Sharing Web Layers and Services in the ArcGIS Platform

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Agenda

• ArcGIS Platform overview
  - Web GIS information model
  - Two deployment options

• ArcGIS Pro Sharing
  - User experience and workflows
  - Web layers
  - Web maps
  - 3D content and web tools

• Summary
The ArcGIS Platform enables Web GIS
Enabling GIS Everywhere

Simple
Integrated
Open

Available in the Cloud . . .
. . . and In Your Own Infrastructure
Sharing to a portal

• **portal**
  - Central destination for all the content in your Web GIS
  - ArcGIS Online organization and/or ArcGIS Enterprise

• **Within your portal, you can own content:**
  - Web maps (2D data)
  - Web scenes (3D data)
  - Web layers
    - Many different types
ArcGIS Platform Deployment Options

In the cloud

- ArcGIS Online
  * Services and data managed by Esri

In your own infrastructure

- Portal for ArcGIS
- ArcGIS Server
- ArcGIS Data Store
ArcGIS Pro

- **ArcGIS Pro as a Web GIS client**
  - Sophisticated desktop functionality
  - Share and access maps, layers, and more

- **ArcGIS Pro uses the settings of your portal when possible**
  - Basemap gallery
  - Default elevation service
  - Default geocoding service
  - Utility services
Demo

Sharing from ArcGIS Pro
ArcGIS Pro - Sharing User Experience

1. Sign into a portal
2. Share from:
   i. The ribbon to share your entire map
   ii. The context menu to share a selection of layers
3. Analyze your data for potential issues
4. Click Share/Publish
Sharing from ArcGIS Pro
• **ArcGIS Enterprise Base Deployment**
  - Consists of a federated Server site
  - Configured to be a hosting server with the ArcGIS Data Store

• Some organizations may also have additional Server sites that are federated with Portal

• When sharing from ArcGIS Pro, you decide which federated Server you want to publish services to
How Web maps, Layers, and Services Work Together

- **Web map (2D) or Web scene (3D)**
  - Collection of web layers and mapping functionality

- **Web Layer**
  - Portal content that references a service
  - Stores configurations - attribute pop-ups, symbology, etc.

- **Web Service**
  - Exposes a URL for web clients to access data
  - Data can be copied to the server or referenced from a shared location or enterprise geodatabase
Web Layers and Web Services

<table>
<thead>
<tr>
<th>Web Layer</th>
<th>Web Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Map Image Layer</td>
<td>Dynamic/Cached map service</td>
</tr>
<tr>
<td>Feature Layer</td>
<td>Feature service</td>
</tr>
<tr>
<td>Tile Layer</td>
<td>Cached map service (hosted)</td>
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<tr>
<td>Vector Tile Layer</td>
<td>Vector tile service</td>
</tr>
<tr>
<td>Scene Layer</td>
<td>Cached scene service</td>
</tr>
</tbody>
</table>

[Portal for ArcGIS]

[ArcGIS Server]
Demo

Sharing web layers
Sharing Data Options

1. **Reference registered data**
   - Registered data will be referenced, unregistered data will be copied

2. **Copy all data**
   - Both registered and unregistered data will be copied
Working with Registered Data

- Designed to support enterprise editing workflows
- Data sources are registered with the federated server
- Source data is referenced, not copied
Working with Unregistered Data

- Source data is copied to the server machine
- Does not support enterprise data updates
- Maintains a static copy of your data

Copy all data option in ArcGIS Pro
All source data is treated as unregistered data
Understanding Data Stores

• Data store items
  - Locations registered with the server that contains data used by services
  - OS account that ArcGIS Server is running as has read/write access

• ArcGIS Data Store
  - Part of the base deployment
  - Database is managed by the server
  - Used to store data copied to the server for hosted services
Registering Data stores

• 2 ways to define

1. Ahead of time: ArcGIS Server Manager
   - Site > Data Stores

2. While sharing: Resolve analyzers
Sharing Web maps

- Preset configurations make one click sharing of new web layers easy and accessible
- Map level settings, such as bookmarks, are automatically maintained
- For more control, new web layers can be split and configured individually or shared beforehand
Web maps and existing web layers

- **Existing web layers are referenced in the Web map**
  - Any modified settings are stored in the map; not at the web layer or service
  - Sharing settings will NOT be updated to match the web map

- If the map contains existing web layers, they will not be “published” again
Demo
Sharing a web map
### Sharing Web maps - One Click Configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory</td>
<td>Interactive map that supports querying</td>
</tr>
<tr>
<td></td>
<td>• Reference - map image layers</td>
</tr>
<tr>
<td></td>
<td>• Copy - non-editable feature layers</td>
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<tr>
<td>Editing</td>
<td>Editable map</td>
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<tr>
<td></td>
<td>• Reference - map image + feature layers</td>
</tr>
<tr>
<td></td>
<td>• Copy - editable feature layers</td>
</tr>
<tr>
<td>Visualization</td>
<td>Pre-generated tiles</td>
</tr>
<tr>
<td></td>
<td>• Reference - cached map image layers</td>
</tr>
<tr>
<td></td>
<td>• Copy - tile layers</td>
</tr>
</tbody>
</table>

- Map layers unsupported by the primary web layer type will still be shared
  - EX: **Copy all data** - **editing** with raster data will share raster layers as web tile layers
Sharing 3D Data

- GIS data is not siloed between 2D and 3D in ArcGIS Pro
- 3D layers and scenes are just as easy to share
- Supported 3D data types
  - Point layer
  - 3D object layer
  - Point cloud layer
  - Integrated mesh

Point cloud layer shared to Portal for ArcGIS
Sharing web tools

• Portal item that exposes a geoprocessing (GP) service

• Can be used across the platform including ArcGIS Pro and through web clients such as Web AppBuilder for ArcGIS

• Shared from the history item of a successfully ran GP tool
Demo

Sharing web tools
Summary

• ArcGIS Pro is deeply integrated with your portal
  - ArcGIS Online or ArcGIS Enterprise

• Sharing content is done in 4 simple steps
  - Web layers
  - Web maps

• Difference between services, web layers, and web maps

• Registered vs unregistered data

• Sharing web tools
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