



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



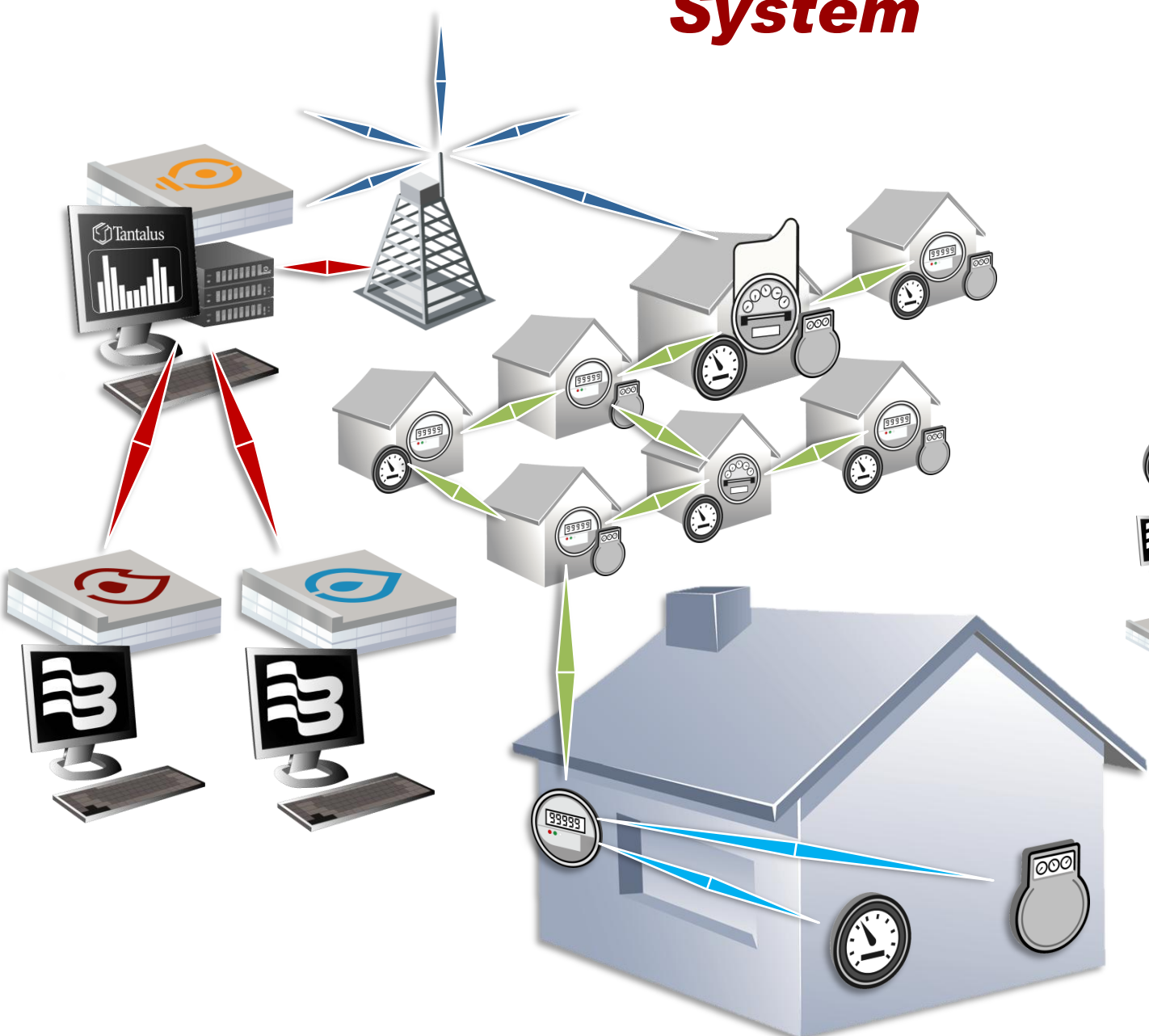
Missouri







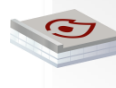
Project Basics:

- 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

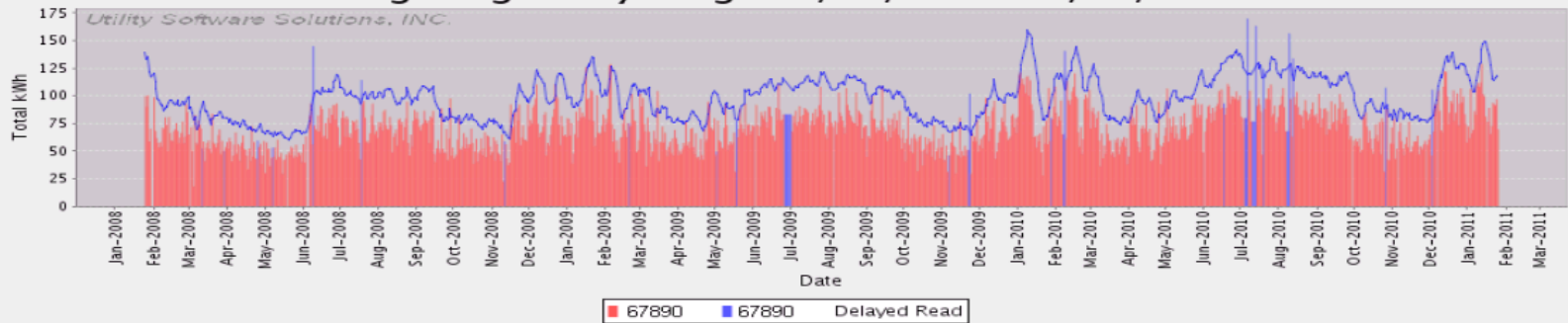
How are we doing it?

Vendors/Partners:

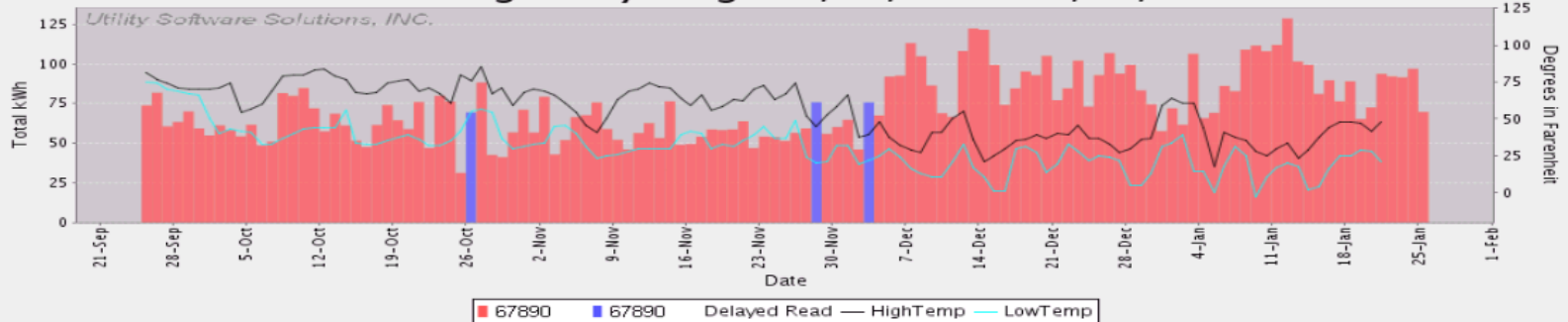
- Springbrook (billing)
- Survalent (SCADA)
- Tantalus (Communication)
- GE & Itron (Meters)
- USSI (MDM)
- Mpower (Outage Mapping and GIS)
- NDimension (Cyber Security)

USSI Meter Data Management

Long Range Daily Usage 01/25/2008-01/25/2011

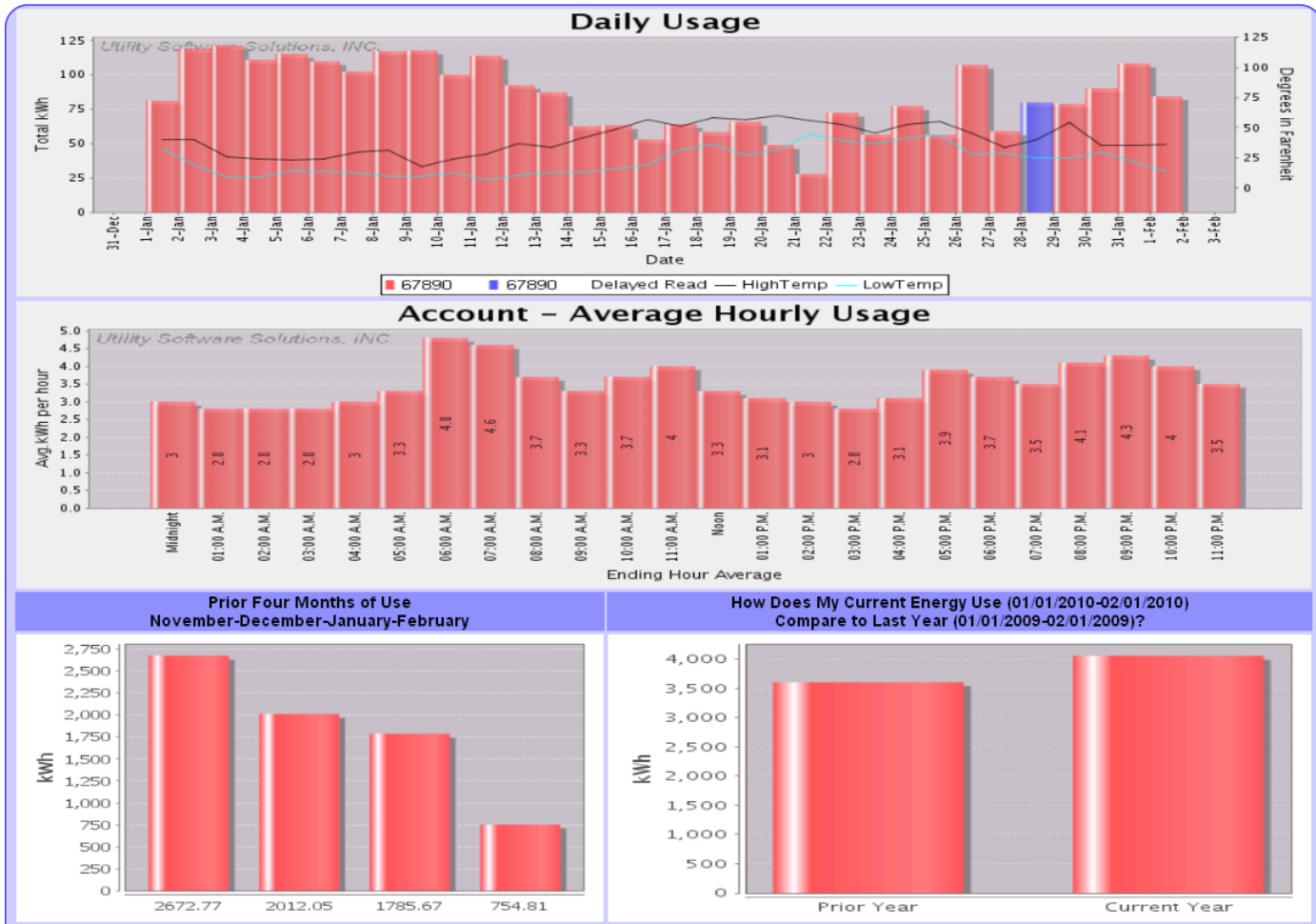


Short Range Daily Usage 09/25/2010-01/25/2011





USSI Continued



mPower OMS/GIS

The screenshot displays the mPower OMS/GIS software interface, which is a web-based GIS application. The main window shows a map of a residential area with various utility assets like transformers, poles, and lines. Several tool windows are open, including a data table, an auto-reporting window, a tracing module, and an outage report window.

Data Table:

Last Name	Address	Meter #	KWH Feeder
EWING, JORDAN L	000205 COLUMBIA 77040	17104687 Phase: B	1021 KWH Feeder: 6
WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	52661136 Phase: B	1150 KWH Feeder: 41
EWING, STACY L	000102 MERRY OAKS 77040	54497411 Phase: C	823 KWH Feeder: 21

Auto-Reporting Window:

AUTO-REPORT
Consumers
 Open in new window
These reports are available based on your selection and reporting access levels.

Tracing Module:

TRACING
SHOW DETAILS
TRACE SAVER
TraceDOWN SAVE

Outage Report Window:

Outage Report

TRANS NUM	OLA	ACTUAL PHASE	LASTNAME	ADDRESS	DATE
348051	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
4400	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
4401	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348057	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348058	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348059	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348060	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348061	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348062	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348063	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348064	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348065	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348066	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348067	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348068	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348069	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008
348070	B		WINGFIELD, JESSICA J	000102 MERRY OAKS 77040	07/24/2008

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?