

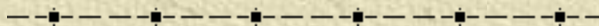


*Canadian Geospatial Data
Infrastructure (CGDI)*

Resource Note #1

Community Information Mapping System

July 2009



Preface

- ✦ The Resource Note is intended to increase our understanding of and broaden our knowledge base on key subject areas that are fundamental in building our capacity in numeric and geographic analysis.
- ✦ It is not an in-depth or comprehensive discussion of the subject matter.
- ✦ It highlights certain relevant and important areas that deserve our attention and consideration.
- ✦ It is intended to be informal and informative.

Introduction

- ✦ This resource note presents the Canadian Geospatial Data Infrastructure (CGDI)
- ✦ What is the CDGI? How does it work?
- ✦ Why is it important?
- ✦ How to use it practically within the CIMS?
 - Find relevant geospatial data
 - Visualize geospatial data
 - Publish geospatial data

What is the CGDI?

- ✦ The CGDI provides on-demand discovery, access, mapping and sharing of geospatial data and information in an online environment.
- ✦ Goal: to improve decision making by helping people better understand their situations, challenges, opportunities—and potential solutions.

About GeoConnections

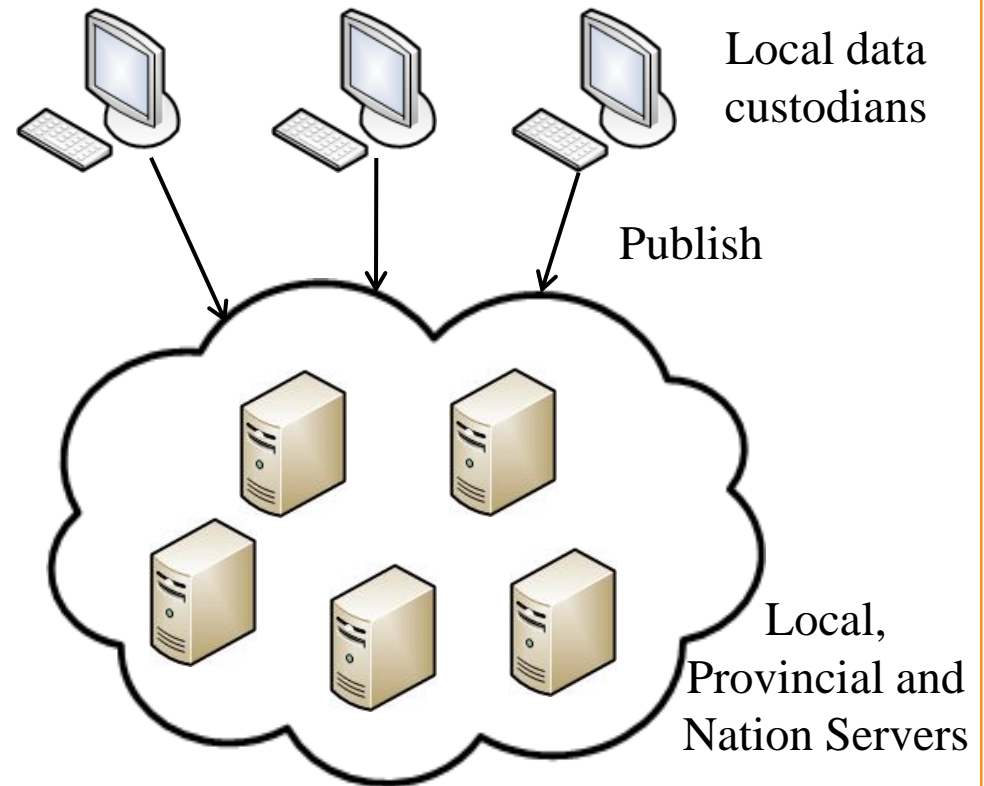
- ✦ GeoConnections is a national partnership initiative to promote the Canadian Geospatial Data Infrastructure's use and growth.

- ✦ GeoConnections helps decision-makers to use online location-based (or "geospatial") information, to tackle some of Canada's most pressing challenges.

- ✦ The program focuses on working with partners in four communities:
 - Public Health
 - Public Safety
 - Environment and Sustainable Development
 - Aboriginal community

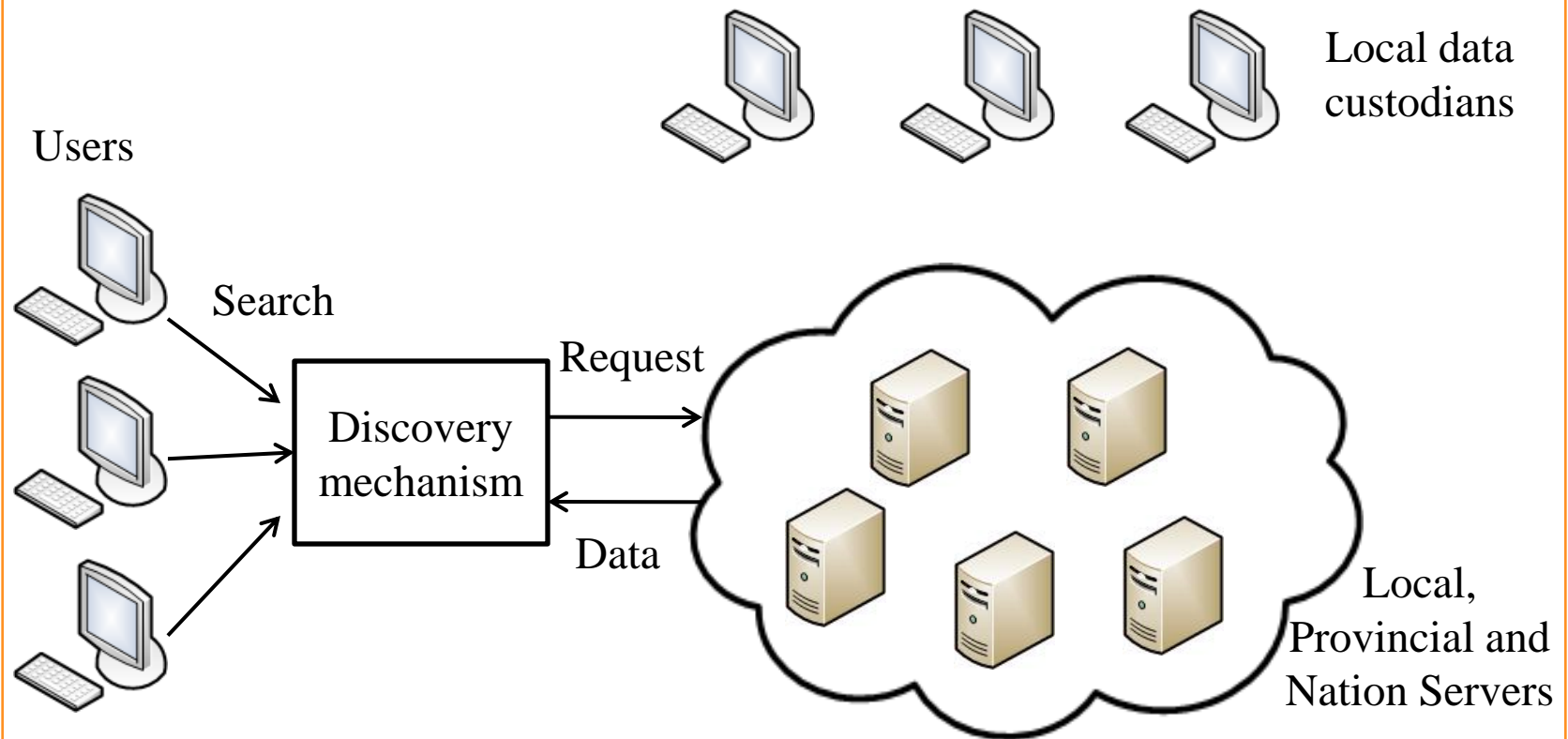
How does CGDI work?

- ✦ A very simplified chart is used to present the main principles of the CGDI.



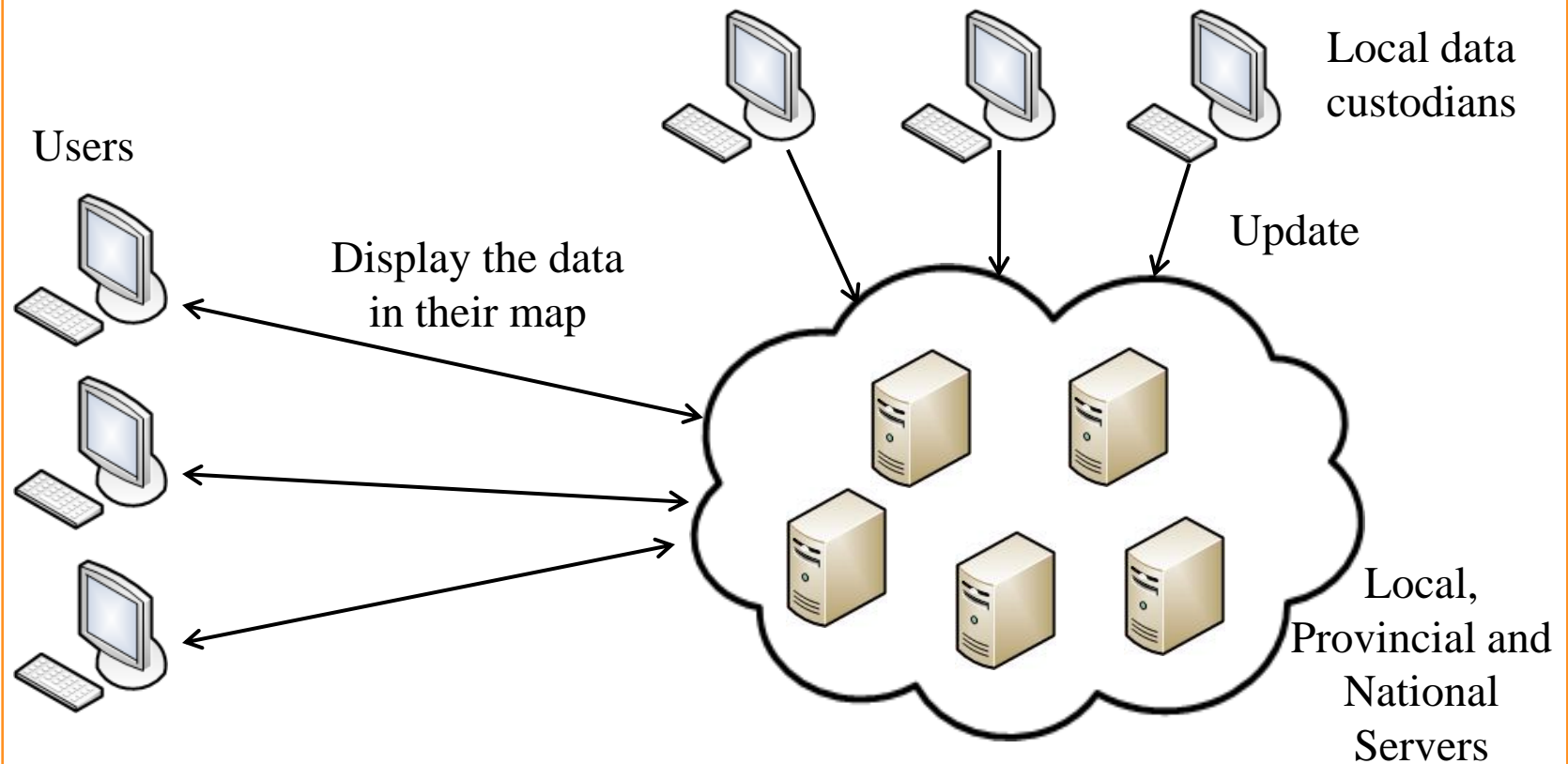
- First, data custodians publish their geospatial data. In other word, they make it easily discoverable.

How does CGDI work?



- A user can search for geospatial data through discovery mechanism such as a web data portal (GeoConnections Discovery Portal) or a customized application like the CIMS.
- According to the user's search criteria, a request is emitted to the servers and corresponding datasets are returned to the users who can directly use and display.

How does CGDI work?



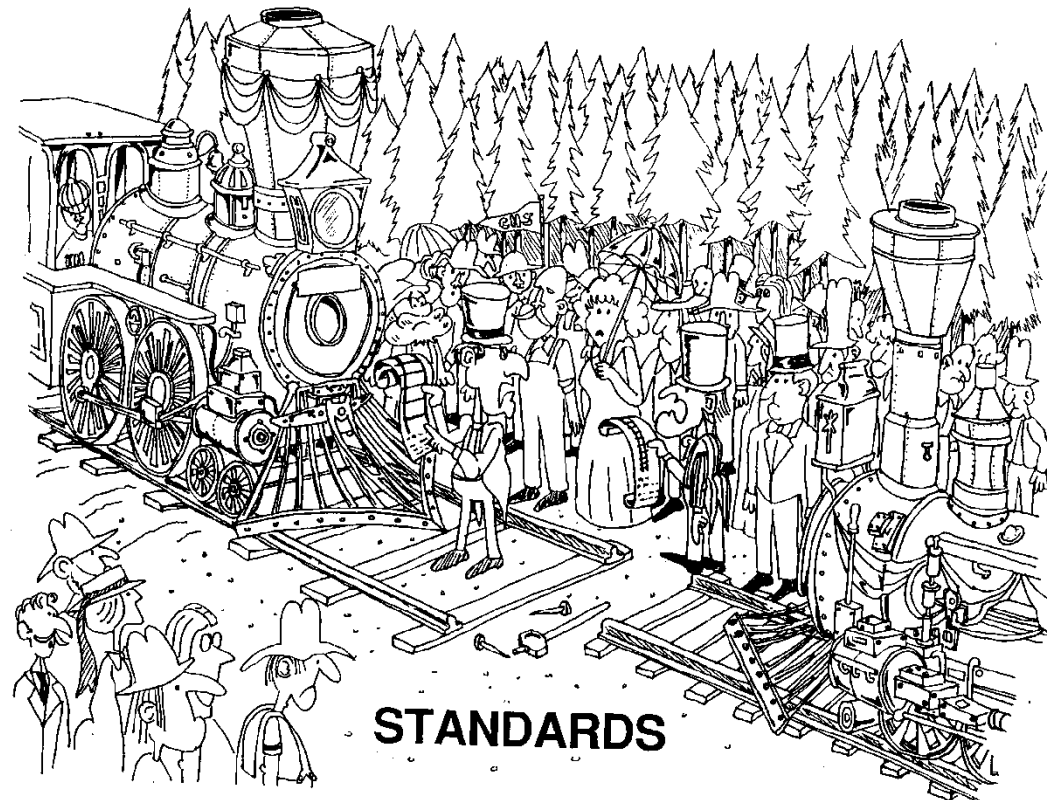
- Once, the user found relevant datasets, he can combine them into its map. At the same time, data custodians can update the data and the changes will be immediately reflected at the user end.

Advantages of the CGDI

- ✦ Accessing data from the closest point to the source ensures that users get quickly and easily information that is:
 - up-to-date
 - accurate
 - authoritative
 - avoid versioning and duplication
- ✦ Interoperability: possibility to create one map with data from many sources
- ✦ Providers can maintain control over their data with privacy and security safeguards in place.
- ✦ Reduce the costs
- ✦ Improving Canadians' quality of life by enhancing decision making

Open Standards

- ✦ In order to communicate, the different pieces of the CDGI need common interfaces.
- ✦ To do so, open standards are used to harmonize the digital geographic information formats and their transfers in order to make the systems interoperable.



The main standards endorsed by the CGDI

- ✦ The Open Geospatial Consortium (OGC) is a non-profit, international, voluntary consensus standards organization that is leading the development of standards for geospatial and location based services.
- ✦ OGC creates some standards and also leverages ISO standards (international standards) and W3C (web standards)
- ✦ Web Mapping Service (WMS):
 - Consume data online without having to maintain it
 - Provides images (raster) of map data defined by a geographic / spatial component
 - Easily integrate disparate map layers from multiple servers

The main standards endorsed by the CGDI

- ✦ **Web Feature Service (WFS):**
 - Feature level access (vector) that gives the users control over the features (for instance to highlight a specific feature)
 - Transactional capability (create, update, and delete)
 - Returns Geographic Markup Language (GML), an XML-based format

- **Metadata: Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) and ISO Metadata Standard 19115 (see Resource Note #19)**

- ✦ **Others: Style Layer Descriptor (SLD), Web Map Context (WMC), GeoData Discovery Service**

Online Resources

✦ General: <http://www.geoconnections.org/Welcome.do>

✦ Video presentation:

http://www.youtube.com/watch?v=YIZLc_qHYZc

✦ Online training:

http://www.geoconnections.org/publications/training_manual/e/index.htm

✦ Discovery portal: <http://geodiscover.cgdi.ca/>

✦ Other portals:

– GeoBase: <http://www.geobase.ca/>

– GeoGratis: <http://geogratis.cgdi.gc.ca/frames.html>

– Atlas of Canada:

<http://atlas.nrcan.gc.ca/site/english/index.html>

What Have We Learned?

- ✦ What the CGDI is
 - Sharing up-to-date data
 - Relying on open standards

Any questions or comments?

Please contact me at:

Vivien Deparday

GIS Project Manager

Community Mapping Information System

Email: vdeparday@spcottawa.on.ca

Phone: 613-236-9300 ext: 304

Fax: 613-236-7060

Thank You

Sources

Most of the information used in this document is from the GeoConnections website.

This project is funded by GeoConnections.

