Government of Canada Metadata Framework
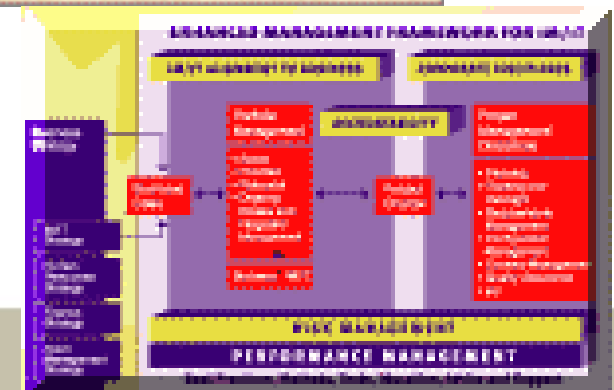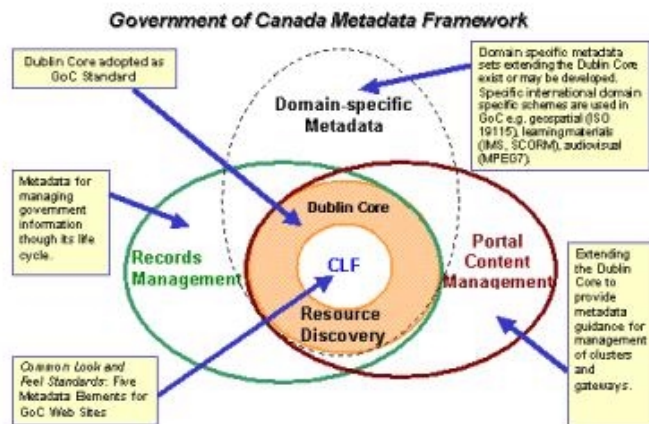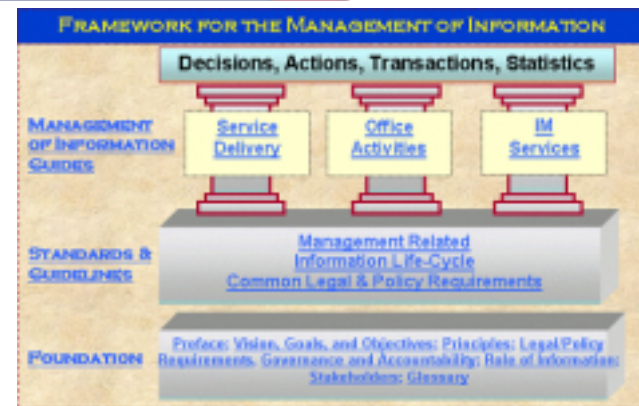
Presentation to

Canadian Metadata Forum

September 20, 2003

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Information Management
Chief Information Officer Branch
Treasury Board of Canada, Secretariat

Canada

Frameworks in the Government of Canada

- **Management Accountability Framework**
- **Framework for the Management of Information**
- **Enhanced Management Framework**
-

Evolution of GoC Metadata Framework

1970s
- Library cataloguing – MARC Format
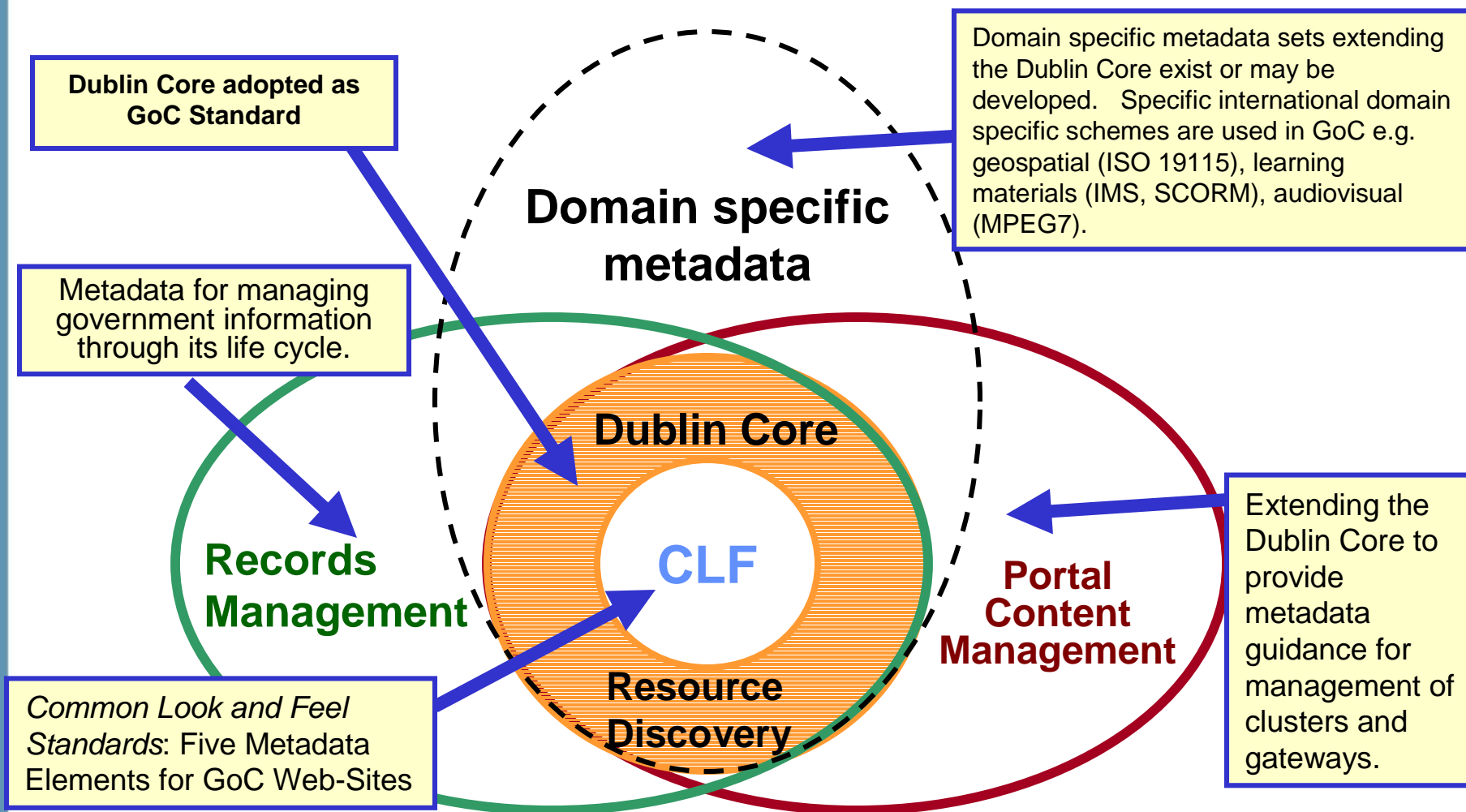
1980s
- Rules for Archival Description (RAD)

1990s
- FGDC CSDGM (Content Standard for Digital Geospatial Metadata)
- Government Information Locator Service (GILS)

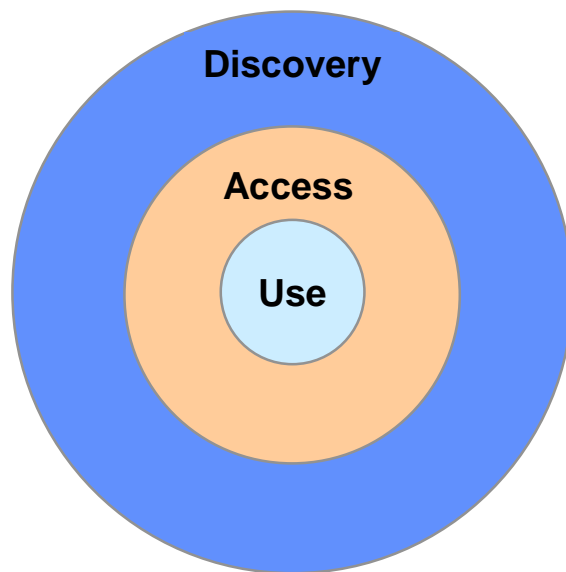Diverse needs, many data elements, little commonality

Complexities

Government of Canada Metadata Framework

Dublin Core adopted as GoC Standard

Metadata for managing government information through its life cycle.

Common Look and Feel Standards: Five Metadata Elements for GoC Web-Sites

Domain specific metadata sets extending the Dublin Core exist or may be developed. Specific international domain specific schemes are used in GoC e.g. geospatial (ISO 19115), learning materials (IMS, SCORM), audiovisual (MPEG7).

Extending the Dublin Core to provide metadata guidance for management of clusters and gateways.

Domain specific metadata

Dublin Core

CLF

Resource Discovery

Records Management

Portal Content Management

Environment Canada's Metadata Framework
Three Levels of Metadata

**A *flexible strategy*
that matches *effort to need***

Discovery

Access

Use

**Using internationally
recognized standards**

Discovery
Most EC information assets will be
discovered at this simplest level.
This could be for a collection,
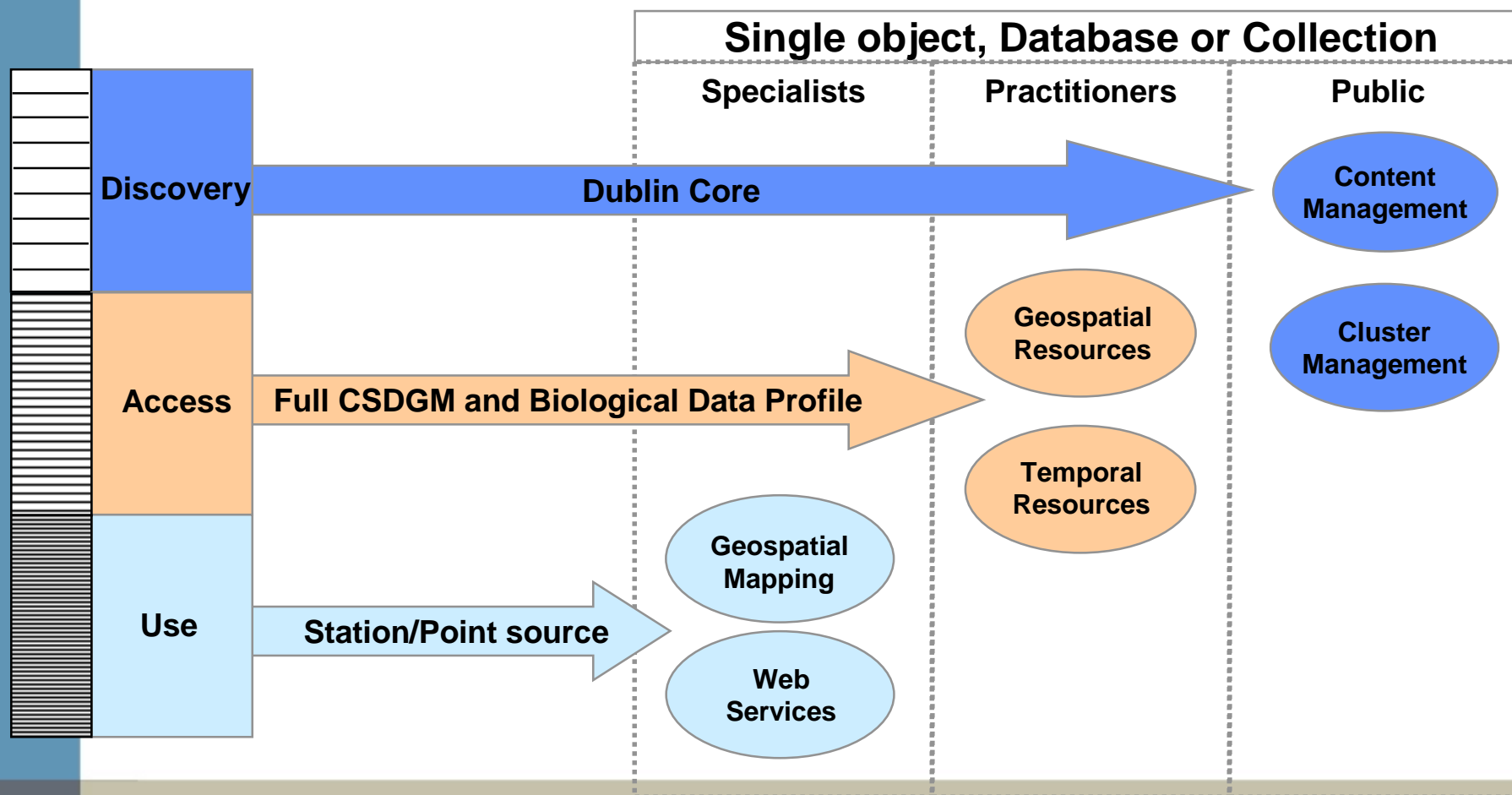database or single object.

Access
Using the full geospatial and/or
biological profile this level will
provide for the comprehensive
description and disclosure of data.

Use
This level will allow for the use of
biological or geospatial metadata at
the station level for visualization
and data extraction web services.

Hierarchical Application of Metadata Standards at Environment Canada

Single object, Database or Collection

Specialists | Practitioners | Public

Discovery — Dublin Core → Content Management

Access — Full CSDGM and Biological Data Profile → Geospatial Resources, Temporal Resources

Cluster Management

Use — Station/Point source → Geospatial Mapping, Web Services

Dublin Core:
Metadata Standard for Resource Discovery

Title * *(dc.title)*

Creator * *(dc.creator)*
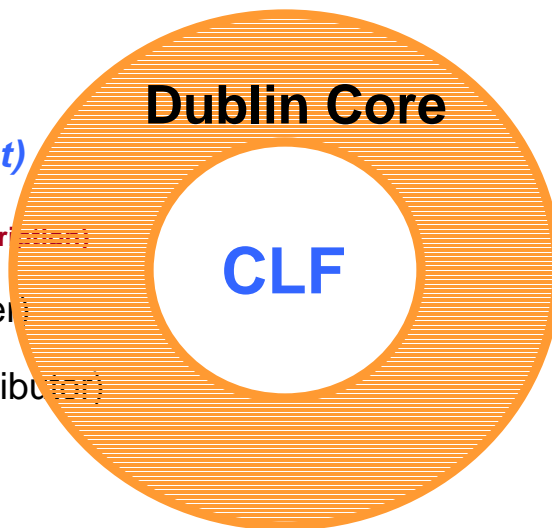
Language * *(dc.language)*

Date * *(dc.date)*

Subject * *(dc.subject)*

Description (dc.description)

Publisher (dc.publisher)

Contributor (dc.contributor)

*CLF (5 elements)

Dublin Core

CLF

Type (dc.type)

Format (dc.format)

Identifier (dc.identifier)

Source (dc.source)

Relation (dc.relation)

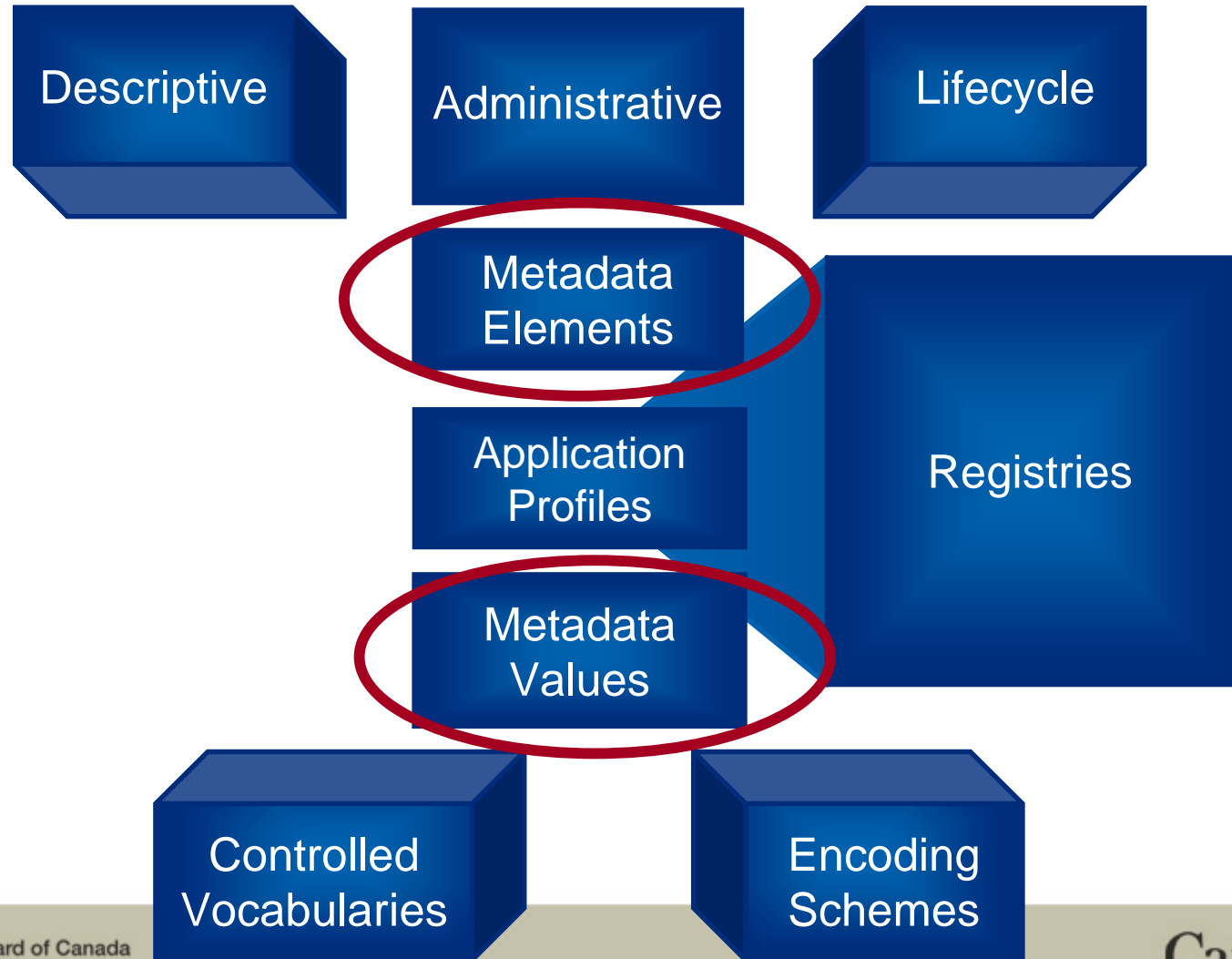**Coverage** (dc.coverage)

Rights (dc.rights)

Audience (dc.audience)

16 elements

- **Only the five elements previously approved as Common Look and Feel (CLF) Standard 6.3 are mandatory across all GoC Web sites**
- **The Dublin Core is used when more than 5 elements are needed.**
- **Guidance and schemes have been developed.**

Information Assets Management Framework from Health Canada - extract

Semantic model

- **Metadata Elements**
  - Dublin Core defines the semantics (meaning) of the 16 elements
- **Metadata Values**
- A controlled element : the content or value is
  - formatted in a standard way (encoding scheme), or
  - a term from a specified list of acceptable values or controlled vocabulary
- Controlled vocabularies should be named, registered and identified in metadata records as schemes
- An element can have multiple schemes

Common semantics are key to interoperability

Dublin Core schemes for interoperability

- ◆ Dublin Core Metadata Element Set
- ◆ Dublin Core Qualifiers
- ◆ DC Element Encoding Schemes
  - • Rules and controlled vocabularies
  - • DCMI Type Vocabulary
  - • ISO 639-2: Codes for the representation of names of languages

- • ISO 3166: Codes for the representation of names of countries
- • Getty Thesaurus of Geographic Names
- • Internet media type (MIME)
- ◆ Subject Schemes
  - • LCSH, MeSH, DDC, LCC, UDC

http://dublincore.org/usage/terms/dc/current-schemes/

Build on what is widely accepted and used

Schemes for interoperability within GoC

Accommodate diversity

- Define usage of DC schemes
- Broad, high-level GoC-wide schemes
- More specific domain or departmental schemes

Issues

- Defining broad and high-level
- Managing scope of schemes
- Mandatory use of GoC scheme

Wide-spread use of common schemes is key to interoperability

Principles for registering GOC Schemes

- Controlled vocabularies used by the Government of Canada should be registered and publicly available (TBITS 39.2)

- The National Library of Canada (NLC) is the registrar of standardized vocabularies used in GoC

- Vocabularies must be **bilingual**

- Vocabularies must be created and maintained by **trusted authorities** which have a mandate within a department to develop and maintain the vocabulary

- Departmental thesauri must be capable of being mapped to the GoC *Core Subject Thesaurus*

Evolving principles for developing GoC schemes

- **Applicable**: terms represent content found on a significant number of Government of Canada Web sites, and/or are of substantial significance to Government of Canada programs/services

- **Recognizable**: terms are understandable by implementers/indexers

- **Unique**: no terms will be a synonym of an existing term [within one scheme]

- **Client-centric**: concepts and terminology used in presentation layer should be tested with the public

Established GoC Schemes

Mandatory elements

dc.creator

- ◆ Titles of Federal Organizations, GEDS

dc.subject

- ◆ GoC Core Subject Thesaurus

Optional elements

dc.coverage

- ◆ Canadian Geographic Names Data Base
- ◆ Regions of Canada

dc.type

- ◆ Government of Canada Type Scheme

dc.audience
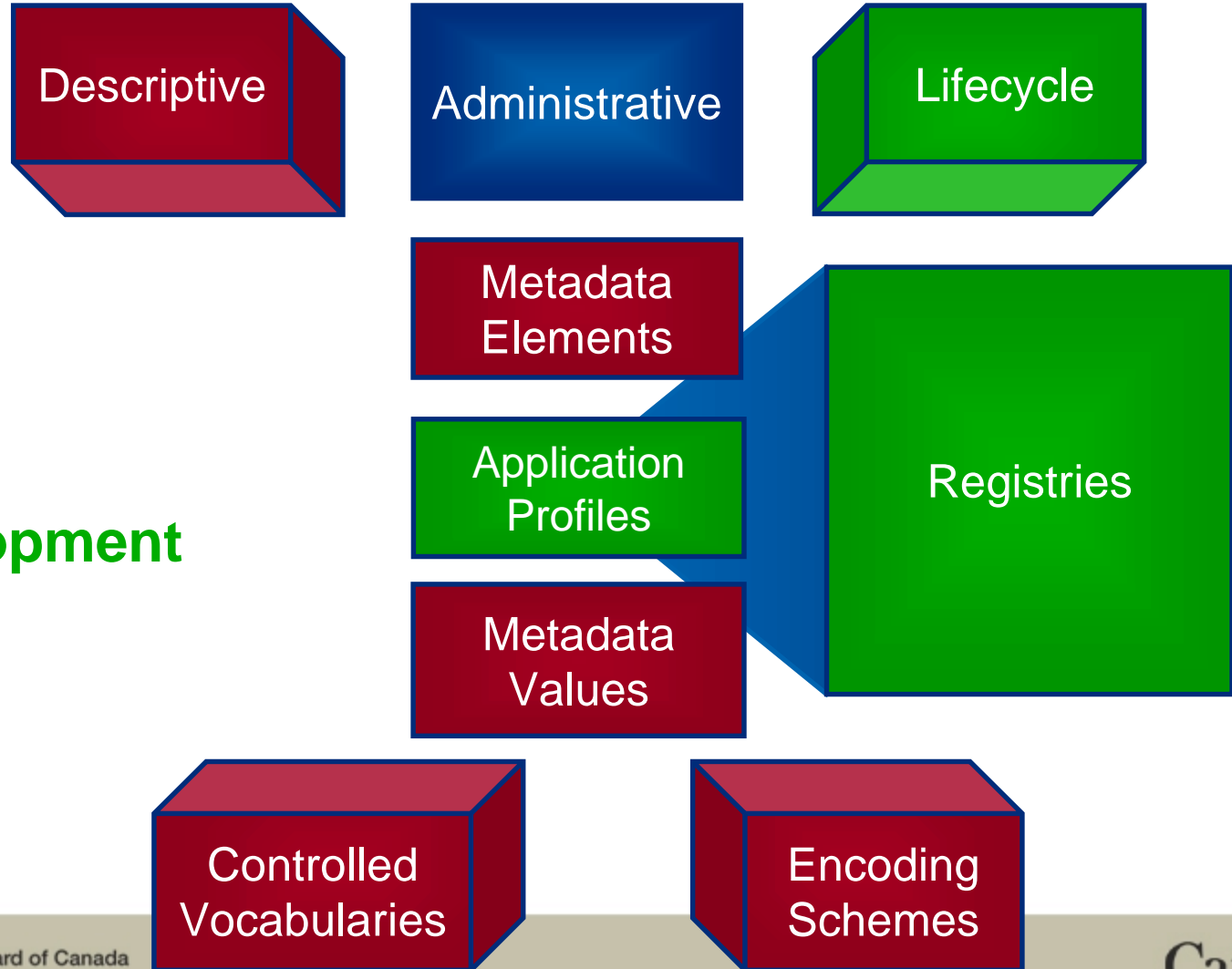
- ◆ Government of Canada Audience Scheme

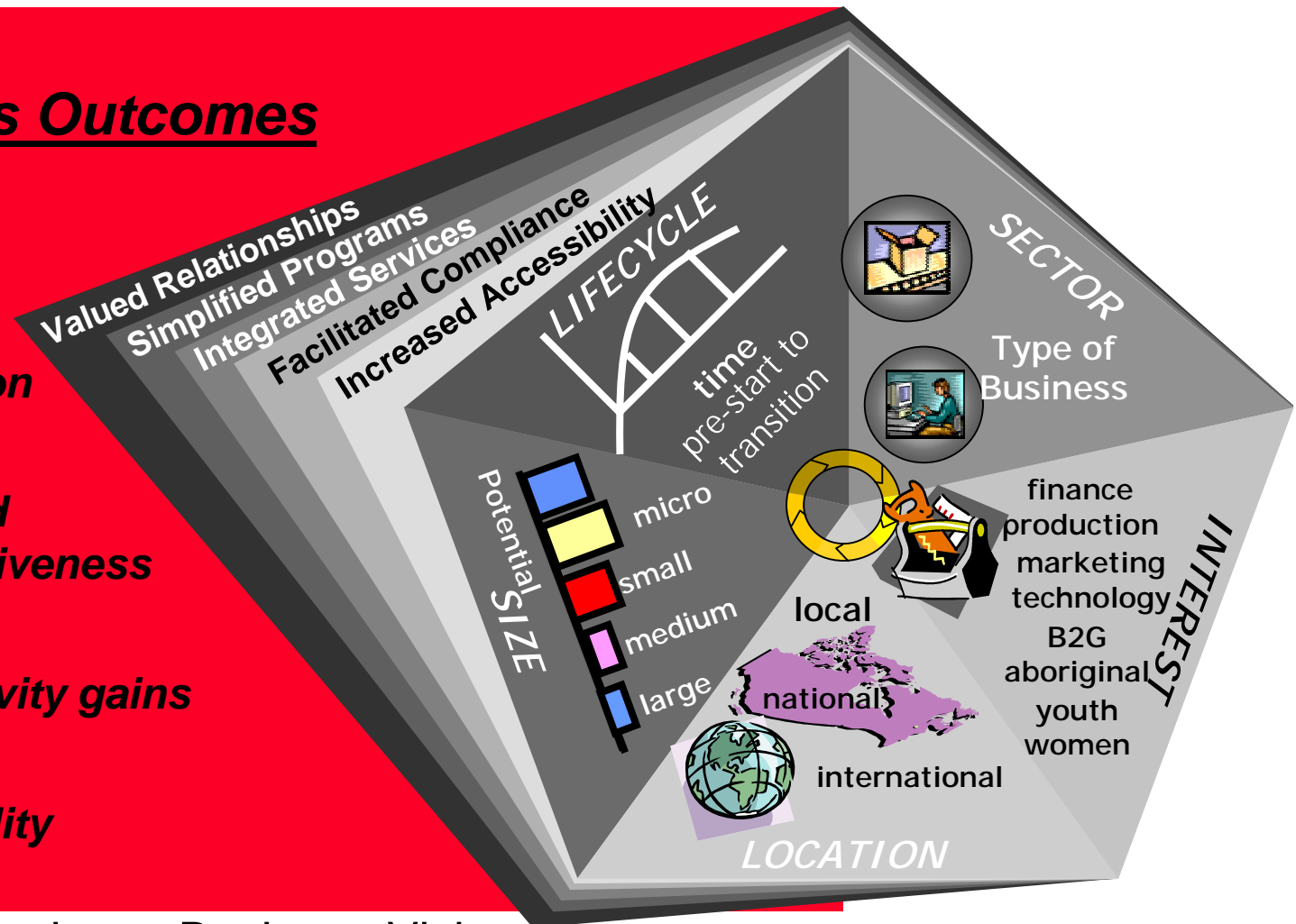http://www.cio-dpi.gc.ca/im-gi/meta/meta-cdn_e.asp

Where we are today…

Descriptive

Administrative

Lifecycle

Metadata Elements

Application Profiles

Registries

Metadata Values

Existing

In development

Controlled Vocabularies

Encoding Schemes

Facets to support access

Business Outcomes

- *Growth*

- *Innovation*

- *Improved competitiveness*

- *Productivity gains*

- *Profitability*

Source: Service to Business Vision

Treasury Board of Canada
Secretariat

Secrétariat du Conseil du Trésor
du Canada

Canada