Working with Feature Layers

• Session will focus on feature access and editing

• Highlight new features added over the last few releases
Agenda

• **Introduction**

• **Workflow demos**
  - Publishing with Pro
  - Feature services in the Map Viewer
  - Pro as a feature service client
  - Taking data offline with Collector
  - Arcade and Views

• **Advanced topics**
  - ArcGIS Python API
  - Distributed Collaboration
  - Admin API
  - ArcGIS Data Store

• **What’s new**

• **Q&A**
Feature Service

• Exposed on Enterprise and Online through Feature Layers
• Supports accessing and editing data over the web
• Provides online and offline (10.2.1) access
• Layers Contain
  - Drawing info (renderers, symbols, etc)
  - Field info (type, nullable, editable)
  - Feature templates for editing (defaults, domains)
  - Operations for query and editing
• RESTful
Options

• Export to various formats
• Work Attachments and Relationship Classes
• Enable time
• Set editing capabilities
• Enable sync
• Enable editor tracking
  · Turn on access control
• Work with M and Z data
Data Storage Options

- Feature Services referencing your Enterprise Geodatabase
  - ArcGIS Enterprise
- Hosted Feature Services
  - ArcGIS Online
  - ArcGIS Enterprise
Data Storage Options

• Feature Services referencing your Enterprise Geodatabase
  - ArcGIS Enterprise

• Hosted Feature Services
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  - ArcGIS Enterprise
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  - ArcGIS Enterprise
Feature Service Clients

- Web
  - Map viewer (ArcGIS online, ArcGIS Enterprise)
  - Web applications
- Desktop applications
  - ArcGIS Pro
  - ArcMap
- Runtime applications
  - Collector for ArcGIS
  - Explorer for ArcGIS
  - Operations dashboard for ArcGIS
  - Survey 123
  - Custom apps
  - ...
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• Q&A
Workflow Demo Overview

Prepare Maps / Share

Synchronize

Download
Create Replica

View, Query
Edit

ArcGIS Pro

Author Map

Publish Service

Pro Client
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Workflow Demo Summary

Author Map

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ArcGIS Python API

• Python library to perform GIS operations on your Web GIS
  - GIS system administration tasks
  - Spatial data management
  - Visualization and analysis
• Runs both interactively, and using scripts
• Installs on machines with Python 3.5 and Conda
  - ArcGIS Pro comes with these
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Distributed Collaboration

- Allows you to sync feature layers between Enterprise and Online
- 10.5.1 / 5.2 - Option to distribute copies
- Supports one way syncing as copies…
  - From Online to Enterprise
  or
  - From Enterprise to Online
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Feature Services Admin API

- Allows schema edits after publishing
  - Add/Drop layers, Add/Drop fields, Add/Drop relationship classes / attachments, …
- Used by…
  - Commands in the ArcGIS Enterprise, ArcGIS Online UI, ArcGIS Pro
  - Can also be called directly using the REST services directory
    - E.g. http://abbey.esri.com/gis/rest/admin/services/Hosted/States_rel/FeatureServer/0
- Supported with hosted feature services
  - Use Desktop / Pro for Feature Services referencing your Enterprise Geodatabase
- Updates made via JSON + REST request
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ArcGIS Data Store

- Released at 10.3
- Designed to store the data from ArcGIS Enterprise
- Installed separately and configured when setting up ArcGIS Enterprise
- Provides
  - Support 1000’s of hosted feature services
  - High availability
  - Back up and restore
ArcGIS Data Store - Relational Data Store

- Provides a Can be configured with a primary and standby for high availability
- Manual or automatic failover
ArcGIS Data Store – Spatiotemporal Big Data Store

- Can choose to add a Spatiotemporal store when configuring the data store
- Allows better support for
  - Observation data with the ArcGIS GeoEvent Server
  - Big data analysis with the ArcGIS GeoAnalytics Server
- Uses Elasticsearch
  - Enables archival of high volume observation data
  - Very high write throughput and scalability (can run across multiple machines)
  - Provides high availability
Data can be accessed via Feature Services and Map Services:
- Map service provides dynamic rendering and aggregated data representation.
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What’s new – ArcGIS Enterprise (10.5 / 10.5.1)

• 10.5.1
  - Support for Distributed Collaboration
  - Option to use * to remove all replicas using unregisterReplica

• 10.5
  - Better domains support
  - Improved true curve support including the option to update true curves
  - Thumbnails in templates for layers published from dictionary renderers in Pro
  - Query includes a historicMoment parameter for archived data
  - Create only capability
  - Default M value support
  - Edit support for Spatiotemporal data store based hosted feature services
What’s new – ArcGIS Online

- Support for Distributed Collaboration
- Support for views
- Data Loading and sync optimizations
- Datum Transformation support
- Publish, Analyze and export excel files
- Support for query nearest neighbor
- Tile on Demand, change tracking and scheduling
- Shape area and length field support
What’s new – on the desktop

• **ArcGIS Pro 2.0**
  - True curve support
  - Add/Delete index for hosted layers
  - Performance improvements

• **ArcGIS Pro 1.4**
  - Support for subtypes
  - Performance improvements

• **ArcGIS Pro 1.3**
  - Feature caching > improves performance and scalability
  - Accessing features directly from map service

• **ArcGIS Pro 1.2**
  - Choose to publish registered data
  - Add field/Delete field for hosted layers
Summary

- Feature Services and Editing
  - Included feature services and...
    - Pro
    - Map Viewer
    - Collector
    - Arcade and Views
- Advanced topics
  - ArcGIS Python API
  - Distributed Collaboration
  - Feature Service Admin API
  - ArcGIS Data Store
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