Government of Canada
CST Web Service Project

Government of Canada Core Subject Thesaurus (CST)

- Available online at: http://thesaurus.gc.ca/
- Authorized source of standardized terminology for the indexing and retrieval of GoC online information resources.
- TBITS 39.2
  http://www.cio-dpi.gc.ca/its-nit/standards/tbits39/crit392_e.asp
- "Default" vocabulary for populating "dc.subject" in GOL Metadata Scheme (Dublin Core)

Public Works and Government Services Canada
Gay.Lepkey@pwgsc.gc.ca

Background

- Based on the Depository Services Program (DSP) Subject Thesaurus.
- Compliant with ISO standards ISO 2788-1986 and ISO 5964-1985
- Does not include specialized terminology used in specific and limited disciplines.
- DSP has custodial and editorial authority for the CST
- Further development based on
  - extraction of terminology used to identify departmental business lines and mission statements
  - requests submitted by persons responsible for departmental GOL metadata

Public Works and Government Services Canada
Gay.Lepkey@pwgsc.gc.ca

Governance

- Thesaurus Sub-Group of the GOL Metadata Working Group
- Main Task:

  “To explore the feasibility, requirements, options, value and value-added, process and method for implementing a government wide thesaurus/thesauri to support GOL requirements for improved information exchange, retrieval, and management of Government of Canada information.”

Public Works and
Government Services Canada
Gay.Lepkey@pwgsc.gc.ca

Reasons for Web service

- CST is continually evolving.
- Web service enables dynamic, machine to machine communication
- Result = Current version is always available to indexers and searchers.

Public Works and
Government Services Canada
Gay.Lepkey@pwgsc.gc.ca

DSP – EC – LAC Partnership

- Consulting services contracted by LAC
- Paid for by the DSP under an existing service contract with LAC
- EC agreed to be technical leads, provide testing environment and technical support

Public Works and
Government Services Canada
Gay.Lepkey@pwgsc.gc.ca

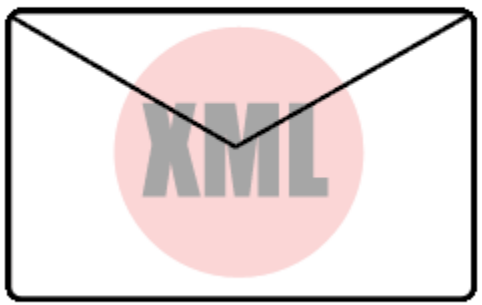
What is a web service?

- A standardized way for machines to exchange data
- Allows many applications to use the same data source in different ways
- Based on requests and responses
- Communication uses eXtensible Markup Language (XML)
- XML data encoded using Simple Object Access Protocol (SOAP)
- Public interfaces of the service described using Web Service Description Language (WSDL)

Environment Canada
Bryce.Crossman@ec.gc.ca

What is a web service?

Client



Request

Service

Response

Data Processing

nada
Bryce.Crossman@ec.gc.ca

The CST Web Service

- Another interface for accessing terms from the CST
- The existing website is a good way for users to find and use CST terms (i.e. search, copy and paste) but the process depends on the user
- The web service allows developers to dynamically use CST terms in their applications while minimizing user dependence and the margin for error

Environment Canada
Bryce.Crossman@ec.gc.ca

The CST Web Service

- Provides three methods for accessing information:
  - Alphabetical Search
  - String Search
  - Classified Search

Environment Canada
Bryce.Crossman@ec.gc.ca

CST Web Service Methods

- **Alphabetical and String Searches**
  - Both take four parameters
    - Language
    - Search String
    - Response Type
    - Number of Terms
  - Alphabetical matches text from the beginning
  - String matches the text anywhere in a term

Environment Canada
Bryce.Crossman@ec.gc.ca

CST Web Service Methods

- **Alphabetical and String Searches (cont.)**
  - Three response types
    - Term List
      - List of terms with minimal information
    - Term Records
      - List of terms with detailed information for each match
    - Term Hierarchy
      - List of terms with attention to where each term fits into the hierarchy of terms

Environment Canada
Bryce.Crossman@ec.gc.ca

CST Web Service Methods

- **Classified Search (Browsing)**
  - Two parameters
    - Language
    - Category Code
  - If the category code is empty a list of categories is returned
  - If the category code is present then a list of terms for that category is returned

Environment Canada
Bryce.Crossman@ec.gc.ca

CST Web Service Client

- Developed to demonstrate the service
- Fulfills Environment Canada's immediate needs for the service
- Designed as a reusable component that can be easily integrated into existing web applications
- Goal is to facilitate using the CST to fill in a form on a web page

Environment Canada
Bryce.Crossman@ec.gc.ca

CST Web Service Client

- No knowledge of XML or web services
- Requires a container to forward requests to the client and include a response into itself
- Requires some JavaScript to process information from the client and use it to change the form
- Returns preferred terms where applicable

Environment Canada
Bryce.Crossman@ec.gc.ca

CST Web Service Project
- Agenda -

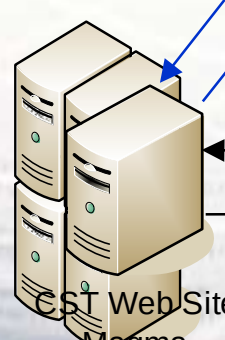
- How it works
- Testing & performance
- Application
  - Client interface
  - Web service
- Governance Questions
- Next Steps
- Advantages

Environment Canada
Charles.St-Pierre@ec.gc.ca
23-09-2004

CST Web Service Project
- How it works-

- Users connect to local content management system or application
- Dynamically browse / search using standard client interface
- Pick and choose

- Users connect thru web
- Browse CST
- Cut and paste data



CST Web Site
- Magma -
CST Web Service
- Environment Canada -

da
Charles.St-Pierre@ec.gc.ca

CST Web Service Project
- Testing & Performance -

Load testing Parameters

- What should be load testing parameters ?
  - Number of concurrent users ?
- Based on what architecture ?
  - Central vs decentralised ?
- Based on who's infrastructure ?

Current Performance issues

- Slow
  - Multi tier, Network
  - Magma server
    - Obsolete Db software – not robust

Environment Canada
Charles.St-Pierre@ec.gc.ca

CST Web Service Project
- Application -

Client interface

- How many should exist ?
- Who can access ?
- Documentation
- Local vs central User support

Environment Canada
Charles.St-Pierre@ec.gc.ca

CST Web Service Project
- Application -

CST Web Service

- Where should it sit ?
- How critical is it?
- Who can access ?
  - Federal government
  - Provincial government
- Documentation
- Local vs central support

Environment Canada
Charles.St-Pierre@ec.gc.ca

CST Web Service Project
- Governance Questions -

- Longer term resource, funding, etc
- Security concerns, user permissions etc
- Use of the Web service by organisations external to GOC particularly provincial governments (exclusion of private sector organisations assumed)
- Where should the Web Service sit?
- Longer term server hosting for the Web Service that would support use by organisations external to EC

Environment Canada
Charles.St-Pierre@ec.gc.ca

Project Service Web (CST)
- Advantages -

- Facilitates access to all users
- Standardize:
  - CMS and application connectivity
  - GOC Single client interface
  - Content selection and formatting
- Programmatically support policies
  - (CLF, OLA, …)
- Minimal user training
- In line with Service Oriented Architecture (SOA) approach
- Very cost effective

Environment Canada
Charles.St-Pierre@ec.gc.ca

CST Web Service Project
- Next Steps -

- Who Stakeholders
  - Users
  - Technical support
  - Governors
  - Funding org
- What
  - Additional new technology
- When
  - Now
  - Soon
  - Later
- Where

Environment Canada
Charles.St-Pierre@ec.gc.ca
23-09-2004

- Questions -

Environment Canada
Charles.St-Pierre@ec.gc.ca
23-09-2004