

South Placer MUD O&M IT Master Planning

ESRI Pacific User Conference

October 13, 2014

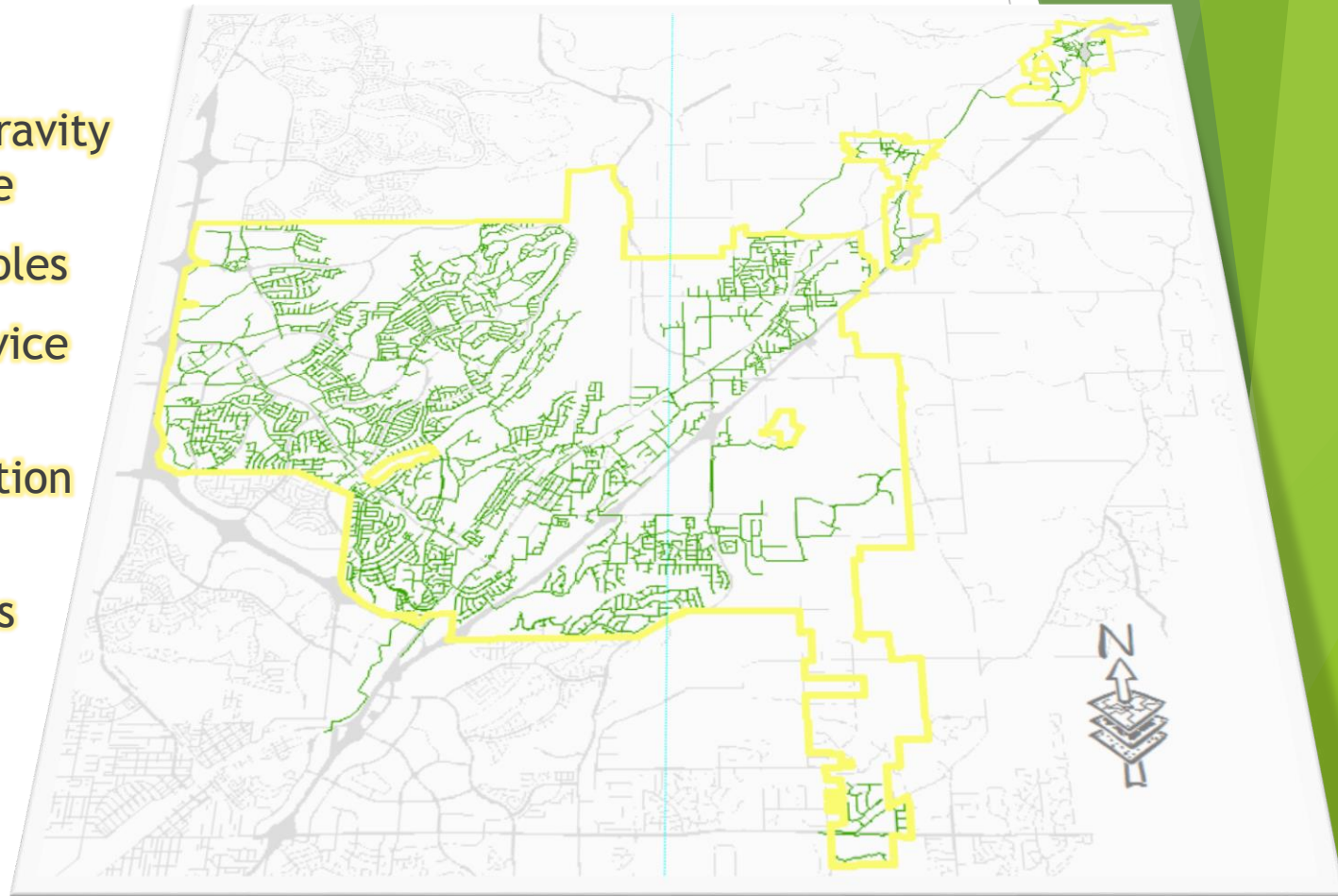


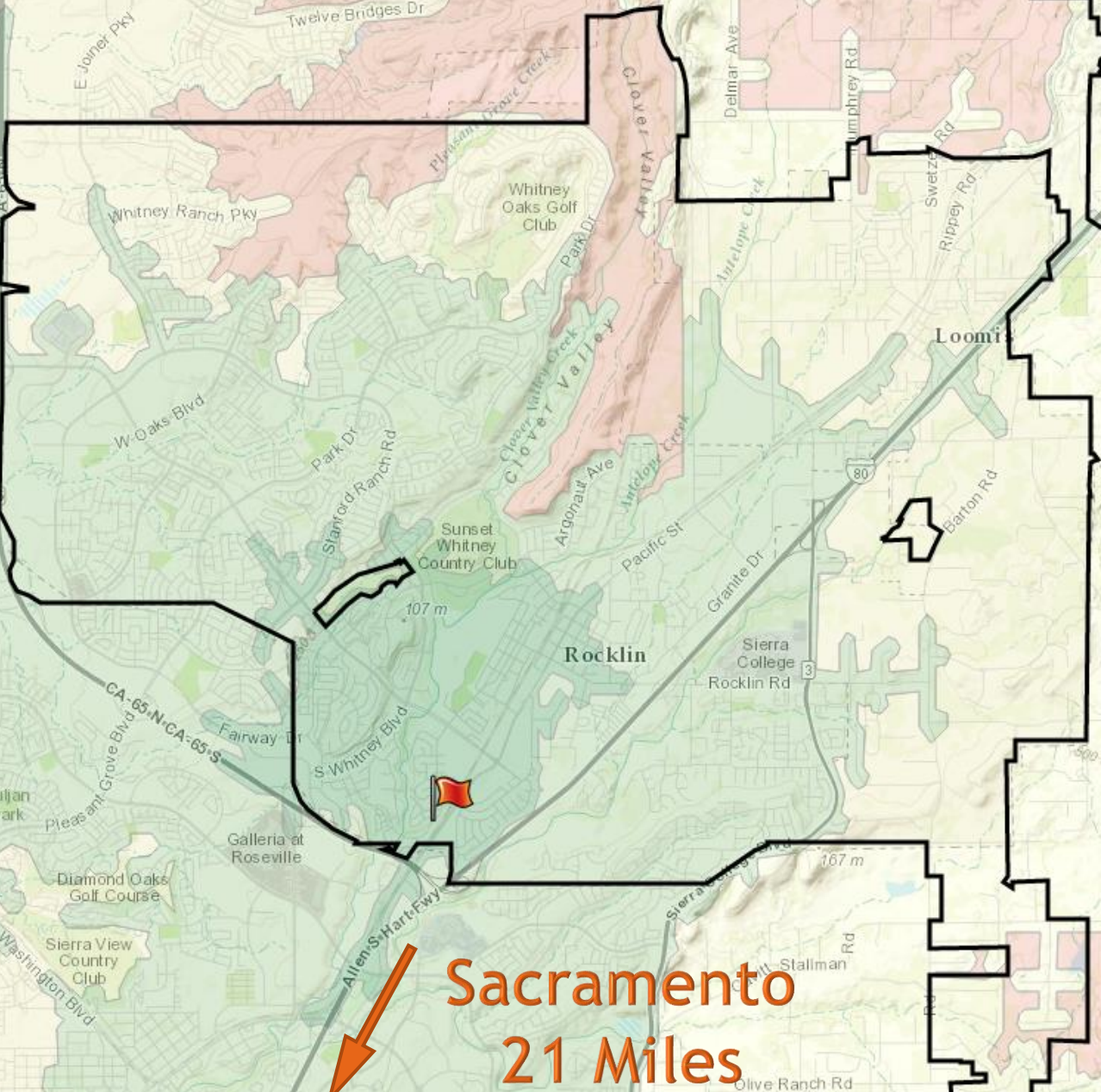
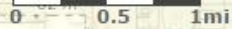
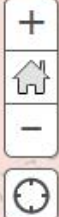
Agenda

- ▶ SPMUD's O&M IT Master Planning
 - ▶ Process
 - ▶ Software Applications
 - ▶ Implementation Efforts
 - ▶ Network/Hardware
 - ▶ Budgeting/Costs

South Placer Municipal Utility District

- ▶ 25 Employees
- ▶ 263 Miles of Gravity Sewer Mainline
- ▶ 5800+/- Manholes
- ▶ 21,600+/- Service Connections
- ▶ 72,000 Population Served
- ▶ 13 Lift Stations
- ▶ 4.8 MGD





Reno
131 Miles

Sacramento
21 Miles



What We Do

- ▶ PROTECT public health and the water environment.
- ▶ PROVIDE efficient and effective sanitary sewer service.
- ▶ PREPARE for the future.

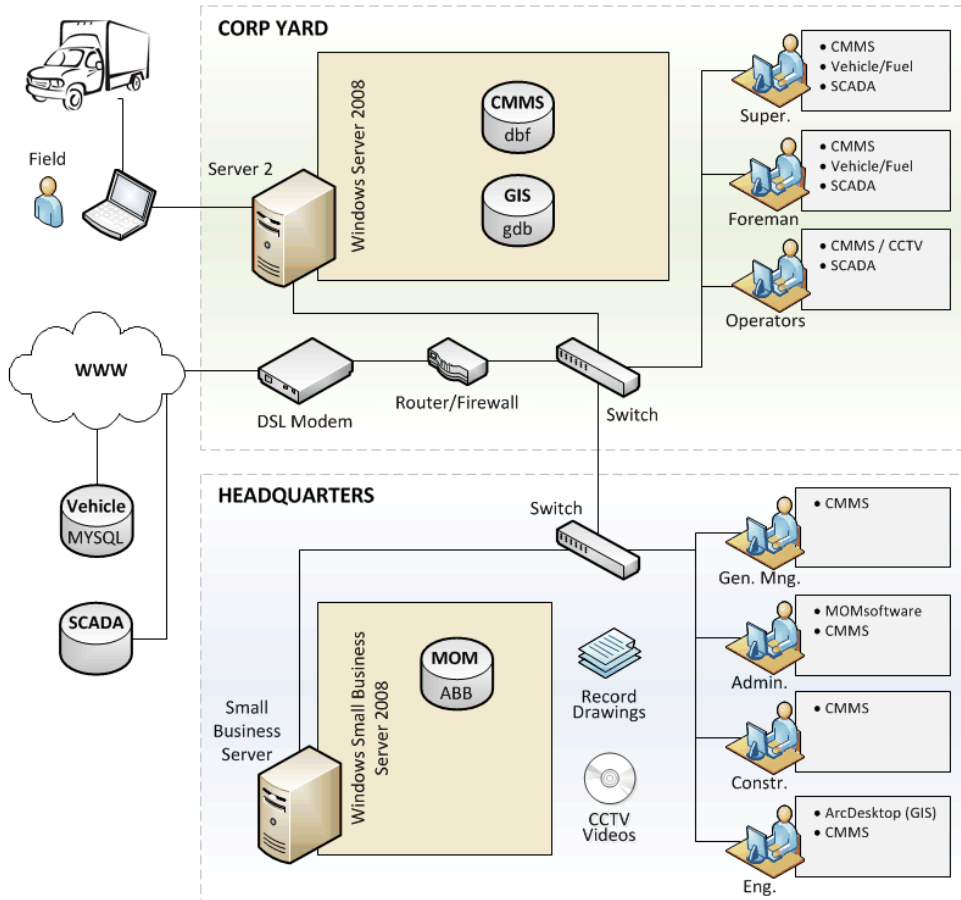
- ▶ Key Areas of Focus
 - ▶ Customer Service
 - ▶ Watershed Management
 - ▶ Infrastructure Management
 - ▶ Sewer System Maintenance
 - ▶ Financial Stability
 - ▶ Workforce Planning
 - ▶ District Growth

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 - ▶ **Information Technology**

How We Have Always Done It



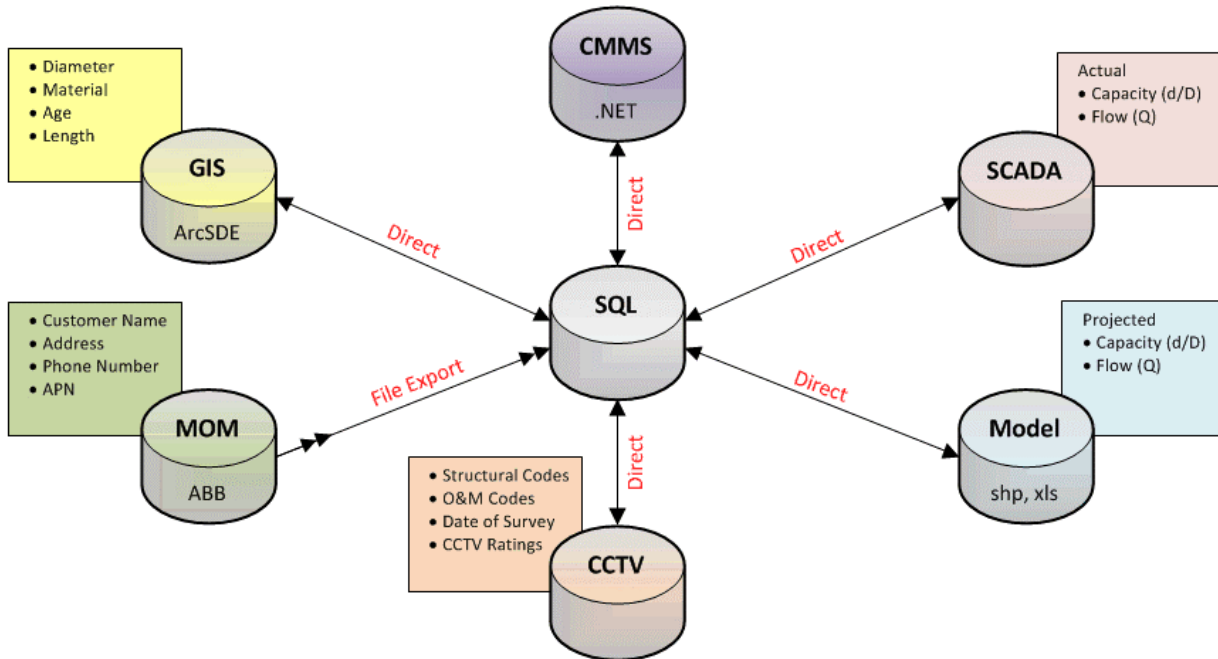
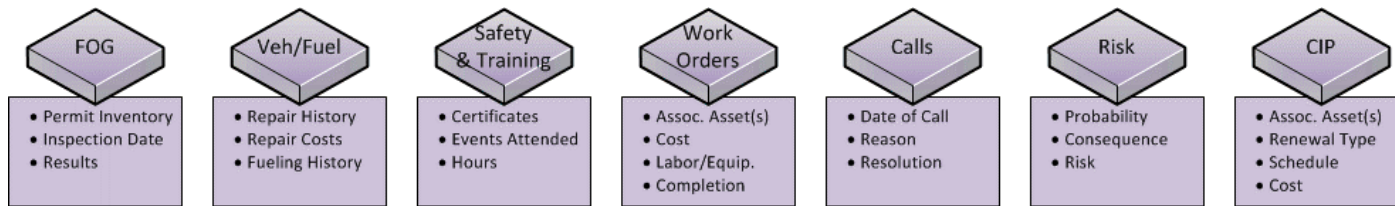
- ▶ Separate Databases
- ▶ Personal GDB
- ▶ WWMS
- ▶ MOM
- ▶ CCTV Videos on DVD
- ▶ Paper Forms

Looking for a Better Way

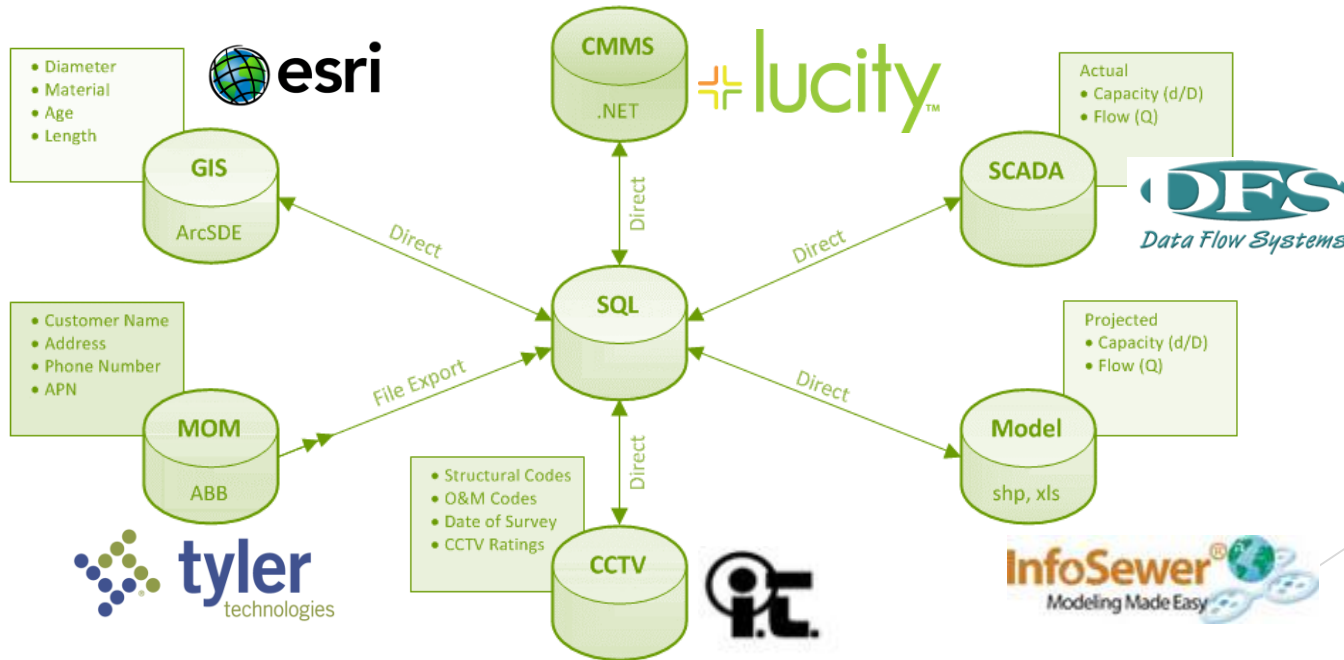
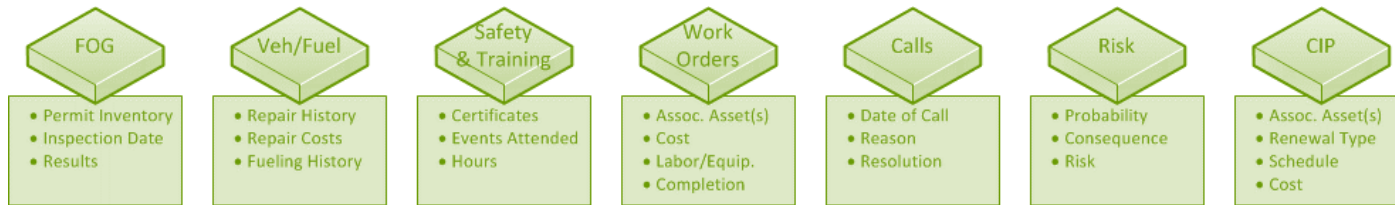
- ▶ O&M IT Master Plan
 - ▶ Inventory of Core Operations
 - ▶ Needs Assessment Workshop
 - ▶ Looked at Each Technology
 - ▶ Current State
 - ▶ Proposed Improvements
 - ▶ Developed a Master Plan



Database Integration



Database Integration



Lucity

(CMMS Software)

- ▶ Evaluation and Selection Process
 - ▶ Desktop 30, Invite 8, Visit 4
- ▶ Sewer Inventory, Work Orders, Requests, FOG, Fleet
- ▶ Implementation
 - ▶ Feb - Begin legacy data migration
 - ▶ Mar - Begin web forms, PM templates, and roles
 - ▶ Apr - Complete GIS integration
 - ▶ Jul - Complete web forms, security roles, and users
 - ▶ Aug - Start onsite training
 - ▶ Oct/Nov - Go live

Esri

(GIS Software)

- ▶ ArcGIS Server
 - ▶ Jan 27
- ▶ Connections made between Lucity and GIS
 - ▶ 1-to-1 relationship
- ▶ Web maps
- ▶ Integrated Platforms
 - ▶ CMMS - Lucity (Desktop and Web)
 - ▶ CCTV Inspection - IT Pipes
 - ▶ Hydraulic Model - Infosewer
- ▶ Ongoing improvements and integration
 - ▶ Condition Assessment and Capital Improvement Planning

IT Pipes

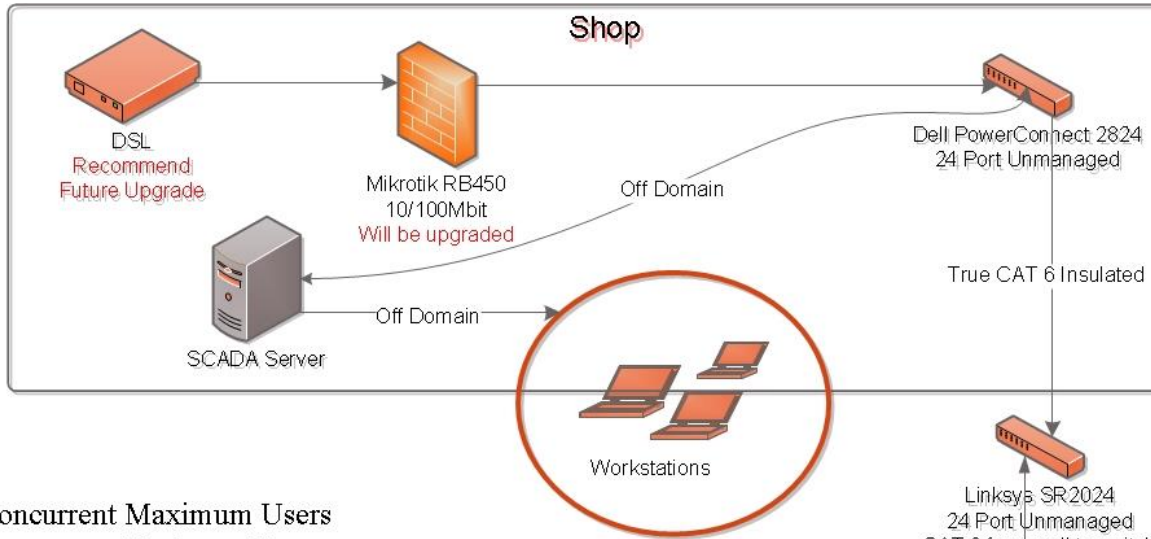
(CCTV Software)

- ▶ Evaluation and Selection Process
 - ▶ Integration with GIS (In Trucks and Office)
- ▶ Using PACP coding system
 - ▶ National standard
 - ▶ Improved connectivity with other programs
- ▶ Events
 - ▶ May 28 & 29 - PACP training
 - ▶ Jun 25 - Retrofitted CCTV van delivered
 - ▶ Jul 2 - Onsite Aries training
 - ▶ Jul 7 - Onsite IT Pipes training
 - ▶ Jul 14 - Collecting data

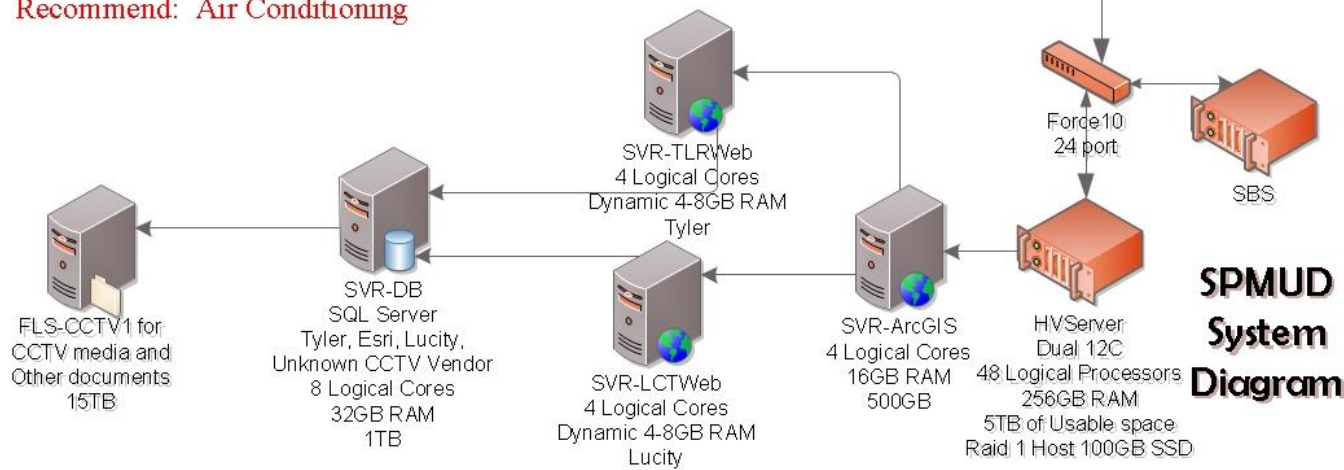
Need for New Hardware

- ▶ Process
 - ▶ IT Survey
 - ▶ Understand entire system
 - ▶ Understand your users
 - ▶ Visually inspect
 - ▶ Provided 'As Is' and 'To Be' Diagrams
 - ▶ IT Team Meeting with Dell Representative
 - ▶ Multiple Software Vendors and IT Consultant
 - ▶ IT Install and Configuration
 - ▶ Remote Access for Vendors; VPN
 - ▶ Coordinate with IT Team until the very end
 - ▶ ArcGIS Server Install and Configuration
 - ▶ Understand GIS scaling and configuration for Active Directory

SPMUD Network Design



25 Concurrent Maximum Users
 8 Concurrent Minimum Users
Recommend: Air Conditioning



Advantages of Virtual Server

- ▶ **Future Scalability / Flexibility**
 - ▶ Internet based solutions
 - ▶ Lucity Mobile for iOS or Android
 - ▶ Hosting Website
 - ▶ Citizen Requests and Notifications
 - ▶ Add more storage based on need
 - ▶ Add more virtual machines
 - ▶ Already able to spin up a new server for ITpipes
 - ▶ Add Replication if needed without impacting production
- ▶ **Less of a footprint**
 - ▶ Less Hardware, power and space required

Costs

- ▶ Software - \$110,000
 - ▶ ArcGIS Server (*Standard, 4 core*)
 - ▶ SQL Server (*25 cal*)
 - ▶ Lucity (*Sewer, Work Orders, FOG, Fleet, Inventory*)
 - ▶ ITpipes (*3-user concurrent office + two trucks*)
 - ▶ InfoSewer (*able to model entire system*)
- ▶ Hardware - \$45,000
 - ▶ Hyper-V Server (*48 logical processors, 256 GB RAM*)
 - ▶ Storage (*RAID 1 Host 100GB SSD, 5TB Usable Space*)
 - ▶ Force 10 Switch (*24 port*)
 - ▶ NAS Storage (*15TB*)
- ▶ Professional Services - \$185,000 (*over four years*)

Lessons Learned

- ▶ Be honest with yourself in self-assessment
- ▶ Get into the details
 - ▶ Rack-mount configuration (2 rails vs 4 rails)
 - ▶ Air conditioning
- ▶ Don't be hesitant to get help

QUESTIONS?

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