Spatialize your data with ArcGIS

One of the key benefits for GIS has always been, and will always be, the integrative power to bring location information together in a map and analyze it for insights and patterns that help explain or to improve efficiencies. Today it's easy to bring information from other systems into the ArcGIS platform – in fact there whole section dedicated to it in Esri's ArcGIS for Water Utility solution. A few common water utility examples include:

- Customer Service calls
- Billing and Consumption
- Work Orders
- SCADA
- AVL

There are two simple methods for routinely and reliably bringing information into the ArcGIS platform; these two methods include using Python Scripts and GeoEvent extension for ArcGIS Server

Don't be Scared of Python
Python is a simple and powerful method to automate spatializing the above data types. For example, your organization may want to refresh feature services on a scheduled basis with completely with new data, update only certain features with new information and/or push existing values into an archive table.

ARCREST is a set of scripts that work with feature service REST endpoints to:

- Add, Delete, Update and Query Feature Services
- Upload attachments to feature services
- Publish an MXD to ArcGIS Online as a feature service
- Get ArcGIS Online or ArcGIS Server item information

The below example shows how simple it is to update all features in a feature service with the current time and/or date.

This help link explains how to automatically run a Python script as a scheduled task in Windows. You could set your task to run every night at midnight to ensure ArcGIS.com always has your most up to date features.

In fact, using python you can just as easily take this a step further and at the same time as refreshing or updating data you can perform analysis. The High/Low Water Consumption solution allows a utility to query and view customers with high and low water usage. To maintain a current view of these customers, a Python script is scheduled to update the services, maps, and dashboard. Additionally, a

daily, weekly, or monthly record of high and/or low consumption can be stored in the form of an informative map using ArcGIS Online.
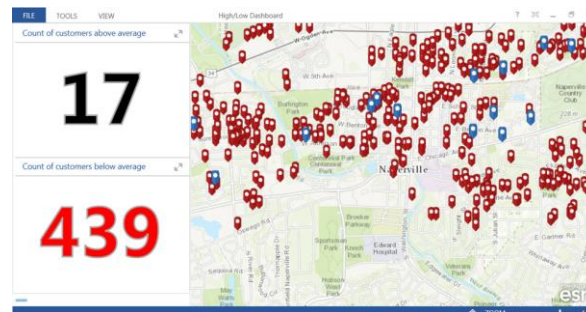

Need it More Real Time?
If the above method of scheduled tasks isn't sufficient for your need, and your users must see data changes in real time than you should get familiar with the GeoEvent Extension for ArcGIS Server which can be used bring in information from other systems in real time, as well as issue notifications to users based on the criteria that you configure.

A great example of how to use the GeoEvent Extension is the SCADA processor solution found on the water utility solutions page. The solution contains all the sample data and instructions needed to help you:

- Map services for pumps, tanks, flow meters, daily tank changes and daily flow summaries
- Automatically add historic data in archive tables
- Perform Real time calculations and filtering before issuing smart notifications.
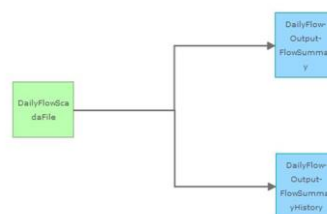
As GIS professionals we all know that adding a spatial element to data makes it much more valuable. With the above techniques it's now also easier than ever to routinely ensure a steady supply of data into your GIS.