



Delivering the Next Generation of Demand Flexibility



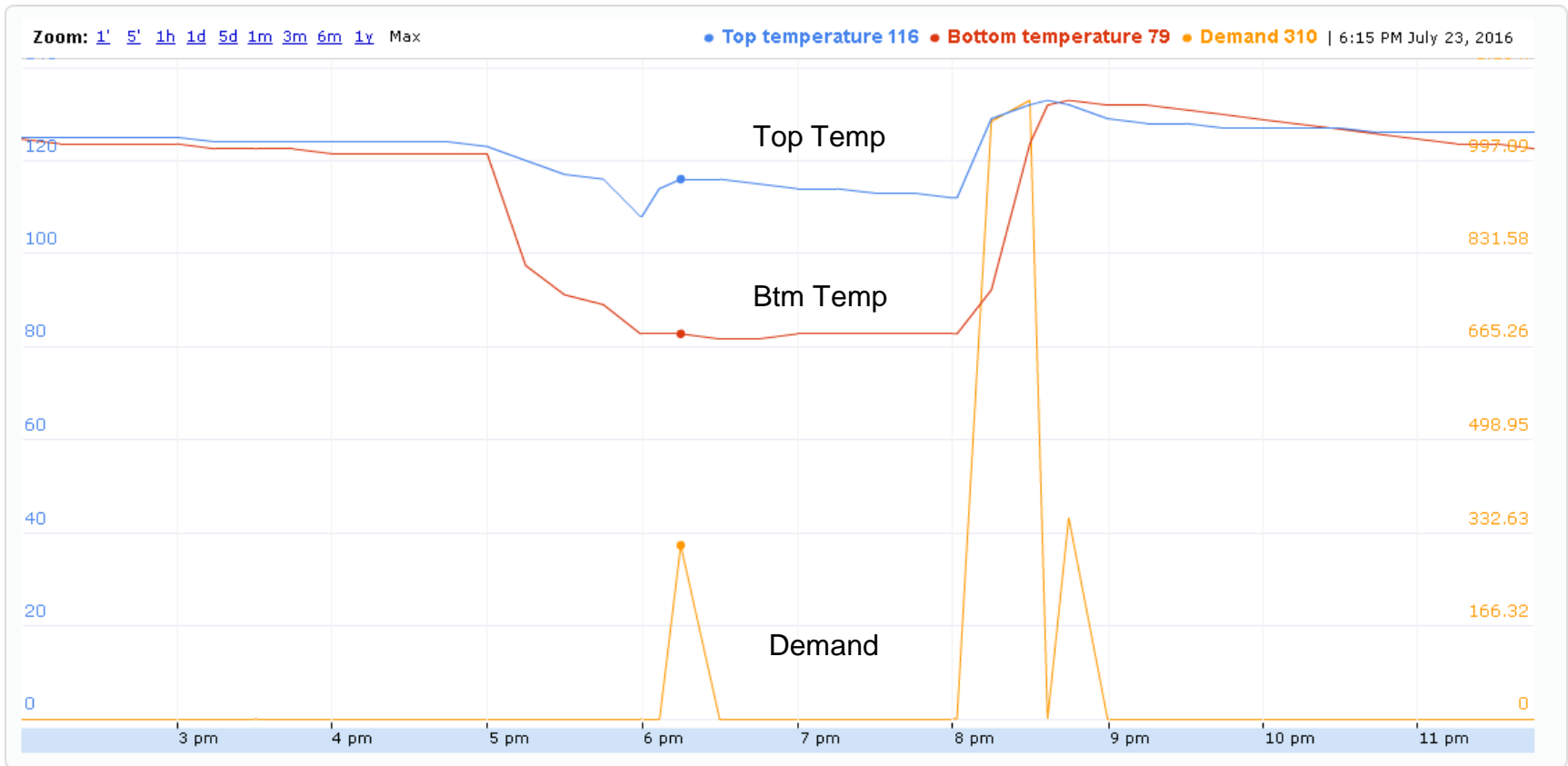
# WISE™ - the perfect solution for the future grid

- Grid-interactive water heaters function as a distributed battery capable of peak shaving, storage, fill, and ancillary services
- Intelligence at the switch autonomously ensures customer comfort, intelligence at the server maximizes load control
- Modular design enables multiple communication platforms
- Extensive M&V capabilities to validate and clear settlements on a daily or hourly basis



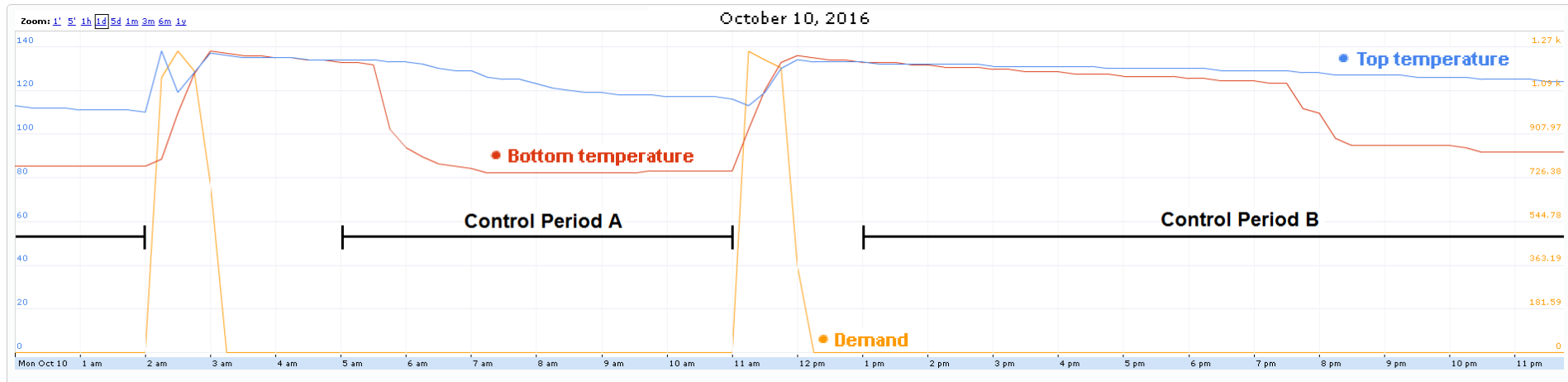
# WISE™ - Customer Comfort

While controlling 3:30pm – 8pm, the top temperature reached 108°  
Top element came on for 7 minutes, used 310 watt-hrs, then went back into control  
Still shifted 2.53 kWh out of the 4.5 hr control time



# Typical control of 50gal tank – Two working adults

Controlling for shift out of peak and TOU, and then storing load for valley fill



Controlled 6 hours morning peak, 13 hours for store

98% out of morning and/or afternoon peak hour

94% out of the 6-8 hour TOU

Seamless to customer – Always had hot water

4.1 kWh out of morning peak – Recharge 4.5kW for 49 minutes

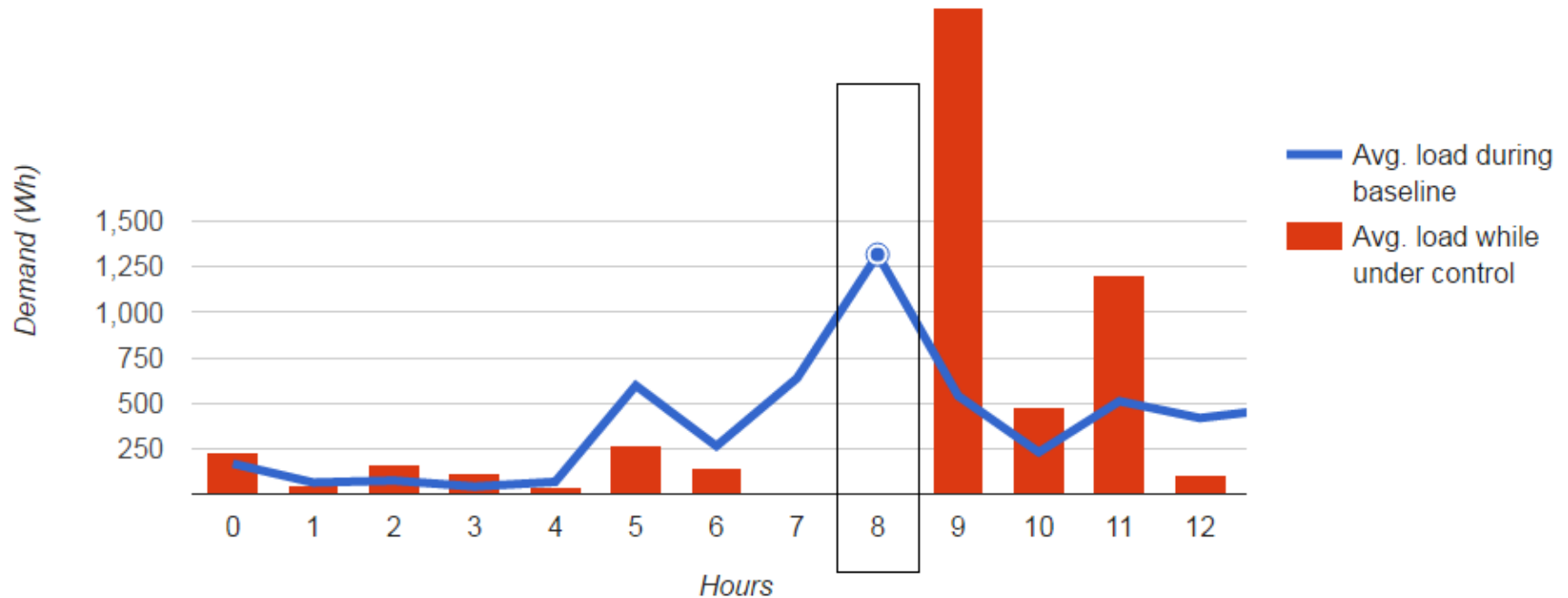
4.3 kWh stored till 2 AM – Valley fill 4.5 kW for 53 minutes

Flexibility to place load wherever needed 24/7/365



# WINTER

## Hourly load from 1/9 compared against baseline: 1/23 - 1/27



Peak hour 8:00 – 9:00 AM

100% load shift

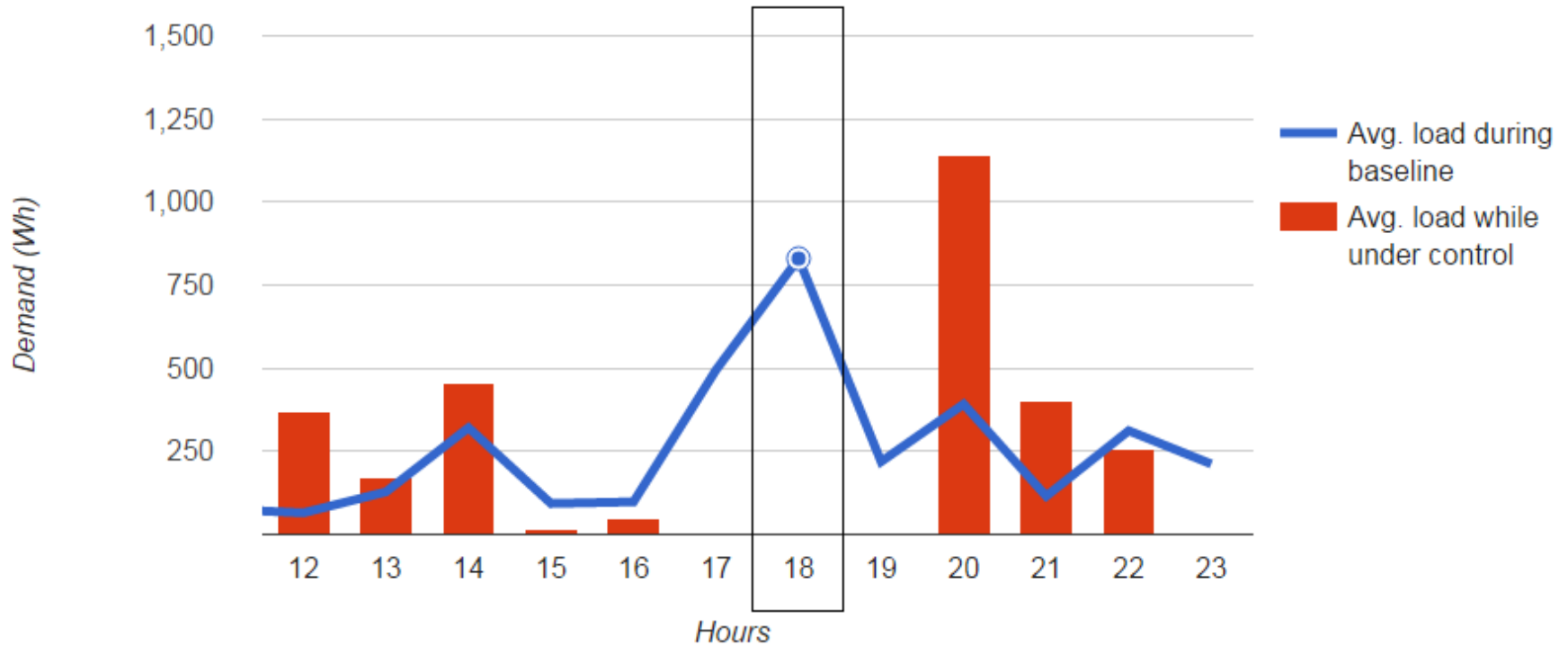
1.32 kW/unit out of peak

3.36 kWh/unit out of high-cost energy block



# SUMMER

## Hourly load from 8/15 compared against baseline: Weekdays in early August



Peak hour 6:00 – 7:00 PM

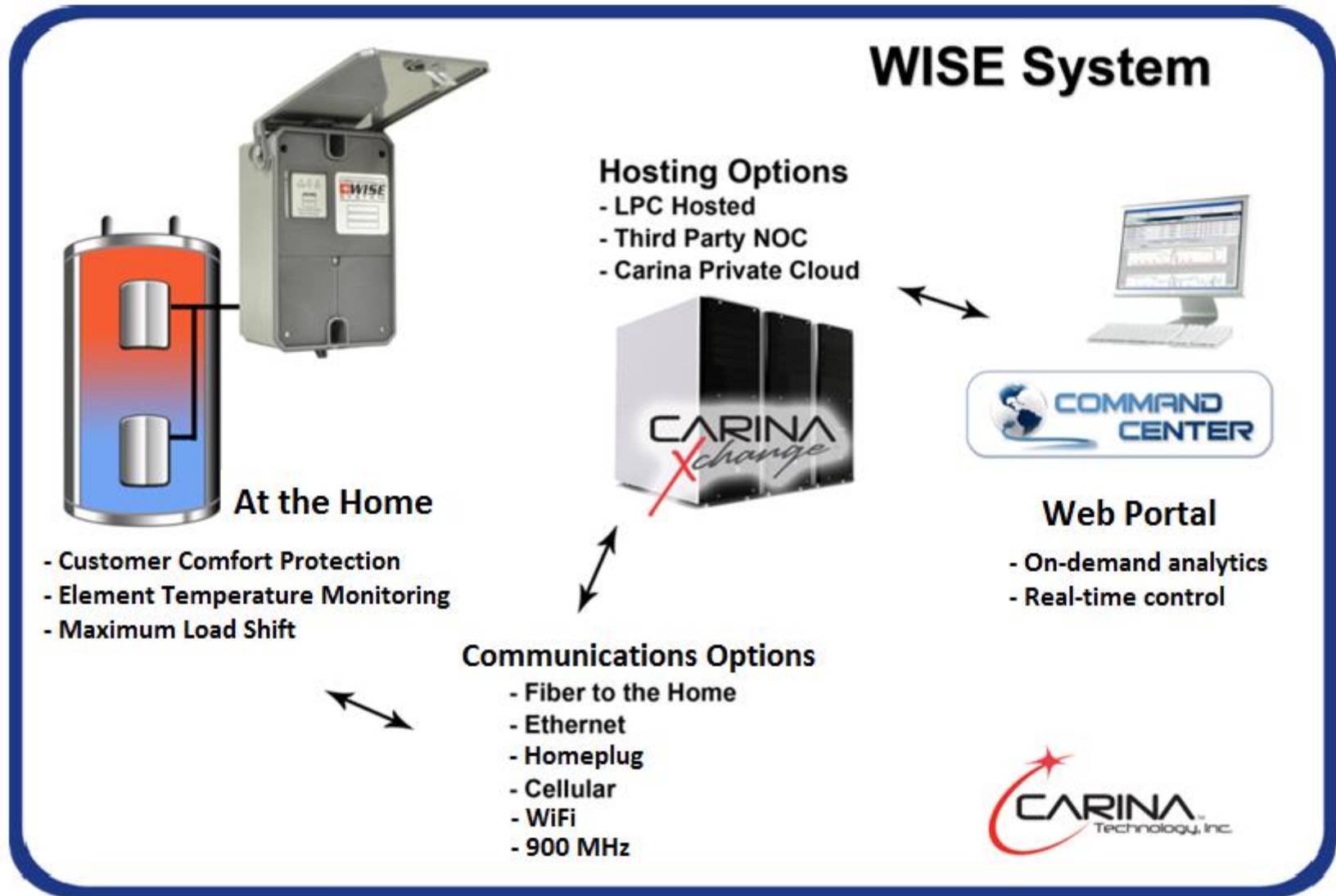
100% load shift

0.83 kW/unit out of peak

1.14 kWh/unit out of high-cost energy block



# The WISE™ System Overview



# Summary

- Retrofit water heaters of any size
- **Zero Discomfort** for customers – even with 6-8 hour periods of control
- Shift twice every day – no need to guess your peak
- Shift capability available in < 1 min
- Metered data and reporting available in < 1 min
- Supports multiple hot-swappable communications modules

