



Web GIS: A Crash Course

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2018 Esri DEVSummit Conference | Palm Springs, CA

When we talk about Web GIS we are talking about an end-to-end experience – not ***just*** a REST service.



ArcGIS Enterprise

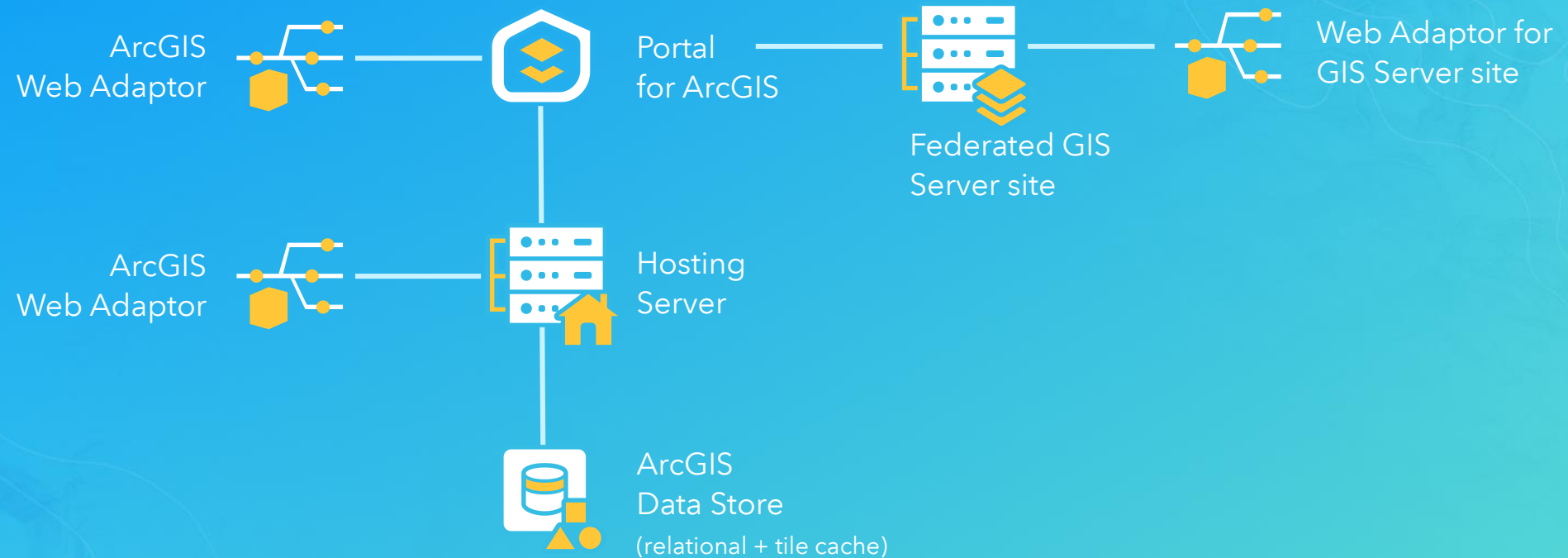


ArcGIS Online

Web GIS with ArcGIS Enterprise

Essential knowledge

- Before you get started your organization will need to install and configure the software
 - Standard configuration = base ArcGIS Enterprise deployment
 - You can also federate additional servers to your ArcGIS Enterprise deployment



Web GIS with ArcGIS Enterprise

Essential knowledge

- Use the ArcGIS Data Store to store hosted data
 - Hosted data = data you copy to ArcGIS Enterprise and the data output of analysis tools run within the Enterprise portal

ArcGIS Pro | Share as web layer pane

Share As Web Layer

Sharing Search Capital Cities As A Web...

General | Configuration | Content | Messages

Name:

Search_Capital_Cities

Data ⓘ

☐ Reference registered data

☒ Copy all data

ArcGIS Enterprise portal | Map Viewer

Home ▾ My Map

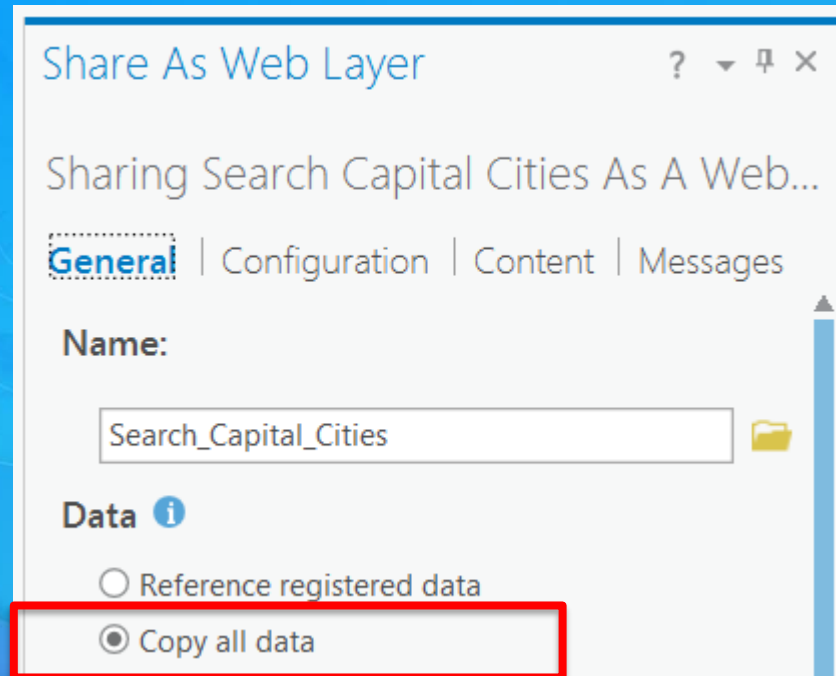
Details Add ▾ Basemap Analysis

Web GIS with ArcGIS Enterprise

Essential knowledge

- Use the ArcGIS Data Store to store hosted data
 - Hosted data = data you copy to ArcGIS Enterprise and the data output of analysis tools run within the Enterprise portal
 - You can also register data from databases, cloud stores, folders, big data file shares, and raster stores

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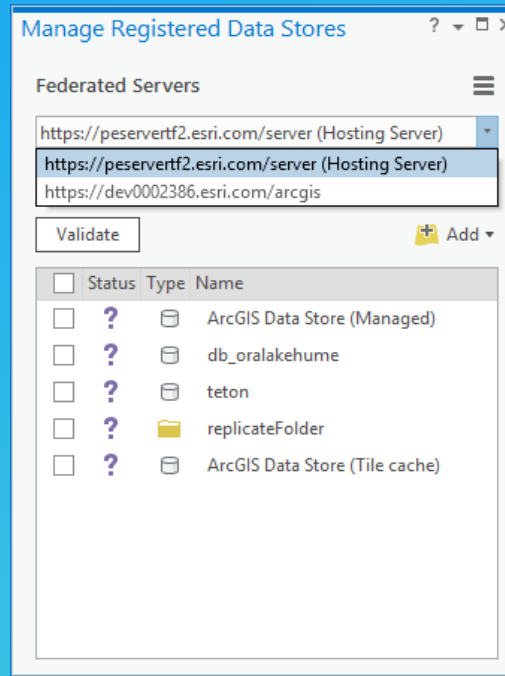
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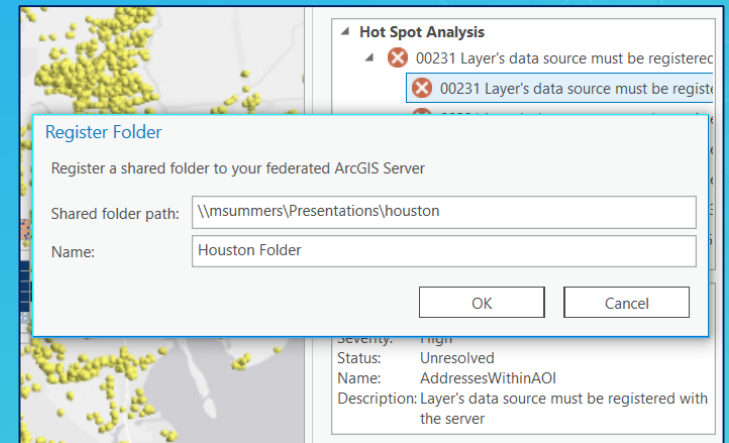
Manage Registered Data Stores

Federated Servers

https://peserverf2.esri.com/server (Hosting Server)
https://peserverf2.esri.com/server (Hosting Server)
https://dev0002386.esri.com/arcgis

Validate Add

| Status | Type | Name |
|--------------------------|------|--------------------------------|
| <input type="checkbox"/> | ? | ArcGIS Data Store (Managed) |
| <input type="checkbox"/> | ? | db_oralakehume |
| <input type="checkbox"/> | ? | teton |
| <input type="checkbox"/> | ? | replicateFolder |
| <input type="checkbox"/> | ? | ArcGIS Data Store (Tile cache) |



Hot Spot Analysis

00231 Layer's data source must be registered
00231 Layer's data source must be registered

Register Folder

Register a shared folder to your federated ArcGIS Server

Shared folder path: \\msummers\Presentations\houston

Name: Houston Folder

OK Cancel

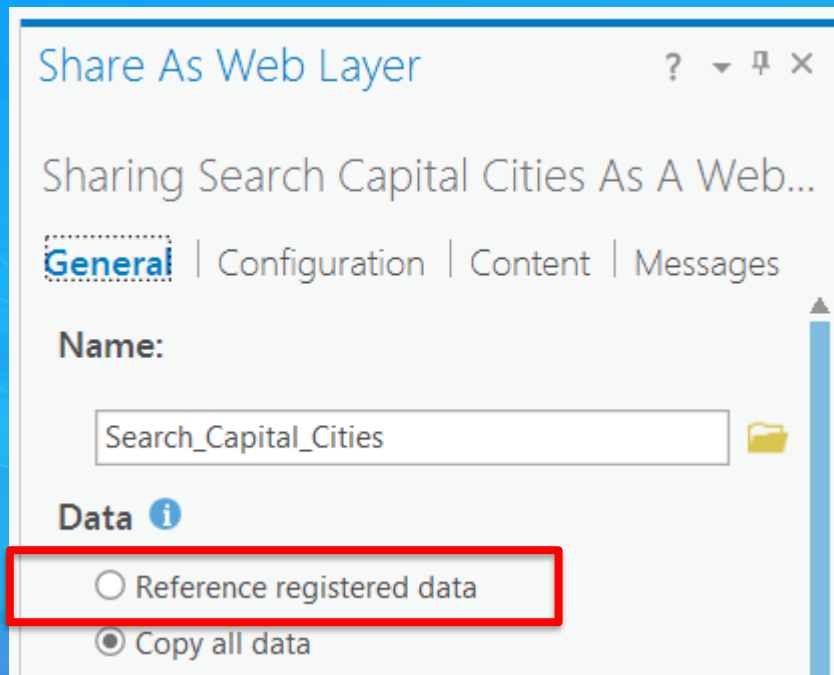
Severity: High
Status: Unresolved
Name: AddressesWithinAOI
Description: Layer's data source must be registered with the server

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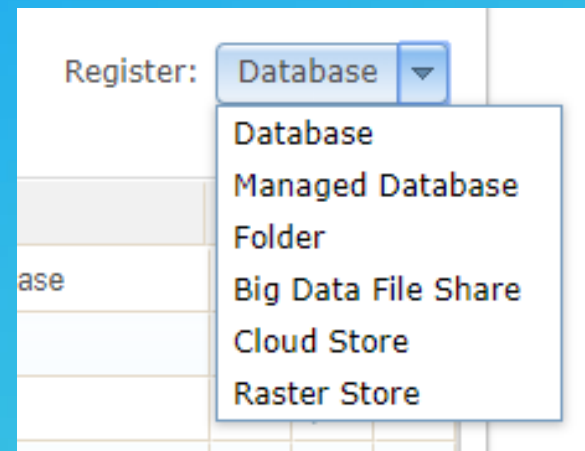
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ArcGIS Server Manager | Site → Data Stores



Register: Database ▼

- Database
- Managed Database
- Folder
- Big Data File Share
- Cloud Store
- Raster Store

Web GIS with ArcGIS Enterprise

Essential knowledge

- As an administrator the Enterprise portal is your main command center, but you will still need to engage with your servers via ArcGIS Server Manager
 - Use the Enterprise portal to set security, share content, add/manage users, create groups, etc.
- Deploy ArcGIS Enterprise on-premises **or in the cloud**
- Viewers (Level 1 Members) are included with ArcGIS Enterprise Standard and Advanced – get as many as you want/need at no additional cost

Interested in learning the basics of ArcGIS Enterprise?

Come to the Expo! Or look for this session recording on E380 or YouTube after the conference:

Introduction to and Building Your First ArcGIS Enterprise Deployment

This session took place on Tuesday, March 6

Presenters: Jonathan Quinn and Thomas Edghill



Web GIS in the Cloud

"The Cloud" Provides Customers with Opportunity

- Cloud benefits (what we hear)
 - Scalability - adapts to fluctuations in demand (cost stays the same)
 - Pay for what you use and leverage without permanent cost increases
 - Location independence - anytime, anywhere, any device
 - Security & reliability - "We have fewer security incidents"
 - "It's more available and reliable"
 - Speed and responsiveness in creating information products

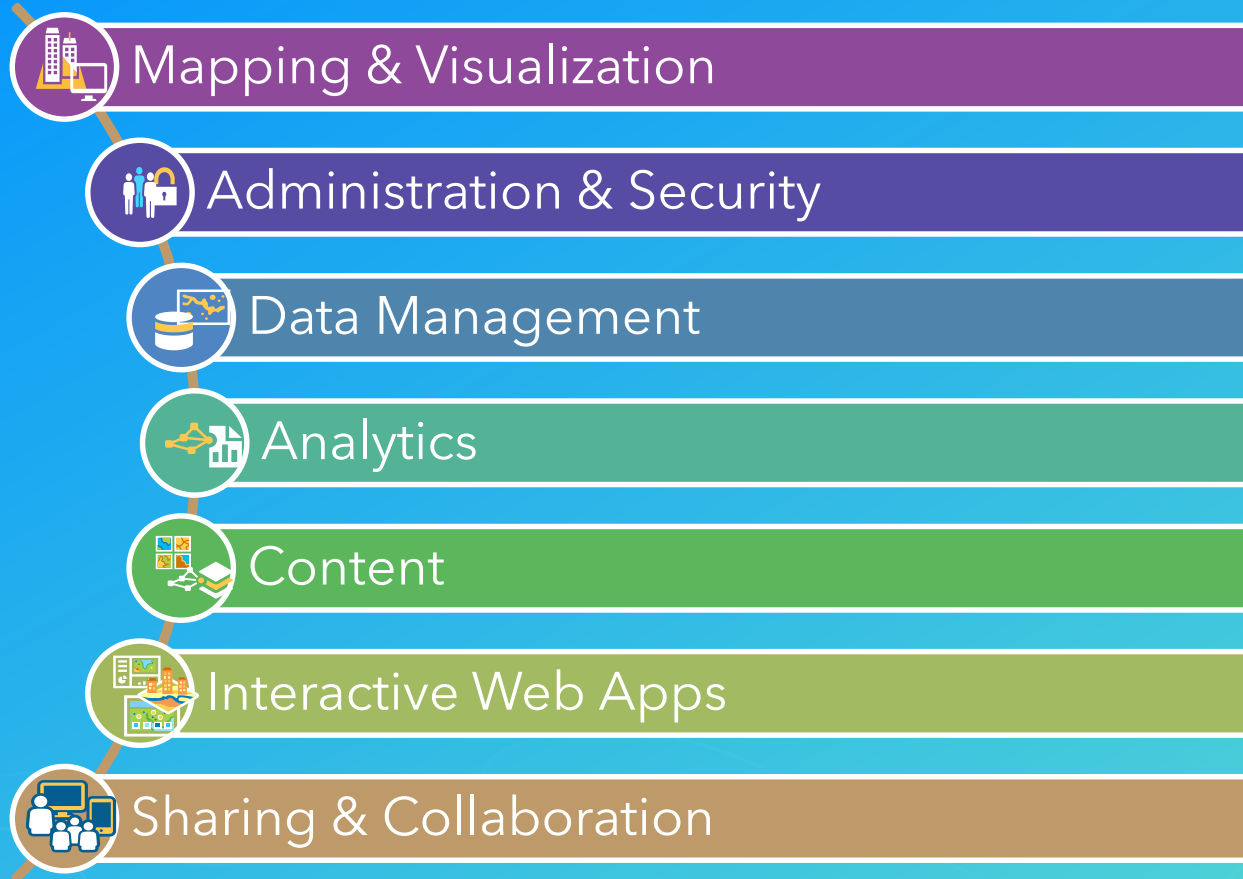
Web GIS with ArcGIS Online

Essential Knowledge

- Software as a Service
 - ArcGIS Online organizations are hosted and managed by Esri through Esri's cloud
 - Auto-Scales to meet need when Apps and data are under heavy load
 - Easily activated, can be up and running in minutes
 - New functionality and upgrades are automatically available when updates occur
- Integrates with Enterprise environments
 - Supports Enterprise logins and group creation with SAML 2.0
 - Distributed Collaboration enables data synchronization between environments
- The ArcGIS Online Ecosystem
 - Access to Esri Content, Customer Content and Marketplace content

Shared WebGIS concepts

Concepts that apply equally to ArcGIS Enterprise and ArcGIS Online



Shared concepts

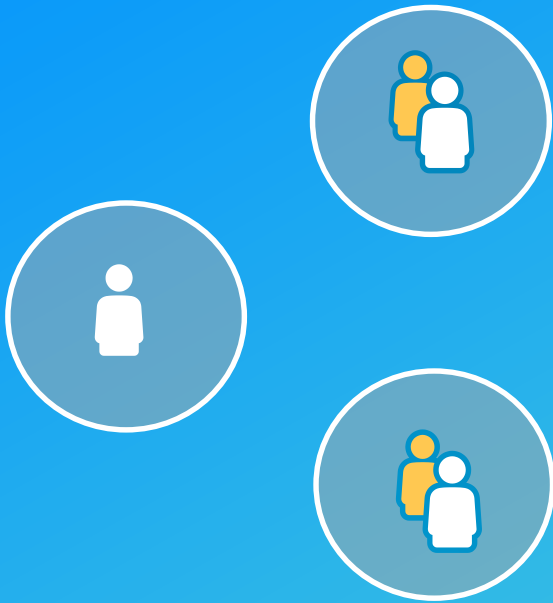
Concepts that apply equally to ArcGIS Enterprise and ArcGIS Online

- Identity as the basis for access and security
 - Privileges and roles
 - Member levels
 - Credits*



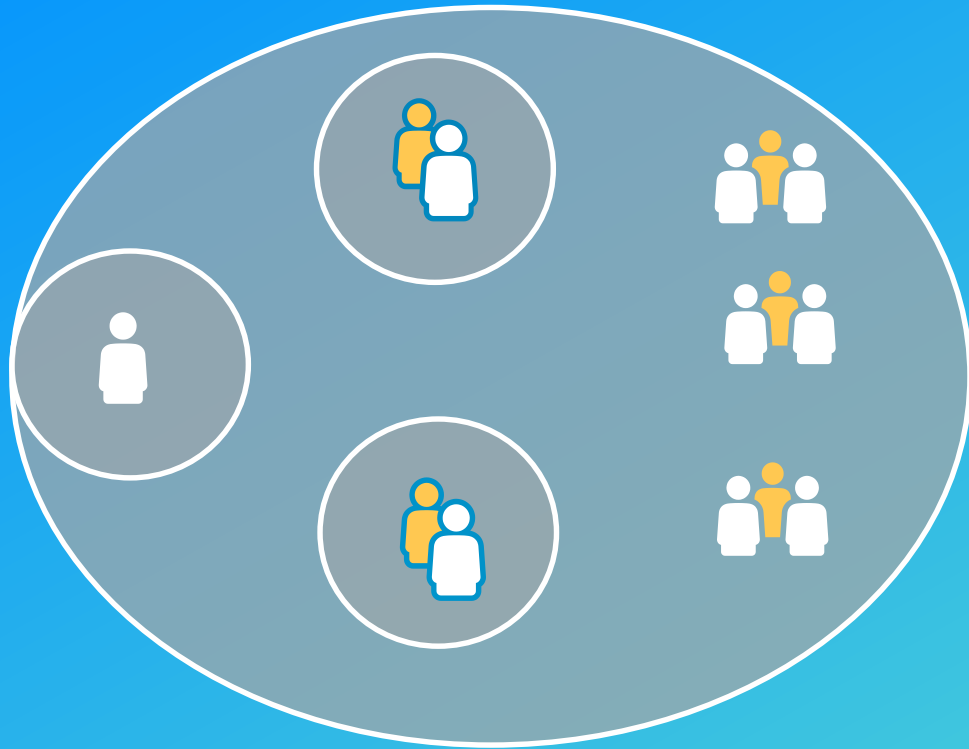
Sharing Model – Collaborating with Authenticated Users

Groups



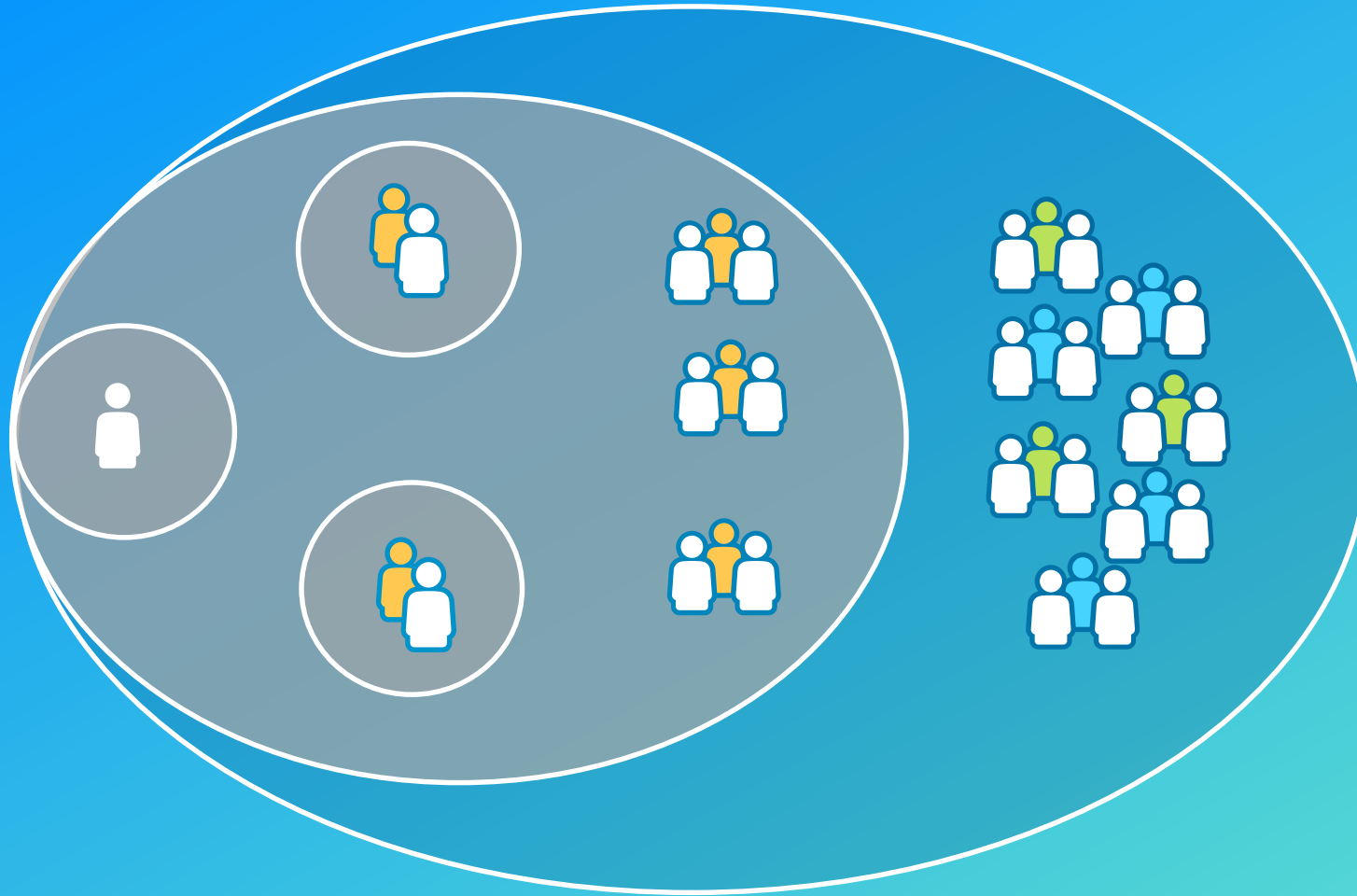
Sharing Model – Creating Organization Content

Organization

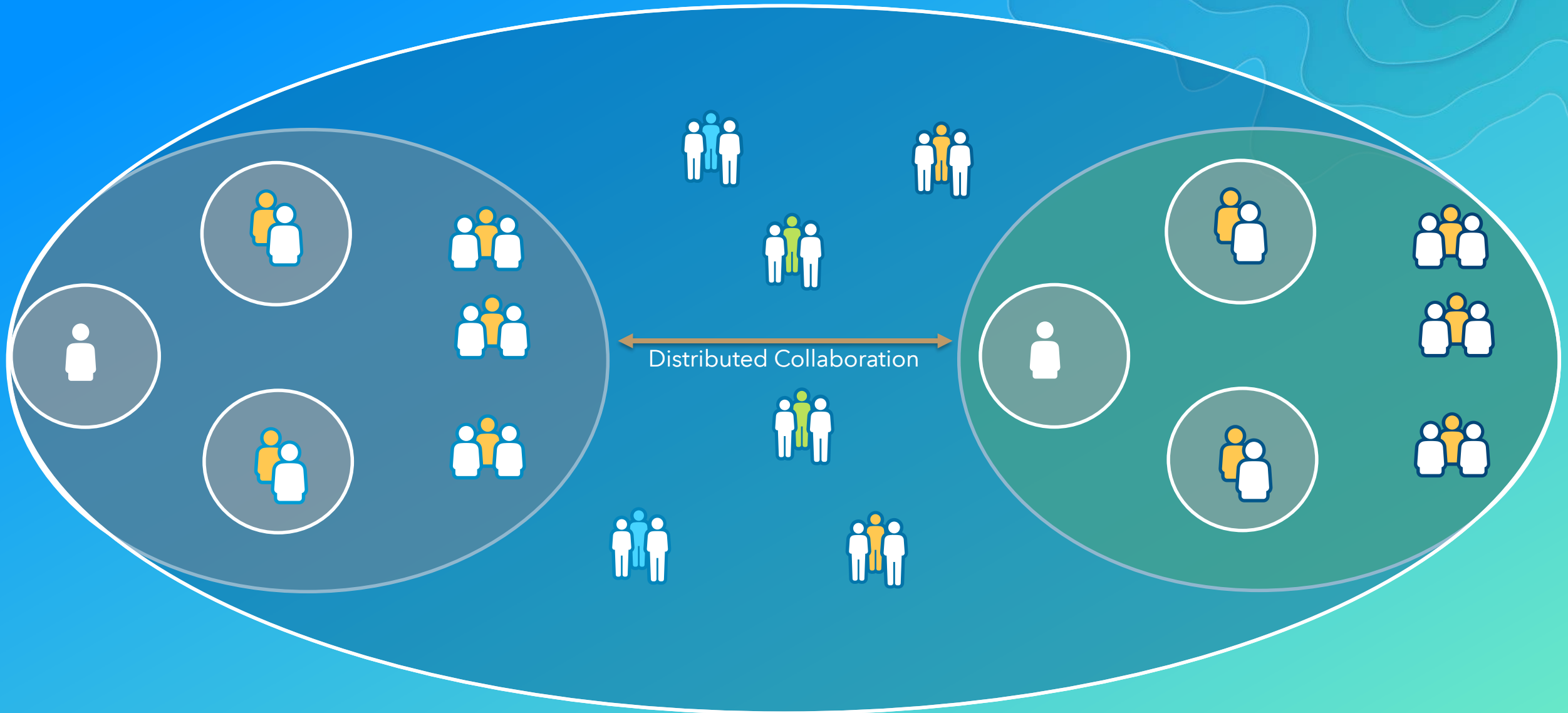


Sharing Model – Creating Content for Public Consumption

Everyone



Sharing Model - Sharing Between Infrastructure



Now you know:

- What ArcGIS Enterprise is
- What ArcGIS Online is
- Shared concepts

How do you choose?



Deciding between ArcGIS Enterprise and ArcGIS Online

What is the best Web GIS strategy for your organization?



ArcGIS Enterprise

- You need to manage the infrastructure yourself
- You need an internal geospatial system of record
 - Enterprise geodatabases
- Your workflows require specific analytics
 - Raster analytics (Image Server)
 - Big data analysis (GeoAnalytics Server)
 - Real-time/IoT analysis (GeoEvent Server)
- You need the ability to customize your Web GIS functionality
 - Custom widgets
 - Web tools
 - SOEs/SOIs
- You need to work completely disconnected from the open internet



ArcGIS Online

- You don't want/have the resources to manage the infrastructure
- You want infrastructure that is massively scalable without your intervention
- You can connect to the internet (with some options to go offline)

Choosing both

Using ArcGIS Enterprise and ArcGIS Online together

Key Benefit:

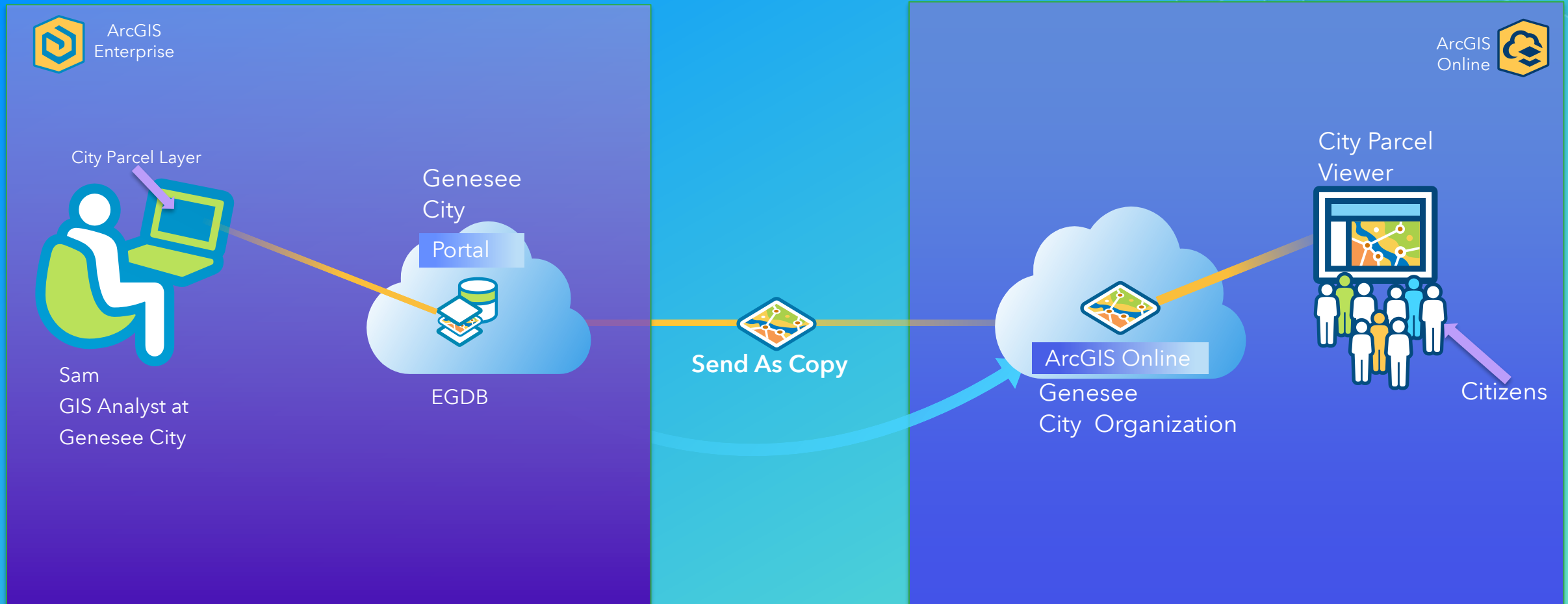
- Take advantage of the strengths of each offering
 - Scalability for external uses
 - Security for internal systems/data

Key Consideration:

- ArcGIS Online accounts and ArcGIS Enterprise accounts are not interchangeable. Users who need access to both will require two sets of identities.
 - Security

Distributed Collaboration

A streamlined way to use ArcGIS Online and ArcGIS Enterprise together



Automating Web GIS Workflows

Using the ArcGIS API for Python with ArcGIS Enterprise and ArcGIS Online

- Use Python scripts for administrative and analytical tasks
 - Can use the API in a “raw” Python script or within a notebook (Jupyter)
- **Administrative automation** – script repetitive analytical tasks and tasks that are tedious to do manually
 - For example – creating groups, moving content between users, etc.
- **Analytical scripts** – Rerun the script to automate the workflow, notebooks can document a full analysis project, use external libraries side-by-side with GIS libraries, extend your GIS work into the data science space.
- Road ahead sneak peek – A Python scripting environment integrated into your Web GIS.



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