Web GIS | Transformation of the ArcGIS Platform
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ArcGIS Desktop → ArcGIS Online → ArcGIS Enterprise → ArcGIS Apps

ArcGIS for Developers
Server GIS vs. Web GIS

**Server GIS**
Silo’d use of GIS services within custom applications

**Web GIS**
Pervasive use of web layers, scenes, and maps within all of the ArcGIS apps

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**Server GIS**
- App
- Services
- Data

**Web GIS**
- Users
- Apps
- Web Maps
- Web Scenes
- Web Layers
- Services
- Data

... n+1
ArcGIS offers a spectrum of tools for building Apps

- Configurable Apps: easier, quicker, coarse-grained, more black box, less coding
- App Templates: more effort, more time, fine-grained, more control, more coding
- App Builders
- Widgets Components
- SDKs
- APIs
How to get a portal

<table>
<thead>
<tr>
<th>ArcGIS Enterprise</th>
<th>ArcGIS Online</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Software</strong></td>
<td><strong>SaaS</strong></td>
</tr>
<tr>
<td>- ArcGIS Enterprise software which includes Portal for ArcGIS</td>
<td>- <a href="http://www.arcgis.com">www.arcgis.com</a></td>
</tr>
<tr>
<td>- Releases 1-2 times per year</td>
<td>- Releases 3-4 times per year</td>
</tr>
<tr>
<td>- Upgraded manually <em>(by organization)</em></td>
<td>- Upgraded automatically <em>(by Esri)</em></td>
</tr>
<tr>
<td>- Organization controls SLA</td>
<td>- Esri controls SLA</td>
</tr>
<tr>
<td><strong>Core Web GIS functionality</strong></td>
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</tr>
<tr>
<td><em>(visualization, smart mapping, analysis…)</em></td>
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<tr>
<td><strong>Enterprise Integration</strong></td>
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</tr>
<tr>
<td>- Web SSO via SAML</td>
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</tr>
<tr>
<td>- Web-tier Authentication via Web Adaptor</td>
<td><strong>Esri-provided content and services</strong></td>
</tr>
<tr>
<td>- Enterprise Groups</td>
<td>- Basemaps</td>
</tr>
<tr>
<td>- ArcGIS Server Integration…</td>
<td>- Living Atlas</td>
</tr>
<tr>
<td><strong>Advanced GIS functionality</strong></td>
<td>- GeoEnrichment, Routing, …</td>
</tr>
</tbody>
</table>
Anatomy of the portal

The portal and backend infrastructure in ArcGIS Online just is: hosted by Esri and no need for installation or maintenance nor breaking apart into the backend components..

For a deployment using ArcGIS Enterprise there are three main components that make up a Web GIS:

- Portal for ArcGIS
- Hosting server (ArcGIS Server)
- ArcGIS Data Store
Anatomy of the portal

Web GIS components in your own infrastructure

- Portal for ArcGIS
- Hosting server (ArcGIS Server)
- ArcGIS Data Store

Supports hosted data as well as the app and collaboration infrastructure; referred to as the base ArcGIS Enterprise deployment.

Server GIS infrastructure

- ArcGIS Server
- Enterprise geodatabase

Supports publishing of authoritative data from enterprise geodatabases.

part of base ArcGIS Enterprise deployment in the modern architecture.
Web GIS and Distributed GIS Deployment Patterns

Begin with ArcGIS Online & SaaS

ArcGIS Enterprise
Customer Managed Infrastructure
- On-premises
- Private Cloud
- Public Cloud
  (AWS, Azure, others)
- Managed Services

ArcGIS Online
Basemaps & Content Services

Begin with ArcGIS Enterprise & Software
Evolution of the modern GIS

Desktop GIS
(standalone GIS)

Server GIS
/client-server GIS

Web GIS

Distributed GIS
The Journey to Modern GIS
The Journey to Modern GIS

Desktop

Distributed

Server

Enterprise/Online

Continued support
The Journey to Modern GIS

New capabilities

Enterprise/Online

Distributed

Desktop

Server
Building a System of Engagement
Thinking about the decisions you will make along the way

Create identities
• How will you manage onboarding new users?
• Who are your users?

Apply roles
• What permissions and access do you want people to have?
• How do you expect people to use the system?

Create groups
• How will you organize content for easy sharing?

Create and share content
Succeeding with Web GIS

Technology + Process + People + Planning
The Role of GIS Professionals in Web GIS

GIS Professionals
- Curate Content
- Author Maps
- Configure & Develop Apps

Users
- Executives
- Operations
- Mobile Workforce
- Analysts

Web GIS
Increasing the Effectiveness of Your Web GIS
Increasing the Effectiveness of Your Web GIS
Increasing the Effectiveness of Your Web GIS

By securing executive sponsorship you can more fully saturate your organization
ArcGIS Online or ArcGIS Enterprise

ArcGIS Enterprise

ArcGIS Online

Crossing the dotted line indicates a choice based on functional needs/requirements.
If choosing ArcGIS Enterprise you manage the infrastructure, during your planning phase consider:

• What is your deployment environment?
  • On-premises or in the cloud

• What tools will you use to help streamline the deployment?
  • ArcGIS Enterprise Builder, Chef, or cloud tools

• What analytical capabilities will you include in your deployment?

• How do you expect ArcGIS Enterprise to be used?

• What are your SLA expectations?
Tips for Success
Partner with your IT department

GIS Professionals
- Curate Content
- Author Maps
- Configure & Develop Apps

IT Professionals
- Ensure Business Continuity
- Apply Security
- Enforce Governance

Knowledge Workers
- Executives
- Operations
- Mobile Workforce
- Analysts

Curate Content
Author Maps
Configure & Develop Apps

Ensure Business Continuity
Apply Security
Enforce Governance
Plan and prepare to scale your deployment

Don’t neglect your GIS infrastructure!
Find more champions of your Web GIS

**Users**
- Executives
- Mobile Workforce
- Analysts
- Operations
- Knowledge Workers
- Executives

**GIS Professionals**
- Curate Content
- Author Maps
- Configure & Develop Apps

**IT Professionals**
- Ensure Business Continuity
- Apply Security
- Enforce Governance

**Subject Matter Experts**
- Operational Data Experts
- Drive Requirements
- Power Users
Build apps that solve specific problems

Think about your users …

... deliver the app(s) they need

Tackle your Mapzillas
Bring the art of cartography into your Web GIS
Bring back the art of cartography

Submarine Cables

Five Years of Drought

Life on Mars

Gorgeous Gorge

Vision Zero Dashboard: Real-Time Traffic

Red Relief for a Japanese Volcano

Tactile Atlas of Switzerland

http://www.esri.com/products/maps-we-love

Don’t underestimate the power of good design
Configure first, but don’t be afraid to customize

- Updated styling & symbology
- Tailored workflow to the user
- Tailored application to the data
Take a Second Look, Show Something New

Mobile  Story Maps  3D  Real-Time  Integration
(MS Office, ...)

Find inspiration, give inspiration
On the Front Lines of Famine

In parts of Africa and the Middle East, conflict and drought are driving a food crisis of unprecedented scale.
Monitor Your Web GIS

Don’t set it and forget it

- Maintain SLAs
- Transparency Into System
- Tune System Stability & Availability
- Reduce Risks
- Optimize Performance
- Identify Bottlenecks
- Improved Capacity Planning

*Plan for change … it’s inevitable*
Prioritize the problems you solve

Go After Low Hanging Fruit