Knowledge Systems for Coalition Operations 2010 Panel Session 1

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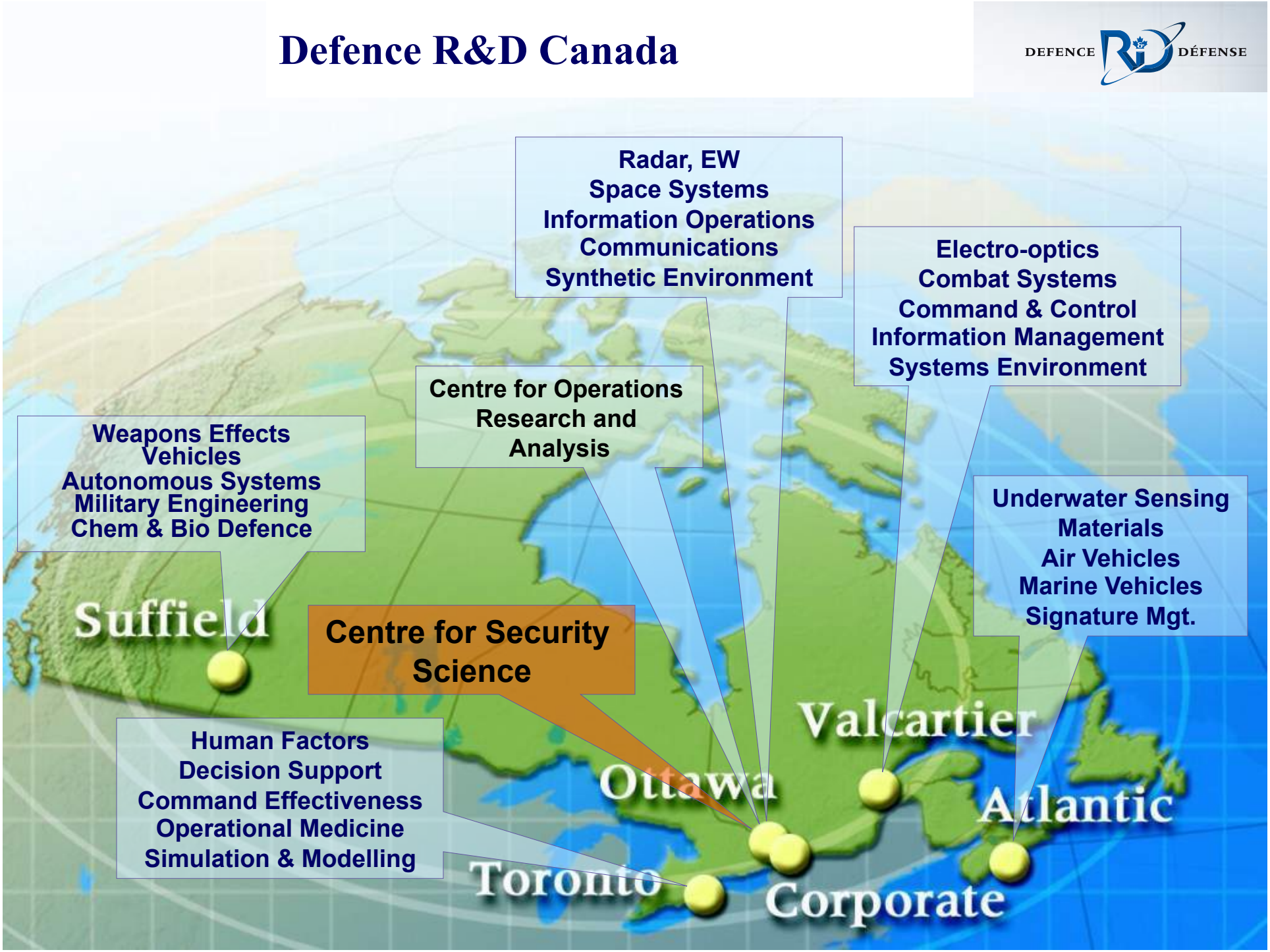
Lessons and Training for Major Events Safety and Security

Panel for Session 1

Order of Presentation
Lynne Genik
Dr. Patrick Dooley
MGen (Ret'd) E.S. Fitch
Dr. Dave Smith - Moderator
Capt Annette Cunningham

September 22, 2010

Defence R&D Canada



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Knowledge Systems for Coalition Operations 2010 Panel Session 1

Reflections of a Scientific Advisor for Major Events Planning

Lynne Genik, MSc
Operational Research Team, DRDC Centre for Security Science

(Formerly Scientific Advisor to EMBC Integrated Public Safety)

22 September 2010

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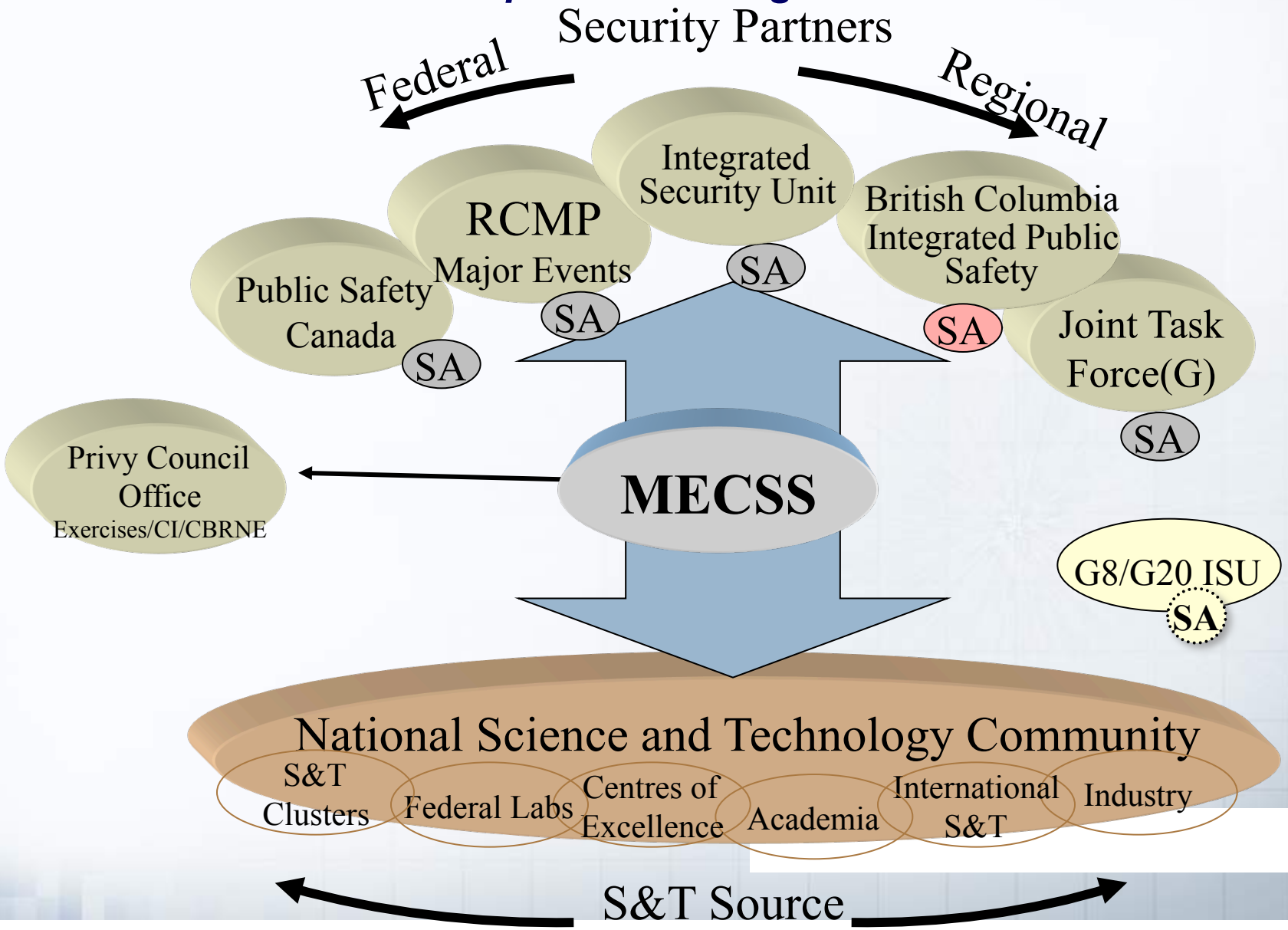
Canada

Overview

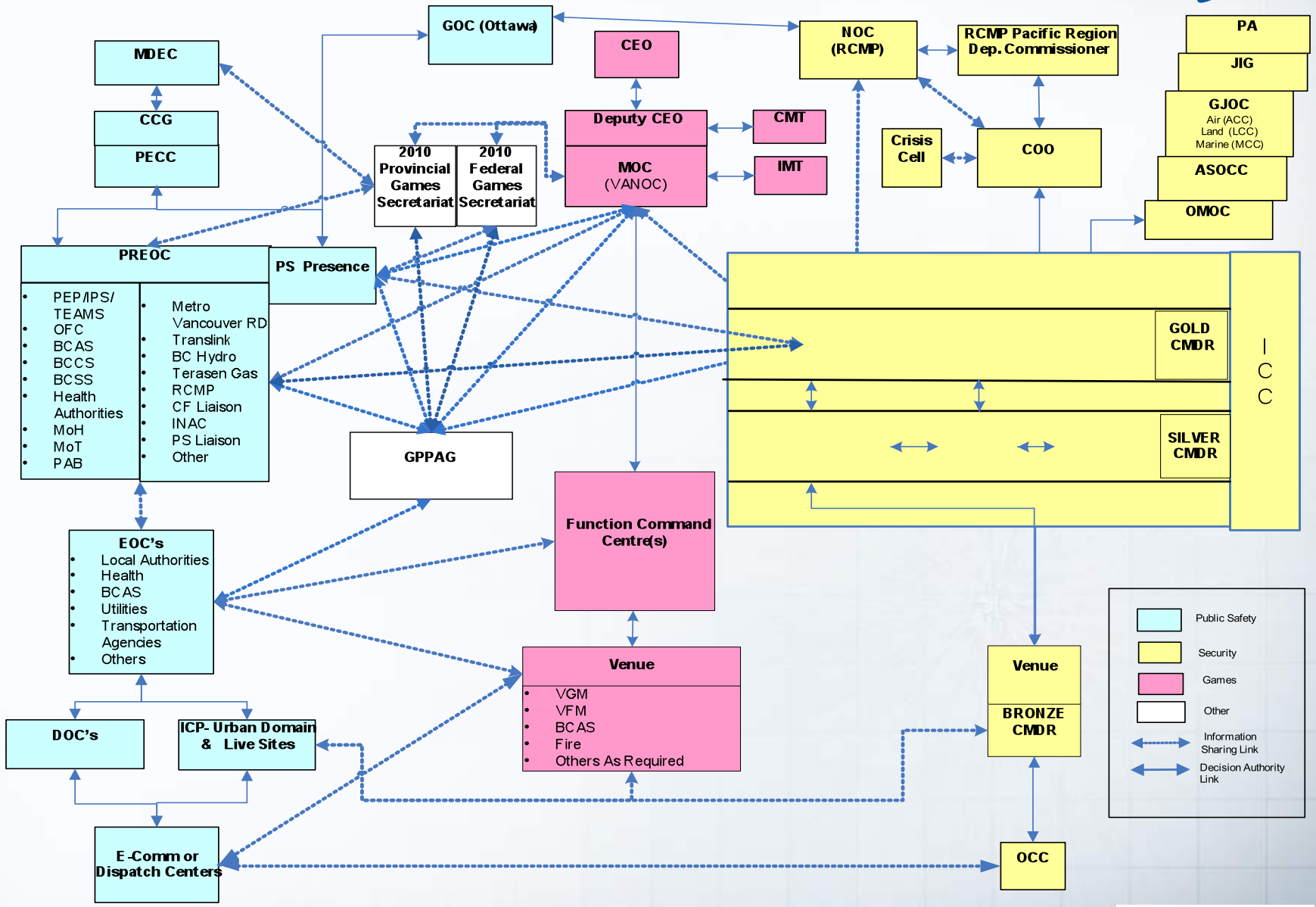
- Introduction to DRDC
- Introduction to Major Events Coordinated Security Solutions (MECSS)
- My Role
- My Top 5 Lessons
- Advice for Future SAs

DRDC Major Events Coordinated Security Solutions (MECSS) Model

"Operationalizing S&T Investment"



Vancouver 2010 Integrated Connectivity Schematic



Final January 20, 2010

Developed by: Emergency ManagementBC

My Top 5 Lessons

1. Personalities, relationships, and trust are key
3. Critical to have SAs integrated in teams on-site
   - To interact regularly with staff in order to build relationships and trust
   - To develop an understanding of the environment, cultures, and operational needs
   - To be aware of issues as they arise, identify and seize opportunities, and influence decision-makers
5. Immense value in a scientific approach

My Top 5 Lessons (continued)

4. Must be able to communicate S&T at a level appropriate for the audience
5. Degree to which S&T is embraced is largely dependent on who's in charge, who has influence, and their appreciation of S&T
   - Ideally, need support from operators and management
   - One "non-supporter" in a critical position can stall everything
   - Once benefits are proven, operational community typically wants more

Advice for Future Scientific Advisors

- Engage in the planning process as early as possible
- Collocate with clients
- Get to know staff and understand organizational cultures
- Be prepared to prove what you/the S&T community can do
- Challenge yourself - venture into the unknown

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Science-Based Planning Support to Vancouver 2010 Security

Two Case Studies

Dr. Patrick Dooley
DRDC Centre for Operational Research & Analysis
Canada Command Operational Research Team

22 September 2010

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Vancouver 2010 Security Screening

- All vehicles & persons entering V2010 venues were subject to screening
  - Vehicle Screening Areas (VSAs)
  - Vehicle Screening Sites (VSSs)
  - Pedestrian Screening Areas (PSAs)

Magnitudes of V2010 Screening Challenges

- Quantities of pedestrians screened
  - ~1,600,000 spectators & 96,409 accredited persons with multiple entries
- 20,567 deliveries & many other vehicle movements
- ~6,000 screening personnel
  - Each required accreditation, scheduling, transportation, training, accommodation, catering, equipment, etc.
- Screening costs were on the order of $200,000,000
  - ~20% of V2010 security budget
- Geographically dispersed
  - Vancouver & Whistler areas
  - ~20 vehicle screening locations
  - ~30 pedestrian screening locations

Screening Area Design Objectives

- Each screening area had to be designed such that:
  - All entities were screened to an acceptable standard
  - Resource requirements were not excessive
  - Screening delays did not disrupt activities within the corresponding venue
  - Space requirements were not excessive

- To help avoid unfavourable trade-offs, the V2010 ISU requested support from DRDC

Planning Environment

- V2010 ISU & VANOC planning efforts were interdependent
- High operational planning tempo
- Screening processes were complex with many parameters
- Little or no initial planning data in many cases
- High uncertainty regarding many parameters

- DRDC proposed a systematic, phased approach to VSA & PSA planning
  - Analogous to that used in the physical sciences & elsewhere

Synopsis of DRDC Support to Screening

- DRDC's support consisted of an agile and comprehensive operational research & analysis campaign
  - Initial abstraction of screening problems
  - Process modelling & options development
  - Operational analysis
  - Experimentation & field trials
  - Games-time troubleshooting
- Major V2010 VSA & PSA enhancements were achieved by studying & improving processes
  - Not by introducing new technology

A Few Observations

- V2010 ISU members reported that DRDC's provision of rigourously obtained results was highly valuable to them
  - Particularly true for quantitative results
  - Reduced planning uncertainty
  - Saved planning time & effort
  - Advanced discussions between V2010 ISU & VANOC
- Some pre-requisites for successful operational support
  - Maintaining single-minded focus on client requirements
    - Understand client environment & cultural differences
    - Frequent visits & correspondence
    - Avoid tailoring client's problems to fit pre-existing "solutions"

A Few More Observations

- Earn the client's trust
  - Never over-promise & under-deliver
  - Quality & timeliness of first deliverable is crucial
  - Regularly deliver relevant, high-value products thereafter
  - Match/exceed client's operational tempo
  - Shared "struggles" & experiences are important
- Advice needs to be delivered directly to decision makers
  - "Telephone game" can alter substance of advice
  - Expert most able to address decision makers' queries

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Red Teaming as Command Support to Coalition Planning, Training, Operations

Major-General E.S. (Ed) Fitch (retired)
Joint Task Force Games
Red Team Leader

22 September 2010

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Definition - Red Teaming

"*an organizational process support activity undertaken by a flexible, adaptable, independent and expert team that aims to create a collaborative learning relationship by challenging concepts, assumptions, plans, operations, organizations and capabilities through the eyes of adversaries in the context of a complex security environment*"

Lauder, October 2008

Scientific Background

- Concept is accepted by international scientific community as sound basis for challenging the assumptions of complex operational situations:
  - Beard, Andrew, *TTCP MAR AG-5 Maritime Force Protection Scenario Exploitation Risk Analysis,* Fareham, Hampshire, UK: DSTL Naval Systems Department, 2005.
- Methodology first codified for CF/DND by:
  - Gladman, B.W., 2007. *The 'Best Practices' of Red Teaming.* DRDC CORA TM 2007-29 Centre for Operational Research & Analysis.

The Problem

- Fishbowl effect
- Groupthink
- Mirror-imaging
- Assumptions become facts

Uses and Goals

- Effective way to ***challenge*** assumptions and preconceptions of military and political leaders at all levels. Scope extends from the development of plans to methods of operating.
- Recognizes that intellectual preparation for operations must be taken as seriously as the physical preparation.
  - Seeks out cases where risks accumulate or are overlooked
- Allows policy makers and military leaders to gain insights into nature of opponents as they really are - not how one would like to picture them.
- Assists in preparing and training the forces for the challenges they will confront.
- May contribute to exercises in classical adversary role.

Selection of red team members

- Needs the “right” people:
  - Expert
  - Credible
  - Sensitive (see credo)
  - Trusted
- Need the “right” commander
  - not all are willing to hear implied criticism

Red team "best practices"

- Thorough understanding of adversary/opponent
- Report to Commander/Chief of Staff:
  - Ensure independence of Red Team
  - Clear statement of Commander's intent
- Maintain balance with the operational planning process (OPP)
- Ensure "win-win"

Red team credo

- Do no harm
- Build not break
- Blue owns the Plan
- Collaboration, not confrontation

"HOPE IS NOT A METHOD"

Gen Colin Powell

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Knowledge Systems for Coalition Operations 2010 Panel Session 1

Strategies for ad-hoc Data Collection and Analysis During Major Event Interagency Exercises and Operations

Dr. Dave Smith
DRDC Toronto
Human Systems Integration

22 September 2010

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Overview

- Our intent is to briefly describe some of the methods used recently to collect and analyze operational data during major event interagency exercises and operations

The Basis of Analysis Support

- After Action Reviews (AARs)
- Lessons Learned Reports (LLRs)
- Implementation
  - Operationally oriented organizations have difficulty in effectively producing adequate AARs and LLRs
  - DRDC – science focused organization where accurate observations and reasoned plans for future events are extremely highly valued.

Preparing for an Event

- Background knowledge
  - Having relevant background knowledge is key
- Buy in and trust
  - Best to achieve this at the senior levels
- Logistics
  - Ethics, credentials, lodging, transportation, communication within team
- Managing analysis
  - Flexibility, time commitments, post exercise/event meeting

Data Collection During an Event

- Surveys
  - Often be the only quantitative data recovered from operations
- Artifacts
  - Bringing back information from operations for further analysis after the fact
- Interviews
  - Can be the key to finding useful information to report

G8-G20 SUMMIT - June 2010 - OVERALL ASSESSMENT QUESTIONNAIRE

This questionnaire was designed by the Knowledge Transfer Team to obtain your feedback with regards to major event security for the G8-G20 Summit. While your participation is voluntary, you will be providing valuable input into the planning of future events. By completing and returning this survey, you are indicating your consent to participate. Your answers will be kept anonymous and only a compilation of everyone's feedback will be provided to the Summit planners. Please answer all questions **as completely as possible, to the best of your knowledge.**

1. Please rate your agreement with the following statements as they relate to **your experiences at the G8-G20 Summit.** Please provide additional comments where possible.

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree	Comments
a. From my perspective, the G8-G20 was successful	O	O	O	O	O	
b. From the security perspective, the event was well organized	O	O	O	O	O	Please explain:
c. From the administrative perspective, the event was well organized	O	O	O	O	O	Please explain:
d. My personal needs (transport, meals, accommodation, etc.) were adequately taken care of	O	O	O	O	O	
e. The training I received was adequate	O	O	O	O	O	
f. My role and responsibilities were clear	O	O	O	O	O	
g. The Command and Control structure was effective	O	O	O	O	O	
h. I was able to work effectively with members of other agencies, when necessary	O	O	O	O	O	
i. Overall, I am confident the ISU fulfilled its roles and responsibilities	O	O	O	O	O	
j. Overall, I had access to all tools and equipment required for the execution of my tasks and function(s)	O	O	O	O	O	
k. Information sharing was adequate	O	O	O	O	O	
l. Shared situational awareness was achieved	O	O	O	O	O	
m. CONPLANS/MOUs/ GUIDING DOCUMENTS were readily available	O	O	O	O	O	
n. CONPLANS/MOUs/ GUIDING DOCUMENTS were effective	O	O	O	O	O	

2. Was your location required to respond to any incidents/events? yes O no O

If yes, please briefly describe each incident:

3. What have been the benefits and the challenges of the different agencies/organizations working together within the ISU?

Benefits:	Challenges:

Continued on reverse side

4. What things might improve future interagency collaboration?

5. Are there examples of collaboration between the different agencies that could be used as a model for similar operations? yes O no O

Please explain:

6. What worked and did not work during the Summit?

What worked:	What didn't work and suggested remedies:

7. Which Command Centre or Venue did you participate from?

O UCC O MICC O Hotel – please name: _____
O MACC O Metro Toronto Convention Centre O Other – please specify: _____
O TACC O Direct Energy Centre

8. Which organization are you from:

O RCMP O Toronto Police Service O Other – please specify: _____
O OPP O Peel Regional Police

9. What was your position title at your given Command Centre or Venue:

10. Have you participated in other major events or exercises? (i.e. V2010, Francophonie, Kananaskis) yes O no O

If yes, please note which ones:

11. Briefly describe the function/role that you or your group have within your Command Centre or Venue:

12. Any additional comments?

This is the end of the survey. Thank you very much for your time.

Reporting

- Long and detailed reports are not appropriate for the typical operator or commander
  - Easily digestible actionable advice
  - Given in short order

- Produce an initial summary of observations then follow with more comprehensive reports

Impact

- Continue to impact operations by exploiting the knowledge they have gained and developing new methods for delivering the knowledge

- Videos, databases, or developing workshops to increase the visibility of the analysis findings

Knowledge Systems for Coalition Operations 2010 Panel Session 1

Reflections of a Training Officer Involved in Major Event Planning

Captain Annette Cunningham
Venture Naval Officer Training Centre
(Formerly Joint Task Force Games J7 Training Officer)

22 September 2010

Defence Research and Development Canada
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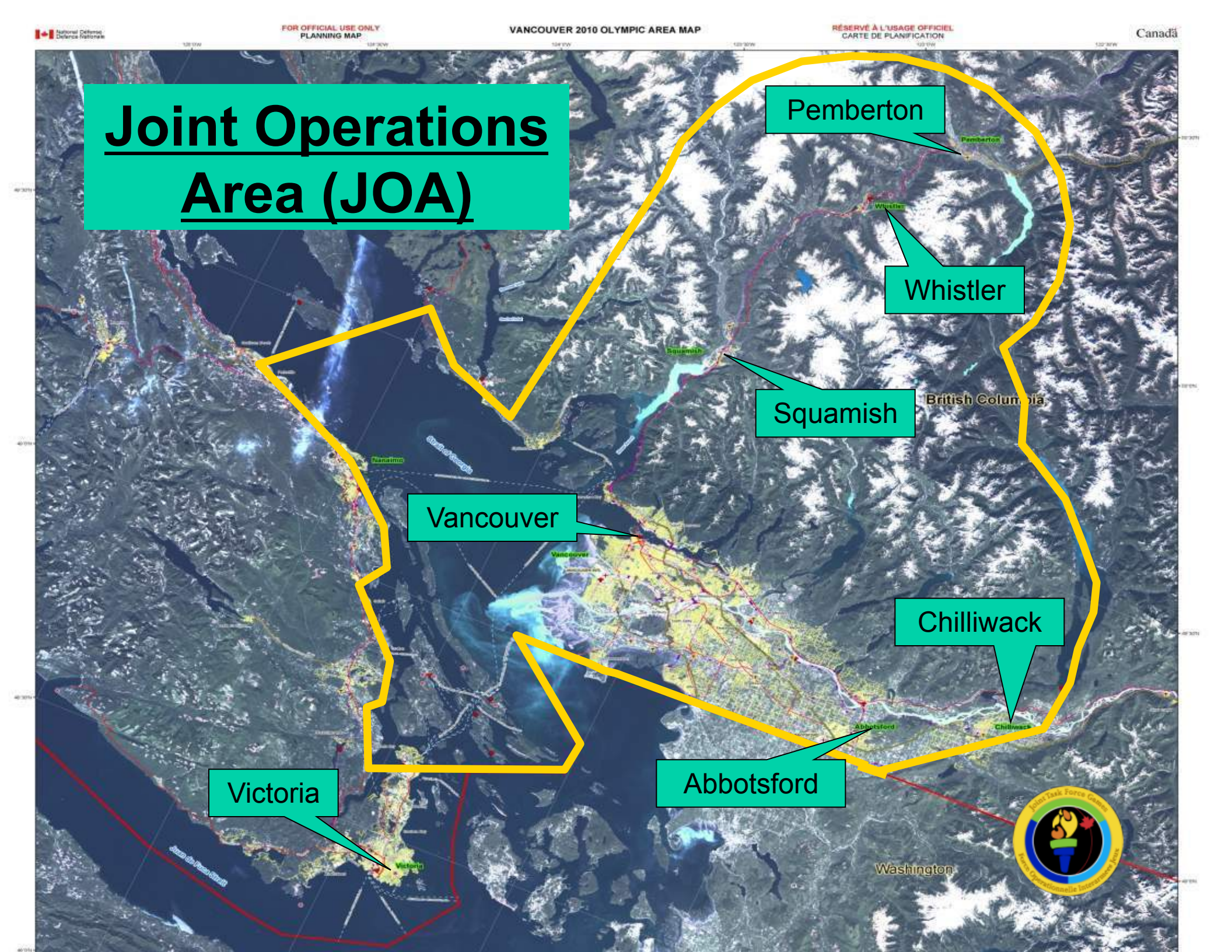
Outline

- V2010 Context & Orientation
- Training challenges
- Possible solutions
- Questions

CF Tasks - PODIUM

- **General**
  - Operational planning
  - Training plan design & operational research
  - Liaison
  - Use of CF facilities
  - Logistics support
- **Special Operations**
  - Counter terrorism
  - CBRNE
- **Intelligence Operations**
  - Intelligence Support
  - Geomatics, hydrographic services
- **Technical Operations**
  - Explosive Ordnance Disposal
- **Maritime Operations**
  - Surveillance
  - Interdiction support
- **Land Operations**
  - Surveillance
  - Mobility support for joint patrols
  - Mobile force protection
  - Emergency medical support
- **Air Operations**
  - Surveillance
  - Air defence
  - Air support


FOR OFFICIAL USE ONLY
PLANNING MAP
VANCOUVER 2010 OLYMPIC AREA MAP
RÉSERVÉ À L'USAGE OFFICIEL
CARTE DE PLANIFICATION
Canada
Joint Operations Area (JOA)
Pemberton
Whistler
Squamish
British Columbia
Vancouver
Chilliwack
Abbotsford
Victoria
Washington

The Domestic Interagency Environment

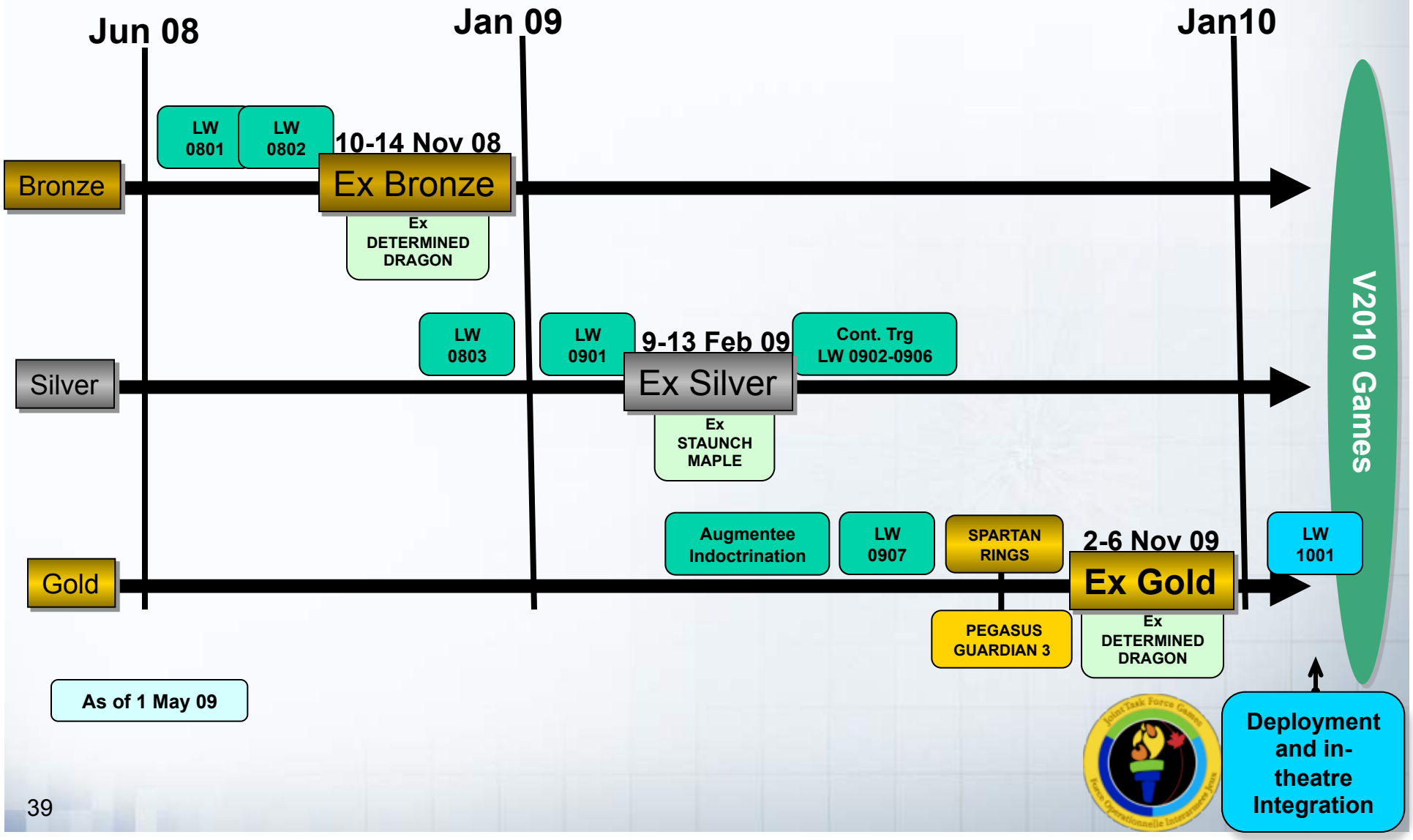
"*An environment with at least as many sensitivities (insecurities?) as there are security and interagency partners*"

Colonel Dave Barr

Deputy Commander

JTFG Exercises & Training

(Jun 08 to Jan 10)



Trg Challenges

- Timelines
- Live and simulated aspects, each with challenges
- Evaluation
  - Importance of AAR
  - Standards
  - Certification
- LL follow up (CF only)

Trg Solutions

- Trg Experts and doctrine
- Relationships are key in planning and coord (security, safety and Games)
- Laurel Wreath Series for CF
  - Flexible Master Events List
  - Subject Matter Experts as controllers
- Joint Mission Essential Tasks
- LL Process

The clip boards…

- What I saw…
  - Clip boards
  - Multiple lines of operation
  - Offers for support and follow through
  - JTFG Personnel adapting
  - Relationship building

What I needed…

- We need to speak the same language so that we know where best to use your skills - early
- Open communication – incl goals
- Results of the clip boards for all
- Feed into AAR – G8/ G20?
- A solution for KS/ IM (common systems, intuitive, just too much info)

Questions

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Matrix Game Methodology in Support of Vancouver 2010 Olympic Preparations

Antony Zegers
DRDC Centre for Operational Research & Analysis
Joint Task Force Pacific Operational Research Team

22 September 2010

(Slides from presentation to ISMOR 2010)

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Background

- Force Protection Matrix Game (FPMG) is a Table-Top Exercise (TTX) methodology developed and refined by DSTO in Australia.
- Methodology was transferred to Canada through TTCP.
- FPMGs conducted in Australia were used for multi-agency harbour security planning.
- Matrix Games have been used to exercise marine security plans for Vancouver 2010 Olympics preparations.
- Methodology targeted to investigation of multi-agency C2 issues.

Background

- Three Matrix Games have been conducted for the Olympic Marine Operations Centre (OMOC)
  - FPMG Marine One (Oct 2008)
  - FPMG Marine Two (Nov 2008)
  - Integrated Safety/Security Matrix Game – Marine III (ISSMG III) – June 2009
- This presentation will discuss our findings regarding the methodology, what characteristics were most useful, and how the methodology was refined.

FPMG Methodology - Generic

- Turn based: Game time is divided into a series of "turns", each of which represents a certain amount of game time.
- Participants are provided injects and scenarios developed to meet game's objectives.
- Participants complete a turn sheet that includes:
  - Actions they will take in light of information provided;
  - Expected effects of those actions;
  - Consequences (negative/positive); and,
  - Enabling capabilities for undertaking action.

FPMG Marine One - Setup

- Conducted over 2 days
- 22 Participants divided into 7 teams
- Legal and Media teams included
- Team breakout rooms and planning sessions
- 4 turns
- 10 injects per turn
- Very structured

FPMG Marine One – Findings on Methodology

- Overall very useful
- Many important issues were discovered and explored
- Time constraints
  - Too many injects
  - Team breakout time
- Difficult to group teams
- In-depth discussions were difficult
- After-Action Report delivered to client two days after FPMG
- Confirmed desire for second FPMG

FPMG Marine Two - Setup

- Methodology was modified and refined
  - Space and time constraints
  - Fewer participants
  - Lessons learned from FPMG Marine One
- 9 participants, no team groupings
- 4 injects per turn
- Structured turn sheet
- More dynamic facilitation

FPMG Marine Two – Findings on Methodology

- Refinements to methodology proved positive
- High utility; many issues were able to be explored
- More free-flowing and in-depth discussions
  - Smaller group
  - More dynamic facilitating
- Benefited from shared experience of FPMG Marine One
- Letter Report draft given to client three days after FPMG

ISSMG Marine III - Setup

- Conducted over 2 days
- 56 Participants from 27 organizations
- Intelligence and cross-border groups added
- Computerized setup with turn sheets to facilitate plenary discussion and data gathering
- 3 turns, 7-9 injects per turn
- Scenarios, participants, and data capture tailored to client objectives

ISSMG Marine III – Findings on Methodology

- Combined best characteristics of first two iterations
- New IT setup developed was effective – smoother game flow and better data capture
- Many issues were explored with input from many participants. Scenarios and participants were tailored to client objectives
- Efficient and orderly exploration of very complex situation with many participants, covering many issues

General Findings

- Very successful overall, useful to the sponsor
- Generated results communicated back to client quickly in Letter Reports with multiple recommendations
- A robust methodology developed and employed in Australia was successfully leveraged to Canada through TTCP partnership
- FPMG Methodology is flexible and was tailored to specific needs for each iteration
- Refinements in successive games improved results
- Repeating the game after a short interval helped build team understanding and working relationships

Conclusion

- This methodology is very useful for exploring complex scenarios and issues with diverse stakeholders
- Benefits of Games come from both mutual learning of participants, and data capture provided by the methodology
- Reports in progress
  - Technical Report on operational findings
  - Technical Report on methodology