Transactive Interface Valuation Study

Intro

Economist opinion of most efficient system
  Consumer purchase price tied very close to cost of generation, transmission and
distribution
  Real time rates
  Real time markets (this might include markets not accounted for in RTP such as DR)

Markets and ISOs (PAP19? and B&P DEWG Systems and Devices sub-committee)
  5 minute LMP
  24 hour day ahead
  Demand Response market
  Reserve Markets – Frequency, Operating, Replacement
  Capacity Markets (?)
  Megawatts not Kilowatts
  Bidding constraints
  ISO commonalities / differences
  Effects of Wind and Solar

Public Utility Commissions
  Tariffs and Rate Making

Aggregator’s business case
  Aggregators and bidding
  Utility as aggregator  (What are the obstacles to residential loads ?)
  Private business aggregators (What are obstacles to residual loads for private
aggregators?)
  Historic loads vs potential loads
  Historic issues with consumers and direct load control
  Direct load control vs probabilistic modeling of responses
    (Is load running? Will consumer override?)

Retail Energy Providers (Texas / Ohio / Michigan)
  Trend toward REPs

The whole home as a participant
  Limited number of different types of loads
  Broadband access exists for majority of residences
  Greenbutton initiative (Greenbutton + pricing?)
  Residential sector limitations
  Too small to play
  Predictability issues
  Rewards and rate structures
Participation Confirmation (how to confirm participation in real time events and make financial transactions)

Interface to make it all happen
Easy to use interface
What does it mean (cost vs comfort)
Set it and forget it except when I have guests...then what?

Barriers to this approach
Consumer concerns
Too complicated for the consumer to understand
Is it Big Brother?
Is privacy a concern?
What’s in it for the consumer?

Aggregator concerns
ISO concerns
Utility concerns
PUC issues
FERC?

Benefits to this Approach
Ability to have a negative pressure on electric rates
Consumers pay the actual cost of electricity
Improved asset utilization
Etc.

What Standard is needed?
SEP 2.0 enabled

What’s next?