ArcGIS Workflow Manager: Advanced Topics

Kevin Bedel & Nishi Mishra
Session Topics

- Overview
- Configure & Design
- Notify & Relate
- Integrate & Analyze
Overview
What is ArcGIS Workflow Manager?

- Configure & Create
- Execute & Manage
- Evaluate & Improve

WORKFLOW MANAGER PROCESS

A framework for operational efficiency
ArcGIS Workflow Manager: Advanced Workflows and Concepts
Workflow Manager System Framework

ArcGIS Workflow Manager: Advanced Workflows and Concepts
Anatomy of a job

- Descriptive Information
- Activity Log
- Resource
- Workflow
- Geographical Location of Interest
- Geodatabase Version/Geospatial Data

ArcGIS Workflow Manager: Advanced Workflows and Concepts
Location of Interest (LOI)

Area of Interest (AOI) + Point of Interest (POI)
Demo

Introduction
Software Demonstration
Vegetation Growth Encroaching Rail Line?

Survey Manager
Create a Workflow and Job
• Workflow to update a vegetation boundary
• Assign the job to the GIS Specialist

GIS Specialist
Edit the Data and Notify Field
• Update the vegetation boundary
• Notify Field Crews of pending work
• Send data to field to assist

Field Crew
Perform Field Work and Mark Job as Complete

Business Manager
View Job Progress, History and Reporting
Software Demonstration

Vegetation Growth Encroaching Rail Line?

Survey Manager

Create a Workflow and Job
- Workflow to update a vegetation boundary
- Assign the job to the GIS Specialist

- Identify issues in the current workflow
- Add new steps
- Reconfigure existing steps and paths
- Configure notification and extended property
- Use geoprocessing script to automatically make decisions
- Update and simplify workflow
- Updating job type
Configure
Workflow Manager Administrator Roles

- Basic Administrator
- Workflow Author
- Workflow Developer
Workflow Author
Workflow Developer

- Python
- ArcPy
- COM
- C#
- JavaScript
Designing Workflows

- **Step type library**
  - Procedural (Manual)
  - Ask question
  - Run executable
  - Open file
  - Launch URL
  - Custom

- **Execution paths**
Designing Workflows
Create Workflow

Start

Check Version

Version Exists

Create version

Version Exists

Clip Imagery

Prepare

Inventory Update

Documentation

Edit Data

QC Data

Notify
Sharing Workflow Manager

Desktop

Server

ArcGIS Workflow Manager: Advanced Workflows and Concepts
Notify and Relate
Notifications

Spatial

Email Alert

Job
Utilizing Tokens

[EMAILOF([JOB:ASSIGNED_TO])]

john1234@esri.com
Token Parsers

- Job Properties
- Extended Properties
- System Properties
- Spatial Notification
- Environment Variables
- Function

ArcGIS Workflow Manager: Advanced Workflows and Concepts
Advanced Workflow Modeling
Child Jobs and Dependencies

- Collect Data
- Create Map

ArcGIS Workflow Manager: Advanced Workflows and Concepts
Advanced Workflow Modeling
Child Jobs and Dependencies

Create Map → Collect Data 1 → Collect Data 2 → Collect Data 3 → Create Map

All Jobs Closed
Restrict Editing

- Restrict selection or editing of features near or within a job’s area of interest
Demo
Notifications
Tokens
Job Relationships
Integrate and Analyze
Integrating Business Data

- Business-specific data
- One-to-One or One-to-Many relationships
- Geodatabase tables
- Long integer field joins to job ID
Integrating Business Data
Configuring Extended Properties

Create table in geodatabase

Add as extended property table

Configure properties for job type

Extended Property Display Types
- Date
- Text
- GIS Dataset
- Files
- Folders
- Value List
Advanced Workflow Modeling
Geoprocessing Steps & Tools

• Run GP tools from steps
  - Provide parameter at runtime
  - Use pre-defined parameters
  - Output automatically drives workflow

• Invoke GP services

• Workflow Manager Tools
Advanced Workflow Modeling
Python API

- Repoint Map Templates
- Manage Extended Properties
- Manage Attachments
- Manage Holds and Dependencies
- Execute Steps
- Manage Job Maps
- Create Customized Jobs
- Manage Job Properties
- Trigger Notifications
Advanced Workflow Modeling

Python API

- Access
- Edit
- Execute

- Configuration, Jobs and Tools
- Configuration and Jobs
- Jobs

ArcGIS Workflow Manager: Advanced Workflows and Concepts
Compatibility with ESRI Apps

<table>
<thead>
<tr>
<th>App</th>
<th>Feature Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Workforce</strong></td>
<td>Create Workforce Assignments from Workflow Manager</td>
</tr>
<tr>
<td><strong>Collector</strong></td>
<td>Create Feature Service for collection and distribute the URL using Workflow Manager</td>
</tr>
<tr>
<td><strong>Operations Dashboard Widget</strong></td>
<td>See the Status of Jobs in your Organization</td>
</tr>
<tr>
<td><strong>Web AppBuilder Widget</strong></td>
<td>Create Workflow Manager jobs</td>
</tr>
<tr>
<td><strong>Coming soon</strong></td>
<td></td>
</tr>
</tbody>
</table>

Samples available on Github

ArcGIS Workflow Manager: Advanced Workflows and Concepts
Demo
Extended Properties
Integrated Geoprocessing
Session Recap

• Overview
• Administrator roles
• Design and Configure Workflows
• Notifications and Tokens
• Advance Job Modeling and Editing Restrictions
• Integrating Business Data
• Geoprocessing in Workflows
• Python API
Resources

• Geonet

• Product Page
  - http://esri.com/workflowmanager

• Training
  - http://training.esri.com/

• Samples
  - https://github.com/Esri/workflowmanager-viewer-js
  - https://github.com/Esri/workflowmanager-samples
<table>
<thead>
<tr>
<th>Session Title</th>
<th>Time</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td><strong>Wednesday - July 12th</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ArcGIS Workflow Manager: Integrate Tasks into Your Workflow Process</td>
<td>11:30am - 12:15</td>
<td>SDCC Demo Theater 06</td>
</tr>
<tr>
<td>ArcGIS Workflow Manager: Integrating Geoprocessing and Python into Your Business Processes</td>
<td>3:30pm - 4:15</td>
<td>SDCC Demo Theater 06</td>
</tr>
<tr>
<td>Esri Production Mapping: Automate Map Production with ArcGIS Workflow Manager</td>
<td>3:30pm - 4:15</td>
<td>SDCC Demo Theater 03</td>
</tr>
<tr>
<td><strong>Thursday - July 13th</strong></td>
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<tr>
<td>Supporting Daily Workflows with Tools</td>
<td>8:30am - 9:45</td>
<td>SDCC - Room 29 A</td>
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<tr>
<td><strong>ArcGIS Extensions: Tools for Improving Data and Map Production</strong></td>
<td>3:15pm - 4:30</td>
<td>SDCC - Ballroom 06 B</td>
</tr>
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</table>
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