Automating Cache Workflows and Tile Usage Heat Maps

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What’s covered in this session

• Agenda
  - Cache update strategies
    - Change detection
    - Automating updates
  - Building tile usage heat maps
    - Strategic Cache Creation
    - Cache on demand
    - Out of the box analysis tools
    - Building a tile usage heat map
What’s covered in other sessions

• Caching Basics
  - Designing and Using Cache Map Services

• Image service caching
  - Caching Imagery using ArcGIS
  - Understanding Pyramids, Overviews and Caching

• Caching in the cloud
  - Building and Maintaining ArcGIS Online Hosted Tiled Services
  - Using the Power of Amazon EC2 to Build Map Caches

• Advanced topics
  - Enterprise Architectures for Large Map Caching Projects
  - ArcGIS Server Performance & Scalability—Optimizing GIS Services
Cache Update Strategies
Updating a cache

• Architecture
  • Use a dedicated caching server
  • Use a staging server
  • Use a cluster

• Implementation
  • Geoprocessing
Update a cache using a staging server

**Staging ArcGIS Server Instance**
- Map service
- All layers for cartography of map service
- Cache folder

**Production ArcGIS Server Instance**
- Map service
- Layers for TOC and Query
- Cache folder

Copy cache

(On-demand caching needs the full map to build the cache)
Update a cache and data using a staging server

**Staging ArcGIS Server Instance**

- Map service
- Cache folder
- All layers for cartography of map service
- Multi-user versioned Geodatabase
- Geodatabase Replication

**Production ArcGIS Server Instance**

- Map service
- Cache folder
- Layers for TOC and Query
- Geodatabase (File or Multi-user)

Automating Cache Workflows and Tile Usage Heat Maps
Cache update strategies

- Rebuild the entire cache
  - Size of cache
  - Time to cache
- Rebuild specific tiles
  - Rebuild at specific scales
  - Rebuild areas based on change detection
Cache Update Automation

- Use Model Builder to script Cache Update Automation
  - Rebuild Specific Tiles
  - Export to Python
  - Schedule Run Time

Compare feature classes
Show edits since reconcile
Change Detection & Cache Automation
Building Tile Usage Heatmaps
Strategic cache creation

- Feature class covers about 25% of California
- Contains about 97% of California’s population
- Caching with this layer saves:
  - 943,000 tiles
  - 9.3 GB of space
  - 17 hours of caching time
The ideal tiles to cache on demand

- Few simple features
  - Barren homogenous area
  - Rarely accessed
- Draw relatively fast
- Large scales only
ArcGIS Server Descriptive Tile Analysis

• **Tile Usage Heat map**
• **ArcGIS Server descriptive tile analysis**
Predictive Caching & Tile Usage Heatmaps
Thank you...

- Please fill out the session survey:

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