



ArcGIS Pro: Authoring Content to ArcGIS Enterprise

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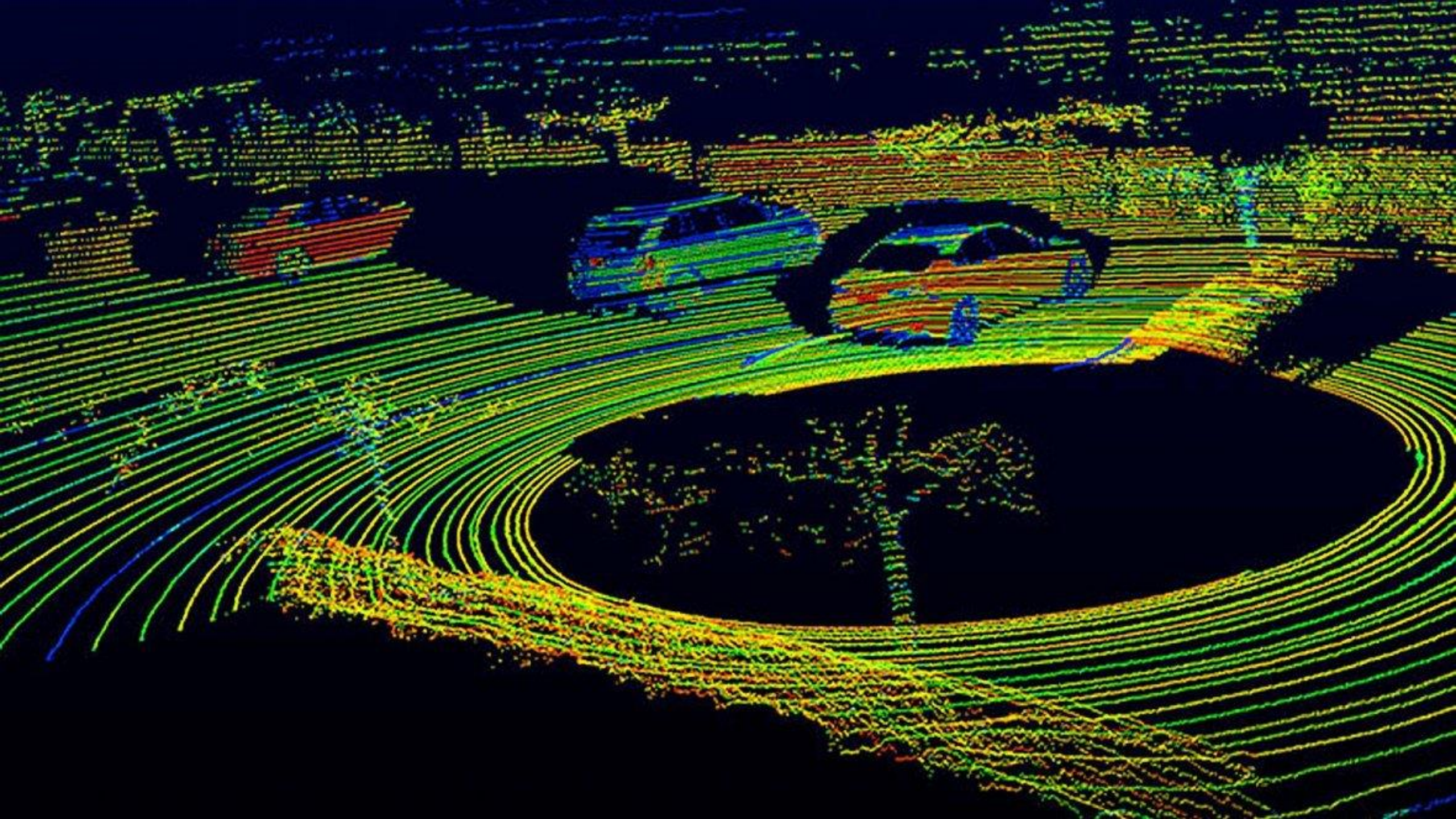
An abstract graphic on the right side of the slide, composed of various colored geometric shapes (triangles, rectangles, lines) in shades of blue, orange, and green, creating a sense of depth and movement. It includes elements resembling topographic maps and data visualizations.

**GIS
INSPIRING
WHAT'S
NEXT**



What is modern GIS?







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



What is modern GIS?

GIS that is interactive, accessible, that helps you explore questions, solve problems, find answers, and that works with many kinds of data.

It is GIS you can share.

An abstract graphic in the bottom right corner consisting of numerous overlapping, semi-transparent rectangular planes in various shades of blue, teal, and green. These planes are oriented at different angles, creating a sense of depth and movement, resembling a stylized cityscape or a complex data visualization.

Technology

What parts of ArcGIS do you use

ArcGIS
Enterprise



ArcGIS
Pro



ArcGIS
Online



Scenarios

How might sharing work within your organization?



Where does sharing start?

ArcGIS Enterprise as a system of record, ArcGIS Online as the system of engagement



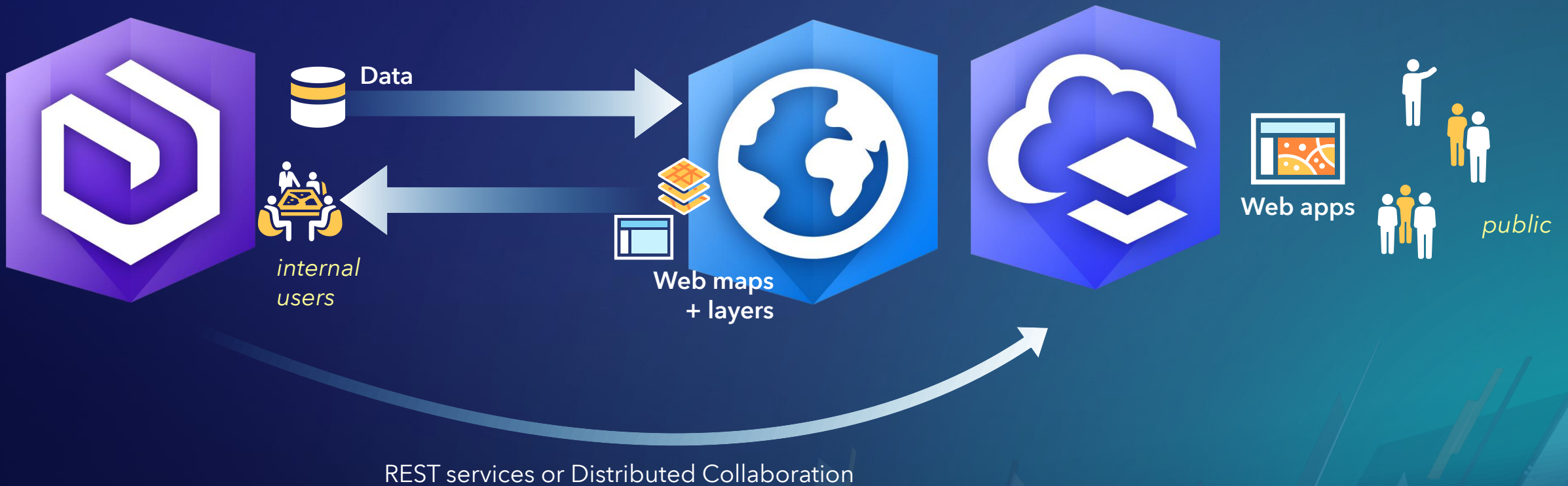
Where does sharing start?

Supporting internal and external stakeholders

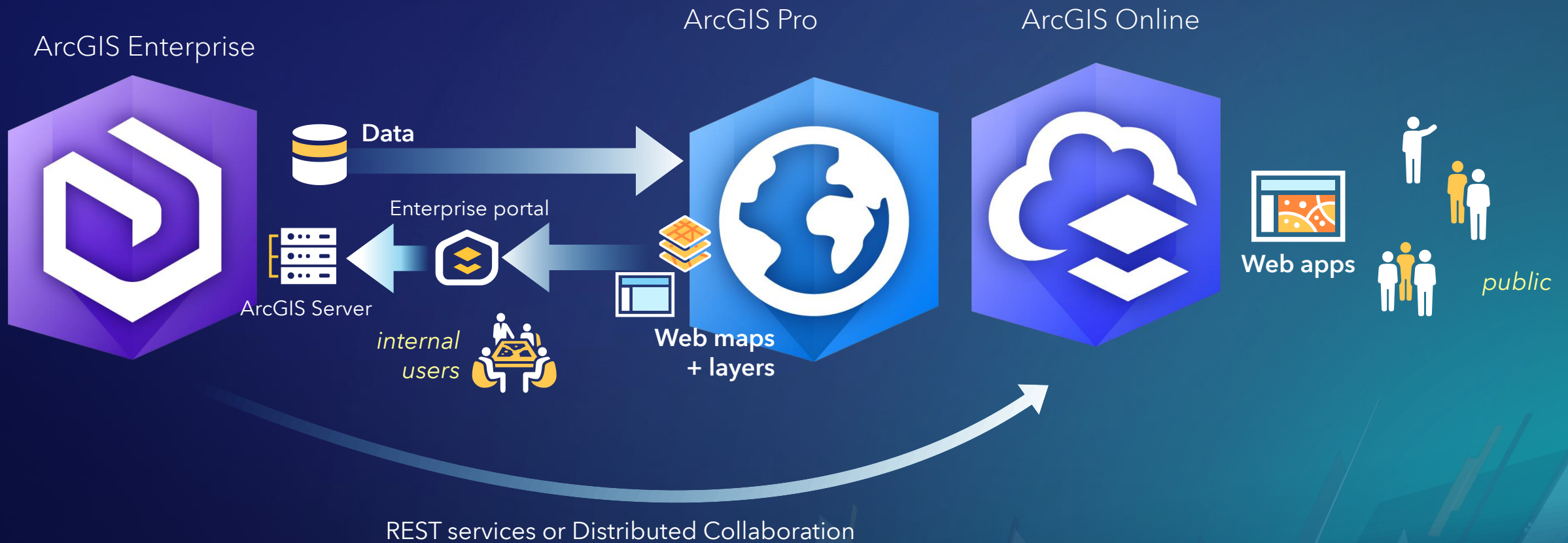
ArcGIS Enterprise

ArcGIS Pro

ArcGIS Online



Where does sharing start?



Where does sharing start?

And many more

ArcGIS Enterprise

ArcGIS Pro

ArcGIS Online



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Web GIS

ArcGIS Pro + ArcGIS Enterprise and/or ArcGIS Online = a modern GIS

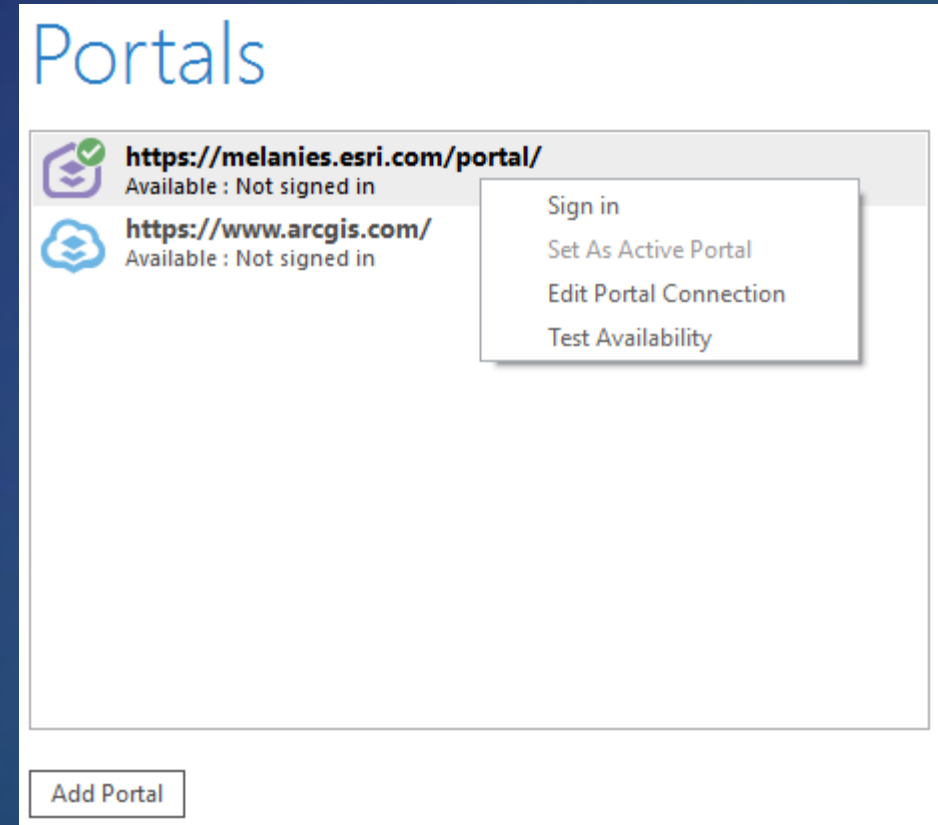


Sharing from ArcGIS Pro

Demo

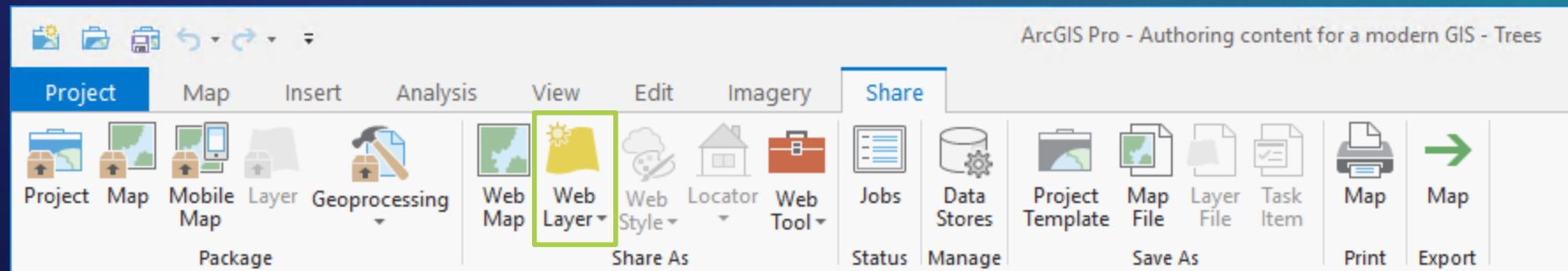
ArcGIS Pro – Sharing User Experience

1. Sign into a portal



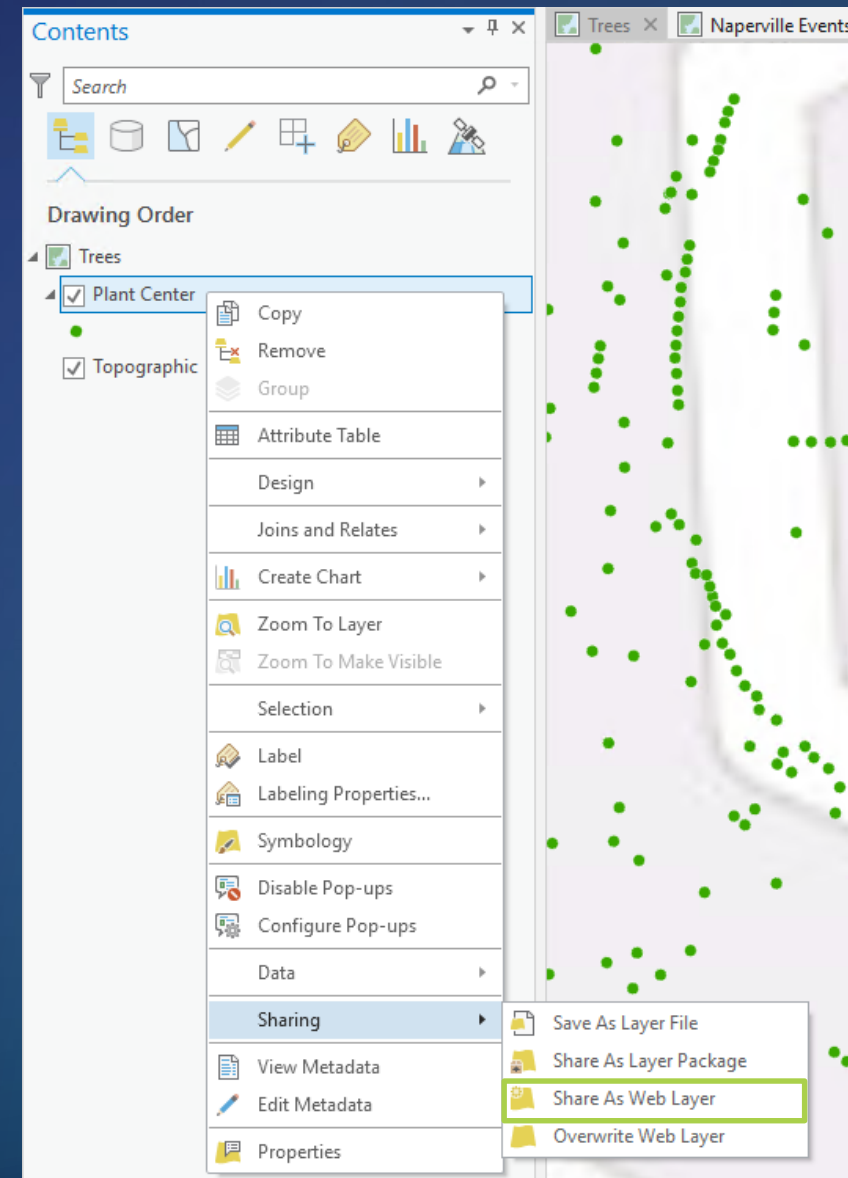
ArcGIS Pro – Sharing User Experience

1. Sign into a portal
2. Share from:
 - i. The ribbon to share your entire map



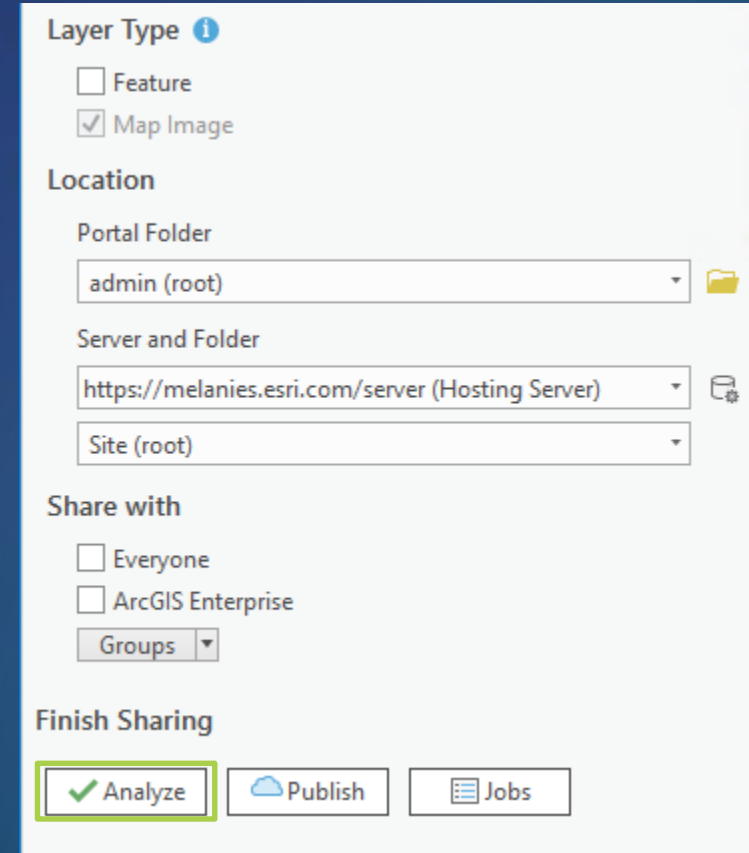
ArcGIS Pro – Sharing User Experience

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 - ii. The context menu to share a selection of layers



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



The screenshot shows the 'Share' dialog box in ArcGIS Pro. The 'Layer Type' section has 'Map Image' selected. The 'Location' section shows the 'Portal Folder' as 'admin (root)', the 'Server and Folder' as 'https://melanies.esri.com/server (Hosting Server)', and the 'Site (root)'. The 'Share with' section has 'Everyone' and 'ArcGIS Enterprise' selected, and a 'Groups' dropdown. The 'Finish Sharing' section has three buttons: 'Analyze' (highlighted with a green box), 'Publish', and 'Jobs'.


Layer Type ⓘ

☐ Feature


☒ Map Image

Location

Portal Folder

admin (root) 

Server and Folder

https://melanies.esri.com/server (Hosting Server) 

Site (root)




Share with

☐ Everyone

☐ ArcGIS Enterprise

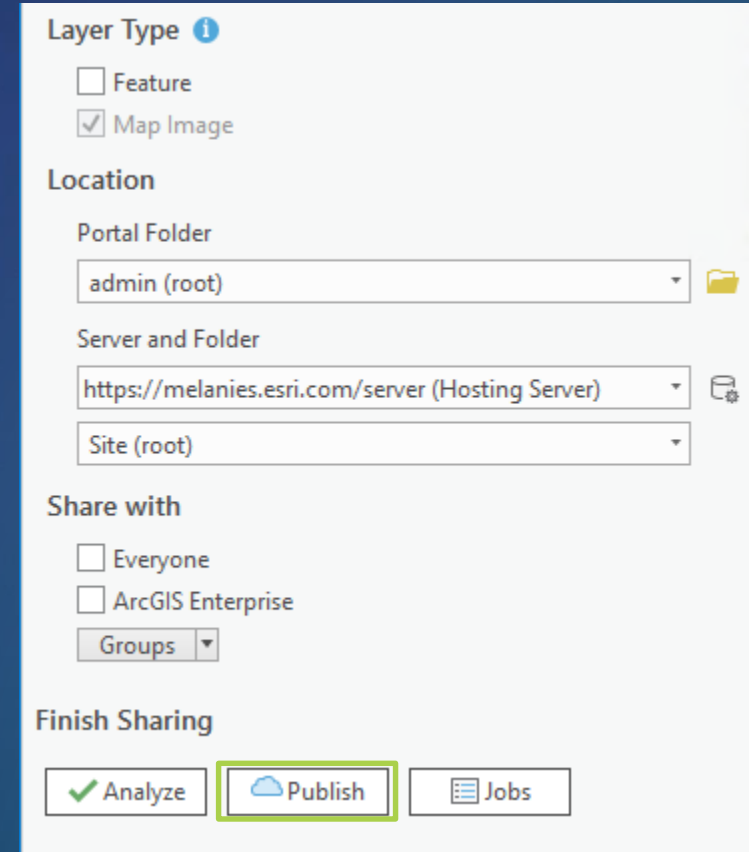
Groups ▼

Finish Sharing

 Analyze  Publish  Jobs

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



The screenshot shows the 'Share' dialog box in ArcGIS Pro. It is divided into several sections: 'Layer Type' with checkboxes for 'Feature' and 'Map Image' (selected); 'Location' with dropdowns for 'Portal Folder' (admin (root)), 'Server and Folder' (https://melanies.esri.com/server (Hosting Server)), and 'Site (root)'; 'Share with' with checkboxes for 'Everyone' and 'ArcGIS Enterprise' (both unselected), and a 'Groups' dropdown; and 'Finish Sharing' with three buttons: 'Analyze' (with a green checkmark), 'Publish' (highlighted with a green border), and 'Jobs' (with a list icon).


Layer Type ⓘ

☐ Feature


☒ Map Image

Location

Portal Folder

admin (root) 

Server and Folder

https://melanies.esri.com/server (Hosting Server) 

Site (root)




Share with

☐ Everyone

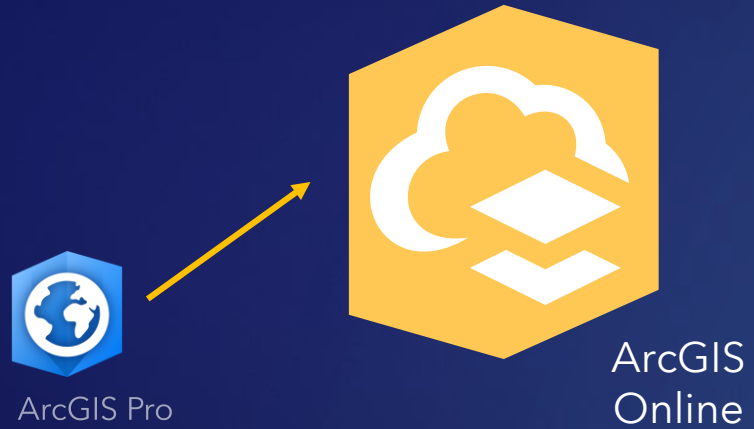
☐ ArcGIS Enterprise

Groups ▼

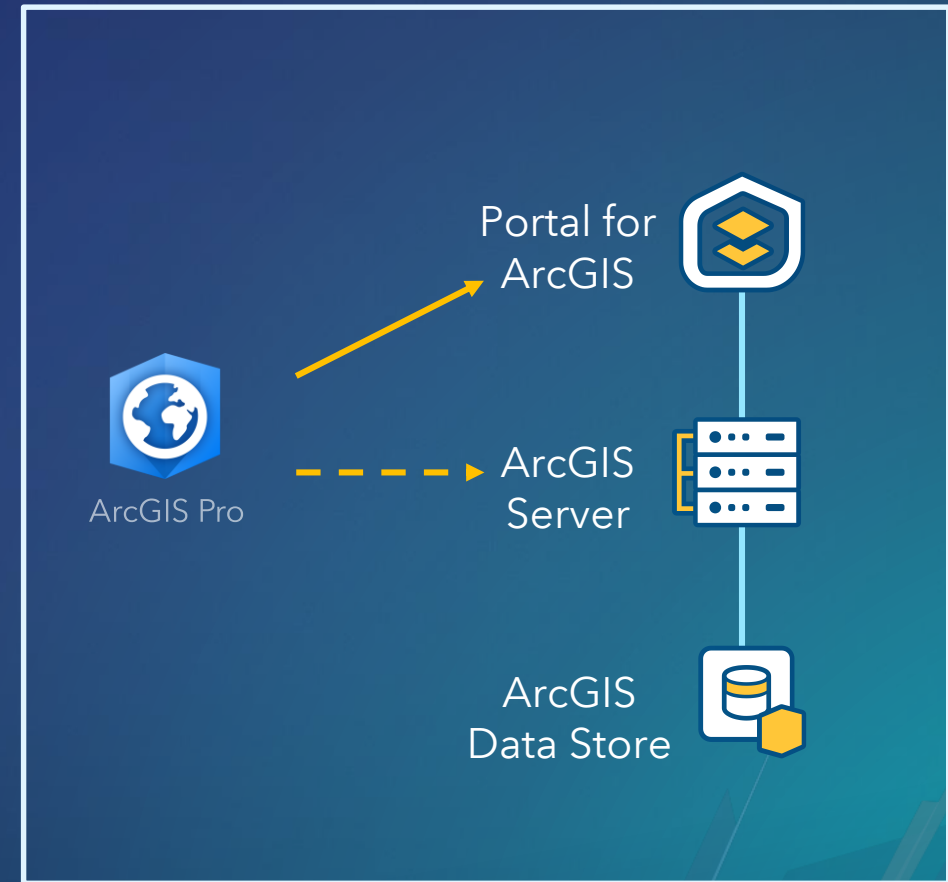
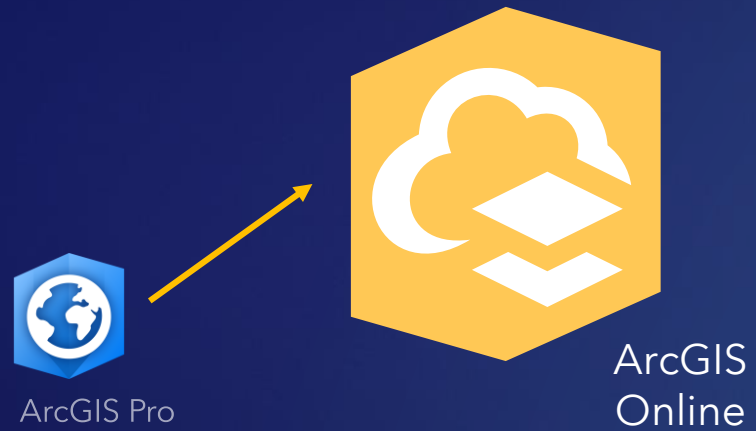
Finish Sharing

 Analyze  Publish  Jobs

Sharing from ArcGIS Pro



Sharing from ArcGIS Pro



Concept Review: Base Deployment and Federated Servers

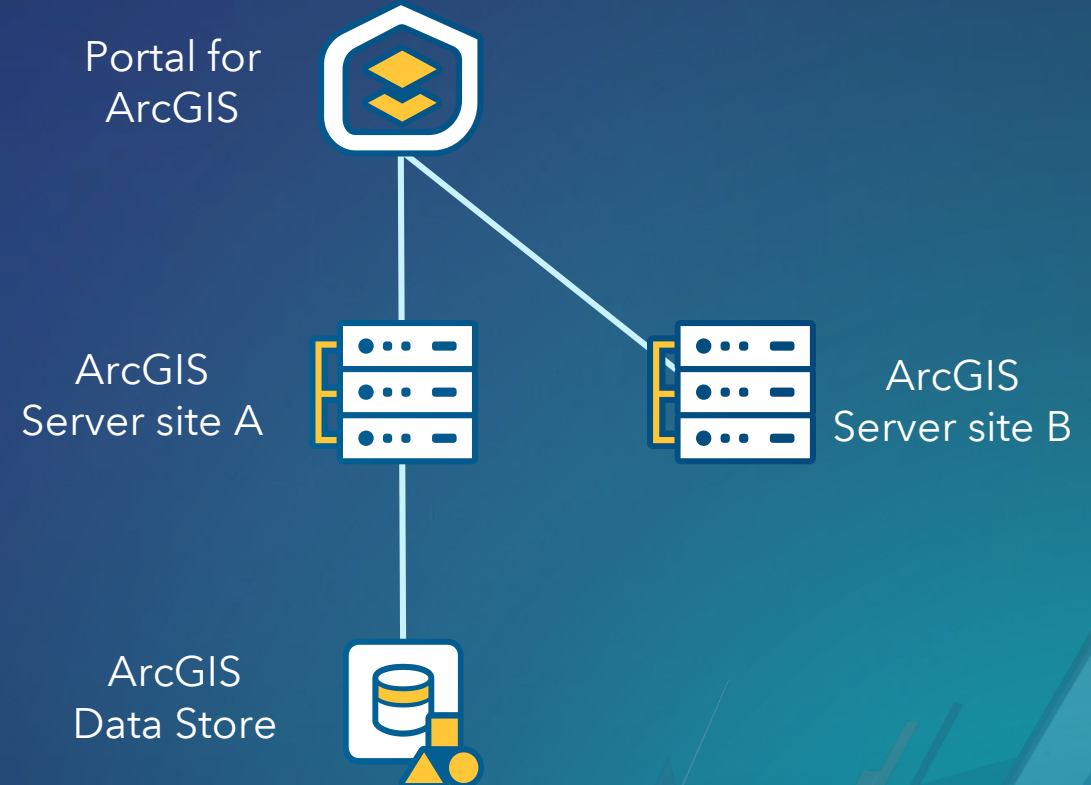
- **ArcGIS Enterprise Base Deployment**

- Consists of a federated Server site
- ArcGIS Data Store has been registered with the Server site as the registered managed database
- The Server site is designated as hosting server



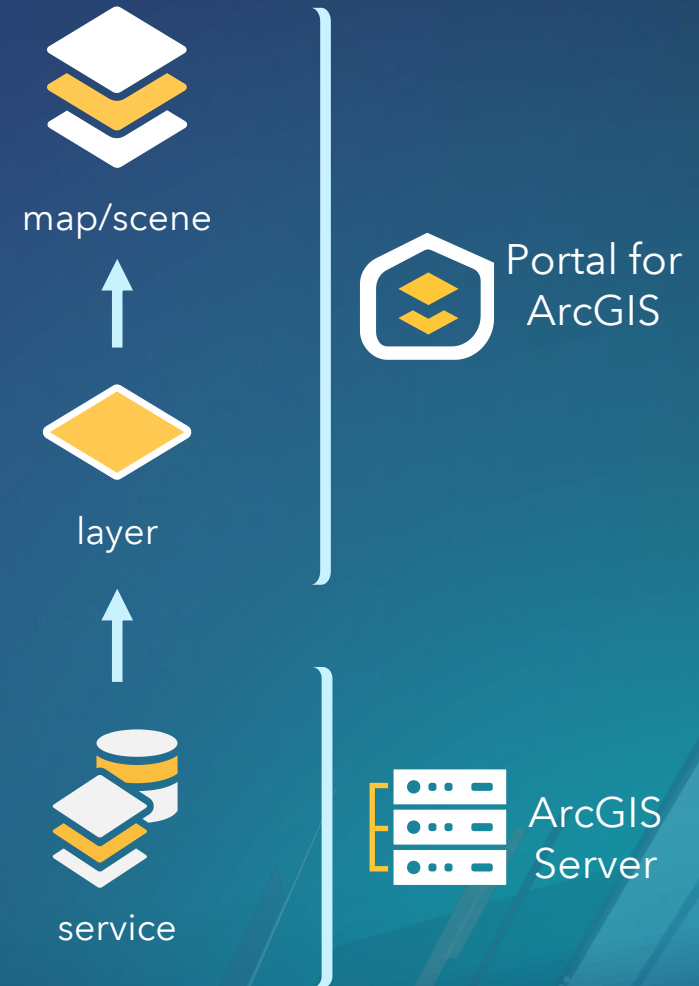
Concept Review: Base Deployment and Federated Servers

- **ArcGIS Enterprise Base Deployment**
 - Consists of a federated Server site
 - ArcGIS Data Store has been registered with the Server site as the registered managed database
 - The Server site is designated as hosting server
- 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 share content 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 exposes a service
 - References a service and can configure 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 Layer and Web Service Terminology



Enterprise
portal



ArcGIS
Server

Web Layer	Web Service
Map Image Layer	Dynamic/Cached map service
Feature Layer	Feature service
Tile Layer	Cached map service (hosted)
Vector Tile Layer	Vector tile service
Scene Layer	Cached scene service
Web Tool	Geoprocessing service

An abstract graphic on the left side of the slide. It features a stack of overlapping map layers. The top layer is a green map with white dots. Below it is a brown map with white lines. Further down is a red map with white lines. The maps are partially obscured by a series of colorful, semi-transparent geometric shapes (rectangles, triangles, and polygons) in shades of blue, teal, orange, and red. These shapes are arranged in a way that suggests a layered or stacked structure, similar to the map layers.

Sharing web layers

Demo



Data

What happens to your data when you share with ArcGIS Pro?

Sharing Data Options

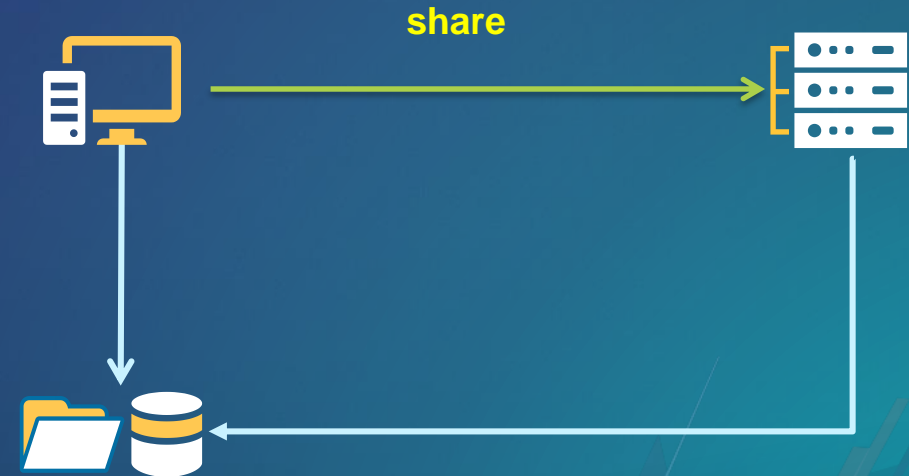
1. **Reference registered data**
 - Registered data will be referenced, unregistered data will be copied
2. **Copy all data**
 - Both registered and unregistered data will be copied

The screenshot shows the 'Share As Web Layer' dialog box with the following details:

- Title:** Share As Web Layer
- Subtitle:** Sharing selected layer as a web layer
- Tabs:** General | Configuration | Content
- Item Details:**
 - Name:** Plant Center
 - Summary:** Center point for living plant specimens.
 - Tags:** ArcGIS for Parks and Gardens, Public Garden Information Model
- Data:**
 - ☒ Reference registered data
 - ☐ Copy all data
- Layer Type:**
 - ☐ Feature
 - ☒ Map Image

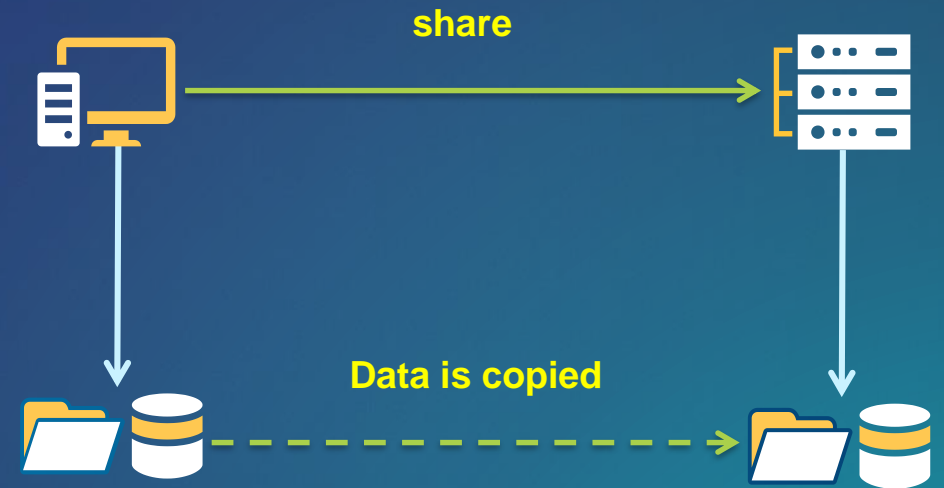
Working with Registered Data

- 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



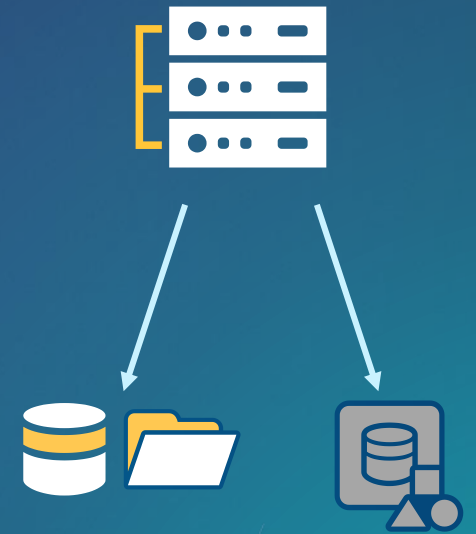
Understanding Data Stores

- **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

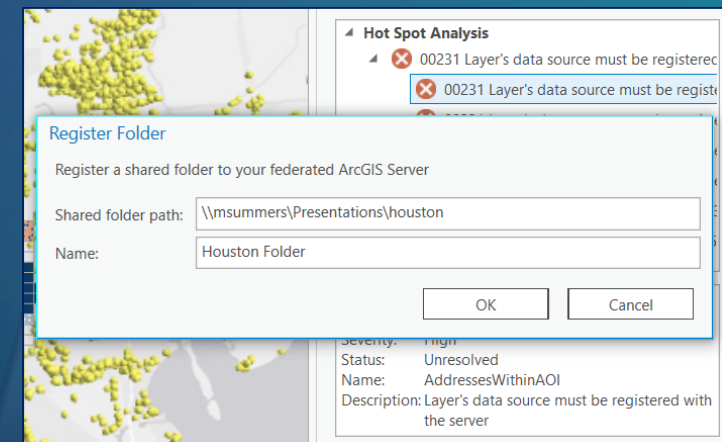
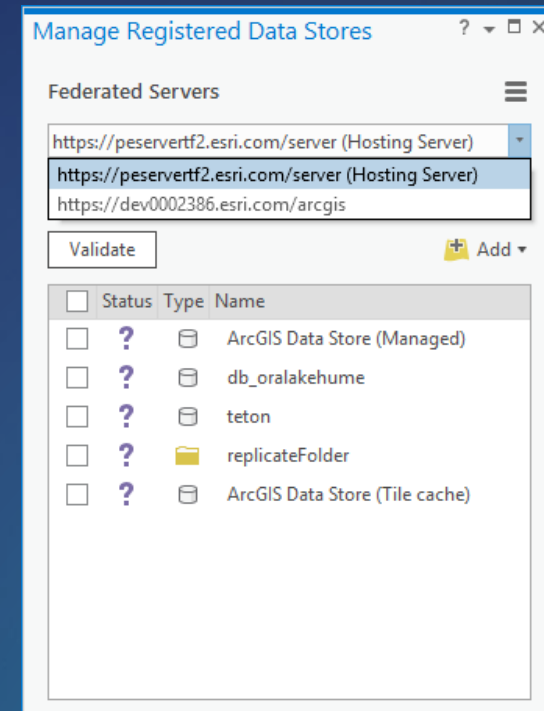
- **ArcGIS Data Store**

- Part of the base ArcGIS Enterprise deployment
- Database is managed by the server
- Used to store data copied to the server for hosted services, and data that is the result of analysis run within the Enterprise portal



Data stores

- Valid data source locations accessible by server
 1. Databases
 2. Folders
- 2 ways to define
 1. Ahead of time:
 - Manage Registered Data Stores
 - ArcGIS Server Manager
 2. While sharing: Resolve analyzers



An abstract graphic on the left side of the slide. It features a dark blue background with a complex arrangement of overlapping, semi-transparent geometric shapes in various colors including shades of blue, teal, green, orange, red, and purple. Some of these shapes appear to be stylized maps or data visualizations, such as a green map with white dots and a red map with white lines. The shapes are layered and tilted, creating a sense of depth and movement.

Managing Registered Data Stores

Demo


Overwriting web layers

- Map image layers and feature layers can be overwritten
- When overwriting, both the web layer and underlying service are updated
 - Service URL does not change
 - Item ID does not change
- If a service has additional layers and capabilities (i.e. a map service with feature access), overwrite the map image layer

New Module – arcpy.sharing

- Designed to be more efficient, intuitive, and allow for future enhancements
- Map image, feature, and tile layers are split
- Common parameters are exposed as properties
 - Overwrite existing service
 - Portal folder and server folder
- Arcpy.mp workflow is still supported

Arcpy.sharing workflow

1. Create a map object using `arcpy.mp`
2. Create a draft of the map or specific layers using the `getWebLayerSharingDraft` function
 - FeatureSharingDraft
 - TileSharingDraft
 - MapImageSharingDraft

Depends on the
service_type
parameter
3. Export the draft as a service definition draft using the **exportToSDDraft** function
4. Stage using `arcpy.StageService_server`
5. Upload using `arcpy.UploadServiceDefinition_server`

An abstract graphic on the left side of the slide. It features a dark blue background with a complex arrangement of overlapping, semi-transparent map layers. These layers include various geographical features like roads, rivers, and land use patterns, rendered in different colors. Overlaid on these map layers are numerous colorful, semi-transparent geometric shapes, primarily rectangles and polygons, in shades of blue, green, orange, red, and purple. The shapes appear to be floating or layered over the map, creating a sense of depth and complexity. The overall effect is a dynamic and modern visual representation of geographic data.

Using arcpy.sharing

Demo

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

Share As Web Map

Trees

Map | Configuration

Item Details

Name
Trees

Summary
summary

Tags
tags

Select a Configuration ⓘ
Reference registered data: Exploratory

Location
Portal Folder
admin (root)

Share with
☐ Everyone
☐ ArcGIS Enterprise
Groups

Finish Sharing
☒ Analyze

Reference registered data: Exploratory

Reference registered data ⓘ

Exploratory
Interactive map supporting queries

Editable
An exploratory map with editing enabled

Visualization
Fast rendering map using pre-generated tiles

Copy all data ⓘ

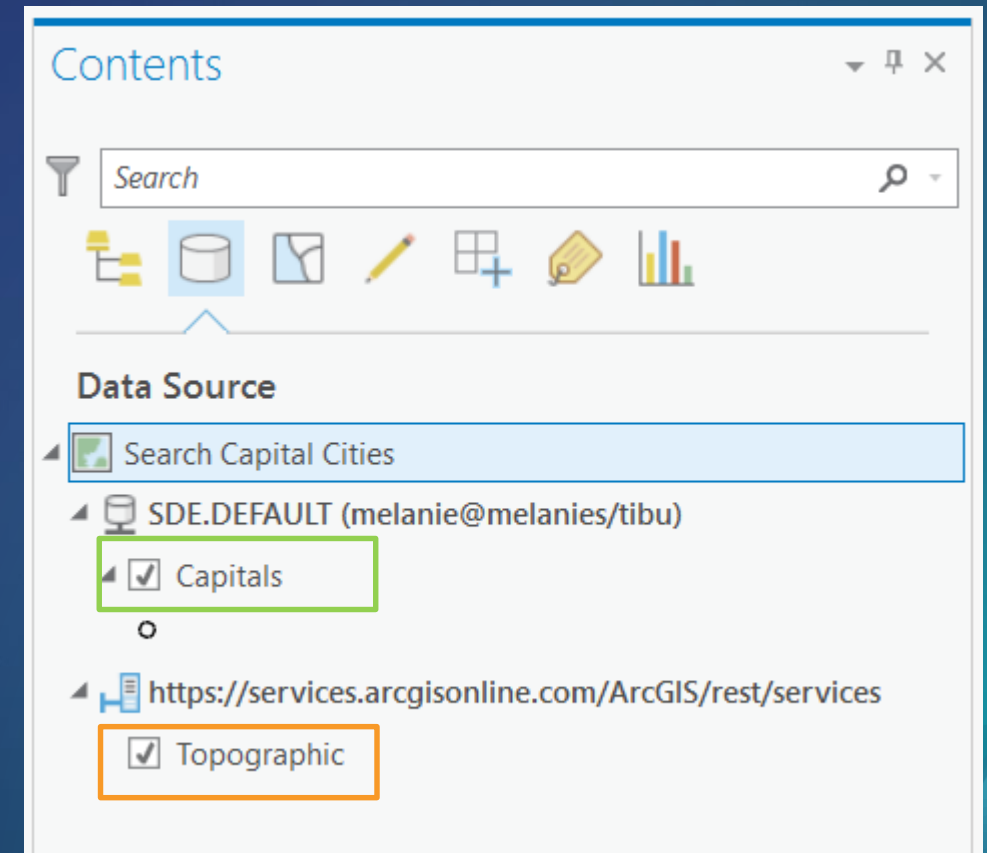
Exploratory
Interactive map supporting queries

Editable
An exploratory map with editing enabled

Visualization
Fast rendering map using pre-generated tiles

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



An abstract graphic on the left side of the slide. It features several overlapping map layers. One layer shows a green street map with pink circular markers. Another layer below it shows a yellow and orange map with black outlines, possibly representing administrative boundaries. These map layers are partially obscured by a dense collection of colorful, semi-transparent geometric shapes, including rectangles, triangles, and lines in shades of blue, teal, orange, and red. The shapes appear to be floating or layered over the maps.

Sharing a web map

Demo

Sharing Web maps – One Click Configurations

Configuration	Description
Exploratory	Interactive map that supports querying <ul style="list-style-type: none">• Reference - map image layers• Copy - non-editable feature layers
Editing	Editable map <ul style="list-style-type: none">• Reference - map image + feature layers• Copy - editable feature layers
Visualization	Pre-generated tiles <ul style="list-style-type: none">• Reference - cached map image layers• Copy - tile layers

- 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

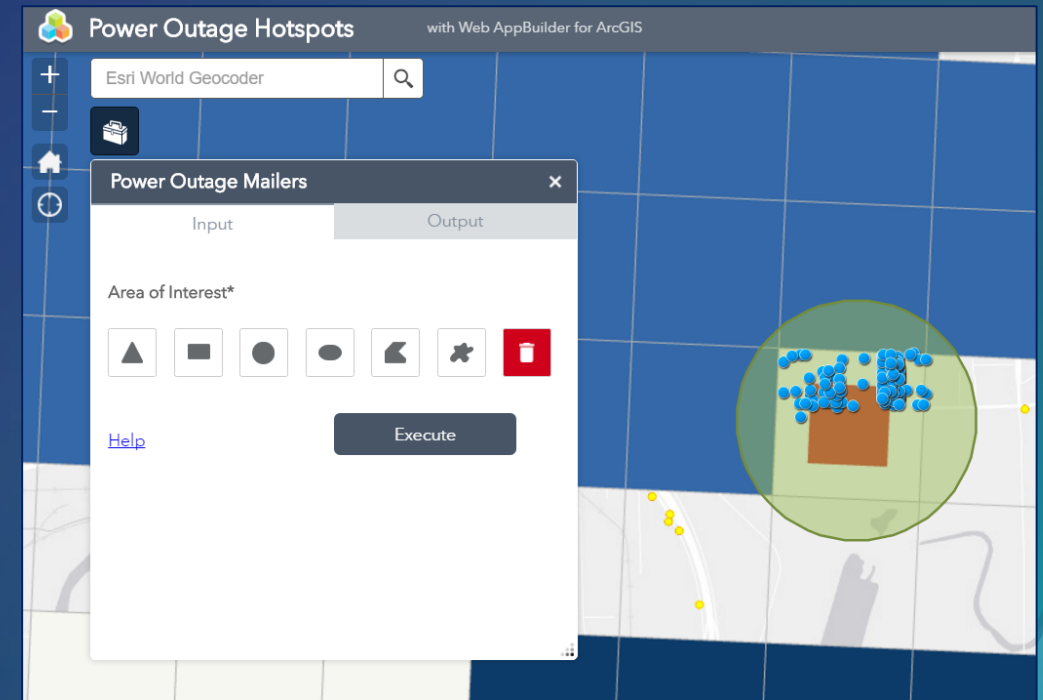
- GIS data is not siloed between 2D and 3D in ArcGIS Pro
- 3D layers and scenes are just as easy to share
- Supported 3D data types
 - Point layer
 - 3D object layer
 - Point cloud layer
 - Integrated mesh



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



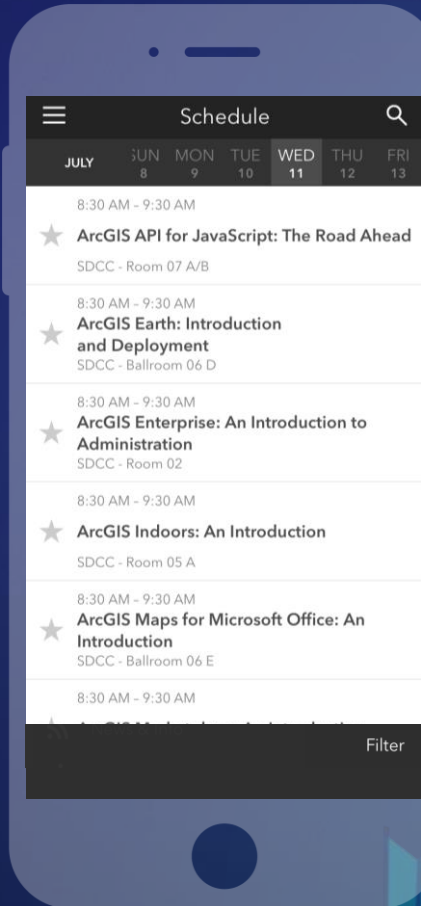
Web tool added to a web application

Please Take Our Survey on the App

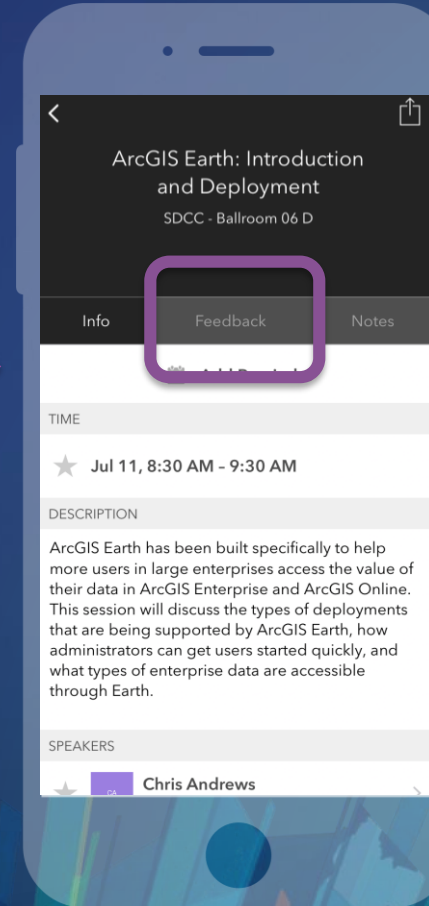
Download the Esri Events app and find your event



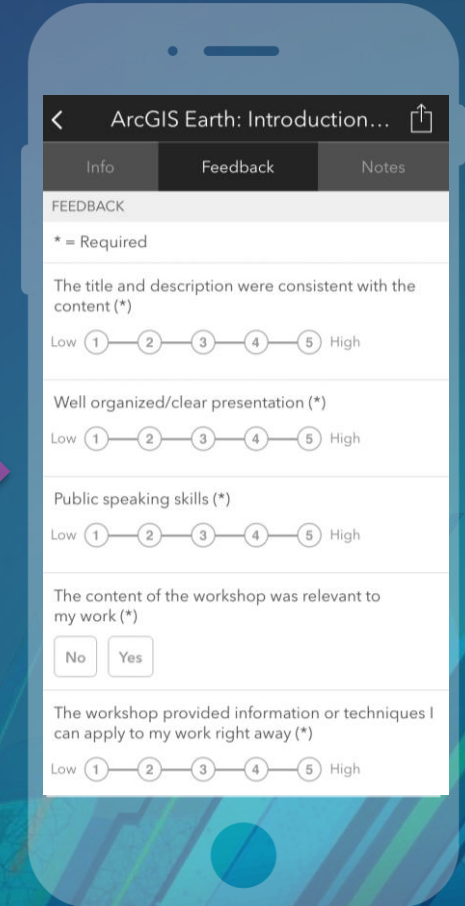
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"





esri

THE
SCIENCE
OF
WHERE