

# 12th International Command and Control Research and Technology Symposium

## “Adapting C2 to the 21<sup>st</sup> Century”

**Title:** Command and Control Simulation for Domestic Operations

**Topics:** Modeling and Simulation  
C2 Concepts, Theory, and Policy  
Network-Centric Experimentation and Applications

**Authors:** Kendall Wheaton and Walter Dyck  
Defence Research and Development Canada  
Department of National Defence  
Ottawa, Ontario, Canada

Major Daniel McNamara  
Canadian Forces Experimentation Centre  
Department of National Defence  
Ottawa, Ontario, Canada

Larry Cochran  
Lansdowne Technologies  
Ottawa, Ontario, Canada

Anet Greenley, Patrick Lachance and Douglas Hales  
CAE Professional Services  
Ottawa, Ontario, Canada

**Point of Contact:**

Kendall Wheaton  
Centre for Operational Research and Analysis  
National Defence Headquarters  
101 Colonel By Drive  
K1A 0K2  
Office: (613) 996-6511  
Fax: (613) 992-3342  
[Kendall.Wheaton@drdc-rddc.gc.ca](mailto:Kendall.Wheaton@drdc-rddc.gc.ca)

# Command and Control Simulation for Domestic Operations

by

Kendall Wheaton, Walter Dyck<sup>1</sup>,  
Major Daniel McNamara<sup>2</sup>, Larry Cochran<sup>3</sup>,  
Anet Greenley, Patrick Lachance, and Douglas Hales<sup>4</sup>

## ABSTRACT

New missions, new requirements and new technologies are factors that are driving transformation in militaries, leading to new command structures and new command and control (C2) policies and processes. This paper describes an approach for C2 simulation based on requirements analysis and architecture modeling to support these requirements. It presents the simulation of several key processes; mission planning, request for information/request for assistance, maintaining situational awareness, and collaboration. Real world processes were documented through observations and then described as use cases in Unified Modeling Language (UML) and as operational views in the Department of Defense Architecture Framework (DoDAF). These were then modeled as workflow processes in the C2 simulation.

This approach has been applied to two problems; the simulation of C2 in joint operational level military headquarters responsible for domestic operations and for the simulation of Interagency C2 for tactical level joint domestic operations and emergency management. Realistic simulation of the key C2 processes allows researchers to test hypotheses before experiments to optimize their designs. The paper describes the design of the simulation model and how it will be used to support experimentation.

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<sup>1</sup> Defence Research and Development Canada

<sup>2</sup> Canadian Forces Experimentation Centre

<sup>3</sup> Lansdowne Technologies

<sup>4</sup> CAE Professional Services

## **PAPER OUTLINE**

Introduction

Methodology

- Applying an Architecture Framework to C2 Processes
- Business Process Modeling
- Executable Architectures

Simulation of C2 Processes

- Mission Planning
- Request for Information/Request for Assistance
- Maintain Situational Awareness
- Collaboration

Initial Analysis of Joint C2 in Domestic Operations

- Operational Level Military HQ
- Tactical Level Interagency C2

Plans for Experimentation

- Scenario Development
- Considerations for HLA Federation
- Simulation Support for Experiment Design and Analysis

Conclusion