



# TECHNICIAN SAFETY AND CUSTOMER ENGAGEMENT WITH MOBILE WORKFORCE

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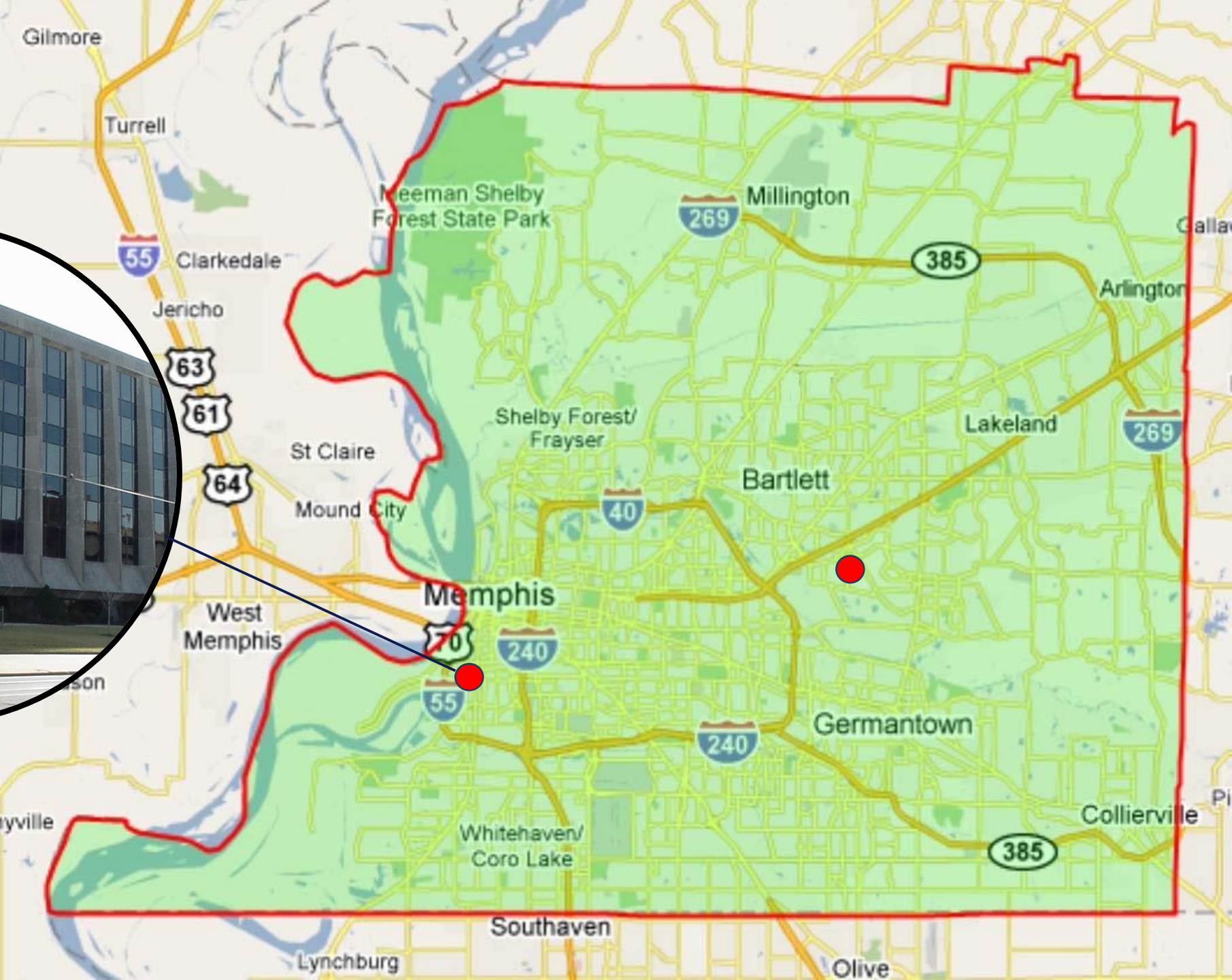
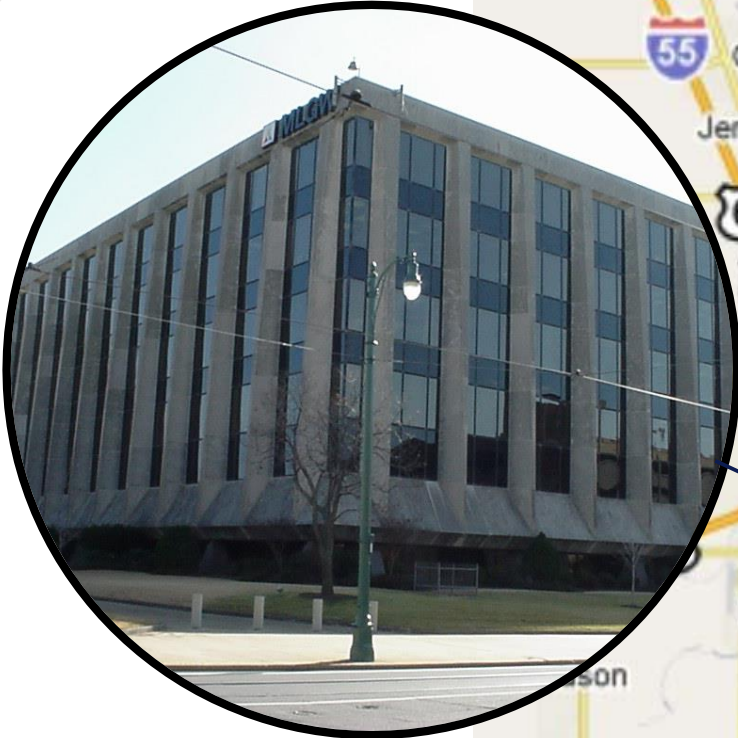
MICHAEL FAULK

HEIDI SLAKANS

CAROLYN JOHNSTON



# MLGW Location



# ONE OF THE LARGEST 3 SERVICE UTILITIES IN THE UNITED STATES



**ELECTRIC**

Residential

372K

Commercial

46K



**GAS**

Residential

309K

Commercial

26K



**WATER**

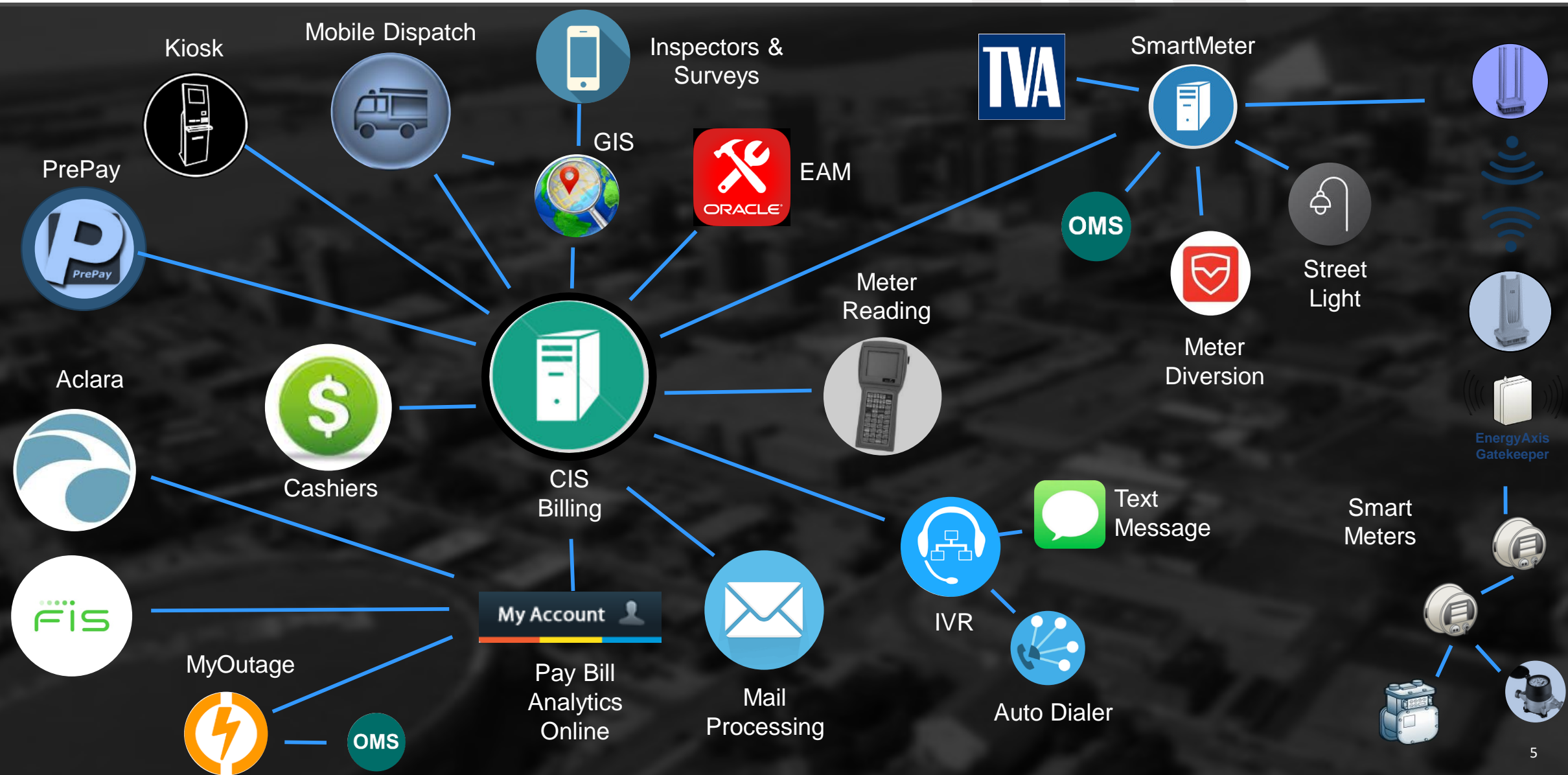
Residential

243K

Commercial

24K

# APPLICATION NETWORK



# MOBILE DISPATCH

- 300 trucks equipped with rugged Toughbooks
- Areas include:
  - Customer Service
  - Revenue Protection
  - Meter Shops
  - Facility Locators
  - Trouble Shooters



# MDSI SYSTEM HISTORY AND LIMITATIONS



## MDSI MOBILE DISPATCH

- Went live in 2000 from paper
- Solid Application
- Toughbooks mounted in trucks
- Vendor made changes to the mobile application
- Costly to have vendor modify



## WHAT'S MISSING

- Adding additional Business Units
- Go Paperless
- ESRI Integration
- Mobile away from trucks
- Create / Modify mobile workflows in house
- Field management for Foreman

# SMART METER INSTALLS



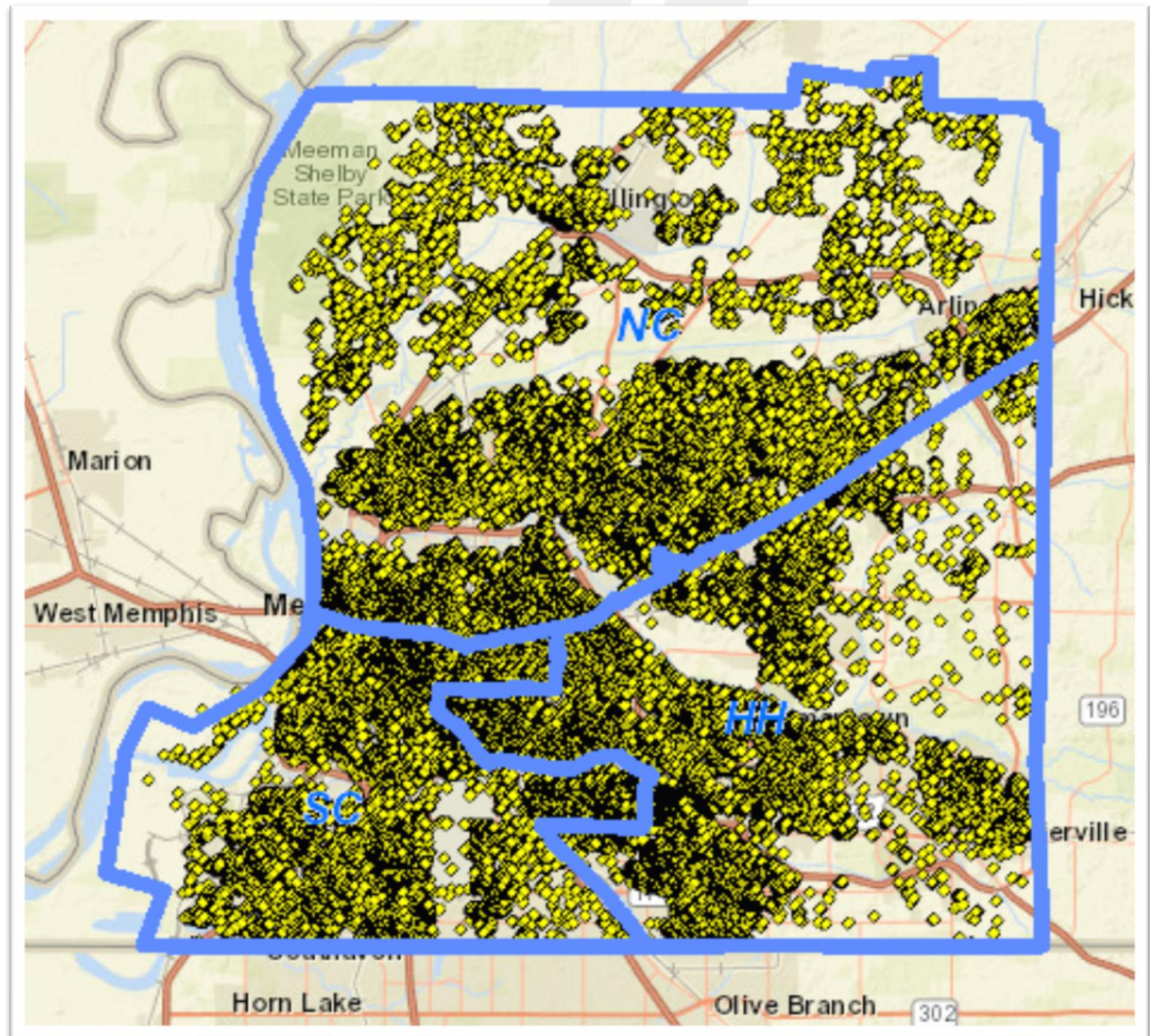
Electric  
388,227



Gas  
270,405



209,963



# SMART METER PROJECT – LESSONS LEARNED

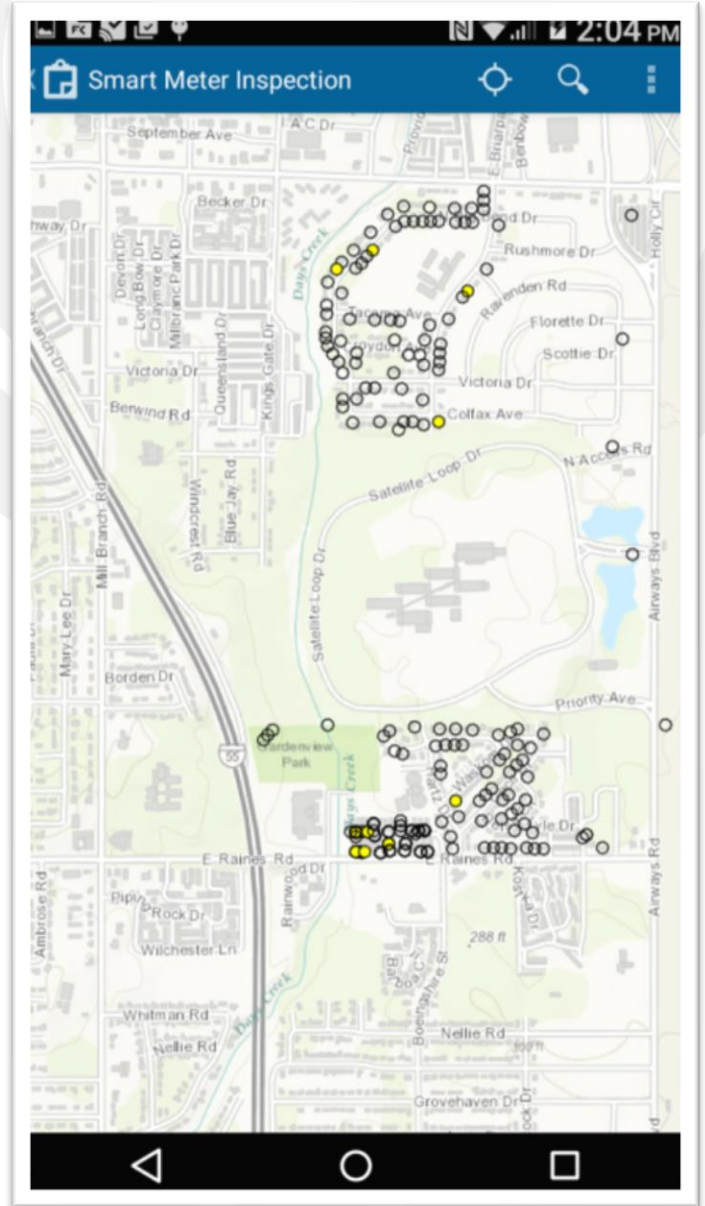
Went into this large project needing more out of our mobile dispatch system

- Better customer engagement
- Customer notification of appointments
- Capture before, during and after pictures for audit
- Capture GPS location
- Additional information needed on service order but unable to modify mobile app



# SMART METER INSPECTORS

- Inspectors and Surveyors are able to use a iPad or iPhone to work their orders
- Using the ESRI Collector application setup by GIS
- The work is available on the map to work and does not need to be dispatched
- The color of the premise dots determine the status of the work
- Applications in production are SmarMeter Surveyors, Trace out Inspectors, Gas Lead Inspectors and Atmospheric Corrosion Inspectors.



# ORGANIZATIONAL DESIGN AND BUSINESS TRANSFORMATION PLAN

This plan concentrates on those functional areas within MLGW that will be impacted by the implementation of the SmartMeter project.

- Truck rolls have been reduced ~75%
- Create new job descriptions that allow one truck roll to a premise for multiple meter operations
- Create better workflows in mobile to capture more information in the field
- Combine dispatch locations into one location for better communication and streamline operations

## Expected Outcomes

- First call resolution
- Reduce vehicle accidents
- Lower transportation costs
- Overtime/Shift Savings
- Reduction in utility theft
- Position reductions
- Better customer experience and communication

# NEW MLGW MOBILE NETWORK

The new project required higher bandwidth, security and reliability



# AT&T FIRSTNET CELLULAR NETWORK

- All mobile applications will run on a cellular network
- MLGW is in the process of moving our AT&T solution to a new AT&T FirstNet solution
- FirstNet is a first responders network allows MGLW to have priority communication over the general public
- FirstNet will give MLGW priority bandwidth and reliability during storms and disasters



# SELECTED NEW MOBILE DISPATCH VENDOR

- Selected Clevest for our mobile dispatch replacement

Provides solutions for:

- Customer engagement
- Field management
- MLGW managed applications
- ESRI Integration
- Mobile away from the truck



# Field Safety Benefits

- Providing field crews with up to date information and maps
- Ability to report incorrect map information in the field
- Dispatchers will have location of crews and technicians on Workspace
- Dispatchers can also setup geofences for at-risk areas when workers are entering/exiting an area
- Dispatchers will have a weather layer to inform technicians of bad conditions
- Technicians will have a help button and timer on the workbook to signal back to dispatch if there is a problem
- Technicians will have a premise history of hazardous situations.
- Ability to perform a pre-check on a vehicle before starting the day.



# CUSTOMER ENGAGEMENT

- Allowing the technicians to carry the Toughbooks out of the truck will provide better customer service allowing the technician to have all of the information with them as they talk with the customer
- Notify Customer on arrival times of technicians
- It will allow them to take pictures of theft, meter issues or 811 issues

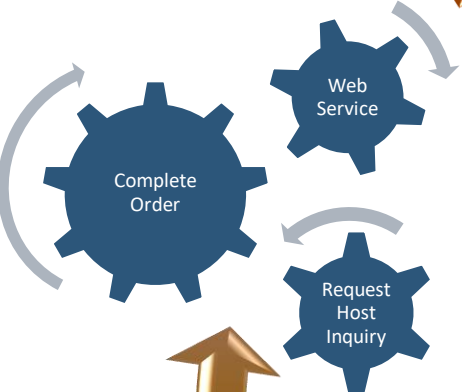


# MLGW MOBIEL DISPTACH CLEVST SOLUTION

UTALIZING MWFM APPLICATION,WORKSPSCE, GENISIS, & JASPERSOFT  
REPORT

# MLGW MOBILE DISPATCH WORKFLOW

Completion and/Or  
Host Inquiry Process



Work Orders Received  
(Enrout,& Onsite Process)



Mobile Dispatch Application  
(Workbook)



MLGW Host Systems



Clevest Host System



Dispatcher Application  
(Workspace)

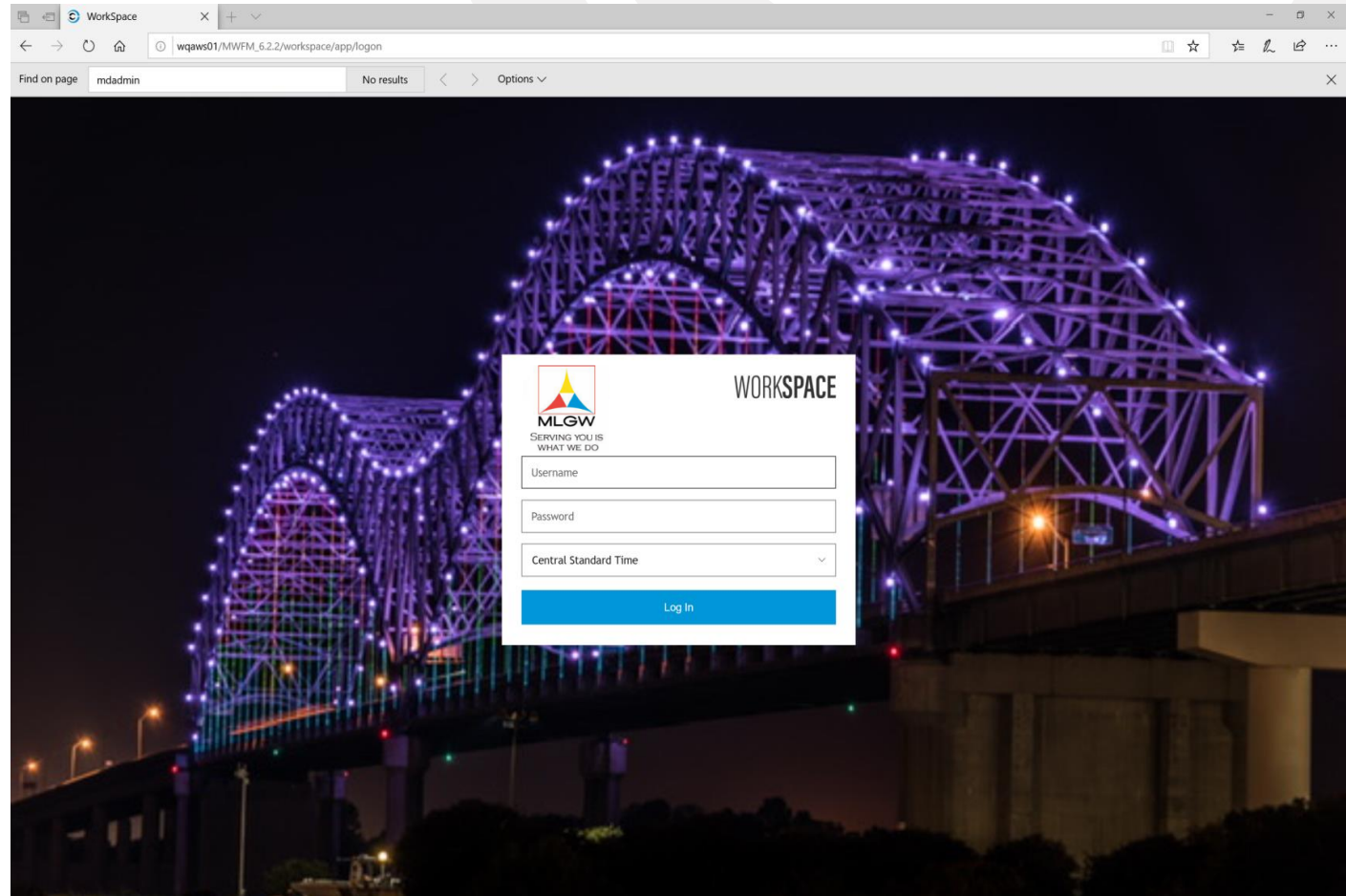
# MLGW MOBILE DESIGN SCREENS (GENESIS)

- MLGW uses Genesis application that provides graphical interface to create the mobile dispatch workflow.
- It allows the user to create, edit, build new interface screens that are used in the Workbook & Workspace applications.
- Set up workflow and set rules and validations
- Publish screen to enduser.

The screenshot displays the MLGW Mobile Design Screens (Genesis) application interface. The main window is titled "MFF - Genesis" and contains three panels for Electric, Gas, and Water meter information. Each panel includes fields for Status, Meter Type, Occupied As, Loc, Dials, Meter Size, Meter Number, Last Reading, Meter Off Date, Reading, Demand, Cumulative, Completion Code, Reported Location, Trouble Group, Trouble Code, Found On, Seal, Lock, and Boot. The Electric panel shows a meter number 999999999 and a last reading of 12897. The Gas panel shows a meter number 592002 and a last reading of 3300. The Water panel shows a meter number 18013519 and a last reading of 13. The interface also features a Solution Explorer on the left, a top menu bar with File, Window, and Help, and a bottom status bar with a "Connected" indicator and a user profile.

# MLGW DISPATCHER APPLICATION (WORKSPACE)

- MLGW Creating and Receiving Orders in Host Systems
  - CIS (Revenue Protection, Customer Service, Meter shop, etc....)
  - Cares (Troubleshooters)
  - TN811 (Locates)
- Orders Received in Clevest Host System
  - Soap Web Services
- Dispatching and monitoring process
  - Auto Assigned
  - Manually Assigned
- Dispatcher to field workers communication
- Jasper Reports and Dashboard



# MLGW DISPATCHER WORKFLOW (WORKSPACE)

- Dispatcher Workspace Log in
- Workspace Views
- Workorder Assign
- View Assigned, Completed, Onsite, Enroute, etc..
- View W.O History, Breadcrumbs, Geofencing
- View GIS Assets & Attachments
- Run Reports & Dashboard

The screenshot displays the MLGW Dispatcher Workspace application interface. The left sidebar contains navigation options like 'Map Service URLs', 'Users', 'Locates RouteSheet', 'Locates\_Heidi', 'Nearby Orders', 'Workers', and 'Map'. The main content area shows a report titled 'Worker Order Activity' for 'Jack, Andrew' and 'RevProt, Sasha'. The report includes a table with columns for Order Number, Time (HH:mm), Activity, Host Order Number, Order Type, Area, Job Code, Enroute Time/Duration, Onsite Time/Duration, and Estimate. The report is filtered by date (2019-10-24) and shows a total of 2 suspended orders. The bottom of the screen indicates 'Page 9 of 13' and 'V6.2'.

Jack, Andrew							Enroute		Onsite		
Order Number	Time (HH:mm)	Activity	Host Order Number	Order Type	Area	Job Code	Time (HH:mm)	Duration (hh:mm)	Time (HH:mm)	Duration (hh:mm)	Estimate (HH:mm)
2019-10-03								00:02	00:00	00:00	
C000000106	15:33	Enroute	3000158295	RP			15:33	00:02	00:00	00:00	
C000000106	15:43	Suspend	3000158295	RP				00:00	00:00	00:00	
2019-10-10								00:00	286:19	00:05	
C000000106	11:59	Enroute	3000158295	RP			11:59	00:00	00:00	00:00	
C000000106	11:59	OnSite	3000158295	RP				00:00	11:59	286:19	00:05
2019-10-23								00:00	00:00	00:00	
C000000106	10:20	Suspend	3000158295	RP				00:00	00:00	00:00	
Suspended: 2								00:02	286:19	00:05	

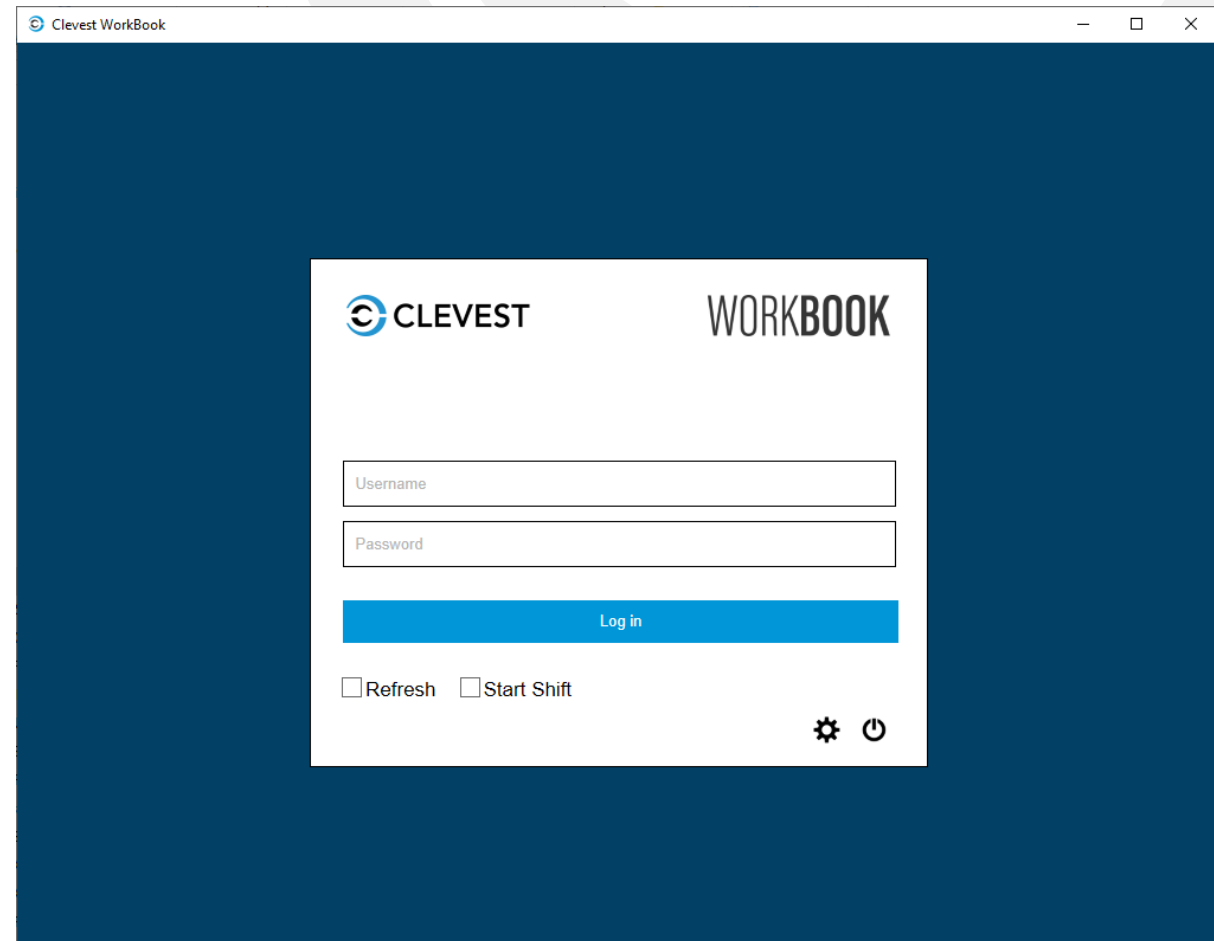
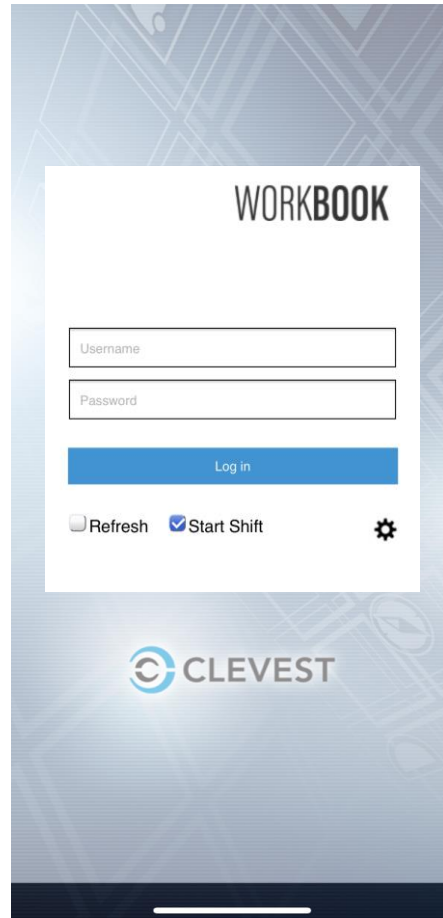
  

RevProt, Sasha							Enroute		Onsite		
Order Number	Time (HH:mm)	Activity	Host Order Number	Order Type	Area	Job Code	Time (HH:mm)	Duration (hh:mm)	Time (HH:mm)	Duration (hh:mm)	Estimate (HH:mm)
2019-10-01								00:00	00:04	00:05	
C000000089	16:46	Enroute	3000158283	RP			16:46	00:00	00:00	00:00	
C000000089	16:46	OnSite	3000158283	RP				00:00	16:46	00:04	00:05

Page 9 of 13 V6.2

# MLGW TECHNICIAN WORKFLOW (WORKBOOK)

- MLGW Order Received
  - Revenue Protection- iPhone
  - Troubleshooter- CF33
  - Facility Locator- CF33
- MLGW Work and Complete of Orders
- Assets and Order Map View
- Turn by Turn Direction
- Back Office Message
- Host Inquiry
- Shift Registry



# MLGW CF-33 TECHNICIAN MAPPING WORKFLOW

- Log in MWFM
- View Assigned Orders
- Locate Orders on Maps
- Select Routing
- View Turn by Turn Direction
- Search & Locate GIS assets

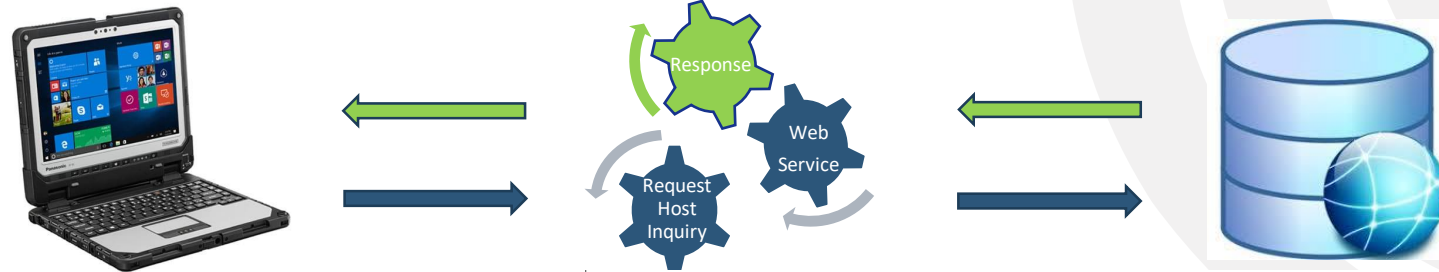


# MLGW CF-33 TECHNICIAN WORKFLOW

- View Order Information
- Tech Enroute / Onsite
- Completion form
- Electric Meter Remove
- Field Image Capture
- Completion & Submission

The screenshot displays the 'Clevest WorkBook' mobile application interface. At the top, there's a navigation bar with icons for 'Order Menu', 'Camera', 'Back', 'Next', and 'Locate on Map'. Below this, the order number '3000158357' is displayed. The main form is divided into several sections: 'Completion' with fields for 'Action Taken' (a dropdown menu) and 'Comments' (a text area); 'Charges' with an 'Investigative Fee' dropdown and a section for 'RT\_DiversionCharges (0)' which includes a 'Diversion Charge' row; 'Case Remarks' with a large text area; and 'RT\_Hazards\_New (0)' which has a table with columns 'Hazard Type New' and 'Hazard Comments'. The bottom of the screen features a status bar with various system icons (signal, battery, etc.) and an 'Emergency' button.

# MLGW MWFM – HOST INQUIRY



- Technician to send Host Inquiry message to Host System
  - Select Inquiry Type
  - Select Work Order and send to Host
- Host System to send response back to Technician
  - Tech to make decision based on response
  - View historical host response
  - Exit Host Inquiry and/or Complete Work Order

Clevert WorkBook

Order Menu

3000158163

Completion

Action Taken: 4 Electric Meter to be Removed by Electric Meter Area

Comment

Charges

Investigation

Diversion C

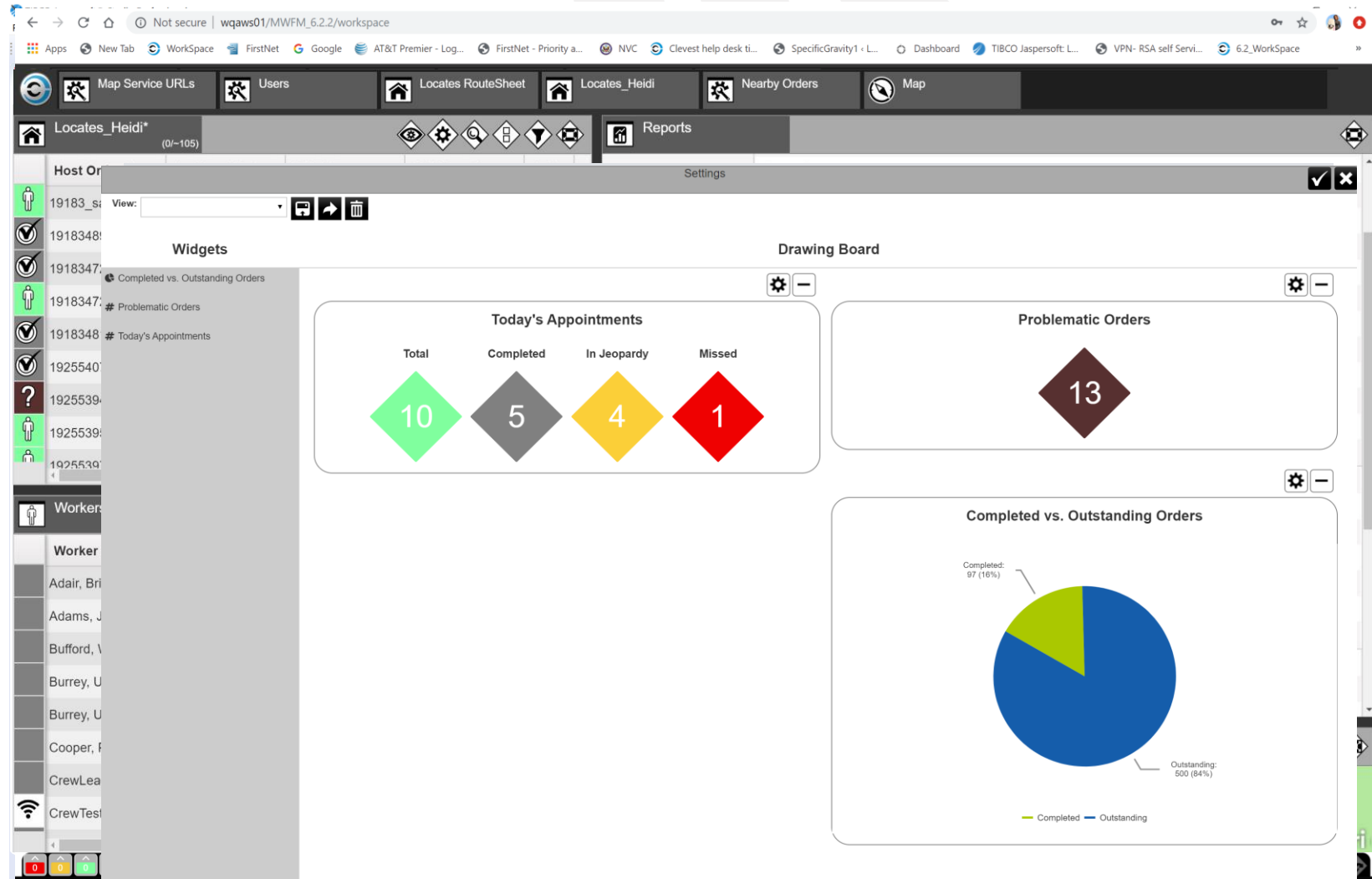
Case Remarks

RT Hazards New (0)

Emergency

# MLGW REPORTING AND DASHBOARD TOOLS

- **TIBCO Jaspersoft Studio** is used to design and share reports & dashboards
- Reports & Dashboards are viewed via **MLGW Jasper Server** or **Clevest Workspace (Dispatcher)**



# About Clevest

## Mission/Focus

- To help utilities deliver safe, reliable and superior services through innovative field solutions
- To provide software for mobile workforce management and smart grid operations
- 100% utility focused and owned (EIP Company)

## Company FAQ

- Privately-held, launched in 2006
- 130+ employees worldwide
- Head office in Richmond, BC



220+

utility customers



12

countries



85M+

consumers served



10,000+

mobile users



26M

smart meters deployed



1000+

dispatchers



25M

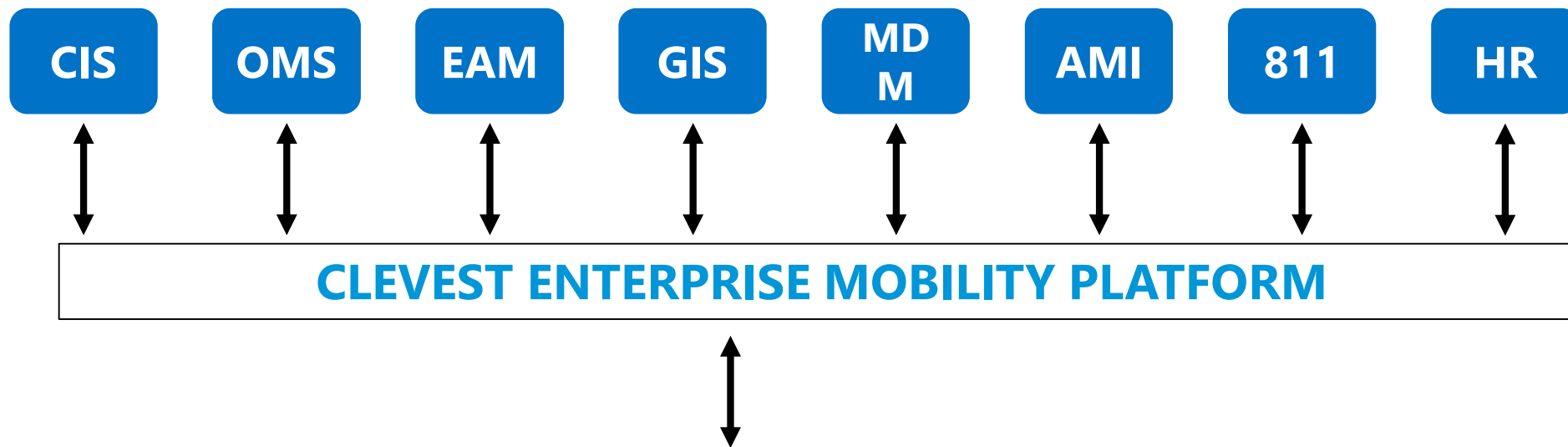
meters serviced  
each month



250+

interfaces &  
integrations





## Mobile Workforce Management

- Appt. Booking, Dispatch, Scheduling
- Service Orders
- Maintenance Work
- Line Patrol
- Long-cycle Construction Work
- Pole Inspections
- Locates
- Navigation and routing

## Mobile GIS

- Map & GIS Layers
- Network Tracing
- Field Asset Edits
- Redlining

## Meter Reading

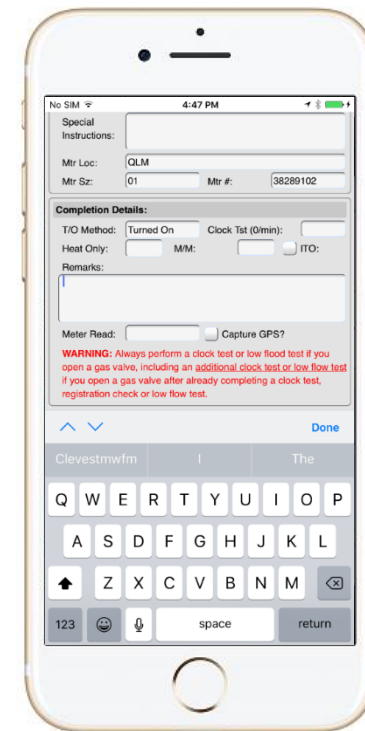
- Walk-By & Drive-By
- Interrogation & Reprogramming

## Location Solutions

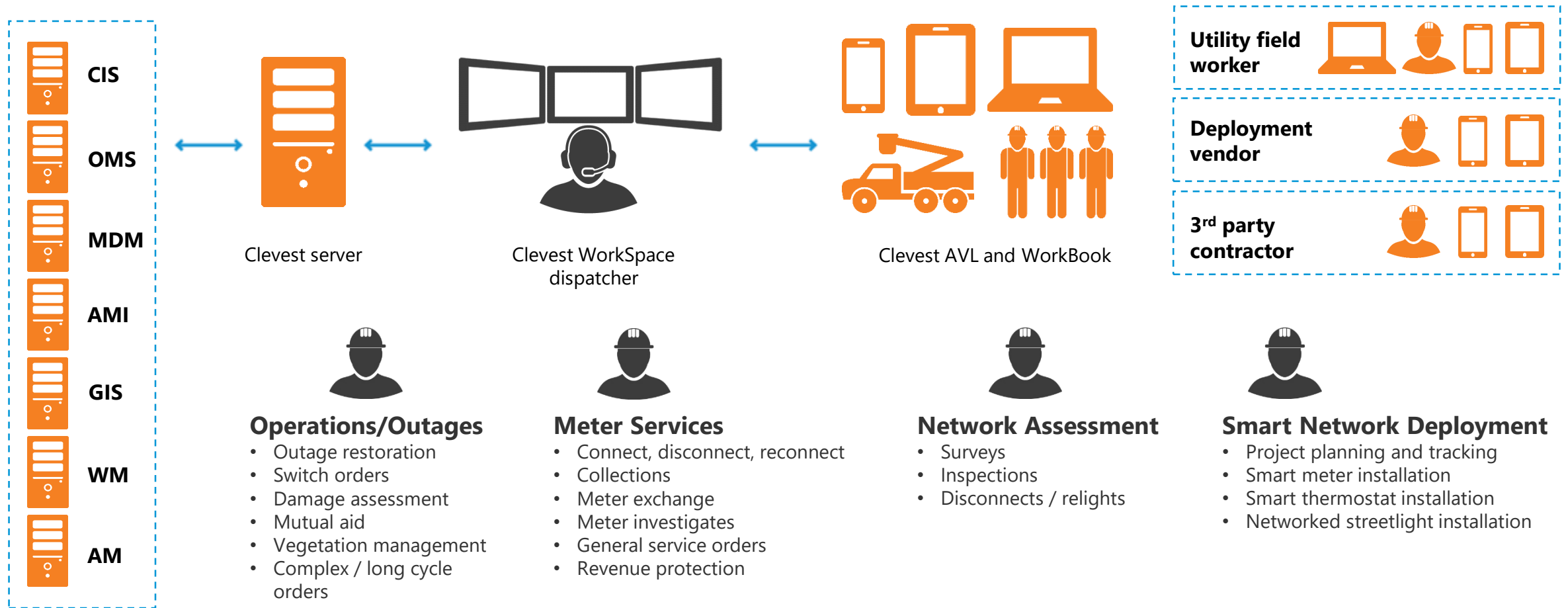
- Vehicle/Worker Locations
- Driver / Vehicle Behavior
- Engine Diagnostics
- Vehicle Inspection

## Smart Grid Deployment

- AMI and MDMS integrations
- Smart meter exchange
- Mobile inventory management

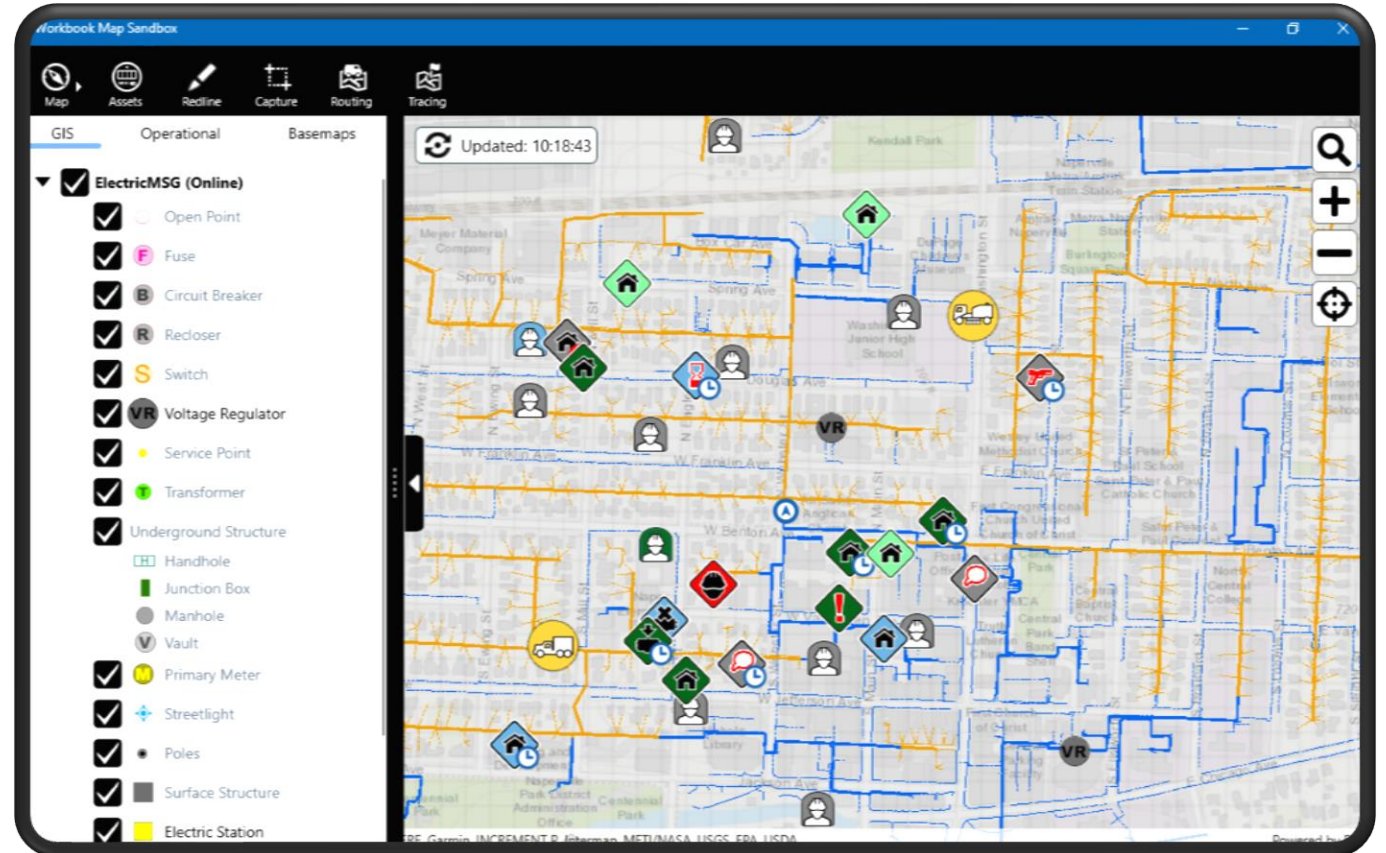


# Single Mobile Platform for All Types of Field Work

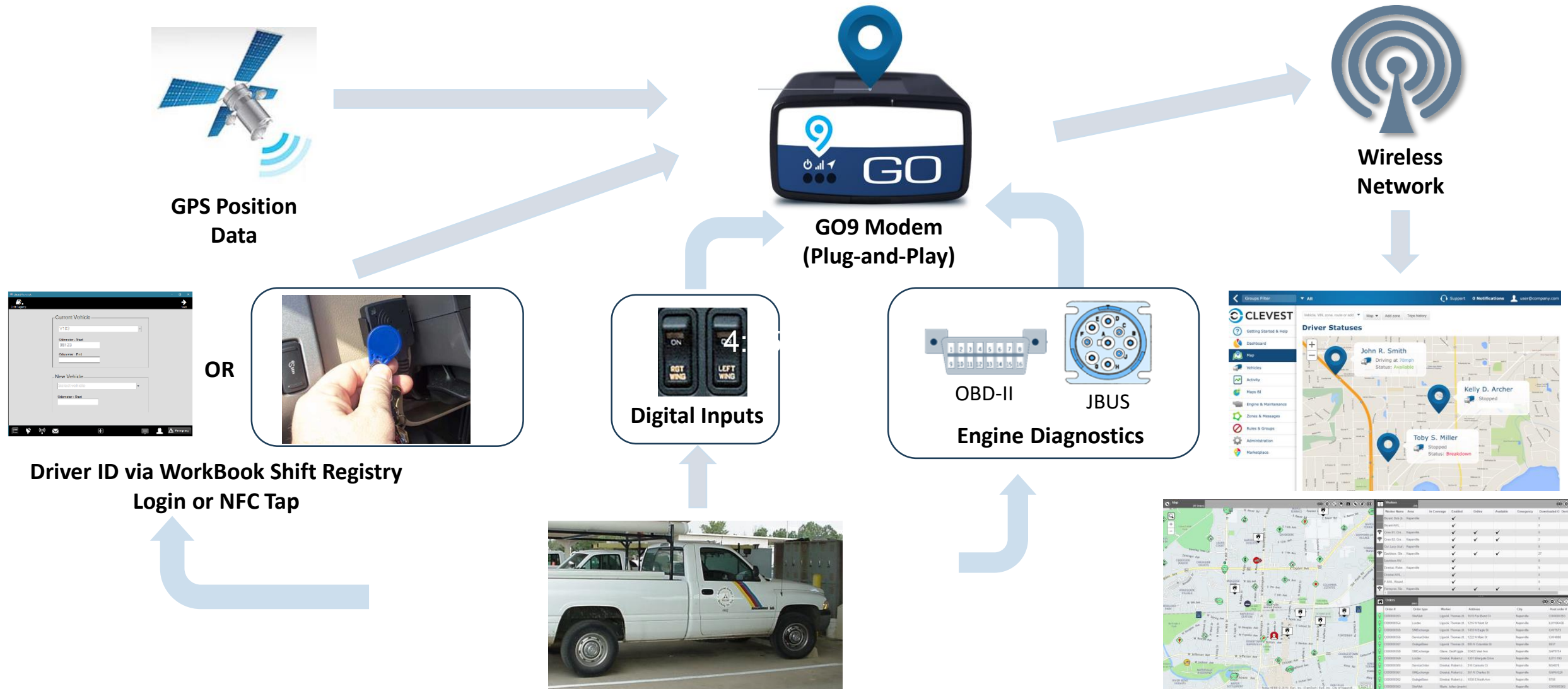


# Pre-Integrated Mobile GIS

- Basemaps
- GIS Layers
- Network Tracing
- Field Asset Edits
- Redlining
- Seamless online and offline support



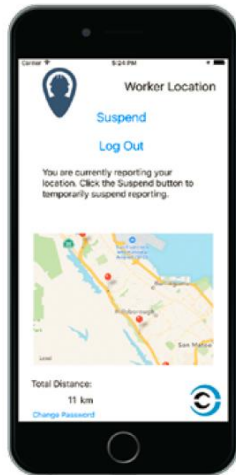
# Pre-Integrated AVL



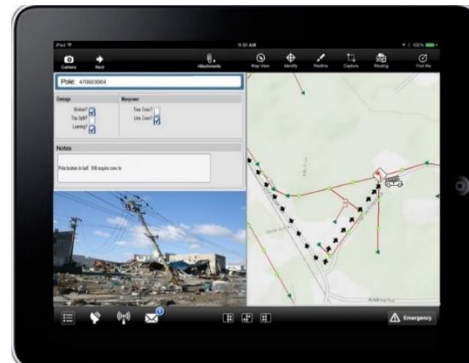
# Extending the Platform to Contractors

- Utilities are increasingly bringing their contractors into the fold and deploying various contractor solutions
- Clevest offers several options for contractor enablement:

## 1. Worker location solutions



## 2. Partial MWFM enablement



## 3. Full MWFM enablement



# MLGW FUTURE APPLICATIONS

The Clevest application will allow MLGW to create and modify processes as needed.

- Customer Metering
- Lead Pipe Inspections
- Street Lights
- Diversion
- Customer Communication





THANK YOU