Leveraging Web GIS: An Introduction to the ArcGIS portal

Derek Law
Product Management

DLaw@esri.com
Agenda

• Web GIS pattern
• Product overview
• Installation and deployment
• Configuration options
• Security options and groups
• Portal for ArcGIS + ArcGIS Server
• Implementation suggestions
• Summary
ArcGIS Is a Platform
Enabling GIS Everywhere

Available in the Cloud . . .
. . . and On-Premises

Simple
Integrated
Open

Desktop
Web
Device

Web GIS

portal

Server
Online Content and Services
Organize your maps and apps

enable discovery
Empower people to use and create maps
The ArcGIS Platform enables Web GIS
Enabling GIS Everywhere

Simple
Integrated
Open

Available in the Cloud . . .
. . . and On-Premises
Key ArcGIS components for Web GIS

- Web Services
- Data
- Information Products
- Access Control
- GIS Servers: Authoring tools
- Ready to use Content
Web GIS Deployment Patterns

SaaS
Software

Portal for ArcGIS
ArcGIS Data Appliance
ArcGIS Online (Hosted Servers)
ArcGIS Server
ArcGIS Online (portal)
ArcGIS Online Services
Web GIS Deployment Patterns

**SaaS**

**Software**

- Portal for ArcGIS
- ArcGIS Server
- ArcGIS Online (portal)
- ArcGIS Online (Hosted Servers)
- ArcGIS Online Services
- ArcGIS Data Appliance
- GIS Servers
- Ready to use Content
Web GIS Deployment Patterns

SaaS

ArcGIS Online (portal)

ArcGIS Online (Hosted Servers)

ArcGIS Online Services

Software

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Portal for ArcGIS
Web GIS in your infrastructure option

- **Central hub for your GIS assets**
- **Solution when**
  - Additional security requirements
  - No public cloud option
- **Allows for**
  - Enterprise integration (e.g., security)
- **COTS product since 10.2**
- **Extension to ArcGIS for Server**
  - Since 10.3 included with Standard & Advanced
Portal for ArcGIS
Is it right for me?

• Typical reasons for choosing **Portal for ArcGIS**
  - Have no Internet/WWW connection
  - Have strict SLAs and governance
  - Not ready/interested in the cloud
  - You are responsible for maintenance

• Typical reasons for choosing **ArcGIS Online**
  - Lower overall cost (faster start, less admin costs)
  - Elasticity
  - Continuous updates and improvements from Esri
Portal for ArcGIS – Some User Success Stories
Portal for ArcGIS Tour
Demo
Portal for ArcGIS Capabilities

- Browse, search, and discover your GIS assets
- Self-service mapping
- Content creation and management
- Sharing and collaboration
- Data hosting and mapping
- Visualization, collection, and analysis
- Ready to use maps and layers
- Supports 2D and 3D content
What is a Web Map?

- Foundation for your maps and apps
- Enables “intelligent maps” → Web Map stores references to web services and data, display and behavior settings
- Supports: smart mapping, pop-ups, editing, analysis, time, etc.
- Create in Portal for ArcGIS map viewer
- Can be leveraged by all other Esri Apps
Smart Mapping User Experience

- Quickly make useful, visually stunning maps
- “smart” default symbolization
- Data driven workflows
- Automatically applied to feature layers without styling
- Live on screen styling
Create New Web Apps

• **Configurable Application Templates**
  - Workflow focused apps
  - Categorized by themes/use cases

• **Web AppBuilder for ArcGIS**
  - Create and deploy new apps without programming
  - WYSIWYG user experience
  - Widget framework
Portal for ArcGIS 10.4 Map Viewer

- New functionality includes
  - Spatial analysis tools
  - Support for custom print layouts
Analysis Capabilities in Portal

Demo
Apps included with Portal for ArcGIS

- Configurable application templates
- Collector for ArcGIS
- Operations Dashboard for ArcGIS
- Explorer for ArcGIS
- ArcGIS Maps for Office
- Esri Maps for … Apps (4 different apps)
- 10.3.x: Web App Builder for ArcGIS
### Portal for ArcGIS – System Requirements

**Same Supported Operating Systems as ArcGIS Server**

#### Windows

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Minimum OS version</th>
<th>Maximum OS version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])</td>
<td>Update: April 2014</td>
<td></td>
</tr>
<tr>
<td>Windows Server 2012 Standard and Datacenter (64 bit [EM64T])</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows Server 2008 R2 Standard, Enterprise, and Datacenter (64 bit [EM64T])</td>
<td>SP1</td>
<td></td>
</tr>
<tr>
<td>Windows Server 2008 Standard, Enterprise, and Datacenter (64 bit [EM64T])</td>
<td>SP2</td>
<td></td>
</tr>
<tr>
<td>Windows 10 Pro and Enterprise (64 bit [EM64T])</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 8.1 Pro and Enterprise (64 bit [EM64T])</td>
<td>Update: April 2014</td>
<td></td>
</tr>
<tr>
<td>Windows 8 Pro and Enterprise (64 bit [EM64T])</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 7 Ultimate, Professional, and Enterprise (64 bit [EM64T])</td>
<td>SP1</td>
<td></td>
</tr>
</tbody>
</table>

#### Linux

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Minimum OS version</th>
<th>Maximum OS version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hat Enterprise Linux Server 7 (support begins at 10.3.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Hat Enterprise Linux Server 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Hat Enterprise Linux Server 5</td>
<td>Update 7 with libX11 patch</td>
<td></td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 12 (support begins at 10.3.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 11</td>
<td>Service Pack 1</td>
<td></td>
</tr>
</tbody>
</table>

Update 1 and 2 not supported.
Installing Portal for ArcGIS
Can be scripted for silent installs

• 5 step workflow
  1. Run installer
  2. Authorize software
  3. Create initial admin account
  4. Enable SSL on web server
  5. Configure ArcGIS Web Adaptor

• Review help documentation
• Helpful to have
  - IT knowledge
  - Understand security, SSL, etc.
Deployment

Private Network

One Machine

Web Server

ArcGIS Web Adaptor

Portal for ArcGIS
Website
Applications
Portal Services API
Repository

ArcGIS Web Adaptor

ArcGIS Server
GIS Services

Client Applications & Browsers
Deployment

Private Network

Web Server
ArcGIS Web Adaptor

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Web Server
ArcGIS Web Adaptor

ArcGIS Server
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Client Applications & Browsers
Deployment

Machine A

Web Server
ArcGIS Web Adaptor

Portal for ArcGIS
Website
Applications
Portal Services API
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Machine B

Web Server
ArcGIS Web Adaptor

ArcGIS Server
GIS Services

Private Network

Client Applications & Browsers
Portal for ArcGIS – High Availability

- High availability deployments supported
Portal for ArcGIS Security
Integrates with Your Enterprise Security Infrastructure

• Authentication
  - Web tier authentication, including Windows Authentication & PKI
  - Web single sign-on (SSO) with SAML as of 10.3
  - Portal tier authentication combining both built-in and enterprise users as of 10.3.1

• Users, Roles, and Groups

<table>
<thead>
<tr>
<th>Users</th>
<th>Roles</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Built-in</td>
<td>• Anonymous</td>
<td>• Built-in</td>
</tr>
<tr>
<td>• Enterprise</td>
<td>• User</td>
<td>• Enterprise groups</td>
</tr>
<tr>
<td>• Active Directory</td>
<td>• Publisher</td>
<td>(10.3)</td>
</tr>
<tr>
<td>• LDAP</td>
<td>• Administrator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Custom roles (10.3)</td>
<td></td>
</tr>
</tbody>
</table>
## Portal for ArcGIS: Named Users and Roles

<table>
<thead>
<tr>
<th>Activity</th>
<th>User role</th>
<th>Publisher role</th>
<th>Administrator role</th>
<th>Without account</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search and use public items</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Search and use private items</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Create and share items</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Publish new content as tiled or feature services</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Administer the ArcGIS organization</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Manage users and their privileges</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Manage items created by others</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Use Collector, Explorer, Operations Dashboard, Esri Maps for Apps, Templates, Web AppBuilder</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>
Portal for ArcGIS: Custom Roles

- Provide more flexibility to enable fine grained control on what members can do
- My Organization page > Edit Settings > Roles > Create Role
Leverage Groups in Portal

- Groups have membership
- Organize by:
  - **Theme or initiative**
    - Common and supportive content
  - **Functional department/structure**
    - Based on organization’s business units
  - **Projects**
    - Specific projects or tasks
  - **Ad-hoc**
    - Prototyping, non-permanent/temp projects, staging
- **10.3.x supports Enterprise Groups**
  - When Portal is enabled with enterprise identity store (Windows AD or LDAP)
Activity Dashboard

- Activity-based metrics and real-time reports about your Portal
  - Content
  - Members
  - Groups
Portal for ArcGIS – Logging

http://myportal.esri.com/webadaptor/portaladmin/logs

• Provides auditing and troubleshooting tools designed for Portal administrators
• Provides the ability to monitor and query detailed events that occur within Portal
• Filter by:
  - Log level, source, start and end time, log code range, and by users
Using Portal with ArcGIS Server

Three Integration Approaches

1. Registering services
2. Federating a Server
3. Designating a hosting Server
Implementation Patterns
Portal for ArcGIS + ArcGIS Server

Portal for ArcGIS

ArcGIS Server
site 1

Identity Store

Registered web service

Item A
Register a Web Service with Portal

Demo
Implementation Patterns
Portal for ArcGIS + ArcGIS Server

Portal for ArcGIS

2 options:
1. End user is prompted for credentials
2. Save credentials with Item in Portal
Implementation Patterns
Portal for ArcGIS + ArcGIS Server
Portal – Server Federation

- Allows a single sign-on (SSO) experience between Portal and Server
- Permissions are all managed in Portal
- ArcGIS Server site must be HTTPS enabled

When to use:
- Desire for SSO user experience

When NOT to use:
- When Portal/Server are in different physical locations
- Portal and Server are different releases
Implementation Patterns
Portal for ArcGIS + ArcGIS Server

Portal for ArcGIS

- Item A: Registered web service
- Item B: Federated Server
- Item C: Hosting Server

ArcGIS Server site 1
ArcGIS Server site 2
ArcGIS Server site 3

Identity Store
ArcGIS Data Store
Portal for ArcGIS + Hosting Server

• Required when you want to enable hosted services in Portal
  - Feature services
  - Tiled services
  - 3D scene services (10.3.1)
  - Analysis tools in Portal map viewer

• Example workflows
  - Publish content to Portal
  - Share content from Esri Maps for … Apps

• Uses ArcGIS Server with ArcGIS Data Store
Review: Portal with ArcGIS Server
Three Integration Approaches

1. Registering services
2. Federating a Server
3. Designating a hosting Server

You can use one, all three, or any combination
Implementing Web GIS

Typical activities

• Assessment & planning
• Installation & configuration
• Security integration
• Deployment (staging, production)
• End user engagement, socialization
• IT training & support planning
• Operations, maintenance, and support
• Designing & building information products
Keys to Success

• Stay focused on the information products
Keys to Success

• Stay focused on the information products
• Embrace the idea of maps everywhere
• Model Portal for ArcGIS after your organization’s structure & workflows
• Consider the Web GIS Launch Kits
Jumpstart Your Technology & Launch Your Organization

ArcGIS Server Jumpstart & Enterprise GIS Health Check

GIS & IT

Supported by:

Enterprise Consultants

Business & Industry Consultants

ArcGIS

Users

Executives

Public

Web GIS Launch Kit
Resources

• **Extending Access to GIS Maps and Apps with Portal for ArcGIS**  
  60 min training seminar - Free
• **Portal for ArcGIS 101**  ArcUser Technical article
Portal for ArcGIS - Summary

- Central hub for your GIS assets
- **Implements “Web GIS” in your infrastructure**
- Solution when
  - Additional security demands
  - Prefer no public cloud option
- Extension of ArcGIS for Server
  - 10.3.x Included with Standard and Advanced
Thank you

Please remember to fill out a survey