous"	Different "Asynchronous"
Face-to-Face, Voting, Presentation Support, Etc.	E-mail, Voicemail, Document Repositories, Etc.
Video/audio- conferencing, Chat, Instant Messaging, Etc.	E-mail, Threaded Discussions, Document Repositories, Etc.

**CFOPP**

@ Massey 2008



# Collaborative Operations Planning System COPlanS



An integrated flexible suite of planning, decision-aid and workflow management tools aimed at supporting Distributed Military Processes (e.g., CFOPP)



# Generic Capabilities

**Process Management** – Graphical Design and implementation of Process Templates (e.g. OPP, Crisis Action Planning and Condensed IPB); Automated Staff Check and Activation; Manage staff, roles, activities and workflows; Manage approval process (brainstorming, revision, pre-approval and approval).

**Distributed Collaboration** – Distributed Collaborative Workspace with integrated tools foster sharing of data and tools across workgroups / agencies; Direct Conduit to MS Outlook and Exchange Serve; Chat with Possibility to integrate SameTime; Possible Interfacing with VTC

**Distributed Document Management** – Automated document management; Distributed document editing (Check in/check out); Change Management (Version control); Handle any document format (doc, ppt, avi, etc.);

**Automated WEB Master** – Self Maintained WEB Consultation Center for Real-Time Information Access; Supports XML/XSL; Document Handling; Possible bridging with CommandView



# Enhanced Collaborative OPP Capabilities

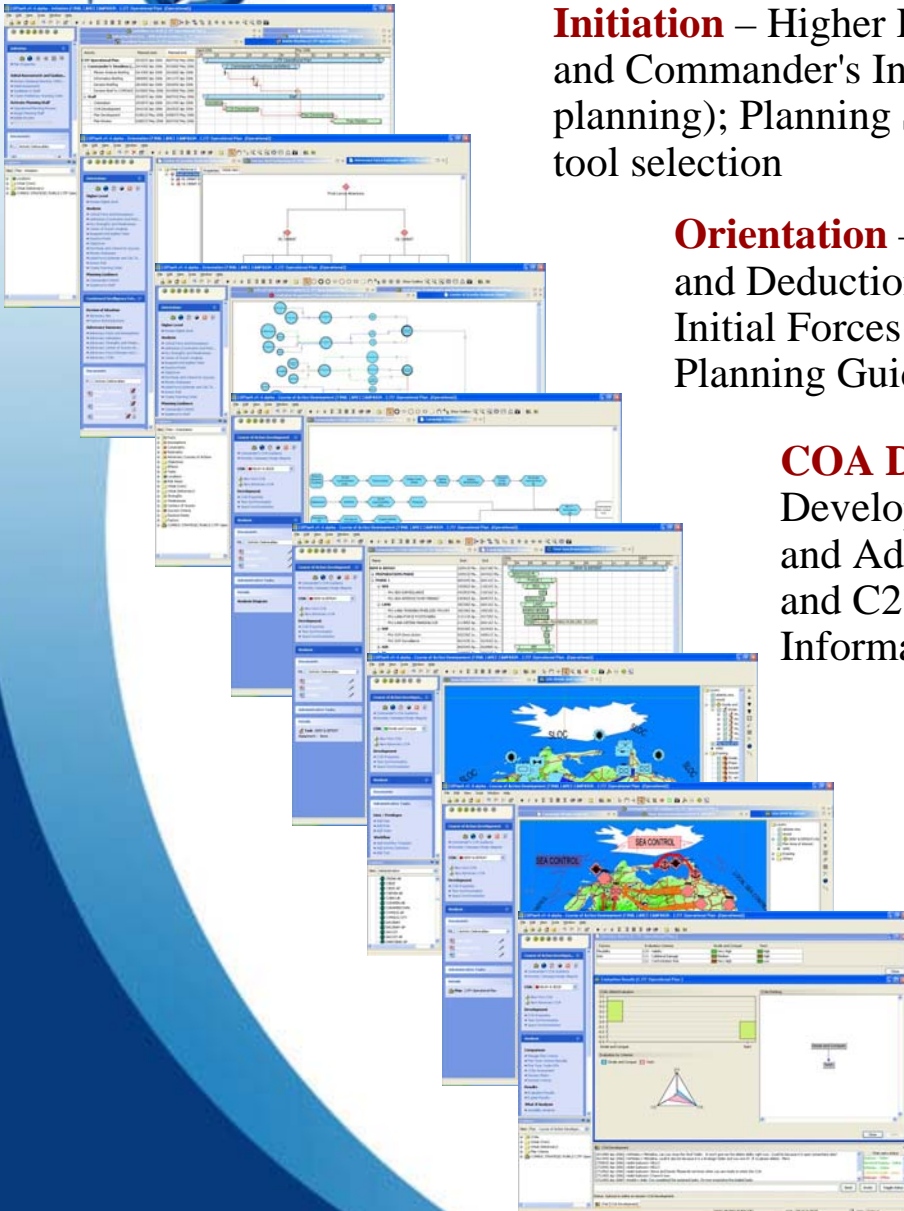
**Initiation** – Higher HQ Initiating Directives Review; Initiation Assessment and Commander's Initial Guidance (Initial Wng O in case of time sensitive planning); Planning Staff Check and Activation; Battle Rhythm; Planning tool selection

**Orientation** – Provide Condensed IPB Estimates; Staff Estimates and Deductions; Operational Design Support; Strange Analysis; Initial Forces Estimates; Mission Analysis Brief production; Planning Guidance

**COA Development** – Campaign Designer and Concept Development; Time and Space Synchronization for Friendly and Adversary COAs; OnMap Collaborative Planning; ORBAT and C2 Structuring Tool; Simulation; Analysis; Comparison; Information and Decision Briefs; CONOPs

**Plan Development** – Automated SOR; OPLAN / Campaign Plan; Management of Annexes; Plan Review; Possibility to redo any step and update any output;

**Automated Production** – Automated and Tailored reports and outputs information in accordance with organizational templates; Choice of formats; Web Push and Hide; Interoperability







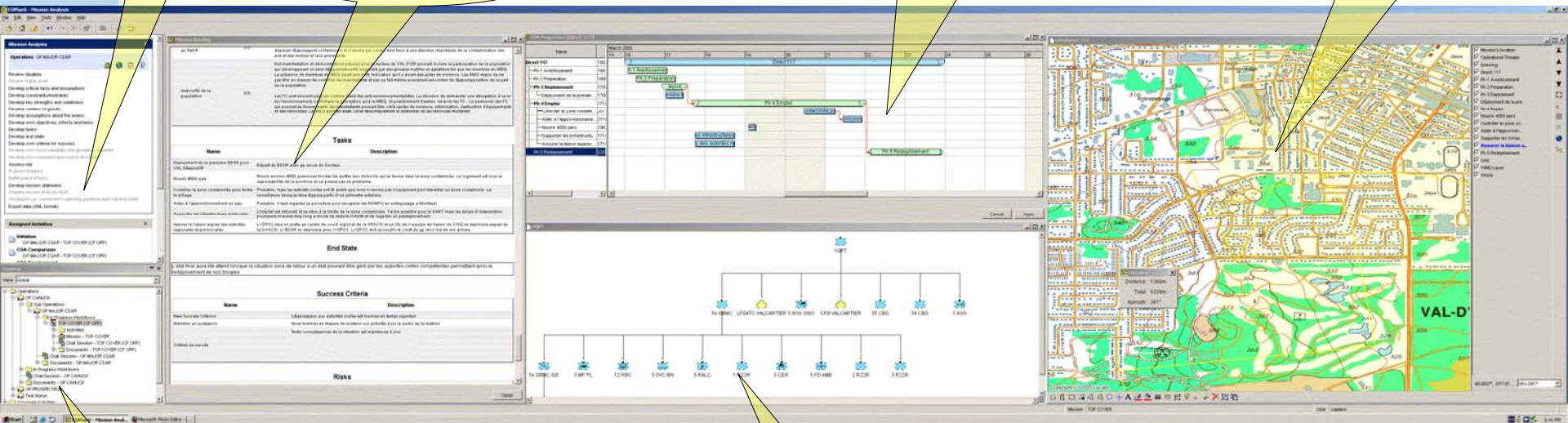
# 3 Screens Setup (Planning)

Tools  
Shortcuts

Mission  
Analysis

COA  
Synchronization

OnMap  
Planning



Document  
Repository

ORBAT  
Browser



# Decision Support

CCJTF - Course of Action Comparison

File Edit View Tools Window Help

**Course of Action Comparison**

Operations: Operation Planning  
CJTF

Decision Matrix

Decision Criteria

Fine Tune Criteria Using Card Method

Fine Tune Criteria Manually

COA: Big Stick

Configure COA Properties

Visualize Graph Chart

COA SOR

Evaluation Results

Export into (XML, Text)

**Decision Matrix [CCJTF]**

Factors	Evaluation Criterion	Dot from the Blue	Big Stick	Hard Ball	Copy Of Big Stick
Condition	C07 - Sustainability	-40.0	-40.0	Missing Evaluation	-40.0
Priority	C08 - Covering Enemy's Courses of Actions	81.0 %	82.0 %	Missing Evaluation	82.0 %
Priority	C08 - Optimum Use of Resources	Missing Evaluation	Missing Evaluation	Missing Evaluation	Missing Evaluation
Priority	C02 - Covering Missions/Possible Locations	0.0 %	0.0 %	Missing Evaluation	0.0 %
Priority	C01 - Covering Operational Tasks	80.0 %	75.0 %	Missing Evaluation	75.0 %
Risk	C13 - COA Reliability	Missing Evaluation	Missing Evaluation	Missing Evaluation	Missing Evaluation
Risk	C12 - Contamination Risk	Very High	High	Missing Evaluation	High
Risk	C11 - Capabilities Coverage	High	Very Low	Missing Evaluation	Very Low
Complexity	C06 - Command and Control Complexity	Very Low	Very Low	Missing Evaluation	Very Low
Risk	C10 - Military Personnel Loss	Low	Very Very Low	Missing Evaluation	Very Very Low
Complexity	C09 - Impact of the Sensors Coverage Gap	Very Low	Very Low	Missing Evaluation	Very Low
Complexity	C05 - Logistics Complexity	High	Very High	Missing Evaluation	Very High
Risk	C04 - Operations Complexity	Low	Very Low	Missing Evaluation	Very Low
Risk	C14 - Human Reliability	Medium	High	Missing Evaluation	High

**GIS Big Stick**

**Evaluation Results [CCJTF]**

COA's Global Evaluation

COA's Ranking

**COA Development**

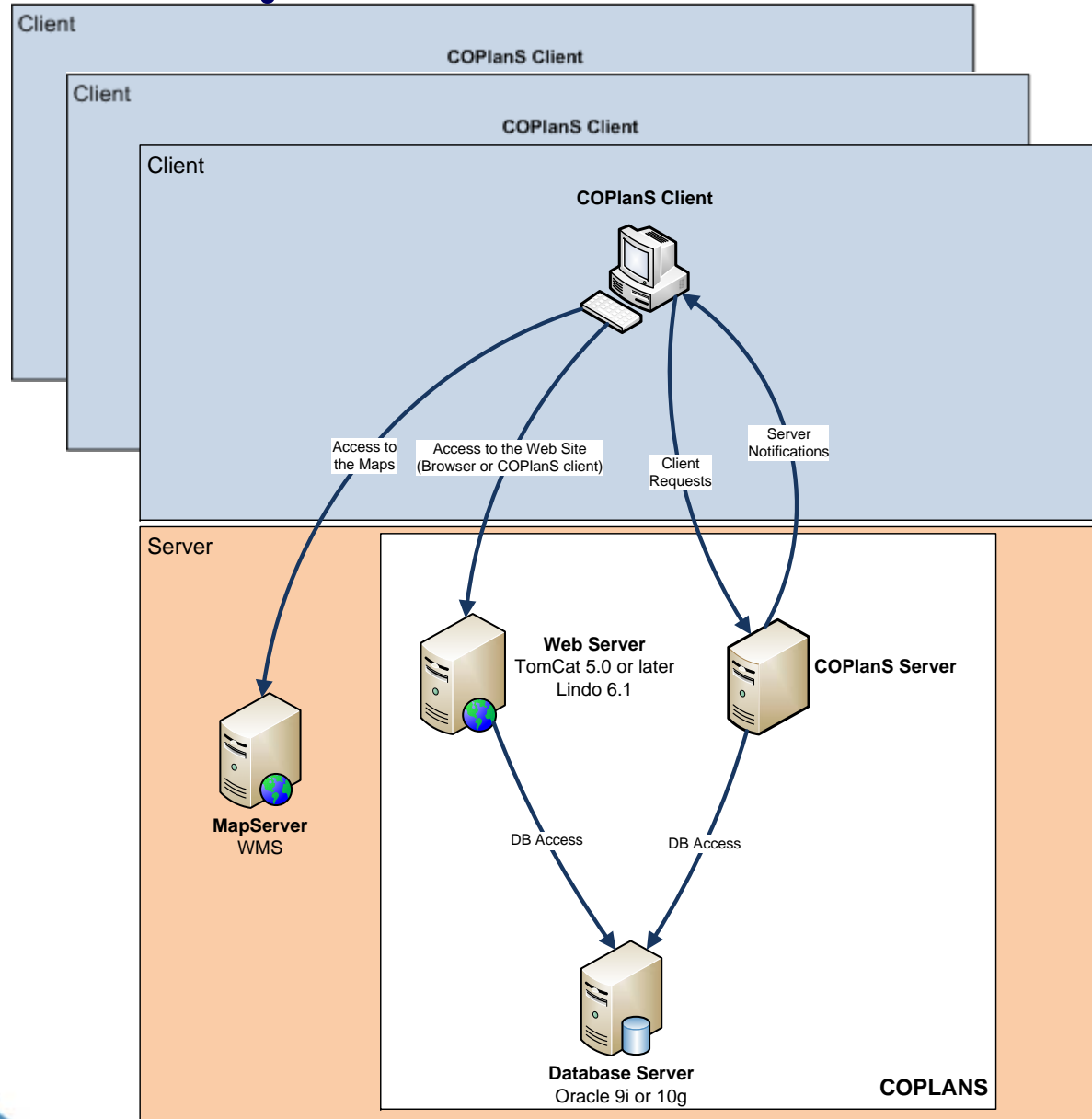
[[191482 May 2005] -radwin- coplans is collaboratewll  
[[171102 May 2005] -radwin- test 2  
[[191552 May 2005] -adwin- joined the session COA Development

Status: CCJTF COA-3 is connected on session COA Development.

Chat COA Development

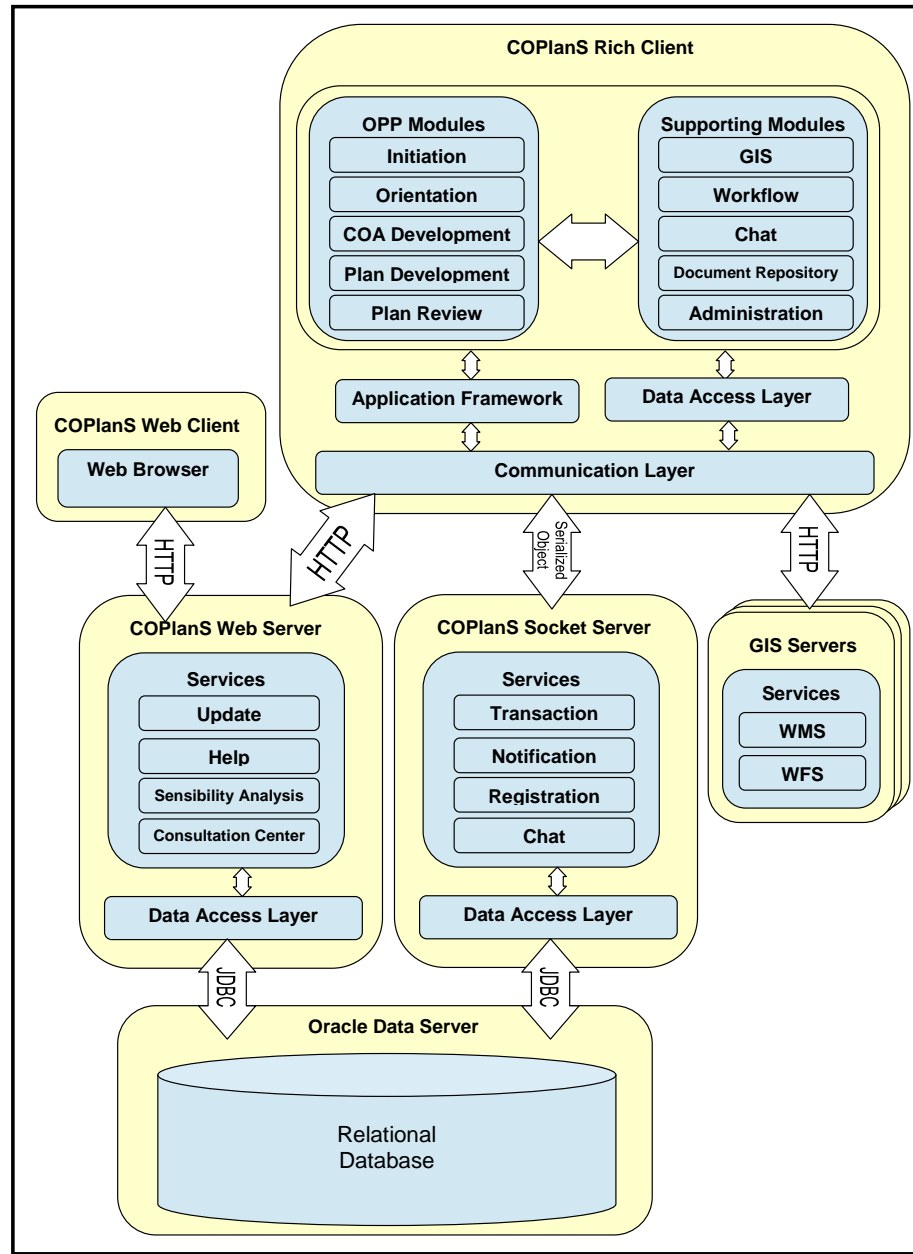


# COPlanS System Architecture Overview





# COPlanS Architecture



**Orientation**

- Review Situation Review (Higher Level)
  - Assumptions
  - Constraints/Restrains
  - Campaign plan
  - Decisive points
  - Objectives
  - End state
  - Transition Conditions
  - Tasks
- Develop Own
  - Critical Facts and Assumptions
  - Constraints/Restrains
  - Key Strengths and Weaknesses (Own and Enemy)
  - Campaign planning
  - Tasks (Assigned/Implied)
  - Objectives
  - Transition conditions
  - Force Capabilities and Groupings Required
  - Command and Control Structures
  - Assess Risk
  - Propose Timelines
  - Battlespace Effects
- Develop Mission Statement
- Prepare Mission Analysis Brief
- Develop/Issue Comd's Planning Guidance and Wng O

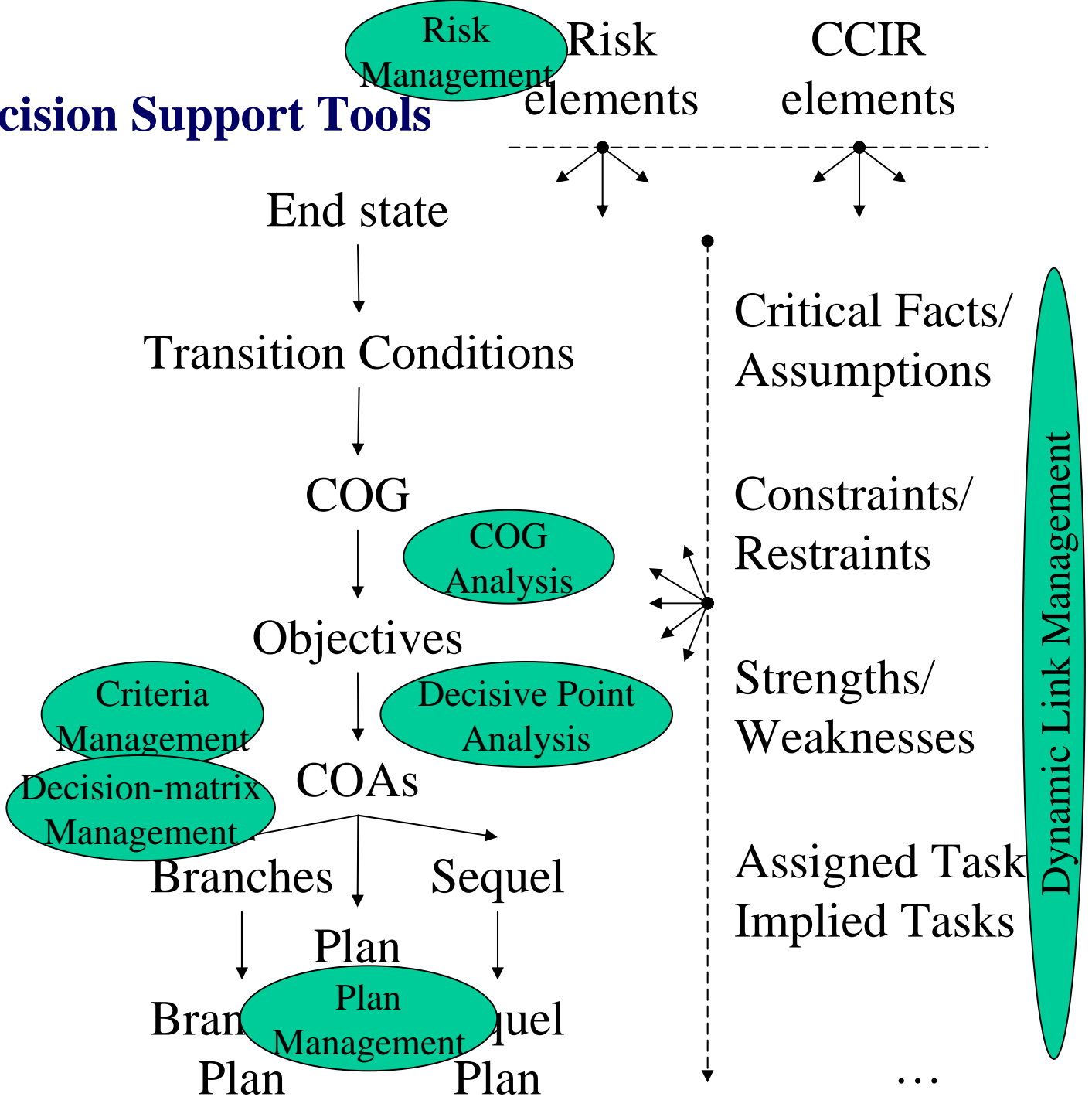
**COA Dev.**

- Review CPG
- Staff Analyse Factors
  - AOO Situation
  - Opposing Force Capabilities
  - Political Considerations
  - Own Force Capabilities
  - Time and Space
  - C2
  - Logistics and Movement
  - Rules of Engagement
  - Conflict Termination
  - Risk
  - Tasks (Assigned/Implied)
  - Lessons Learned
- Develop Initial Enemy COAs
- Develop Initial Own COAs
- Present Information Brief
- Comd Provides Further Guidance
- COA Validation
  - COA Wargaming
  - Compare COAs
- Deliver Decision Brief
- Comd Selects COA
- Write CONOPS

**Plan Dev.**

- Seek CONOPS Approval from Higher Authority
- Identify and Resolve Issues/Shortfalls
- Prepare the Plan
- Synchronize Annexes/SUPLANS
- Develop Branches and Sequels if Required
- Submit Plan for Approval
- Revise Plan if Necessary
- Issue Final Plan

**Decision Support Tools**



Risk Management

Risk elements

CCIR elements

End state

Transition Conditions

COG

COG Analysis

Objectives

Criteria Management

Decisive Point Analysis

Decision-matrix Management

COAs

Branches

Sequel

Plan

Branch Plan

Plan Management

Sequel Plan

Critical Facts/ Assumptions

Constraints/ Restrains

Strengths/ Weaknesses

Assigned Task Implied Tasks

...

Dynamic Link Management

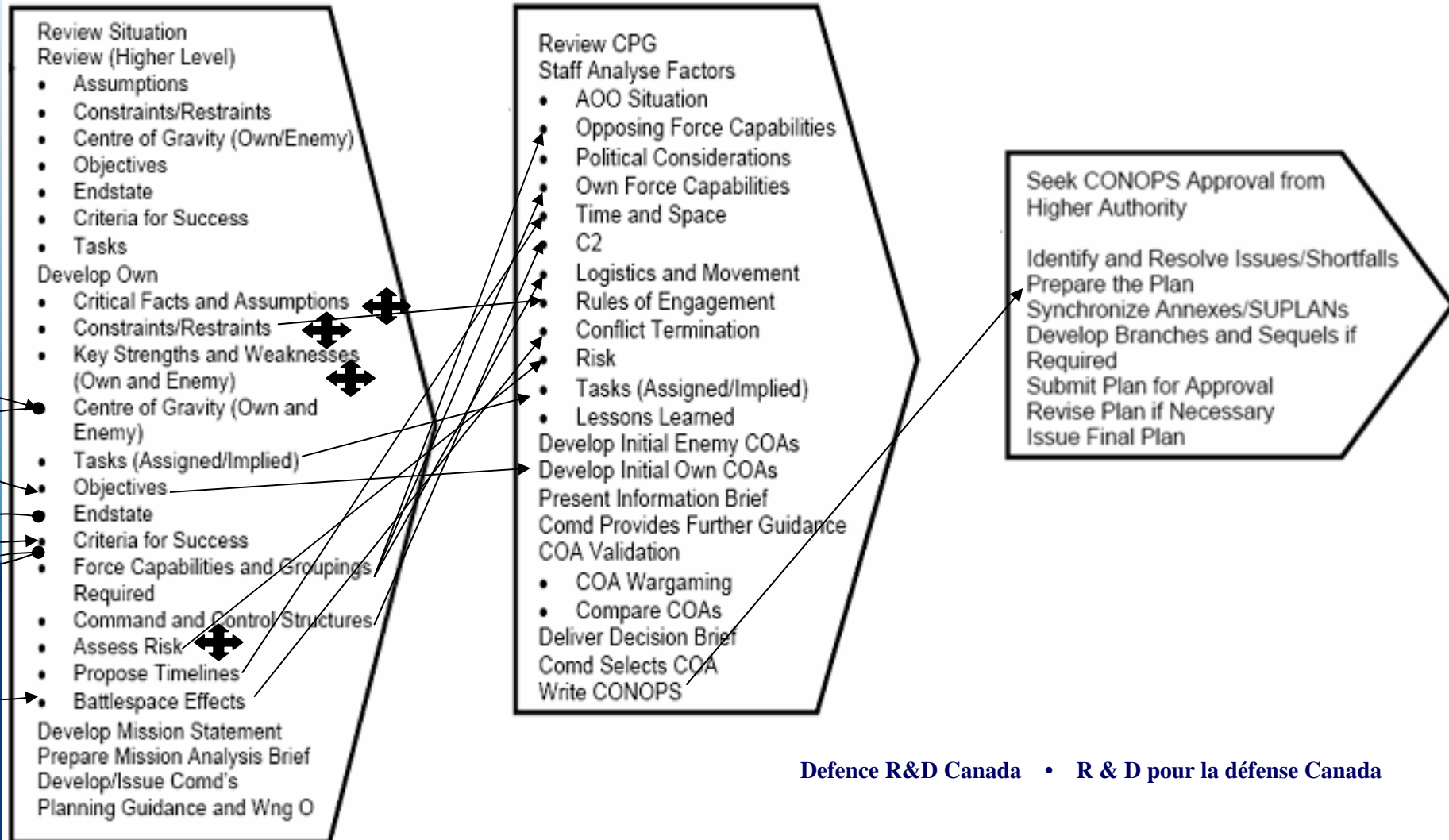


# Links between elements of the CFOPP

## Orientation

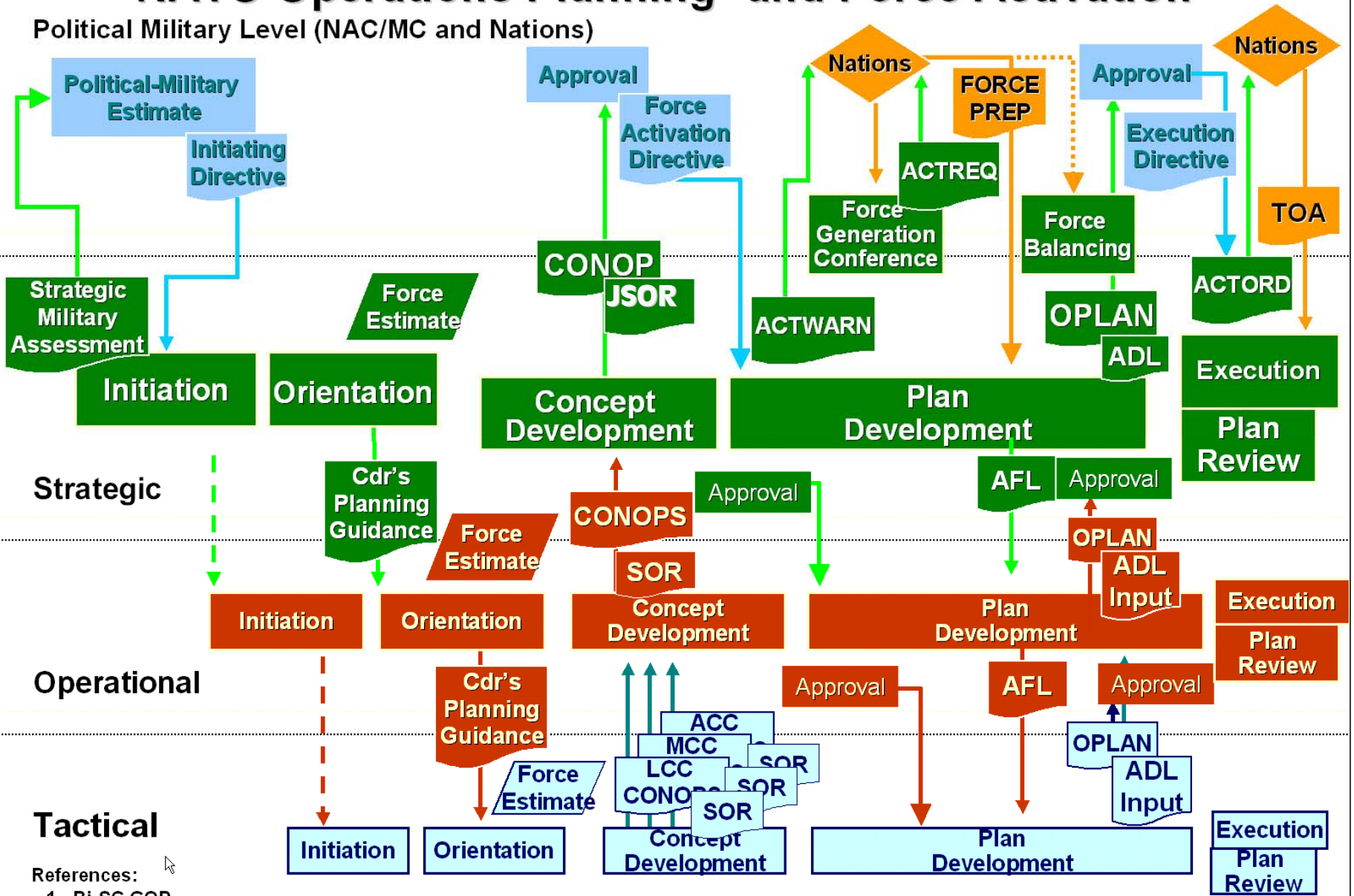
## COA Development

## Plan Development



# NATO Operations Planning<sup>1</sup> and Force Activation<sup>2</sup>

Political Military Level (NAC/MC and Nations)



References:  
 1 - BI-SC GOP  
 2 - MC 133/3



# Dynamic Link Management

The CFOPP elements require a link enforcement concept to create integrity between elements.

**Link Properties [New Link]**

Type: Influence Source: Limitation 1

Created By: admin Target: Threat 1

Current Status: Valid

Status History Description

Validated By	Date	Status
	Mon Dec 15 14:07:37 EST 2008	Valid

Explanation:

The *Limitation LI-1 (Limitation 1)* has been attached on **151907Z Dec 2008**.

Last change: The *Status History* has been modified on **151907Z Dec 2008** by the user **admin**. The value for the field *Explanation* has been changed.

History Apply Close



### Threat Properties [Threat 1]

ID: TH-1 Plan: Plan A

Short Statement: Threat 1 Category:  

Initial Risk:

Act:  CC:  Sense:  Shield:  Sustainability:  Global:

Analysis Discussion **Dependencies** Mitigation

Affects:

Status	

Validate Invalidate

Depends on:

Status	
Valid	admin

Validate Invalidate

Last change: The Link **New Link** has been added to the A

History

### Threat Properties [Threat 1]

ID: TH-1 Plan: Plan A

Short Statement: Threat 1 Category:  

Initial Risk:

Act:  CC:  Sense:  Shield:  Sustainability:  Global:

Analysis Discussion **Dependencies** Mitigation

Affects:

Status	Created By	Target	Type

Validate Invalidate New... Delete

Depends on:

Status	Created By	Source	Type
Warning	admin	Limitation 1	Influence

Validate Invalidate New... Delete

Last change: The Link **New Link** has been added to the Analysis Element **Threat 1** on **151907Z Dec 2008** by the user **admin**.

History Apply Close

Problems (1)

Resource	Type	Description
Errors (1)		
Threat 1	Influence	The Limitation <b>LI-1 (Limitation 1)</b> has been deleted on 171542Z Dec 2008.

Problems (1) Chat [Orientation]



# Plan Management

This is the capability to manage Operation Plan (OPLAN) and Contingency Plan (CONPLAN).

**New Plan Wizard**

**Overview**

1. Campaign Plan Properties
2. Theater Of Operation
3. Plan Template
4. Plan Properties
5. Import Elements from HHQ Plan
6. Key Informations and Plan Description
7. Critical Timings
8. Supporting Documents
9. Area of Operation
10. Summary

**Plan Template**

Select a template to use for creating the new plan.

None (New Empty Plan)

Contingency Plan

Name:  ...

Existing Plan (Copy Plan)

Name:  ...

**Select a Contingency Plan**

- <Unspecified>
- CONPLAN DRIFTWOOD

Select Cancel

◀ Previous Next ▶ Finish Cancel

### New Plan Wizard

**Overview**

- Campaign Plan Properties
- Theater Of Operation
- Plan Template
- Plan Properties
- Import Elements from HHQ Plan
- Key Informations and Plan Description
- Critical Timings
- Supporting Documents
- Area of Operation
- Summary

**Import Elements from HHQ Plan**

Select the Analysis Elements to import from the Higher Headquarter Plan.

- Centers of Gravity
  - Inter Gov't Coord (Strat)
- Facts / Assumptions
  - Supplementary Federal Funding
  - Formal RCMP Request
  - V2010 Games Security
  - CF Plans and CONPLANS
  - Public Safety Support
  - Auth to perform Public Service
  - Arrangements with OGDs, RCMP and other civil authorities
  - NORAD to provide capabilities in sp of aerospace security
  - Priority of Effort
  - Training of Personnel
  - CF support to RCMP
  - Legal Arrangements
  - Intelligence Gathering
- Limitations
  - International commitments to remain
  - Domestic Operations
  - Response Capability
  - Procurement
  - Disclosure of CF Security Activities

Buttons: Select All, Clear All, Previous, Next, Finish, Cancel

### New Plan Wizard

**Overview**

- Campaign Plan Properties
- Theater Of Operation
- Contingency Plan
- Plan Properties
- Key Informations and Plan Description
- Critical Timings
- Supporting Documents
- Area of Operation
- Summary

**Critical Timings**

Critical Timings Summary

D-Day : 310000Z Jul 2008

Critical Timings :

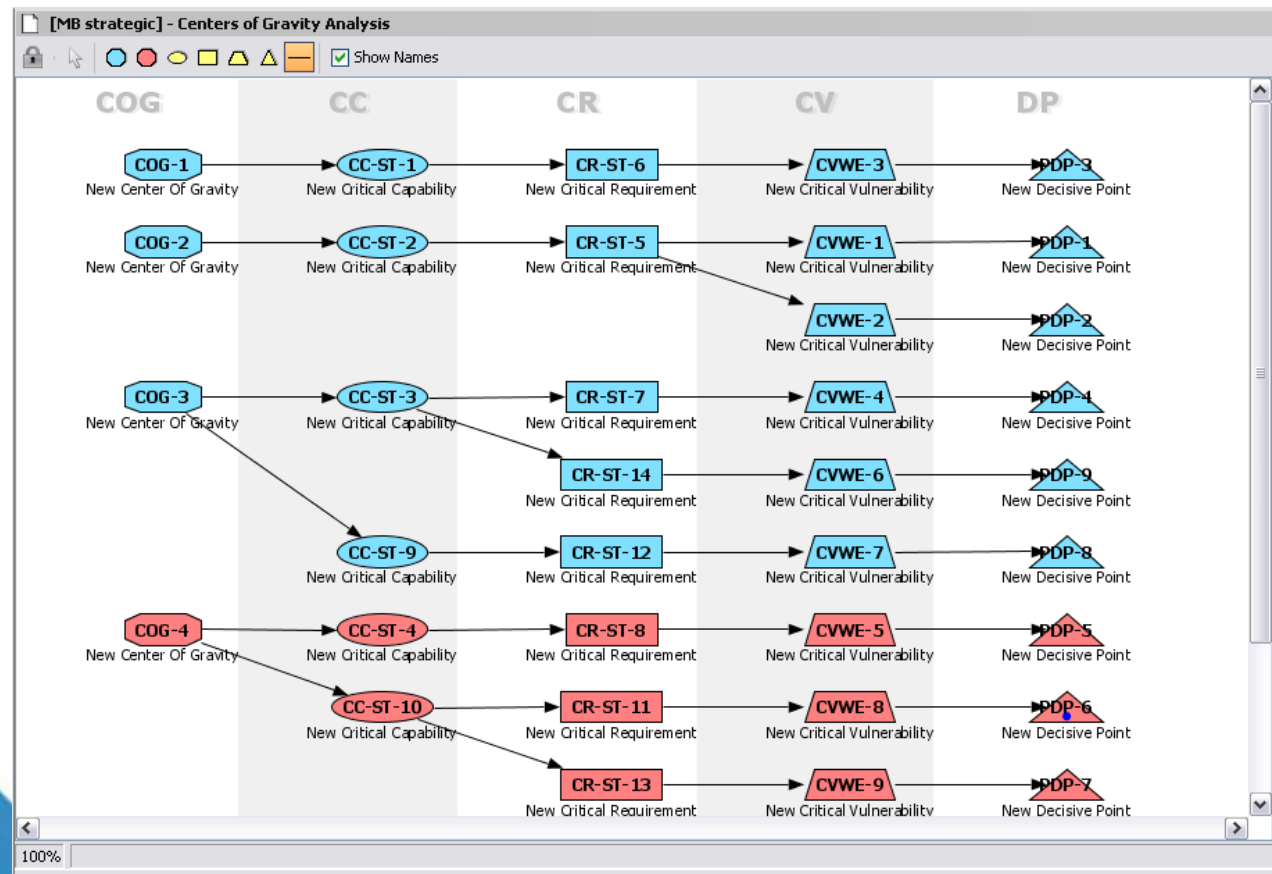
ID	Time	Relative To	Description
Ready to quit ports	H + 75 minutes	D-Day	
Send parachutes	D + 32 hours	D-Day	
Secure beaches	D + 2	D-Day	
Build artificial bridge	D + 4	D-Day	
Christmas	250000Z Dec 2008	None (Absolute)	
Time before D-Day	Invalid Date	D-Day	

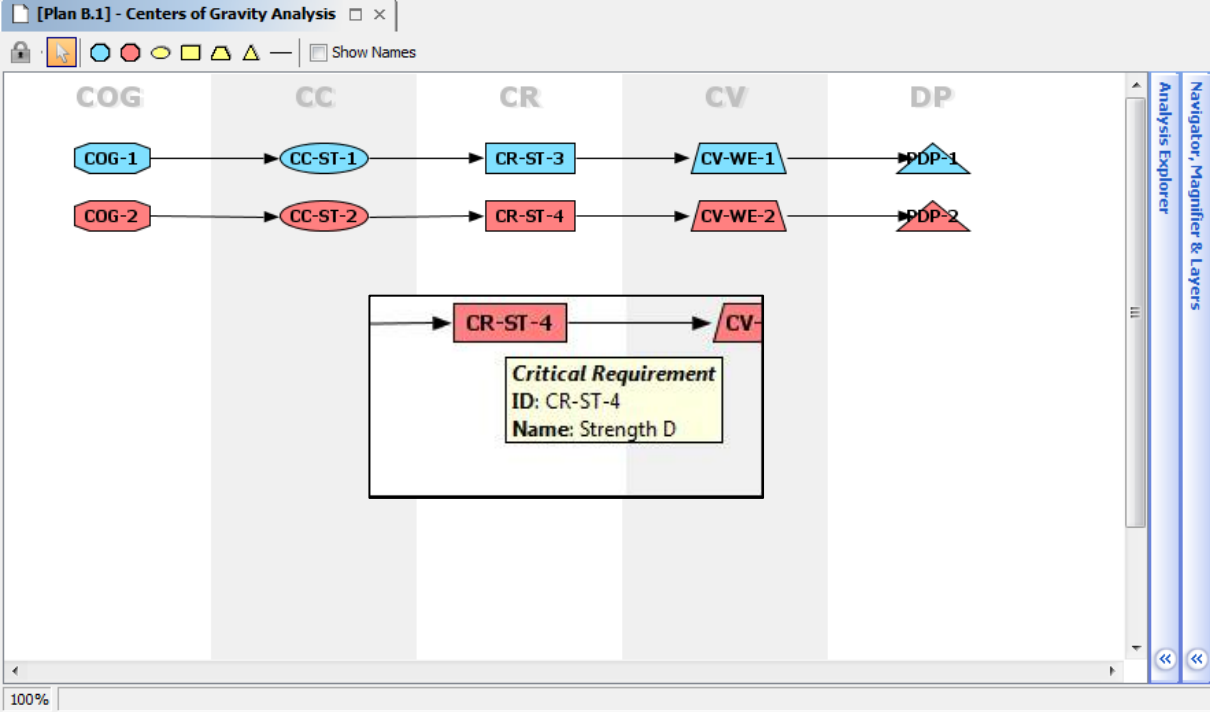
Buttons: Add, Edit, Remove, Previous, Next, Finish, Cancel



# Center of Gravity Analysis

The Center of Gravity Analysis display is a tool, located in the Orientation stage, to create and visualize links between COGs, CCs, CRs, CVs and DPs.





### Analysis Explorer

- Strengths
  - Strength A
  - Strength B
  - Strength C
  - Strength D
- Weaknesses
- Decisive Points

### Navigator

60%

### Layers

- Analysis

### Magnifier

**[Plan B.1] - Centers of Gravity Analysis** | **Critical Capability Properties [Strength X]**

ID: CC-ST-5 | Plan: Plan B.1

Short Statement:  | Strength: New Strength

Affiliation: Adversary

Analysis | Dependencies

Analysis:

Deduction:

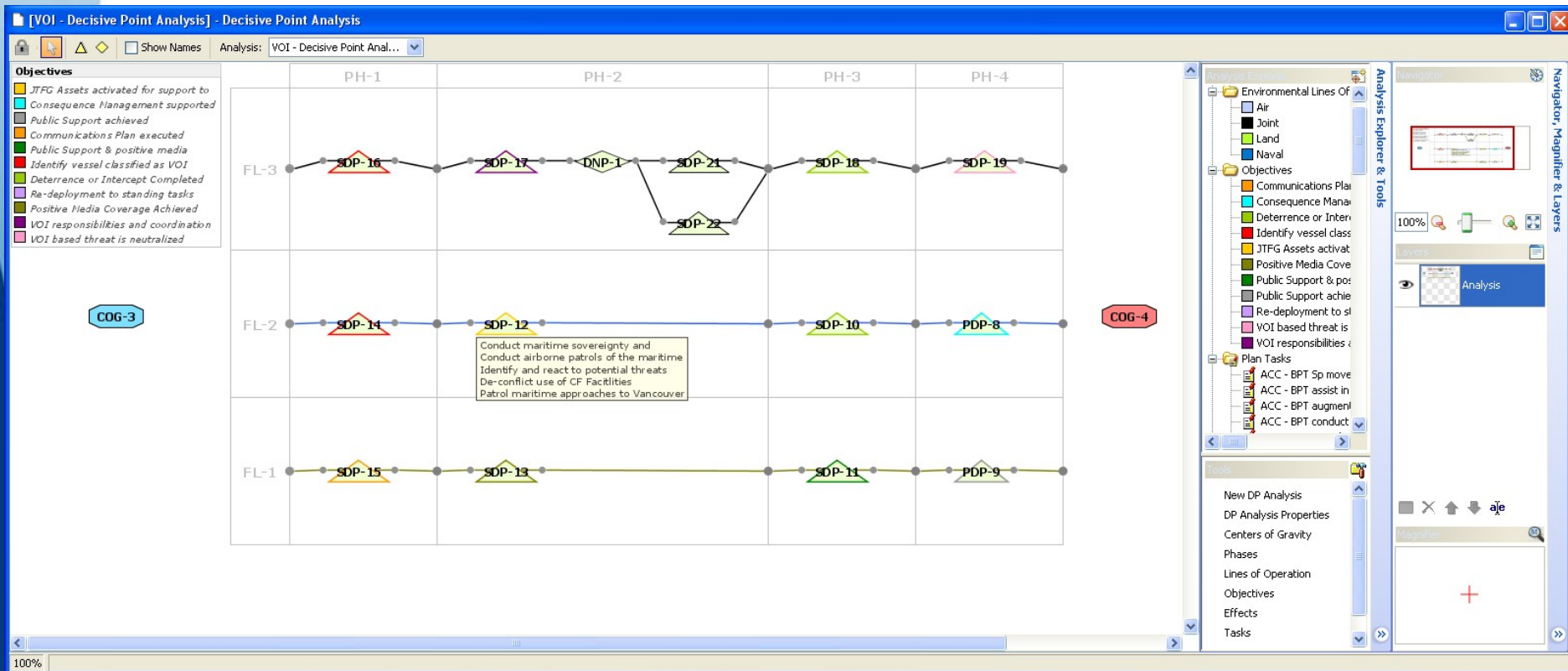
Last change: The *Critical Capability* **Strength X** has been modified on **192212Z Jan 2009** by the user **admin**. The value for the field *Short Statement* has been changed.

History | Apply | Close



# Decisive Point Analysis

The Decisive Point Analysis allows the planner to graphically manage the sequencing of DPs, their relations, influences and line of operations.



**Lines of Operation [DP Analysis A]**

Functional Lines Of Operation:

Sequence	ID	Name	Color	Description
1	FL-1	Functional Line A	Red	
2	FL-2	Functional Line B	Blue	
3	FL-3	Functional Line C	Green	

New... Select... Delete

Environmental Lines Of Operation:

Sequence	ID	Name	Color	Description
1	EL-4	Naval	Blue	
2	EL-3	Land	Light Green	
3	EL-2	Air	Light Blue	
4	EL-1	Joint	Black	

New... Select... Delete

**Last change:** The *Decisive Point Analysis DP Analysis A* has been modified on **192237Z Jan 2009** by the user **admin**. The value for the field *Name* has been changed.

History Apply Close

**Decisive Point Properties [Decisive Point C]**

ID: PDP-1 Decisive Point Analysis: DP Analysis A

Short Statement: Decisive Point C Category: [Dropdown]

High Value Target Affiliation: Own

Functional Line Of Operation: Functional Line B Phase: Warning

Objective: Objective B [More]

Analysis Dependencies Tasks Environmental Lines Of Operation

Analysis:

Deduction:

**Last change:** The *Task Task A* has been deleted from the *Decisive Point Decisive Point C* on **202135Z Jan 2009** by the user **admin**.

History Apply Close



# Criteria Management

This computer-based tool provides management functions for different types of criteria related to the CFOPP.

Criteria Set Properties [ New Criteria Set ]

Name:

Operation Category:

Force Employment Scenario:

Factor	Name	ID	Weight	Preference Threshold	Indifference Threshold	Veto Threshold	With Passing Threshold	Optimization Direction	Uncertainty Level
Completion	Sustainability	7	0.08	0.1	0.05	100000.0	<input type="checkbox"/>	Maximize	Low
Complexity	Operations Complexity	4	0.01	0.3	0.05	100000.0	<input type="checkbox"/>	Minimize	Low
	Logistics Complexity	5	0.03	0.15	0.1	100000.0	<input type="checkbox"/>	Minimize	Low
	Command and Control Complexity	6	0.05	0.15	0.1	100000.0	<input type="checkbox"/>	Minimize	Low
Flexibility	Covering Operational Tasks	1	0.03	0.1	0.05	100000.0	<input type="checkbox"/>	Maximize	Low
	Covering Mission's Possible Locations	2	0.03	0.1	0.05	100000.0	<input type="checkbox"/>	Maximize	Low
	Covering Enemy's Courses of Acti...	3	0.03	0.2	0.1	100000.0	<input type="checkbox"/>	Maximize	Low
Optimum Use of Resour...	Optimum Use of Resources	8	0.02	100000.0	50000.0	100000.0	<input type="checkbox"/>	Minimize	Low
Risk	Impact of the Sensors Coverage ...	9	0.04	0.15	0.1	100000.0	<input type="checkbox"/>	Minimize	Low
	Military Personnel Loss	10	0.2	0.15	0.1	100000.0	<input type="checkbox"/>	Minimize	Low
	Possible Collateral Damage	11	0.1	0.12	0.1	100000.0	<input type="checkbox"/>	Minimize	Low
	Confrontation Risk	12	0.06	0.12	0.1	100000.0	<input type="checkbox"/>	Minimize	Low
	COA Reliability	13	0.25	0.15	0.1	100000.0	<input type="checkbox"/>	Minimize	Low
	Human Reliability	14	0.07	0.2	0.1	100000.0	<input type="checkbox"/>	Minimize	Low

COA Viability [BRONZE MEDAL]

Name	Viable	Accepted By	Accepted At
Acceptable	<input type="checkbox"/>		
Complete	<input type="checkbox"/>		
Exclusive	<input checked="" type="checkbox"/>	admin	042219Z Mar 2009
Feasible	<input checked="" type="checkbox"/>	admin	042219Z Mar 2009
Suitable	<input type="checkbox"/>		

### COA Viability

Name: Exclusive

Viable Accepted By: admin Accepted At: 042219Z Mar 2009

#### Description:

Is the COA fundamentally different from the others that are being developed?

#### Comments:

Last change: The COA Viability Feasible has been modified on 042219Z Mar 2009 by the user admin. The value for the field Accepted By has been changed.

History

Apply

Close



**Search Evaluation Criteria**

Searched Elements:

Conditions:

Type of Operations:

Location:

Result:

Factor	Criterion
Factor 1	Criterion A Criterion B Criterion C Criterion E
Factor 2	Criterion H
Factor 4	Criterion K Criterion L Criterion N

Search    Details    Copy to Plan    Close

**Select Criterion**

- All Criteria
  - Covering Operational Tasks
  - Covering Mission's Possible Locations
  - Covering Enemy's COA
  - Operations Complexity
  - Logistics Complexity
  - ...
- Factors
  - Flexibility
    - Covering Operational Tasks
    - Covering Mission's Possible Locations
    - Covering Enemy's COA
  - Complexity
    - ...
- Criteria Sets
  - Set A (Domestic Operation - Scenario i)
    - Criterion 1
    - Criterion 2
    - Criterion 3
  - Set B (Expedition Operation - Scenario ii)
    - Criterion 2
    - Criterion 5
    - Criterion 6
    - Criterion 8
  - Set C (Expedition Operation - Scenario iii)
    - Criterion 2
    - ...

New...    Search...    Select    Cancel

**Search Evaluation Criteria**

Searched Elements:

Conditions:

Type of Operations:

Location:

Result:

Criterion	Factor	Lessons Learned
Operation A (Domestic)		
Plan A.i (Scenario A)		
Criterion 1	Factor 2	Lesson learned for criterion 1.
Criterion 2	Factor 1	Lesson learned for criterion 2.
Criterion 3	Factor 1	Lesson learned 1 for criterion 3. Lesson learned 2 for criterion 3.
Plan A.ii (Scenario B)		
Criterion 1	Factor 2	Lesson learned for criterion 1.
Criterion 4	Factor 5	Lesson learned for criterion 4.
Criterion 5	Factor 6	Lesson learned for criterion 5.
Operation B (Expedition)		
Plan B.i (Scenario A)		
Plan B.ii (Scenario C)		
Criterion 1	Factor 2	Lesson learned 1 for criterion 1. Lesson learned 2 for criterion 1. Lesson learned 3 for criterion 1.
Criterion 4	Factor 5	No Lesson Learned.
Criterion 5	Factor 6	Lesson learned for criterion 5.
Criterion 6	Factor 1	Lesson learned for criterion 6.

Search    Details    Copy to Plan    Close



# Decision-Matrix Management

This computer-based tool supports decision-matrixes with the flexibility to use numerical as well as descriptive analytical approaches.

Descriptive Numerical

Criteria	Weight	BRONZE MEDAL	GOLD MEDAL
Operations Complexity	0.4		
Logistics Complexity	1.0	Log Support Too many logistics Tasks	No Log Support
Command and Control Complexity	0.3		
Sustainability	0.3		
Optimum Use of Resources	0.5		
Impact of the Sensors Coverage Gap	0.5		
Military Personnel Loss	0.5		

Analysis Comment

Advantages:

Name ▲
Log Support

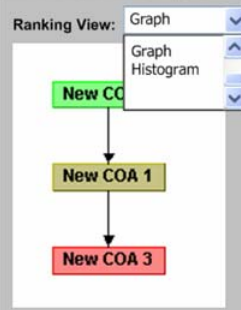
Disadvantages:

Name ▲
Too many logistics Tasks

New... Delete New... Delete

Criteria	Weight	Optimization Direction	BRONZE MEDAL	GOLD MEDAL
<b>Operations Complexity</b>	0.4	Maximize	<span style="color: green;">■</span> Very High	Missing Evaluation
<b>Logistics Complexity</b>	1.0	Maximize	<span style="color: green;">■</span> Very High	Missing Evaluation
<b>Command and Control Complexity</b>	0.3	Maximize	<span style="color: green;">■</span> Very High	<span style="color: red;">■</span> Very Low
<b>Sustainability</b>	0.3	Maximize	2	Missing Evaluation
<b>Optimum Use of Resources</b>	0.5	Maximize	2	Missing Evaluation
<b>Impact of the Sensors Coverage Gap</b>	0.5	Maximize	<span style="color: green;">■</span> Medium	<span style="color: red;">■</span> Low
<b>Military Personnel Loss</b>	0.5	Maximize	<span style="color: green;">■</span> Medium	Missing Evaluation
<b>Collateral Damage</b>	0.5	Maximize	<span style="color: green;">■</span> Extremely High	Missing Evaluation
<b>Confrontation Risk</b>	0.5	Maximize	<span style="color: brown;">■</span> Very Low	Missing Evaluation
<b>COA Reliability</b>	0.5	Maximize	2	1
<b>Human Reliability</b>	0.3	Maximize	<span style="color: red;">■</span> Very Low	Missing Evaluation
<b>Covering Enemy's Courses of Actions</b>	0.5	Maximize	2	Missing Evaluation
<b>Covering Mission's Possible Locations</b>	1.0	Maximize	Missing Evaluation	Missing Evaluation
<b>Covering Operational T</b>				Missing Evaluation

Relevance: Missing But N  
 Evaluation:



Recommendation: New COA 2

Justification:

**Robustness**

0% Interval  +/- 10% Interval

Evaluation: Robust Compute

**Explanations**

Why COA [New COA 2] is ranked first: ?

Why COA [New COA 3] is ranked last: ?

Why COA [New COA 2] is better than [New COA 1]: ?

**Why New COA 2 is ranked first?**

	Cost	Flexibility	Risk
New COA 1	5.0	5.0	3.0
New COA 2	1.0	2.0	4.0
New COA 3	3.0	3.0	3.0

Therefore, there is 1 evidences that New COA 2 is at least as good as other actions.  
 Criteria that shown these evidences are the following:

- Risk (Weight 0.37250000000000005)

There is 2 evidences that other actions are better than New COA 2.  
 Criteria that shown these evidences are the following:

- Cost (Weight 0.25899999999999999)
- Flexibility (Weight 0.3685)

**Why New COA 2 is better than New COA 1?**

New COA 2 is better than New COA 1 because of the veto threshold of criterions Risk.

**Why New COA 2 is better than New COA 3?**



# Risk Management

The purpose of risk management for CF operations is to effectively identify, analyze, evaluate and control all types of risk.

**Threat Properties [Threat 1]**

ID: TH-1 Plan: Plan A

Short Statement: Threat 1 Category: [v]

Initial Risk:

Act: [x] [v] CC: [x] [v] Sense: [x] [v] Shield: [x] [v] Sustainability: [x] [v] Global: [red] [v]

Analysis Discussion Dependencies Mitigation

Analysis:

Deduction:

Causes:

ID	Short Statement	Category	Probability
CA-1	New Cause		Occasional

New... Select... Delete

Last change: The **Threat Threat 1** has been modified on **1621002 Dec 2008** by the user **admin**. The value for the field **Probability** has been changed.

History Apply Close

Risk Evaluation Matrix

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Not Applicable Unspecified Ok

### Threat Properties [Threat 1]

ID: TH-1 Plan: Plan A

Short Statement: Threat 1 Category:  

Initial Risk:

Act:    CC:    Sense:    Shield:    Sustainability:    Global:   

Analysis Discussion Dependencies **Mitigation**

Residual Risk by Coa:

ID	Name	Act	CC	Sense	Shield	Sustainability	Global
1	COA 1	<input checked="" type="checkbox"/> Not Spe...	<input checked="" type="checkbox"/> Not Spe...	<input checked="" type="checkbox"/> Not Specified	<input checked="" type="checkbox"/> Not Specified	<input checked="" type="checkbox"/> Not Specified	<input type="checkbox"/> Moderate ...
2	COA 2	<input checked="" type="checkbox"/> Not Spe...	<input checked="" type="checkbox"/> Not Spe...	<input checked="" type="checkbox"/> Not Specified	<input checked="" type="checkbox"/> Not Specified	<input checked="" type="checkbox"/> Not Specified	<input checked="" type="checkbox"/> Extremely ...

Residual Risk:

Act:    CC:    Sense:    Shield:    Sustainability:    Global:   

Mitigated

Controls:

ID	Short Statement	Category

New... Select... Delete

#### Risk Evaluation Matrix

Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

Last change: The Threat **Threat 1** has been modified on **162100Z Dec 2008** by the user **admin**. The value for the field **Probability** has been changed.

History

### Risk Matrix [Plan A]

Initial Risk:

Preliminary Risk Matrix Score					
Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic					
Critical	I				
Marginal					
Negligible					

Residual Risk:

COAs

Name

- COA 1
 

Residual Risk Score Matrix					
Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic					
Critical				I	
Marginal					
Negligible					
- COA 2
 

Residual Risk Score Matrix					
Severity	Probability				
	Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic					
Critical		I			
Marginal					
Negligible					

Apply Close

Last change: The COA **COA 2** has been added to the Plan **Plan A** on **152202Z Dec 2008** by the user **admin**.

History



## Conclusion

- 7 tools have been implemented into COPlanS
- Basic Mechanisms are now there to implement more advance concepts for each one of these tools.
- Better visualisation approaches need to be developed

DEFENCE



DÉFENSE