GeoEvent Processor for Water and Sewer Utilities

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Agenda

- GEP History at WHUD
- GEP Examples
  - Notifications
  - Calculations
  - AVL
  - SCADA
- Value
- Future of GEP at WHUD
GEP History at WHUD

• Beta tested GEP in 2013 with AVL
• 8 Inputs / Connectors
  - NetworkFleet
  - SCADA / Receive From a TCP Socket
  - Watch a folder for CSV
  - Several Poll an ArcGIS Server for Features
• Over 20 outputs
  - Creating New Features
  - Updating Existing Features
  - Sending Emails
Leak Logger Notifications

- Staff Place and Read Leak Loggers Daily
- Update Point in Collector if Leak is found or not
- Email is sent to let managers and staff know of the finding and that further investigation is need
Leak Logger Notifications

Positive Leak Logger → Leak Logger Email

Input

Output
Leak Logger Notifications

Demonstration
I & I Sewer loggers

- Consultants use Collector to input information collected after large rain events
- GeoEvent Processor does the math to calculate the flow in GPM
- Data is now stored in GIS and staff can quickly see where issues are
I & I Sewer loggers

Diagram:
- Input: SewerFlowMeasurements_Qcfs
- Field Calculator: Calc
- Outputs: SewerFlowFeatureUpdate

Flowchart:
1. Input: SewerFlowMeasurements_Qcfs
2. Field Calculator: Calc
3. Outputs: SewerFlowFeatureUpdate
I & I Sewer loggers

Calc processor properties

<table>
<thead>
<tr>
<th></th>
<th>FieldCalculator</th>
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<tbody>
<tr>
<td>Expression</td>
<td>Vel * Factor * (DiameterFT * DiameterFT) * 7.48 * 60</td>
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<tr>
<td>New GeoEvent Definition Name</td>
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<td>New Field Name</td>
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<tr>
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</table>
I & I Sewer loggers

Demonstration
Real-Time Vehicle Location

- Piloted 3 different vendors in 2013
- Networkfleet in 50 vehicles
- 2 - 1 minute report frequency depending on need
- 1 Input and 2 Outputs
  - NetworkFleet has own Input
  - Current AVL Feature (Update a Feature Output)
  - Historical AVL Feature (Add a Feature Output)
- Vehicle Locations now accessed across the Platform
Real-Time Vehicle Location

- Input
- Filter
- Field Mapper
- Field Calculator
- Field Enricher (Feature Service)

Outputs

NetworkFleetInput

GPSFilter

Processor

Time

AVL

AVLhistory
Real-Time Vehicle Location

Demonstration 1

Demonstration 2
Real-Time SCADA Data

- Esri Workshop / Use GeoEvent Processor
- Application created that pulled data from SCADA and was easily inputted into GEP
- Phase 1 (Water and Remote Sites)
  - 16 Water Tanks
  - 17 Flow Meters
  - 12 Pump Stations
- Current and Historical Feature in SDE
Real-Time SCADA Data Demonstration
GEP Value

- See quick value from notifications, calculations, updating features, and other simpler process
- Seeing Data in Real-time helps staff make better decisions on day to day operations
- Having GEP update features for historical purposes help in current issues and planning
Future

- Water Loss
- More SCADA Information with Notifications
- Geofences with AVL
Questions