Web Editing in ArcGIS for Server

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Agenda

- The basics of Web Editing in ArcGIS Server
- Web Editing scenarios
- Typical Server Configurations
- Q&A
Feature Services in ArcGIS

*From simple sketching to sophisticated web editing*
What is a Feature Service?

- Added in ArcGIS 10
- Designed for web editing
  - Push changes into the geodatabase over the internet
- Also excellent for querying
  - Fetch geometries and attributes
  - Client renders features (Thematic mapping, maptips…)
- Stateless, quick, RESTful service

How Feature Services work? (Simplified)
What are Feature Templates?

• A shortcut to *the things* that people edit
• Feature Template defines:
  - Symbol
  - Editable and read-only attributes
  - Default values
  - Preferred drawing mode
• Authored in ArcMap, used by all clients
• Structured data collection with an intuitive user experience
The Services Directory view

Your Map Service

It's Feature Service

Templates
How to create a web editing application?

- Prepare your data and templates
- Create Feature Service
- Use/Create Application
Feature Service Basics Demo

- Authoring the Map and Editing Templates
- Publishing the service
- Using it
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Web Editing Scenarios

- Attachments
- Editor tracking
  - Ownership Based Data Access
  - Handling complex symbology/geometries
  - Disable geometry edits
  - Editing versions
  - Sophisticated Web Editing
Web Editing Scenarios

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Feature Service usage web editing patterns I

- Render features in the client (Feature Layer)
- Fetch all at once (Snaphsot mode)
- Or as needed (On demand mode)

- Subset of ArcGIS symbology
- No more than a few hundred features in display*
- Careful with large polys/polylines
- Take advantage of maptips (popups)

* Be smart about using scale dependencies, generalize, filter...
Rendering features server-side

- Render features in the server (Map service)
- Refresh map after every update
- Features being edited displayed in client
  - Through FeatureLayer Selection mode
- Full symbology
- Many and complex features
- Use MSDs whenever possible
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Editing Widgets in ArcGIS Web Mapping APIs

Utility objects for speeding up custom editing apps

Template picker and edit toolbar

Template Picker

Attachment editor and Attribute Inspector
Sophisticated Web Editing
What is the Geometry Service?

- An ArcGIS Server service for geometry manipulation
- Enhanced in ArcGIS 10 & 10.1:
  - Offset, Trim/Extend, Reshape, Auto-Complete
  - Cut, Difference, Intersect, Union
- REST interface only
- Use in combination with Feature Service
  - To aid in editing workflows
  - Cut, Reshape…
  - Also validating business rules!
What are Server Object Extensions?

- That’s how you extend ArcGIS Server
- With new web services
  - To access fine grained ArcObjects
  - Implement business logic on your server
  - Accessible via REST and SOAP
- Multiple applications for editing
  - Validating topology
  - Rebuilding network datasets
  - Implementing validation rules
The challenge is the user experience

- Adding many tools is an easy and often unnecessary part

- Build focused editing apps
  - The necessary tools, no more
  - The workflow drives the design, not the opposite!

- Start by selecting the right client
  - Do not reinvent the wheel
  - Do not push the technology beyond its comfort level
  - Or your users!

- Develop if needed
Internet Editing for ArcGIS Desktop tool

For sophisticated editing or ‘disconnected’ scenarios

- A *Map Service* that you can edit from *Desktop*
Summary

- ArcGIS Server 10 features built-in web editing capabilities
- Enabling many exciting applications
  - Crowd sourcing, geocollaboration, web editing...
- New Feature Service
- Out of the box editing clients
  - ArcGIS.com Viewer
  - ArcGIS Viewer for Flex
- ArcGIS Web Mapping APIs
- Geometry Service and Server Object Extensions