DEFENCE R&D DÉFENSE

DEFENCE R&D DÉFENSE

COP: From Knowledge Webs to Knowledge Portals

Alexandre Bergeron Guyard
Denis Gouin
IKM Section / DRDC Valcartier

June 2005

(Paper 197)

Defence Research and Development Canada
Recherche et développement pour la défense Canada
Canada

Information Age – Major Transformation

- US DoD and Allies
  - Information Superiority
  - Implement Network Centric Warfare
- NCW – definition (D.S.Alberts)…
  - Achieve secure and seamless connectivity and interoperability
  - Share, access and protect information
  - Correlate, fuse and analyse the information in order to develop high quality shared awareness
  - Establish and maintain an information advantage over an adversary

NCW…

- Knowledge Webs
  - Connect organizations to information by exploiting Web technology
- Net-Centric Enterprise Services (NCES)
  - Allow sharing of information but also sharing of services
- Enterprise Portal technology
  - Allows to retrieve, organize and publish structured and unstructured information in a secure manner
  - Allows for the integration of an organization's applications and services

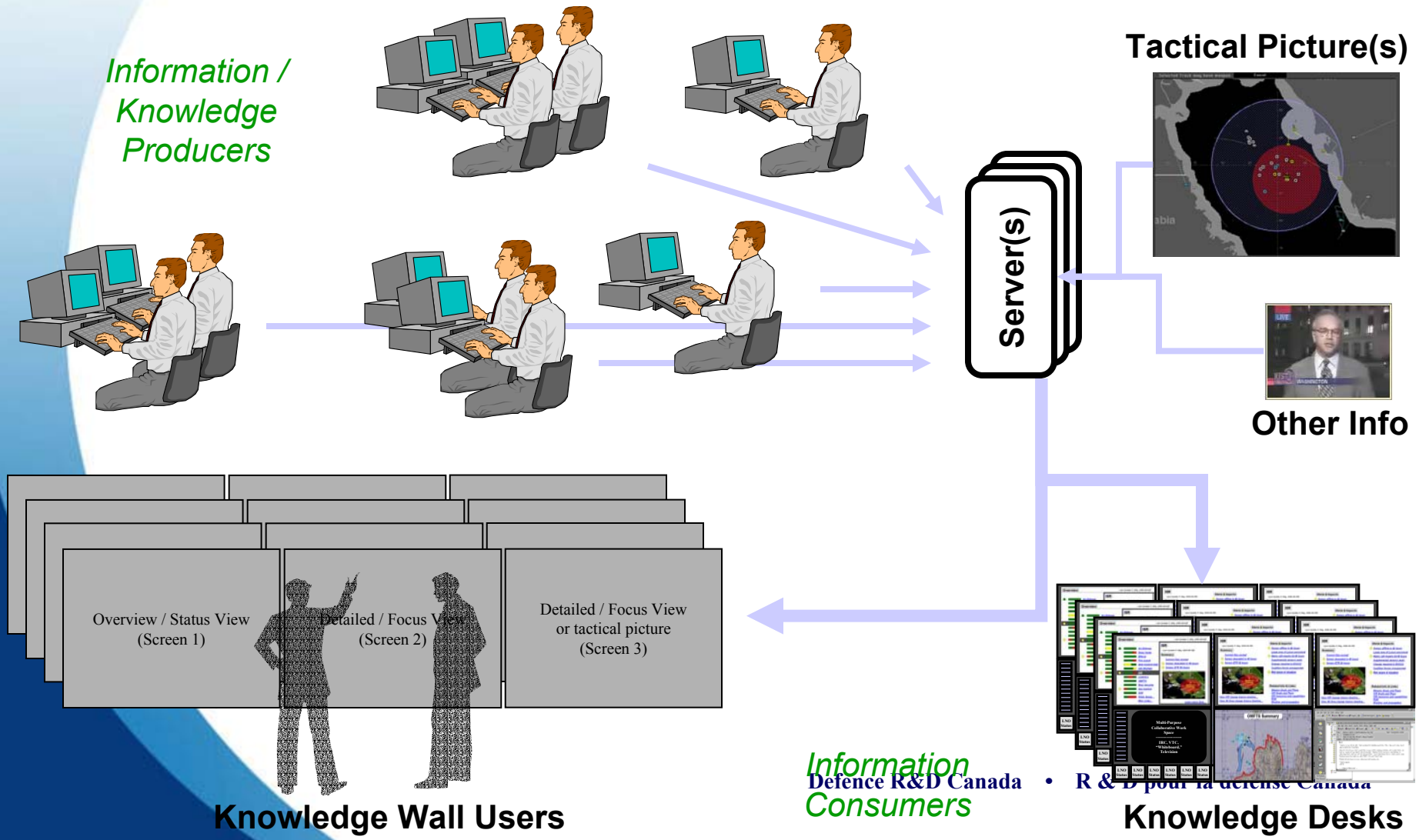
Knowledge Webs and Enterprise Portals

Samples…

K-Web

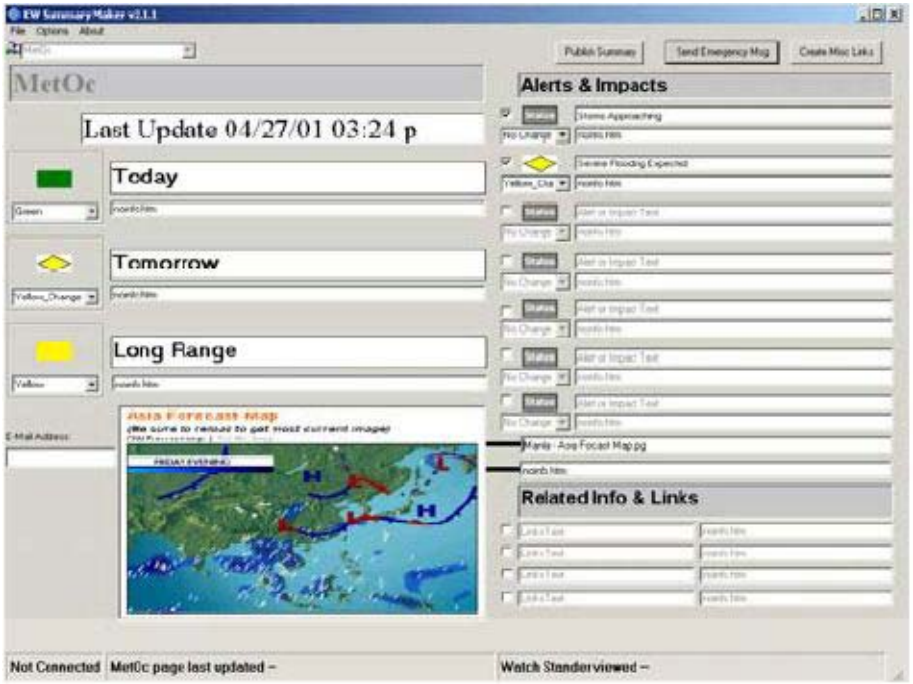
- Project sponsored by Office of Naval Research (ONR) and implemented by Space and Naval Warfare Systems Center, San Diego (SSC-SD), since 1999
- The K-Web is a “dynamic status board” where you are trying to share the “best available” information at all times across the entire command.

Knowledge Web Concept



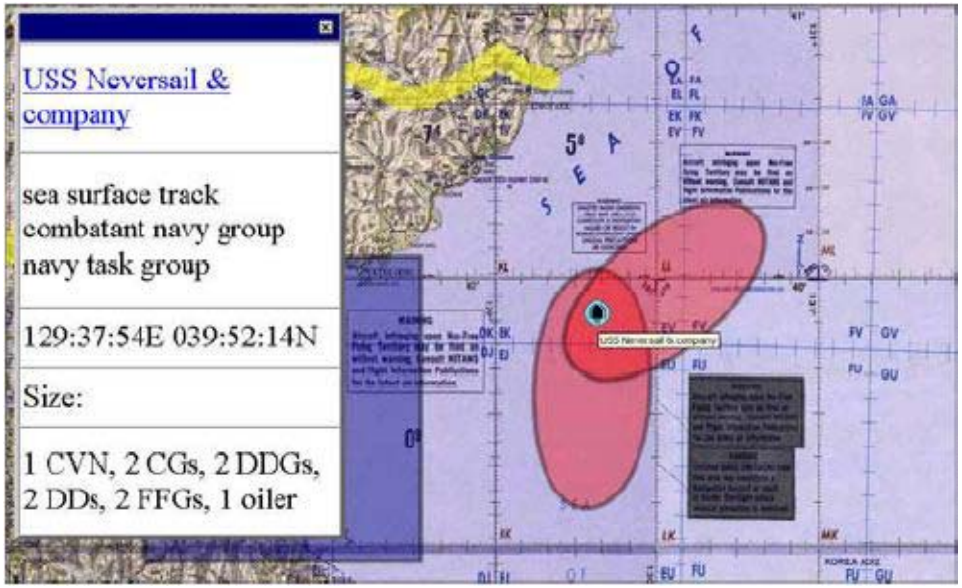
K-Web…

- Provides users with a template (Summary Maker) that supports the easy creation of basic HTML summary pages that can be rapidly published onto a Web and shared

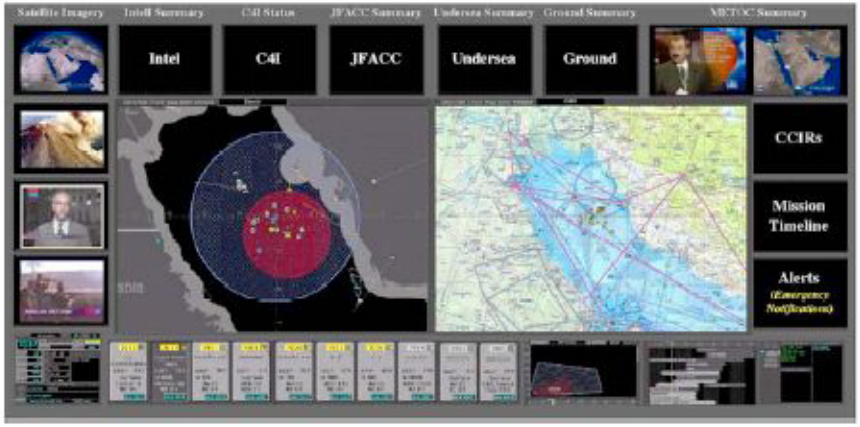


K-Web…

- TacGraph (**Tac**tically-relevant **Graph**ics Authoring Tool) is designed as an easy-to-use graphical drawing tool to rapidly develop summarized, tactically relevant images and publish them as Web content



K-Web…



Command 21 Knowledge Wall Conceptual Design (ca 1999)

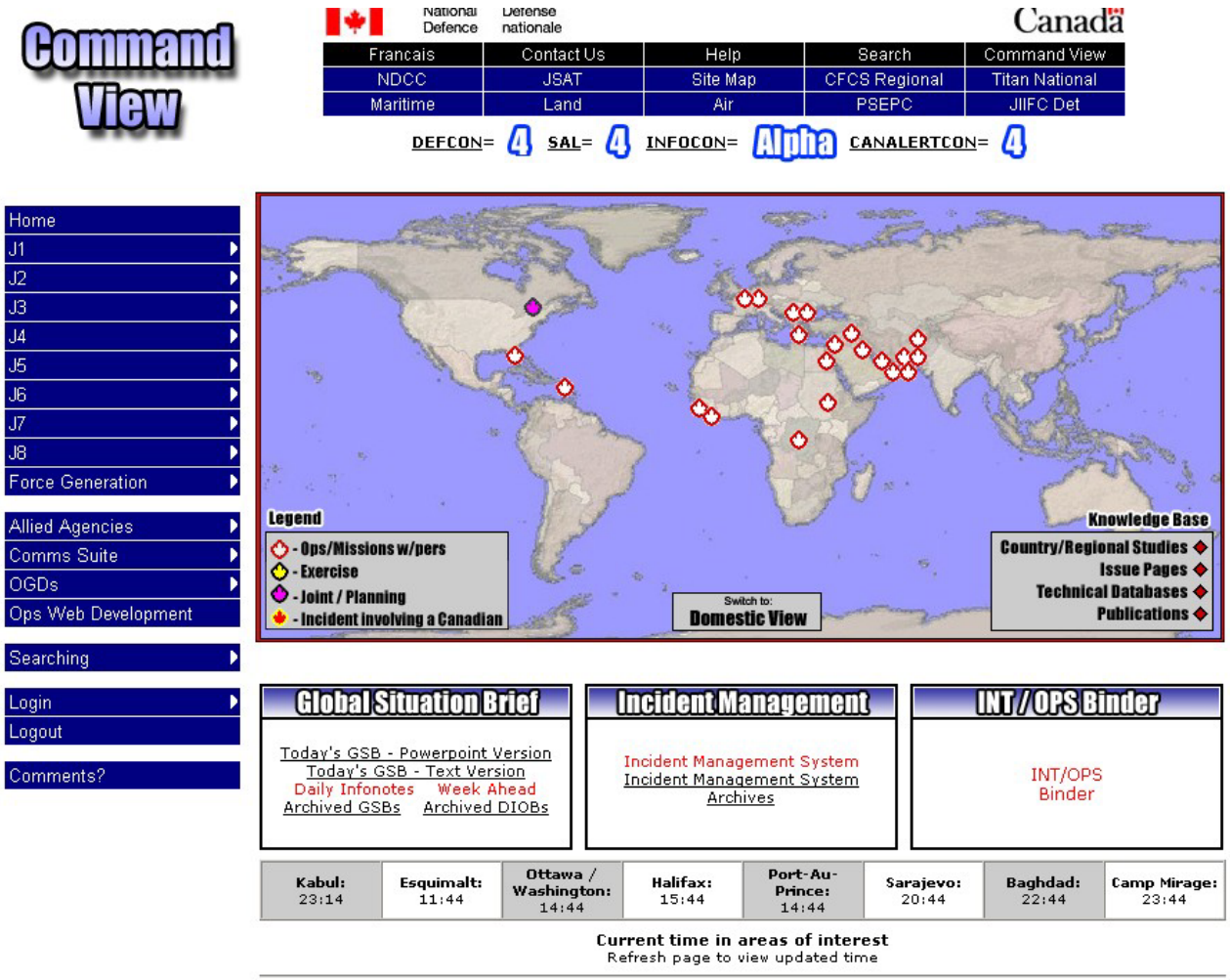
Global 2000 Knowledge Wall

Global 2001 Knowledge Wall

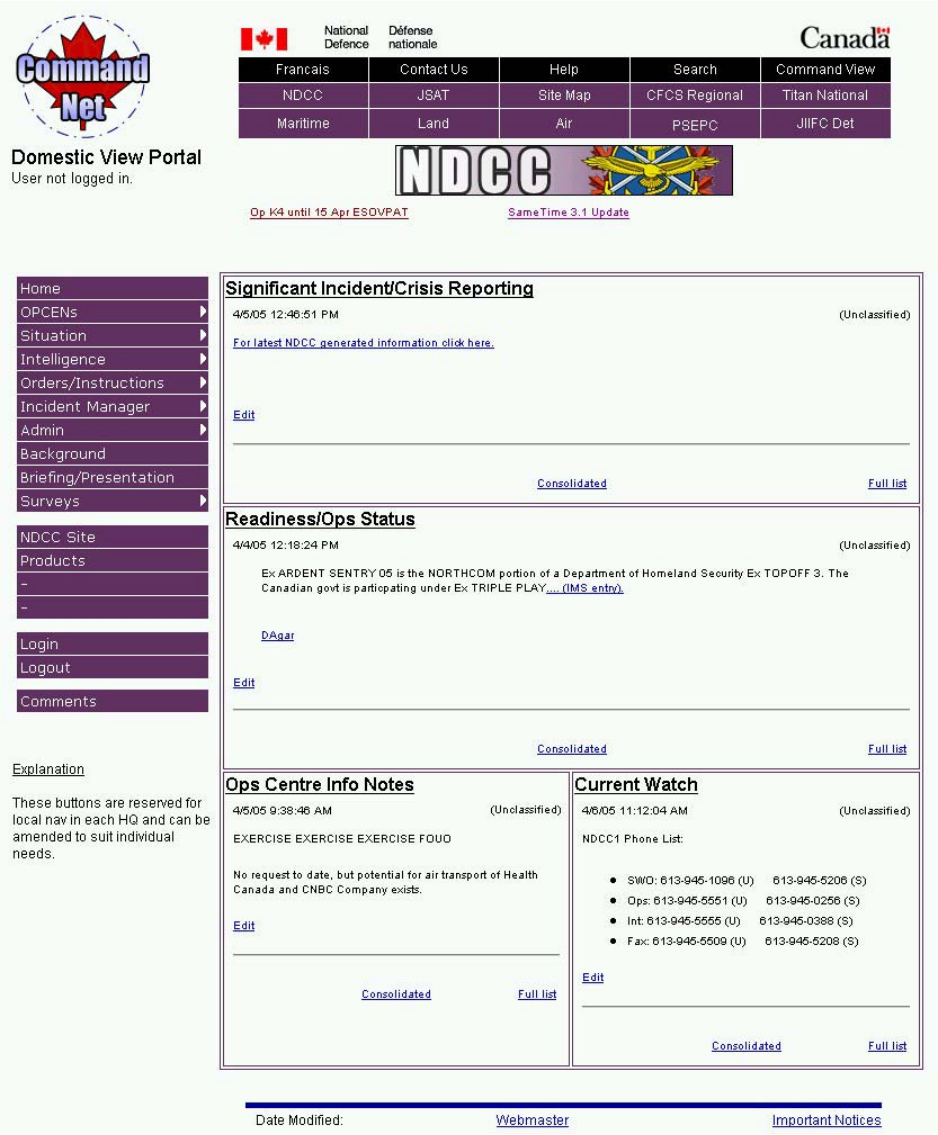
Command View

- Knowledge Web being developed in Canada's under the leadership of Director Joint Force Capability (DJFC)
- Web-based solution to disseminate and manage information between Canadian Forces organizations

Command View…



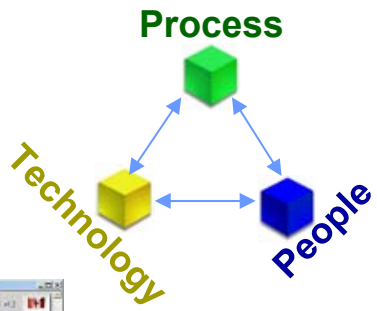
Command View…

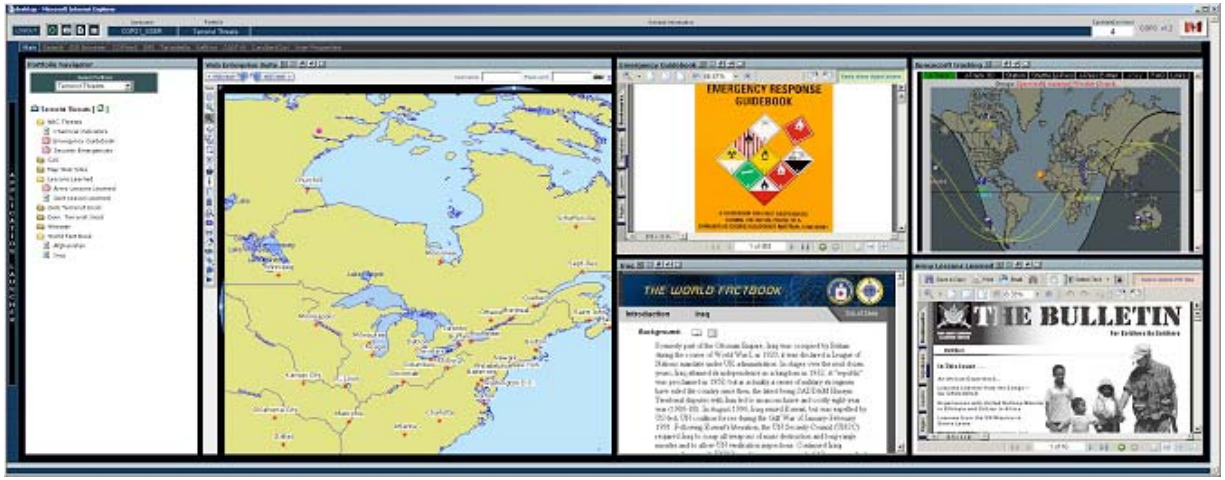


COP 21

- COP – Common Operational Picture:
  - Integrated capability to receive, correlate and display heterogeneous sources of information in order to provide a consistent view of the battlespace
- COP 21 Portal
  - Situation Awareness Knowledge Portal, in line with the NCES approach

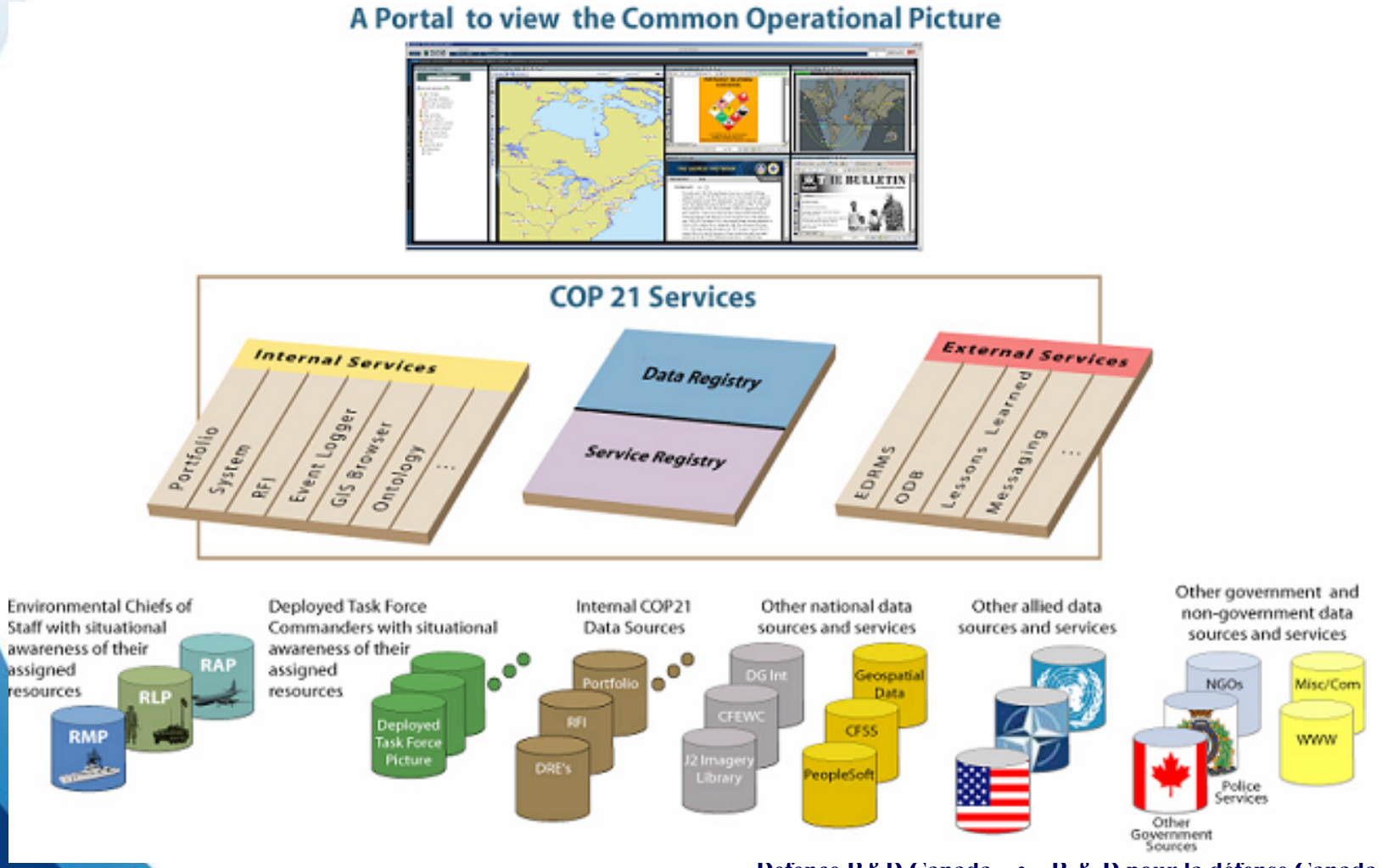
COP 21 TD Objectives





- Demonstrate how Enterprise Portal Technology can improve Situation Awareness
- Review organizational impacts caused by Enterprise Portal technology
- Conduct Risk Mitigation of new Information Technology trends

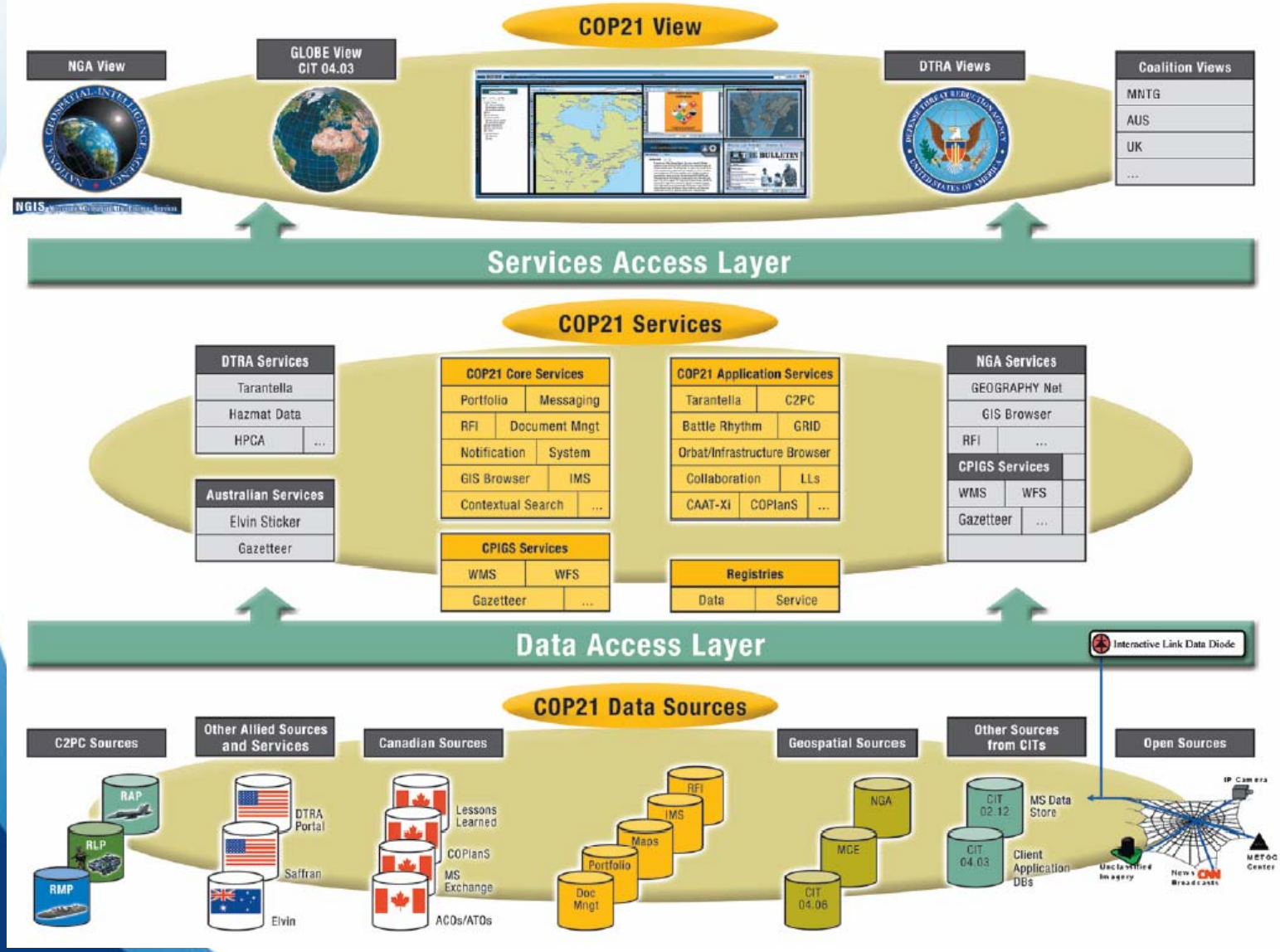
COP 21 Vision



COP 21 Main Capabilities

- Single point of access to multiple information sources
- Filtering and categorizing information using Portfolio views
- View of several documents together
- Disseminating information using Portfolios
- Contextual search services
- Web-Based Geographic Information System
- Integration of application services in the portal

Single Point of Access to Multiple Information Sources



Canada

Filtering and Categorizing Information using Portfolio Views

desktop - Microsoft Internet Explorer provided by JWID 2004

LOGOUT | Username: CA-38 | Portfolio: Op CANUCK - JW

Main | Search | GIS Browser | Grid | COPlanS | GeoFF | Battle

Portfolio Navigator

Select Portfolio: Op CANUCK - JWID 04

Op CANUCK - JWID 04 [ ]

- Action Items
  - Action Items
- Administration
- CIMIC
- Current Issues
  - Current Issues
- Finance & Resources
- Information Systems
- Intelligence
- Legal
- Logistics
- Maps
  - Current Situation
  - GRID based map
  - OPs MAP
  - OSI OPS MAP
  - OPs MAP
- Operation Schedule
- Operations & Plans
  - COPLANS
  - COPLANS Documents
  - Mission Verbs
- Personnel
  - Environmental
  - Health
  - Safety
- Public Affairs
- Summary
- JTF Planning guide
- JTF Planning
- Wing NBCD Protection
- Aussie Search - PT5
- NBC Defence
- TAC AIDE MEMOIRE

APPLICATION LAUNCHER

Predefined Maps

OPs MAP

IMS Entry

Incident Name: DEMONSTRATION INCIDENT

Add to Portal Portfolio

Incident Log | Incident Details | e-SOPs | Forms

Update Incident | Create Incident | Browse Incidents | Browse e-SOPs | Browse Log | New Log Entry | New with IMS | Contact Black Coral

COPLANS

Operation's properties

Operation Name: OP CANUCK

Description: OP CANUCK is the Canadian Forces response plan to a request for Canadian Forces (CF) support to provide forces to the Coalition Task Force in LUMBIA.

Sub Operations

Name	Description
OP MAJOR CSAR	When directed by CFACC, staff should plan to deploy AIR Assets in support of CTF Major CSAR OPs.

Workflows

Name	Status	Start Time	End Time

NDCC NCE BR

Disseminating Information using Portfolios

desktop - Microsoft Internet Explorer

LOGOUT | Username: USER1 | Portfolio: OP Tindoro | General Information | Portfolio Time: 18:09:55 Tue | Local Time: 14:09:55 Tue | Zulu Time: 18:09:55 Tue | COPC v1.4

Main | Search | Sharepoint | My Sharepoint | GIS Browser | Country Pages | COPlanS | IMS | Tarantella | Document Library | CAAT-Xi | CanAlertCon | User Properties

APPLICATION LAUNCHER

Portfolio Navigator

Select Portfolio: OP Tindoro

OP Tindoro [ ]

- G1 Admin
- G2 Intell
- G3 Operations
- G4 Logistics
- G5 Civil Affairs
- G6 Comms
- t1
- Weapon Delivery Syst
- HELICOPTER
- CIA The World Factbo
- 2003 Demonstration J
- t1
- G3 Operations
- UNCLASS Terrorism

UNCLASS Terrorism

UNCLASSIFIED

Terrorism Open Source Intelligence Repor
(TOSIR) No. 91
9 October 2003

Published every Thursday, the TOSIR presents open-source or unclassified English-language intelligen and related matters obtained from the public Internet and from unclassified hard copy reports and pers contract by Interaction Systems Incorporated (ISI) for the Director of Central Intelligence's Counterter and quoted excerpts in TOSIR issues are intended for the non-profit, background use by members of th law enforcement communities in furtherance of their professional duties—and the summaries and quot copyright protections associated with the original sources. Please provide questions, comments, and su to Dr. James Arnold Miller, Chairman, ISI, at isis@mindspring.com, 703-938-1774.

Overview

1. "Swarming: Sting Like a Bee—The Study of Social Insect Ideas for Networks and Organizations in the 1990s; Warf Much Earlier," by David Hughes, Aviation Week and Sp September 2003. The idea of using swarming tactics in battl time of the Byzantine empire after the fall of Rome. Al-Qaed have exploited swarming, which is one reason the Chechens Russian military to a standstill. Using small units of fourteen the Chechens have been successful against much more advan by using radios and weapons as simple as machine guns and grenades. During the war in Iraq, the Saddam Hussein fedaye swarming to attack the long supply lines of U.S. forces with the Saddam Hussein survivors and terrorists are waging a sw against the United States in Iraq that includes knocking out o disrupting United Nations food distribution, and knocking ou
2. "The Terrorist Talks: Al-Qaeda's Top Man in Asia Sings about the Group's Operations," by Simon Elegant, Time October 2003. It is a working principle of professional interr detainee wants to tell his story. It did not take long for Ridua

Weapon Delivery Syst

List of W

Weapon	Deliver
FAT MAN	Bomb/ B-29
Mk-3	Bomb/Bomber Aircra
T-4	ADM/Man-Portable
Mk-6	Bomb/Multiple Aircra
W-7	Warhead/Corporal, H
W-9	Artillery Shell/280mm
Mk-12	Tactical Bomb/Multip
Mk-15	Strategic Bomb/Bomb
Mk-18	Strategic Bomb/Bomb

CIA The World Factbo

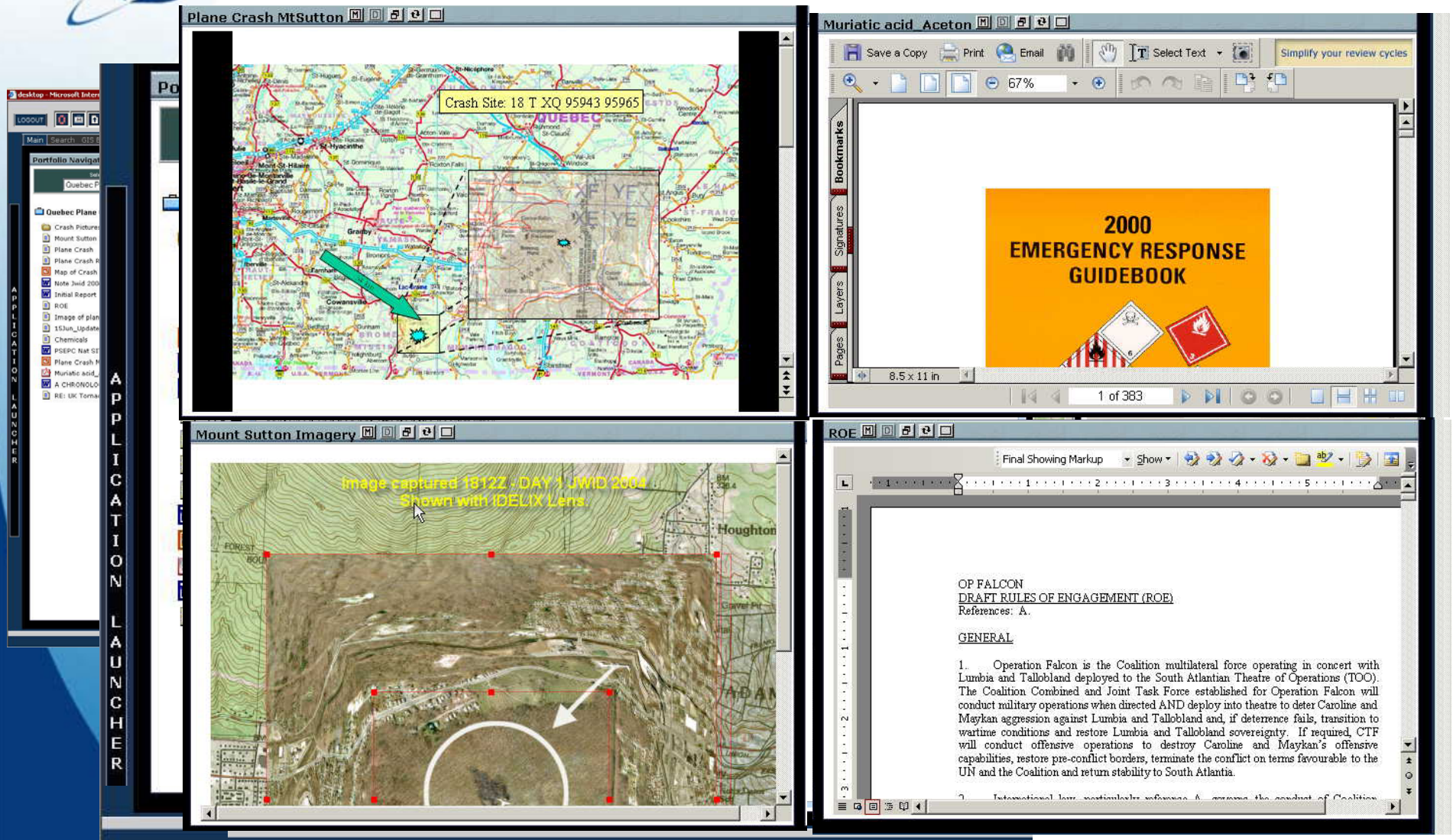
Country List | World Factbook Home

The World Factbook
(JWID 2003) 2002

South Tindoro

South Tindoro

View of Several Documents Together



Contextual Searches

desktop - Microsoft Internet Explorer

LOGOUT | Username: USER1 | Portfolio: OP Tindoro | General Information | Portfolio Time: 15:56:58 Tue | Local Time: 11:56:58 Tue | Zulu Time: 15:56:58 Tue | COPC v1.4

Main | Search | Sharepoint | My Sharepoint | GIS Browser | Country Pages | COPlanS | IMS | Tarantella | Document Library | CAAT-Xi | CanAlertCon | User Properties

Query | Agents

APPLICATION LAUNCHER

Query

Query Text: terrorism help

Maximum Results: 25

Databases:
- ☑ Web
- ☑ RDIMS
- ☑ JSTAFF LL
- ☑ DTRA
- ☑ IMS
- ☑ News
- ☑ Weather
- ☑ ARMY LL
- ☑ Mail

select none

RESET | SEARCH

SUGGEST MORE

Results 1 - 25 of about 310

Title: TOSIR 92 - 16 October 2003
Source: RDIMS: N/A
Relevance: 97.06%
Size: 244KB
Some U.S. officials describe Saudi-backed Wahhabism as a philosophical "platform" that terrorists have used to justify holy war.

Title: TOSIR 91 - 09 October 2003
Source: RDIMS: N/A
Relevance: 97.06%
Size: 259KB
Governments can beef up their intelligence services, ferret out and destroy terrorist networks, and harden potential targets.

Title: UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No.
Source: RDIMS: N/A
Relevance: 97.06%
Size: 365KB
UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No.. Governments can beef up their intelligence services, ferret out and destroy terrorist networks, and harden potential targets.

UNCLASSIFIED

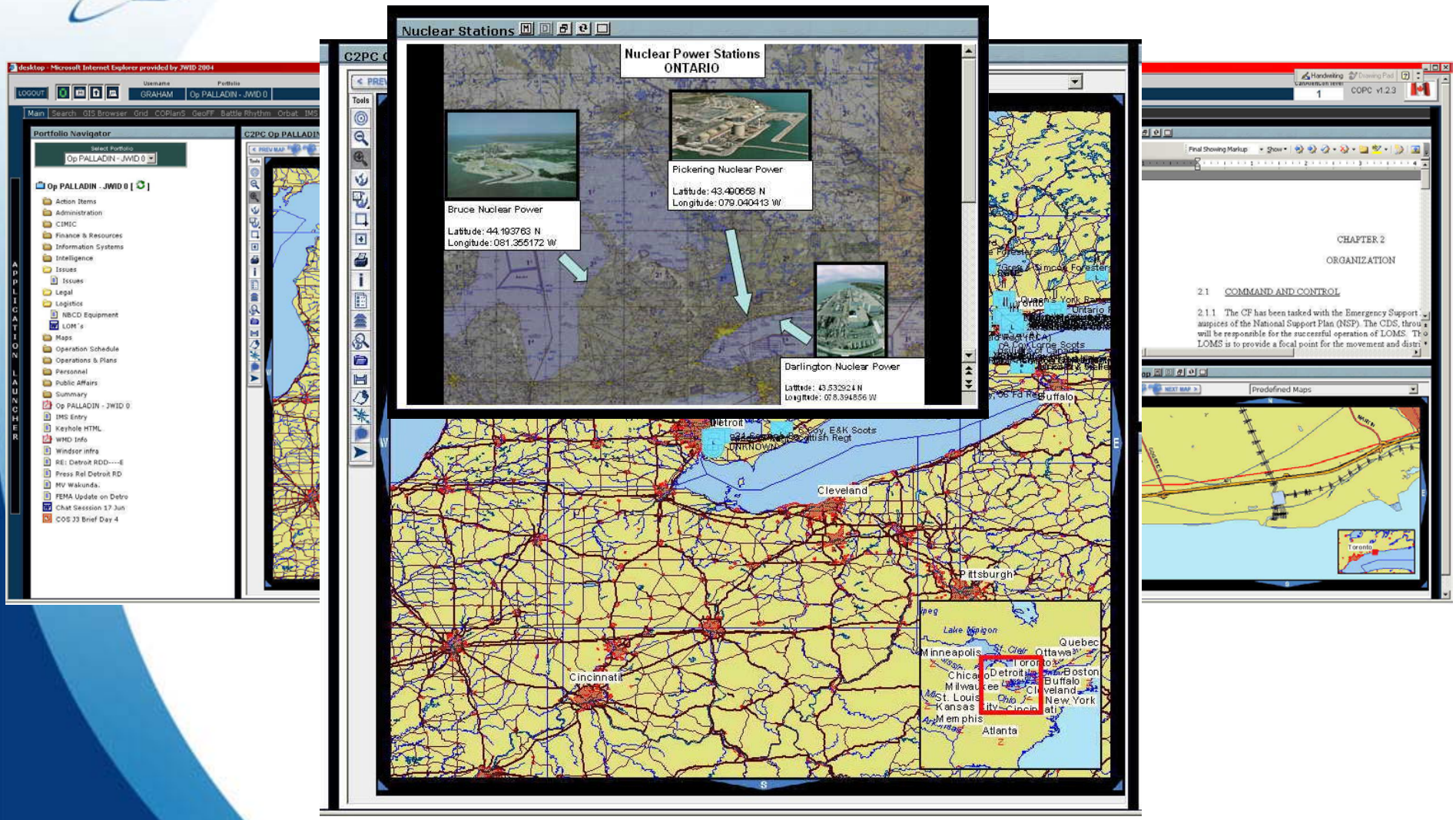
Terrorism Open Source Intelligence Report (TOSIR) No. 91
9 October 2003

Published every Thursday, the TOSIR presents open source or unclassified English-language intelligence on interr and related matters obtained from the public Internet and from unclassified hard copy reports and periodicals. It is contract by Interaction Systems Incorporated (ISI) for the Director of Central Intelligence's Counterterrorist Cente and quoted excerpts in TOSIR issues are intended for the non-profit, background use by members of the United St law enforcement communities in furtherance of their professional duties—and the summaries and quoted excerpts copyright protections associated with the original sources. Please provide questions, comments, and essential elem to Dr. James Arnold Miller, Chairman, ISI, at isinc@mindspring.com, 703-938-1774.

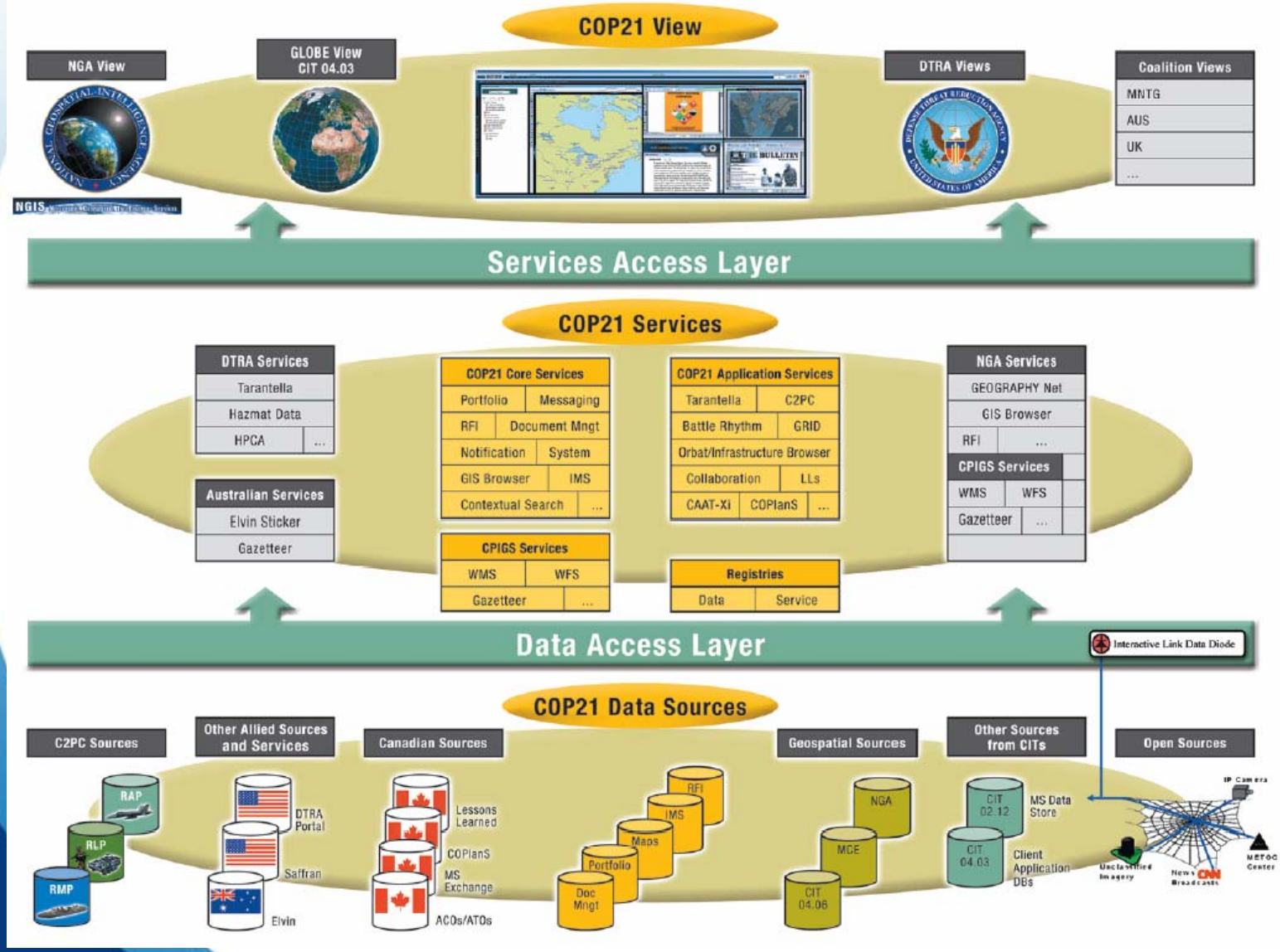
Title: UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No.
Source: RDIMS: N/A
Relevance: 98.62%
Size: 365KB
UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No.. UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No. 91 9 October 2003 Published every Thursday, the TOSIR presents open source or unclassified English-language

Title: UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No.
Source: RDIMS: N/A
Relevance: 98.62%
Size: 365KB
UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No.. UNCLASSIFIED Terrorism Open Source Intelligence Report (TOSIR) No. 91 9 October 2003 Published every

Open Standard & Web-based GIS Browser

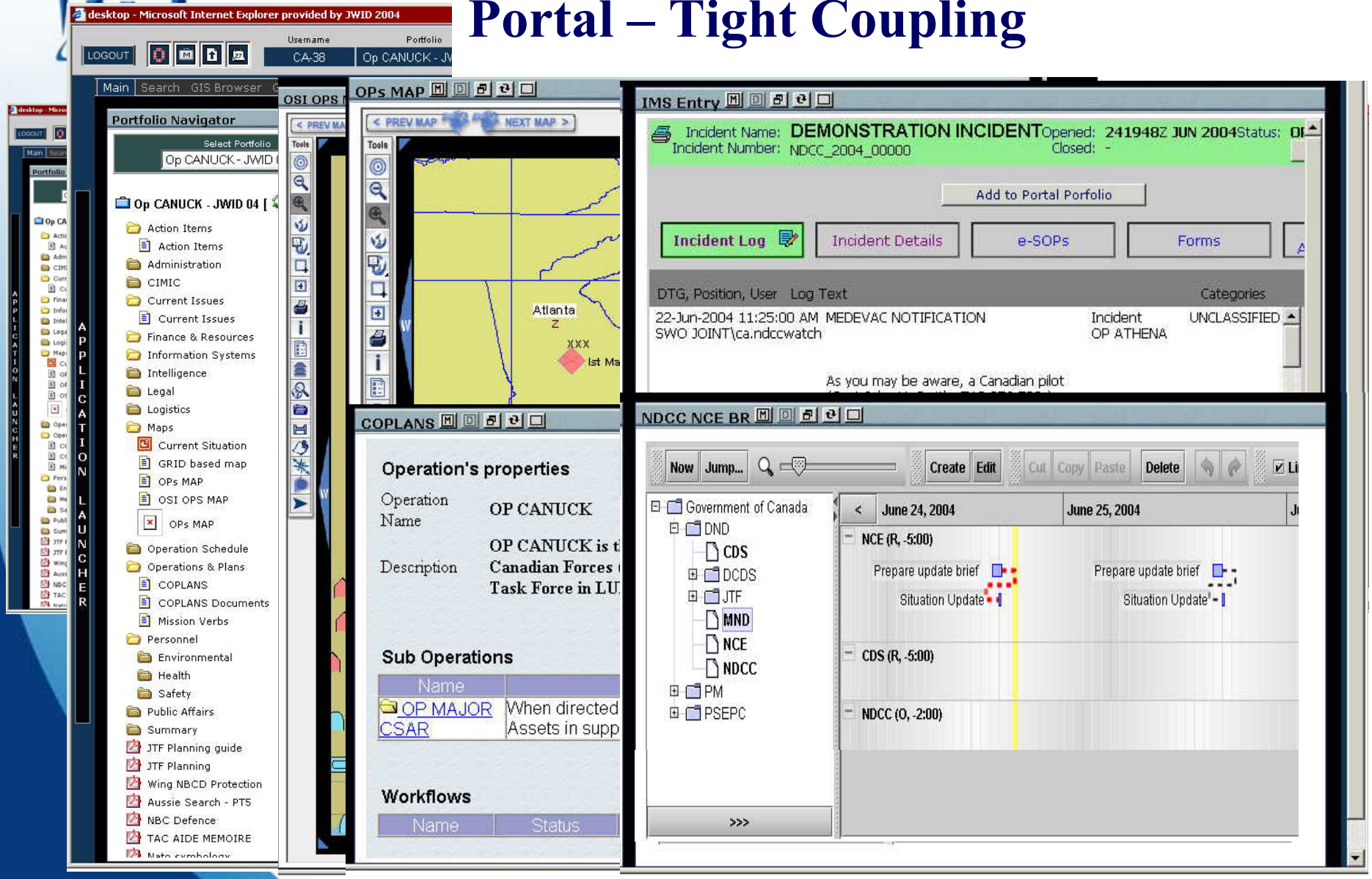


Integration of Application Services in the Portal



Canada

Integration of Application Services in the Portal – Tight Coupling



JWID 04

JWID 04 Feedback

- "COP21 is ideal for loading a large amount of data from multiple sources"
- "Being able to access all pertinent info from one workstation has increased my efficiency 10 fold!"
- "With the 5 screens in full operation you get a better picture of what's going on in any of the portfolios you have open"
- "It's an effective way to share, file, organize info"
- "Posting to portfolios is an appropriate and effective means of info dissemination"
- "Having all the apps in one place – not needing to know where documents are stored – just that they are related to a portfolio is a bonus"

Towards a Knowledge Portal

- K-Web, Command View and the COP 21 Portal all provide easy sharing of information in order to improve situation awareness and support decision-making
- Each application has some unique concepts worth examining
- As part of the COP 21 project, a goal has been to consider how Command View could evolve from a Knowledge Web to a Knowledge Portal

Towards a Knowledge Portal - Key Concepts

- Exploitation of Enterprise Portal Technology
- Global View and Portfolio Views
- Managing Information
- Contextual Support
- Improved Search Capabilities and Classification
- Linked Views
- Collaboration services
- Decision Boards and Decision Support Applications
- Briefing Aids
- Knowledge Walls

DEFENCE R&D DÉFENSE