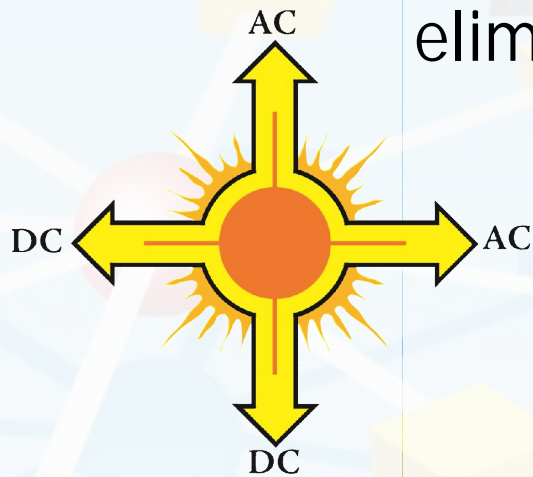
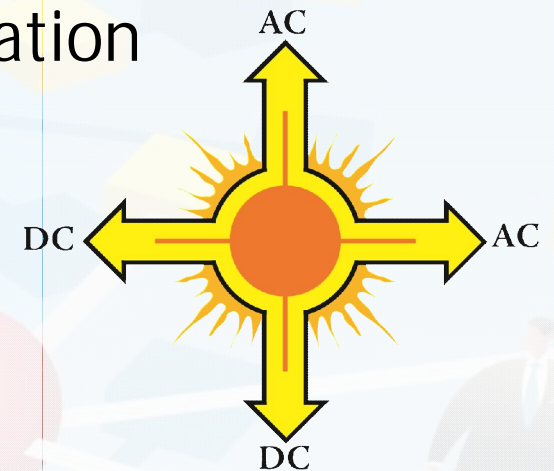


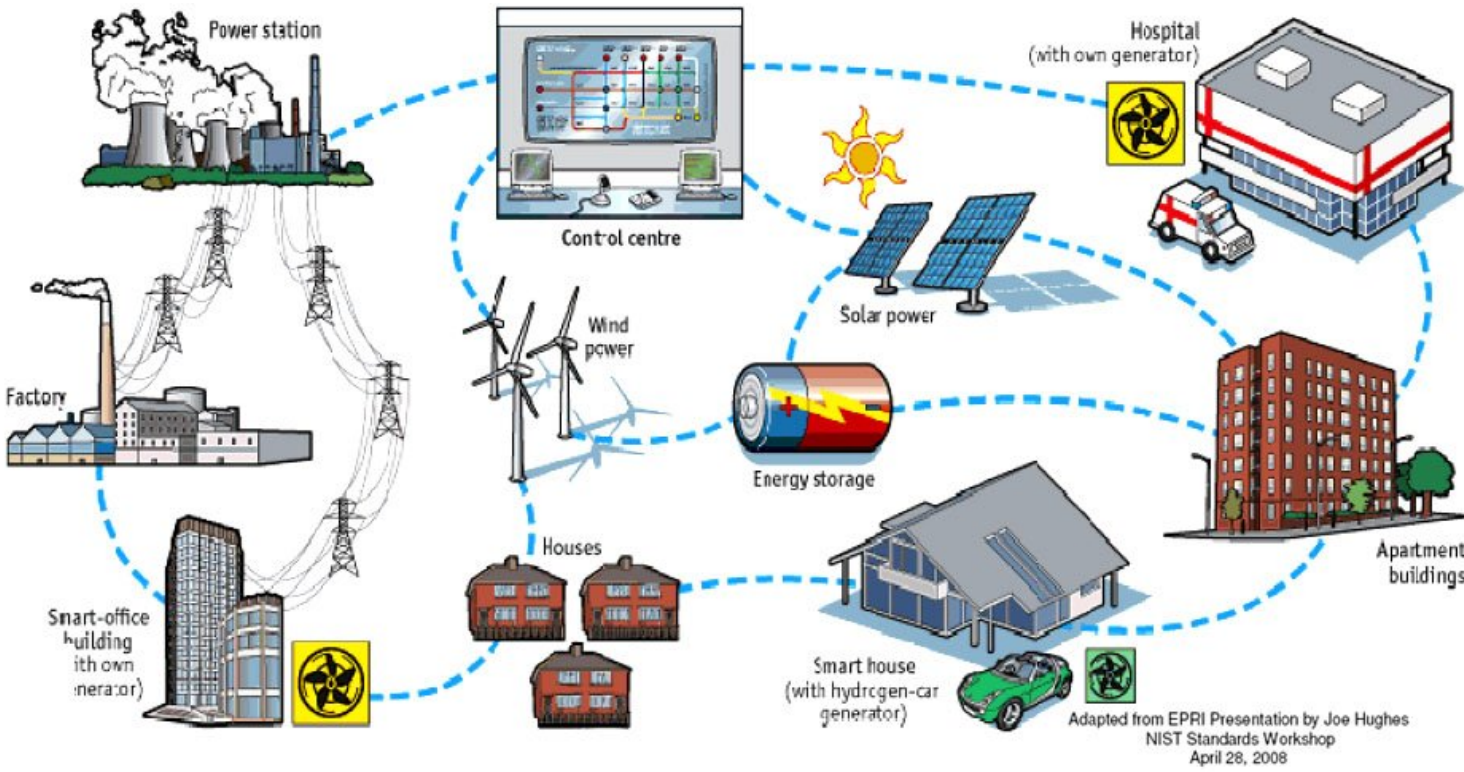
Minimizing the Deluge of Data

Local data, intelligence, storage & implementation
eliminates most data communication
and processing



Heart Akerson, CEO
Heart Transverter
www.transverter.com





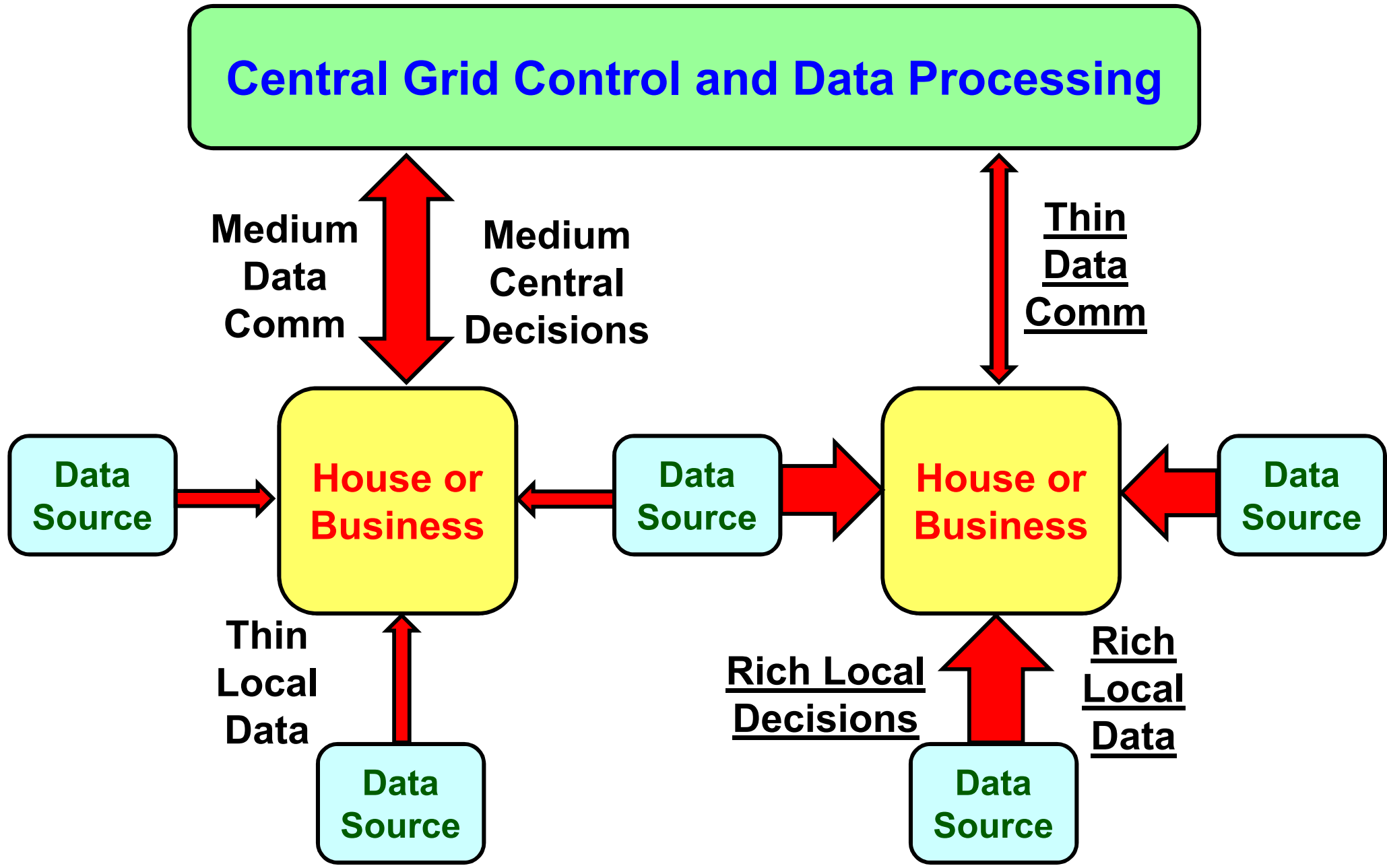
EPRI estimates this will cost over \$338 Billion and take 20 years to install.

Real time decisions involve detailed data being sent all the way to the central control center and then back to each device.

This idea depends on an extremely complicated high speed communications network that is a combination of HAN, FAN/AMI, WAN & LAN (the blue dotted lines). The software to manage this amount of data processing will be cumbersome and introduce major new security risks.

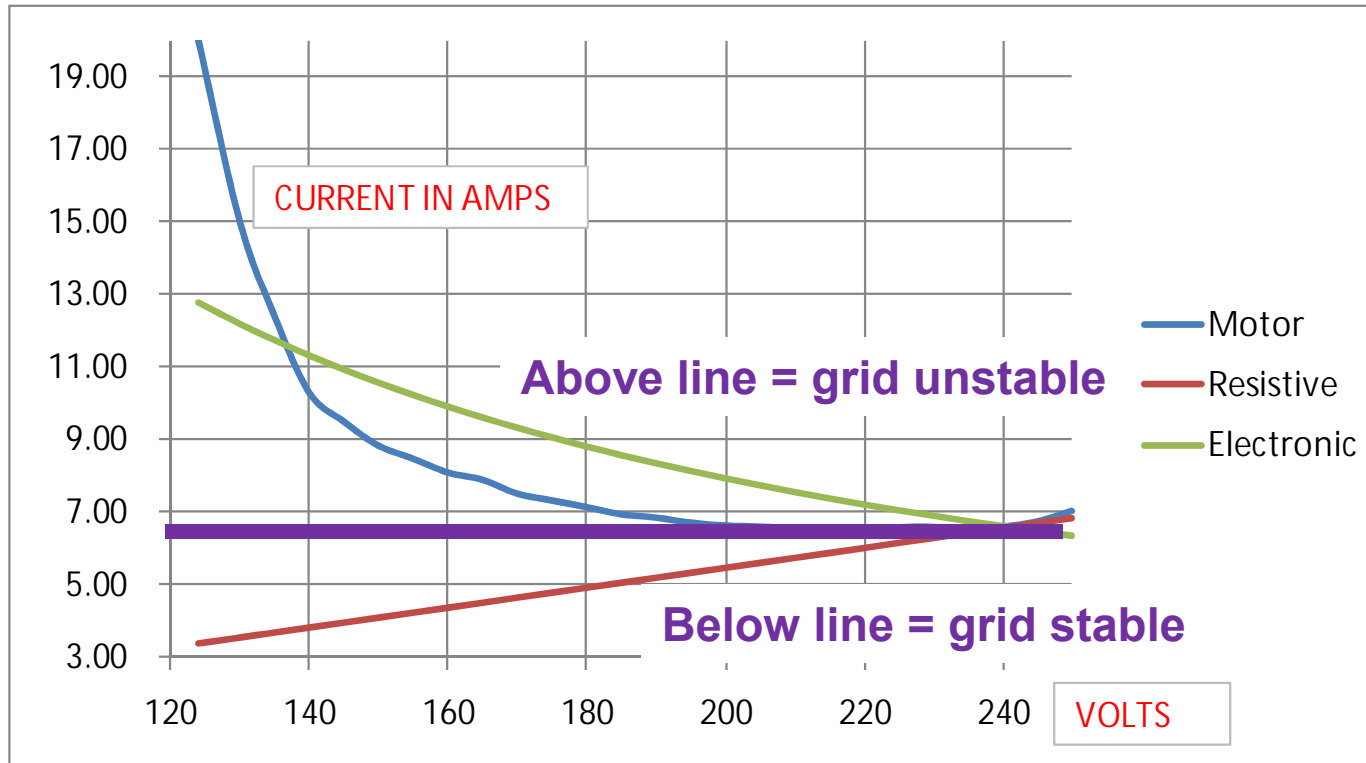
The Grid could be inundated with calls about why someone's washing machine doesn't work.

There is no autonomous energy security for the office or home.

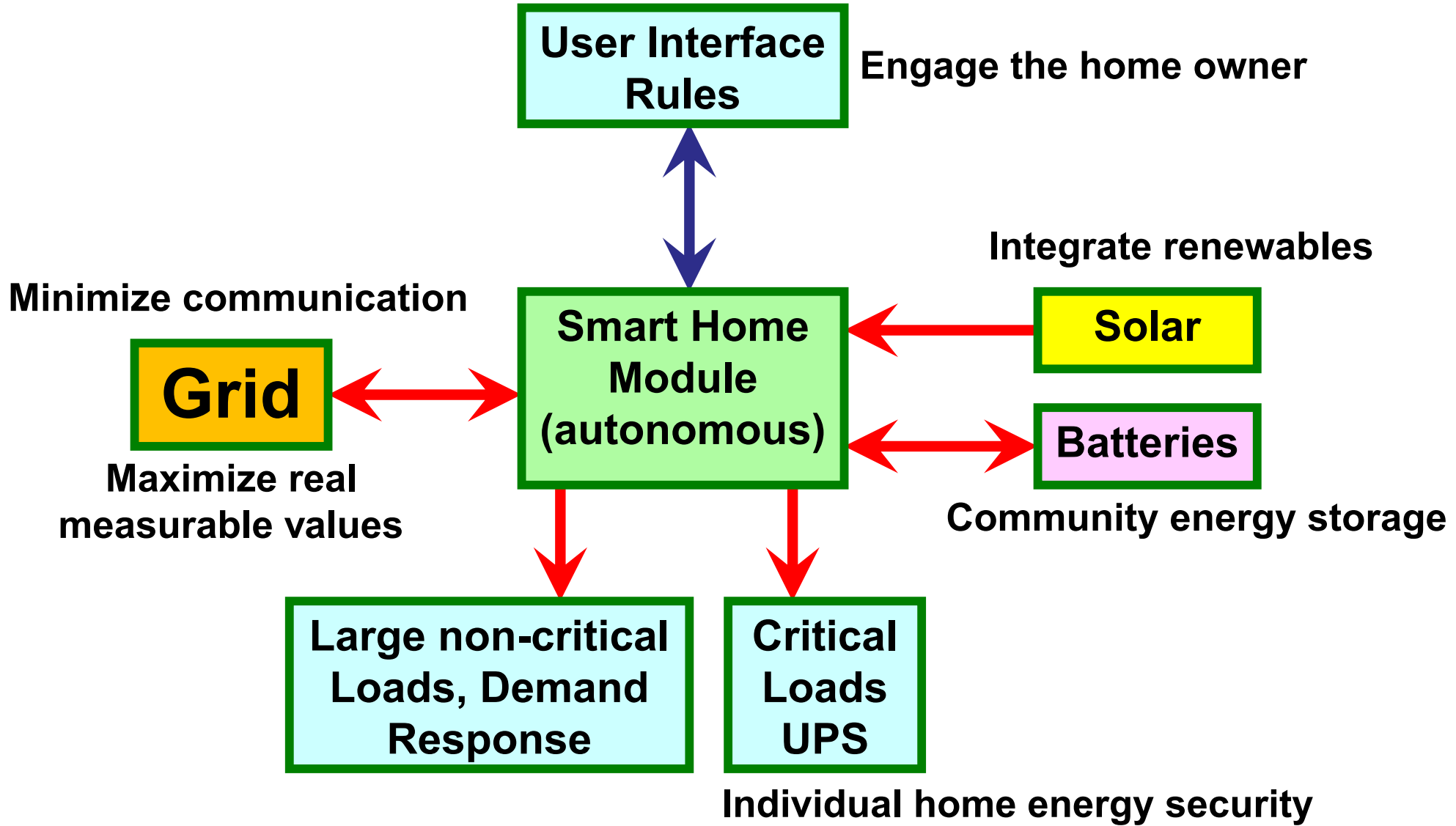


Anatomy of Grid Stress

**When grid capacity is reached the voltage drops.
Different types of loads respond differently.**

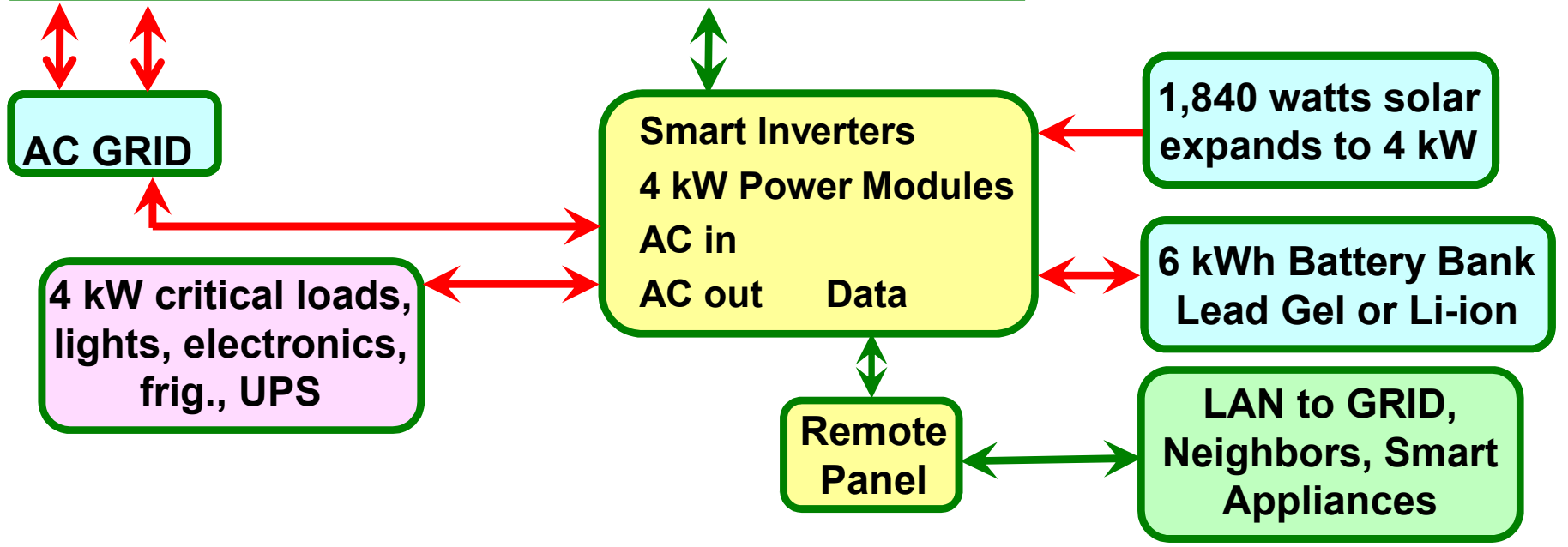
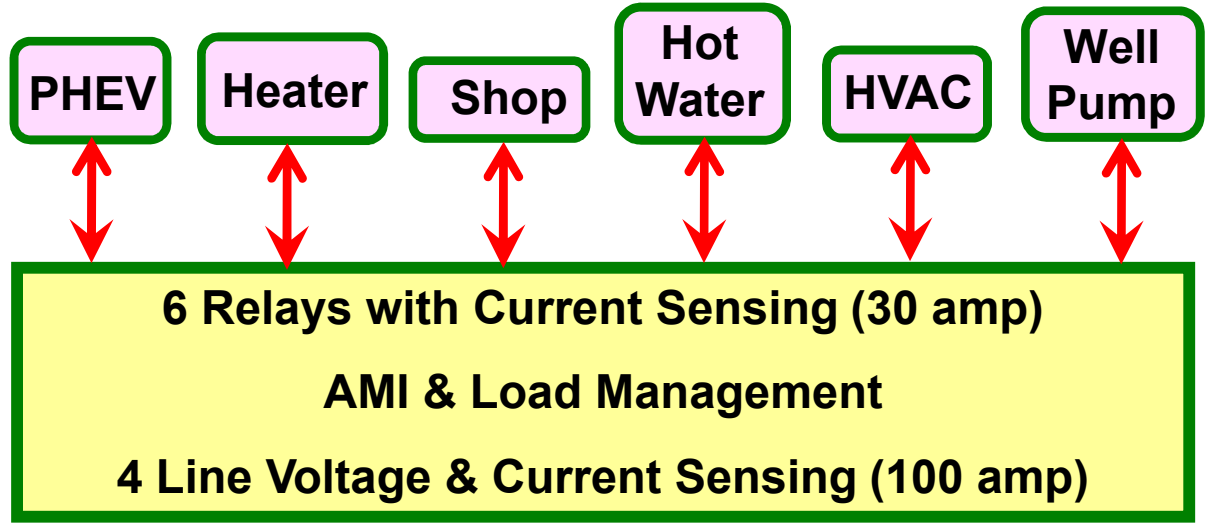


- **Resistive loads are the most stable because the current drops and relieves grid stress.**
- **Electronic loads have internal regulation which keeps the power constant which increases the current and increases grid stress.**
- **Inductive motors keep their current stable for a while but when the motor starts to stall the current goes sky high and crashes the grid.**

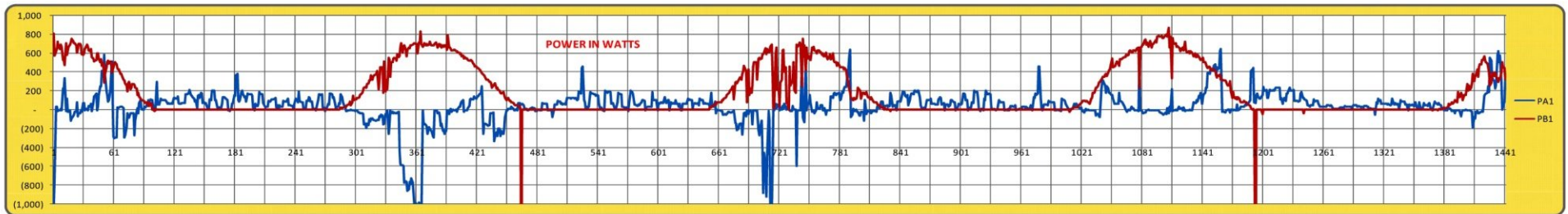


Local Data - Local Decisions – Local Action
Global Summaries - Global Guidelines

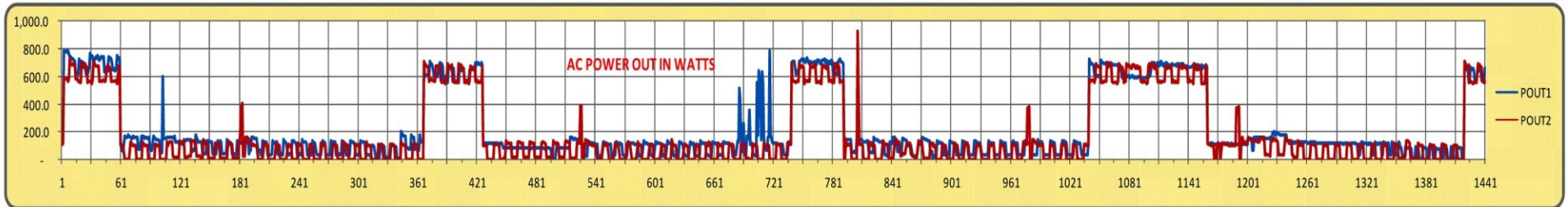
100 amp service → 50 amp service



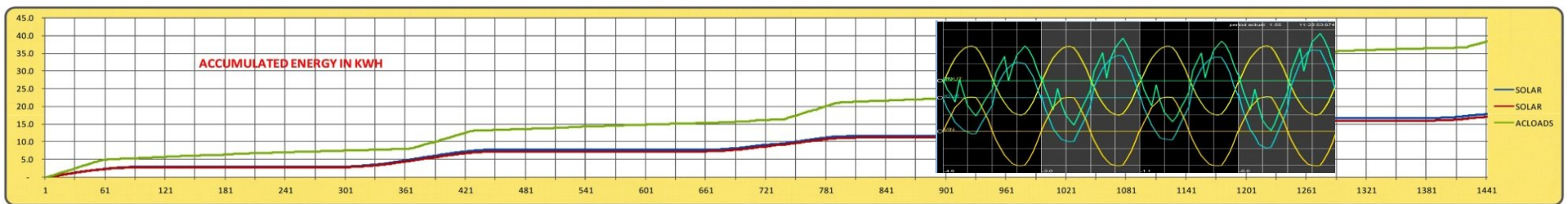
**Store great amounts of detail locally.
Central grid processor can access as needed, selectively.
= All the benefits of extensive rich data with minimum
burden on communication and processing.**



AUTOMATIC ADVANCED DATA ANALYSIS & MODELING STORED IN FLASH



PRODUCT IMPROVEMENT & FAULT PREDICTION



SERVICE LEVEL AGREEMENTS

What we all need to do together now

- Refine local modeling & response.
- Refine highly compressed summary reports to the grid.
- Refine grid general guidelines and rule sets sent in response.
- Develop local neighborhood interactions, micro-grid like behavior.
- With time we will blur the distinction between grid and micro-grid.
- **Solar grid parity is here but has no scalable structure to use it.**