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QualiWare NA User Conference
10 February 2015

Defence Enterprise Architecture

DND/CF ENTERPRISE ARCHITECTURE PROGRAMME

Inform. Decide. Transform.

PROGRAMME D'ARCHITECTURE D'ENTREPRISE DU MDN/FC

Informer. Décider. Transformer.



Department of National Defence
Director – Enterprise Architecture



Objectives

- Provide an overview of the Defence Enterprise Architecture Program
- Communicate key areas of architecture development being supported by QualiWare





Outline

- Key Concepts
- The Framework
- Program Overview
- Current Architecture Efforts





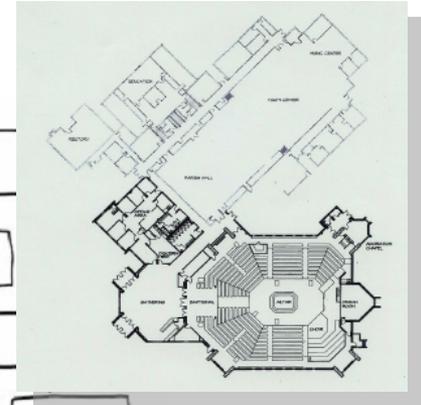
Defence Enterprise Architecture

KEY CONCEPTS

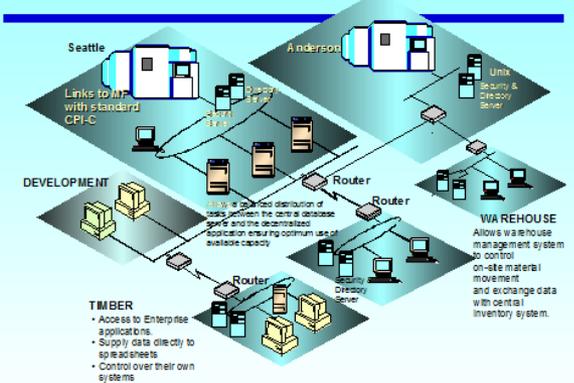




What is Enterprise Architecture?



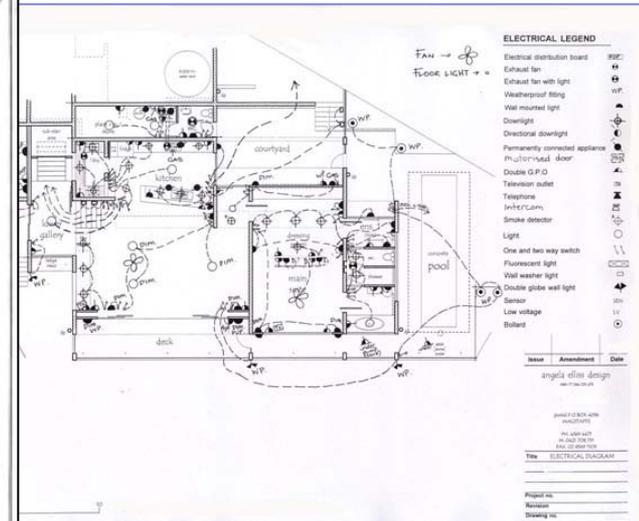
Enterprise Computing





What is Architecture?

- Everyone can relate to building architectures:
 - Architect's Rendering
 - Floor plans and construction views
 - Electrical wiring and plumbing diagrams diagrams, etc.





What happens without it?

- Without an architecture:
 - No overarching design
 - Point to point custom interfaces
 - Duplication and redundancy
 - Visible and invisible gaps
 - High production and maintenance costs
 - High Total Cost of Ownership (TCO)
with a low Return On Investment (ROI)

for example...

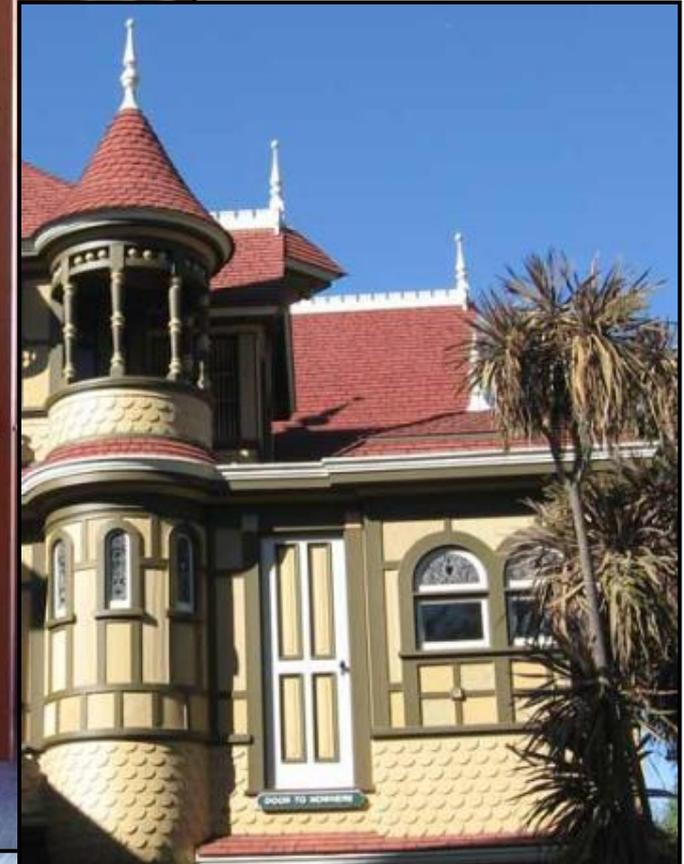


Winchester Mystery House



UNCLASSIFIED

Winchester Mystery House





Defining EA...

- **Architecture**

- The complex structure of something

Oxford

- The orderly arrangement of parts

American Heritage

- The structure of anything

Random House

- **Enterprise**

- A project or undertaking, especially a bold one

Oxford



Defining EA...

How all the “parts” of the whole enterprise relate to each other...

where “parts” can be:

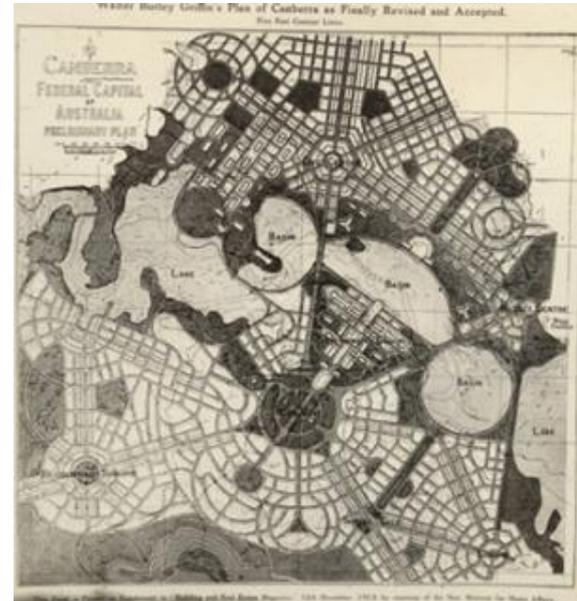
- conceptual, logical, or physical
- strategic, operational, or tactical
- tangible or intangible





City Planning – Metaphor

- City-planning as a metaphor for EA:
- Key Deliverables
 - Overarching vision and city plan
 - Zoning
 - Building code
 - Approved materials





City Planning – Results Oriented



Canberra, Australia



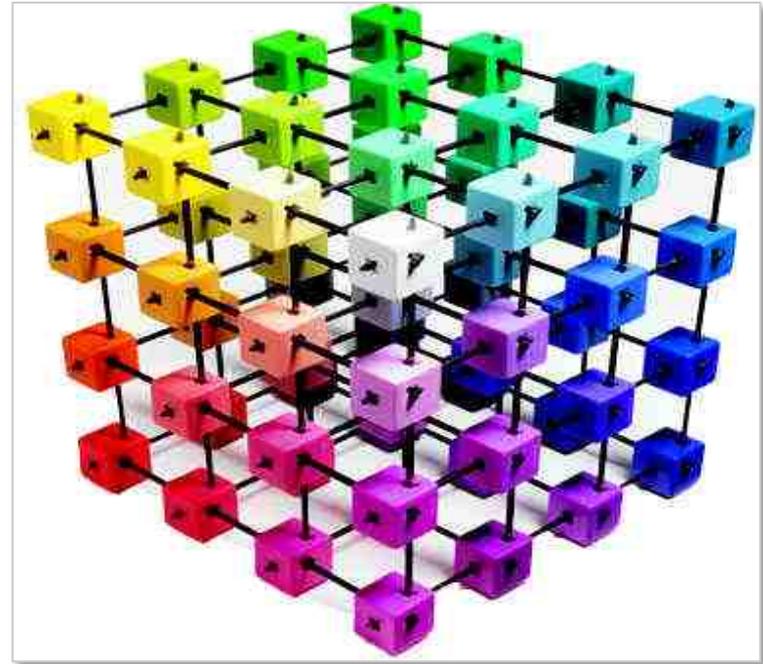
**Favela, Sao Paulo
Brazil**





Benefits of an EA

- Managed Information
- Decision Support
- Business Alignment
- Managed Complexity
- Inter-operability
- Economies of Scale
- Standardized Vocabulary
- Compliance
- Planning, Acquisition and Management Support
- Change Management and Transformation





EA Value Proposition

EA Value Proposition

EA models what we do, and what we need.

It provides the means to align resources to achieve our goals with maximum efficiency.

- DND EA Community of Practice







Defence Enterprise Architecture

THE FRAMEWORK





Architecture Framework

- Framework:
 - an essential **support** structure
- An Architecture Framework defines how to create an architecture.
 - It includes the **specifications of the architecture descriptions** that make up an architecture
 - It structures architects' thinking by dividing the architecture description into domains, layers or views, and offers models - typically matrices and diagrams - for documenting each view.

The Concise Oxford Dictionary

Wikipedia





Why do we need “views”?

- Things are too complex to grasp all at once.
- Architecture descriptions have traditionally been “viewed” from different perspectives
 - Electrical wiring diagram,
 - plumbing schematic,
 - floor plan,
 - cost breakdown, curbside photo, etc.



DND Architecture Views





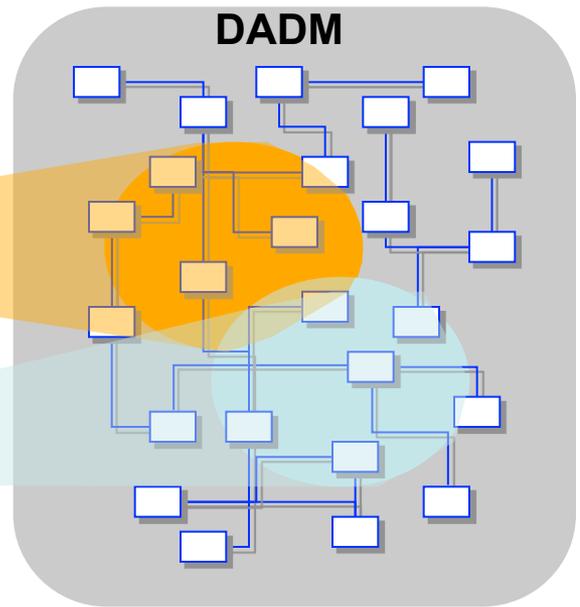
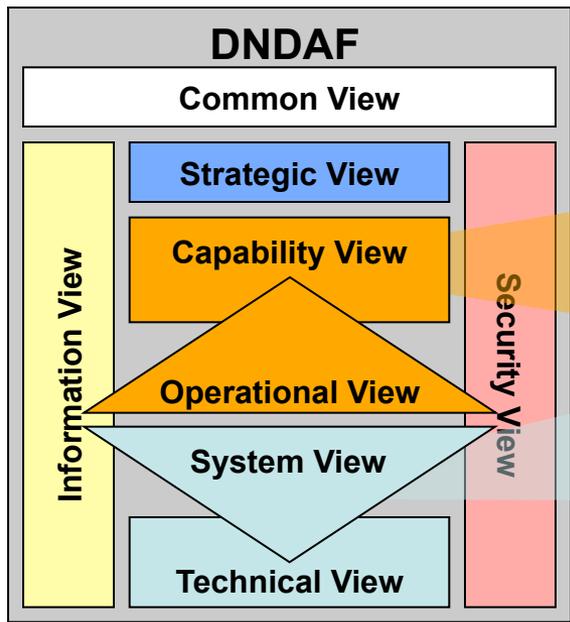
DNDAF Elements

supported by



Single Framework

One Meta-model



User friendly interface used to populate the Metamodel

Graphical representation of the organization entities

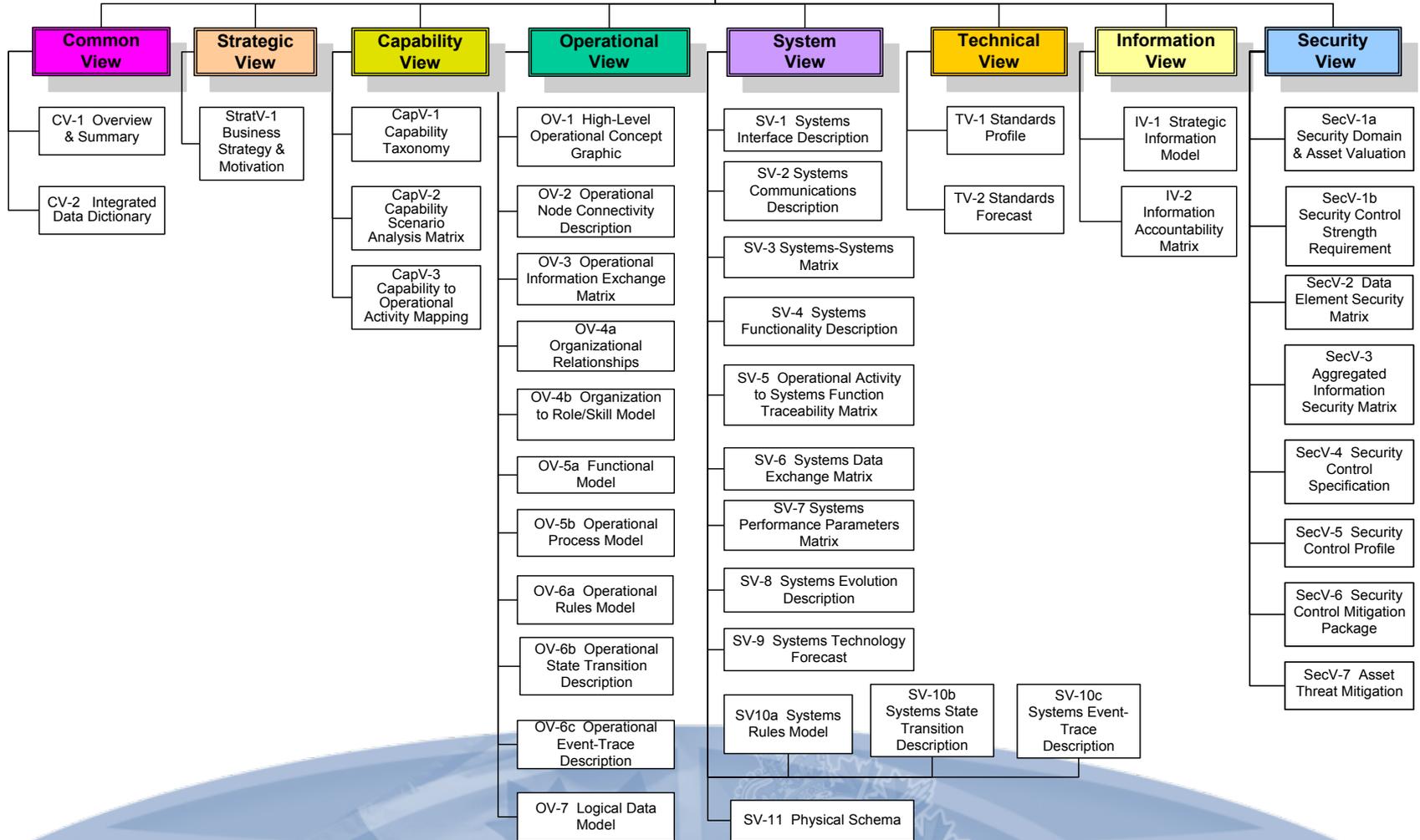
DND/CAF Architecture Framework (DNDAF)

Defence Architecture Data Model (DADM)

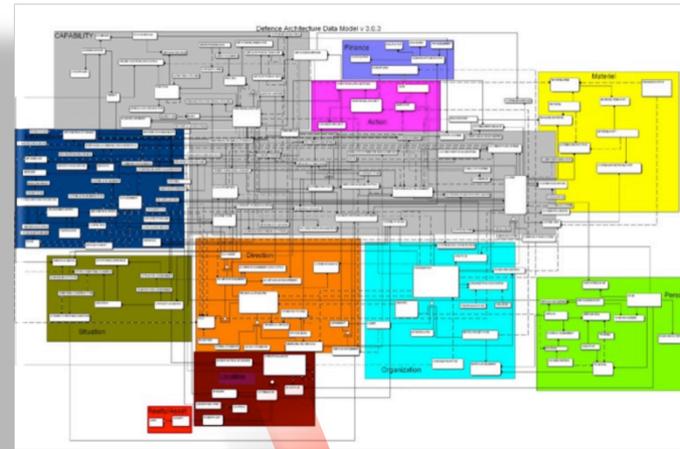
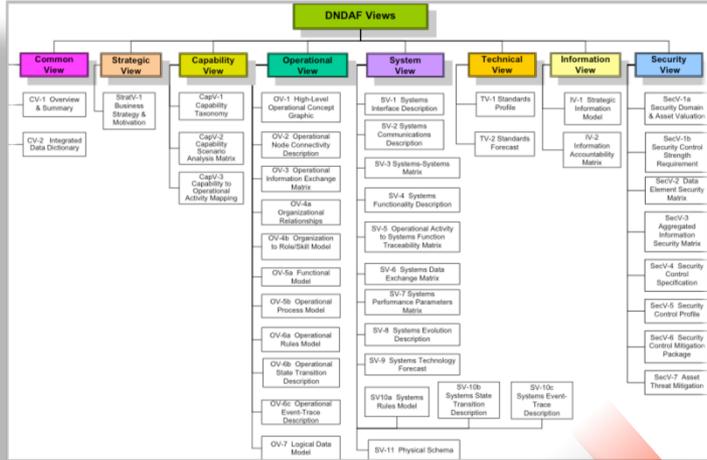
Detailed Sub-View chart



DNDAF Views



DNDAF-QLM Integration



Default language

File Edit View Favorites Tools Window Help

Repository

- ActivityDiagram
- ApplicationArchitectureDiagram
- BusinessDiagram
- BusinessObjectModel
- BusinessProcessDiagram
- BusinessProcessNetwork
- CapabilityModel
- ClassDiagram
- CommunicationDiagram
- ComponentDiagram
- CompositeStructureDiagram
- ConceptualDataModel
- DataFlowDiagram
- DataModelDiagram
- DeploymentDiagram
- FreeHandDiagram
- FunctionalModelDiagram
- HeatMap
- InfraStructureDiagram

Repository Home

- Create** - Start a New Architecture
- Open** - Open an existing architecture
- User Guide** - Open the user guide
- Report** - Generate an Architecture Report

Aligning Future Capability Today

DNDAF

CAMDN

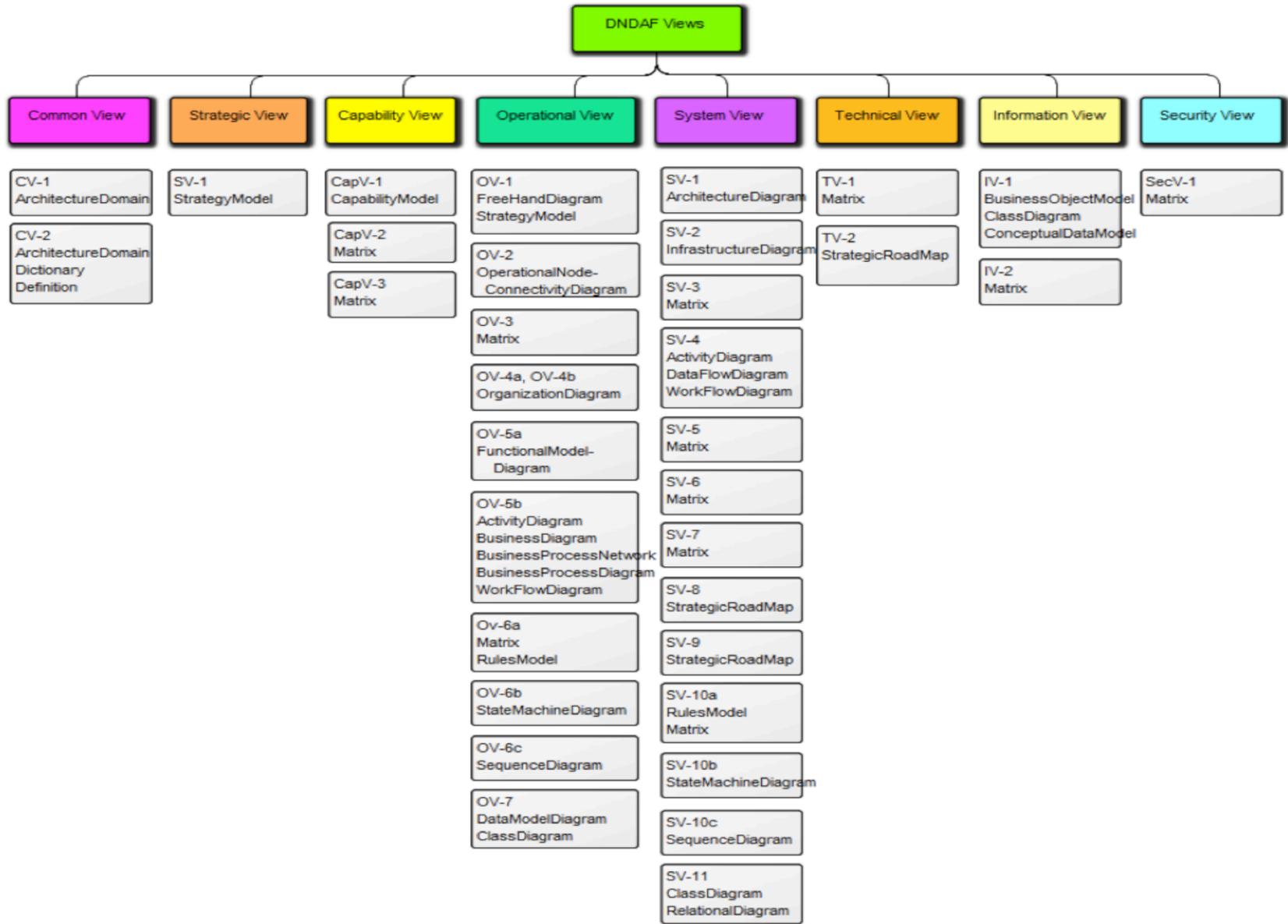
Alignement aujourd'hui des capacités futures

For assistance contact EA-AE@forces.gc.ca

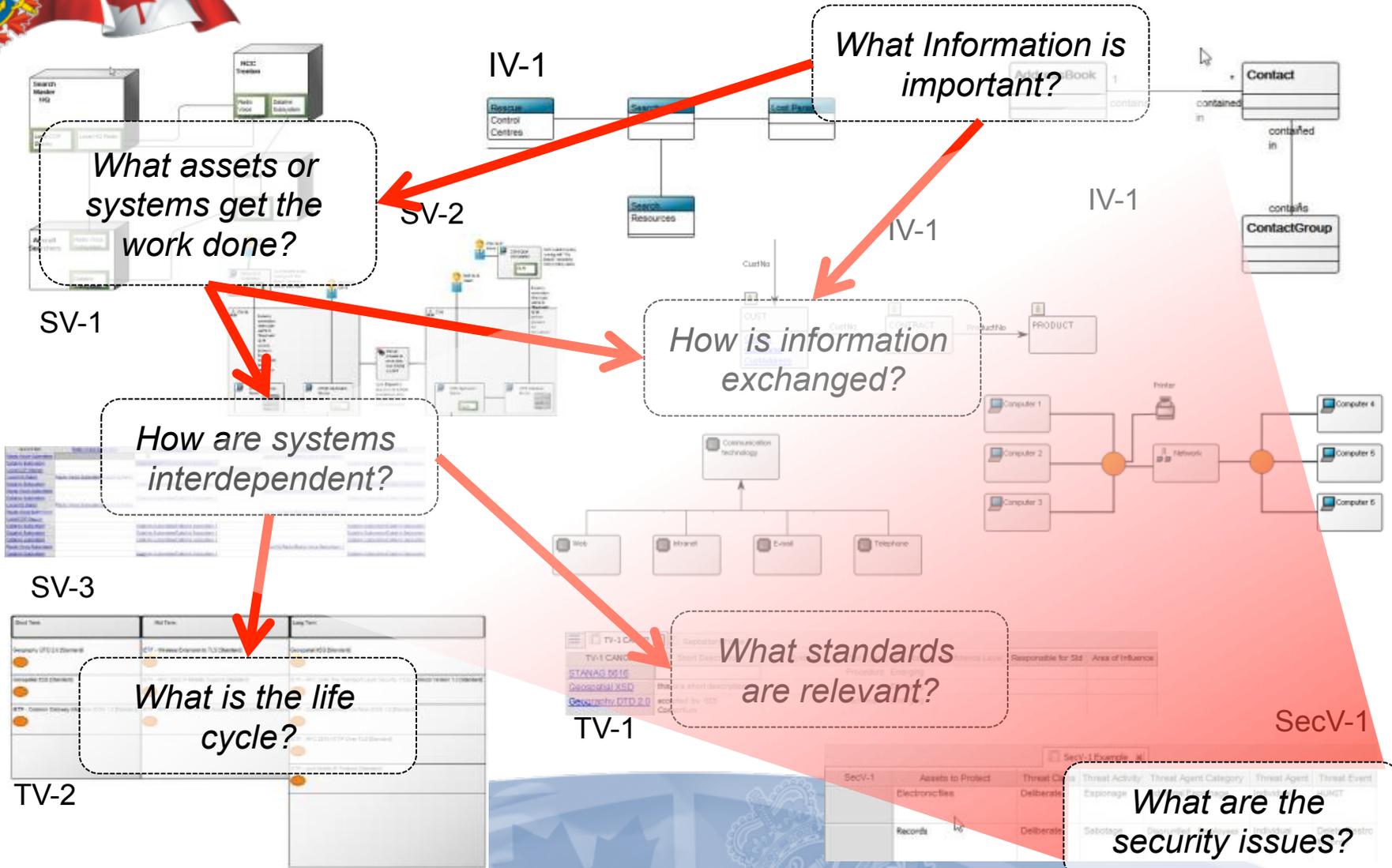
Database opened.
Initializing...
Loading user menus...
Done loading user menus
Unknown Attribute QualiWareSetup.TimeUnit in entity z-CaHTML with value=Second
Change UML metamodel version

(58,177)

DNDAF-QLM Integration



Framework in action...



What assets or systems get the work done?

What Information is important?

How is information exchanged?

How are systems interdependent?

What standards are relevant?

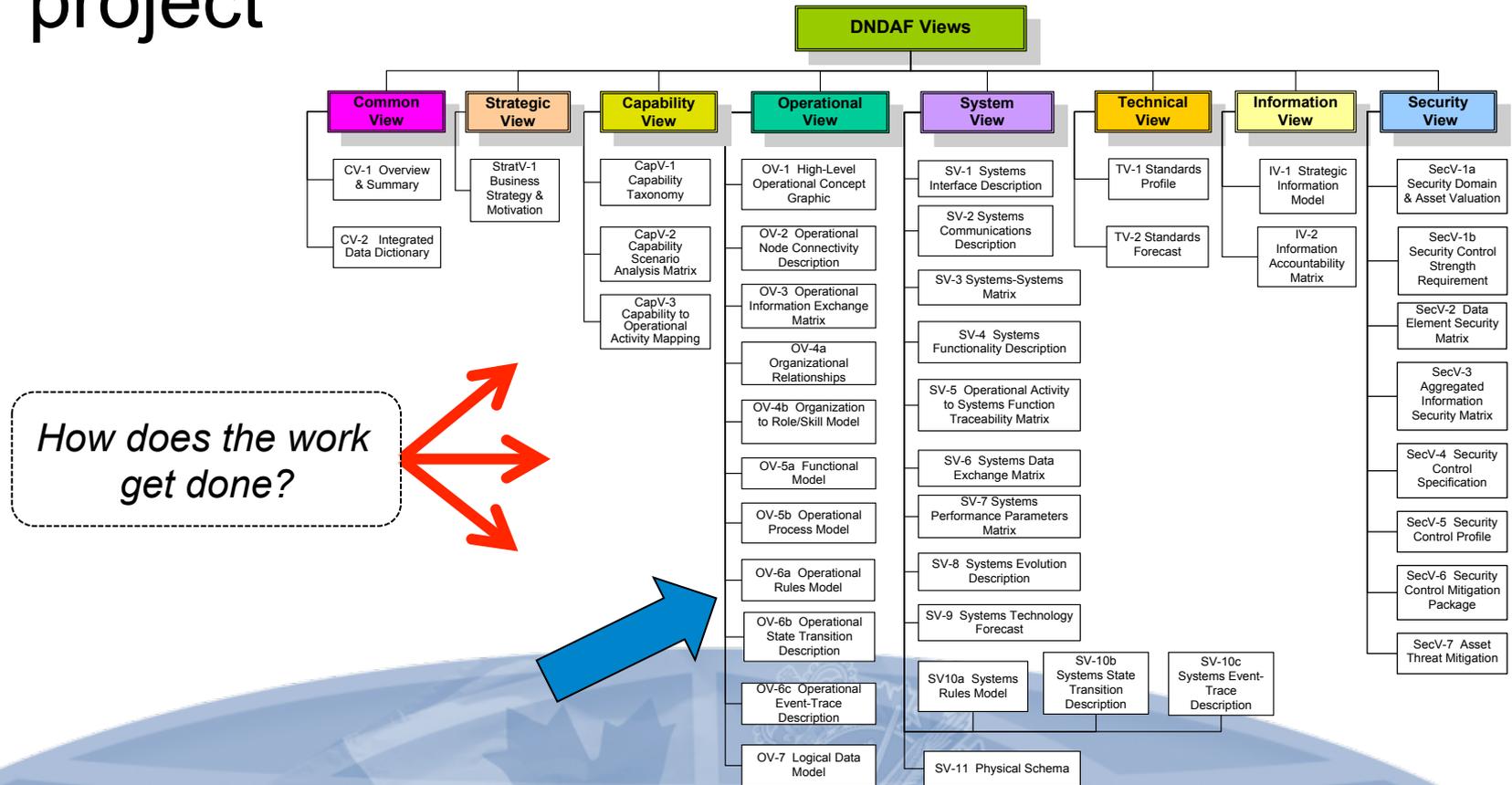
What is the life cycle?

What are the security issues?



Use of Sub-views

- Not all sub views are required for every project







Defence Enterprise Architecture

PROGRAM OVERVIEW





Requirement for EA

- Defence Planning Guidance 2002:
 - *“Develop, implement and maintain the business, operational and supporting security and technical architectures required across DND and the CF”.*

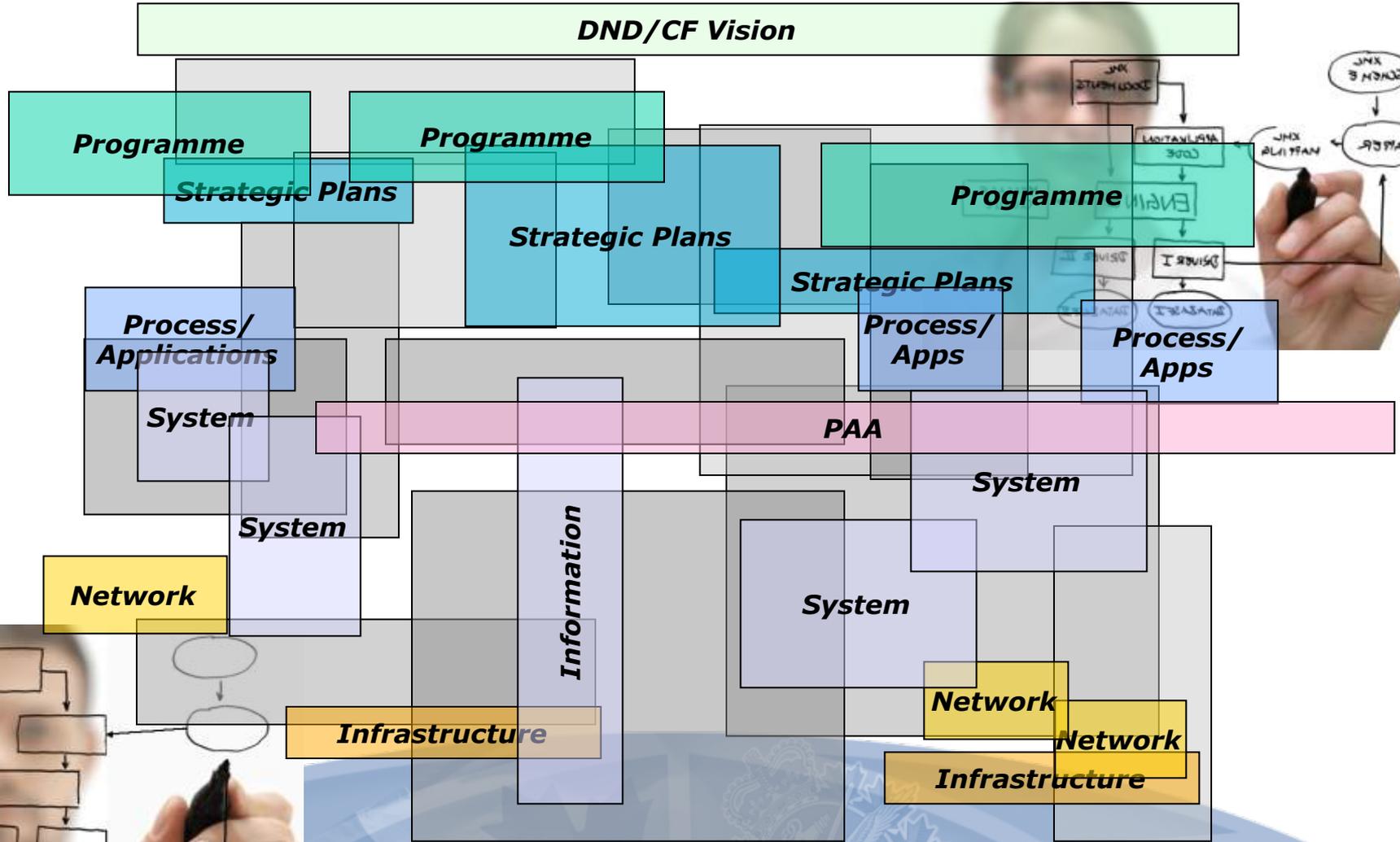
Source: Task to ADM(IM) Defence Plan FY 01/02

- OAG Audit Recommendation:
 - *National Defence should complete its enterprise architecture as a priority.*

Source: Office of the Auditor General (OAG) Audit Report 2004

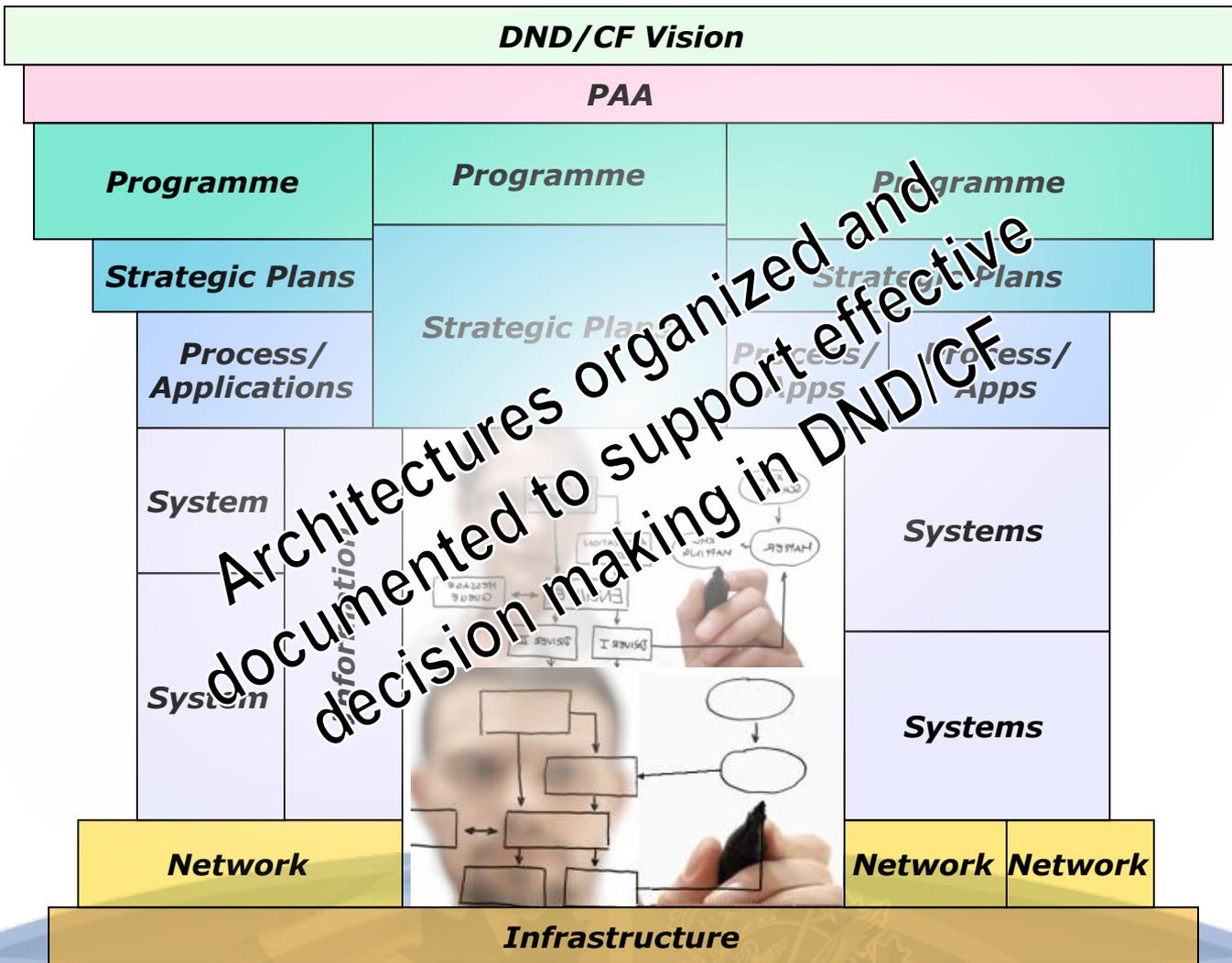


Current State of Architecture





...with an EA Program approach





Mandate of DEA

- To actively establish, implement and manage a robust EA Programme that will:
 - enable all DND/CF organizations to employ a **standard architecture framework** and **software tool**
 - establish an **integrated repository** of DND/CF Architecture information to permit sharing of a common set of solutions
 - provide a support capability to **advise and assist** EA practitioners, which includes **training**





EA Programme Activities

DEA Activities

EA Programme Life-Cycle

Framework Development

Client Support – Help Desk

“Compliance” Quality Assurance of Artefacts

EA Tool Implementation & Maintenance

Repository Implementation & Maintenance

Training – Framework & EA Tool

Advice & Assistance

Non-DEA Activities

Development of Architectural Information

Life Cycle Maintenance of Architecture Artefacts

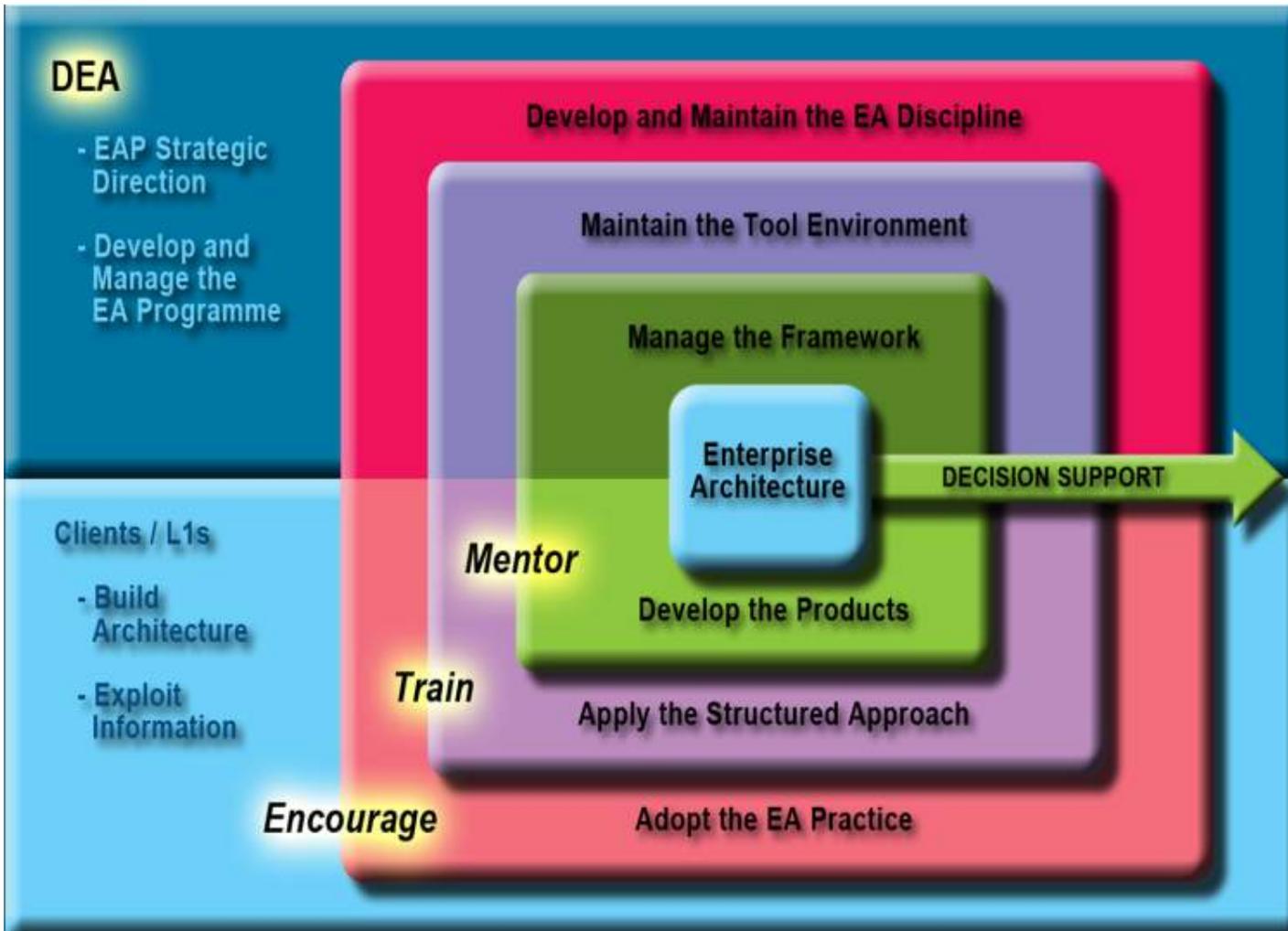
“Business” Quality Assurance of Artefacts

Exploitation of Artefacts for Decision Making

Requirements Definition for EA Programme



DND/CF EA Programme Intent (OV-1: Concept of Operations)



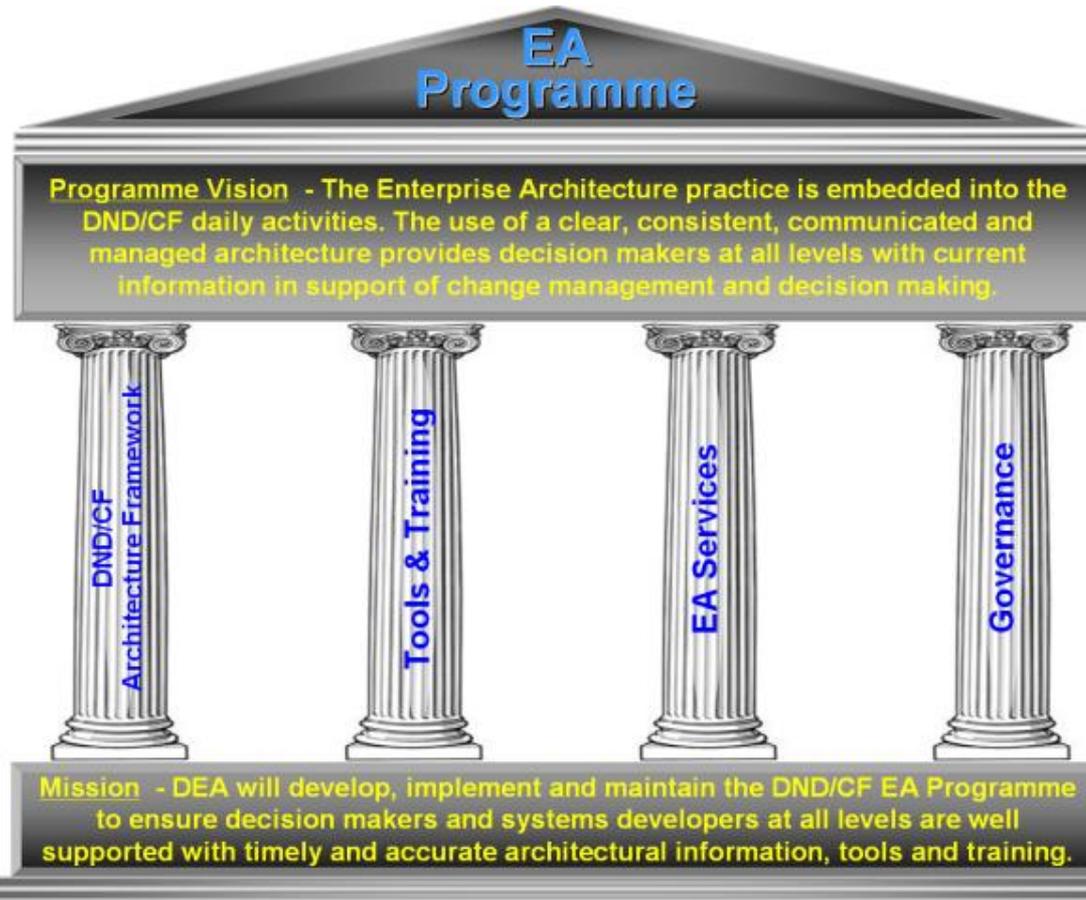
“Builders” of architecture require a sustainable, scalable, repeatable process by which they can gather and document information about their business or organization.

The EA Programme provides the components necessary to allow clients to perform Enterprise Architecture in support of their decision-making and transformational activities.

That is, the “container” is available, what is needed now is the content in order to derive benefit.



Building a successful EA Programme for DND/CAF



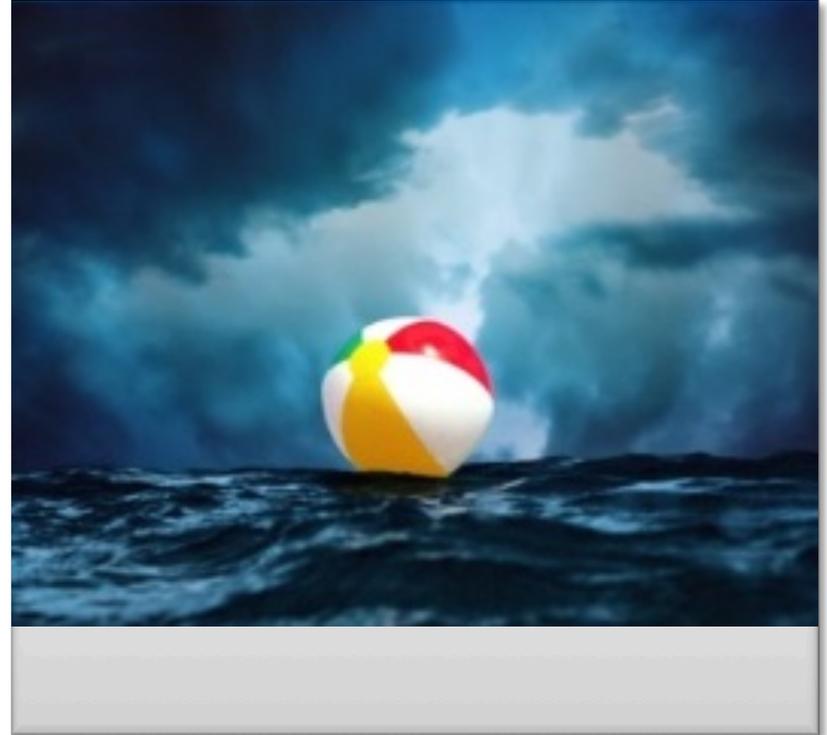
A successful EA Programme is built upon a number of pillars:

These components that all contribute, in varying degrees, to providing DND/CAF with the ability to do Enterprise Architecture.



Meanwhile...

- **Challenged:**
 - for resources
 - for support
 - to communicate EA
 - to remain relevant, while developing
- **Successes:**
 - building partnerships
 - providing localized practical assistance



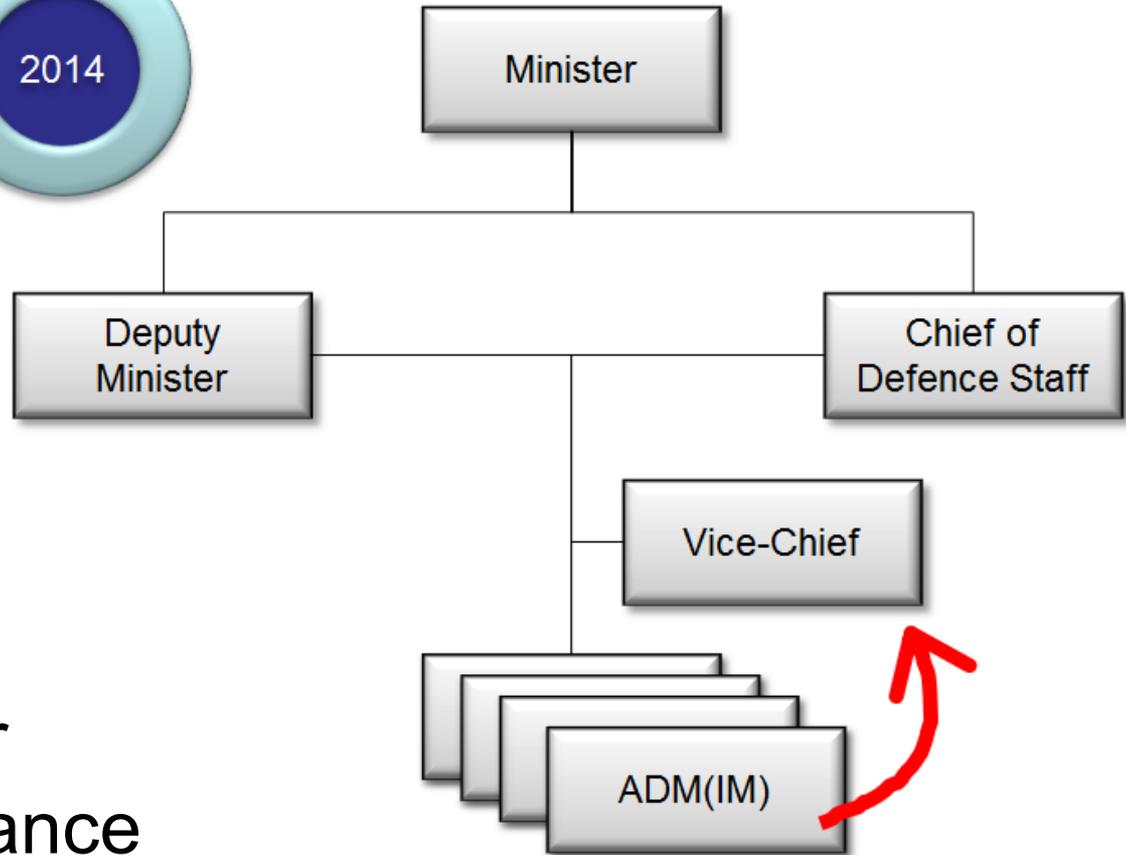


Moving up...



DEA Transfer:

- More corporate relevance
- Better visibility
- Opportunities for stronger governance





Defence Enterprise Architecture

SERVICES





EA Services

- EA Toolset and Training
- EA helpdesk
- Advice and assistance
- Modelling support for Key initiatives
- Architecture review and guidance
- Assistance with contracting
- Establishing contracting vehicles
- DND EA Community of Practice (CoP)



Defence Enterprise Architecture

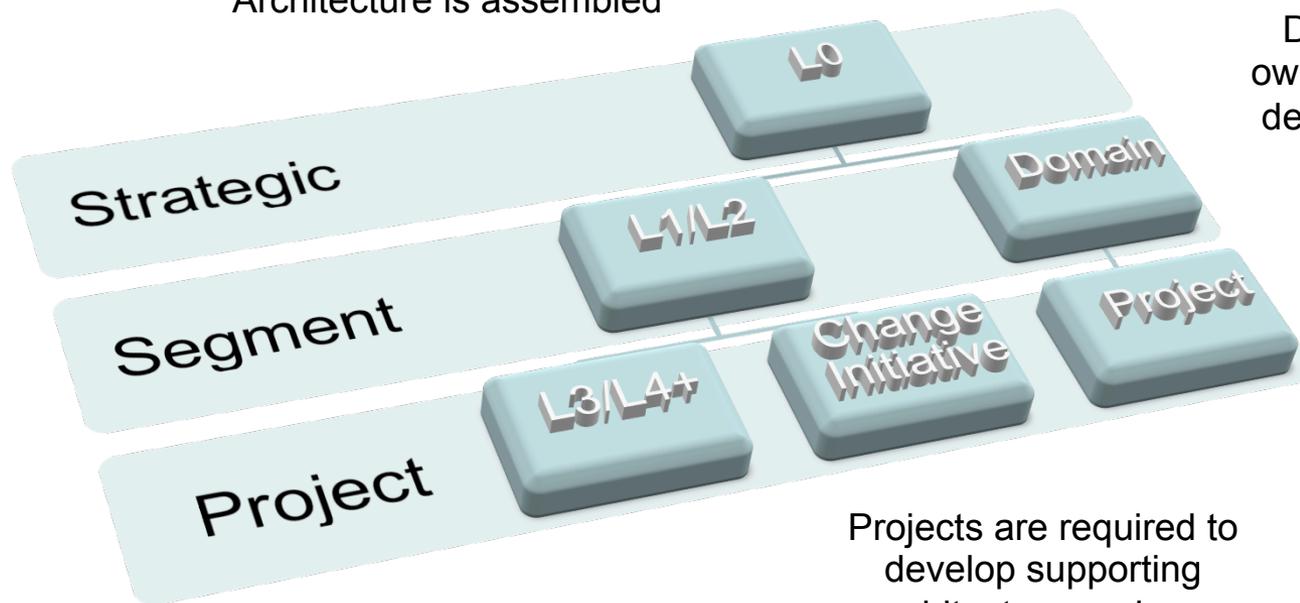
ARCHITECTURES





Parallel thrusts of EA Program

From the Strategic Direction, based on the Vision, a Strategic Target Architecture is assembled



Domain (Segment) owners are engaged to develop architectures (e.g. C4ISR and MA&S)

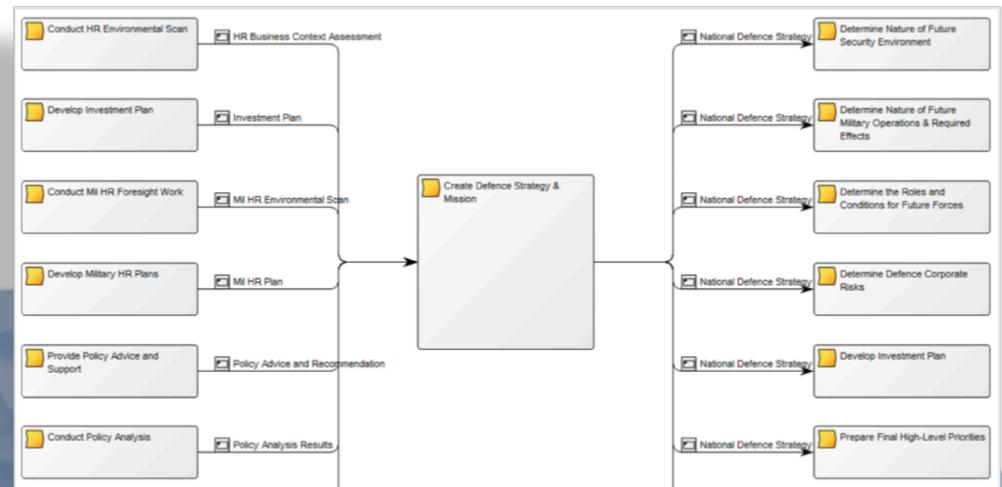
Projects are required to develop supporting architectures using a structured approach (EA)



Program Alignment Architecture

- Strategic / L0 Architecture
 - focuses on long-term and enduring outcomes
 - an inventory of all its programs and activities
 - logical relationships to each other and to the dependent Strategic Outcome(s)
 - sets the framework for departmental performance measurement

National Defence Program Alignment Architecture (PAA) - FINAL - 18 July 2013			
Strategic Outcome	Program	Activity	Output
Strategic Outcome 1: National Defence Strategy & Mission	National Defence Strategy & Mission	1.1 Conduct HR Environmental Scan	1.1.1 HR Business Context Assessment
		1.2 Develop Investment Plan	1.2.1 Investment Plan
		1.3 Conduct Mi HR Foresight Work	1.3.1 Mi HR Environmental Scan
		1.4 Develop Military HR Plans	1.4.1 Mi HR Plan
		1.5 Provide Policy Advice and Support	1.5.1 Policy Advice and Recommendation
		1.6 Conduct Policy Analysis	1.6.1 Policy Analysis Results
		1.7 Determine Nature of Future Security Environment	1.7.1 National Defence Strategy
		1.8 Determine Nature of Future Military Operations & Required Effects	1.8.1 National Defence Strategy
		1.9 Determine the Roles and Conditions for Future Forces	1.9.1 National Defence Strategy
		1.10 Determine Defence Corporate Risks	1.10.1 National Defence Strategy
Strategic Outcome 2: Military Operations & Readiness	Military Operations & Readiness	2.1 Develop Investment Plan	2.1.1 Investment Plan
		2.2 Conduct Policy Analysis	2.2.1 Policy Analysis Results
		2.3 Determine Nature of Future Security Environment	2.3.1 National Defence Strategy
		2.4 Determine Nature of Future Military Operations & Required Effects	2.4.1 National Defence Strategy
		2.5 Determine the Roles and Conditions for Future Forces	2.5.1 National Defence Strategy
		2.6 Determine Defence Corporate Risks	2.6.1 National Defence Strategy
		2.7 Develop Investment Plan	2.7.1 National Defence Strategy
		2.8 Prepare Final High-Level Priorities	2.8.1 National Defence Strategy
		2.9 Determine Nature of Future Security Environment	2.9.1 National Defence Strategy
		2.10 Determine Nature of Future Military Operations & Required Effects	2.10.1 National Defence Strategy





Defence Renewal

- **Objective:**
 - to create a lean and efficient organization that can generate savings to be internally reinvested in military capabilities and readiness.
- **Defence Renewal Team**
 - Oversight of major DND change initiatives
 - Largest collection of transformational effort
 - Bulk of DND's Change Agenda
- **Organized into 9 major themes covered by 30 Strategic Initiatives**
 - PERFORMANCE
 - PRACTICES





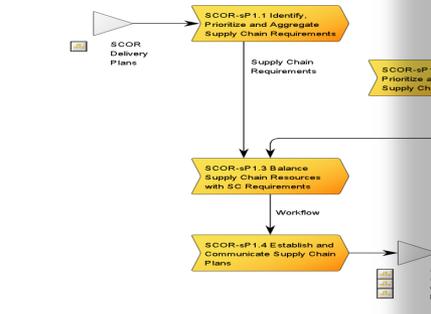
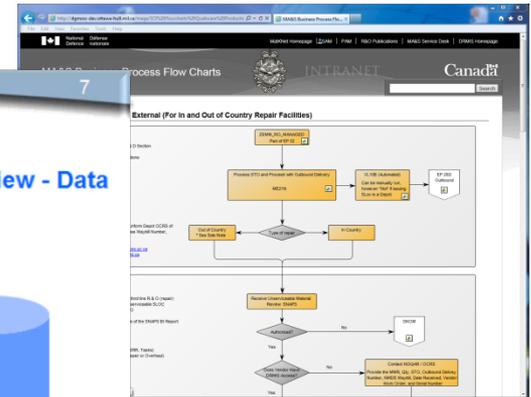
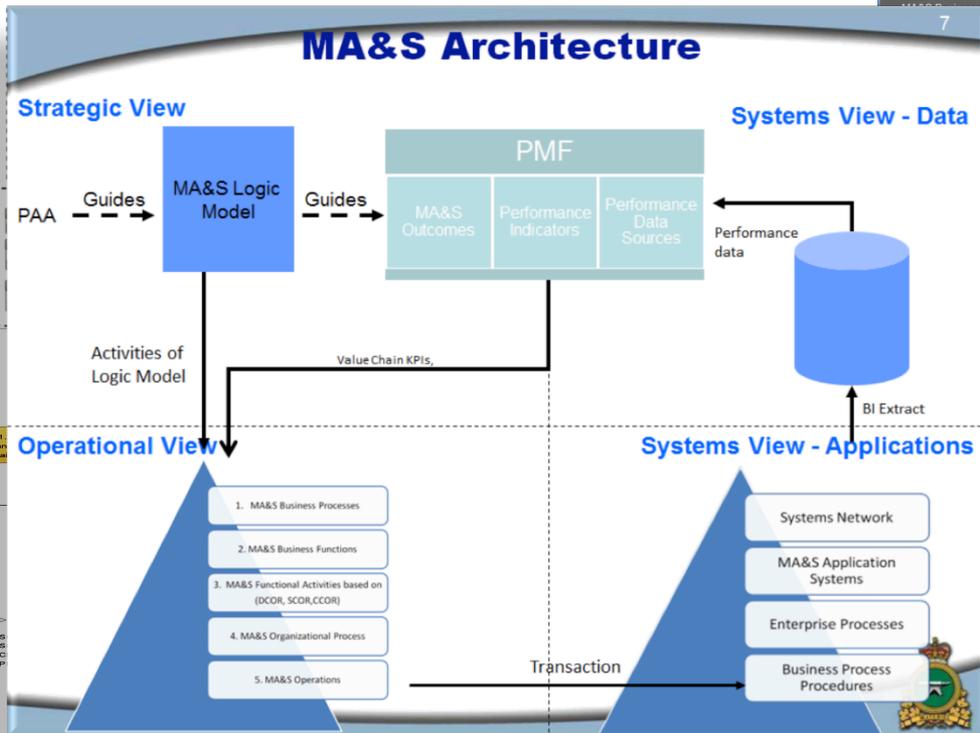
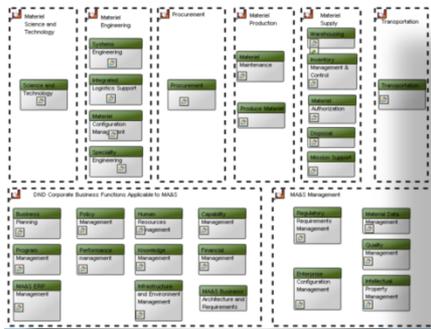
Defence Renewal (2)

Performance	Operations & Training <ul style="list-style-type: none"> 1.1 CAF operational force posture and readiness 1.2 RCAF simulation and synthetic environment 1.3 CAF maintenance execution 	Maintenance & Materiel <ul style="list-style-type: none"> 2.1 Inventory management 2.2 Warehousing and distribution 2.3 Maintenance program design 2.4 Departmental procurement 	IM/IT <ul style="list-style-type: none"> 3.1 Optimize IT service management 3.2 Application portfolio 3.3 Rationalize Defence IM/IT program
	Infrastructure <ul style="list-style-type: none"> 4.1 Centralize real property management 4.2 Rationalize real property portfolio 4.3 Optimize facilities management service delivery 4.4 Improve real property project delivery 	Personnel <ul style="list-style-type: none"> 5.1 Modernize CAF individual training and education 5.2 Modernize CAF career management process 5.3 Military Personnel Management Capability Transformation (MPMCT) 5.4 Modernize CAF recruiting process 5.5 Renewal of Cadet and Junior Ranger programs 	Management Systems <ul style="list-style-type: none"> 6.1 Lean headquarters 6.2 Project approval process review 6.3 Modernize civilian human resources management
Organizational Culture	Strategic Clarity <ul style="list-style-type: none"> 7.1 Enhance Strategic Intent 7.2 Defence governance review 7.3 Change alignment program 	Disciplined Business Execution <ul style="list-style-type: none"> 8.1 Key performance indicator development and application 8.2 Encourage and leverage front-line innovation 8.3 Policy and procedure continuous improvement 	Openness and Trust <ul style="list-style-type: none"> 9.1 World-class knowledge sharing 9.2 Coaching on leading transformation change



Matériel Acquisition & Support

- Focused on Global Supply Chain of DND/CAF
- Business/Operational Architecture
- Published to MA&S community
- Key collaborators with overall EA Program



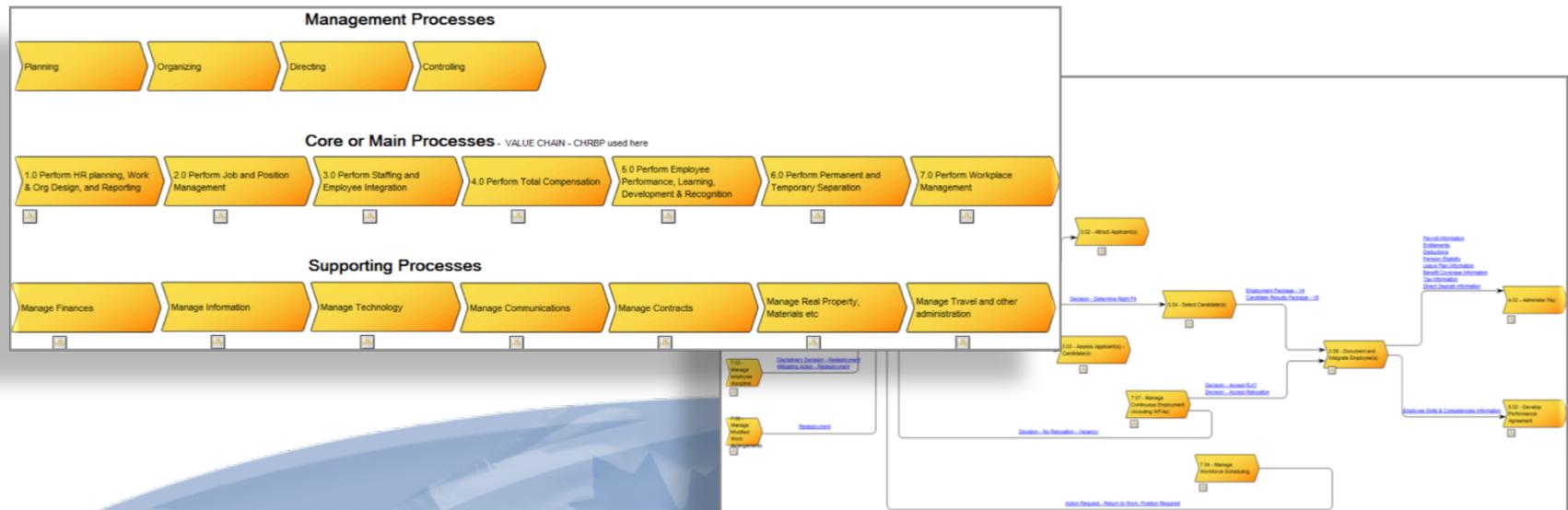


Human Resources Domain

- **ADM(HR-Civ)**

- **Common Human Resources Business Process (CHRBP) from Treasury Board**

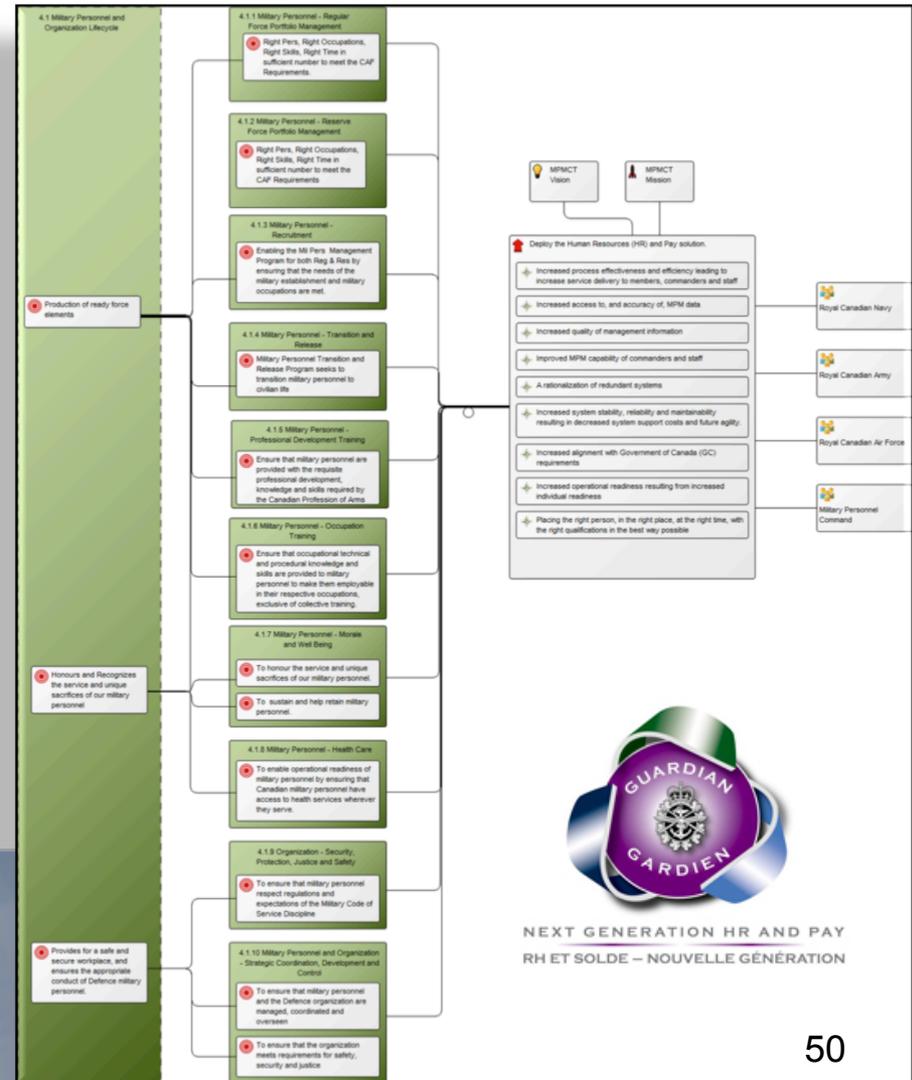
- **Aligning internal business**
- **Aligning systems that support civilian HR**





Human Resources Domain

- **MPMCT:**
 - Military Pers Management Capability Transformation
 - Next gen HR and Pay Solution (Guardian)
 - Based on PeopleSoft
 - Business/Operational Architecture



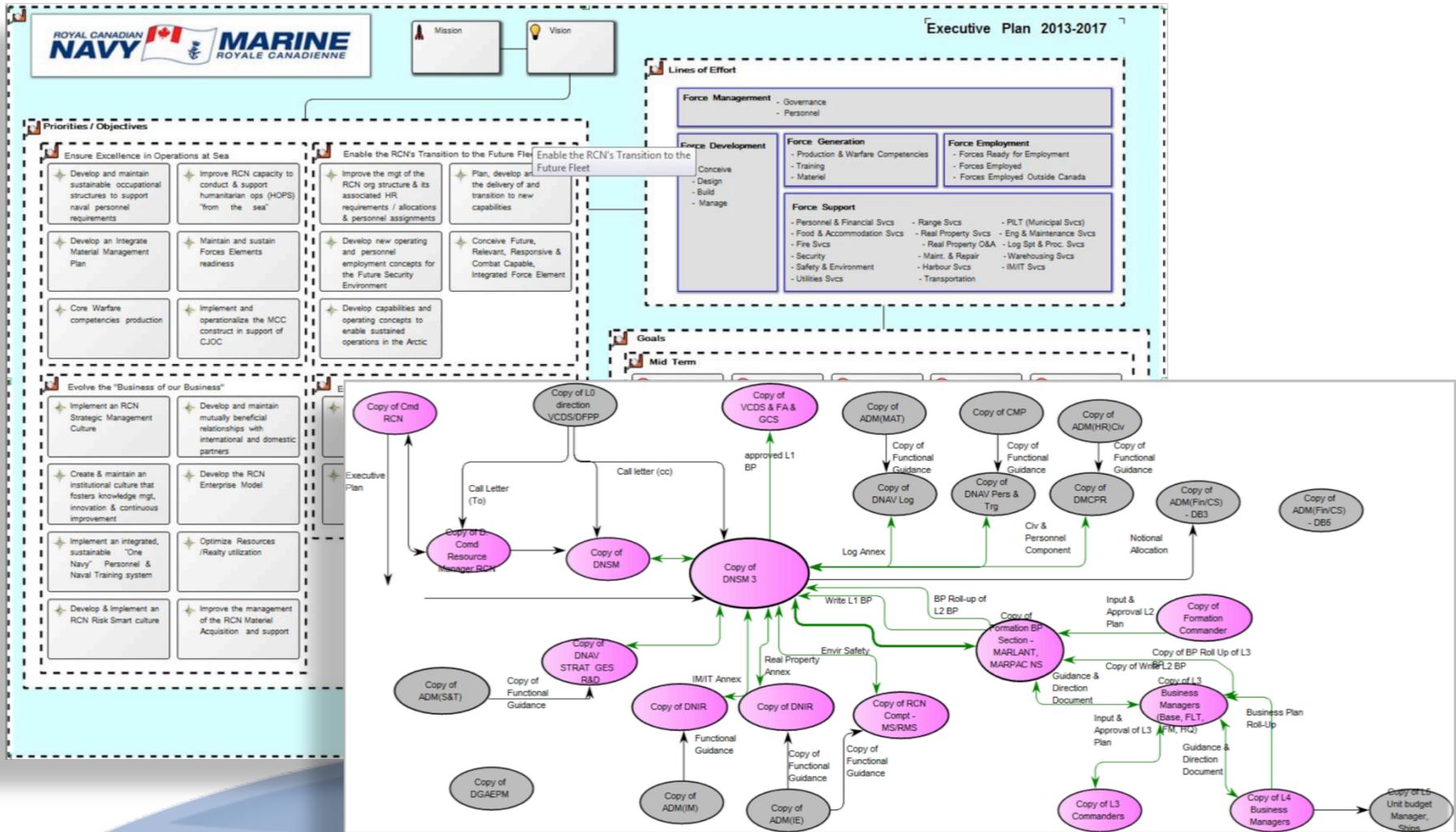


“The Navy Enterprise”

- Royal Canadian Navy (RCN)
Enterprise Architecture Project
 - Reference models
 - Business Architecture (From Strategic to Systems)
 - Establishment of EA working group / Community of Practice focused on RCN
 - Internal EA audit program
 - Integration with other DND/CAF and external EA efforts
- Driver: ***understanding the resources relationships to operational readiness***



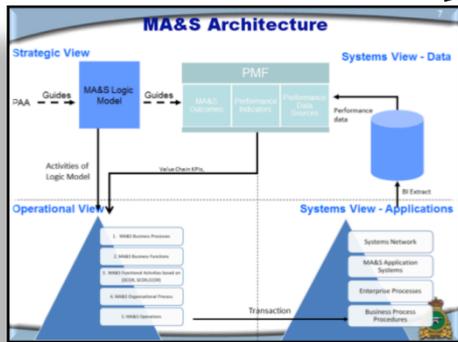
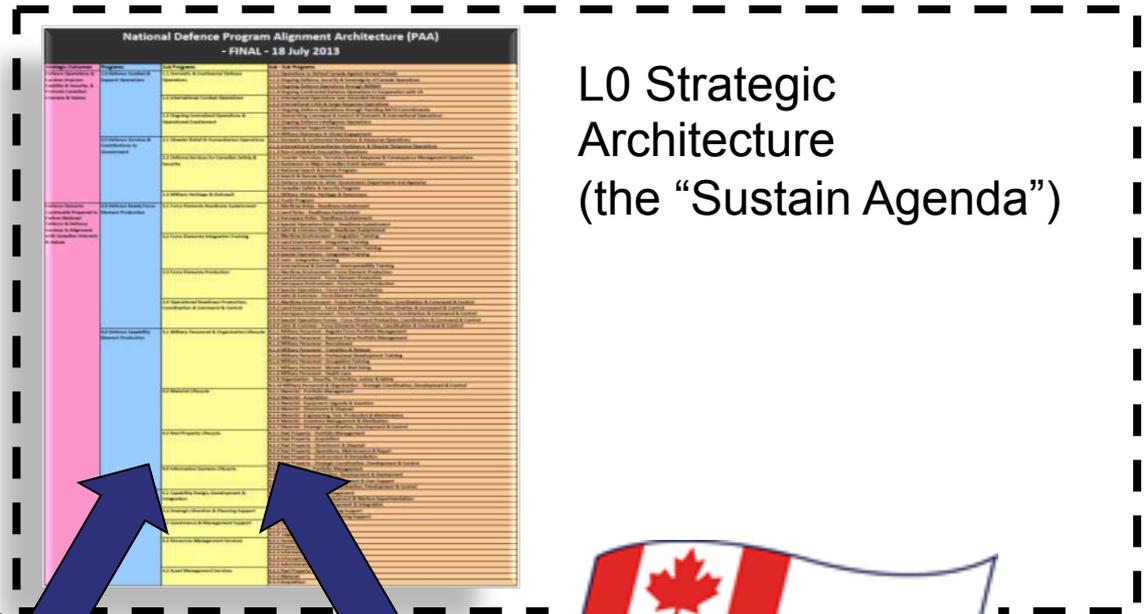
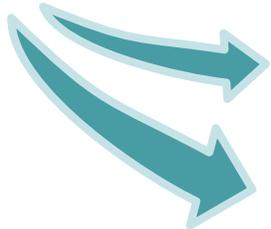
"The Navy Enterprise"



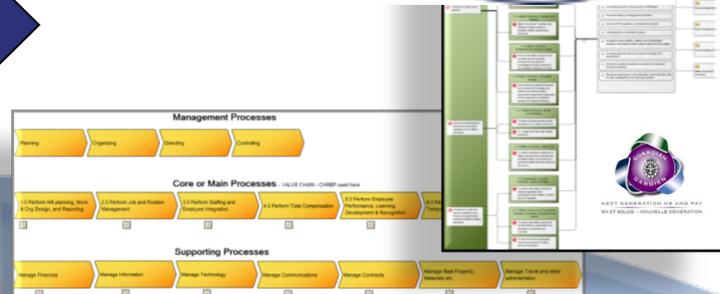


The "big picture"

Defence Renewal
(the "Change Agenda")



Matériel Domain



Human Resources Domain





Defence Enterprise Architecture

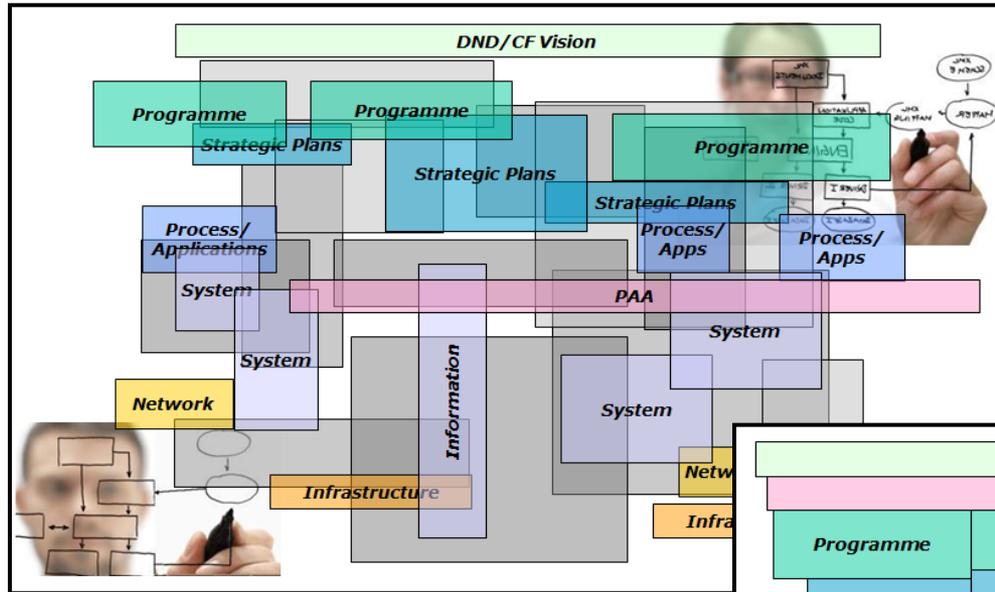
SUMMARY



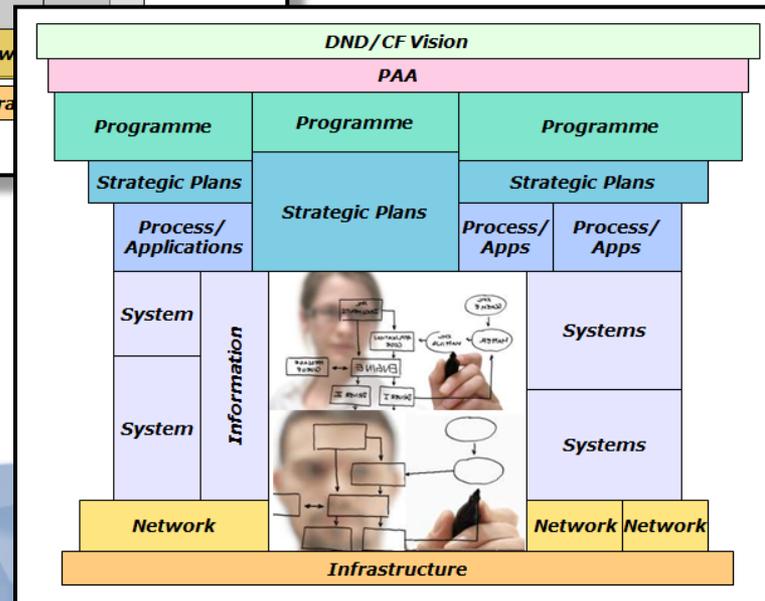


What's the Goal?

- Achieve better
 - *insight,*
 - *effectiveness,*
 - *efficiency,*



... through better alignment





DND EA Client Support Centre

Client Services Section (DEA 2)

Danielle Lemay (danielle.lemay@forces.gc.ca)

Tel. (613) 947-4265

Helpdesk: +EnterpriseArchitecture@forces.gc.ca

Website: <http://cfd.mil.ca/>

Sharepoint:

<http://collaboration-img.forces.mil.ca/sites/ea/default.aspx>





DND/CF ENTERPRISE ARCHITECTURE PROGRAMME

Inform. Decide. Transform.

PROGRAMME D'ARCHITECTURE D'ENTREPRISE DU MDN/FC

Informer. Décider. Transformer.

