# Public Safety Canada (PSC)

# EMSI Framework Application of Architecture

Dashboards and decision aids to support management and governance objectives.



## Diagramming Technique Options

**Requirements Management** — Legislation, Policies, Regulation & requirements

**Left column (Portfolio / Governance boxes):**
- Project Portfolio Relationships (PV-1)
- Project Timelines (PV-2)
- Project to Capability Mapping PV-3)
- Capability Dependencies (CV-4)
- Capability Phasing (Transformation Plan) CV-3
- Overview and Summary (AV-1)

- XX. Portfolio Planning / Management
- XX. EMSIF Governance Structure and Practices
- G. Implementation Governance
- H. Architecture Change Management

| View / Viewpoint | Service (SvcV) | Unified Modelling Language | System Modelling Language | Business Process Modelling Notation | SOA Modelling Language | Other |
|---|---|---|---|---|---|---|
| **A. Architecture Vision** | | | | | | |
| Overview and Summary (AV-1) | | Class | Requirement | | | User Def. Tabular |
| Strategic Capability Transformation (Vision) (CV-1) | | | | | | User Def. Tabular |
| High Level Operational Concept (OV-1) | | | | | | Picture / Image |
| Capability Dependencies (CV-4) | | Class / Composite Structure | | | | User Def. Tabular |
| Capability Phasing (Transformation Plan) (CV-3) | | | | | | User Def. Timeline / Schedule |
| Security Concept (SecV-1) | | | | | | User Def. Tabular |
| Integrated Dictionary (AV-2) — Business Ontology / Taxonomy; Operational Ontology / Taxonomy; Capability Ontology / Taxonomy (CV-2) | | Class / Composite Structure | | | | User Def. Tabular |
| Conceptual Data Model (Domain Model) / Exchange Patterns (DIV-1) | | Class / Composite Structure | | | | |
| **B. Business Architecture** | | | | | | |
| Operational Resources Flow (OV-2) | | Class / Composite Structure | Internal Block | Business Process | | |
| Operational Resource Flow Matrix (OV-3) | | | | | | User Def. Tabular |
| Organizational Relationships (OV-4) | | Class / Composite Structure | | | | Organization Chart |
| Operational Activity Decomposition (OV5a&b) | | Use-Case / Activity | Activity | Business Process | | |
| Operational Rules (OV-6a,b&c) | | Activity / State / Sequence | Sequence | Business Process | | |
| Operational Contract Model / COI Sharing Agreement (SOPES Modelling Profile) | | Class | | | | |
| Capability to Organization Allocation (CV-5) | | | | | | User Def. Timeline / Schedule |
| Capability to Activity Mapping (CV-6) | | | | | | Matrix / Table |
| Security Threat, Vulnerability, Risk and Impact Descriptions (SecV-2) | | | | | | User Def. Tabular |
| Security Safeguard Description (SecV-3) | | Class | | | | User Def. Tabular |
| Standards Profile (StDV-1) — Security Stds | | | | | | User Def. Tabular |
| **C. Information System Architecture** (C1. Application; C2. Information / Data; C3. Platform / Infrastructure) | | | | | | |
| Logical Information Model (DIV-2) — Semantic Patterns (SOPES Modeling Profile) | | Class / Composite Structure | Block Definition | | | Entity Relationship |
| System(s) Functional Description (SV-4) | Service Context Description (SvcV-4) | Activity | Activity | | | |
| Operational Activity Allocation to System Function(SV-5a&b) | Operational Activity Allocation to Service (SvcV-5) | | | | | User Def. Tabular |
| Systems Resource Flow Description (SV-2) | Service Resource Flow (SvcV-2) | Class | Block Definition / Internal Block | | | |
| System Measures and Metrics (SV-7) | Service Measures and Metrics (SvcV-7) | | Parametric | | | User Def. Tabular |
| System Rules, States and Events (SV-10a, b&c) | Service Rules, States and Events (SvcV-10a,b,&c) | | | | | User Def. Tabular |
| Capability to Activity Mapping (CV-6) | | | | | | User Def. Tabular |
| Capability to Service Mapping (CV-7) | | | | | | User Def. Tabular |
| Security Safeguard Activity Mapping (SecV-4) | | | | | | User Def. Tabular |
| Physical Schema(s) | | Class / Object | Block Definition | | | Entity Relationship |
| Standards Profile (StDV-1) — Security Stds | | | | | | User Def. Tabular |
| Standards Forecast (StDV-2) — Security Stds | | | | | | User Def. Tabular |
| **D. Technology Architecture** | | | | | | |
| System Interface Description (SV-1) | Services Context Description (SvcV-1) | Composite Structure / Deployment / Component | Block Definition / Internal Block | | | |
| System Resource Flow Matrix (SV-6) | Service Resource Flow Matrix (SvcV-6) | Composite Structure / Component | Block Definition / Internal Block | | | |
| Systems Interrelationships (SV-3) | Service – Service / System – Services Interrelationships (SvcV-3) | | | | | User Def. Tabular |
| Systems Functional Description (SV-4) | Service Function Description (SvcV-4) | Activity / Object | Activity | | | |
| Systems Rules, States and Events (SV-10a,b&c) | Service Rules, States and Events (SvcV-10a,b,&c) | | Parametric | | | User Def. Tabular |
| Threat, Vulnerability and Risk Allocation Matrix (SecV-5) | | | | | | User Def. Tabular |
| Security Safeguard to Allocation Matrix (SecV-6) | | | | | | User Def. Tabular |
| Security Function Rules, States and Events (SecV-7) | | | Parametric | | | User Def. Tabular |
| Information Aggregation, Protection (Guards and Filters) and Marshalling Rules (SOPES View) | | Class | | | | User Def. Tabular |
| Standards Profile (StDV-1) — Guard / Filter Descriptions | | | | | | User Def. Tabular |
| **E. Opportunities and Systems** | | | | | | |
| Systems Evolution Description (SV-8) | Service Evaluation Description (SvcV-8) — Security Stds | | | | | User Def. Timeline / Schedule |
| Systems Technology Forecast (SV-9) | Service Technology & Skills Forecast (SvcV-9) — Security Stds | | | | | User Def. Tabular |
| Standards Forecast (StDV-2) | | | | | | User Def. Tabular |
| **F. Migration Planning** | | | | | | |
| Systems Evolution Description (SV-8) | Service Evaluation Description (SvcV-8) — Security Stds | | | | | User Def. Timeline / Schedule |
| Systems Technology Forecast (SV-9) | Service Technology & Skills Forecast (SvcV-9) — Security Stds | | | | | User Def. Tabular |
| Standards Forecast (StDV-2) | | | | | | |

## EMSIF Knowledge Base
### (Architecture Artefacts)

Architecture information capture will be based on the standards being developed by:

1. Architecture Ontology being developed by an international consortium - IDEAS Group
2. Domain Meta-Model (DM2) being advanced by IDEAS, DOD, MOD, NATO and DHS.
3. Unified Modeling profile being advance by the Object Management Group

The integration of these information standards is currently underway in a collaborative effort between OMG, UPDM Group, IDEAS, DOD, MOD, NATO and others.

TOGAF is recommended as the architecture and application development process.

Standardized architectural views and viewpoints have been adopted to enable consistent and deliverables can be developed and shared. Guidance on their use will also be provided.

The standards based set of architectural views and viewpoints have been mapped to standards based modeling techniques that support effective life-cycle management of EMSI capability and multiple options on tool support.

ASMG — ADVANCED SYSTEMS MANAGEMENT GROUP