



IoT and BYOD - Changing the Way Utilities Engage with Customers

Utility Energy Forum

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The Connected Home – more than just a passive consumer....



More devices are now able to work together.

Advances in the industry are creating more interoperability between products. Bridging the gaps between different communication protocols, technologies and standards.

Home automation is becoming more affordable and easier to implement. The "[Internet of Things](#)" and cloud services are only furthering the drive for communicating products in and outside of the home.

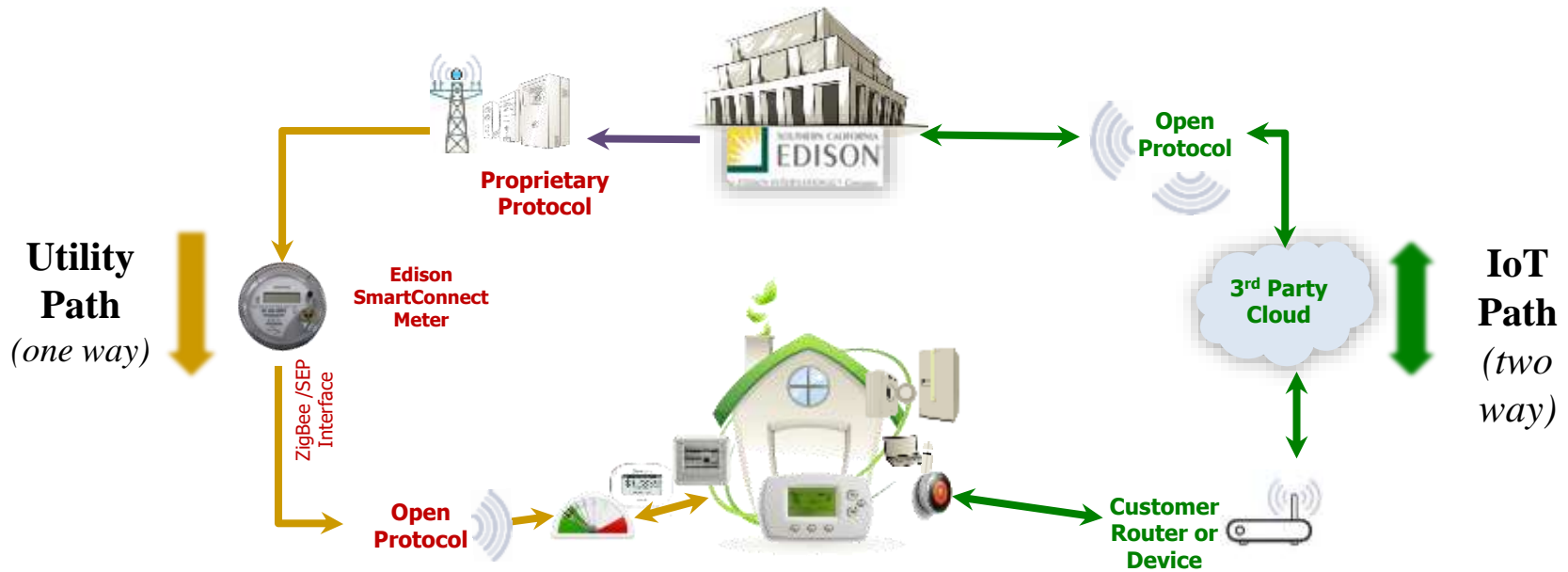


The Cloud has changed the connected world (and democratized it)

The cloud has transformed how customers connect to and use smart energy efficient devices.

Connectivity Enables *Greater Choice*

- New technologies, and markets evolved creating a shift in customer preference for **“smart home solutions”**.



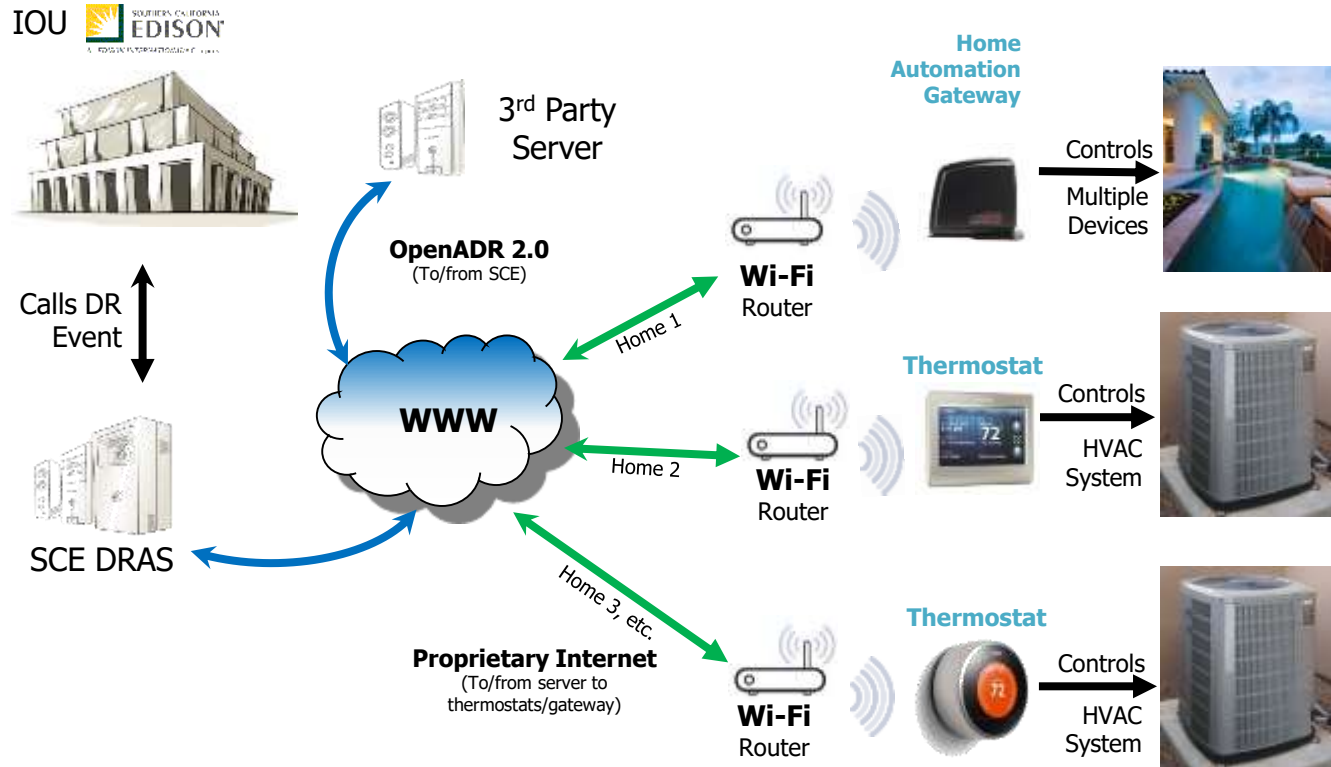
- Leveraging the utility and IoT communications pathways enable customer options for energy management and support Smart Grid functionality that can enhance reliability and optimize investments.

Smart Thermostats: Part of the Solution

- SCE is partnering with industry innovators including Nest Labs, Alarm.com, EnergyHub, Ecobee, Filtrete, Honeywell, Lux, Zen, Swann, Sense, Vivint.com, RadioThermostat
- Global smart thermostat sales grew +123% in 2015, \$785M USD
- Each year, an estimated **50,000 households** served by SCE install interconnected “smart” thermostats and energy management systems
- *Third party market research predicts smart thermostat adoption will grow 43% in the next five years; by 2020, 1 out of 4 SCE customers will likely own a smart thermostat*



3rd Party BYOD Communication Architecture



Providing multiple pathways communications and minimizing the opportunities for obsolescence



Co-Marketing and Co-Branding



Get a Nest Learning Thermostat and earn \$60.

Southern California Edison will give you up to \$60 a year when you sign up for Rush Hour Rewards — a Nest Learning Thermostat program that helps you use less energy during peak hours.

Learn more at nest.com/ice



It gets up to \$60 per year when you sign up for the program. See the program details at nest.com/ice. Offer subject to change without notice. © 2014 Edison International. All rights reserved.



Net Zero Energy Homes

Leading the Way in Electricity™



Designed to generate as much energy as it uses over the course of a year.

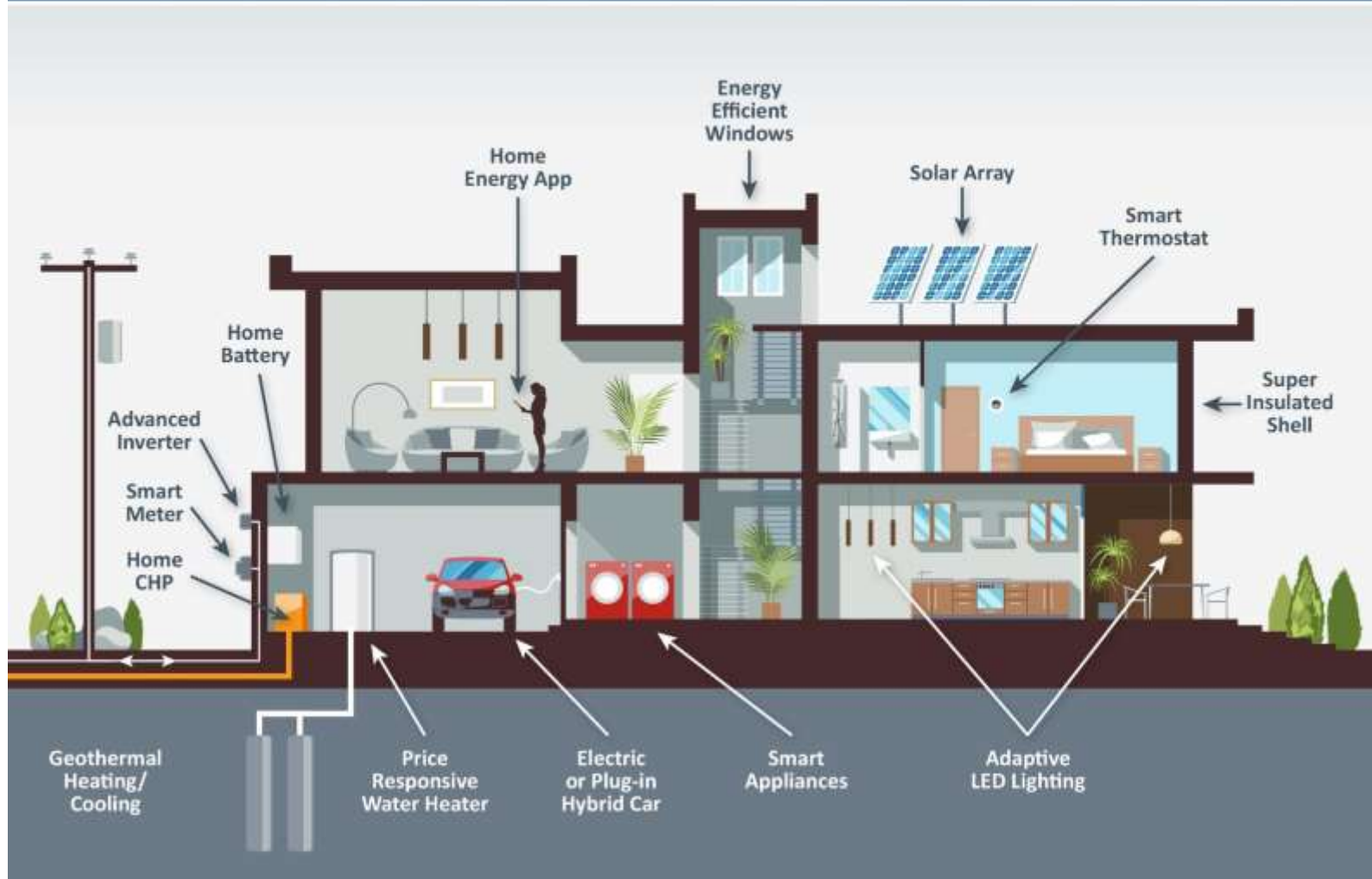
Grid Integration of ZNE Communities



Project Partners



House of the Future





The screenshot shows a web browser window displaying the EDF Energy website. The URL in the address bar is `me/self-service/amazon-echo-voice-controlled-energy`. The website header includes the EDF Energy logo, navigation links (Home, My account, My energy, My bills), and a search bar. The main content area features a large banner with the headline "Control your energy account using just your voice" and an image of an Amazon Echo device. Below the banner, there is a section titled "What's Amazon Echo and who is Alexa?" with a sub-image of the Echo device and descriptive text. At the bottom, an orange section titled "Alexa, ask EDF Energy..." lists four voice commands: "...to accept my meter reading*", "...for my account balance*", "...when my tariff ends*", and "...when my next payment date is*".

Control your energy account using just your voice

Want to start a meter reading and find out your energy account balance? Use your Echo and Alexa to enter your bill payments and view all Amazon Echo and Echo Out, all you have to do is ask Alexa.

What's Amazon Echo and who is Alexa?

Amazon Echo and Echo Out are voice-controlled speakers designed with the Amazon Echo – it's always ready, hands-free and fast. Alexa is the brain behind Echo – just ask Alexa to play music, read the news, set alarms, answer questions, check sports scores – even control your energy account. This can all be done from across a room. Thanks to Echo's far-field voice control technology, [Alexa works in Echo's](#).

Alexa works on compatible fire and Kindle or Android apps, allowing customers to interact with some devices in a home. (Compatible with your voice). When you've got your Amazon Echo or Echo Out and have downloaded the Alexa app, it's so easy to activate EDF Energy's skill. Alexa will then answer questions about your energy account.

[Buy Amazon Echo](#)

*Alexa, ask EDF Energy...

- ...to accept my meter reading*
- ...for my account balance*
- ...when my tariff ends*
- ...when my next payment date is*

Future State of Grid Needs

What areas of focus are most important for 2018 and beyond?

Inclusion of Fast and Flexible two-way supply and demand

- Fast response, providing **flexible dispatch that can ramp up or down** to accommodate increased renewables

Reliable, Predictable Resource

- DSM that can provide **consistent** results and be incorporated as a resource in procurement and system planning processes

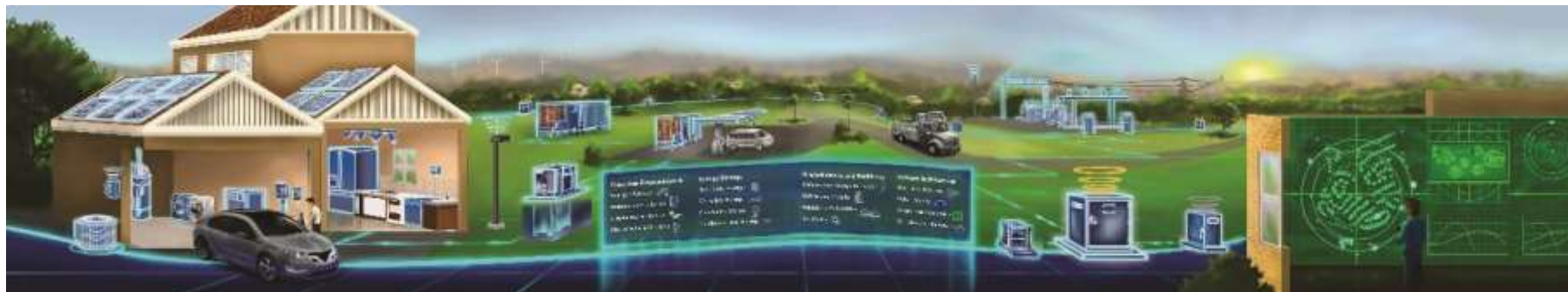
Locational and Granular Deployment & Dispatch

- Ability to dispatch at a partial MW or territory level (S-LAP or more granular) to meet distribution system needs and minimize customer impact

Customer Choices

- Providing **customers with tools and choices (dynamic rates and incentive programs)** to manage their energy bill

As a guiding principle, all of these areas of focus should be integrated and seamless, and match customer needs and values **FIRST**



Thank you!

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