

Geospatial-Enabled Field Inspection Management

Sean Graebner

Alliances Manager – Geospatial

sean.graebner@schneider-electric.com

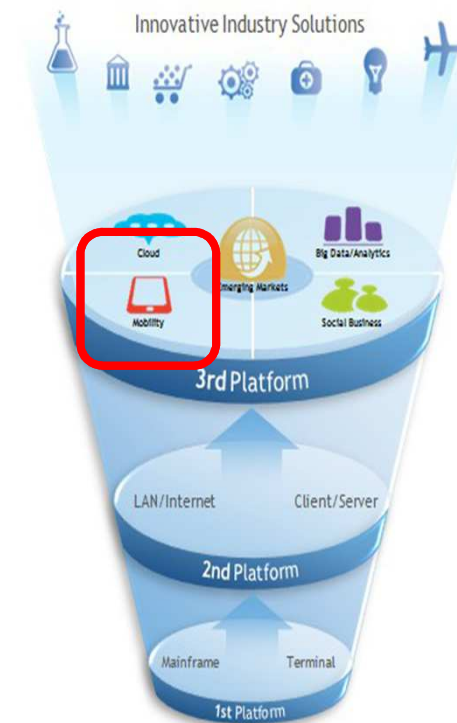


Agenda

- Mobile Utility - Business Drivers and Challenges
- Lincoln Electric System - Customer Perspective
- Lincoln Electric System - Case Study

Mobile Utility Market

- **IDC – Mobile and The Third Platform**
 - \$430 M – 2014 mobile utilities spend globally
 - 5.2% growth 2009 - 2014
 - Tablet growth - 10.3% 2014 - 2017
- **42% Utility IT Budget Spent on Mobile**
 - 26% for mobile devices
 - 16% for applications and services
- **Utilities still lagging other industries in adoption of mobile strategies**



Mobile Business Drivers



- Utilities Require Field Data Collection Tools

- Timely delivery necessary
- Quality of data is important
- Aging assets & infrastructure

- Field services are challenged to be more efficient

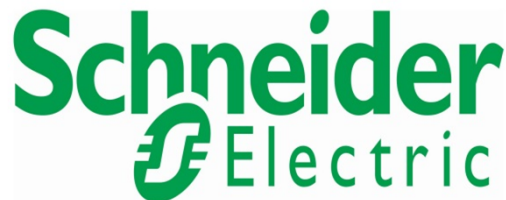
- Legacy processes hurt productivity
- Work varies based on changing demands
- Increasingly mobile and aging workforce

Challenges - Legacy Systems & Paper

- Implementation and deployment
- Data synchronization
- Software updates
- Maintenance over time
- Security management
- Your IT is already stretched thin

Customer Perspective - Lincoln Electric System (LES)

- Electric utility
- 550 square kilometers within Nebraska, USA
- Serving 114,000 customers
- HV, MV, & LV networks
- Using ArcGIS, ArcGIS Server, ArcFM, Fiber Manager, Responder OMS



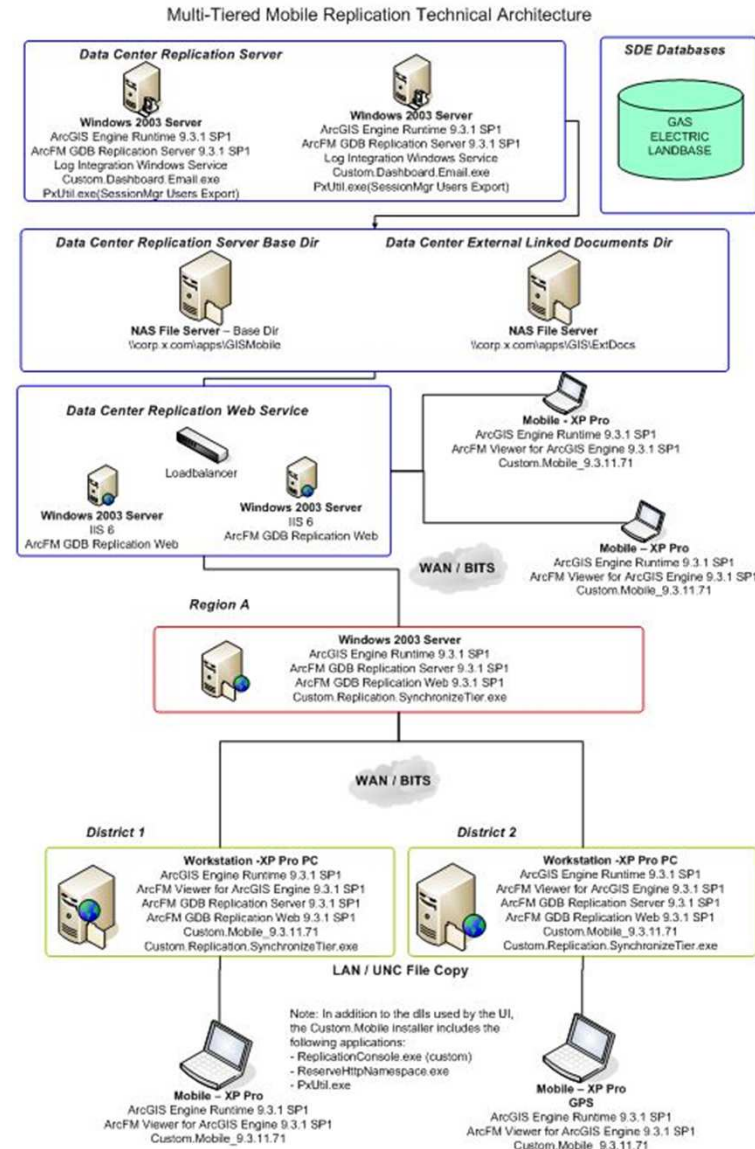
Legacy Mobile Solution

- Custom ArcGIS Engine application

- Slow data movement
- High support factor

- Goals for New Solution

- Capture and manage data for various types of inspections
- Improved infrastructure knowledge
- More efficient operations
- Seamless integration of field data with the enterprise GIS's asset record



Simple - Spatial - Secure

- Simple...

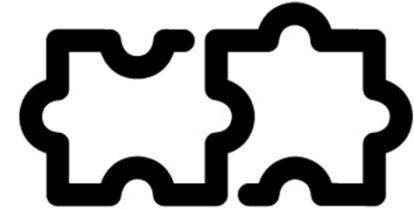
- to implement for common use cases
- to configure and extend
- to integrate with existing systems
- to maintain

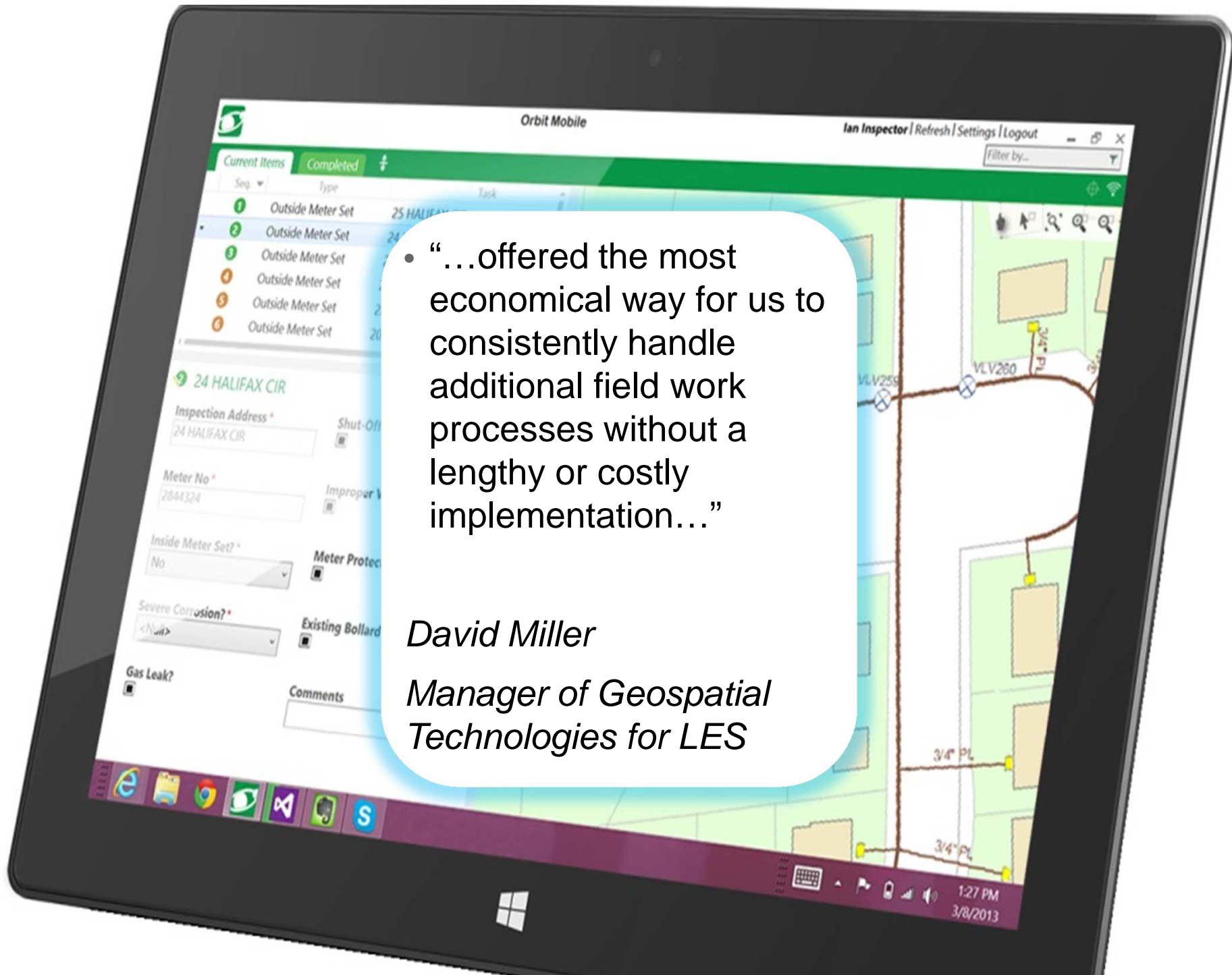
- Spatial...

- Must leverage LES' existing ArcGIS and ArcFM investment
- Out of the box integrations

- Secure...

- GIS data must remain on-premise
- LES' Active Directory determines security policy





- “...offered the most economical way for us to consistently handle additional field work processes without a lengthy or costly implementation...”

David Miller

Manager of Geospatial Technologies for LES

Field Inspection Projects

● Jumpstart Program

- Walk first, then run
- Access to Orbit with rapid deployment
- Configure one mobile data collection use case
- Mobile client deployment and training
- Reporting and visualization configuration

● First Targeted Projects

- Wood pole inventory
- Transmission line patrols
- Transmission corridor vegetation management
- Padmounted equipment inspections



LES' Mobile Implementation



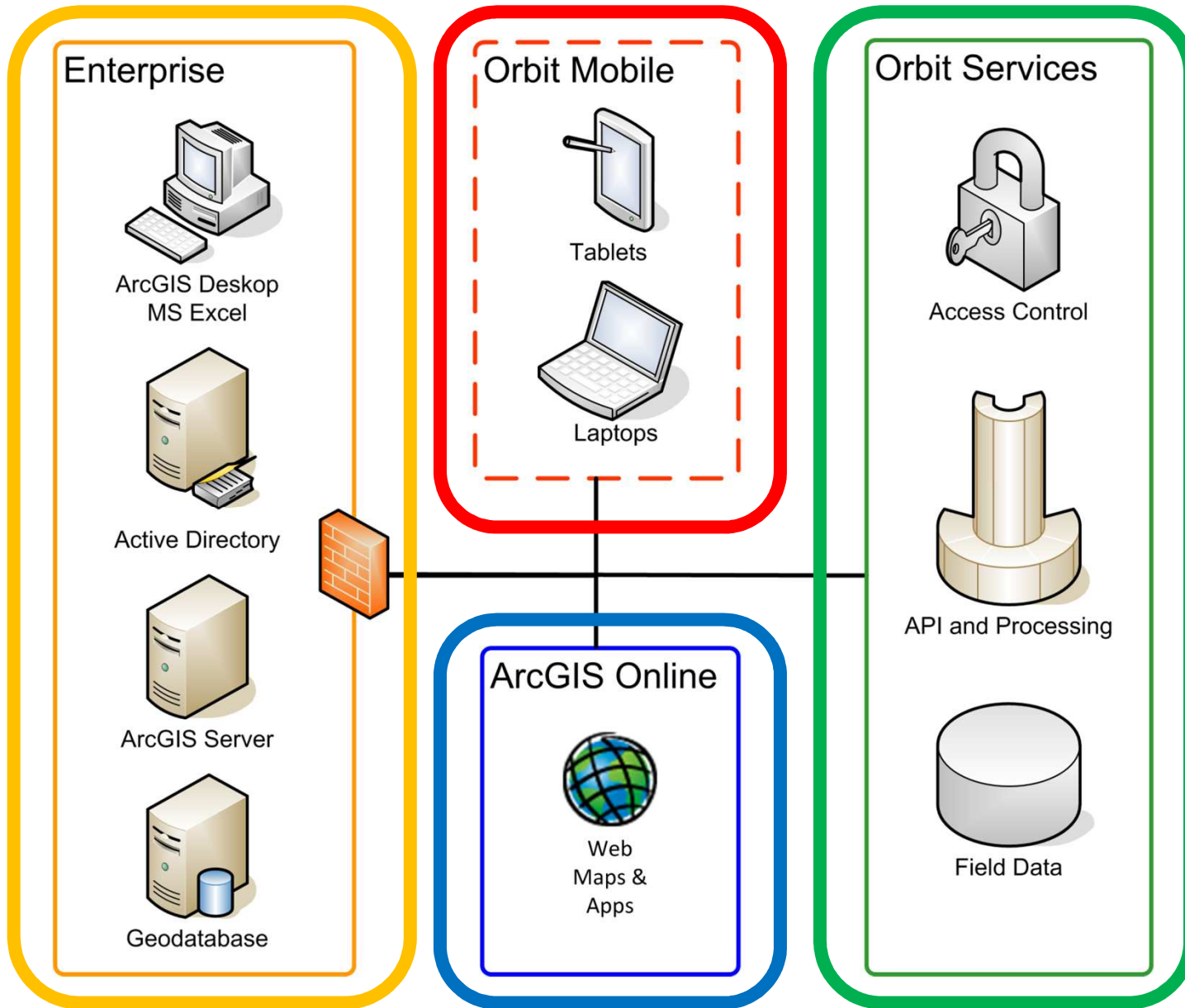
- **Rapid time to value**

- The solution is specifically designed to get utilities up-and running quickly
- Training: First time “green” user, with no mobile experience, was up and running and using the system effectively in *90 minutes*
- Began capturing field data in a matter of days - not weeks or months

- **Workers can easily identify, inspect, and document assets while in the field**

- **Communicate the completion of work back to the office**

- **LES's data is secure by integrating with the utility's existing corporate security model**



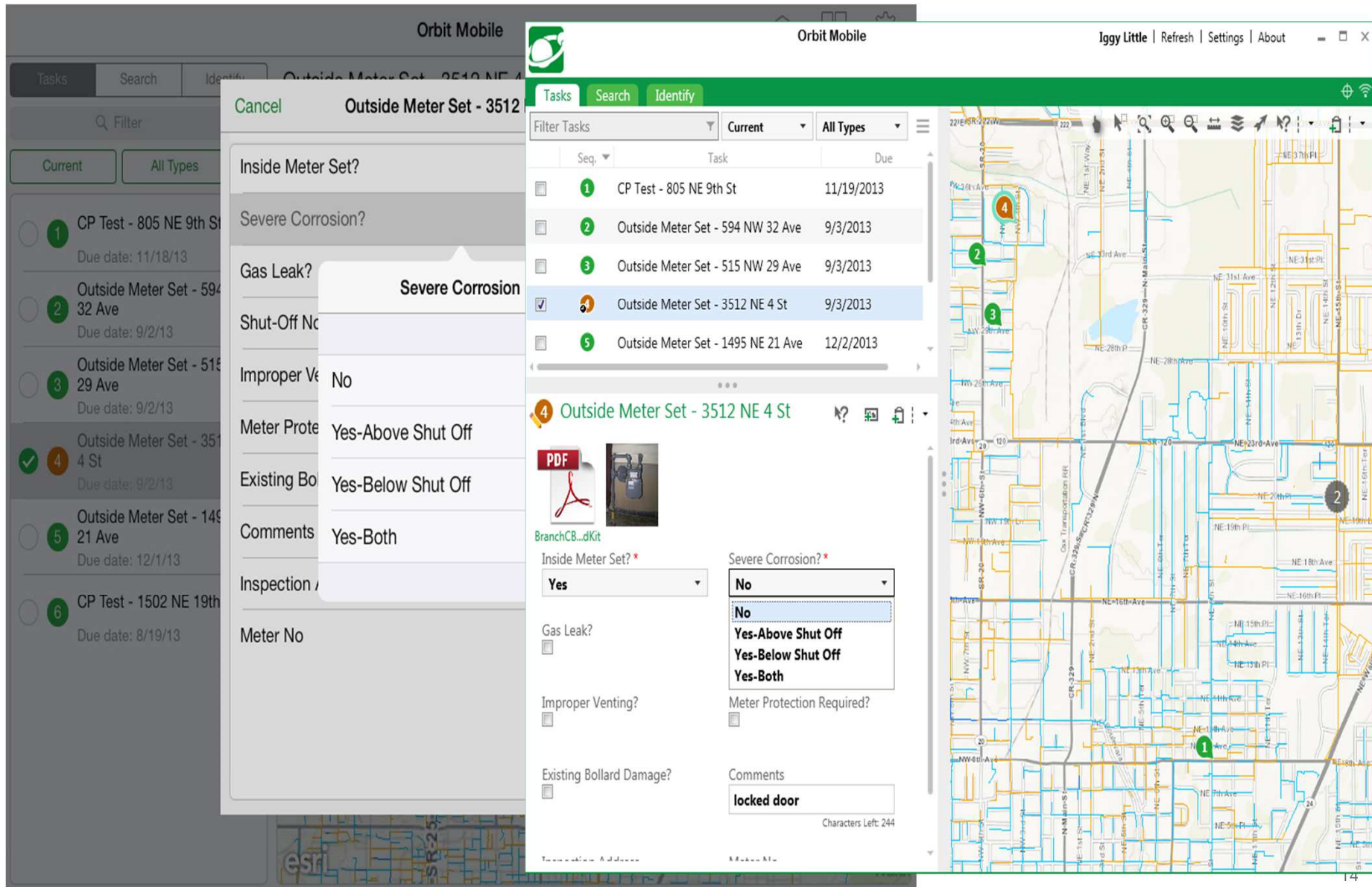
Tangible Business Benefits



- "I can definitely say the system is helping us do more inspections..."
- "We were planning on using our custom made ArcEngine application... and we knew we were going to have to change that app to make it less analyst intensive."
- "...the amount of work we have had to put into data management and reporting have been minimal (less than an hour a week vs. the 2-4 hours a week for pole inventory). Tracking and reporting data is also greatly simplified."

*David Miller
Manager of Geospatial Technologies
Lincoln Electric Services*

Intuitive Mobile Client Apps



Integrations - ArcMap - Operations Dashboard - Esri Maps for Office

The dashboard displays the following data:

Location	Location Cost
POLE10851	
POLE142739	\$12,398.00
POLE10847	\$12,259.00
POLE10687	\$4,884.00
POLE10202	\$2,314.00
POLE24264	\$2,254.00
Total Damage Reported	\$35,616.02

Assembly	Count
PC40-3	33
PW45-3	21
PC30-1	16
PW30-6	6
PW50-3	1

Area	Cost
1	375.7
6	2254.2
39	14652.3
100	37570
13	5328.96
69	28284.48
40	15028
43	16155.1

Summary



- Utilities are becoming more mobile and need modern solutions to help them improve their field operations
- LES' legacy system had a high TCO, slow ROI
- LES needed a solution that was Simple - Spatial - Secure
- Orbit provided rapid time to value – implementation, training, efficient field work, integrations, flexibility, system maintenance

Technology Benefits



● Flexibility

- LES can shape the mobile application to quickly and inexpensively to accommodate any changes without needing costly software upgrades

● Software Updates

- LES receives automatic updates via app-store model
- After 30 days, 300+ inspections and 1200 pictures, total data usage was 5 GB
- In observing services usage metrics Schneider Electric was able to optimize data transfer
- Result - reduce data usage for LES by about 40%

"If inspection that is seamless with ArcGIS is important to you then Orbit is a no brainer."

"It's like Apple - it just works."

David Miller
Manager of Geospatial Technologies
Lincoln Electric Services (LES)

