The Future of the Smart Home Systems and Services

Nick Blandford
Speakers Bureau Manager, Schneider Electric
nick.blandford@schneider-electric.com
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Agenda

• History of connected home systems
• Current state
  ▪ Technology
  ▪ Capability
• Future possibilities
• The Schneider Electric story
A brief history of home systems

• It used to be like this....
A brief history of home systems

• Then it looked like this…

![Diagram of a home security system](image-url)
Current State
Systems within the home

Programmable Communicating Thermostats respond to pricing signals and grid disturbances.

PCs and home area network displays interfaces between customer parameter set points and utility pricing signals to optimize energy use.

Rooftop Solar provides renewable energy coincident with peak demand.

Fixed Electricity Storage Batteries store off-peak power to use during peak periods and back up.

Smart Appliances respond to grid disturbances and shifts consumption during peak demand periods.

Plug-In Hybrid Vehicles draw energy from its roaming plug-in location; it can store energy for utility use.

*EIA Annual Energy Outlook 2009 Reference Case Presentation
External Systems

Diagram showing the integration of various systems including Communication Module, Smart Device Open Communication Protocol, Home Internet Router, Smart Meter/AMI, and Smart Grid Control System. Consumers remain in control and can monitor power usage on their computer, phone, or other display.
Why ZigBee?

- Standard in a fragmented market
  - Many proprietary solutions, interoperability issues
- Low Power consumption
  - Users expect battery to last months to years!
- Low Cost
- High density of nodes per network
- Simple protocol, global implementation
Current state

- We’ve got technology like this…

Input Devices

Wireless Infrastructure

Interface Devices
Web-Dashboards
Current state

Smart Phone Controls
A Case Study- Dockside Green

- A LEED Platinum building
- Biomass Heating/Cooling
- In-room Building Management Technology
A Case Study- Dockside Green
Future State

• What’s driving the change?
  ▪ Changing social drivers
    ▪ Expectations for connectivity
    ▪ The Twitter Effect
  ▪ Economic factors
    ▪ The energy dilemma
      – Increased per capita consumption *AND* a need to decrease emissions
    ▪ Water management
  ▪ Latent needs
    ▪ Security
    ▪ Savings
The Future is Now

• Cutting-edge technology…
  ▪ Energy signature detection
  ▪ Cloud-based algorithms

• …Enabling customer-focus capabilities
  ▪ Preventative maintenance
    • HVAC
    • Appliances
  ▪ Self-management
    • Sump pumps
    • HVAC
Schneider Electric story
Schneider Electric Story

A simple **integrated solution** to manage the home energy eco-system and an opportunity to turn a functional home into a **smart and exciting** place.
Wiser Core System: Raising Awareness

Values

- Increased consumer involvement & awareness
- Set it & forget it
- Innovative color signaling
- Remote manager

Specifications

- ZigBee Smart Energy
- Integrate with utility smartmeter
- 115 VAC (wall adapter)
- Rechargeable battery
- Wall or Table mount
Remote access and management
Wiser in action

“I installed the Wiser system because I was interested in saving money in my home.

My kids could care less... they like being able to automate the lights around the house!”

- Gary Kuzkin-
Questions?

Thank You!

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