



U.S. Department of Energy

Office of Electricity Delivery and Energy Reliability

City of Fulton

Fulton, Missouri

Improving Utility Service Through AMI
Technology

Advanced Metering Infrastructure

Coverage Area

Area 11.4 Sq Miles

CITY OF FULTON DEMOGRAPHICS

| | |
|--------------------------------|----------|
| Total Population | 12,790 |
| Median Age | 31.3 Yrs |
| Median Household Income | \$32,635 |



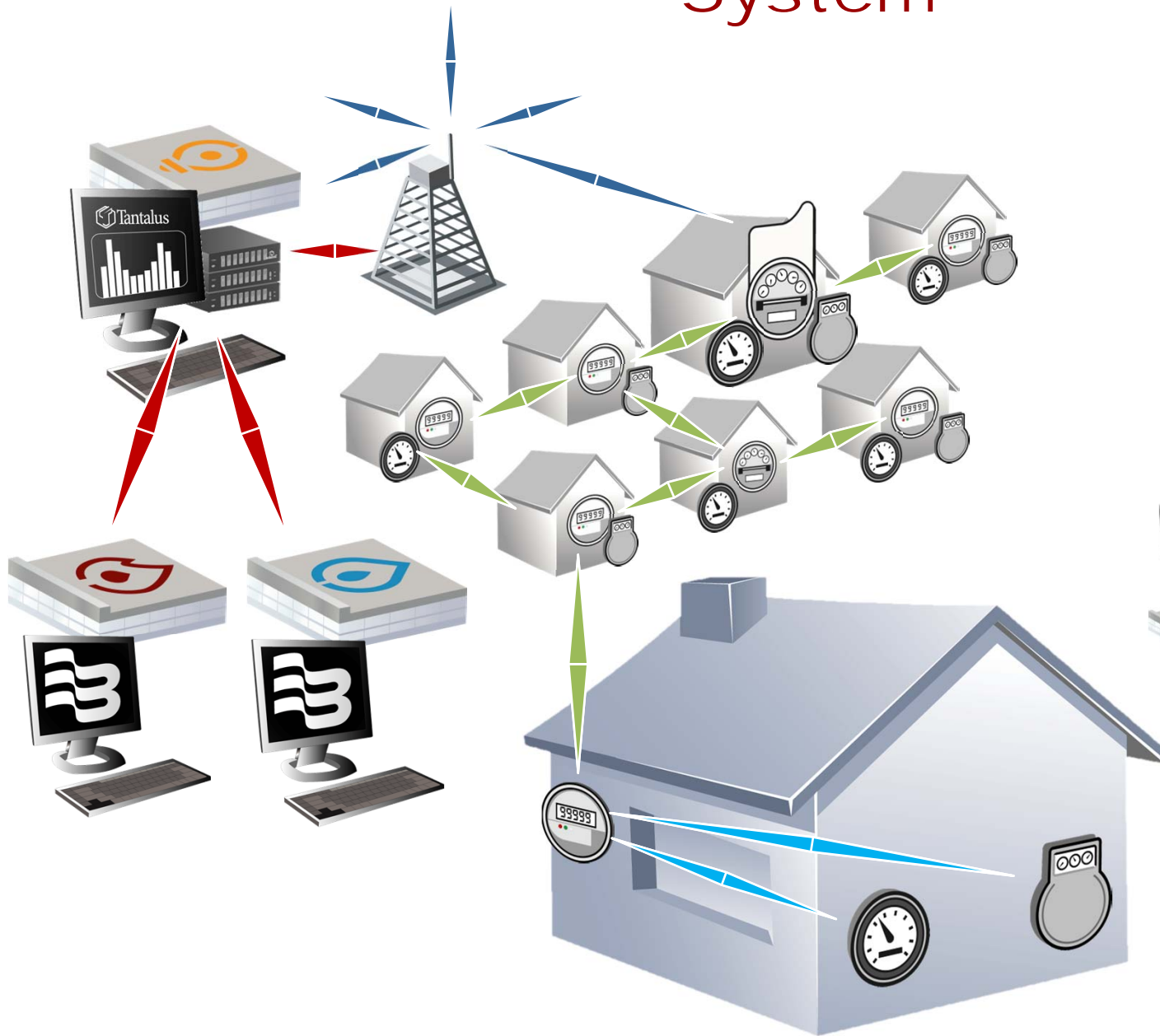
Missouri








Project Basics:

- 5,700 AMI Electric Meters (Residential meters equipped with Remote Disconnects)
- 4000 AMR Natural Gas Meters
- 4500 AMR Water Meters
- 100 Programmable Thermostats

AMI & AMR Radio Communication System



E / W / G

-  TUNet serves as backbone network for all E/W/G meter data
-  Badger ORION water & gas meters communicate with TUNet electric meters
-  Badger ORION water & gas meters transmit via 900 MHz
-  TUNet interfaces with Badger CONNECT / READCENTER software
-  Operates within multi-commodity utilities or with separate utilities

What are we doing with the Data:

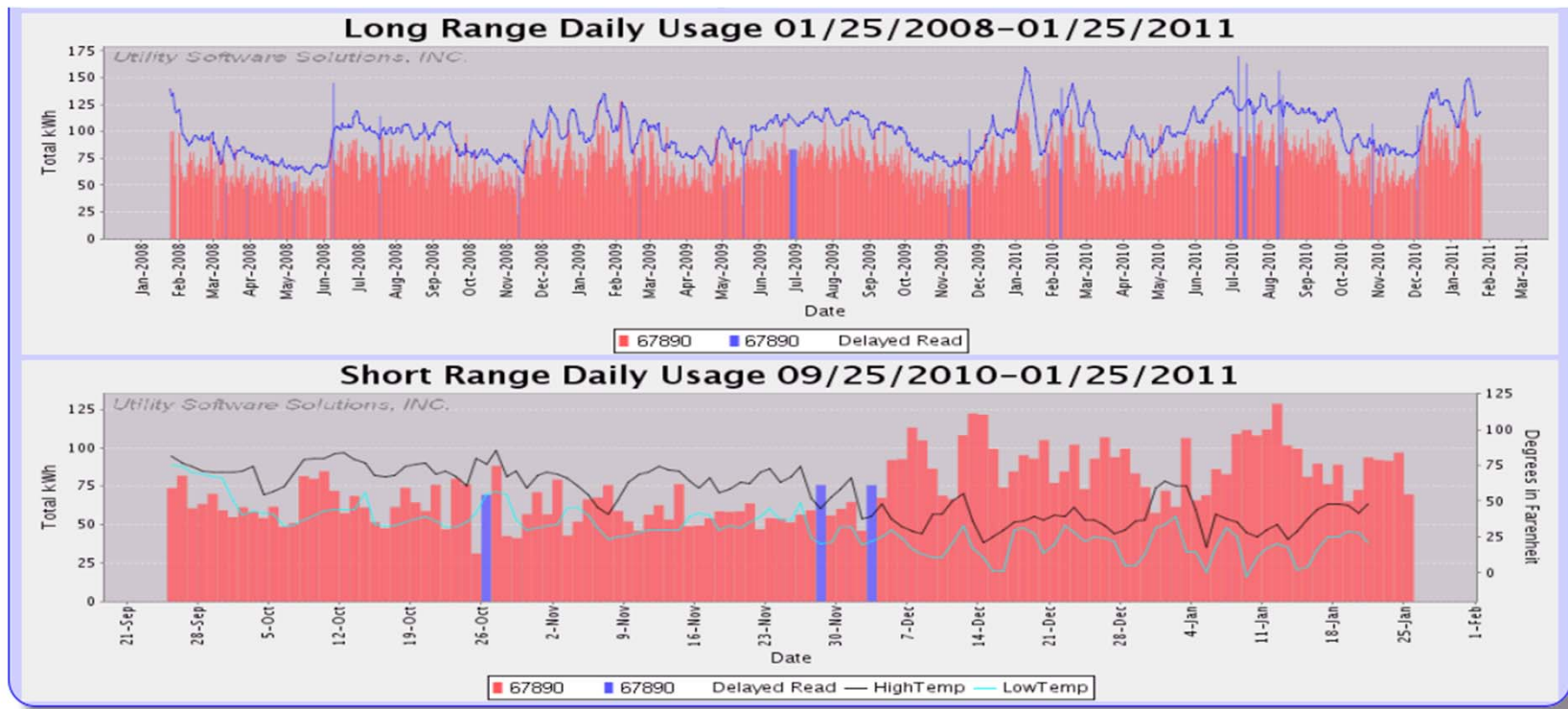
- Validating and Storing
- Customer Web portal
- Time of Use Pricing Program
- Load Management via Programmable Thermostats
- Voltage Monitoring
- Outage Management

How are we doing it?

Vendors/Partners:

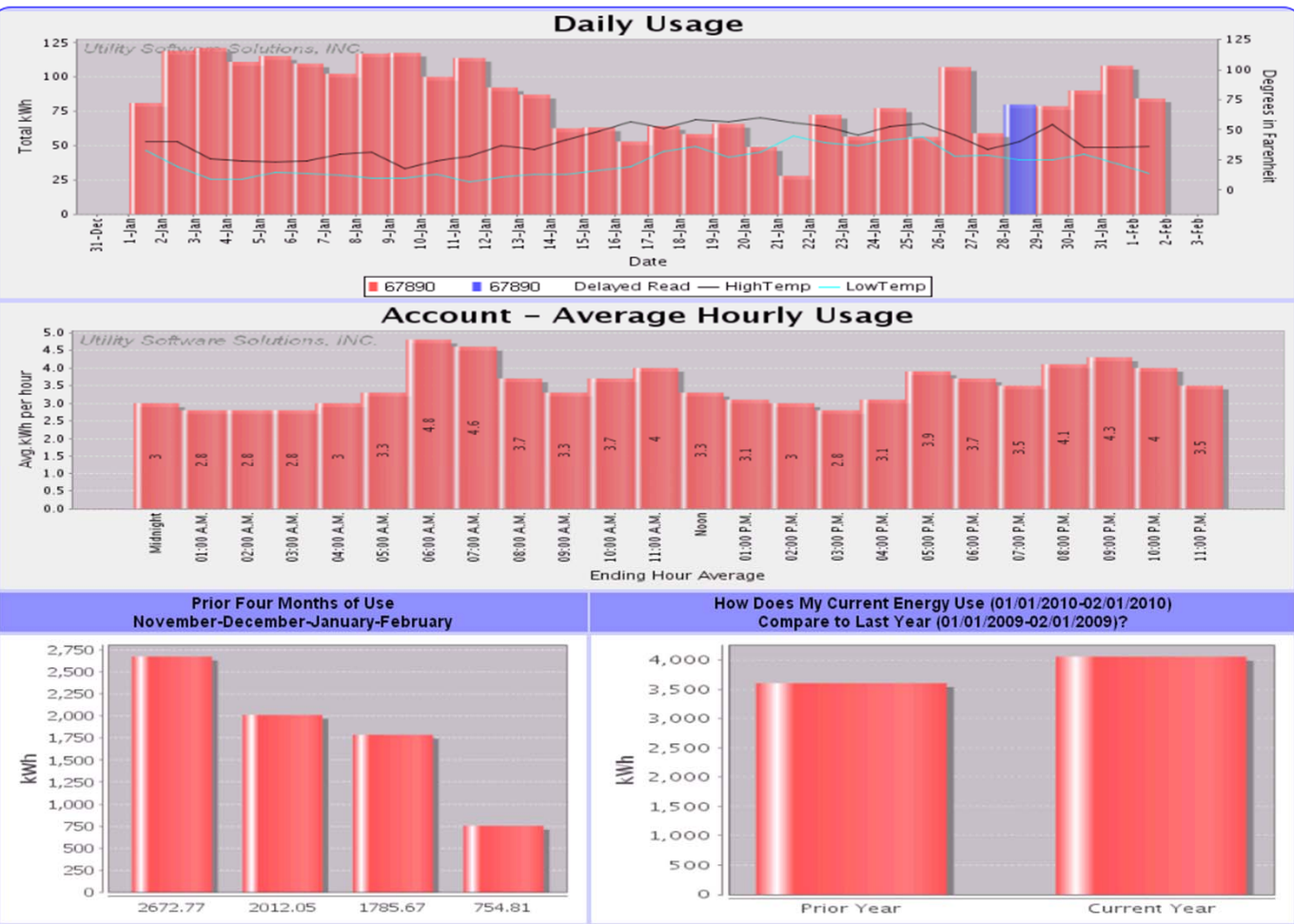
- Springbrook (billing)
- Survalent (SCADA)
- Tantalus (Communication)
- GE & Itron (Meters)
- USSI (MDM)
- Mpower (Outage Mapping and GIS)
- NDimension (Cyber Security)

USSI Meter Data Management





USSI Continued



mPower OMS/GIS

The screenshot displays the mPower OMS/GIS application interface, which is a web-based GIS and OMS system. The main window shows a map of a residential area with various power infrastructure elements like transformers, poles, and lines. The interface includes several toolbars and panels:

- Top Panel:** Displays a list of consumers with their details, including Last Name, Address, Zipcode, Meter #, Phase, KWH, Feeder, and Feeder:.
- Left Panel:** Contains a sidebar with various toolbars and panels, including Overview Mapping, Selection/Reporting, Buffer Tools, Query Portal, Breaker Search, and a list of available reports.
- Center Panel:** The main map area showing a residential neighborhood with streets like Princeton Cr, Lanning Ct, and Brentwood Dr. The map is overlaid with a network of power lines and transformers.
- Right Panel:** Displays an "Outage Report" table with columns for TRIP NAME, SLA, ACTUAL PHASE, LASTNAME, and ADDRESS. The table lists several outages, including one for a transformer on Princeton Cr.
- Bottom Panel:** Shows a "Tracing Module" with a "SHOW DETAILS" button and a "TRACE SAVER" button. It also includes a "Measure" panel with a "Measure" button.

The application is running in a web browser, and the status bar at the bottom indicates "Internet | Protected Mode: Off".

Current State:

- City Staff has deployed 95% of Electric Meters in the field.
- 100 gas and water still in test phase.
- Electric System has been accurately mapped.
- System integration is in the works.
- 5 customers (0.1 % of the Customer base) have expressed concern over health affects of the meters.

What we would Change the Most?

- Wasted Time Writing RFP
- Demand for more onsite presence by vendors

Questions?