

**Technical Workshop of the
GeoConnections' Canadian Geospatial Data Infrastructure – CGDI
Development Network**

**Thursday, October 3rd, 2002
9:00 – 17:00**

**Hosted by Fisheries and Oceans Canada at the
Bedford Institute of Oceanography – Dartmouth, Nova Scotia**

Minutes

Building from the successes of previous regional workshops, the GeoConnections' Canadian Geospatial Data Infrastructure (CGDI) Development Network held a workshop at the Bedford Institute of Oceanography, in Dartmouth, Nova Scotia on October 3, 2002. This event attracted forty-four participants from Federal (Environment Canada, Natural Resources Canada, Fisheries and Oceans Canada), Provincial (Service Nova Scotia, Government of Newfoundland and Labrador), Municipal (Cape Breton Regional Municipality, Yarmouth-Argyle-Barrington District Planning Commission), Industry (Compusult, Helical Systems, CARIS, DM Solutions, Radarsat International, Sierra Systems), Academia (Dalhousie University, Centre of Geographic Sciences), and not for Profit Organization (Nova Scotia Sport and Recreation Commission - Go for Green, Atlantic Coastal Zone Steering Committee). In the morning, there were presentations by GeoConnections program coordinators, providing an introduction/overview on GeoConnections programs, CGDI vision, architecture and implementation plan, and industry on CGDI endorsed standards, technologies and applications. Then, over an extended lunchtime, there were a series of demonstrations followed by presentations from user communities (Marine Geospatial Data Infrastructure, Nova Scotia Spatial Data Infrastructure - GeoNova, and Go for Green) and a discussion panel for the afternoon.

The workshop provided an opportunity to a variety of Canadian stakeholders to present their program and technology, to network and to identify the key and common requirements that benefit from the continuing developing Canadian Geospatial Data Infrastructure. Follow on meetings between GeoConnections and Nova Scotia provincial representatives i.e. Service Nova Scotia were also held, and are expected to result in a significant provincial contribution to the benefit of the CGDI-GeoNova. Additional regional workshops are now being planned. The next workshop will be held in Québec in early 2003.

1. Introduction/Overview

a) Welcome/Overview

Brian McLeod welcomed the 44 participants and presented an overview of the CGDI Development Network, including the objectives and the overall philosophy behind this initiative that is to provide an environment for compatibility testing and validation of CGDI standards based technology. He also presented the Agenda and highlighted the concepts of partnerships that bring people together by sharing the same goals, and the incubator facility that CGDI Development Network provides.

b) GeoConnections program

Brian presented a quick overview of GeoConnections programs by highlighting the major nodes of the programs, the objectives, the benefits and the common open standards that will result in interoperable and marketable components.

c) CGDI Vision/Architecture

Sylvain Latour, co-chair of the CGDI technology Advisory Panel (TAP) made a presentation on CGDI vision and implementation plan, including the concept of CGDI architecture. He stressed the components that compose an Infrastructure including standards based components and their implementation within CGDI in a form of client applications and services.

2. Geospatial Data Infrastructure –Standards, Technologies & Applications

a) Geospatial data access and visualization

Dave McIlhagga, president of DM Solutions made a presentation on Geospatial data access and visualization, presenting the concepts that are based on open sources. He also highlighted the CGDI endorsed specifications such as “Web Map Server” and “Web Feature Server” that are successfully implemented within several organizations, public and private.

b) Geospatial data discovery and access

Barry O’Rourke, president of Compusult made a presentation on Geospatial data discovery and access concept, techniques and implementation. Barry stressed that the discovery and access of geospatial information, data and services on the Internet is a constantly evolving process. He added that there are a number of standards-based groups that are actively involved in the process of defining the standards for geospatial discovery and access. These include: GeoConnections, ISO TC/211, Open GIS Consortium (OGC), Federal Geographic Data Committee (FGDC) and others. Barry also presented the concept of a clearinghouse, registry, Web Feature Server and XML, and provided a description of an implementation application that is the “Coalition Portal for Imagery and Geospatial Services” part of the Department of National Defence’s Joint Warrior Interoperability project.

c) Web mapping services

Denis Desrosiers, from CARIS provided some highlights on web mapping services including CARIS technology i.e. Spatial Fusion Version 3.0. He also presented the Department of Fisheries and Oceans - DFO GeoPortal architecture that is supported by CGDI/GeoConnections. It is being used to promote CGDI to DFO, and to help lead DFO to establish CGDI standards based infrastructure. He also described the implementation of the Data Discovery, Web Mapping and Data Download Services provided by the GeoPortal.

3. Lunch (provided) and ad hoc demos

Several presentations were made available to stakeholders and covered services framework and tools that industries have developed to suite the CGDI philosophy of building an Infrastructure that is interoperable and easily integrable.

a) Imagery & Metadata

Jeffery Stockhausen from Helical Systems in Dartmouth Nova Scotia presented the HHViewer application that handle imagery and coverages using multi-dimensional schema including ISO 19115 metadata content. The demo of the application could be downloaded from Helical web site at: <http://www.helical.ns.ca/demo/>

b) CGDI Services viewer client application

Tom Kralidis from the Canada Centre for Remote Sensing of Natural Resources Canada demonstrated the CCRS client viewer application that uses an integration of CGDI and OGC Web Services (WMS, WFS, WCS, SLD, Catalog, Gazetteer). The prototype demonstration is available through the CGDI Development Network web site at:

<http://cgdi-dev.geoconnections.org/prototypes/owsview/>

c) Data discovery and access: Common Access Portal

Barry demonstrated the catalog product part of Compuconsult's Web Enterprise suite. It allows access to different databases in a seamless manner while providing interoperability with other clearinghouses. The demonstration is available on Compuconsult web site at:

<http://wes-dev.compuconsult.nf.ca/>

d) Enabling CGDI: data access and visualization

Dave McIlhagga presented an application solution that support CGDI best practices and highlighted key specifications for data access and visualization. The trail PAQ web site was also demonstrated (See <http://www.trailpaq.ca>).

e) Web mapping services: DFO GeoPortal

Mark MacKenzie from CARIS presented a demo on Spatial Fusion part of CARIS components. Spatial Fusion is a web development toolkit for building Internet mapping solution. Solutions designed with Spatial Fusion integrate distributed spatial services. The demonstration is available on CARIS web site at:

<http://www.spatialcomponents.com/SpatialFusion.html>

f) ISO 19115 Metadata profile and multi-tier architecture

Mohamed Habbane presented the ISO 19115 metadata profile on behalf of Cindy Mitchell and a schema multi-tier architecture that include ISO/TC 211 and OGC specifications as viewed within a vendor perspective. The metadata profile is being developing in Canada with the US and support Cultural and Linguistic Adaptability. Both posters are available by contacting either Mohamed Habbane mhabbane@nrca.gc.ca and/or Cindy Mitchell cimitche@nrca.gc.ca

4. Wrap up/Introduction

Brian McLeod provided a short summary on above sessions and introduced the afternoon session that led to presentations by communities and a group discussion by the panelists.

5. Communities

a) Marine Geospatial Data Infrastructure

Dave Pugh from the Canadian Hydrographic Service of Fisheries and Oceans Canada made a presentation on MGDI. He highlighted the concept of MDGI that is a system of data and enabling policies and technologies, critical to sustainable development, management and control of national marine, coastal and freshwater areas, which includes the water column, the non-renewable resources, the seafloor and the underlying sediments. He also described the user community that drives this infrastructure within CGDI. Dave also envisioned the future of MGDI as supported by a business model in facing current resource challenges.

b) GeoNova

Ed Light from Service Nova Scotia made a presentation on GeoNova program, from a concept to an spatial data infrastructure for Nova Scotians. He highlighted the overall concept behind this initiative that is “to collect data once, Share many times”.

c) National trail

Jody Conrad from Nova Scotia Sports and Recreation Commission - Go for Green made a presentation on TrailPAQ project that provided a new perspective of accessing geospatial mapping services driven by user needs and the community. In his presentation, Jody highlighted that data of valuable asset could also be acquired by user community and made available to create a database store for specific needs. TrailPAQ can be access online at: <http://www.trailpaq.ca>

6. Panel discussion

Brad Fay, who was formerly with Service Nova Scotia and GeoConnections, facilitated the Panel discussion. He thanked Brian McLeod and made an overview of the CGDI Development Network workshop sessions. He introduced the panelists:

Norval Collins representing the Atlantic Coastal Zone Steering Committee;
Geoff Howell from Environment Canada;
Sylvain Latour from Natural Resources Canada;
Jody Conrad from NS Sport and Recreation Commission on behalf of Go for Green;
Dave Pugh representing the Marine community; and
Ed Light from Service Nova Scotia for GeoNova.

He then asked them to provide their appreciation, to outline positive/negative situation, to give their views on how the technologies that were presented during the workshop may affect them back home, and finally to express what they can do and what CGDI can do for them.

Dave Pugh’s speech was summarized by one word - CGDI. He saw a lot of what, but less on Why? He added that the technology is here, available and conform to international standards. He questioned Barry O’Rourke on what he means by data commerce? And the attendance on what we can do as a community with current available resources to increase the awareness/implementation of CGDI.

Ed Light, from GeoNova perspective stressed that the technologies are there, and it was nice to see the expertise growing and continuing to grow. The challenge for CGDI, he said is to include local expertise and share vision among participants. He added that the workshop provided an opportunity for him to network and share information with participants. He concluded that we should build CGDI using “words” that means something to the community and avoid word such as expansibility, interoperability, etc...

Geoff Howell from Environment Canada viewed the workshop as an opportunity to see the technology once again validated. The big challenge on his side with respect to the Canadian Information System for Environment – CISE and GeoNova is the need to move to an end-to-end application driven by demand.

Sylvain Latour viewed the workshop as an opportunity to showcase the current available technology for developing CGDI. He stressed that we – as a community – shall always make

available data, tools and application even if they are not completely ready. Yet, those resources will always need improvement as geomatics field evolves, he said.

Norval Collins questioned the amount of information exchange and the volume of it. He said that we are making the technology and it has been significantly improved but the issue is with people that acquire and provide the data policy. He added that the data policy issue is of great concern to him much more than the technology: the people are the bigger issue than the technology. In fact, the technology is moving ahead successfully while the data access – policy issue is still to be solved.

Jody Conrad supports the infrastructure concepts for more data access to lead to better life. He highlighted that he has trouble collecting the information while this info/data is already available in other organizations. The TrailPAQ example has been based on voluntary forces and he said that there is a place to public for input. This is other type of data that could be developed by the public for specific use.

Brad Fay then asked the attendances about their sense of the infrastructure/time frame. Free data will lead to the progress of the Infrastructure said one of the participants. Norval added that we should follow the US model where data are made available for free. The slogan Collect once and share many times has to apply said Ed. However, there is certain concern about the level of which data shall be available to the wide public? Property registration for example could not be provided for free, a subscription service fees are used to update the data (cost/recovery paradigm). Norval added that, frequently he encounters some issues with respect to his role to represent the private sector. There is lack of information on data policy in Canada that creates uncertainty in the market place and lead to barriers in innovation. He added that the agreements for data access between agencies take forever and that might “kill” the process of data/metadata paradigm, the corner stone for any infrastructure. Dave Pugh suggested that an infrastructure shall be driven by user perspective and the TrailPAQ example is appropriate in this venue. He added that “marketing/Infrastructure” should go hand in hand and this workshop provided and opportunity for awareness and advocacy to regional communities.

Brad concluded the Panel session by thanking the panelists and the participants for their great contribution.

7. Summary and Conclusions

Brian McLeod provided a summary for the 6th CGDI Development Network workshop. He stressed that this is a very successful discussion leading to strengthen the relationship between the GeoConnections and the Maritime stakeholders (e.g. GeoNova). He presented the content of the CGDI Development Network Web site that has been recently refurbished and invite stakeholders to register in the CGDI Development Network mailing list. He thanked the participants and invited them to attend the social break.

8. Social Break

A social break follows the workshop and provided an opportunity for some participants to share their thoughts.

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Canadian Geospatial Data Infrastructure - CGDI Development Network**

**Thursday, October 3rd, 2002
9:00 – 17:00**

**Auditorium - Bedford Institute of Oceanography
Dartmouth, Nova Scotia**

Agenda - Final

1. Introduction/Overview (9:00 – 10:05)

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|-----------------------------|--------------------------------------|
| a) Welcome/Overview | Brian McLeod, NRCan/GeoConnections |
| b) GeoConnections program | Brian McLeod, NRCan/GeoConnections |
| c) CGDI Vision/Architecture | Sylvain Latour, NRCan/GeoConnections |

----- Refreshment Break -----

9. Geospatial Data Infrastructure – Standards, Technologies & Applications (10:30 – 12:00)

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|---|------------------------------|
| a) Geospatial data access and visualization | Dave McIlhagga, DM Solutions |
| b) Geospatial data discovery and access | Barry O'Rourke, Compusult |
| c) Web mapping services | Denis Desrosiers, CARIS |

10. Lunch (provided) and ad hoc demos (12:00 – 13:30)

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|---|--------------------------------------|
| a) Imagery & Metadata | Jeffery Stockhausen, Helical Systems |
| b) CGDI Services viewer client application | Tom Kralidis, NRCan/ESS |
| c) Data discovery and access: Common Access Portal | Barry O'Rourke, Compusult |
| d) Enabling CGDI: data access and visualization | Dave McIlhagga, DM Solutions |
| e) Web mapping services: DFO GeoPortal | Mark MacKenzie, CARIS |
| f) ISO 19115 Metadata profile & multi-tier architecture | Mohamed Habbane, NRCan/ESS |

11. Summary/Introduction (13:30 – 13:35)

Brian McLeod

12. Communities (13:35 – 15:00) – Brad Fay (Facilitator)

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|--|--------------------------------------|
| a) Marine Geospatial Data Infrastructure | Dave Pugh, Fisheries & Oceans Canada |
| b) GeoNova | Ed Light, GeoNova |
| c) National trail | Jody Conrad, Go for Green |

----- Refreshment Break -----

13. Panel discussion (15:15-16:15) - Brad Fay (Facilitator)

Norval Collins, ACZISC
Geoff Howell, Environment Canada
Sylvain Latour, NRCan/GeoConnections
Jody Conrad, Go for Green
Dave Pugh, Fisheries & Oceans Canada
Ed Light, GeoNova

14. Summary and Conclusions (16:15-16:30)

Brian McLeod, NRCan/GeoConnections

15. Social Break (16:30 -)

List of registered participants

Name	Affiliation
Adlakha, Paul	Radarsat International
Black, Jerry	DFO: Invertebrate Fisheries Division / Marine Fish Division
Boudreau, Paul R	DFO: Habitat Management Division
Brothers, Aaron	Environment Canada
Burke, Allison	DFO
Burton, John	Helical Systems
Carter, Lesley	Environment Canada
Cherry, Mike	NS Department of Natural Resources: Minerals and Energy Branch
Collins, Norval	ACZISC - Champlain Inc.
Conrad, Jody	Go for Green
Conroy, Paul L	Government of Nova Scotia: Department of Community Services
Corning, John	Service Nova Scotia: Nova Scotia Geomatics Centre
Desrosiers, Denis	CARIS
Doiron, Robert	Service Nova Scotia
Fay, Brad	Consultant
Fisher, Brian	NS Department of Natural Resources: Minerals and Energy Branch
Foster, Doug	Cape Breton Regional Municipality
Gentlemen, Morven	Dalhousie University
Gillis, G Thom	Nova Scotia Department of Natural Resources: Computer Services
Gray, Danny	Service Nova Scotia
Habbane, Mohamed	NRCan: Canada Centre for Remote Sensing
Hackett, Jennifer	DFO: Oceans & Environment Branch (Maritimes Region)
Hall, Sarah	Environment Canada
Hamilton, Perry	Service Nova Scotia: Nova Scotia Geomatics Centre
Hammond, Judy	DFO: Canadian Hydrographic Service
Hanniman, Roxanne	Elections Nova Scotia
Hinton, A Richard	Nova Scotia Department of Agriculture and Fisheries
Howell, Geoff	Environment Canada: Canadian Information System for the Environment
Hynes, Sheila	NRCan: Geological Survey of Canada
James, Mark	Helical Systems
Jodoin, Mark	Helical Systems
Kralidis, Tom	NRCan: Canada Centre for Remote Sensing
Latour, Sylvain	NRCan: Geomatics Canada Office
Light, Ed	Service Nova Scotia
Lynds, Tracy	NRCan: Geological Survey of Canada
Lyttle, Norman	NS Department of Natural Resources: Minerals and Energy Branch
Mackenzie, Mark	CARIS
Matthews, Anthony	Elections Nova Scotia
McIlhagga, Dave	DM Solutions

McLeod, Brian	NRCan: Canada Centre for Remote Sensing
Melanson, Michel	Yarmouth-Argyle-Barrington: District Planning Commission
Moir, Phil	NRCan: Geological Survey of Canada
Moncrief, Chris	DFO: Route Survey Department of the Navy
Mosher, Roger	Centre of Geographic Sciences: NSCC Annapolis Valley Campus
Mullin, Robin	Sierra Systems
O'Rourke, Barry	Compusult
Palmer, Richard	DFO: Canadian Hydrographic Service
Paul, Robert	EOA Scientific Systems
Perrott, Tim	NRCan: GeoConnections
Perry, Stephen	NRCan: Geological Survey of Canada
Pugh, Dave	DFO: Canadian Hydrographic Service
Queen, Susan	Halifax Regional Municipality: Civic Addressing
Querbach, Kirsten	DFO: Centre for Marine Biodiversity
Rankin, Trevor	NRCan: GeoConnections
Ross, Ian	DFO: Route Survey Department of the Navy
Rounce, Tamara	Government of Nova Scotia: Department of Community Services
Seely, Bert	Service Nova Scotia: Nova Scotia Geomatics Centre
Sherin, Andy	NRCan: Geological Survey of Canada
Smith, Robert	DFO: Route Survey Department of the Navy
Somerton, Gary	DFO: Canadian Hydrographic Service
Stewart, Kathleen	Centre of Geographic Sciences: NSCC Annapolis Valley Campus
Stockhausen, Jeffery	Helical Systems
Therrien, Michel	DFO: Canadian Hydrographic Service
Truswell, Sean	DFO: Route Survey Department of the Navy
Varma, Herman	Helical Systems
Wayne, Richard	Service Nova Scotia
Wood, Jeff	Government of Newfoundland & Labrador: Government Services & Lands