Journey to Esri’s Utility Network

October 20th, 2021
Agenda

> SSP Innovations Overview
> The Esri Utility Network
> How do you prepare?
  > The Data
  > Integrations
  > Organizational Change Management
SSP Innovations in 2021 – Utilities LOB

190+ Staff

180+ Clients

100% Esri-Based

800+ Successful Projects

35+ UN Projects

We have a Telco LOB as well!
Esri Utility Network
What is the Esri Utility Network?

- Platform that encompasses:
  - Data Model
  - Business Rules
  - Tools
  - Architecture
Features of the Esri Utility Network

- Support for Radial & Mesh Networks
- Network Management (editing)
- Network analysis (tracing)
- More realistic representation of "real-world networks"
- Containment (e.g. Substation, Reg Station)
- Integrated Schematics (Diagrams)
- 3-D Support
The Utility Network Data Model

- **Domain network:**
  - All the assets that control and allow the flow of electricity/gas/water/etc.
  - Basically, all the stuff that was in the Esri Geometric Network

- **Structural network:**
  - All the assets that support or hold up the domain network assets

- **Tier Groups**
  - The different voltage or pressure levels
    - High, Medium, Low
  - Can be further broken down to specific voltages and pressures

- **Subnetworks**
  - Circuits and pressure zones
The Utility Network Data Model – Cont.

5 Types of Feature Classes

> Devices
  > All asset point features
    › Transformers, valves, pumps, etc.
> Line
  > All conductors, wires, and pipes
> Junction
  > Attachment and connection points
> Assembly
  > “Banks” of devices
> Subnetline
  > Information about circuits and zones

2 Tables

• Non-spatial Objects for telco and conduit management
• Edge Object
• Junction Object
How do you prepare for this?

> Great Question!
> It depends:
>   > How are you structured now?
>   > What do you want from the UN?
>   > Do you have data for stuff now?
>   > What do you want to change?
>   > And lots more

> What pre-work can you do now?
Esri Utility Network: Data
Data: Start Learning Now!

> Very different data schema
> Requires new ways of thinking
> Opportunities galore
> Can be transformative *if you let it be*
> Persisting old ideas/processes may be costly
Get your Foundation Asset Package and Data Dictionary!

> Go to arcgis.com and download the Foundation for your specific business:
  > Gas
  > Electric
  > Telco
  > Etc.

> Find the data dictionary for your utility on arcgis.com

> Use that FGDB and data dictionary to review the data structure
Caveats on the Asset Package

- It can be overwhelming to review
- Meant to be used as guidance
- You do NOT have to use it as-is
- It should be adjusted to YOU
How much data do you want about assets?

- The data model can be DENSE
  - Gas heavy on regulatory needs
  - Electric heavy on ADMS and modeling needs
- You do NOT need to use all the attributes and asset types
- You CAN add/modify/delete attributes, asset types, and data domains
- If you do want to use an attribute, do you have a data life cycle management process for it?
- What are your future data needs?
  - Track and Trace?
  - ADMS?
How good is your data quality?

> Are you missing key data for what you want for UN functionality?
  > Connectivity
  > Device Status (Open/Closed)
  > Electric Phasing
  > Wire and pipe sizes and types
  > MAOP values

> If you are missing data, can you remediate it before you migrate?
  > Cleaner data is easier to migrate

> Check with your planning engineers on what they are cleaning up when they get GIS data!
Does all your data need to be in GIS?

> Does your GIS truly need all the asset data or just the operational data?
  > May apply more to electric than gas
    > Equipment size vs manufacturer info
> Opportunity to stop GIS from being a data dumping ground
  > Utilize integrations to systems of records instead of re-entering data
> Re-verify/validate why you have data in GIS?
  > What is it being used for?
  > Does it belong there?
  > Is it being maintained?
Does all your data need to be in GIS?

Utility Network data is NOT all your GIS data!

> Utility Network data is your Geometric Network participants!

> What data it is not:
  
  > Landbase
  
  > Customer Information

  › Outside of meter/service locations

  > Inspections
  
  > Maintenance

> Split up data for ease of maintenance/management!
Esri Utility Network: Integrations
Integrations | the base is changing

Data Structure

Network Connectivity

Architecture
Integration | need to approach differently

> Esri recommendation:
  > Stop integrating at the database
  > Leverage service-based integrations

> Why:
  > To leverage the powerful network management tools enabled by web services
Integration | next steps

What’s Next:

> Catalog your integration business processes
> Catalog all your inputs/outputs
> Check with your integration and 3rd party software partners if they have a UN strategy
> Understand your options and the change in front of you
> Continue to learn more about the Utility Network
Esri Utility Network: Organizational Change Management
Why deploy OCM?

> OCM Delivers
  > Speed of Adoption
  > Higher Utilization
  > Increased Proficiency

> Criticality to UN Migration
  > ArcGIS® Pro
  > Toolsets/Workflows
  > GIS Stability
  > Symbology
OCM - Sponsorship

> Executive Sponsor – primary success factor
  > Active and Visible
  > Build change coalition
  > Engaged (PM and CM)

> Sponsorship Model
  > Stakeholders first
  > Direct Manager/Supervisor
  > Named Members Scored
OCM – Managing the Change

> Reinforce Change
  > Analyze for Barriers
  > Resistance Management
  > Celebrate Success

> Key Resources
  > Communications Team
  > Certified Change Practitioner

> Strategy for Success
In Closing
The Utility Network takes planning!

> Study how your data will migrate
> Think about the new data structure
  > How do you take advantage of it?
> How do you evolve your GIS for the future?
  > Integrations
  > Business Process
> Is it time for a change?
  > How do you manage that change?

SSP can help!

> Consulting efforts for data modeling, integrations and business process discussions
> SSP Data Services for data studies and pilots
QUESTIONS

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