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BUILDING A **SAFE** AND **RESILIENT CANADA**

Vancouver 2010 Olympics Lessons Learned: Cyber

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Canada

Agenda

- **Canadian Cyber Incident Response Centre**
  - *Roles and Responsibilities*
- **2010 Games**
  - *Overview*
- **Olympic Exercises**
  - *Bronze, Silver, Gold*
- **2010 GC Technical Working Group**
  - *V2010 Cyber Preparedness Report/Matrix*
- **CCIRC Readiness**
  - *Operational Rhythm*
  - *Incidents*

Canadian Cyber Incident Response Centre (CCIRC)

- CCIRC is the national focal point for dealing with cyber based threats to Canada's Critical Infrastructure.
- In 2010, CCIRC was focused mainly on federal government network protection.
- Provides stable, 24/7 coordination and support across the GOC, and to key national players in the event of cyber based emergencies
- National operations centre with the following mandates:
  - Reporting of real or imminent threats, vulnerabilities and incidents against the GOC
  - Threat and vulnerability identification and analysis
  - Distribution of cyber based publications (Alerts/Advisories/Cyber Flashes/Information notes)
  - Technical analysis, investigations, and coordination
- Supported by the GC Information Technology Information Management Plan (IT IMP)

CCIRC Partnerships

The Cyber Triage Unit (CTU)

- Led by the CCIRC, works to ensure a rapid and focussed response to a cyber incident.
- PS, Royal Canadian Mounted Police, Canadian Security Intelligence Service, National Defence, and Communications Security Establishment Canada.
- The CTU is responsible for the following:
  - Analysis of incidents and warnings reported from federal, national, and international sources;
  - Assessment of the nature of an incident to identify a primary department and support roles; and
  - Exchange of information between departments.

The international Community

- **Allies:** Close partners
- **FIRST:** Forum of Incident Response and Security Teams
- **IWWN**: The International Watch and Warning Network (Multiple Countries)
- **Objective**: International cyber community providing a global picture for threat identification, analysis and information exchange.

Other

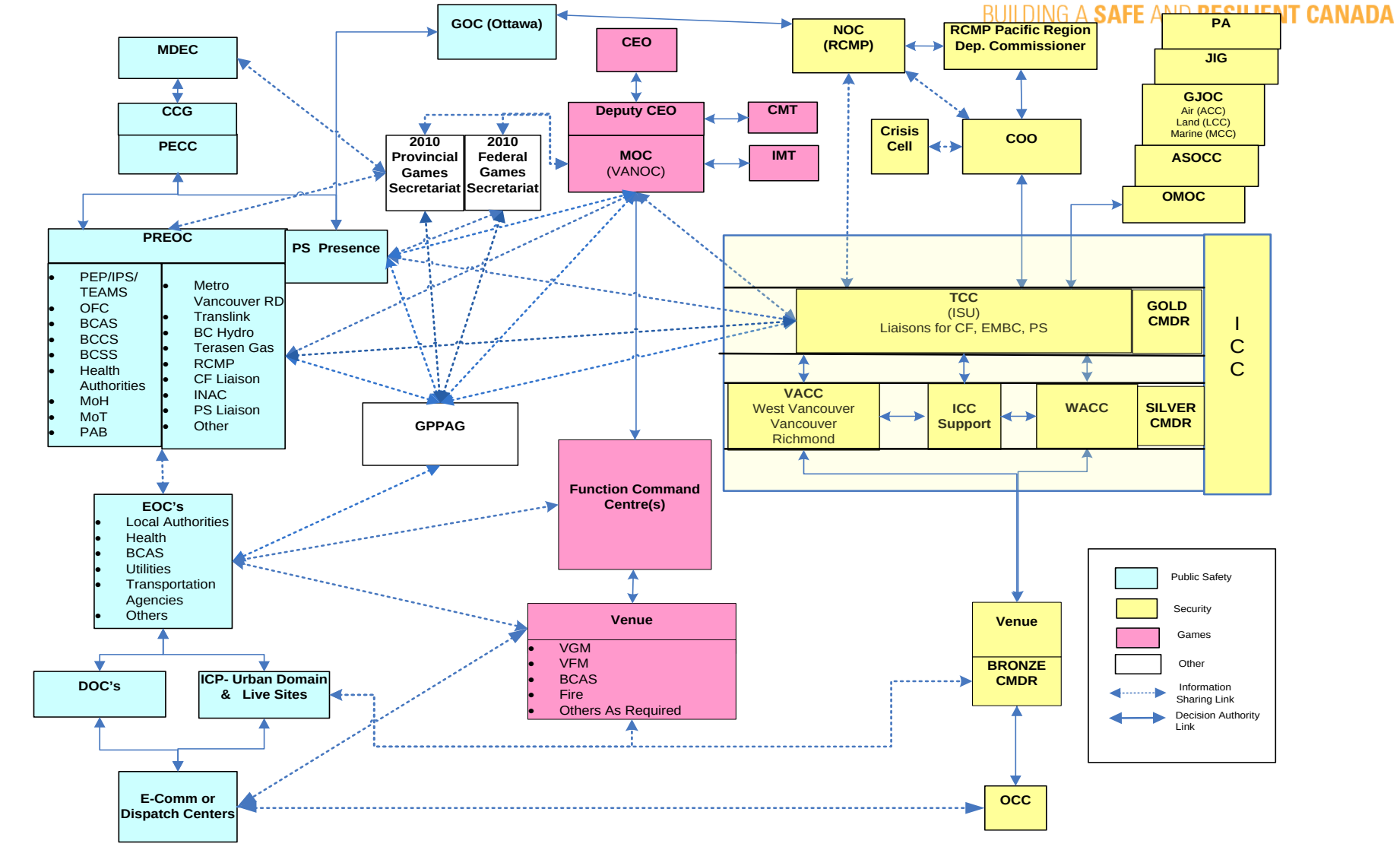
- Provincial/Canadian Electrical Sector/Telecommunications/Banking

Overview: V2010

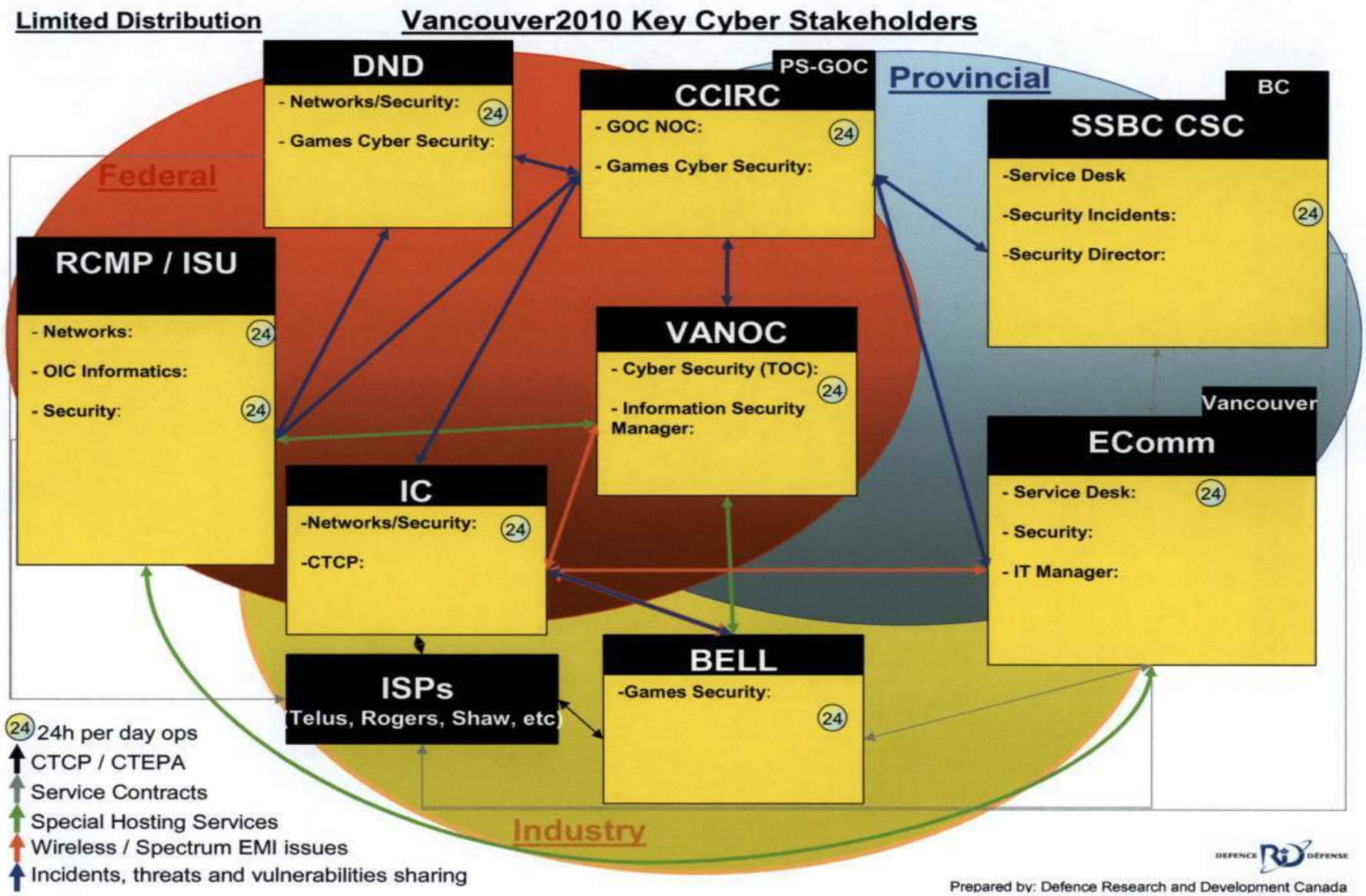
- The Vancouver 2010 Olympic and Paralympics Winter Games (V2010) were held in British Columbia in February and March of 2010.
- Approximately 6500 athletes and officials from 82 nations participated in 86 events in fifteen disciplines.
- 25,000 volunteers
- 6000 law enforcement, 5000 Canadian Forces, 4800 private security officers
- 119 agencies contributing police/peace officer from across Canada
- 43 days of aircraft patrol
- 205,000 accreditations (Olympic family, security workforce, VANOC, volunteers, etc.)

C&C: A complicated Affair...

Vancouver 2010 Integrated Connectivity Schematic



Key Stakeholders




CCIRC

Olympic Exercises

- The National Exercise Division of Public Safety Canada held three Olympic Exercises:
  - Bronze: Table Top
  - Silver: Validation
  - Gold: Confirmation

- These were large scale exercises involving both physical and information based assets and architecture

- Exercise Gold : 140 agencies, 45 coordination centres, 2000 participants

- Primary goal was to exercise incident identification, and reporting, to a centralized location for coordination and situational awareness

- IT IMP – Information Technology Incident Management Plan validation was primary deliverable

Lessons Learned: V2010 Exercises

- Cyber portions of readiness exercises need to be incorporated early
- Organizers concentrating on physical threats
- Education and understanding of the impacts of cyber issues for GOC and senior management
- Updating/Development of SOP's/Annex's for special events
- Departmental reporting procedures need to be validated before major events
- Exercise notes
  - Cyber based exercises require technical components
  - Coordination of exercise controllers key to success
  - Limit exercise to focused events (2 to 3 vectors)

IT Security Working Group

- Co-chaired by Public Safety, the Royal Canadian Mounted Police, and the Privy Council Office

- Membership included numerous federal departments with security or regulatory mandates relevant to the Olympics.

Lessons Learned: Working Group

- Limited success due to large size
- Critical time spent determining departmental roles/mandates
- Group eventually disbanded as an authoritative body
- Focus shifted to identifying key issues and gaps
- Departments surveyed to determine self-assessed readiness
- Result: Matrix showing Departmental Readiness in key areas

Goal: V2010 Cyber Security Matrix

Objectives:

- not a comprehensive technical review, risk assessment, or audit of IT security.
- goal was to provide departments with the framework to conduct self assessments
- designed to identify challenges and issues which could impact the ability of departments to detect and respond to serious cyber incidents during V2010.

Questions: V2010 Cyber Security Matrix

Questions designed to identify or characterize:

- critical tasks/mission areas
- most critical IT assets, services and information
- topology and host configuration information
- physical and network access management
- monitoring of hosts and links
- Monitoring of vulnerability releases, or regularly scans of assets
- patch management process
- virus scanner, host intrusion prevention system, vulnerability scanner, etc.

Continued...

- Network zoning
- network operations centre, computer emergency response team, help desk (for points of contact)
- Process for review of logs and/or intrusion detection system alerts
- network geographic and physical deployment
- relationships with ISPs and vendors
- TRA status
- cyber incident management, accidental or malicious (including communication details with ISU, ISPs, others.)

Matrix Results

- Preparedness results grouped into categories:
  - Planning
  - Monitoring and detection
  - Reporting – horizontal alignment and coordination
  - Analysis of risk
  - Acceptance of risk/mitigation measures by senior management

Recommendations

- Incident reporting quick reference guide is essential.
- Teams should operate at a heightened state of readiness during V2010.
- Additional human resources must be identified.
- Must raise cyber awareness of CIOs and senior management of the key departments.

CCIRC: Operational Rhythm

- For the duration of the games, CCIRC was on an increased operational manning status
- Dedicated responders, technical support, and managers assigned to Olympic coverage, and vice-versa with regular operations
- 24 hour points of contacts with partner security agencies (RCMP/DND/CSIS/CSEC)
- International notifications of the upcoming Games
- Conference call with key stake holders three times a week

V2010 Incidents

- A copy of VANOC's web site, hosted in a European country, leveraged interest in the luge accident to distribute a fake video CODEC malware. VANOC and CCIRC collaborated to identify and take down the perpetrating Ukrainian site.

- Search engine optimization (SEO) poisoning with Olympics themes was used to distribute malware/crimeware. VANOC identified this activity, resulting in a CCIRC cyber security awareness bulletin.

- Minor virus infections were reported and handled locally, but shared amongst stakeholders. Support was offered across organizations if required.

- There was rapid de-confliction of "cyber attack" reports, such as misinterpretation of the SEO poisoning events as actual attacks on the Games IT infrastructure.

General V2010 Lessons Learned

- Establishing trust and credibility
- Access to right subject matter experts (SMEs) key
- Not all levels of government have computer emergency response team capability
- Stakeholder buy-in varied (Private and Public Sector)
- Value of cyber information sharing
- Threat and risk assessments
- Minimize formal and complex audits