

*Management of Information and Knowledge Transferable  
to Small Agencies*

Corporate Information Management Model for  
Other Federal Government Departments and  
Agencies



Presented on October 2, 2006

Suzie Boudreau

Information management Advisor

Departmental Performance Branch

[Suzie.boudreau@dec-ced.gc.ca](mailto:Suzie.boudreau@dec-ced.gc.ca)



# Outline

- **Description of project**
  - **Problems and vision**
  - **Approach**
- **Information architecture**
- **Conclusion**



## 1. Description of project



## Description of first problem

We are currently not meeting the needs of the group	<i>Internally</i>
In terms of	<i>Using resources effectively to produce responses to requests from central agencies</i>
Resulting in	<i>Variable response times, duplication of work, no reuse of information and varied production methods</i>
Indicating that	<i>Information sources are not identified, there are many ways of interpreting requests, mechanisms are not standardized, and there is information that is hard to access because it is consolidated with secret information, which requires filtering and additional authorizations (secret classification).</i>



## Description of second problem

<p><b>We are currently not meeting the needs of the group</b></p>	<p><i>Internally</i></p>
<p><b>In terms of</b></p>	<p><i>Planning the use of resources when handling information requests</i></p>
<p><b>Resulting in</b></p>	<p><i>Emergencies, major effort to retrieve information and a tendency for this situation to recur</i></p>
<p><b>Indicating that</b></p>	<p><i>There are responsibilities that are poorly defined and misunderstanding or misinterpretation of requests, and that information to be reused has not been identified as such or published.</i></p>



## Description of third problem

<p><b>We are currently not meeting the needs of the group</b></p>	<p><i>External groups or other agencies</i></p>
<p><b>In terms of</b></p>	<p><i>Providing them with information of interest to them that may be held by CED</i></p>
<p><b>Resulting in</b></p>	<p><i>Unplanned information requests the wording of which requires substantial research</i></p>
<p><b>Indicating that</b></p>	<p><i>Requestors are largely unaware of the type of information held and managed by CED in the course of its activities.</i></p>



## Statement of vision: target group, needs and new results

	<i>Internal groups</i>
<b>That need to</b>	<ul style="list-style-type: none"> <li>• <i>share information with agencies</i></li> <li>• <i>make decisions</i></li> <li>• <i>be accountable</i></li> <li>• <i>have a common understanding of information</i></li> </ul>
<b>Can</b>	<i>Process requests more effectively and more efficiently</i>



## Statement of vision: characteristics and innovations

**This will be done through**

- *the ability to organize information*
- *the ability to interpret requests*
- *the ability to manage the life cycle of information*
- *the ability to plan*
- *an information-sharing agreement*

**using**

*a dynamic, transferable, usable and adaptable architecture and validation, distribution, availability management and information-sharing mechanisms.*





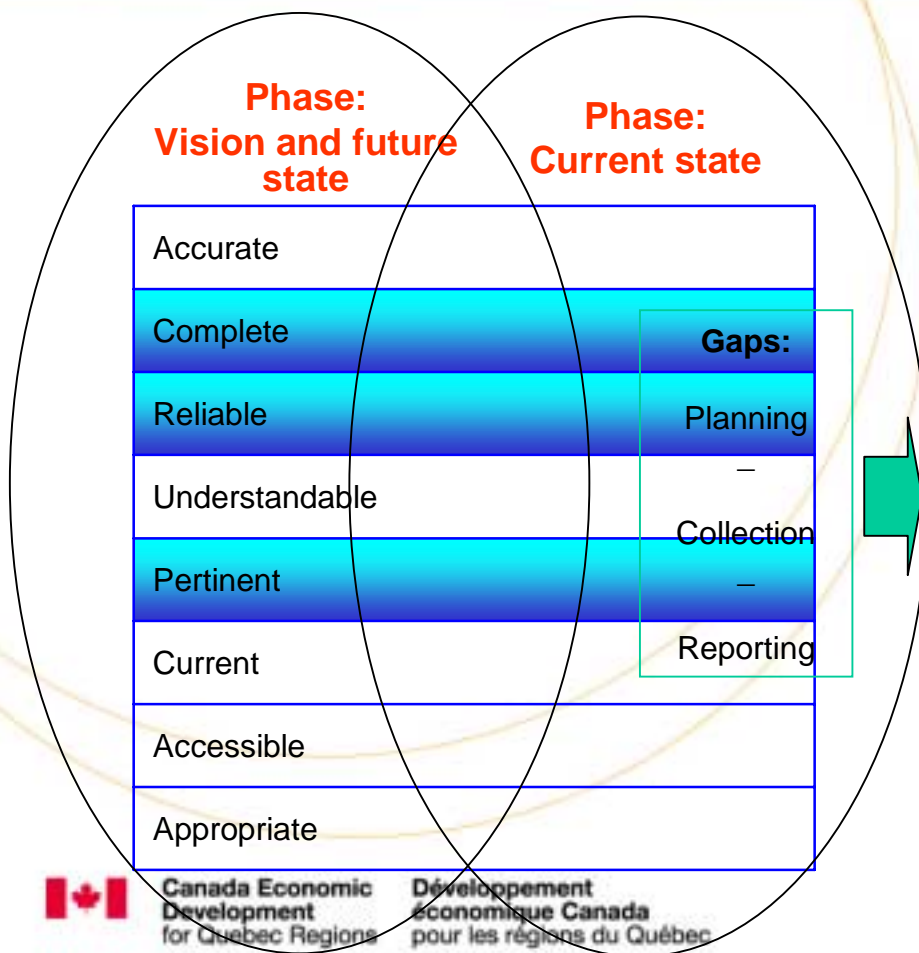
## Statement of vision: suggest performance measurement

**We will know we are there when**

- *information is complete, reliable and integrated into responses to requests*
- *response time is reduced*
- *there is a decrease in the number of unplanned requests*
- *and requests are directed to the right places*



# Process



## Phase: Identification of gaps and priorities

**Need:**  
Clear identification of information

## Phase: Architecture design

Standard tools:

Opportunities	Priorities	Results
Structure	1	Report models
Definition	2	Dictionary
Location	2	Definition of information card
Responsibility	3	

## 2. Information architecture



# Information architecture (Master specifications - Part 1)

## 2.1 Scope

## 2.2 Standards

## 2.3 Main components

### 2.3.1 Report models library

### 2.3.2 Information dictionary

### 2.3.3 Information card

### 2.3.4 Structured document editors

### 2.3.5 Information bank

## 2.4 Interaction of main components



## 2. Information architecture (Master specifications - Part 1)

### 2.1 Scope

The information architecture is intended to be:

- Independent of any hardware or software platform
- Dynamic (adaptable and extendible)
- Capable of being used by any unit
- Transferable to any agency

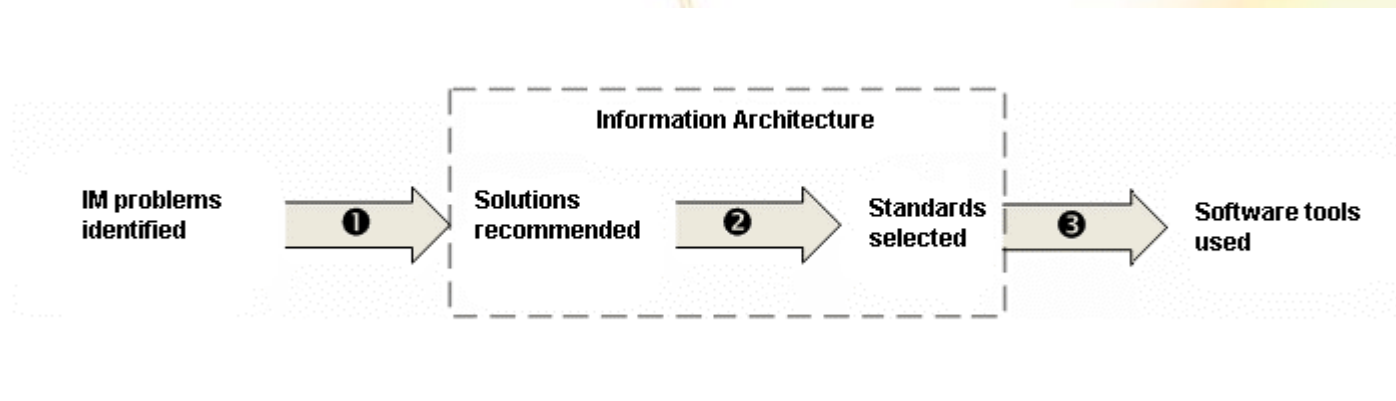
The information architecture focuses on:

- Accountability reports (documents)
- Information items

## 2. Information architecture (Master specifications - Part 1)

### 2.2 Standards

#### Influence of standards

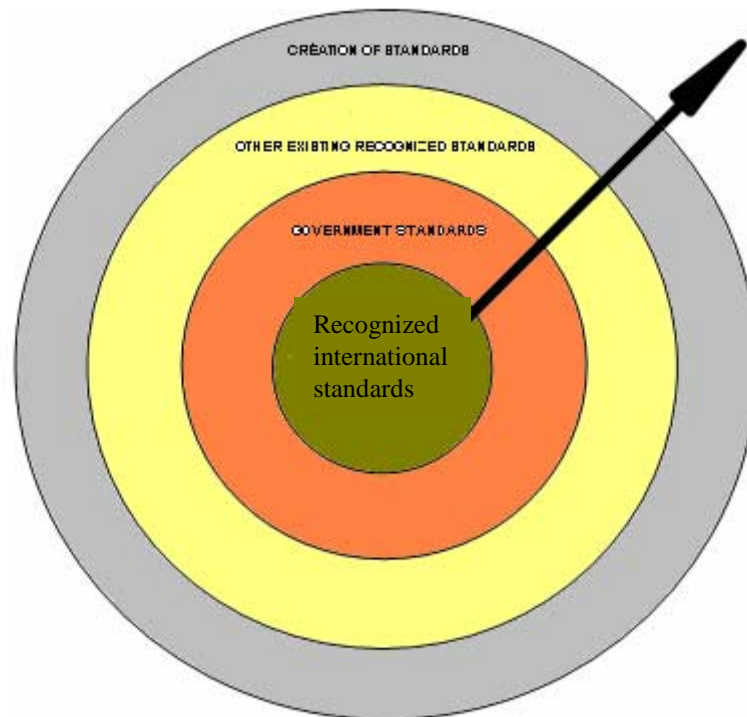


1. Identification of possible solutions
2. Formalization of those solutions in the form of standards
3. Design and production of software tools to support those standards

## 2. Information architecture (Master specifications – Part 1)

### 2.2 Standards

#### Selection of standards

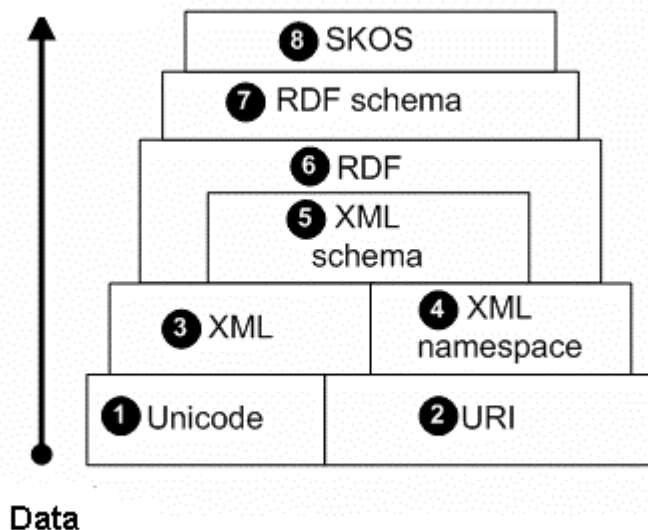


## 2. Information architecture (Master specifications - Part 1)

### 2.2 Standards

From problems to tools

Knowledge



1. Coding
2. Unique identifiers
3. Structure
4. Modularity
5. Creation of structures and validation
6. Description
7. Creation of properties
8. Organization of knowledge

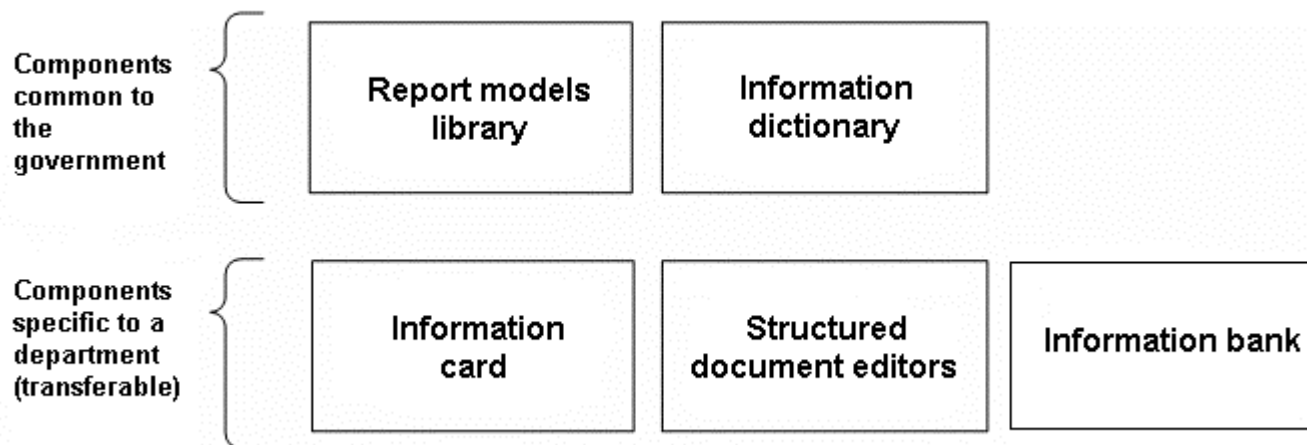




## 2. Information architecture (Master specifications - Part 1)

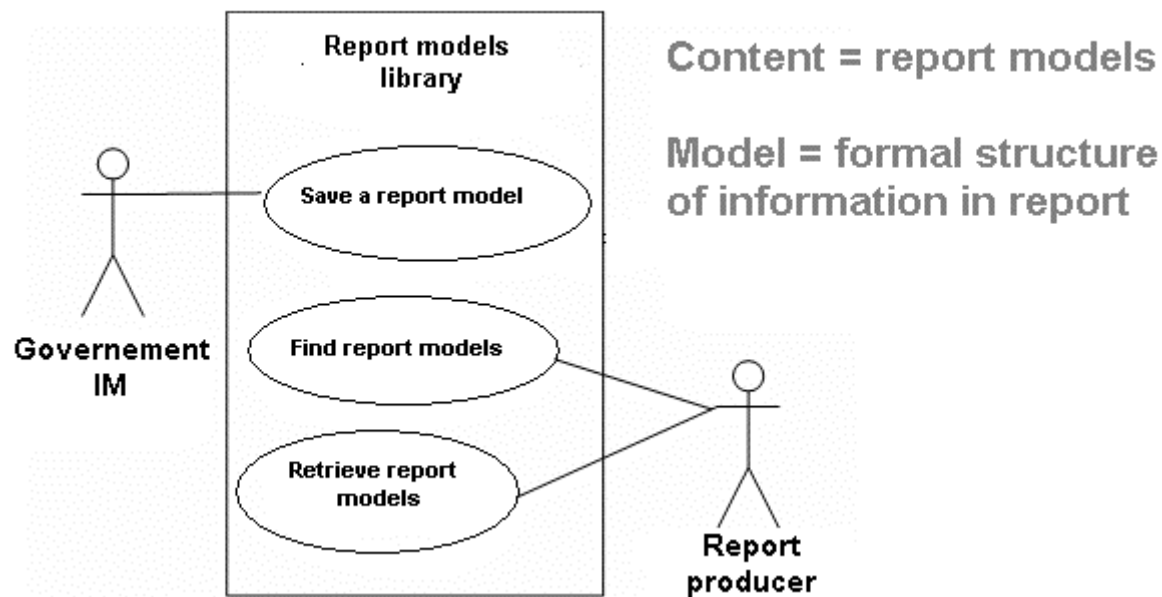
### 2.3 Main components

#### Overview



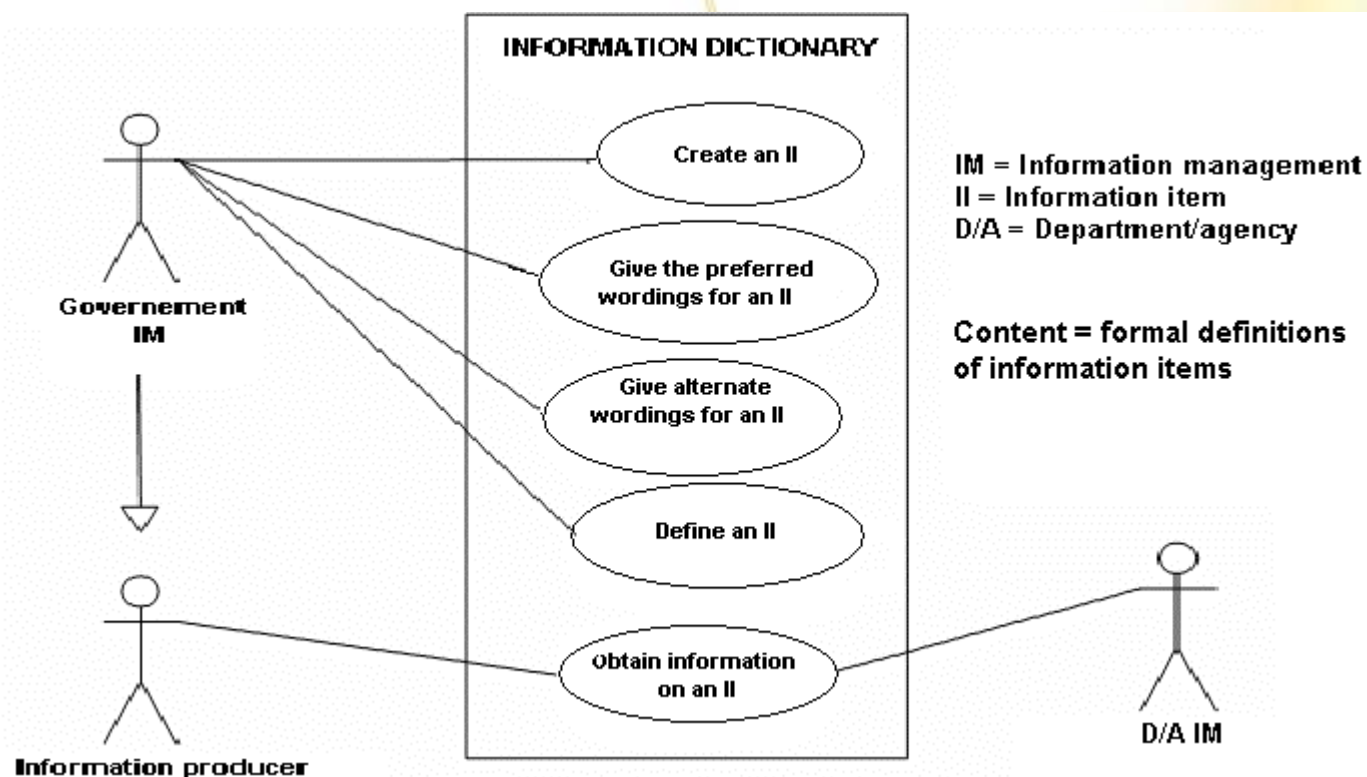
## 2. Information Architecture (Master specifications – Part 1)

### 2.3.1 Report models library



## 2. Information architecture (Master specifications - Part 1)

### 2.3.2 Information dictionary

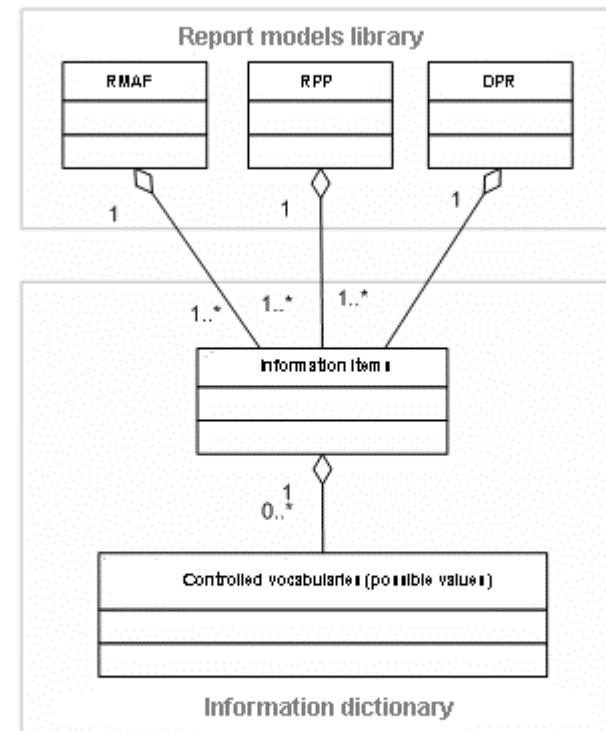


## 2. Information architecture (Master specifications – Part 1)

### 2.3.2 Information dictionary

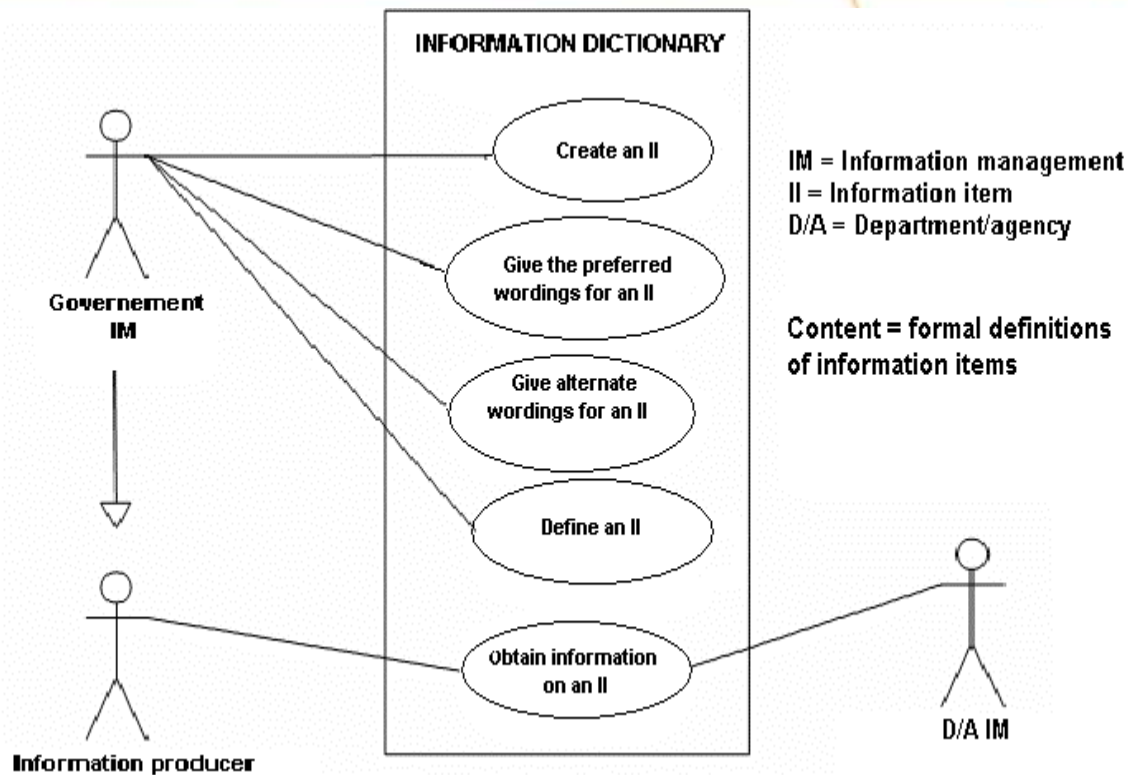
*report models*  
VS  
*dictionary*

**Report models are made up of the information items defined in the dictionary.**



## 2. Information architecture (Master specifications – Part 1)

### 2.3.3 Information card



Content =

- Identification of **owners** of information items
- Identification of **locations** of information items

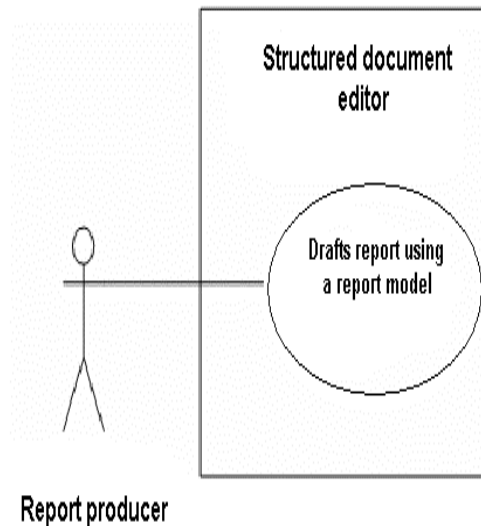


## 2. Information architecture (Master specifications – Part 1)

### 2.3.4 Structured document editors

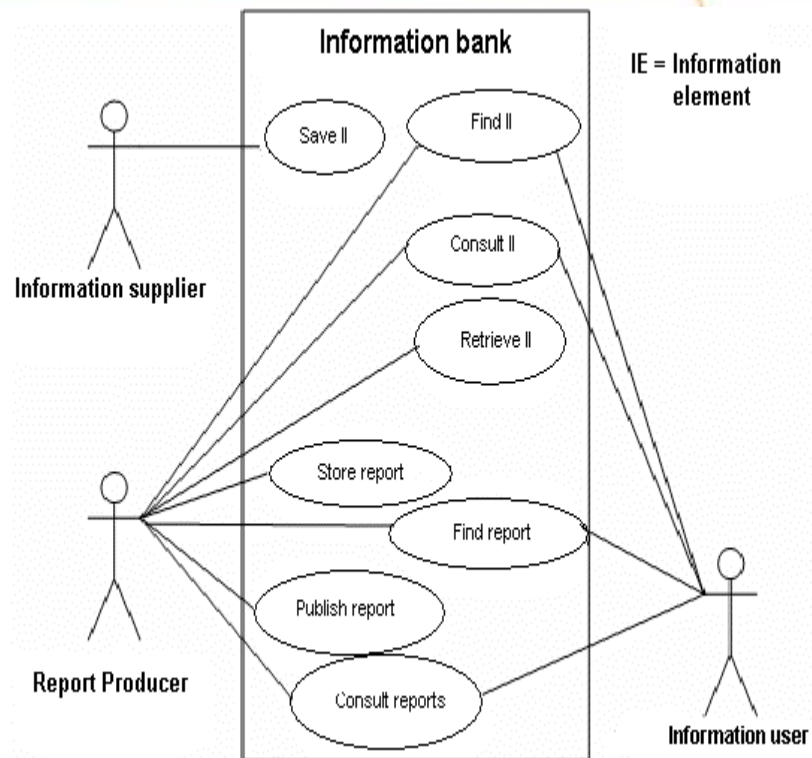
#### Types of structured document editors

- **Forms**
- **Text processors (new generation)**
- **XML publishing software**
- **Business applications**



## 2. Information architecture (Master specifications – Part 1)

### 2.3.5 Information bank

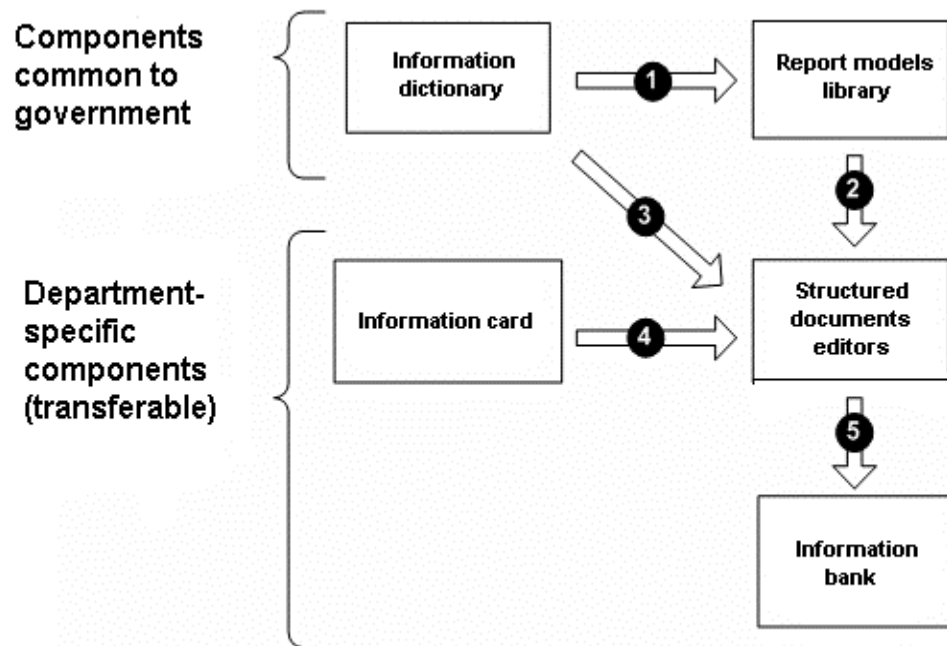


Content =

- **Information items**
- **Reports**

## 2. Information architecture (Master specifications - Part 1)

### 2.4 Interaction of main components



5. Structured reports in XML format are stored in the information bank





## 3. Conventions used (Master specifications – Part 2)

### Content

#### 3.1 Identification and structure

#### 3.2 Description of information items



## 3. Conventions used (Master specifications – Part 2)

### 3.1 Identification and structure of IIs

#### Convention

- XML Schema

#### Reasons

- Promotes reuse of information items
- Designed to allow computer to use and validate structures
- Independent of software platforms
- Open standard under authority of W3C (World Wide Web Consortium)



## 3. Conventions used (Master specifications – Part 2)

### 3.2 Description of information items

#### Convention use

- **RDF** (Resource Description Framework) standard

#### Reasons

- Designed to allow computer to use and validate structures
- Independent of all software platforms
- Open standard under authority of W3C (World Wide Web Consortium)
- Allows desired extendibility and adaptability of architecture



### 3. Conventions used (Master specifications – Part 2)

#### 3.2 Description of information items

##### Meaning of information items (information dictionary)

##### Four basic properties

- Preferred wording
- Alternate wording
- Definition
- Context



### 3. Conventions used (Master specifications – Part 2)

#### 3.2 Description of information items

##### **Management of information items (information card)**

##### **Two basic properties**

- **Owner**
- **Location**



## 4. Application of architecture

### Content

#### 4.1 Open area of activity

#### 4.2 Results



## 4. Application of architecture

### 4.1 Open area of activity

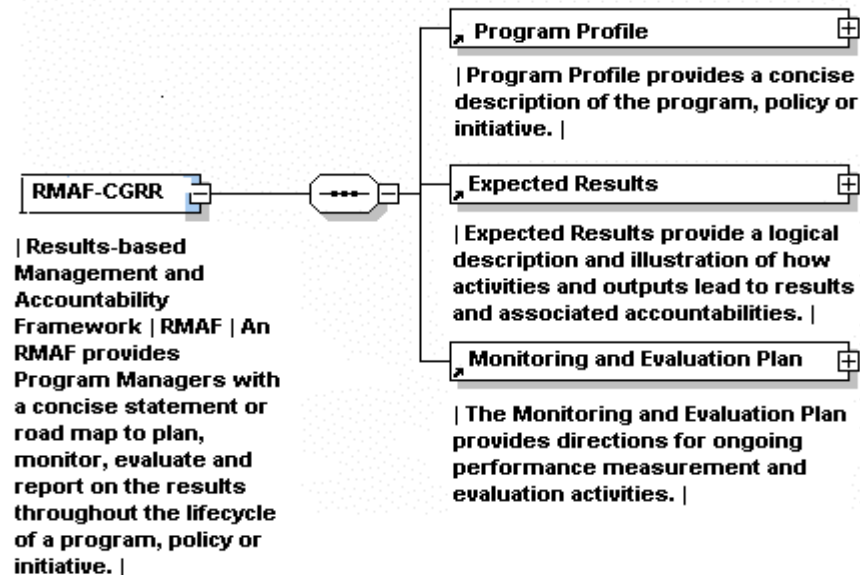
- **Reporting to central agencies**
- **Three types of report**
  - **RMAF (Results-based Management and Accountability Framework)**
  - **RPP (Report on Plans and Priorities)**
  - **DPR (Departmental Performance Report)**



## 4. Application of architecture

### 4.2 Results

## Report models formalized using XML Schema





## 4. Application of architecture

### 4.2 Results

#### Formal definitions (semantic) using RDF

```

<sk:Concept rdf:ID="ResultatsPrevus-ExpectedResults">
  <sk:prefLabel xml:lang="fr">Résultats prévus</sk:prefLabel>
  <sk:prefLabel xml:lang="en">Expected results</sk:prefLabel>
  <sk:altLabel xml:lang="fr">Résultats attendus</sk:altLabel>
  <sk:definition xml:lang="fr">
    Précise les résultats prévus aux divers stades du programme,
    de la politique ou de l'initiative ainsi que les délais d'exécution
    prévus.
  </sk:definition>
  <sk:definition xml:lang="en">
    Identify results expected at various stages of program, policy or
    initiative delivery and specify anticipated time frames for the
    achievement of results.
  </sk:definition>
</sk:Concept>

```



## 5. Conclusion

- **Technological options - architecture**
  - Favour electronic means (MGI Policy)
  - Use recognized information management standards
  - Use a clearly defined common vocabulary
    - Wording and properties
- **Technological needs**
  - Tie-in and development to be planned based on positioning
- **Small agency management needs**
  - Quality and organization of information
    - Following implementation
  - Usefulness for reporting, drafting reports, responding to requests, retrieving and reusing recognized information more easily
  - Necessary to obtain integrated information – buried in documents

