



Empowering Operations Through Remote Technology

Presented by: Kevin Cooke

Empowering Operations Through Remote Technology

- Your SCADA System
 - What Most SCADA Systems Currently Do
 - Understanding Your System
 - Capabilities of SCADA Systems
 - How to use these capabilities to leverage your SCADA system
 - Marriage between technology and operations
 - Improve operations
- House Analogy
- Specific Example of Improvements

SCADA Systems

S – Supervisory

C – Control

A – And

D – Data

A – Acquisition

Monitor

Alarms

Control

Historical Data

Your SCADA System

- How do you compare to the industry standard?
- Does your operations leverage your SCADA system?
- Are you taking advantage of the capabilities?
- Is the technology current?
- Could improvements be made at a low cost?

SCADA System Capabilities

- Monitor – Thick client, Thin Client, Remote Access
- Control - Security levels, Locations, Remote Control, Automated Control
- Alarming – Prioritize, Assign to Areas, Route, Remote Notification, Increase Visibility
- Historical Data – Reports, Trending, Efficiency, Data to Analyze Process and Operation

Using These Capabilities

- Initial Investment
- Powerful System
- Leverage Technology
- Improve Operations
- Strong ROI



Integrating Technology with Operations

- Current Operations
- Realize the Capabilities of Your System
- Possible Improvements
- Technology Available
- Apply Technology to Leverage Operations
- Training

Understand Current Operations

- Technology in place being used
- Current Areas of Strengths and Weaknesses
- Past Successes and Failures
- Capacity of Staff

Realize the Capabilities of Your System

- Just because it isn't being used, doesn't mean it is not available
- Software and Hardware
- Communications
- Talk to your integrator

Possible Improvements

Possible Improvements

- System Architecture – Redundancy, Firewalls
- Workstations – Thin Clients
- Remote Access – Laptops, Smart phones, Tablets
- Alarm Management – Notification, Routing, Prioritizing
- Historical Data – Trends and Reports
- Cost Justification – Which improvements move forward

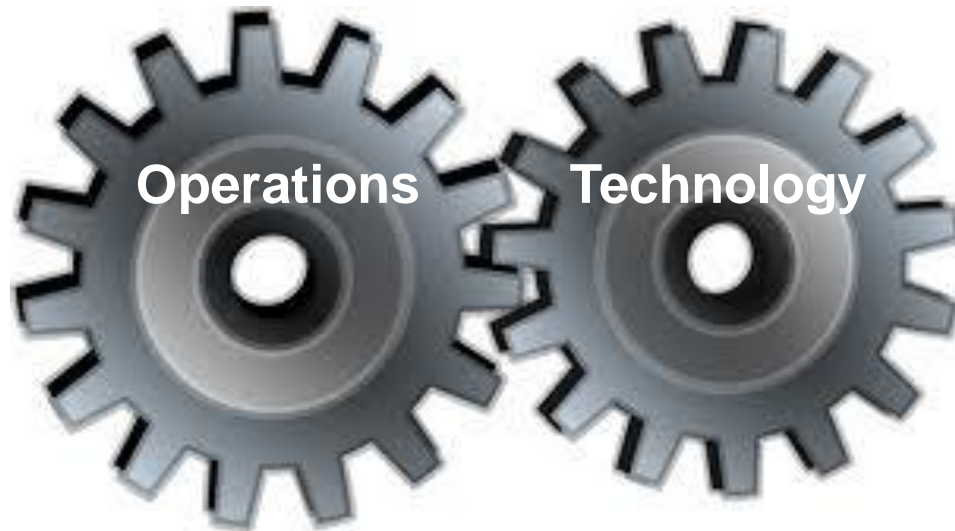
Know What Technology is Available

- Continuously new releases and improvements
- Tried and True
- Talk with Industry Leading Company Reps
- Conferences
- See What Other Utilities are Using



Applying Technology to Leverage Operations

- Find the Technology That Fits
- Integrate the Technology with Operations
- Make Sure Operators Understand the Technology



Training

- Understanding is Critical
- Know the Capabilities
- Hands On Training
- Embrace the Technology



Improve Operations

- Faster Responses
- More Reliable System
- Tasks require less time to complete
- More Accessible Information

House Analogy



600-02289010 [RF] © www.visualphotos.com



House Analogy

- Unfurnished House – Basic SCADA System
- Blueprints, Foundation, Wiring, Plumbing – System Architecture
- Home Insurance – Redundancy
- Closets - Historian
- Plumber/Maid – Integrator
- Mailman – Alarm Routing
- Flatscreen TV – Expensive technology/Laptops/Tablet
- Security System – SCADA security



Specific Example

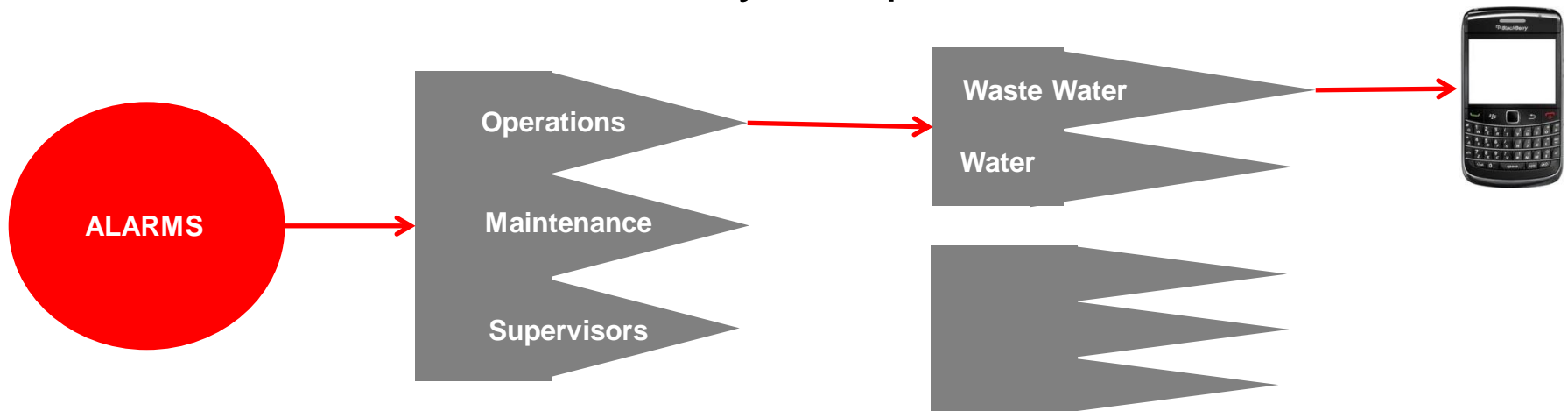
- 120 Remote Water and Wastewater Sites
- Large Geographic Separation
- 1 SCADA Server, 2 Workstations
- 2 On-Call Operators
- Alarm Dialer for 3pm – 7am
- Isolated SCADA network

Example – Top End Upgrade

- System Architecture Improved
 - Redundant HMI Servers
 - Historian
 - More SCADA Workstations
 - SCADA Network separate but not isolated
- Blackberries – Alarm Notification by Email
- Laptop Remote Thin Clients

Example – Alarm Enhancements

- Replaced Alarm Dialer with Emails
- Prioritized Alarms
- Routed Alarms
- Increased Alarm Visibility to Operations



Example – SCADA in line with Operations

Before

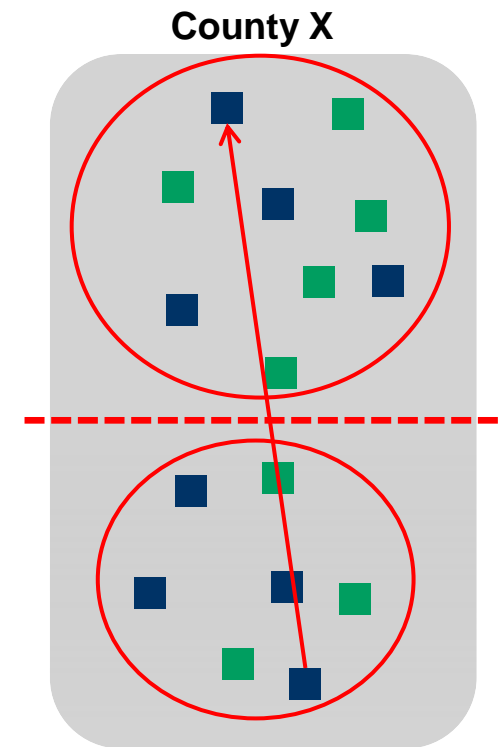
Operations Divided into Water and Wastewater

- Operators only know half of the process
- Took a long time to get to many sites

After

Operations Divided into North and South

- Operators know the entire process
- Smaller geographical area of responsibility



Observed Benefits

- Faster Operator Response Time
- Faster Maintenance and Upgrades
- Operators can accomplish more in the same time
- Additional Level of Reliability for On Call Operators

Conclusion

You've made the initial investment

Take the next step

Improve your Operations

Fast ROI

Thank You!

Questions?