



INTERNATIONAL FEDERATION OF SURVEYORS
FEDERATION INTERNATIONALE DES GEOMETRES
INTERNATIONALE VEREINIGUNG
DER VERMESSUNGSINGENIEURE

Standards-based Open Web Services for e-government

Open GIS Consortium, Inc.

FIG International Seminar e-Land Administration

02-04 June 2004, Innsbruck

Guenther Pichler, Managing Director, OGC Europe

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A Quote from the EC

- **Commissioner Erkki Liikanen, DG Information Society**
"The role of ICT Investment in Solving Europe's Economic Problems"
(TeliaSonera Executive Customer Event 2003,
Stockholm, 26 September 2003)
- "We need to promote the use of the Internet by stimulating the creation of new content, applications and services. **People do not buy technologies. They buy services.** Here government must concentrate on areas where it can make a real difference: eHealth, eLearning and eGovernment."
- "To properly ensure access to Information Society services, **interoperability between services and devices must be ensured, preferably through open standards.**"
- "At a European level, we have been concentrating on **eGovernance** areas such as **eGovernment, eHealth, and eLearning** as drivers of ICT investment. We have chosen these three areas, because here government can make a difference, and together they account probably for **almost 40% of national budgets.**"
- "Our strategy has been to diffuse the best practices of eHealth and eGovernment solutions that work in practice and which have been accompanied by back-office reform. **The time for pure vision or pilot-projects is over. Now we need real action and political commitment.**"

Overview

- The Value of Standards: A Delphi Group Study
- OGC and OGC Europe:
Organisation, Vision and Mission
- Interoperability and OpenGIS®
- The Standards-based Open Web Services Paradigm and e-government



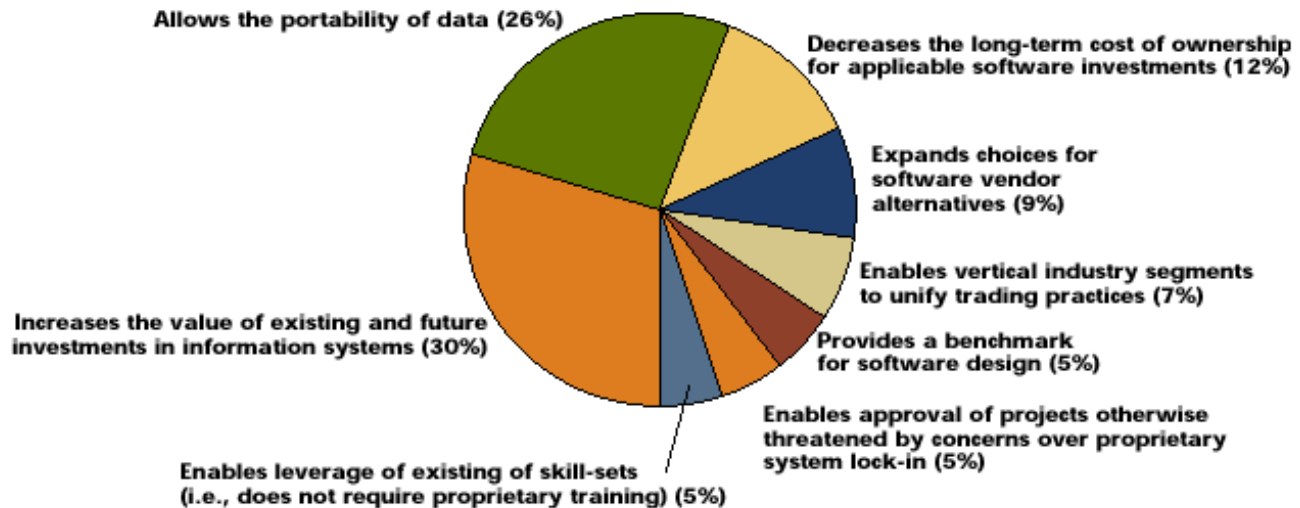
The Value of Standards: A Delphi Study (1)

- Delphi Group Study “The Value of Standards”
- June 2003
- 800+ end users, software vendors, and service providers identified the current attitudes and expectations for software standards
- **Standards = Liquidity**
 - “There is a clear and sudden shift in attitudes towards software standards. The climate of economic constraint and risk aversion along with the mandate to integrate systems on both sides of the firewall has created a sea change in the sense of imperative to adopt software standards.”
 - “In this climate standards create liquidity -- the ability to leverage IT investment in unforeseen ways.”



The Value of Standards: A Delphi Study (2)

Which of the following do you believe to be the single greatest benefit offered by approved standards in software development?



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What is the OGC?

- **The Open GIS Consortium (OGC)**
 - Not-for-profit, international consortium
 - 250+ industry, government, and university members (about 1/3 from Europe)
- **Specification Development Program (since 1994)**
 - similar to other Industry consortia like W3C, OMG, etc.
 - Class A liaison with ISO/TC211
- **Interoperability Program (since 1999)**
 - a global, innovative, hands-on engineering and testing program designed to accelerate interface development and bring interoperability to the market
- **Outreach and Community Adoption Program (since 2002)**
 - awareness raising, education and training, encourage take up of OpenGIS® interfaces, business development
 - Subsidiaries: **OGC Europe**, OGC Australia, ...

OGC Vision

A world in which everyone benefits from geographic information and services made available across any network, application or platform.

OGC Mission

Our core mission is to deliver spatial interface specifications that are openly available for global use.



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OGC Example Members

- **Major Infrastructure IT Companies**
 - Sun Microsystems, Oracle, IBM, Microsoft, Adobe, Compaq / HP ...
- **Developers of Geospatial Technology products**
 - Autodesk, ESRI, GE Network Solutions, Intergraph, Laser-Scan, MapInfo, PCI Geomatics, AED SICAD, Ionic, Polexis, CubeWerx, con terra, Cadcorp ...
- **Integrators**
 - BAE Systems, General Dynamics, Lockheed Martin, MITRE, Mitsubishi, Northrop Grumman, Raytheon, SAIC, Applied Geographics, Plangraphics, Hansa Luftbild ...
- **Government agencies that depend on geoprocessing**
 - United Nations, US FED (FEMA, NASA, USGS, USA/TEC, USDA, NOAA, DOT, Census, FGDC, NIMA), Australia (CANRI, ASDI), Ordnance Survey (GB), LVermA Nordrhein-Westfalen, LVermA Bayern, Joint Research Centre, European Union Satellite Centre ...
- **Location Services / Telecoms**
 - Hutchison 3G, QinetiQ, Webraska, SignalSoft, Vodafone, Navigation Technologies, Sprint ...
- **Others**
 - Content Providers, Universities, Consultants, NGO's, Startups ...



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Interoperability and Services

Interoperability =
Ability of locally managed and heterogeneous systems
to exchange data and instructions in real time
to provide services

Service =
Activity performed by a server component
on behalf of a client component

Source: The Importance of Going "Open"
OGC White Paper, www.opengis.org



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Flavours of Interoperability

- **Data Interoperability**

- create a generic intermediate data format that allows different systems to share data

- **Software Interoperability**

- send a service request, in a known format, and receive a reply
- get a service response in a known format

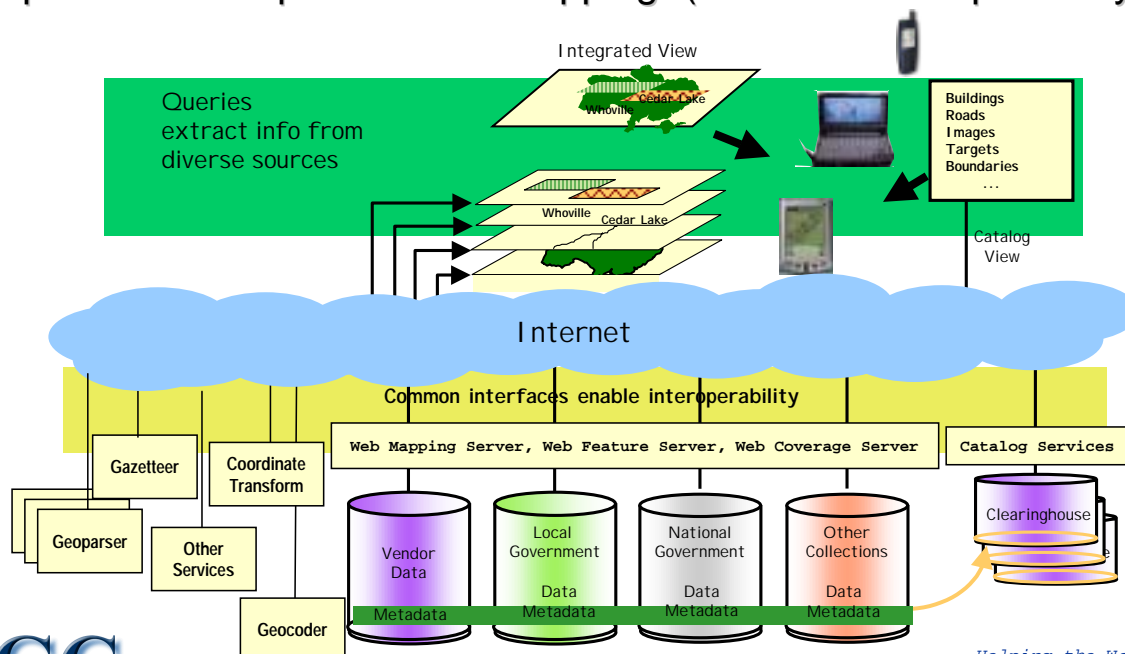
- **Information or Semantic Interoperability**

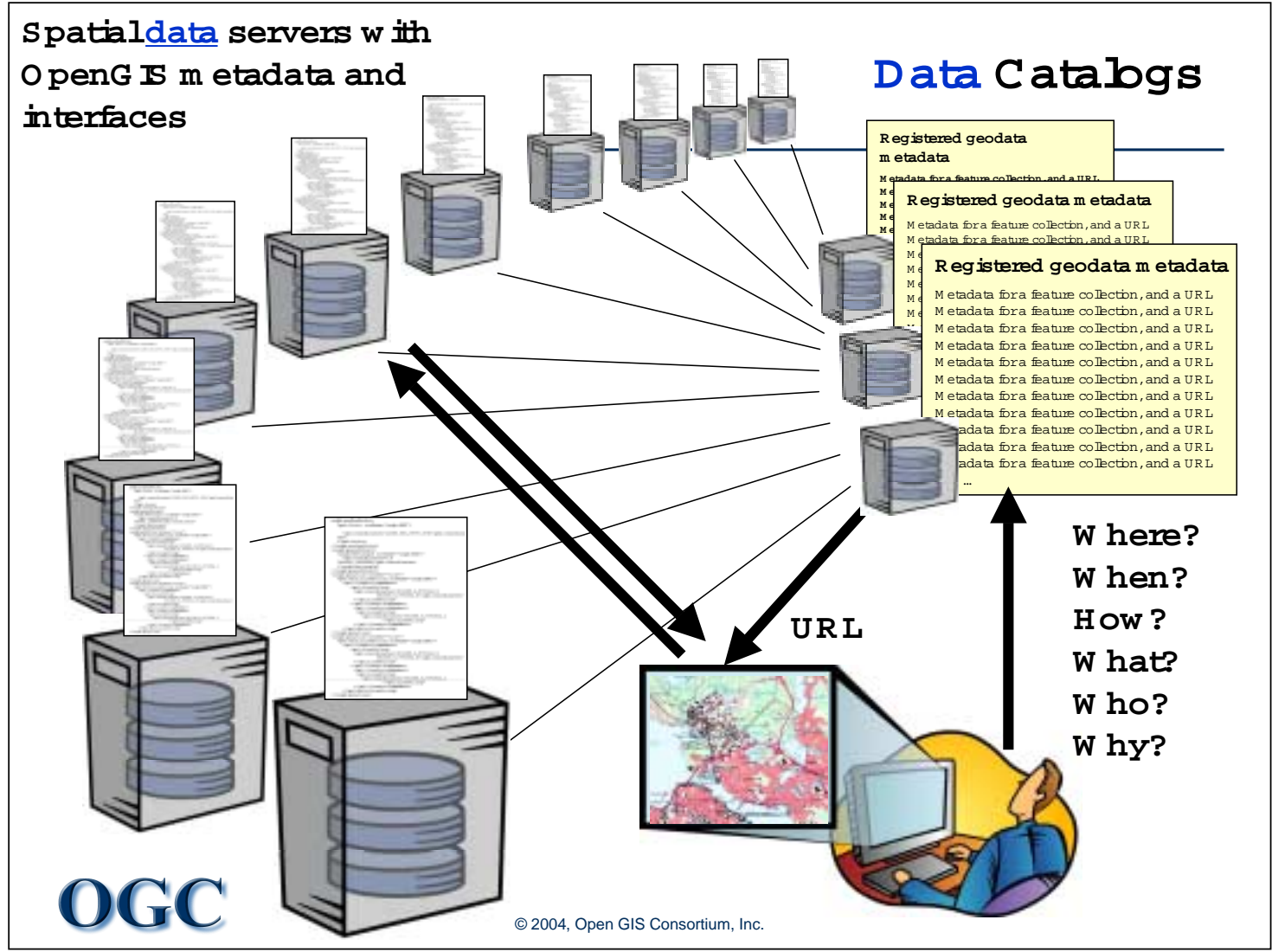
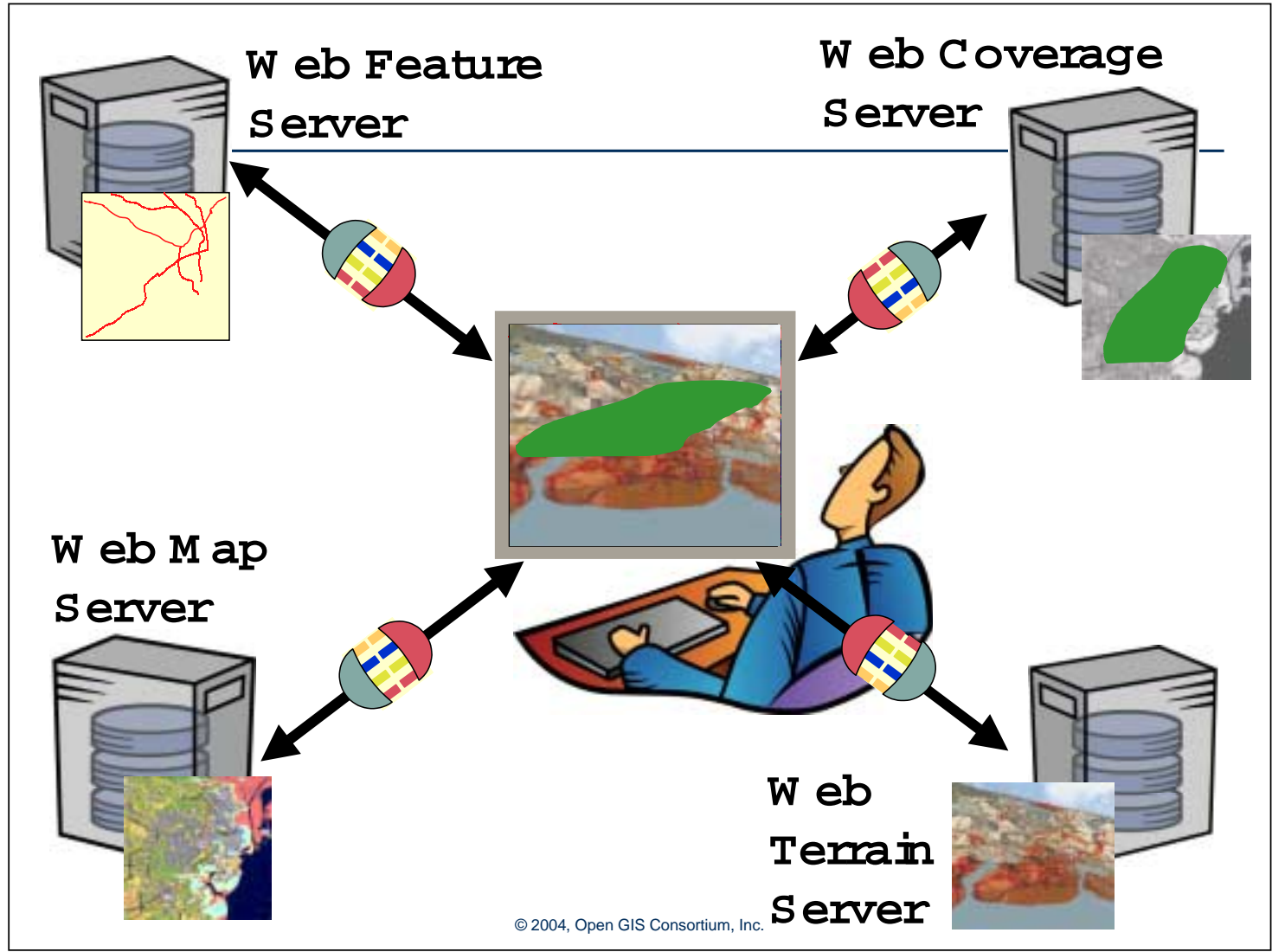
- help systems “understand” that two items with different names represent the same object in the real world
- decipher equivalences and shades of differences



OpenGIS® Architecture-by-Interface: Interoperable Web Services

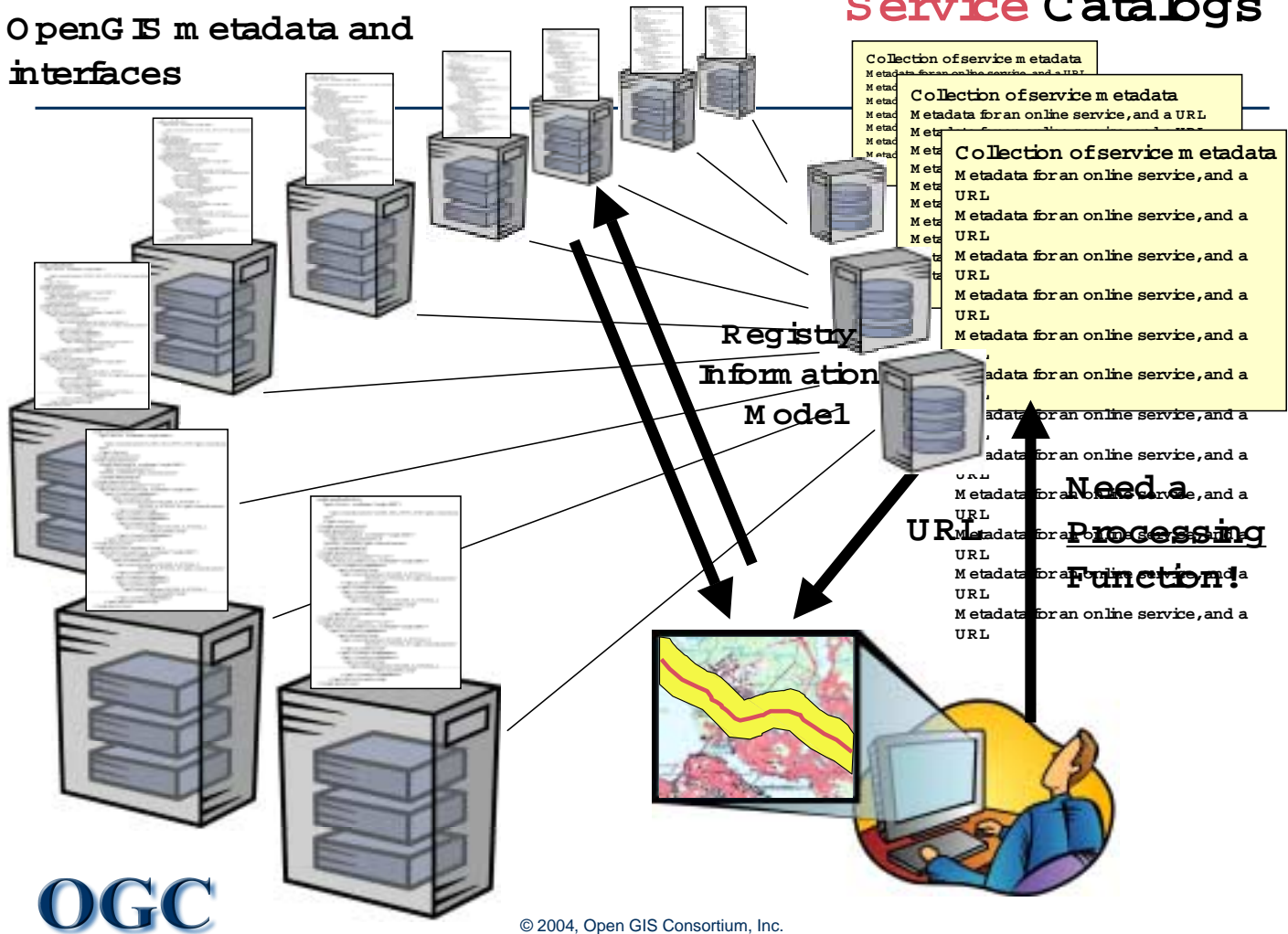
- Easier access to multiple online information sources and services
 - Use and reuse different vendor solutions
- OpenGIS® compliance via “wrapping” (Software Interoperability)





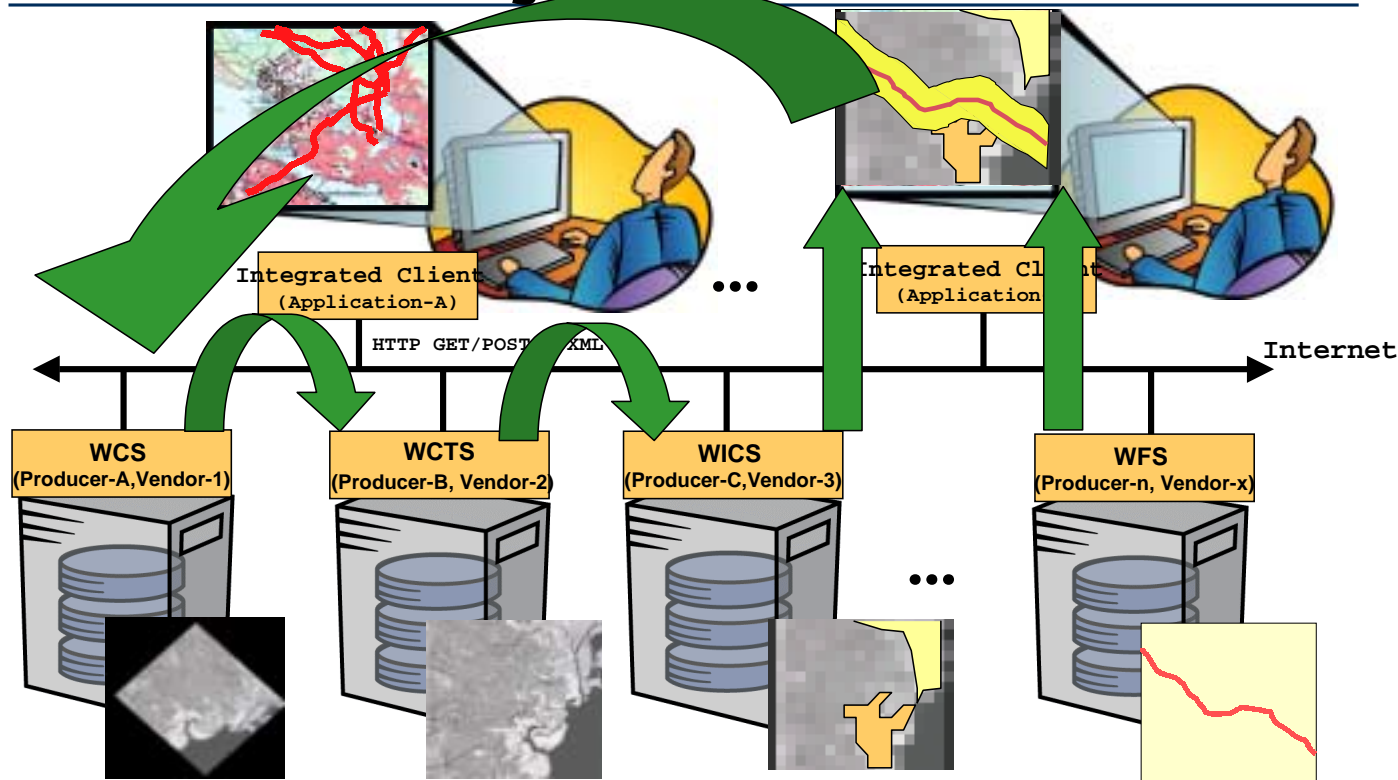
Spatial services servers with OpenGIS metadata and interfaces

Service Catalogs



Open Web Services (OWS-2)

Integrated Web Clients



WCS = Web Coverage Service

WCTS = Web Coordinate Transformation Service

WICS = Web Image Classification Service

WFS = Web Feature Service



Cadastre 2014



- Cadastre 2014 – A Vision for a Future Cadastral System (Jürg Kaufmann and Daniel Steudler with FIG7 Working Group 1, presented at FIG Congress Brighton, 1998)
- “Appropriate Services for Modern Societies”
 - Better decision in a shorter time
“Decisions can be taken on the basis of complete and reliable information.”
- Some Principles
 - “The separation between ‘maps’ and ‘registers’ will be abolished!”
 - “‘Cadastral Mapping’ will be dead! Long live modelling!”
 - “The ‘paper and pencil cadastre’ will be gone!”



The GINIE Project

- GINIE: Geographic Information Network in Europe
- IST-2000-29493 (Accompanying Measure)
- Partners
 - University of Sheffield, Project Coordinator
 - Open GIS Consortium (Europe) Limited
 - European Umbrella Organisation for Geographic Information - EUROGI
 - Joint Research Centre of the European Commission
- Funded timeframe:
1st November 2001 to 31st January 2004
- Aim: Develop a cohesive Geographic Information strategy at the European level and provide strategic input to INSPIRE
- <http://www.ec-gis.org/ginie>



GINIE Registries & e-Services Workshop (1)

Objectives:

- To make known the latest information and status on registries, catalogues, catalogue services and metadata to discover, access, retrieve and publish spatial information
- Summarize European market developments and trends for building interoperable e-services for government agencies and citizens
- Provide exchange of experience and put forward recommendations



GINIE Registries & e-Services Workshop (2)

Recommendations:

- International standards enhance Europe's migration from data to information paradigm
 - GI integration into the Information Society is achieved with e-government and e-services
- Technical and cultural challenge
 - Plurality of usage models at the European level
 - Technical issues data quality and metadata
 - Common services available to form different e-services
 - e-services offer flexible options to promote good governance but liabilities and risks do exist



GINIE Registries & e-Services Workshop (3)

Recommendations (cont.):

- Funding model and market model for e-services
 - Government (General Revenues)
 - Private Sector Funding (funds derived from user fees)
 - Public Sector Funding (funds derived from fees charged to public agencies)
 - Indirect Funding (funds derived from advertising, sponsorship, etc.)
 - Mixed models likely
- Existing pilots provide coherence for implementing e-services
 - data protection, freedom of information, access to data always need to be considered



Conclusion



CABINET
OFFICE

Office of
the *e-Envoy*

delivering



- The .com bubble burst, BUT:
- Today, there are over 600 million online in the world. The figure rising by 140,000 every day.
- Digital technology – in particular the Internet – is changing our lives.
 - It is changing the way we interact with friends and family, with government and with complete strangers
 - It is changing the way governments deliver services
- *Geographic information is a very important element in the majority of e-government services*

*Source: John Borrás, Director Technology Policy
Office of the e-Envoy, UK
GINIE Final Conference, Brussels, 13 November 2003*



Information about OGC

- OGC News* (monthly, English)
 - News and general information
 - Text or HTML
- OGC User* (quarterly, English)
 - Documents implementations that involve OpenGIS® Specifications
 - Aimed at a broad range of readers around the world and is written in conversational, rather than technical
 - Examples:
 - [Copenhagen: Managing Process with Web Map Service](#)
 - [Sharing Forestry Data: The Canadian Forestry Service's Distributed Interoperability Solution](#)
 - [New South Wales Taps OpenGIS Web Feature Service Specification to Share Natural Resources Information](#)
 - [Policy, Open Standards and GIS: The Open GIS Story in Arkansas](#)
- * Sign up at www.opengis.org for automatic email subscription to these publications (free of charge)

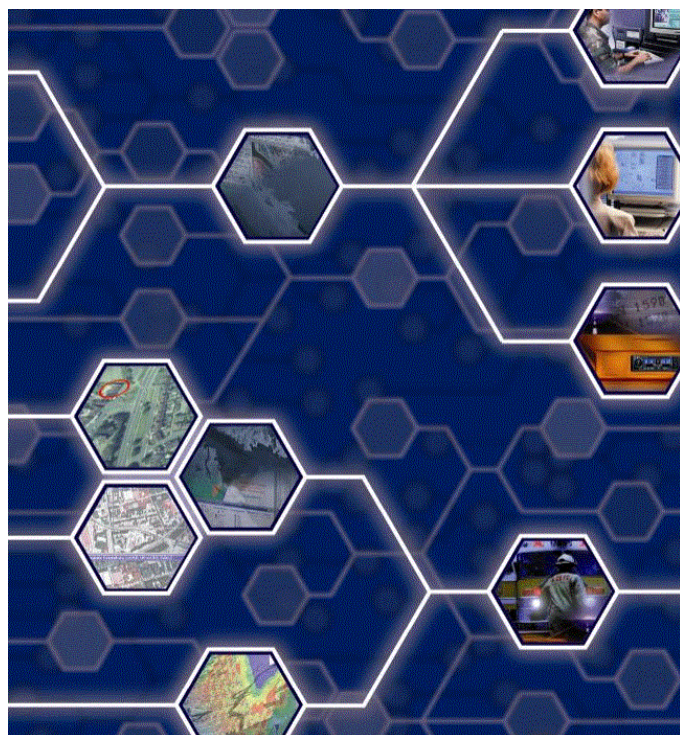


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Thank you very much for your attention!



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