



# Distributed Collaboration: Editing Across Environments

Hilary Curtis & Caroline Wright

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# Overview

- Review of distributed collaboration
  - Sharing and editing feature layers
  - Review requirements for supporting shared editing + demos
  - Additional resources
- 

# Review of distributed collaboration

The background features a complex, abstract graphic design. It includes a stylized globe on the left side, composed of various colored segments (blue, red, yellow, and cyan). Overlaid on the globe and extending across the bottom are several thick, flowing lines in red, yellow, and blue, suggesting movement or data flow. There are also smaller, intricate patterns, such as a hexagonal grid in the lower-left corner and a network of thin lines with small circular nodes in the lower-right. The overall aesthetic is modern and technological, set against a dark blue gradient background.

# Review of distributed collaboration

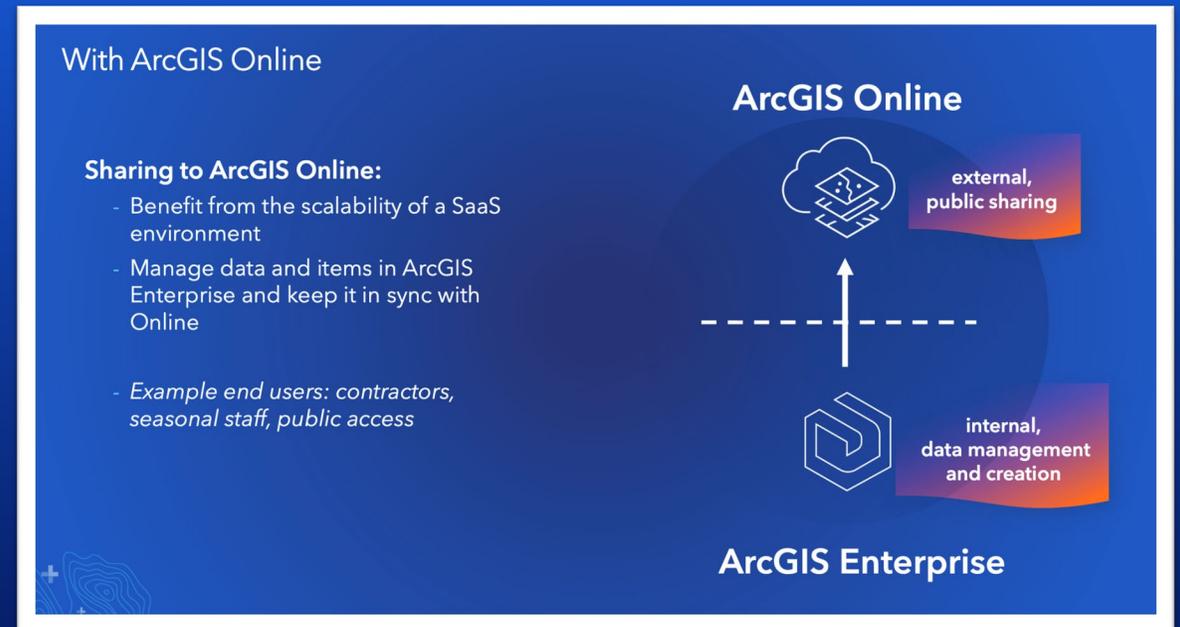
- A way to **share maps, apps, and layers** across ArcGIS Enterprise organizations and with ArcGIS Online
- Uses **group sharing**, no custom coding or scripting required
- With distributed collaboration, you can access data from other organizations to facilitate better **engagement, awareness, communication, and decision making**
- **New at 10.9:** edits can be synced across **environments** to support many new workflows



# More about patterns and use cases:



[Five ways to use distributed collaboration to share your data with others \[ArcGIS Blog\]](#)



[Distributed Collaboration: Sharing Data using ArcGIS Enterprise \[UC Presentation\]](#)

The background features a complex, abstract graphic design. It consists of various overlapping shapes and lines in shades of blue, red, and yellow. On the left side, there are some circular and hexagonal patterns, possibly representing molecular structures or data points. The overall aesthetic is modern and technological, with a focus on vibrant colors against a dark blue backdrop.

# Architecture of distributed collaboration

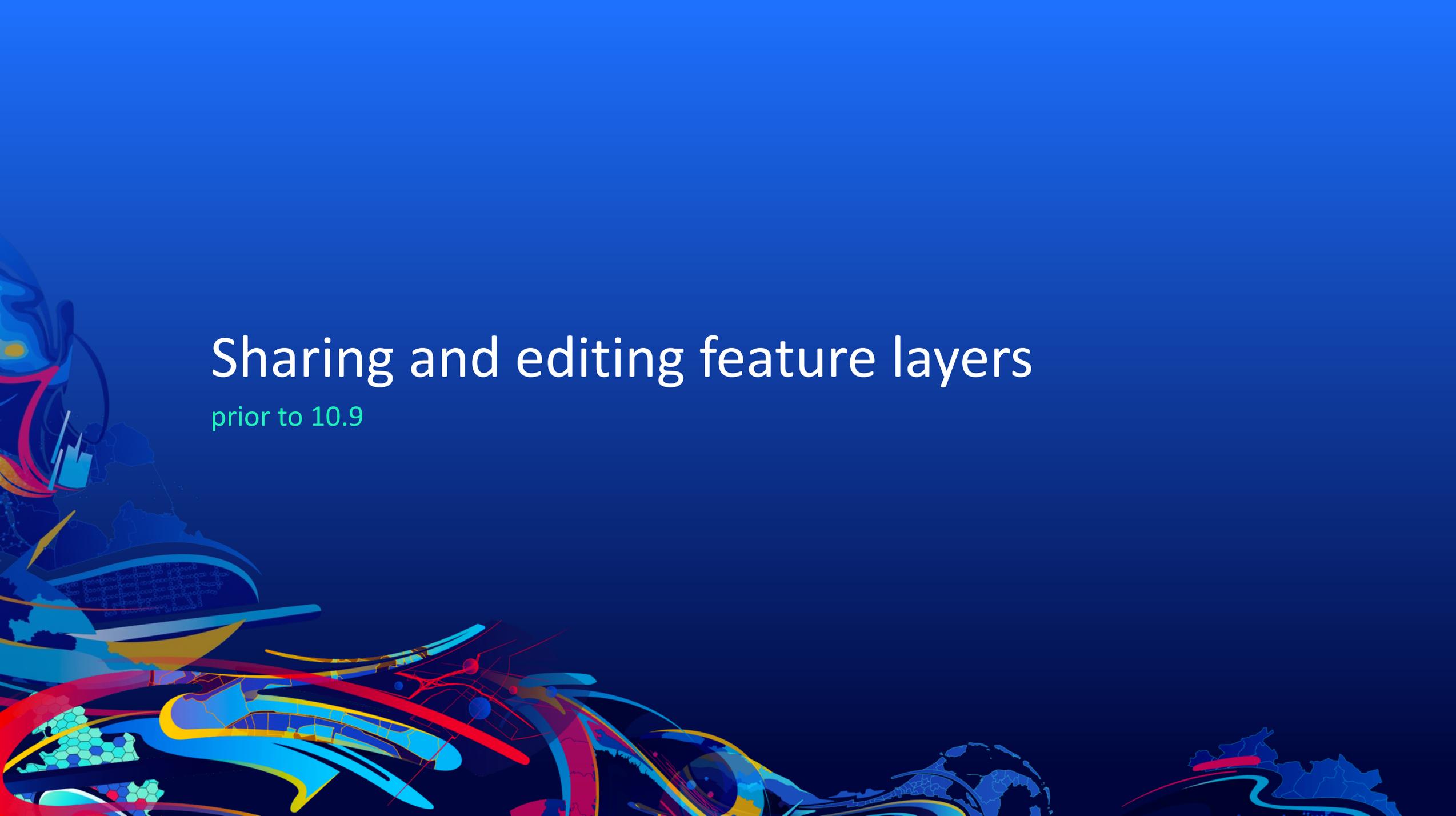
Collaboration

Workspace



maps, layers, files



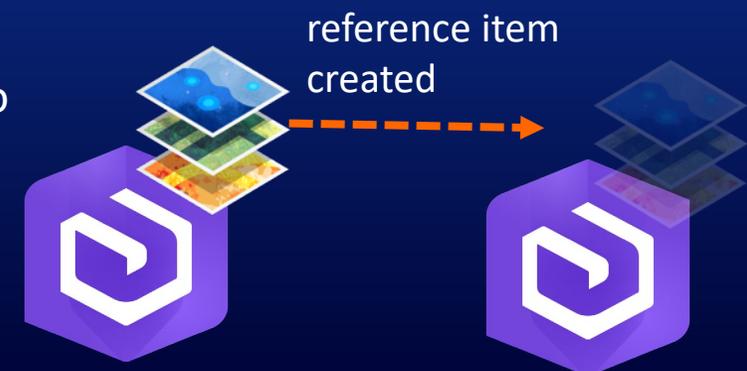
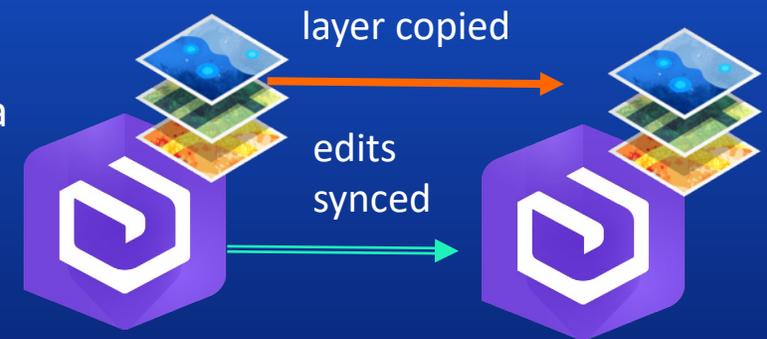
The background features a complex, abstract graphic design. It consists of various overlapping shapes and patterns in shades of blue, red, and yellow. On the left side, there are stylized, colorful shapes that resemble a globe or a map. In the center and right, there are more abstract, flowing lines and shapes, some of which appear to be part of a network or data visualization. The overall aesthetic is modern and technical.

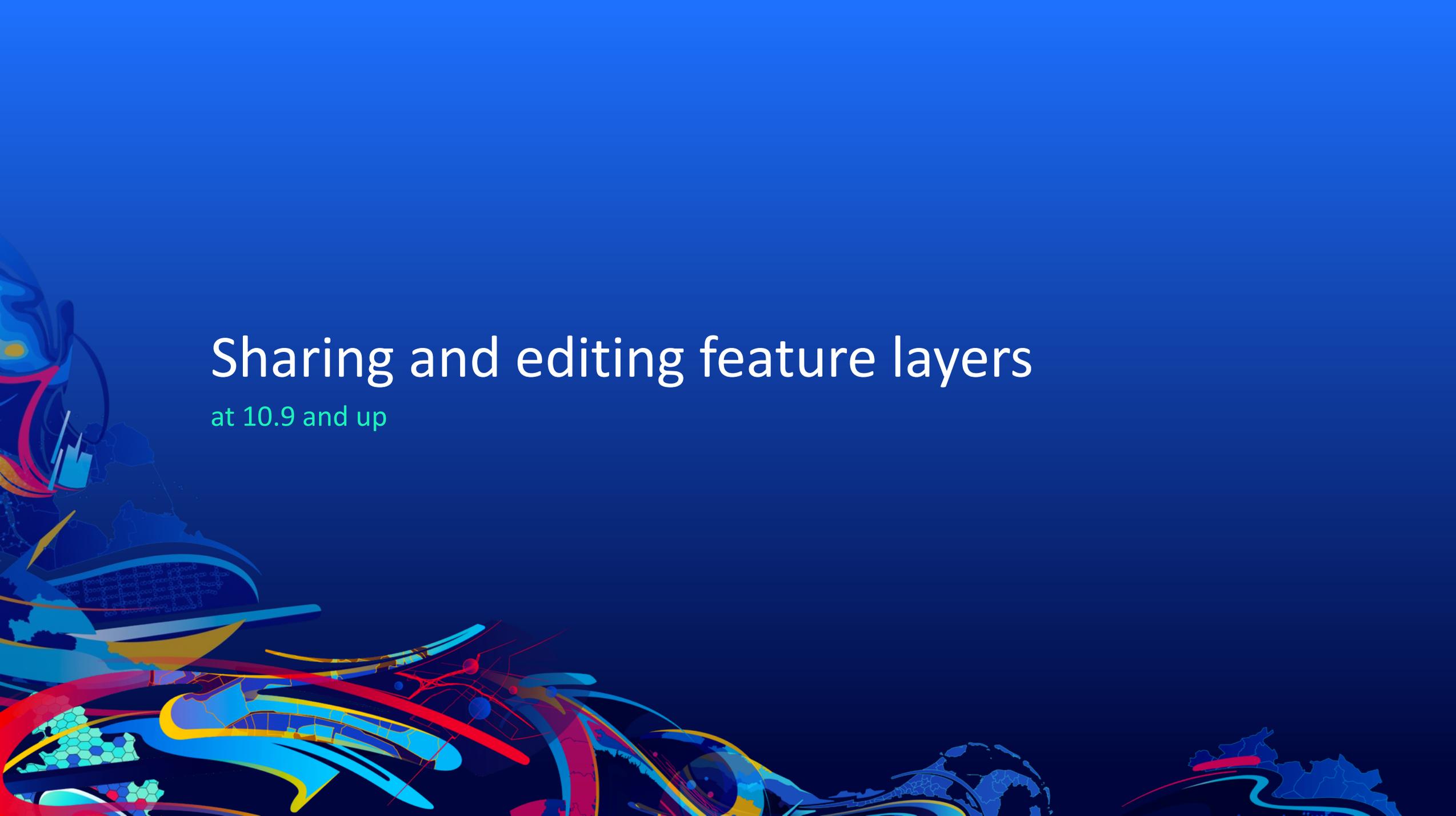
# Sharing and editing feature layers

prior to 10.9

# Sharing feature layers prior to 10.9

- When sharing feature layers, there are two options:
  - Share as a **copy**
    - The data is copied from one organization to another and published as a hosted feature layer
    - Layer needs to support sync
    - Edits by the owner are synced on a schedule
  - Share as a **reference**
    - The data is not copied; instead, a layer is created that references back to the source
    - Edits by the owner are available immediately





# Sharing and editing feature layers

at 10.9 and up

# Sharing feature layers at 10.9 and up

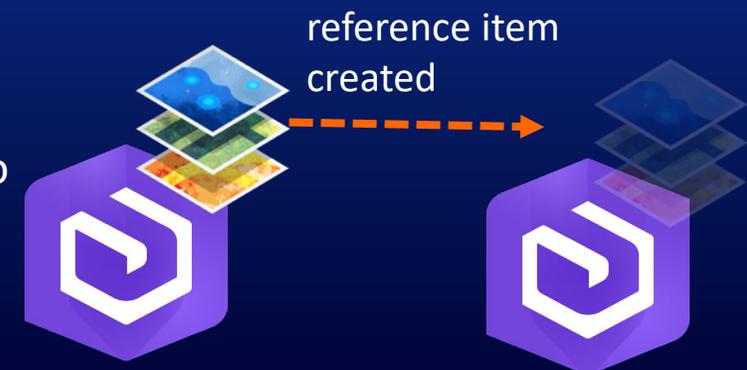
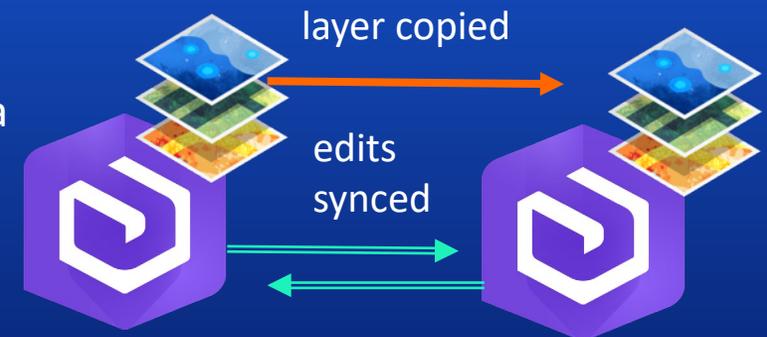
- When sharing feature layers, there are two options:

- Share as a **copy**

- The data is copied from one organization to another and published as a hosted feature layer
- Layer needs to support sync
- Edits by the owner are synced on a schedule OR
- Edits by both participants are synced on a schedule

- Share as a **reference**

- The data is not copied; instead, a layer is created that references back to the source
- Edits by the owner are available immediately



# Overview of feature layer editing options at 10.9

Feature Layer

*hosted, non-versioned with archiving enabled, or branch versioned*



share as a **copy**

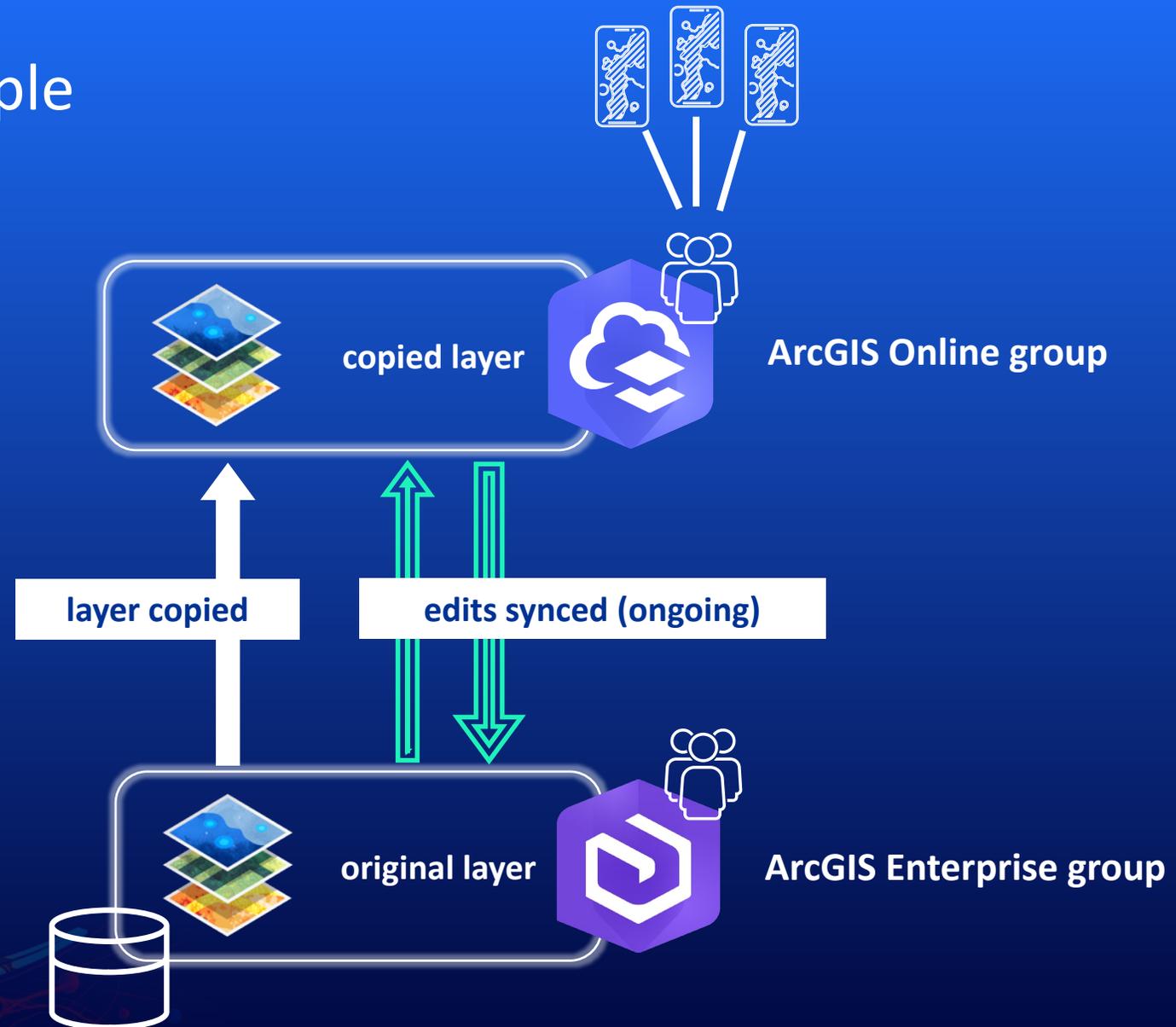
share as a **reference**

one way editing  
(default)

two-way editing  
(new at 10.9)

# Shared editing example

This is one of many, many patterns!



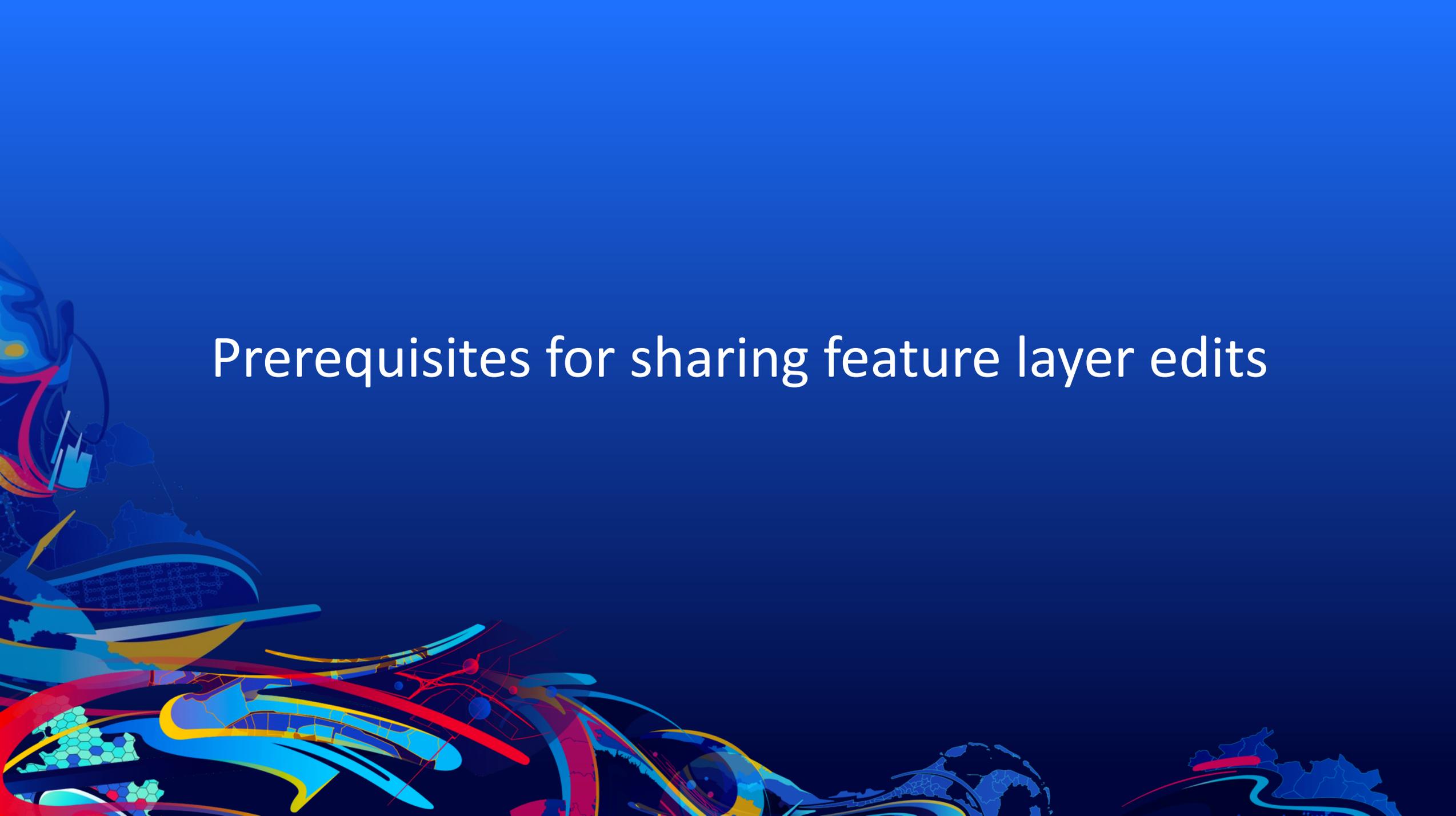
# What type of edits are supported?

## Geometry



## Attribute

AIRPRTX020	LOCID	FEATURE	NAME	TOT_ENP	STATE	COUNTY
81	FHU	Airport	Sierra Vista Municipal-Libby Army Air Field	7,005	AZ	Cochise County
84	CNM	Airport	Cavern City Air Trml	7,787	<input type="text" value="NM"/>	Eddy County
86	MDD	Airport	Midland Airpark	738	TX	Midland County
87	ABI	Airport	Abilene Regional	47,984	TX	Taylor County
98	TUS	Airport	Tucson International	1,781,091	AZ	Pima County
99	DMA	Airport	Davis-Monthan Air Force Base	462	AZ	Pima County
100	SVC	Airport	Grant County	3,192	NM	Grant County
101	LRU	Airport	Las Cruces International	2,995	NM	Dona Ana County
102	ALM	Airport	Alamogordo- White Sands Regional	3,098	NM	Otero County



# Prerequisites for sharing feature layer edits

# Prerequisites for supporting shared editing

ArcGIS requirements	Collaboration Workspace	Guest access to workspace	Feature layer settings
<ul style="list-style-type: none"><li>❖ ArcGIS Enterprise Version 10.9+</li><li>❖ ArcGIS Online</li></ul>	<ul style="list-style-type: none"><li>❖ Workspace created in 10.9+</li><li>❖ Workspace configured to share feature layers as copies</li><li>❖ Workspace option to <i>allow two-way sharing of feature layer edits</i> is enabled</li></ul>	<ul style="list-style-type: none"><li>❖ Guest has <i>send and receive</i> access to the workspace</li></ul>	<ul style="list-style-type: none"><li>❖ Feature layer is sync enabled</li><li>❖ Supports bi-directional editing*</li><li>❖ Supports replica tracking*</li><li>❖ Supports ArcGIS Pro service runtime</li></ul>

\*more on these in this session

## Create Collaboration



Step 1 of 4

Collaboration Name:

Collaboration Description:

By creating a collaboration, you can share content from multiple groups with one or more organizations that you can invite as guest organizations. As the collaboration's host, you control the access each guest organization has to the content of your groups.

Next

Cancel

# Setting up a collaboration to support shared editing

Caroline Wright

# Prerequisites for supporting shared editing

ArcGIS requirements	Collaboration Workspace	Guest access to workspace	Feature layer settings
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# Feature layer pre-requisites for shared editing

.../rest/services/Hosted/bikeracks/FeatureServer

```
"enableZDefaults": true,  
"allowUpdateWithoutMValues": true,  
"isLocationTrackingService": false,  
"capabilities": "Create,Editing,Uploads,Query,Update,Delete,Sync",  
"supportsAppend": true,  
"syncCapabilities": {  
  "supportsAsync": true,  
  "supportsSyncDirectionControl": true,  
  "supportsRegisteringExistingData": true,  
  "supportsBiDirectionalSyncForServer": true,  
  "supportsAttachmentsSyncDirection": true,  
  "supportsPerLayerSync": true,  
  "supportsSyncModelNone": true,  
  "supportsRollbackOnFailure": false,  
  "supportsPerReplicaSync": false
```

## Feature layer settings

- ❖ Feature layer is sync enabled
- ❖ Supports bi-directional editing
- ❖ Supports replica tracking
- ❖ Supports ArcGIS Pro service runtime

.../rest/services/Hosted/bikeracks/FeatureServer/0

```
"supportsFieldDescriptionProperty": true,  
"hasM": false,  
"allowGeometryUpdates": true,  
"useStandardizedQueries": true,  
"globalIdField": "globalid",  
"description": "",  
"syncCanReturnChanges": true,  
"supportsAsyncDelete": true,  
"supportsRollbackOnFailureParameter": true,  
"isDataReplicaTracked": true,  
"standardMaxRecordCountNoGeometry": 16000,
```

## ArcGIS Server Manager

The screenshot shows the ArcGIS Server Manager interface. The 'Service Runtime' section is highlighted with a red dashed box, showing 'Runtime: ArcGIS Pro'. The 'General' section shows 'Name: NonVersioned\_SDE\_BiodiversityFacility' and 'Type: Map Service'. The 'Original Document' section shows 'Machine Name: ' and 'Path: '.

1

2

3

4

## The data management steps required for shared editing will depend on:

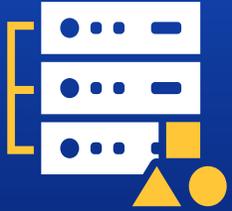
- What version of the software you used to publish
- If your data has sync enabled
- If your data is a referenced feature layer or a hosted feature layer

*Each scenario will be documented with steps!*

## Example:

*a layer from a geodatabase published using ArcGIS Desktop prior to 10.9 with sync*

ArcGIS Server  
Manager



Migrate to ArcGIS Pro  
service runtime



ArcGIS Pro  
2.7



Enable Replica  
Tracking



*Sync*  
*Bi-directional editing*  
*Replica tracking*  
*ArcGIS Pro service runtime*

## Example:

a *hosted* layer published using ArcGIS Pro prior to 10.9 *with sync*

ArcGIS  
Enterprise  
portal



Disable sync

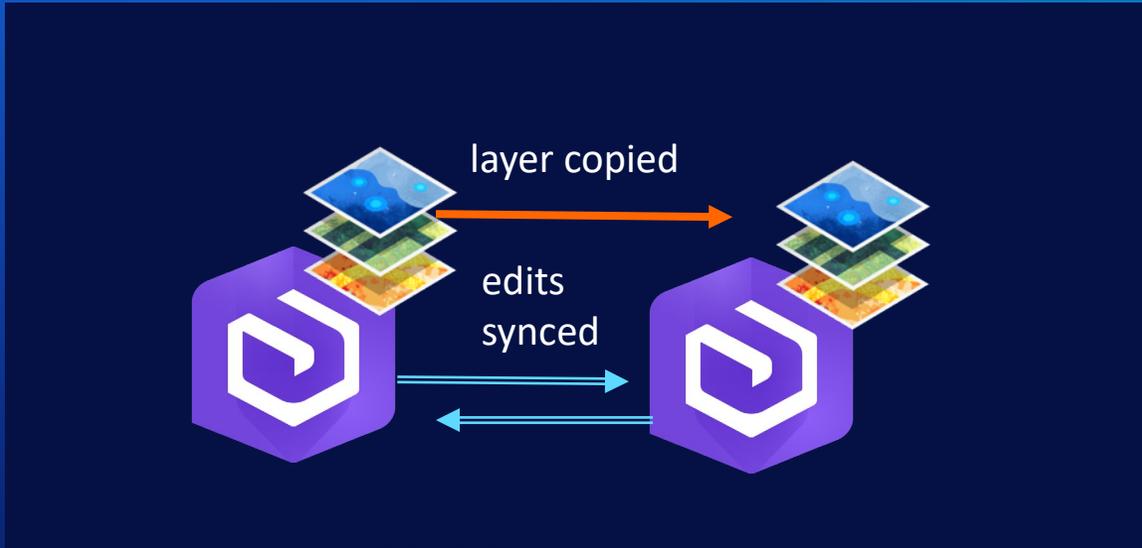
Enable sync

*Sync*

*Bi-directional editing*

*Replica tracking*

*ArcGIS Pro service runtime*



# Sharing and syncing edits across Enterprise organizations

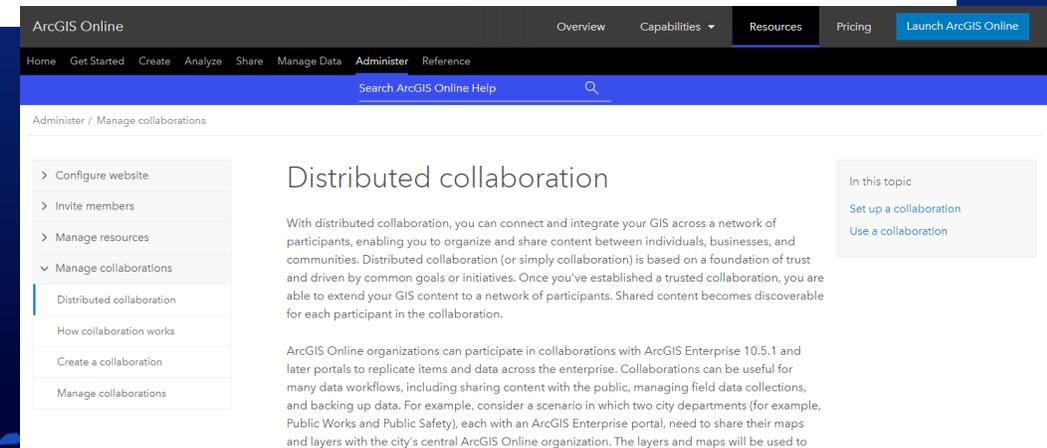
Caroline Wright

# Collaboration resources

The background features a complex, abstract graphic design. It includes a stylized globe in the lower right, a molecular structure in the lower left, and various flowing, ribbon-like shapes in shades of blue, red, and yellow. The overall aesthetic is modern and scientific.

# Resources:

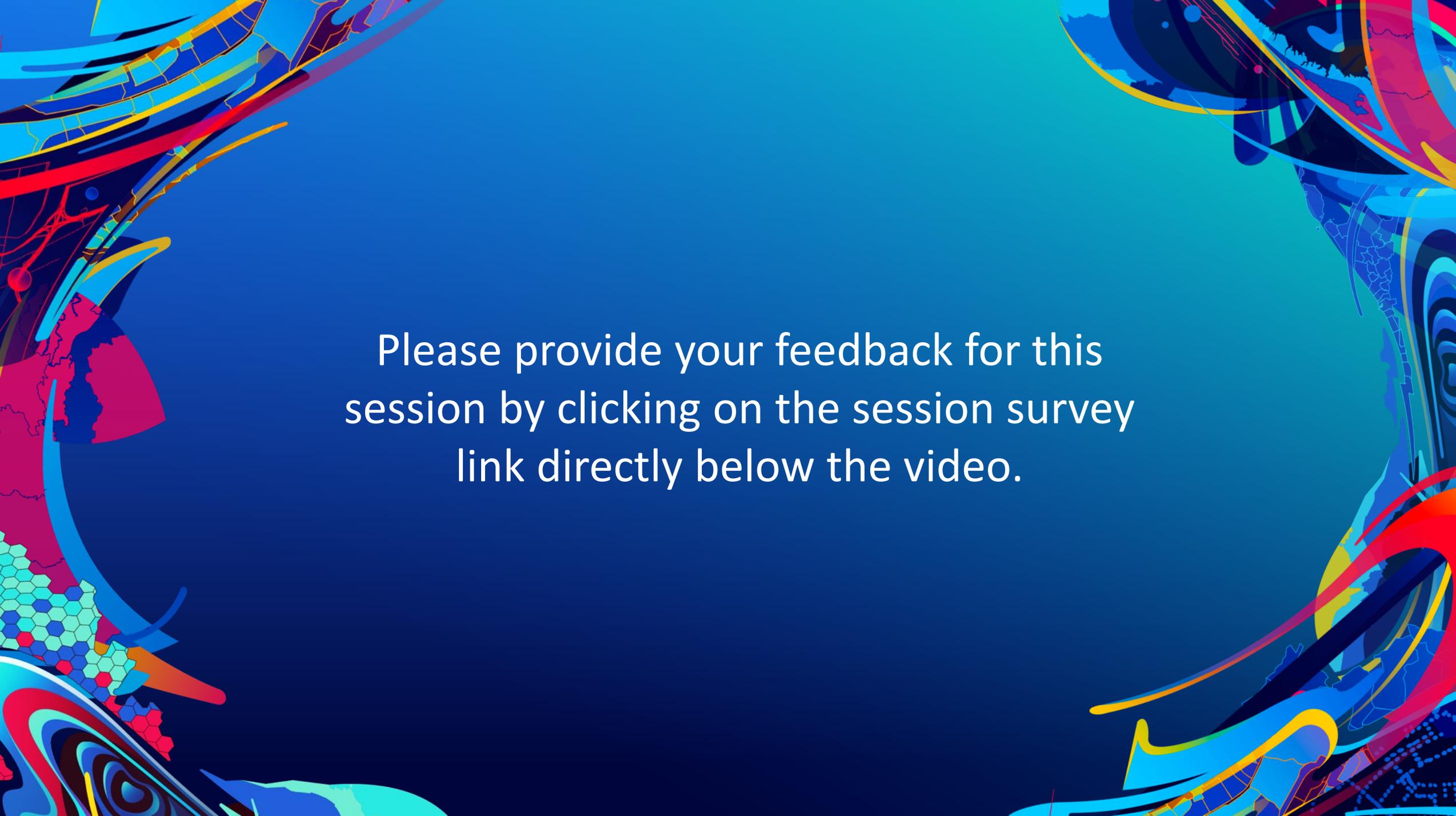
- Blogs
  - <https://www.esri.com/arcgis-blog/?s=#&tag=distributed-collaboration>
- Case studies
  - [Farr West](#)
  - [Three Rivers](#)
- Documentation
  - <https://enterprise.ArcGIS.com>





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SCIENCE  
OF  
WHERE®



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