ArcGIS for Water Utilities: Configuring

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with special guest: Steve Grise
Agenda

• Introduction
• The Local Government Information Model
• Configuring the Water Utilities Maps and Apps
• ArcGIS for Local Government System
• What’s Next
• Your Feedback
ArcGIS for Water Utilities

A product for Esri’s water utility customers

- A series of useful maps and apps focused on water utility work
  - Organized into modules
  - Extensible, configurable
  - A foundation for Partner solutions

- Participation in the online community
  - Best Practices / Implementation Support

- Esri Services and Partner offerings
  - Help implement, sustain and enhance

- One ArcGIS product for water utilities
  - Freely available for individual customer and ELA engagements

.....available on-premise or in the cloud
Our Mission

Help you increase the value of GIS in your organization

- Make it easier to deploy ArcGIS
  - Deliver applications quickly throughout your organization
  - Stay current with future releases / avoid legacy technology
  - Create a platform of geospatial data that can be leveraged by many

- Address common constraints in local government
  - Size and skills of staff
  - Budget and time available to implement

- Empower the community to contribute
  - Users
  - Partners
ArcGIS for Water Utilities

Changing the way you deploy GIS

Your Needs

Organizational Needs

Industry Specific Needs

General GIS Platform Needs

ArcGIS Platform (Desktop, Mobile, Server, Online)

Focused Maps & Apps
Harmonized information model

DIY
3rd Party Apps
Consulting

Your project...

ArcGIS for Water Utilities

...reducing time, risk and cost so GIS is easier to deploy and maintain
Local Government Information Model

- Supports water utility map and app requirements
  - Traditional and non-traditional apps
  - In the context of larger local government model
- Fully documented
  - Features, layers and packages
- Central repository, organized around thematic content and logical permission model
- Organized access/maintenance patterns
  - GDB replication, layers and services
- Easy to adopt and extend

Safe FME support coming this summer....
Local Government Basemaps

*Standard set of basemaps that support water utility desktop, web and mobile apps*

- **Parcel**
- **Topographic**
- **Imagery Hybrid**
- **Campus**
- **Mobile Night**
- **Mobile Day**
Adopting the Local Government Information Model

Many ways to leverage the water utilities maps and apps

Adopt the Information Model

Can use all maps and apps
Tools (GP and FME) to help you get there
Can incrementally add new maps and apps
Services Packages available if needed

Convert

Use it as a Publishing Model

Scheduled ETL

Can use basemaps, web apps, and mobile apps
ETL required to sync content with your GDB
Incorporate editing workflows over time
Implementing the Information Model

Getting started is quite easy

1. Create Empty Development GDB
   Use LPK and Data Dictionary / Configure as necessary

2. Migrate Schema to RDBMS
   Only required for multi-user editing and feature services

3. Migrate data to information model

4. Validate MXDs and Toolboxes

5. Publish map services
   Cache basemaps
Safe FME Support
Our Special Guest….Steve Grise
ArcGIS for Water Utilities Map and Apps

**Asset Management**
- Infrastructure Editing Template
  - Focused Toolbars
  - Editor extension
  - Construction Tools
- Data Reviewer for Infrastructure Template
  - Batch Jobs

**Planning & Analysis**
- Infrastructure CIP Template
  - Data Analyst Toolbox
  - Project Cost Estimating tools
- Infrastructure Mobile Map Template
  - Configurable Application
  - Additional Basemaps for Night and Day use

**Field Mobility**
- Infrastructure Mobile Map Template
- Infrastructure Operations Dashboard Template
  - Configuration files for the Flex Viewer
  - Toolbox’s to create Reporting Layers

**Operational Awareness**
- Infrastructure Operations Dashboard Template
- Infrastructure Viewer for Flex
- ArcGIS API for JavaScript

**Stakeholder Engagement**
- Public Information Center Template
  - Configurable Application
- Citizen Service Request Template
  - Configurable Application

**Local Government Information Model**
Data Model and Basemap Services
Editing Template Breakdown

• Maps
  - ArcMap Editing Mxd organized into operational layer groups
  - Basemap group

• Data
  - Water, Sewer and Stormwater Layers
  - Additional Tables for tools
    - Dynamic Value and Generate ID Tables

• Tools, Toolbars and Extensions*
  - Attribute Assistant Add in
  - Infrastructure Desktop Tools Add In
  - Infrastructure Construction Tools Installer

* Source Code included
Configuration

- Install Add in’s and tools
- Update Infrastructure Editing Mxd
  - Adjust Cartography and Labels
  - Review Editing Templates
- Adjust Configuration XML file
  - Shared by two add in’s and construction tools
    - C:\Users\<UserName>\AppData\Roaming\ArcGISTemplates\EditingTemplate\Config\Config.Config
  - Set or Adjust default values
- Configure Attribute Assistant Rules
  - Create or modify rules to match your workflows
  - Generate ID columns if using the Generate ID rules
Steps if you are using your own schema

- Add the Dynamic Value and Generate ID Table schema to your GDB
- Spend additional time reviewing the config and changing all entries to make your field and layer names
Changing the configuration
Data Reviewer Breakdown

- **Maps**
  - Utilizes the ArcMap Editing Mxd

- **Data**
  - Additional GDB for reviewer workspace

- **Jobs**
  - Defined for Water, Sewer and Storm water datasets
Configuration

- Activate Data Reviewer Extension
- Update Batch Jobs
- Set up Data Reviewer Workspace
Steps if you are using your own schema

• Review each batch job
• Adjust each check
  - Field Names
  - Layer Name
  - SQL Statements
Capital Improvement Planning Template
CIP Template Breakdown

• Maps
  - ArcMap Planning Mxd organized into operational layer groups
  - Basemap group
  - CIP Analyst Toolbox

• Data
  - Water, Sewer and Stormwater Layers
  - Factors for Analyst
  - Model Results
  - CIP Feature Dataset Layers
  - Tables for Cost Estimating Tools

• Tools and Toolbars*
  - Project Costing Estimating

* Source Code included
Configuration

• Install Add in’s

• Update ArcMap Infrastructure Planning Mxd
  - Adjust Cartography and Labels
  - Add your Factors for Analyst
  - Adapt Analyst Models for your analyst
  - Modify the Capital Planning Layers

• Configuration the Costing Tools
  - piCIPCost, piCIPDefinition, piCIPReplacement tables
Steps if you are using your own schema

• Add the CIP dataset, the piCIP… Tables, and the Model results Layers
• Spend additional time reviewing the models and setting them up on your data
• Fill out the configuration piCIP… Tables
Quick Tour of the tools
Mobile Map Template
Mobile Map Template Breakdown

• Maps
  - Mobile Map Service with operational data layers
  - Night and Day basemap services

• Data
  - Water, Sewer and Stormwater Layers
  - Additional Layers for redlines and field inspections

• Application*
  - Mobile Map template

* Source Code included
Configuration

• Install the Mobile Map Template

• Copy Contents to new location

• Update ArcMap Mobile Operations Map Mxd
  - Adjust Cartography and Labels
  - Adjust Fields visibility
  - Add or Remove Inspection/Redline Layers
  - Published to ArcGIS Server with Mobile Map Access checked on or Create Cache with GP Tools

• Publish and Cache Basemaps

• Update MobileMap.exe.config file

• Deploy new cache and Basemaps
  - If using server, just delete the old cache and click refresh once the app opens
Steps if you are using your own schema

• Review sample data and required fields
• Append your schema with infrastructure operations dataset layers
• Recreate Mobile Map Mxd and basemaps
Changing the configuration
Operations Dashboard
Dashboard Template Breakdown

• Maps
  - Operational Layers
    - Infrastructure Map Service
    - Reporting Layers Map Service
    - Infrastructure Alerts Map Service
  - Basemaps
    - Utilizes Local Government Basemaps

• Data
  - Water, Sewer and Stormwater layers
  - Operations and Report data layers

• Application
  - Configuration of the ArcGIS Viewer for Flex
Configuration

- Publish the Map Services
- Update the configuration files
  - Fill in your ArcGIS Server Name
  - Adjust Splash screen, title and logos
  - Adjust Popups for any additional fields
  - Add, remove or adjust widgets
- Create web site for Application(IIS or Apache)
- Note:
  - If you decide to change any of the Op Layers mxd’s, you will have to verify all the config files, layers are referenced by order, not name
Steps if you are using your own schema

• Fill out your Basemap layers
• Rework the configs to reflect your op layer services
• Rework the popups for your layer order and definition
A quick review of the configs
PIC/Citizen Service Template Breakdown

• Maps
  - Operational Layers
    - Infrastructure Alerts Map Service
    - Service Request Map Service
  - Basemaps
    - Utilizes Local Government Basemaps

• Data
  - Service Request Dataset
  - Activities and Event Layers
  - Social Media Links

• Application
  - Configurable JavaScript Applications
Configuration

- Publish the Map Services
- Update the configuration files
  - Fill in your ArcGIS Server Name
  - Adjust default search information
  - Adjust Splash Screen
  - Adjust Contact Information
  - Adjust Social media keywords
- Create web site for Application(IIS or Apache)
- Note:
  - If you decide to change any of the Op Layers mxd’s, you will have to verify the layers in the config files
Steps if you are using your own schema

- Configure your own Basemap layers
- Rework the configs to reflect your op layer services
- Adjust Layers listed in the Information section
A quick review of the configs
Maps and Apps Wrap Up

- Configuration don’t customize
  - Implement quickly
  - Easy to add new capabilities
  - Simple to maintain
  - Easy to extend
  - Reduce Risk/Time/Cost
  - Sustainable

*Configuration starts at the data model*
Summary

• Our Goals
  • Deliver a “water utilities GIS” that enables your success
  • Evolve and grow the collection of apps
  • Provide a platform for partners to deploy their solutions

• We want your participation and involvement
  • Download the maps and apps
  • Provide feedback on existing content
  • Identify opportunities for new content
Please fill out your surveys....
www.esri.com/sessionevals

Questions

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