



Esri International Developer Summit
Palm Springs, CA

Achieving Interoperability using Open Standards and Specifications

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Open

Standards

Interoperability

Interoperability

Data

Services

Agenda

Interoperability via Web Services –

- **GeoServices Rest Specification**
 - **Map Service, Feature Service, Image Service, Geocoding Service, ...**
- **OGC Web Services Standards**
 - **WMS, WFS, WCS, WPS, KML, WPS, WMTS, SOS, ...**

Agenda .. contd

- **Esri's Open Source Initiatives - Advancing Interoperability**
- **ArcGIS Online – Leveraging Interoperability**

ArcGIS for Server - Vision

Powerful
GIS capabilities



Delivered as
Web services



To help solve real problems



ArcGIS Server - Building open and interoperable Systems

Supporting Multiple Protocols

- Representational State Transfer (**REST**)
- Simple Object Access Protocol (**SOAP**)
- Open Geospatial Consortium (**OGC**)



Catering to Multiple Communities:

Neogeography/ Mashup (WEB 2.0)
Enterprise Architectures (EA)
Spatial Data Infrastructures (SDI)

REST – The Elevator Pitch

4 Key Principles*	
Identification Of Resources	Everything is a URL
Manipulation Of Resources Through Representations	Exchange standard formats using standard verbs
Self-Descriptive Messages	Every request asks the full question, every response includes the full answer
Hypermedia As The Engine Of Application State	Hyperlinks Yeah!

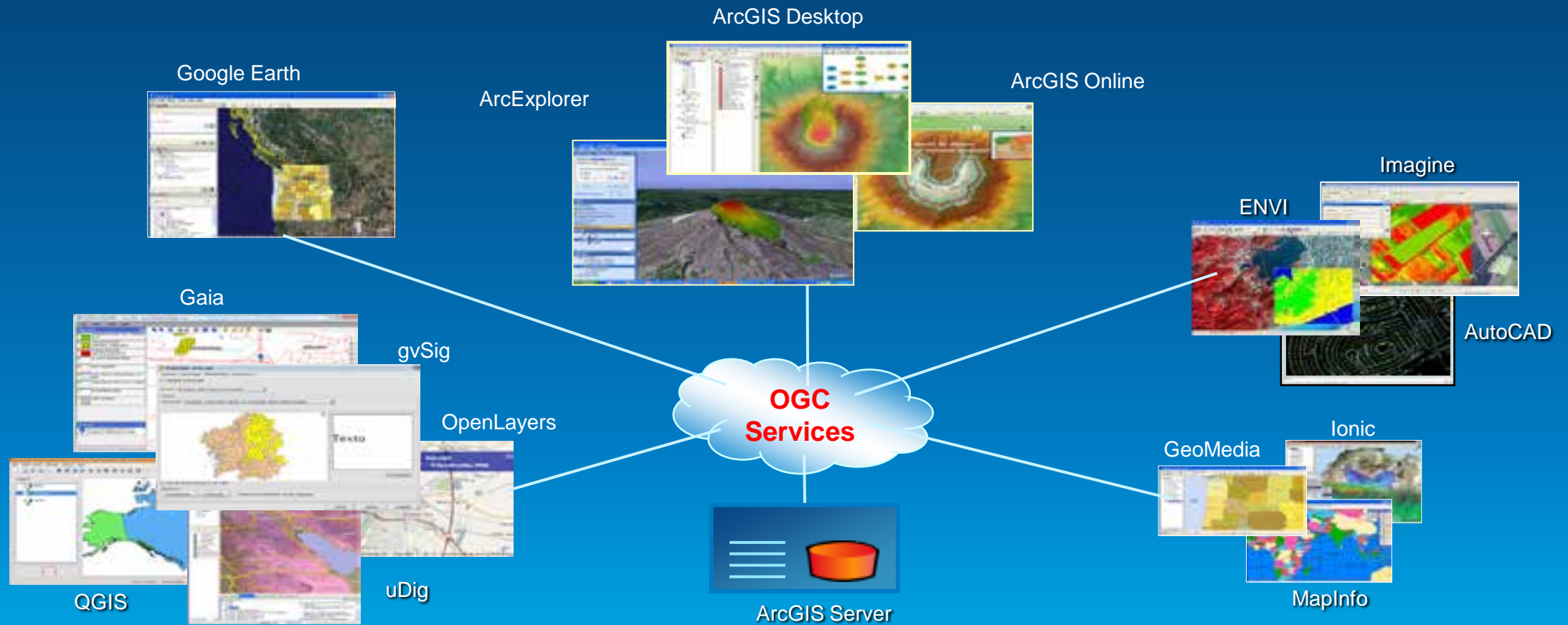
Building Open and Interoperable Systems using the GeoServices REST Specification



Quick History Lesson



Building Open and Interoperable Systems using the OGC Web Services Specifications



OGC / ISO standards support (ArcGIS 10.2)

- WMS
 - + Style Layer Descriptor
 - + Filter Encoding Support
 - + Time Support
- WFS
 - + Transactions
 - + Filter Encoding Support
- WCS
 - +GeoTiff, NITF, HDF, JPEG, JPEG2000, PNG
- WMTS
 - + REST & KVP Encoding
- WPS
 - + Synchronous
 - + Asynchronous
 - + Data and Services as inputs
- CSW
 - + OGC Core
 - + ISO 19139
 - + ebRIM

OGC / ISO standards support

What's New & What's Coming

- OGC Geopackage
 - Available since 10.2.1
 - Enhanced at 10.2.2
 - Planned enhancements for 10.3
- WMS Support for Multi-dimensional data (Time, + Additional dimensions [Elevation,])
 - Available since 10.2.1
 - Planned enhancements for 10.3
- WFS 2.0
 - Planned Support for 10.3
- WCS 2.0.1
 - Planned Support for 10.3

Esri - Open Specifications

- **Shapefile**
- **File Geodatabase API**
- **Geoservices REST Specification**

..... Advancing Interoperability

Esri's Open Initiatives

Our strategy incorporates the many aspects of an open platform - **open code, open data, open formats, open content, and open community.**

- Centralized many of our Open Source Software projects via the Esri Github community
- GeoPortal – Esri's Open Source Platform for Collaboration & Sharing
- Openstreetmap Editor – Esri's OS Arcmap extension for editing OpenStreetMap Data
- Open-sourced a core geometry engine to enable developers to leverage the Hadoop Big Data platform.
-

..... **Join & Collaborate**

..... **Advancing Interoperability**

Demo

.... Some Links to Esri's Open Source Libraries

- <https://github.com/Esri/geoservices-js>
- <https://github.com/Esri/Terraformer>
- <https://github.com/ajturner/geoservices-ruby>
- <http://dev.openlayers.org/apidocs/files/OpenLayers-js.html>
- <https://github.com/kevinsigwart/EsriOpenLayersClient/>
- <https://github.com/Esri/esri-leaflet>
- <https://github.com/Esri/koop>

<http://esri.github.io/>

ArcGIS Online / Portal for ArcGIS

A complete, map-centric, collaborative content management system for working with geographic information.

Supporting Interoperability thru

GeoServices REST Specification, OGC WMS, CSV, OGC KML, OGC WMTS,

..... Leveraging Interoperability

Thank you...



Please fill out the session evaluation