Leveraging Collector & UtiliSync to Manage Utilities Better

Leveraging Collector & Utilisync to Manage Utilities Better

- Is your road blocked trying to maintain your utilities?

Leveraging Collector & Utilisync to Manage Utilities Better

- Are you buried in paperwork trying to get that information to your GIS?

Leveraging Collector & Utilisync to Manage Utilities Better

- It’s time to break the chains and go digital

Leveraging Collector & Utilisync to Manage Utilities Better

- Goals
  - Get more organized
  - A solution to collect maintenance/inspections on our utilities
  - Make it easier to get everyone on the same page
  - Collect more data in the field *while* removing burden from office personnel

Leveraging Collector & Utilisync to Manage Utilities Better

- Advantages to going digital
  - Data is loaded real time
  - Analysis can be done at anytime
    - No more waiting for data entry
  - Field workers can see where they've already been

Leveraging Collector & Utilisync to Manage Utilities Better

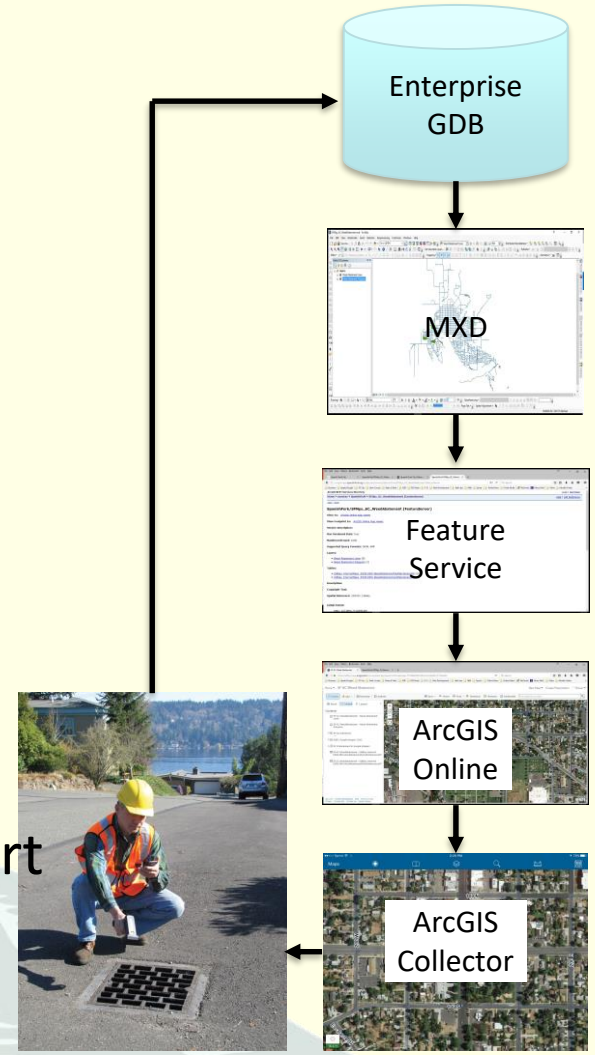
- Advantages (Cont)
  - Managers can track progress
  - Lightens the load on GIS staff
  - Data entry improves
    - Ownership takes place
      - The crews working with the utilities every day have direct access to the data, see the mistakes and get them fixed

Leveraging Collector & Utilisync to Manage Utilities Better

- What did we need to make it work?
  - ArcGIS for Desktop (We already had 3-Advanced & 4-Basic Licenses)
  - ArcGIS for Server (We already had)
  - ArcGIS Online Account (We already had)
  - ArcGIS Collector Licenses (We already had due to our desktop licenses)
  - Enterprise Geodatabase (We already had capability due to ArcGIS for Server – SQL Server Express)
    - Including creating Related Tables to track all the maintenance
  - The ability to collect data with forms for some data (Utilisync)

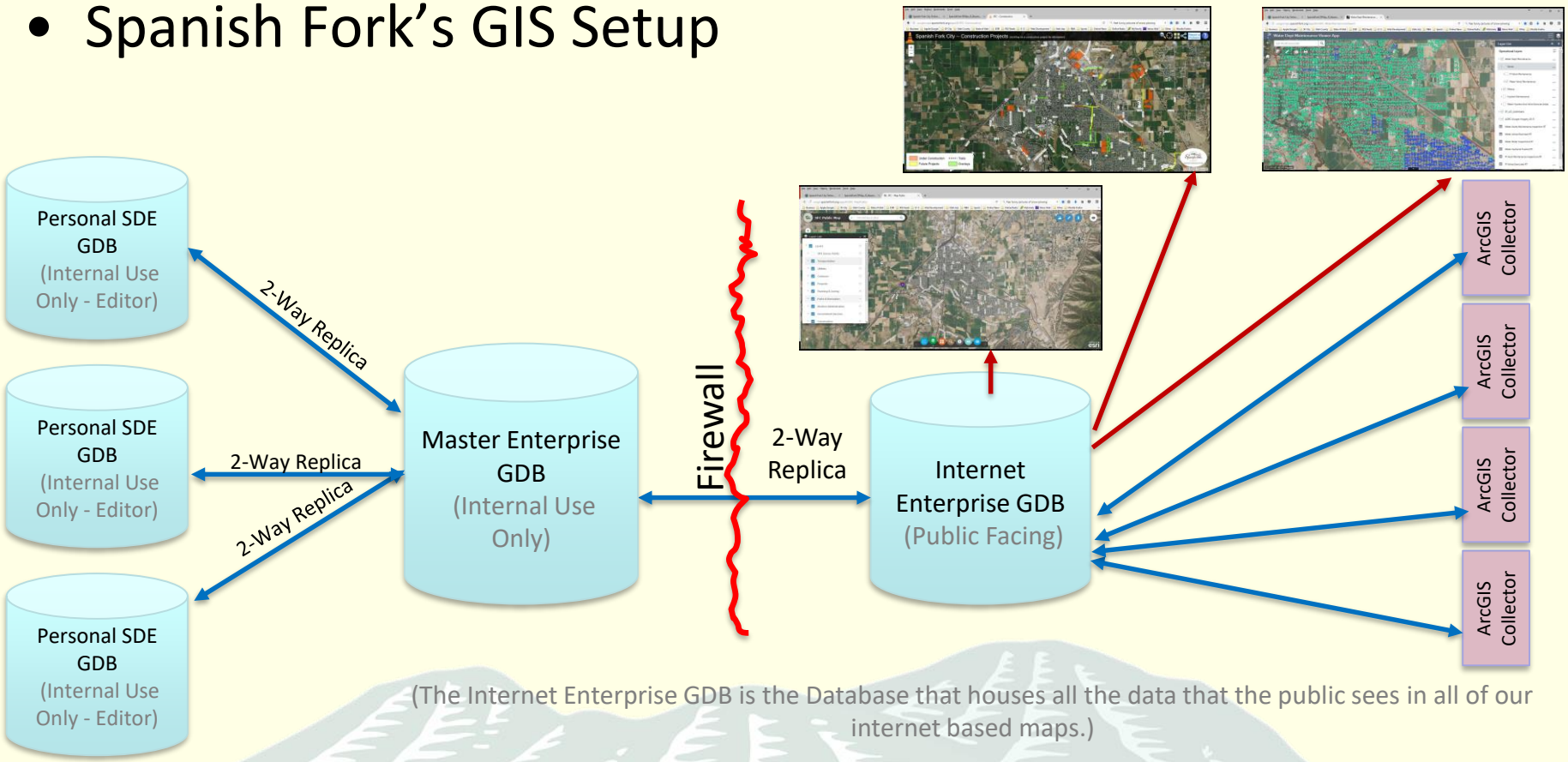
Leveraging Collector & Utilisync to Manage Utilities Better

- How is it done?
  - Setup an Enterprise Geodatabase
  - Create a map using data located out on the web
  - Publish that map to the internet as a feature service
  - Import that map to ArcGIS Online
  - Make an ArcGIS Online Map
  - Open that map in ArcGIS Collector & start collecting



Leveraging Collector & Utilisync to Manage Utilities Better

- Spanish Fork's GIS Setup



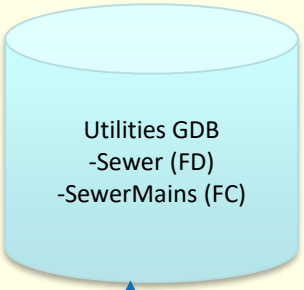
(The Internet Enterprise GDB is the Database that houses all the data that the public sees in all of our internet based maps.)

(It is also the dataset that our PW staff use to update maintenance)

Note: Because of our slow network we created everything as replicas. If you have a fast network you will be better off using versions

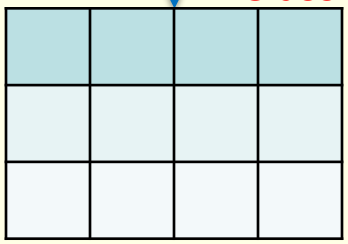
Leveraging Collector & Utilisync to Manage Utilities Better

- Spanish Fork's Database Setup



Feature Dataset (FD)
Feature Class (FC)
(Main Features)
-(Global ID)

Relationship
Class (RC)



Related Table (RT)
(Multiple Inspections/Maintenance)
(Related Global ID)

Python Script

(Syncs Data, Runs DB Maintenance, Copies Last Maint/Insp to Main Table)

```
# Author: Derrick Sharp - Horrocks Engineers

# Set the necessary product code
#import arceditor
#import arcinfo


# Import arcpy module
import arcpy

from logCreator import logging

#logFile = 'log.txt'

GPSPointsESDE_to_RJ_PSDEGPSPoints_2_Way_Replica =
"DBO.GPSPointsESDE_to_RJ_PSDEGPSPoints_2_Way_Replica"
GPSPointsESDE_to_InternetESDEGPSPoints_2_Way_Replica =
"DBO.GPSPointsESDE_to_InternetESDEGPSPoints_2_Way_Replica"
GPSPointsESDE_to_InternetMapsESDE_2_Way_Replica =
"DBO.GPSPointsESDE_to_InternetMapsESDE_2_Way_Replica"
GPSPointsESDE_to_G_Shared_GIS_GPSPoints_1_Way_Replica =
"DBO.GPSPointsESDE_to_G_Shared_GIS_GPSPoints_1_Way_Replica"

#ElecCommESDE_to_BP_PSDEElecComm_2_Way_Replica =
"DBO.ElecCommESDE_to_BP_PSDEElecComm_2_Way_Replica"
#ElecCommESDE_to_SB_PSDEElecComm_2_Way_Replica =
"DBO.ElecCommESDE_to_SB_PSDEElecComm_2_Way_Replica"
#ElecCommESDE_to_WW_PSDEElecComm_2_Way_Replica =
"DBO.ElecCommESDE_to_WW_PSDEElecComm_2_Way_Replica"
#ElecCommESDE_to_G_Shared_GIS_ElecComm_1_Way_Replica =
"DBO.ElecCommESDE_to_G_Shared_GIS_ElecComm_1_Way_Replica"
```

-The Feature Classes are tied to the Related Tables via a Relationship Class which ties the Global ID field on the Feature Class and the Related Global ID on the Related Table together in a 1 (FC) to Many (RT) Relationship. This allows inspectors or maintenance workers to do multiple inspections/maintenance activities on a single feature .
-Every night a Python Script is called from a .bat file which is called by a Windows Task Schedule which grabs the last inspection/maintenance that was done on that feature and puts it into the main FC table

Leveraging Collector & Utilisync to Manage Utilities Better

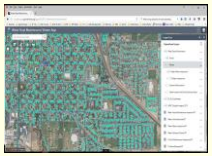
- What is Spanish Fork Doing With This?


Cemetery Maintenance

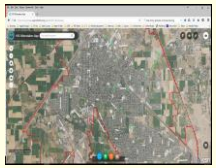

Storm Maintenance


Weed Abatement Tracking


Construction Proj Mngmnt

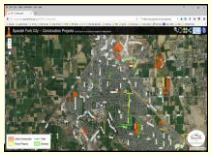

Water & PI Valve Exercising


Asphalt Inspections


Bluestake Maintenance


Street Sweeping Tracking


Communications Editing


Construction Project Viewer


Water & PI Maintenance

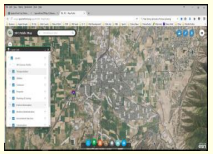

Asphalt Maintenance


Sewer Maintenance


Street Striping Maintenance


Communications Maint Tracking


Snow Removal Tracking


Viewer Map For Public


Development & Project Management


Sign Maintenance


Water & PI Maintenance


Concrete Insp Tracking


Snow Removal Priority


Concrete Maintenance

Leveraging Collector & Utilisync to Manage Utilities Better

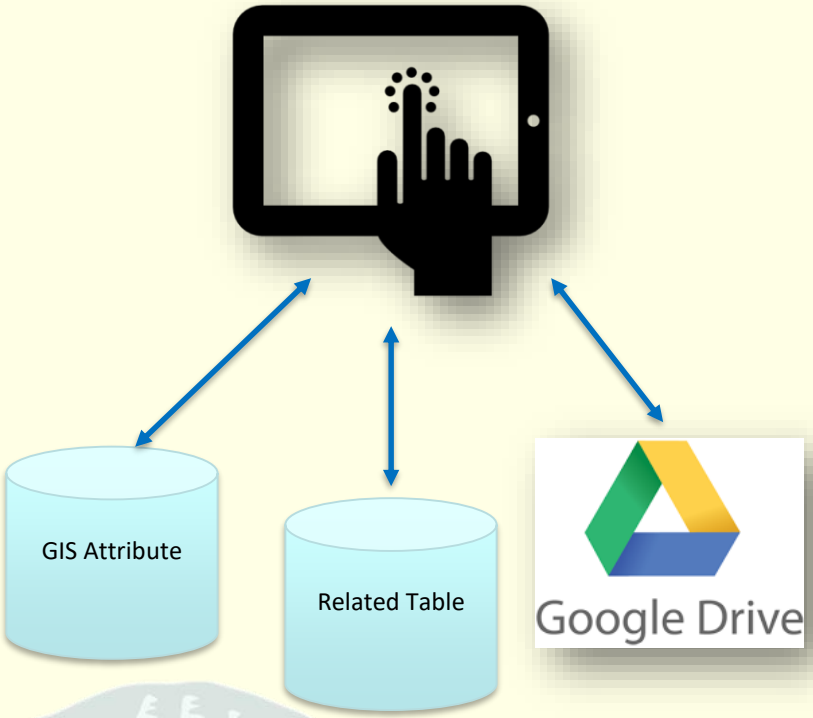
- Field View Example: Sewer Maintenance
  - Live Demo (Collector)
- Manager View Example: Asphalt Maintenance
  - Live Demo (Web App)

Leveraging Collector & Utilisync to Manage Utilities Better

- When do we use Collector/UtiliSync?
- Collector
  - Anything that only requires attribute updates/new feature creation
- UtiliSync
  - Anything that requires forms/documentation

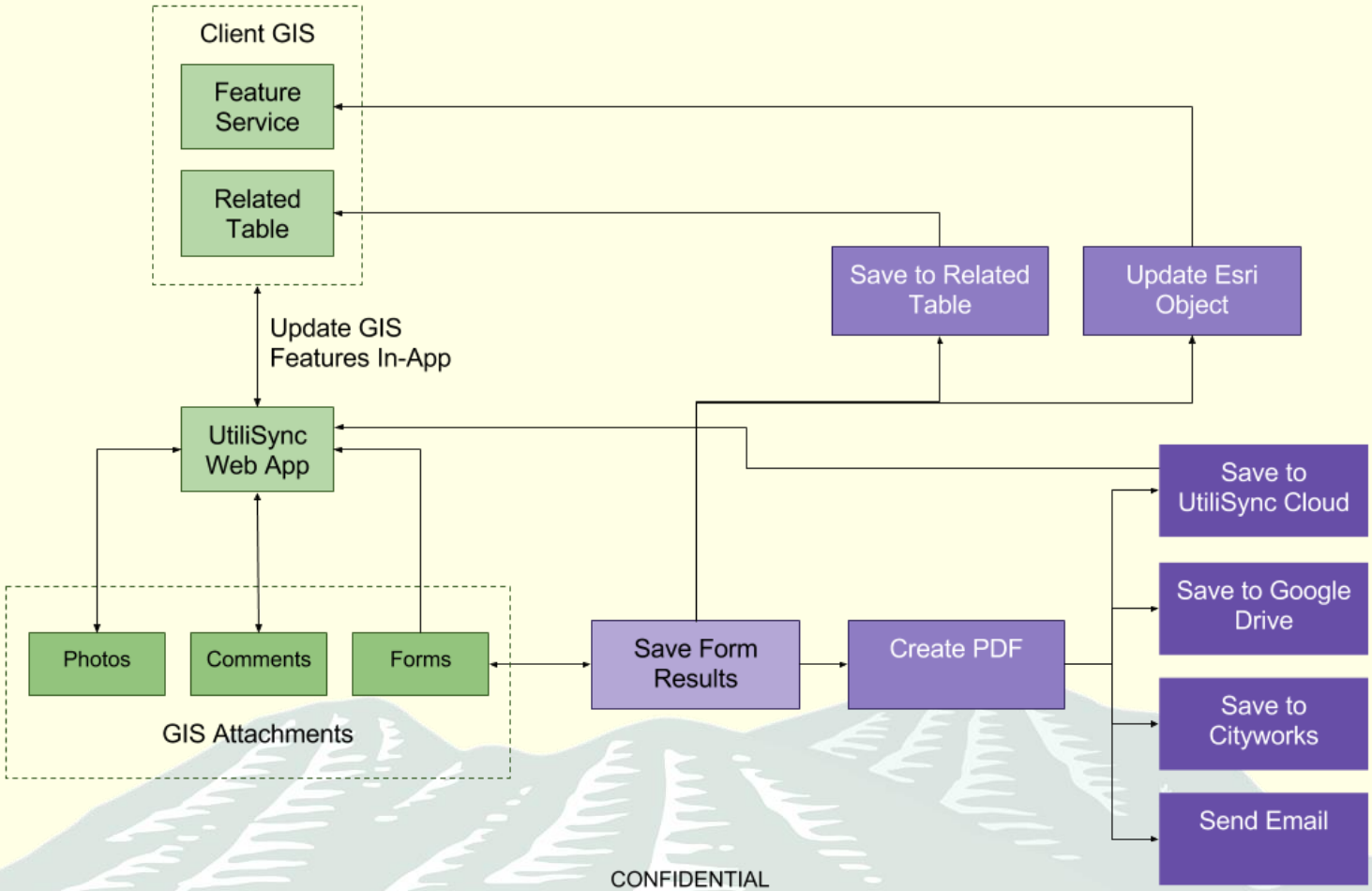
Leveraging Collector & Utilisync to Manage Utilities Better

- Workflow With UtiliSync
  - User completes form in field
  - UtiliSync
    - Updates GIS Attributes
    - Saves data to related table
    - Saves forms to Google Drive



Leveraging Collector & Utilisync to Manage Utilities Better

UtiliSync Architecture Diagram



Leveraging Collector & Utilisync to Manage Utilities Better

- Example: Development Review
  - GIS Configuration
    - General/Contact Information

OBJECTID:	66
Project Name:	River Point Subdivision
Inspector :	Shawn Jones
Contractor :	Big D
Contractor Phone :	435-789-7894
Contractor Email:	joe@bigd.com
Impervious Area:	0.89

Leveraging Collector & Utilisync to Manage Utilities Better

- Example: Development Review
  - GIS Configuration
    - Dates of Major Milestones

Preliminary Plat Approval Date:	1/16/2016
Final Plat Approval Date:	4/24/2016
Site Plan Approval Date:	5/25/2016
Pre-Construction Date:	9/13/2016
Underground Utilities Completion Date:	12/12/2016
Underground As-Builts Date:	2/4/2016
Streets Pre-Pave Date:	4/15/2017
Streets Completion Date:	5/15/2017
Electric Completion Date:	5/15/2017
As-Builts Completion Date:	
Final Walk-Through Date:	
Date Approved And Entered One Year Warranty:	
One Year Warranty Inspection Date:	
Final Acceptance Date:	

Leveraging Collector & Utilisync to Manage Utilities Better

- Example: Development Review
  - Live Demo

Leveraging Collector & Utilisync to Manage Utilities Better

Contact Information:

Shawn Beecher
GIS Administrator
City of Spanish Fork
(801) 804-4571
sbeecher@spanishfork.org

Matt Stayner, P.E.
Founder
UtiliSync
Mobile GIS Forms
Office: (385) 275-2700
Direct: (385) 275-5535
mstayner@utilisync.com