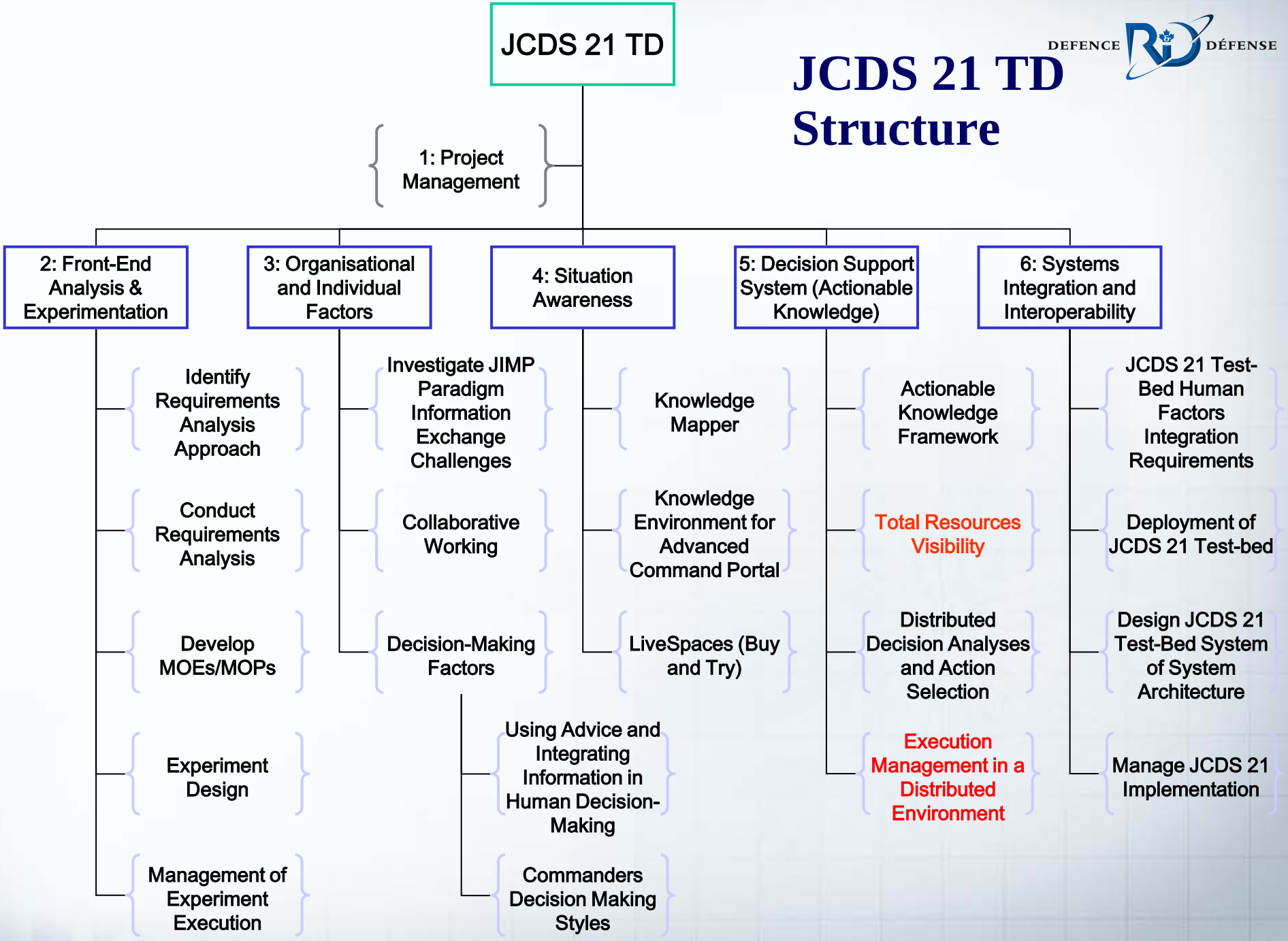
DEFENCE R&D DÉFENSE

A Framework for Resource and Execution Management

Dr. Abdeslem Boukhtouta & Mohamad K. Allouche
Decision Support Systems for C2
Collaborative Planning and Logistics

ICCRTS
Quebec - QC - 21June 2011

JCDS 21 TD Structure



Asset Visibility (AV) Concept

- ``..Asset Visibility Capability combines the elements of **data synchronization** of ERPs, enhanced information capability to support logistics decision-making and support to planning through process and technology solution…``
- AV is the ability to know the identity, location, status, and condition of assets in the logistics chain at the operational level.
- ``.., the AV capability within DND/CF still remains a deficiency because of the **lack of interoperability** across the various systems that that provide the asset information.``
- NATO: An asset can be described as:
  - Unit (example, HMCS Toronto, 427 Sqn,..etc), Personnel; and Materiel/Equipment

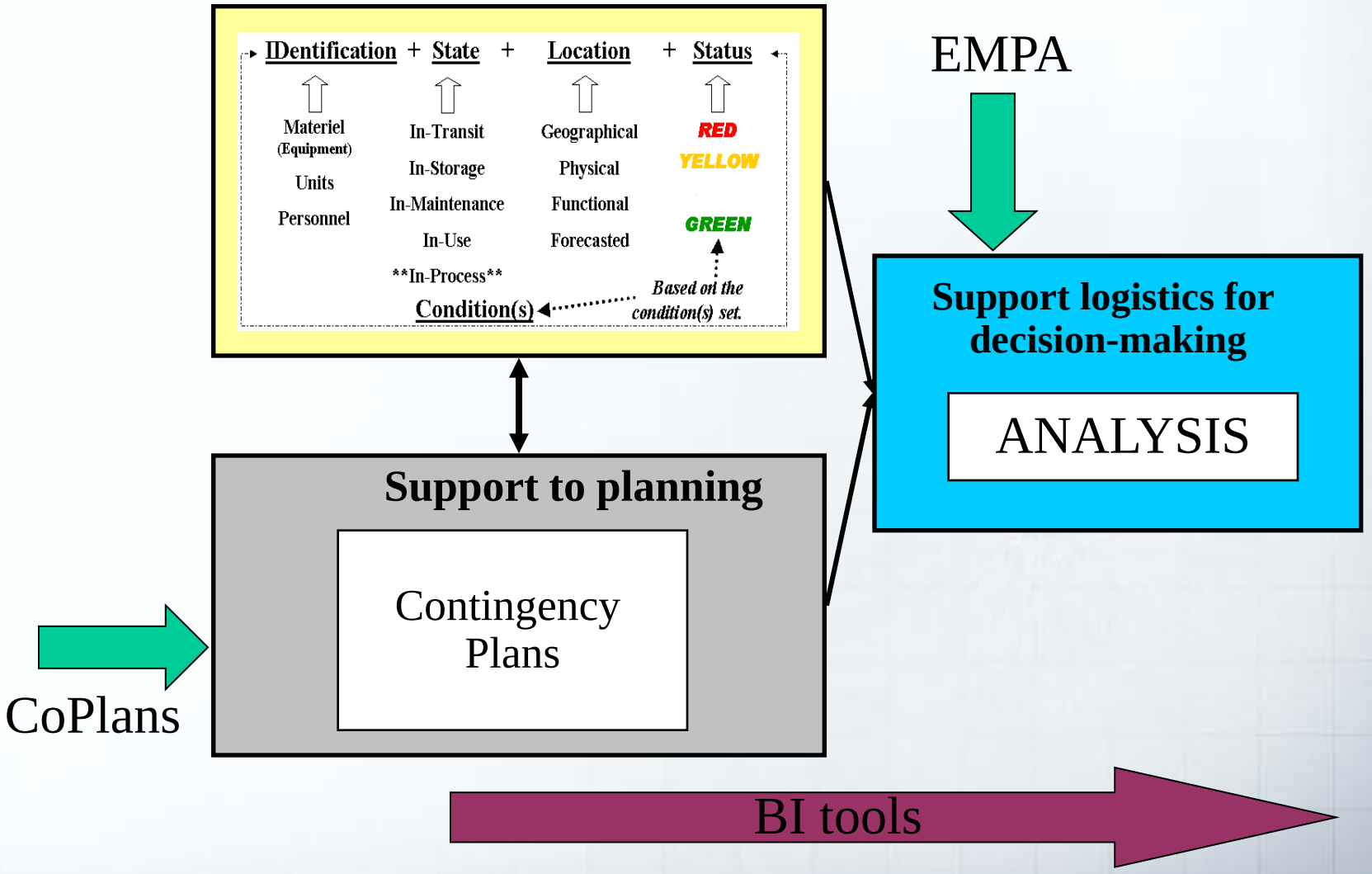
TRV-Purpose

- Resource visibility during planning and operations execution at operational HQs (e.g., CANADA COM, CANOSCOM,..) and
- Analyse and perform measurement of resources employment and usage including operational readiness estimation, forecasting,..

EMPA-Purpose

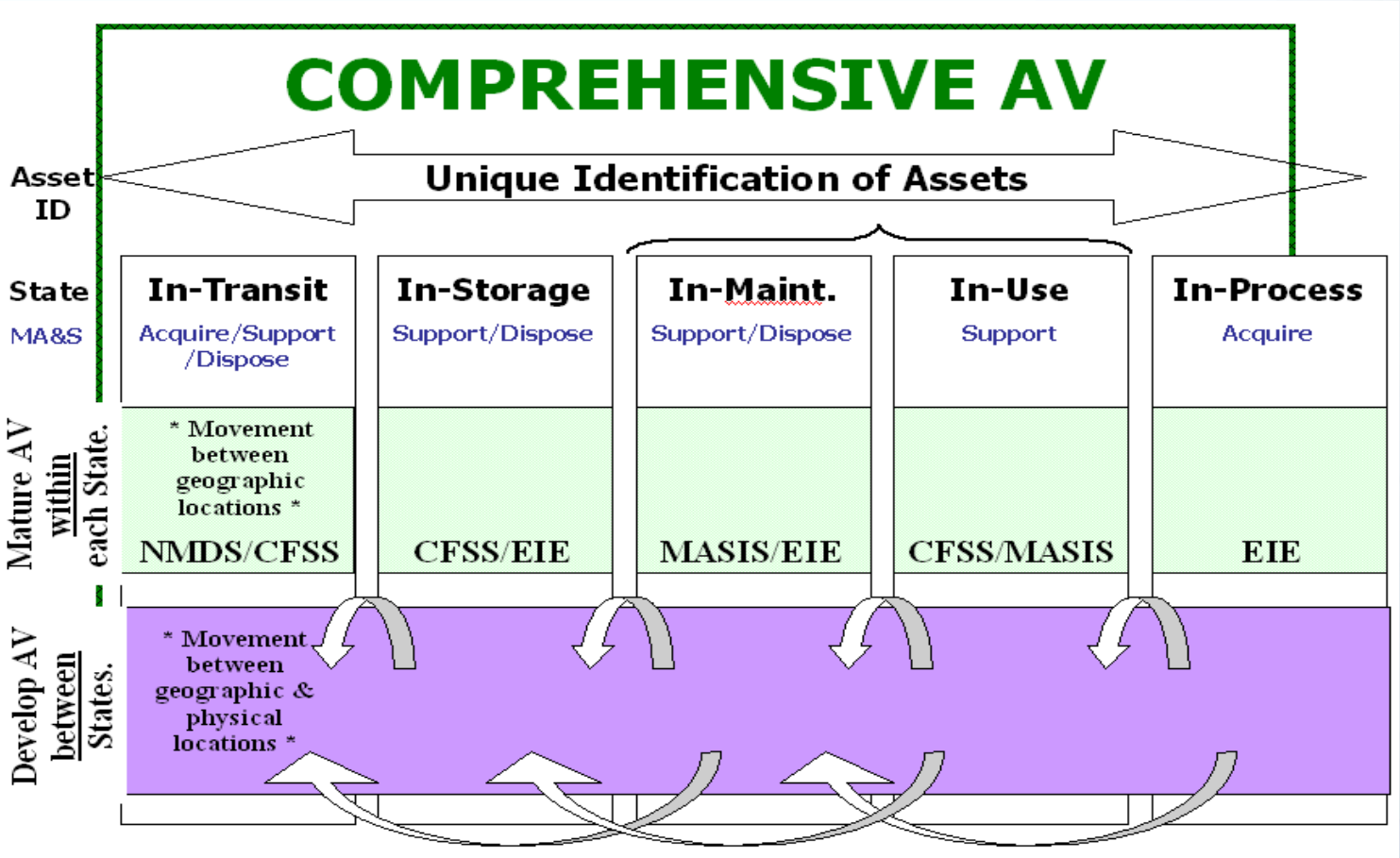
- Collaborative monitoring and reporting on plan execution at different levels of command;
- Plan adaptation and planning support.
- Enable distributed collaborative monitoring and management of current operations at different levels of command.

TRV – EMPA modules



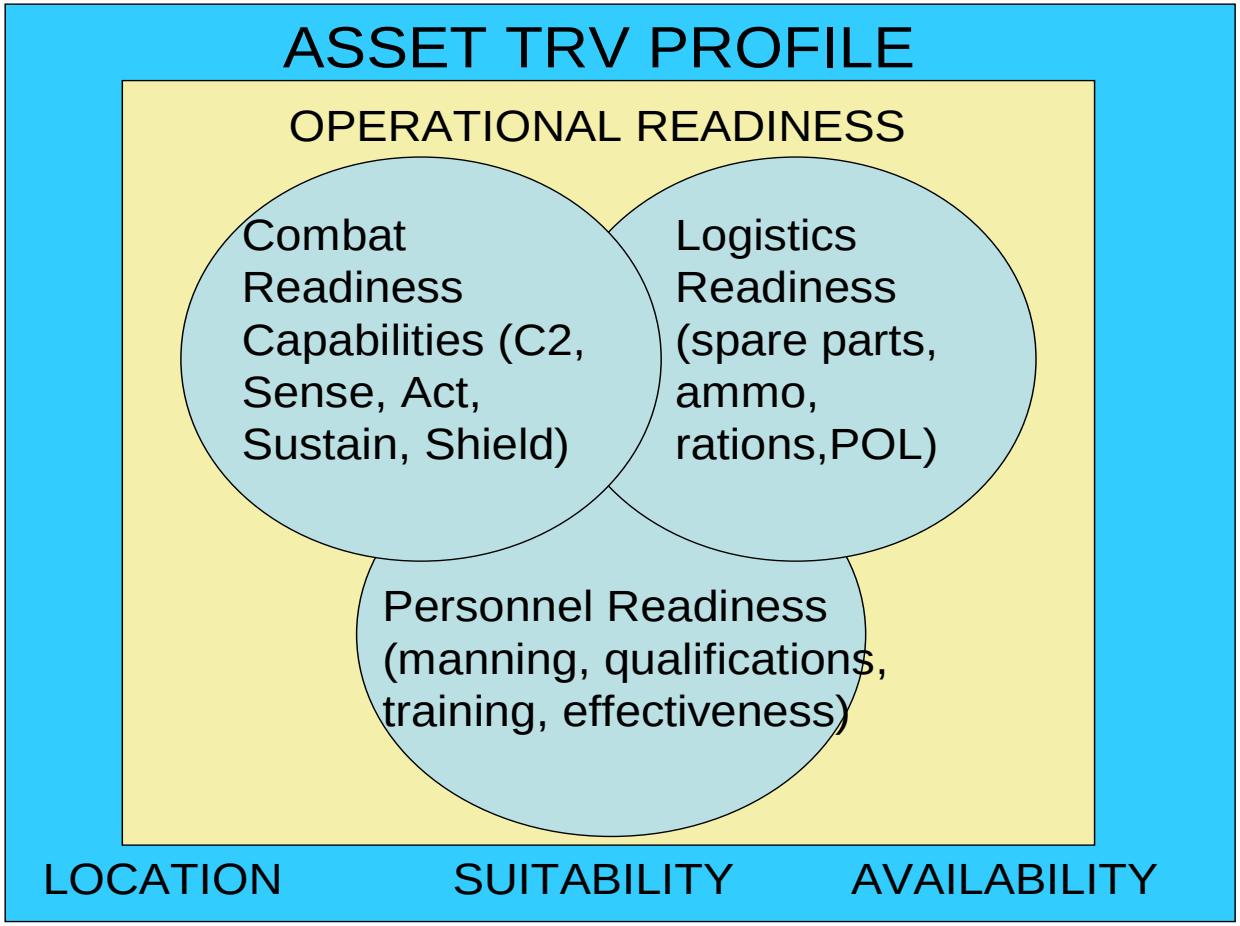
Yello Box, From document Statement of Capability Deficiency, ASSET VISIBILITY INTERIM CAPABILITY, 28 January 2008

Comprehensive AV, Asset State



From document Statement of Capability Deficiency, ASSET VISIBILITY INTERIM CAPABILITY, 28 January 2008

Operational Readiness (1)

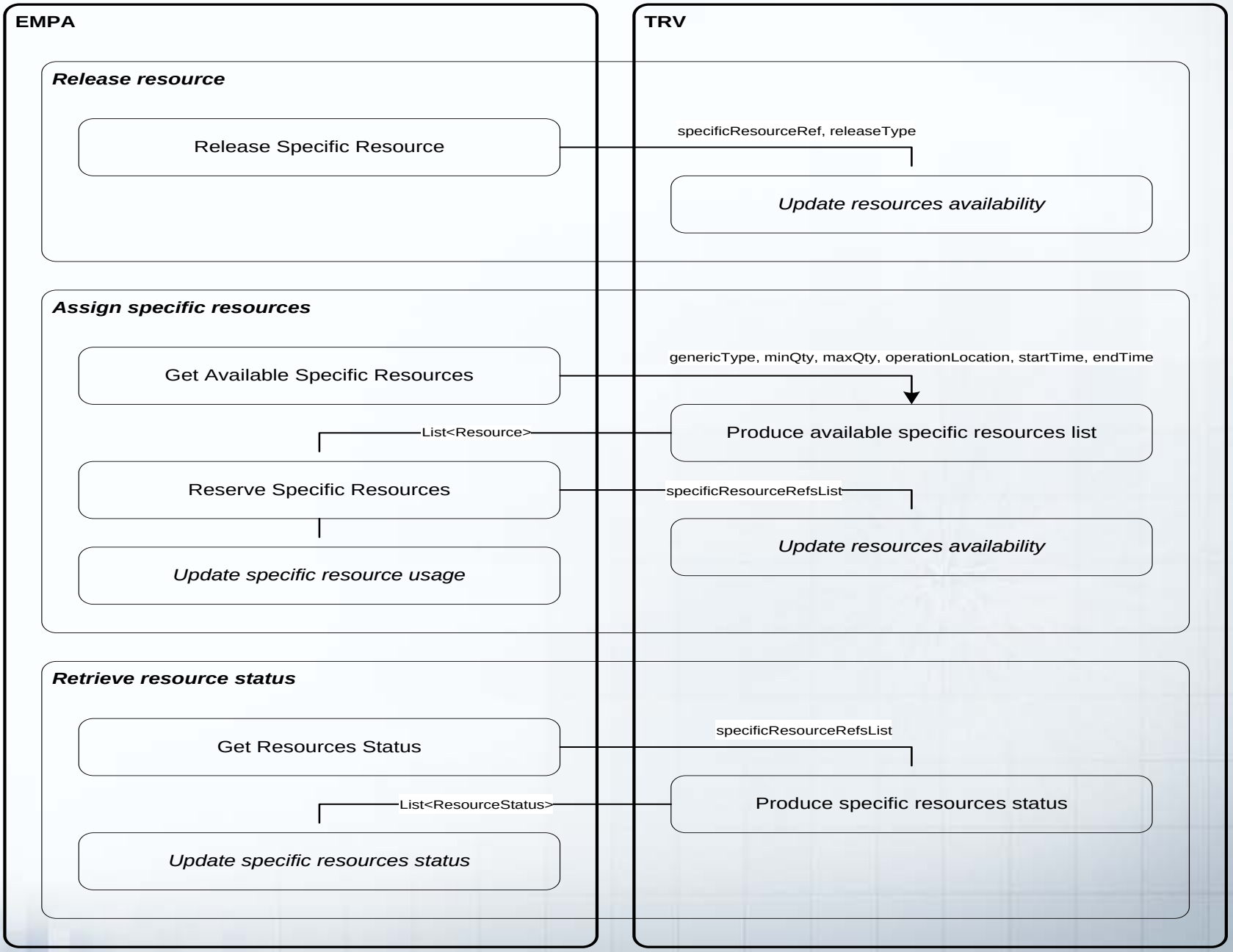


Operational Readiness (2)

Operational Readiness is an overall status assessment of a unit or asset's capability to be used for a military operation taking into account its combat readiness or war-fighting capabilities, its logistics readiness and its personnel readiness.

Asset's combat readiness: ability to exercise command and control (ie to communicate, to issue and receive orders), to sense (ie to use its sensors) to act (ie to move and to use its weapons systems or other non-kinetic capabilities) to shield (ie to defend itself, its operators and its allies or other friendly forces), and to sustain (ie to maintain its other capabilities with POL, spare parts, rations, etc).

Interaction Between TRV-EMPA



Assets Visualization Features (1)

- Visualization of assets from several DND sources and applications.
- Monitoring of military assets and retrieval of detailed information of specified assets (by location, status, etc.).
- Analysis of the aggregated/extracted information to:
  - Conduct measurements such as: cost estimation, impact analysis, combat readiness, logistic readiness, personnel readiness, etc.
  - Elaborate capabilities that support operational planning.

Assets Visualization Features (2)

- Drill down through mission details

  Scenario: Availability of Plan >> Assets support >> Particular Asset details

- Navigating through mission commands

  Scenario: JTFs >> ORBATs >> Assets on ORBATs >>Asset Details

- Navigating through bases

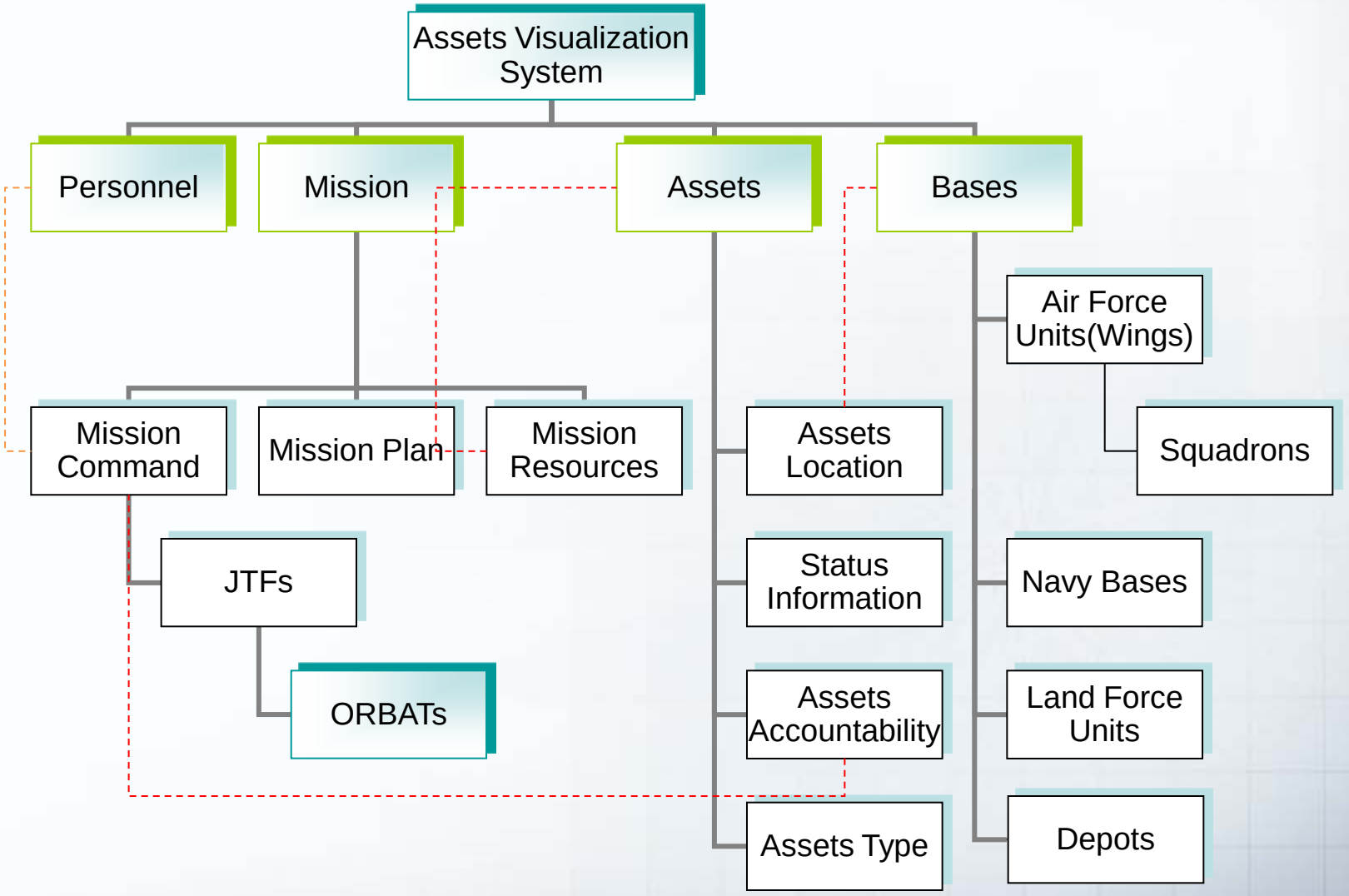
  Scenario: Wing >> Squadron >> Assets on Squadron >>Accountable JTF

- Monitoring of assets

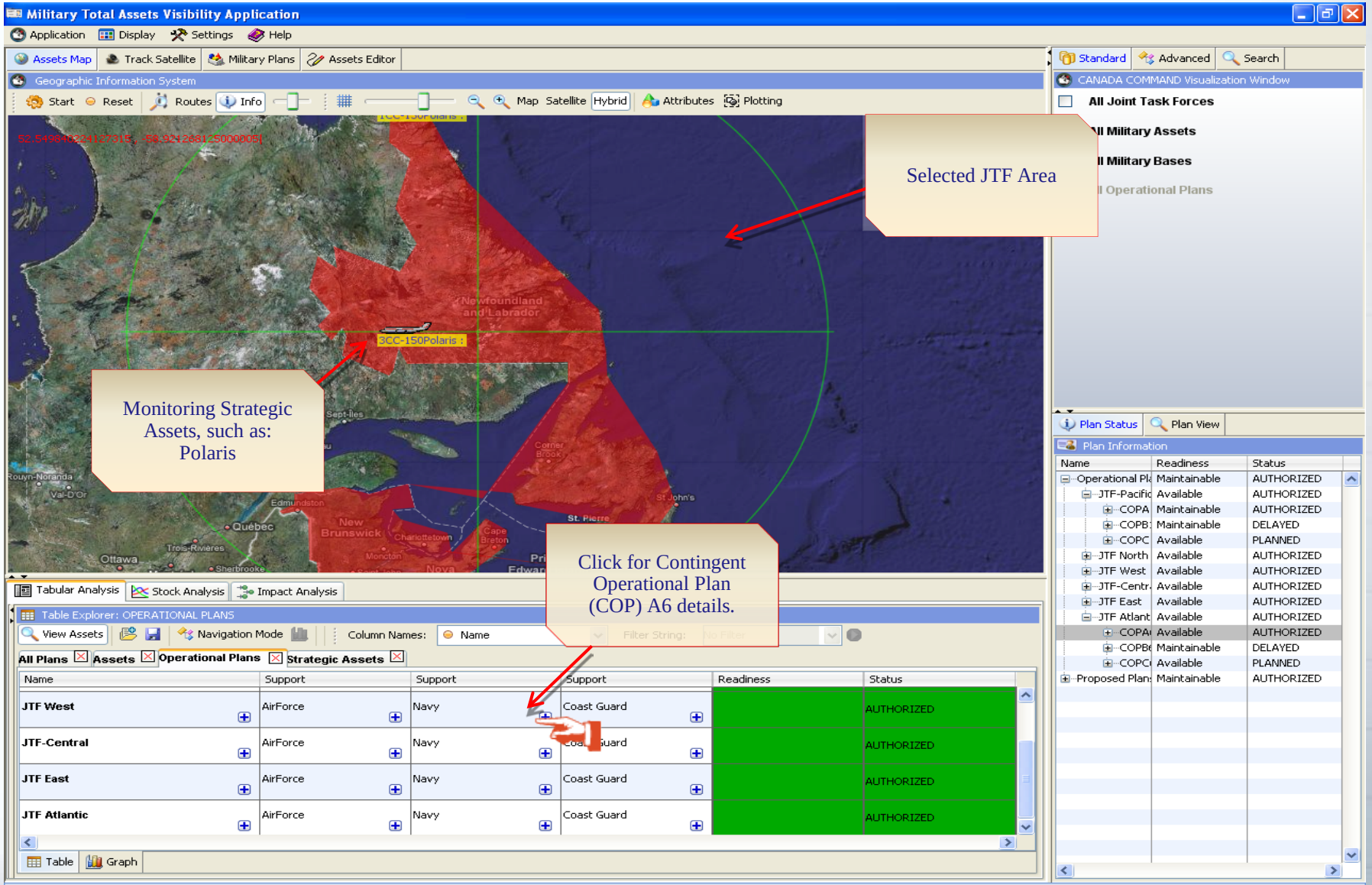
  Renewable Assets Monitoring

- Information sharing and integration capabilities

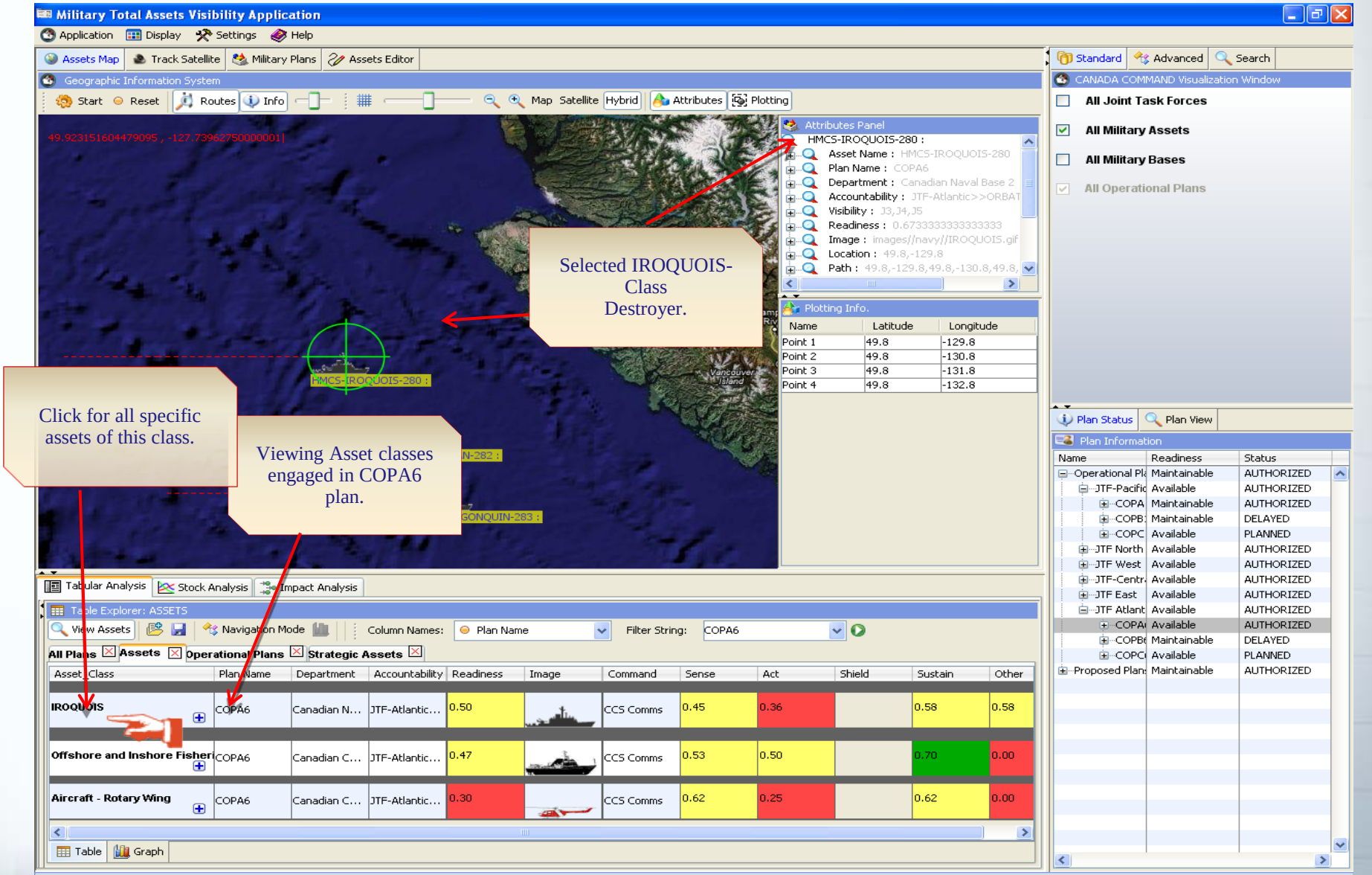
Visualization hierarchy model of “Total Assets Visibility” solution



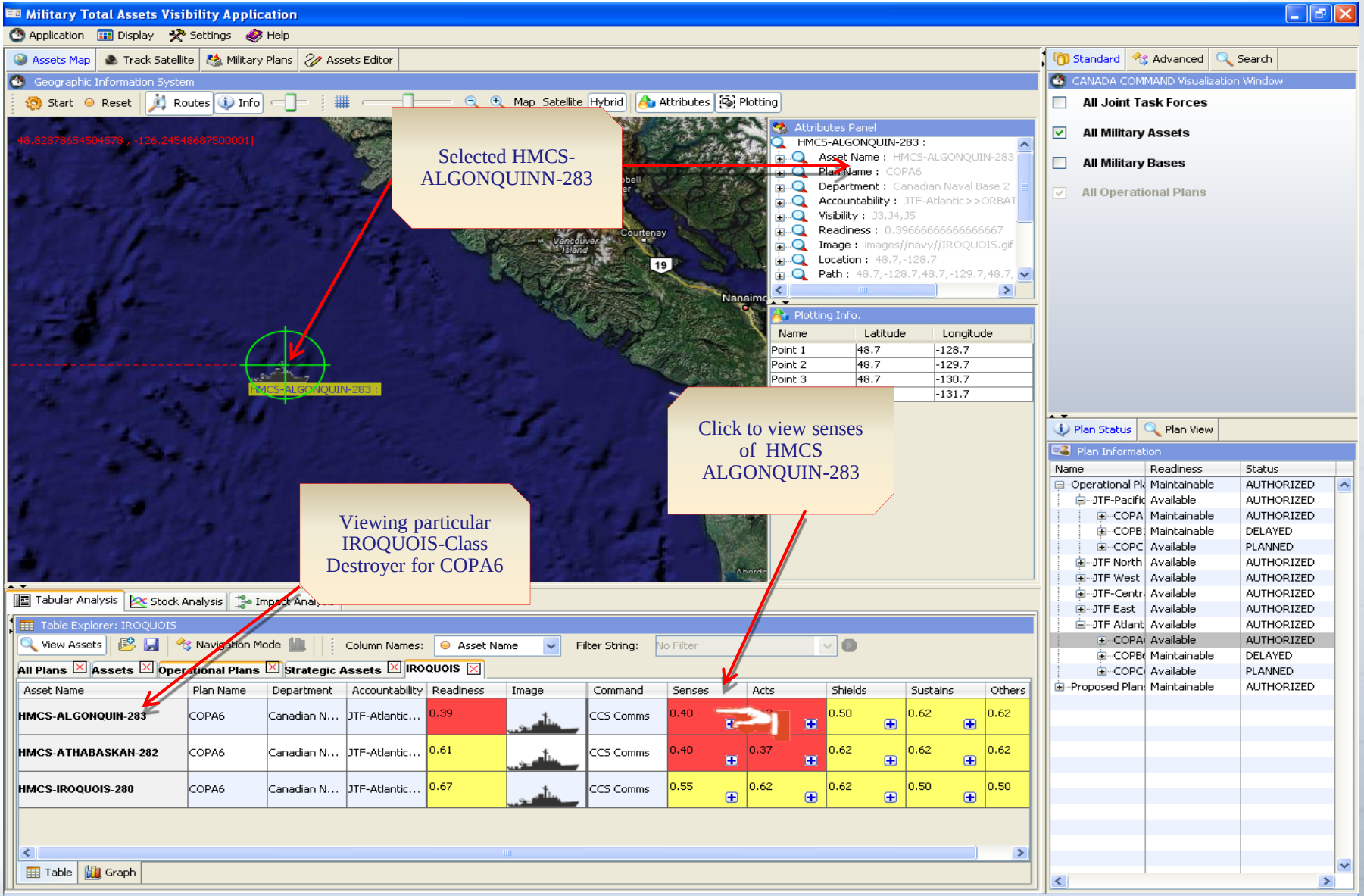
Drill Down through Missions (Slide 1)



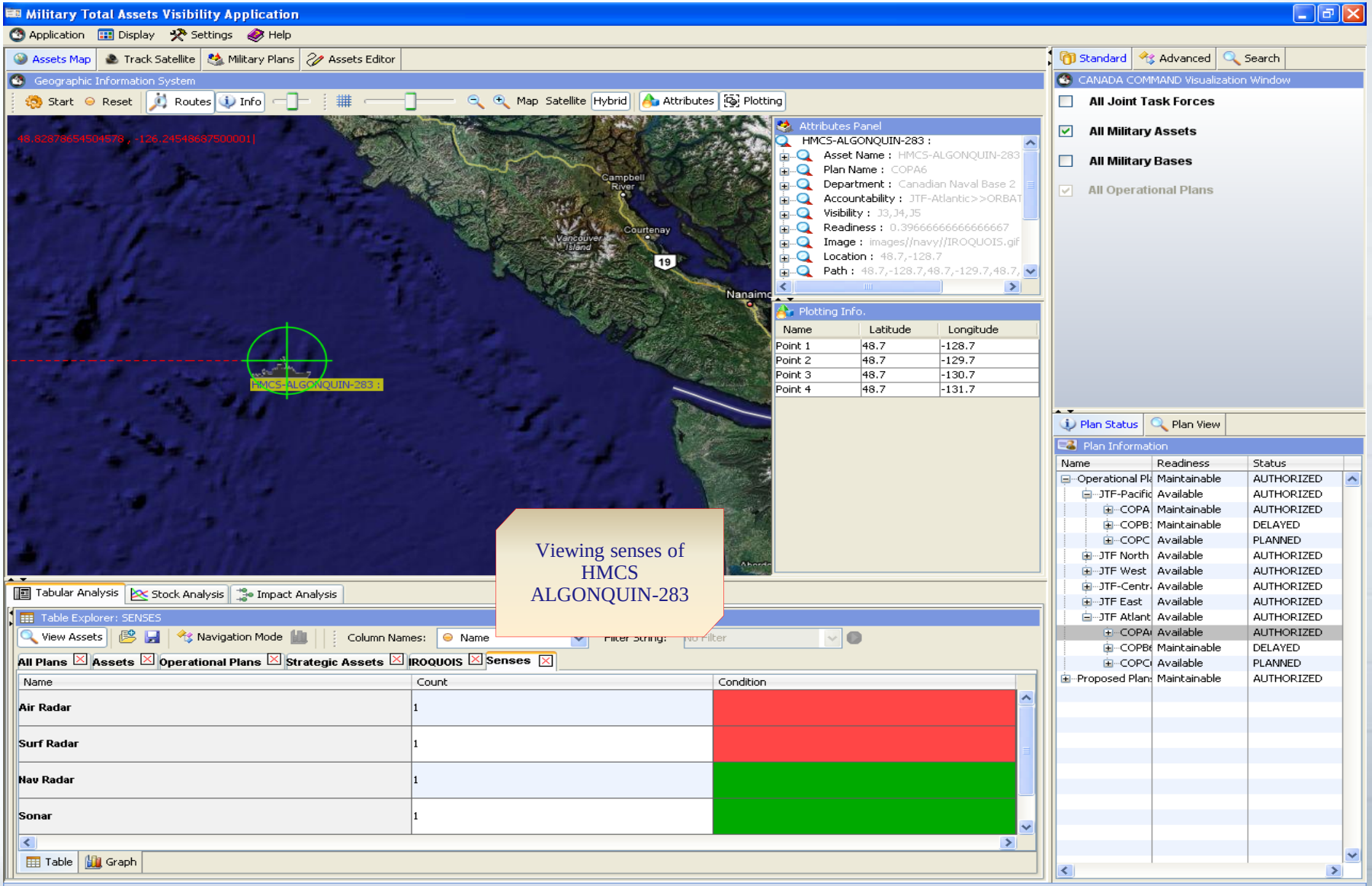
Drill Down through Missions (Slide 2)



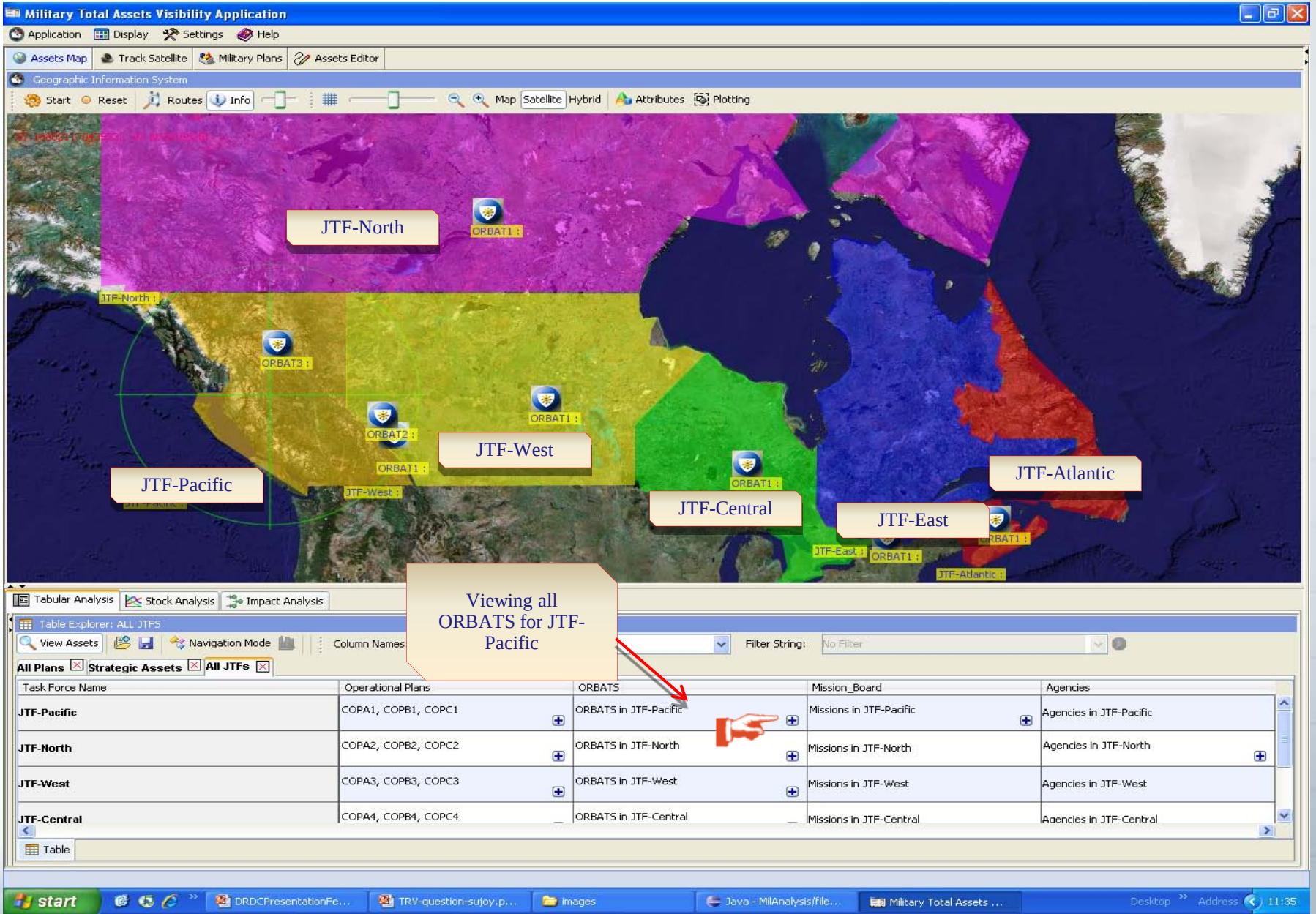
Drill Down through Missions (Slide 3)



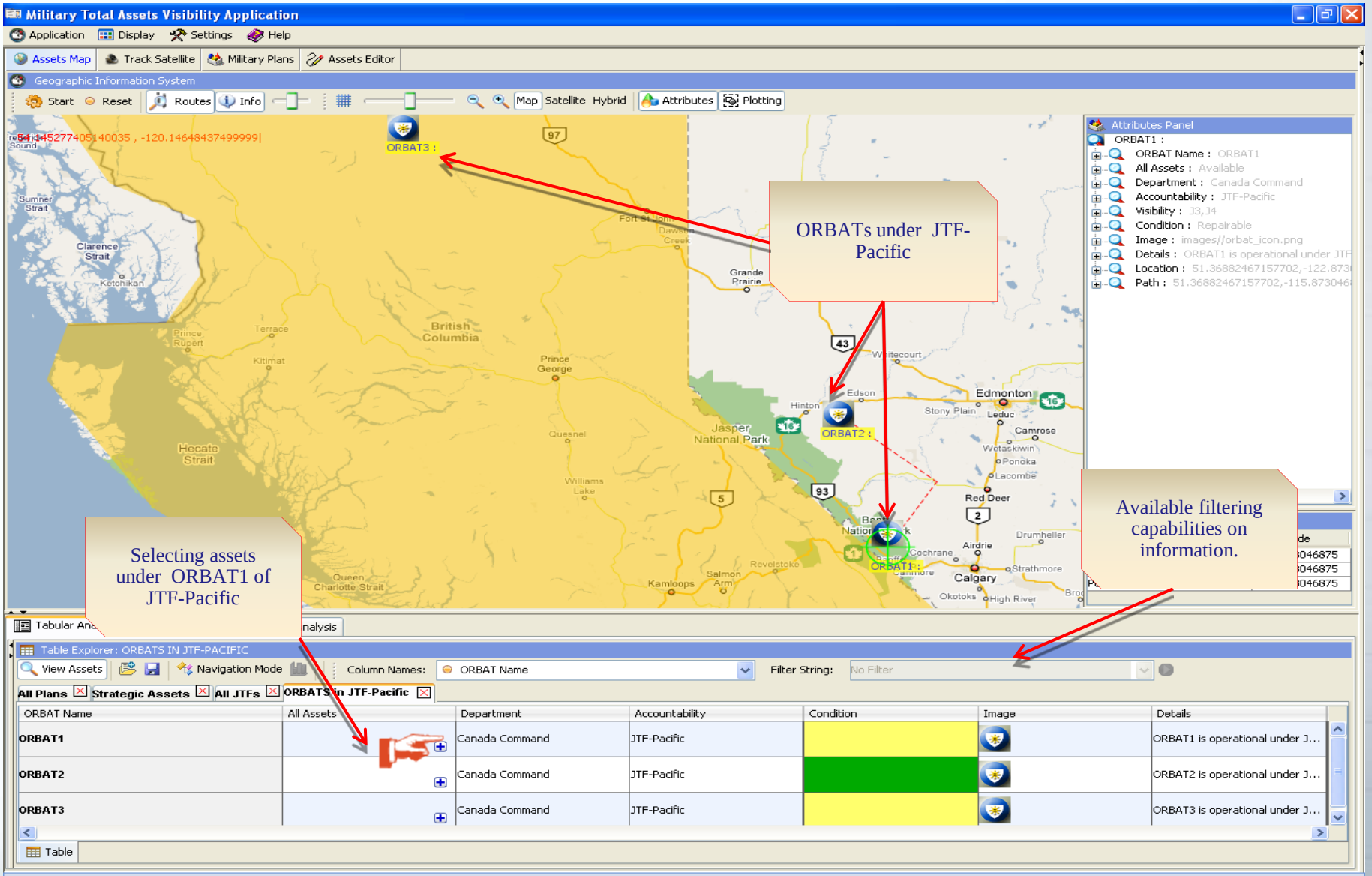
Drill Down through Missions (Slide 4)



Navigating through Mission Command (Slide 1)



Navigating through Mission Command (Slide 2)



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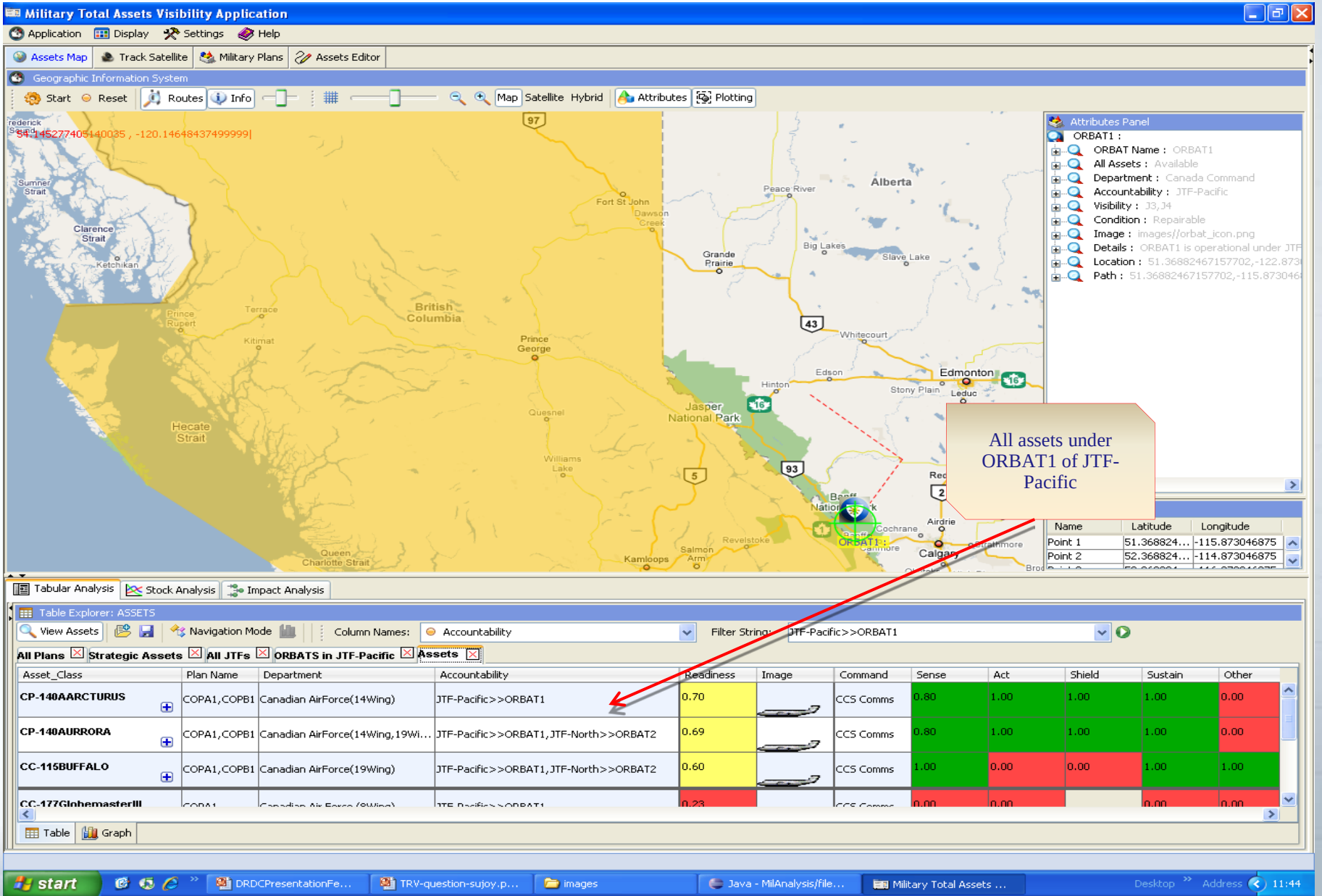
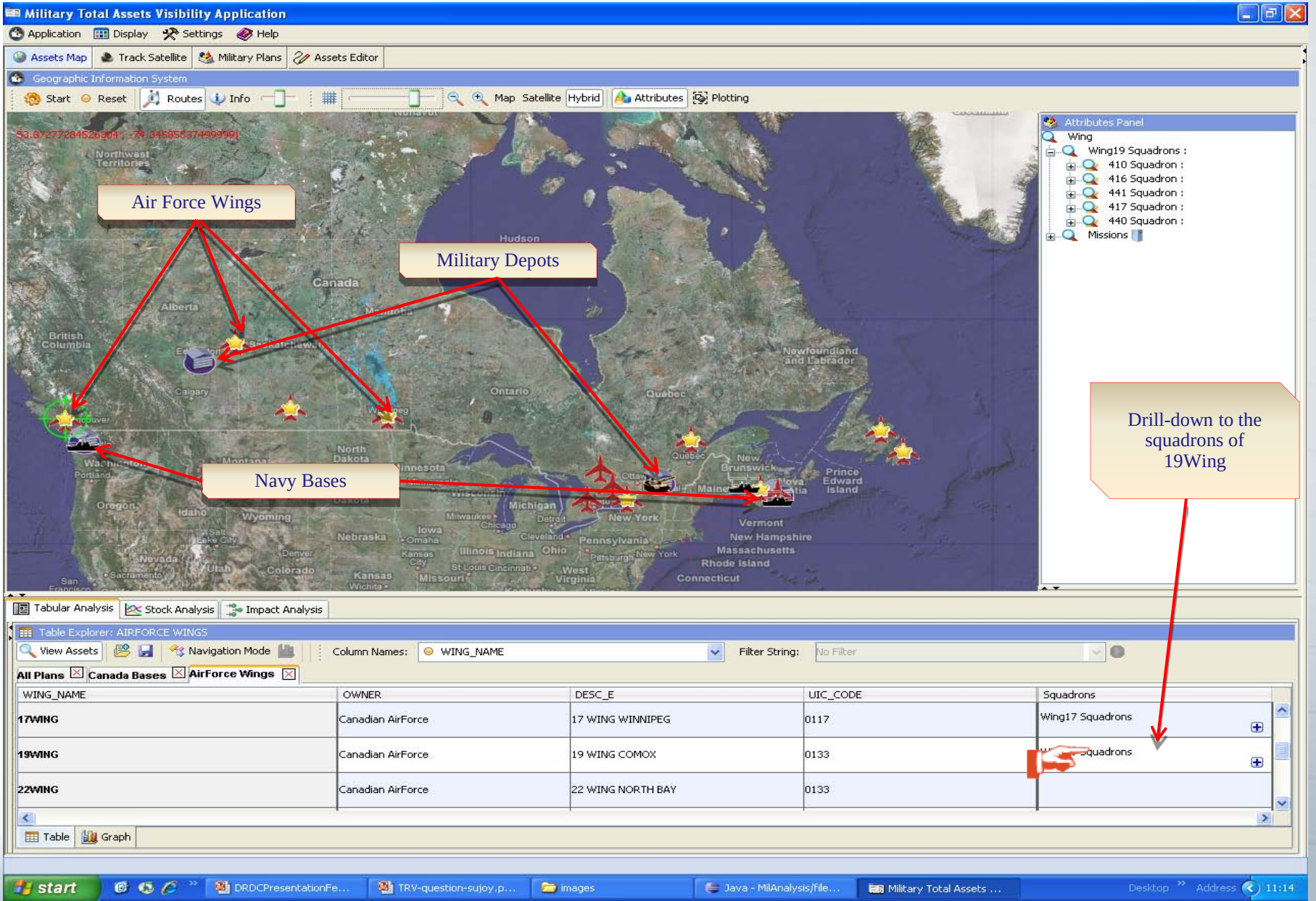
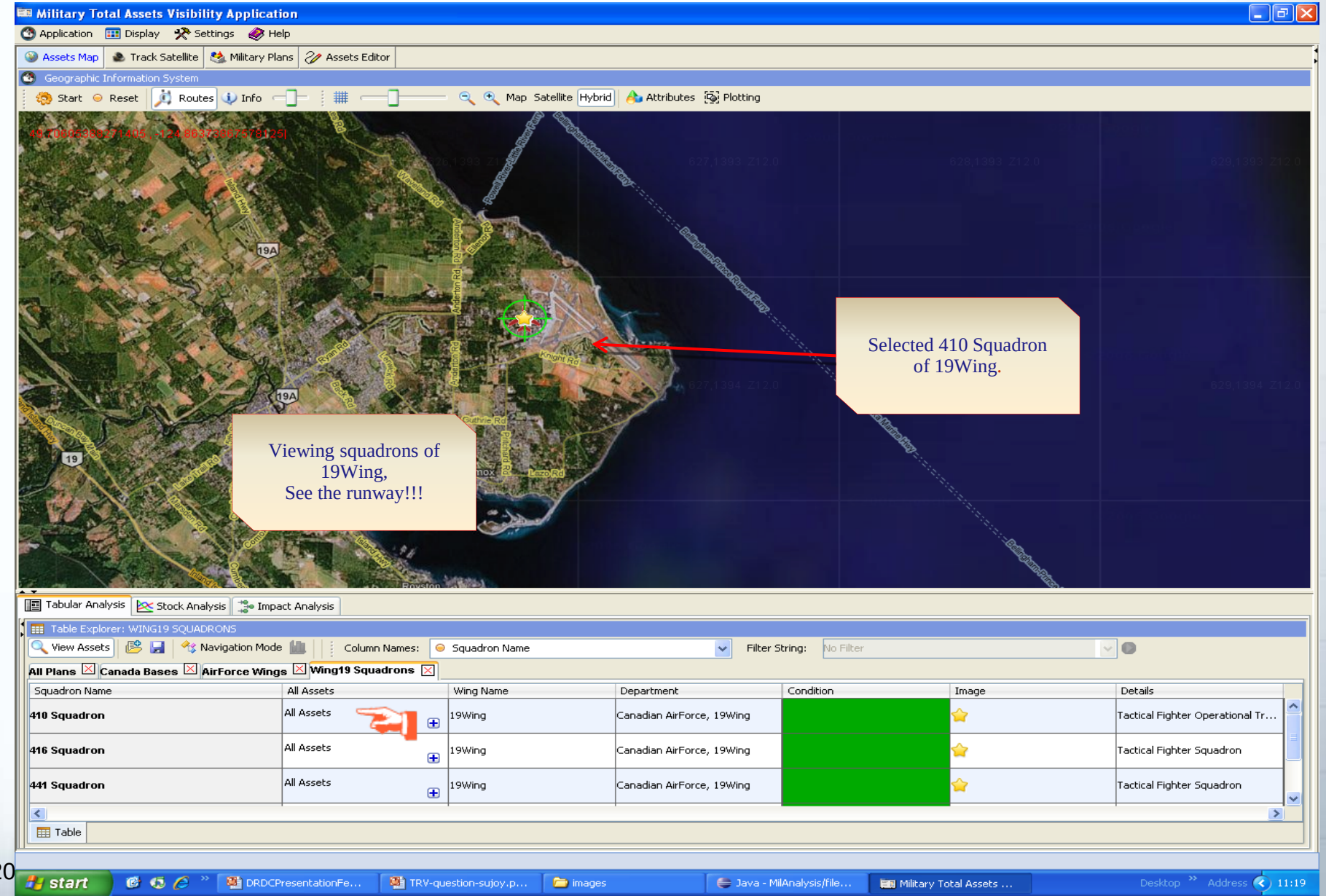


Navigating through Military Bases (Slide 1)



Navigating through Military Bases (Slide 2)



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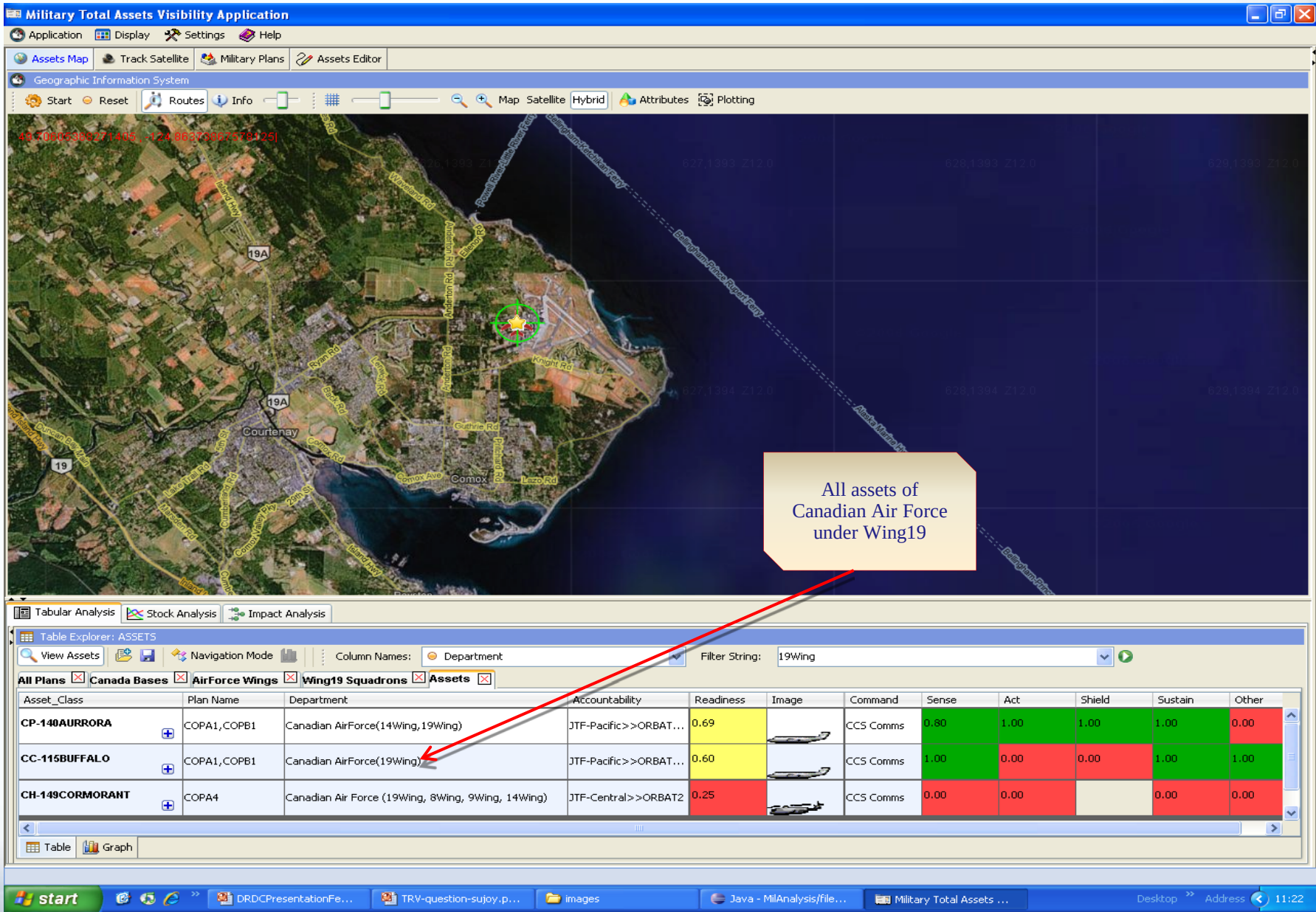
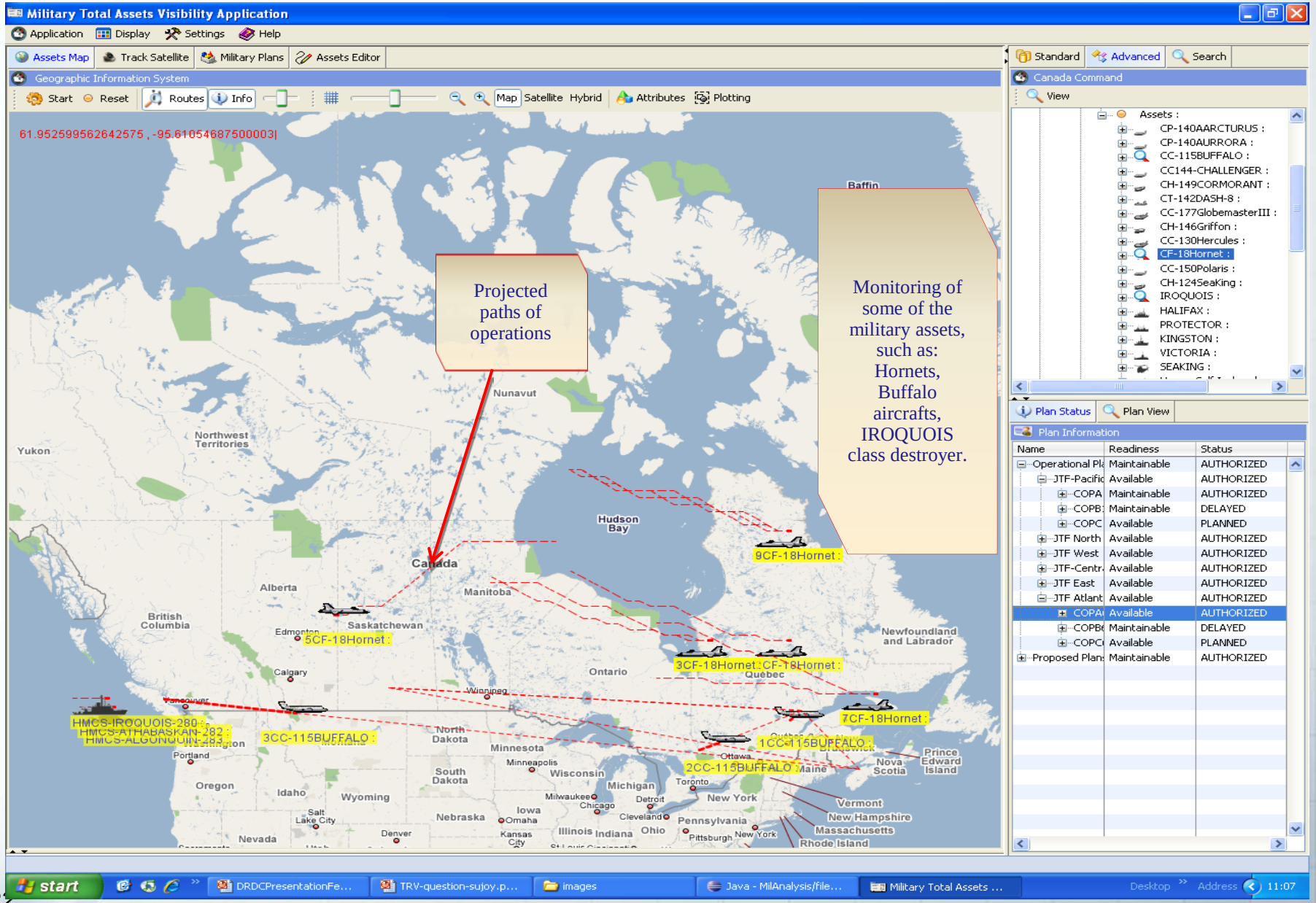


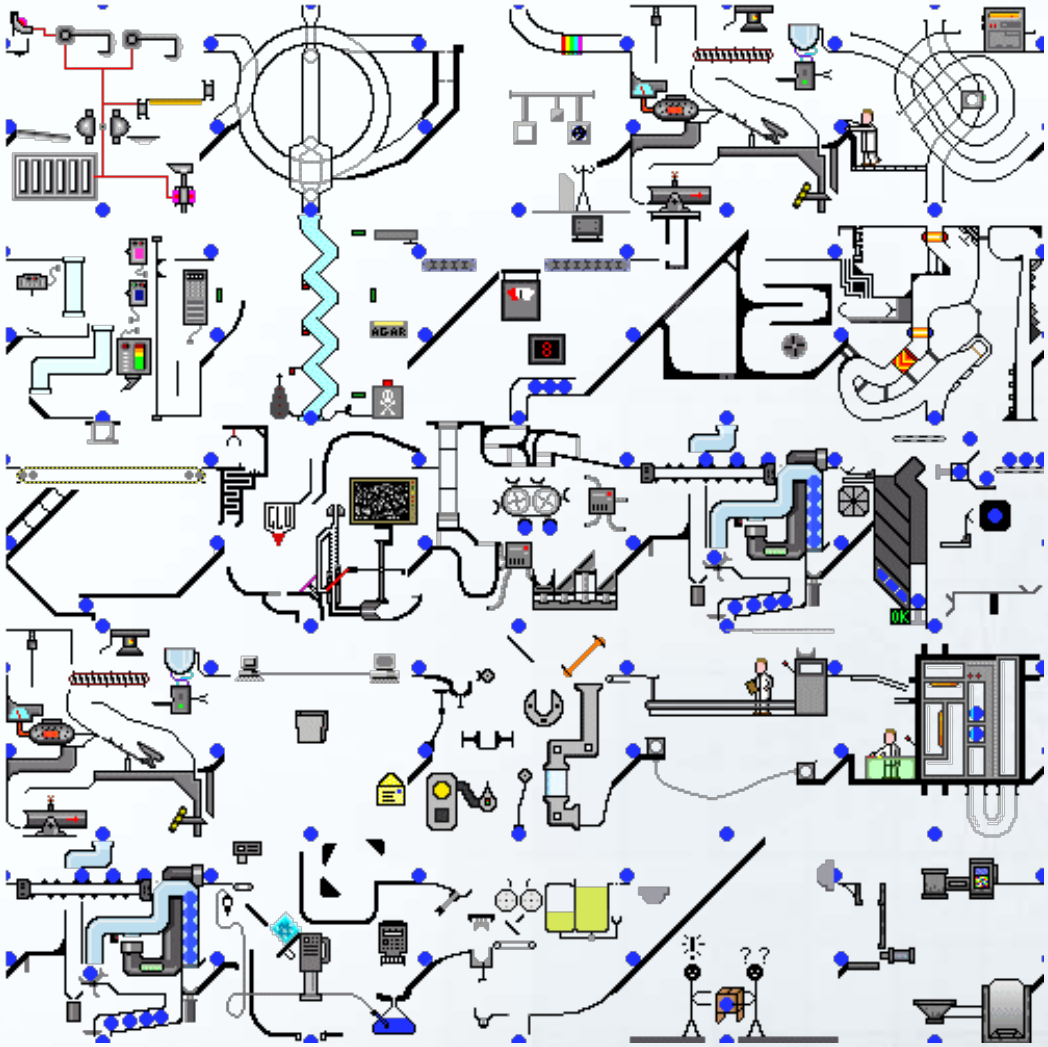
Assets Monitoring



Conclusion- AV benefits

- Decrease in the number of systems that may have to extract information from or send information to;
- Automated data capture : efficient recording of asset information, increase the efficiencies within DND SC, improve business functions, …
- Efficient management of logistics chain & Re-direction of assets to meet urgent/critical needs..
- Task-tailored support elements: flexible and adaptive C2 systems.
- Improved information survivability: integrated repositories.
- ``Ability to fuse up-to-date and accurate operational and support/logistics information in order to enable operators to achieve COP of the sustain situation``.
- An ability for multinational (and other Gov. insti.) interoperability : combined operations with US, NATO and Allies.

Questions ?



Most important assets (1)

- Major assets: assets in which military operational planners, ops centre watch keepers and commanders have the most interest with respect to their **location**, **availability** and **suitability**.
- “any vehicle or appliance that can be used to provide C2, communications, intelligence, surveillance or reconnaissance support or transport, shelter or logistics support in the conduct of military operations”.
- Assets that are of importance to operations planners and monitoring staffs

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