Autodesk viewpoint on IT Standards in Infrastructure Management Environment

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autodesk

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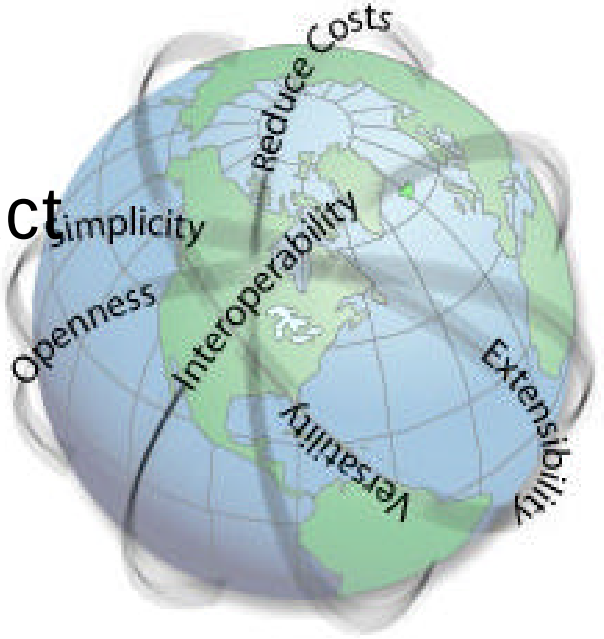
Agenda

- Standards, a CTO nightmare?
- Autodesk commitment to Standard Development Organizations
- Autodesk leadership within the Open GIS Consortium

Reap the Benefits of Standards

- Lower costs and reduced errors
- Greater efficiency of processes
- Drive consistent business conduct
- Increase speed of deployment
- Reduce risk for businesses
- Provide investment protection



Key:
Champion awareness and recognition of the value of standards.
The first step is knowledge.

Quote from DIN
(German Institute for Standardization)

"Standards can help business avoid dependence on a single supplier [...]

The result is a broader choice for business and increased competition among suppliers

Companies will also have increased confidence in the quality and reliability of suppliers who use standards"

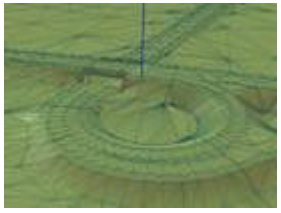
Source DIN, 2003

Follow and participate in variety of organizations

- **OGC** – Open GIS Consortium
- **STIA** – Spatial Technology Industry Association
- **FGDC** – Federal Geographic Data Committee
- **ISO** – International Standard Organization
- **LandXML** – Civil and Survey
- **WS-I** – Web Services Interoperability
- **GITA** – Geospatial Information Technology Association
- **ITU, EU JRC**

LAND xml .org

- **An emerging XML data standard format for civil engineering and survey data used in the Land Development and Transportation Industries**

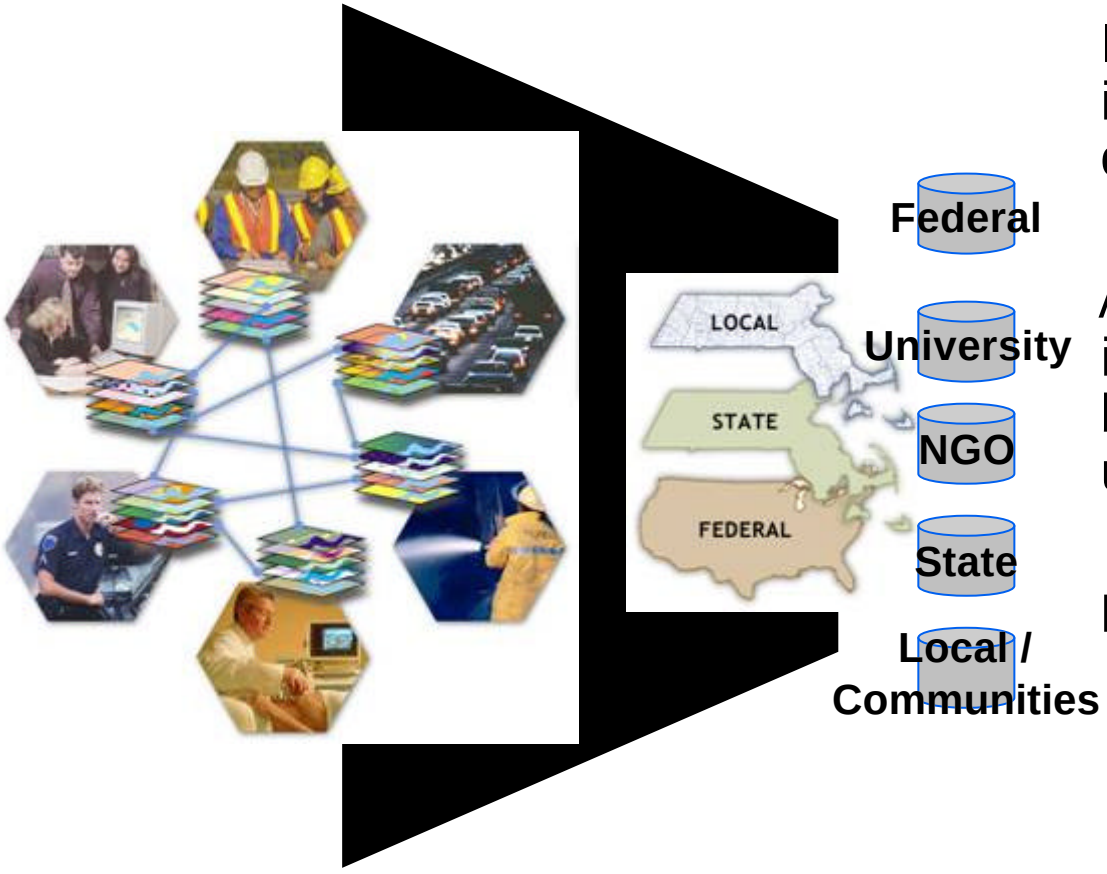


1. Transfer engineering design data between producers and consumers.
2. Provide a data format suitable for long-term data archival.
3. Provide a standard format for electronic design submission.

Open GIS Consortium

- Who is OGC
- Outreach and Adoption
- Specification Program
- Interoperability Program

Power of Collaboration and Interoperability



Interoperability is a key for information sharing and collaboration

Ability to tap and apply information of value created by others, often for different uses

Flexibility to grow and expand

The Open GIS Consortium

- The Open GIS Consortium (OGC)
  - Not-for-profit, international consortium
  - 230+ industry, government, and university members
- *Specification Development Program* - similar to other Industry consortia (W3C, OMG, etc.).
- *Interoperability Program* (IP) - a global, innovative, hands-on engineering and testing program designed to accelerate interface development.

OGC Vision

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

OGC Mission

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

OGC Who's Who

- **Integrators**
  - BAE Systems, General Dynamics, Lockheed Martin, MITRE, Mitsubishi, Raytheon, SAIC…
- **Major Hardware and Software Companies**
  - Sun Microsystems, Oracle, Microsoft, Adobe, HP, SAS …
- **Developers of GeoSpatial Technology products**
  - Autodesk, ESRI, GE Smallworld, Intergraph, LaserScan, MapInfo, PCI Geomatics, SICAD Geomatics AG…
- **Government agencies that depend on geoprocessing**
  - FEMA, NASA, USGS, USA/TEC, USDA, NOAA, DOT, Census, FGDC,CANRI (Australia), DMSO, Ordnance Survey(UK), Au/SA …
- **Location Services / Telecoms**
  - Hutchison 3G, Webraska, SignalSoft, Vodafone, Navigation Technologies
- **Others**
  - Content Providers, Power, Universities, Consultants, NGO's, Startups, …

Think about OGC Strategic Focus…

Technical and Socioeconomic Impact

Broad scale application of geoprocessing technology and expanded understanding of global inter-community relationships

Second generation web-based interoperable services and decision support systems

Improved integration of geoprocessing with mainstream information technology capabilities

nformation and multi-platform interoperability capacity, service chaining

Improved inter-community and multi-enterprise data and processing resource sharing and platform-independent interoperability

First generation of web-based interoperable services

Improved multi-source information operations for technical interoperability in web-based environments, enabled enterprise applications and location services, broad base of operational implementations

Open GIS Abstract Models

Enhanced understanding of geoprocessing interoperability and digital representation of Earth and Earth phenomena

Open GIS Consortium established and Technical Committee organized

Current Strategic Focus is:

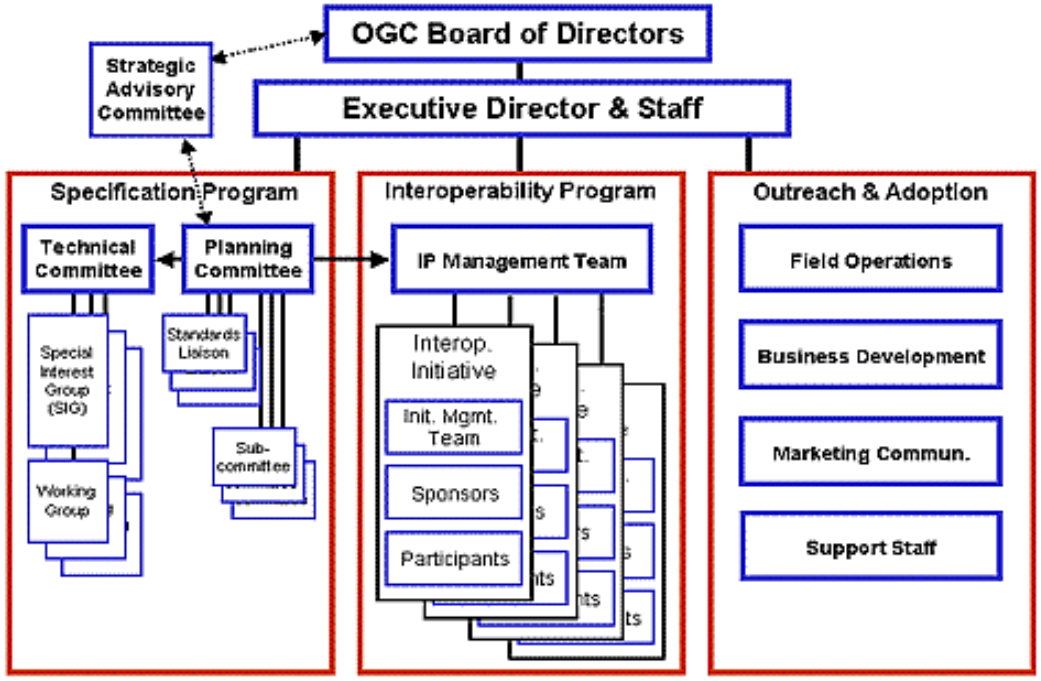
Steady improvement in the Technical Baseline and inter-community resource sharing capacity

OGC Technical Baseline

Capacity to exchange geospatial information and services across multiple computing environments, integrated with mainstream information technology

1994 1996 1998 2002 2004 2006 2008

Open GIS Consortium Organization



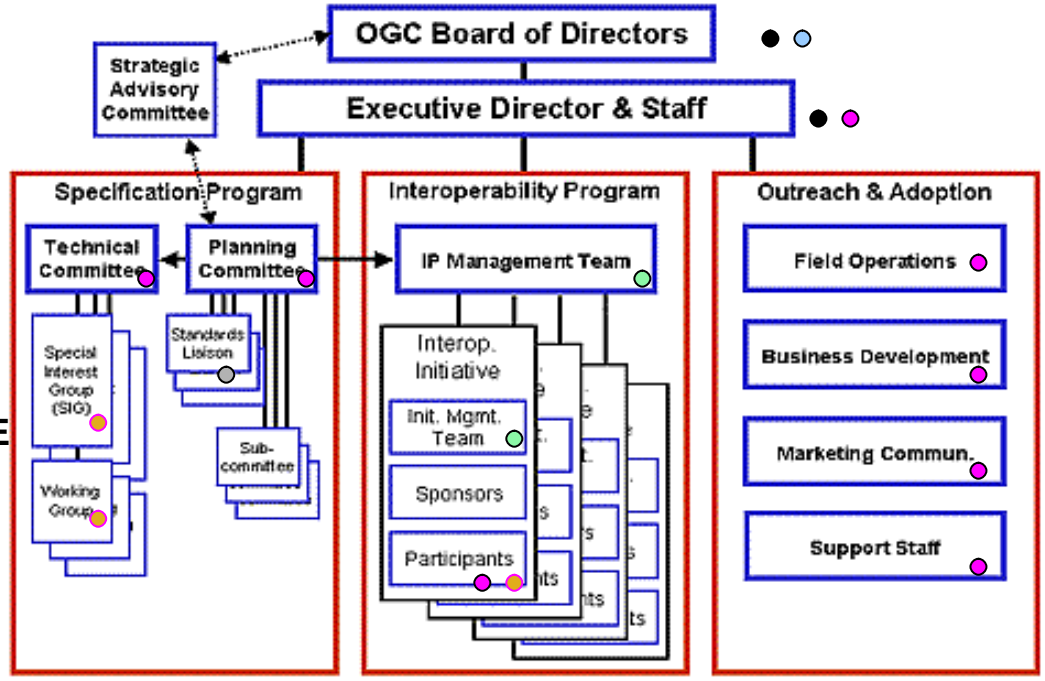
Autodesk Principal Plus Membership

- Principal Member since 1996
- Seat on Technical Committee
- Seat on Planning Committee
- Membership upgraded in 2002
- Dedicated staff with OGC

Autodesk liaisons with OGC

- **Chris BradShaw, VP**
- **Olivier Ricordel**
- **Stanley Robinson**
- **Autodesk OGC WG**

  (Bart IM, David CS, Thomas WS/GML, Gavin SF, Martin CAT, Nathan, Bob Arch)
- **LandXML**
- **Michel Rives OGCE**



Outreach & Adoption

- Events
  - 1st European Interoperatbility Day, USAF panel 2003, ETSII, GITA 2003, GEO-INTEL 2003, GML Developer Days 2003, EU Commission Joint Research Center
- Press Release
  - OpenLS(x2)
  - WMS(x2)
- Standards & Interoperability White Paper

Specification Program

- Active participation to all Technical Committee and Planning Committee meetings
- Engineering Specifications Reviews
- Chair of the Infrastructure Working Group (formerly TelcoSIG)
- Named contributor & author of specifications
  - Web Mapping Context
  - Open Location Services

Infrastructure Working Group

- The purpose of the Infrastructure Management WG is to “provide a framework that enables interoperability using OpenGIS standards for Networked Infrastructure Management solutions for organizations owning asset that deliver services (network) to their customers”
- Our objectives are to:
  - Evaluate core OGC technologies and existing industry models
  - Define detail requirements and establish standard compliant interfaces
  - Interface to other OGC committees and other standards organizations dealing about the same problem

Interoperability Program

- IP Process
- OpenGIS Web Services 1.2
- Critical Infrastructure and Protection Initiative
- Conformance Testing and Interoperability Initiative
- Oracle Interoperability Initiative (non-OGC)

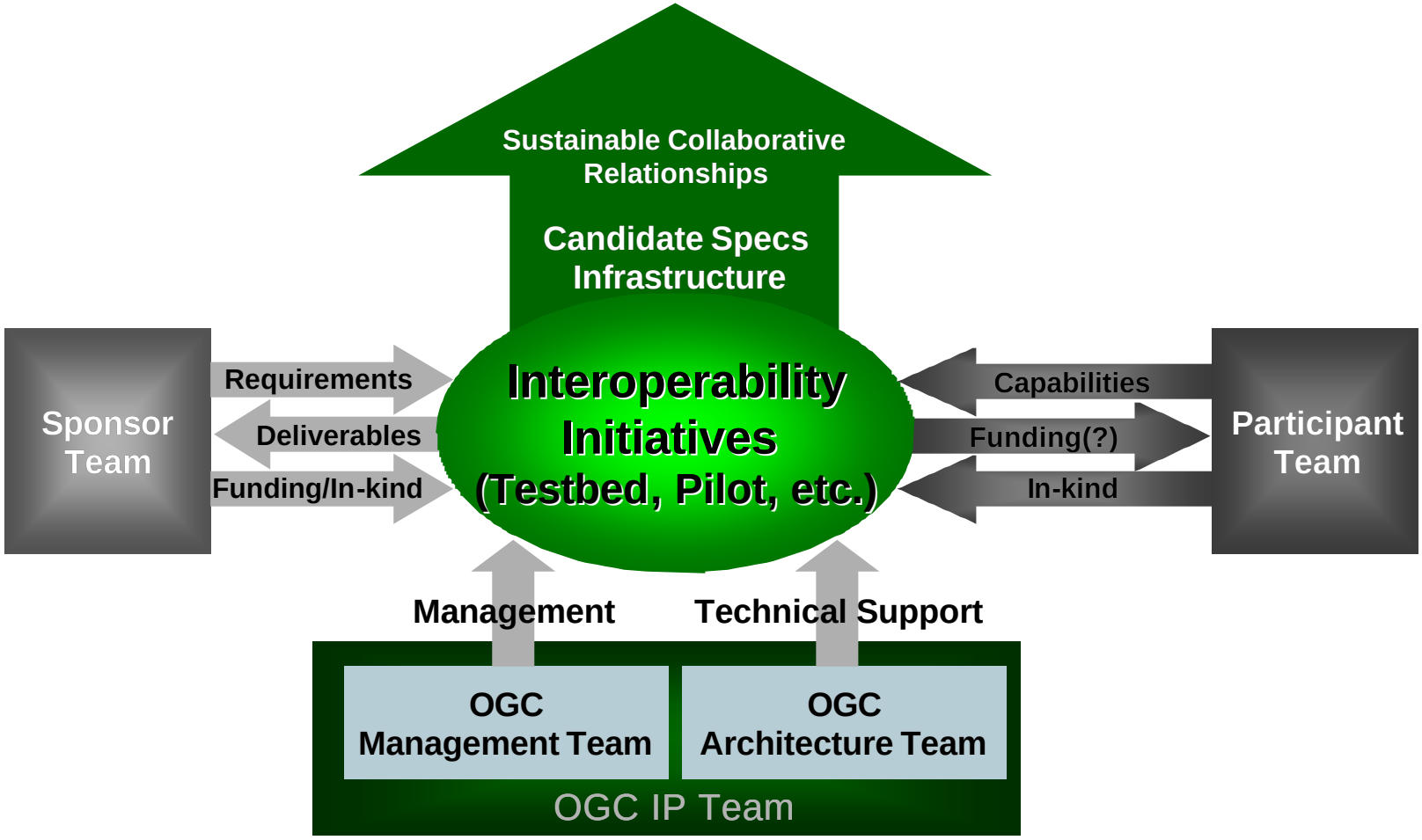
Product Implementations

- Autodesk MapGuide Simple Feature Ole-COM
- Autodesk MapGuide WMS Extension
- Autodesk LocationLogic XML API

Autodesk MapGuide® 6.3

- Launched and shipped in 2003
- Full support for OGC WMS 1.1.1 specification through the Autodesk MapGuide WMS Extension
- Protects investment in existing spatial data
- Increases the value of data by extending its reach to a wider community

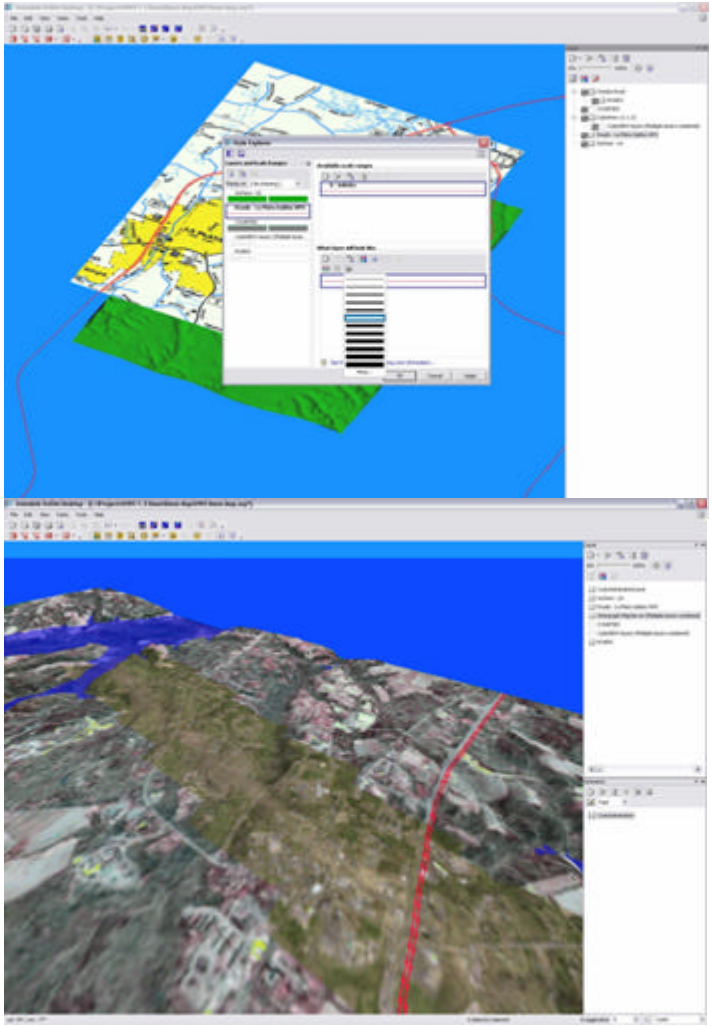
OpenGIS Interoperability Program



Autodesk participation in OWS 1.2

- Multi-source integrated client built up-on Autodesk Envision* with WMS, WFS, WRS

  GML 2
- Close relationship with Galdos
- Some lessons learned



*formerly Autodesk OnSite Desktop

OWS 1.2 Poster Presentation

Critical Infrastructure and Protection Initiative (CIPI)

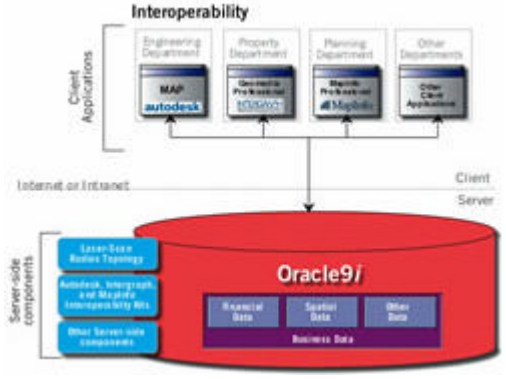
- CIPI is an opportunity for vendors, users, and other interested parties to mutually shape critically needed services, interfaces and protocols in the context of a hands-on engineering experience
- Sponsors of the overall CIPI effort include National Imagery and Mapping Agency (NIMA), BAE SYSTEMS, Lockheed Martin, Northrop Grumman Information Technology/TASC, Autodesk, and Intergraph. Participants apply emerging OGC Web Services and other specifications
- CIPI effort consists of multiple pilot projects to help build the Critical Infrastructure Collaborative Environment.

CITE

- Compliance & Interoperability Test & Evaluation Initiative
- Autodesk recognizes the need for a better conformance program as compliancy is an issue
- Beta Tester of Conformance testing engine for WMS and GML
- Committed to support the program once license fee decision is voted

Oracle Interoperability Initiative

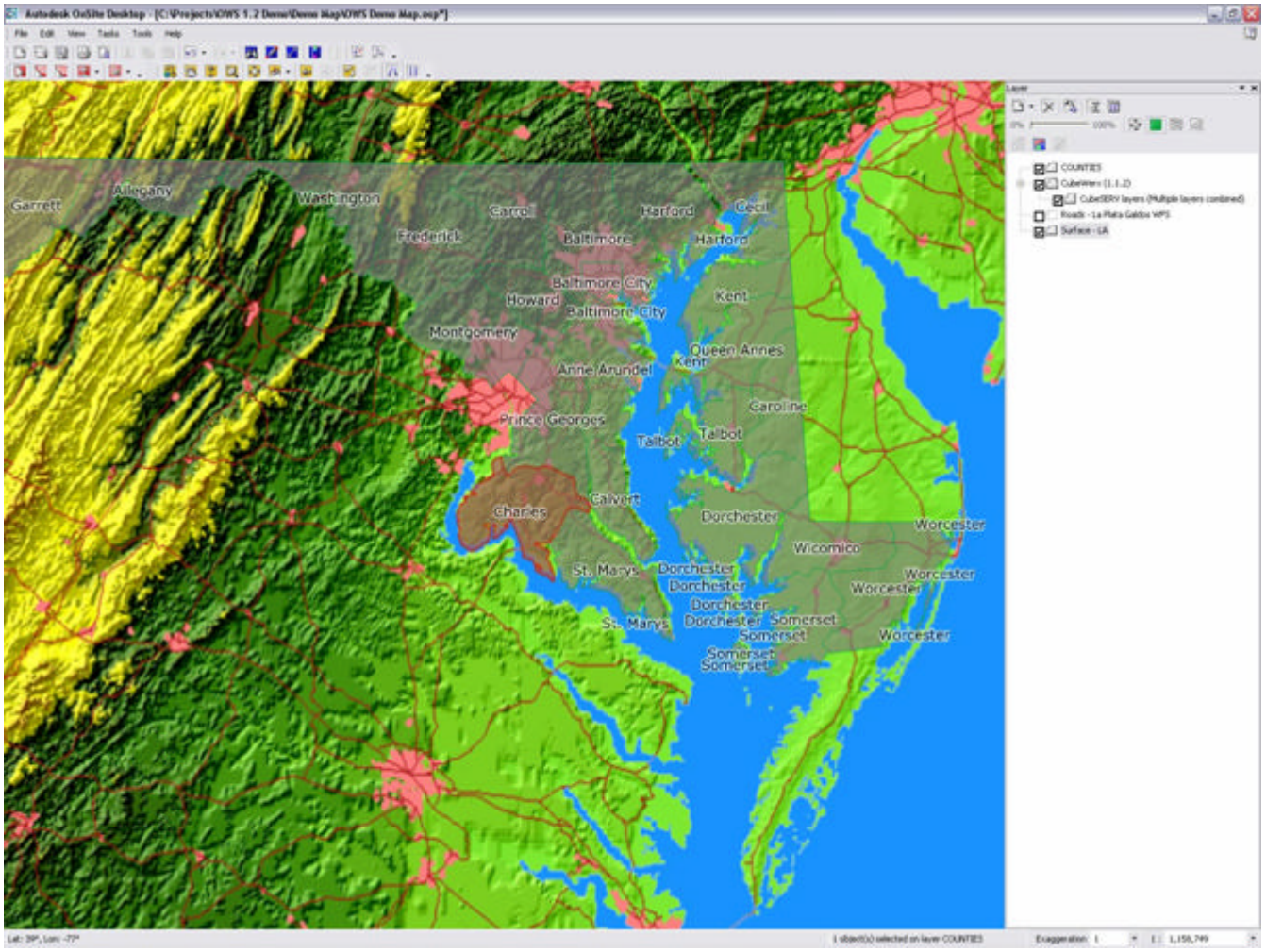
- Customer driven initiative to improve communication among departments
- Support of multiple applications
  - Intergraph, MapInfo, Autodesk, Laser-scan
- Increasing data accessibility through interoperability kit initially
- Feed OpenGIS Consortium specification program



OWS 1.2 Initiative Scenario

- On 28 April 2002, one confirmed category F-4 tornado with winds in the range of 261-318 miles per hour damaged homes, businesses, utilities, bridges, roads between La Plata and St. Leonard, Maryland.
- The path of the tornado was 25 miles long and estimated between 150 – 200 yards wide.
- The tornado damaged cost was in millions

OWS 1.2 Demo


Garrett
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Queen Annes
Kent
Anne Arundel
Caroline
Prince Georges
Talbot
Talbot
Calvert
Charles
Dorchester
Worcester
Wicomico
St. Marys
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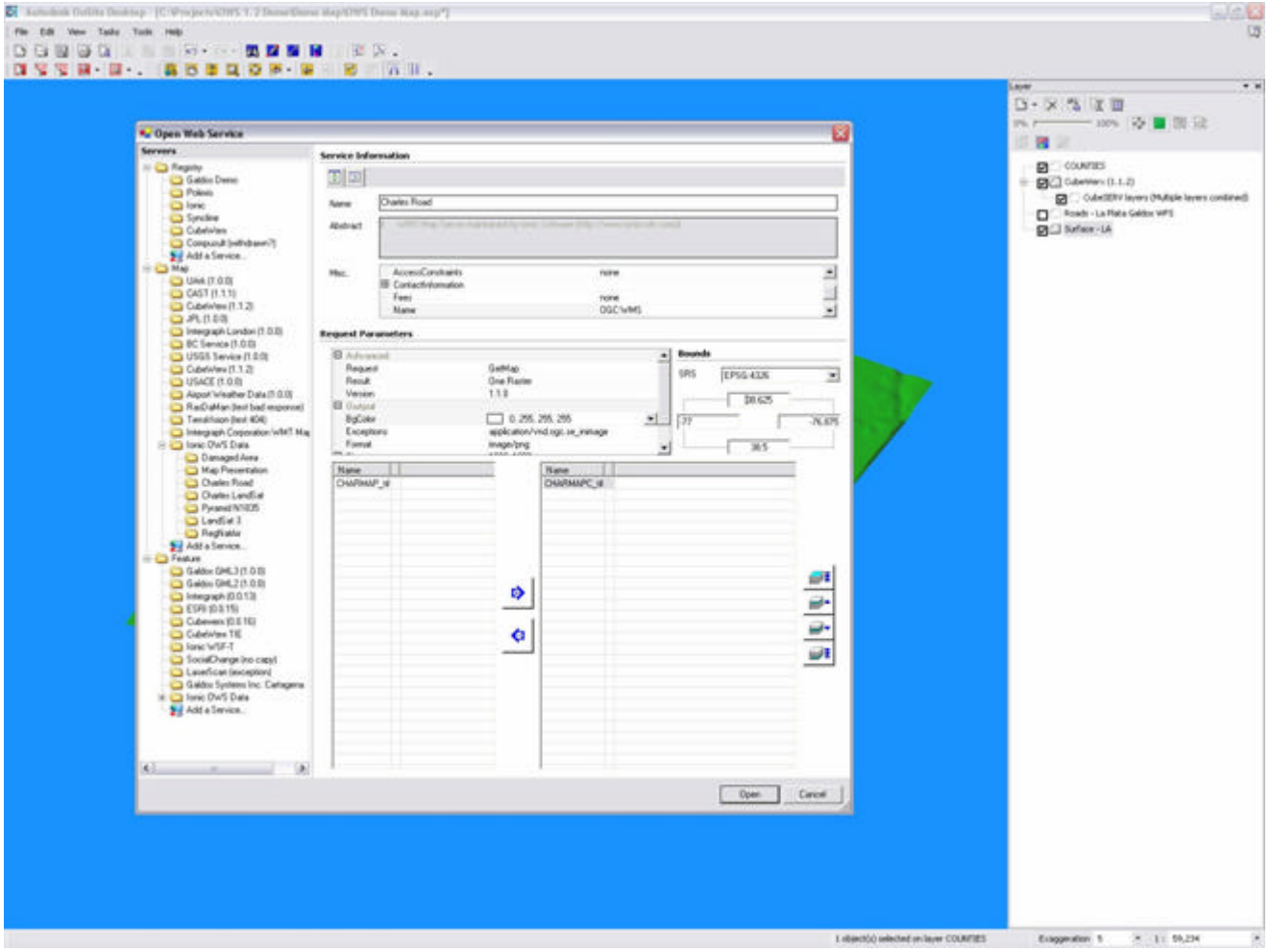
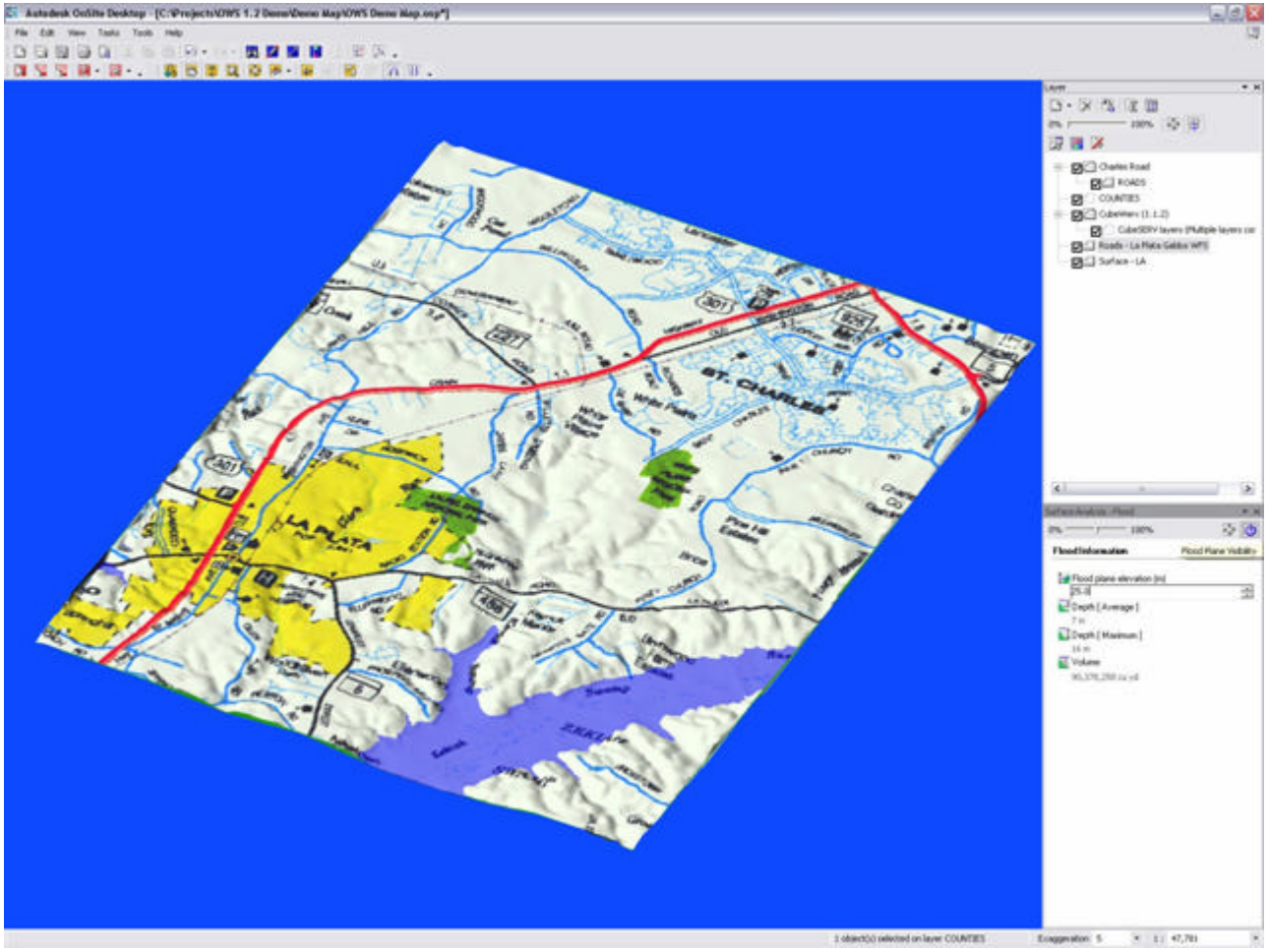
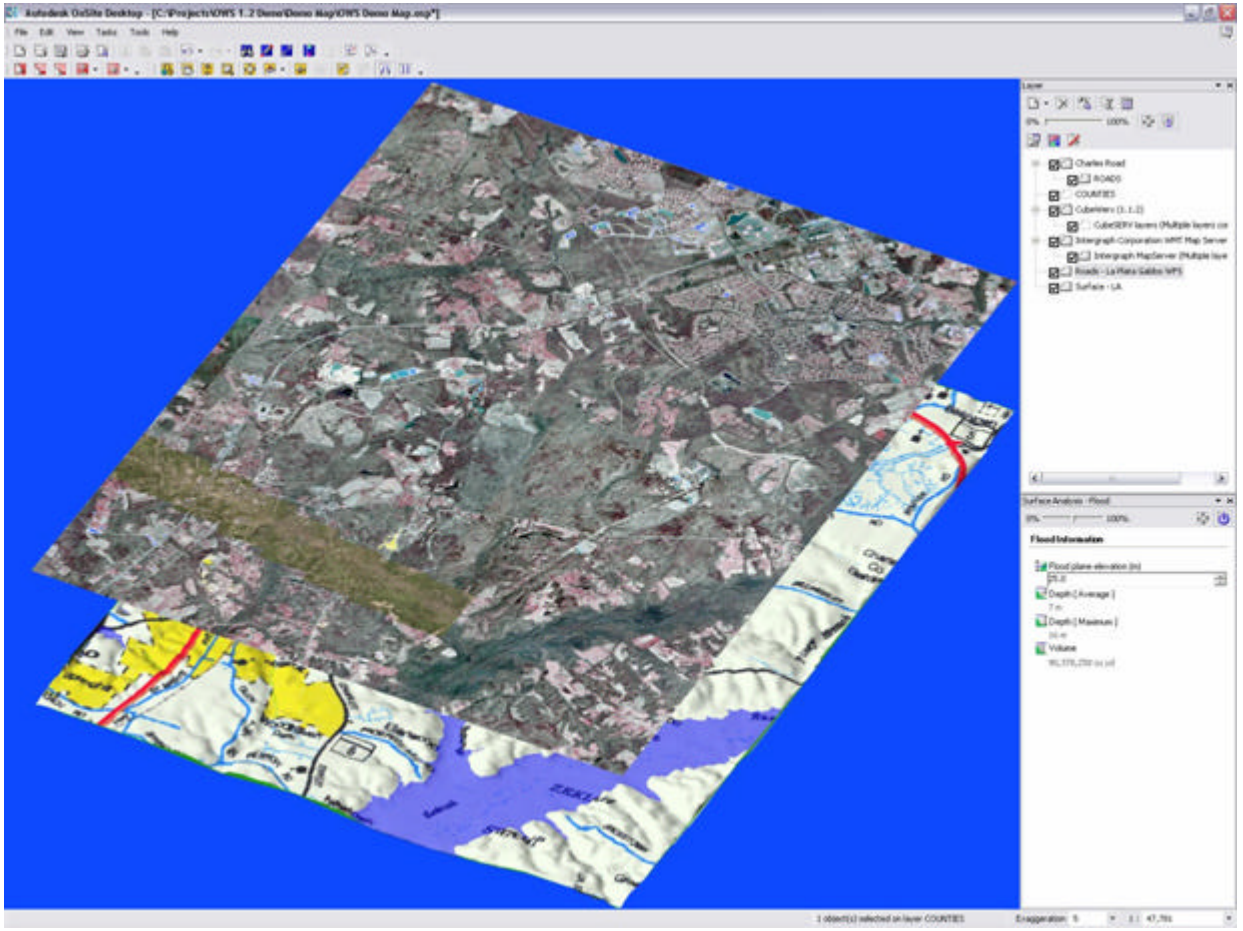
OWS 1.2 Demo


Open Web Service
Servers
Service Information
Request Parameters
Open
Cancel

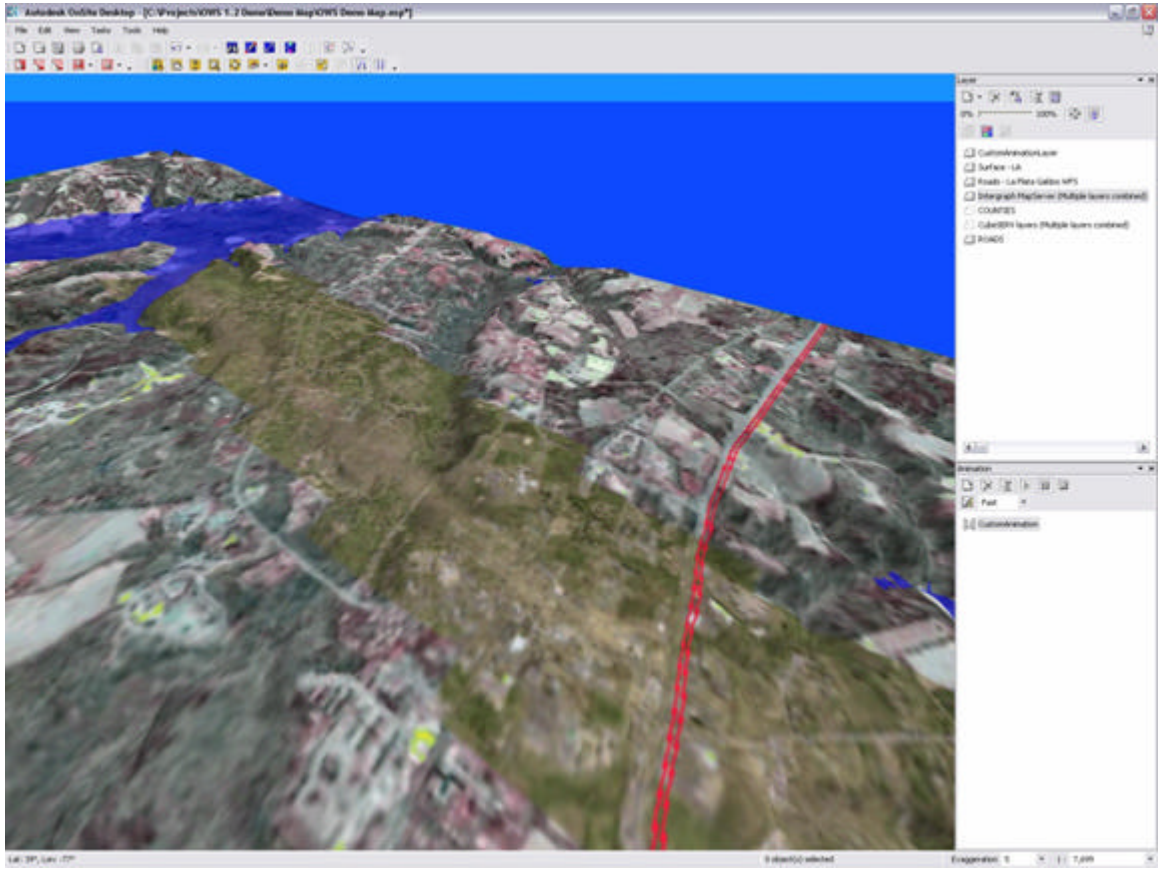
OWS 1.2 Demo



OWS 1.2 Demo



OWS 1.2 demo



Conclusion

- With active participation and product implementations, Autodesk is strongly committed to standards such as Open GIS Consortium and LandXML