The Tinker's Toolbox - Derek Phillips of Freescale on the Smart Grid

Hosted by Alix Paultre, the Tinker's Toolbox is the Advantage Design Group's web-based interview show where we talk about the latest technology, components, and design issues for the electronic design engineering community.

In this podcast we talk to Derek Phillips of Freescale on the Smart Grid and the challenges it poses to the design engineer. Smart-Grid issues span application areas from ubiquitous computing and the cloud so smart white goods and energy efficiency in the home, office, and factory. We also discuss some of the solutions Freescale has created to address those system design needs.

Right-click to download the podcast [1]

Here is a link to the podcast in case the play button is not visible: Freescale Grid Interview [1]

Here is a link to Freescale's Smart Grid page: Smart Grid and Smart Metering [2].

Here is a recent release on Freescale's efforts in the Energy@Home consortium:

Freescale Semiconductor and Telecom Italia presented the latest advancement of the Energy@Home consortium during the recent Design with Freescale (DWF) Italian session in Milan. The Energy@Home consortium, led by ENEL, Telecom Italia, Electrolux and Indesit, envisions a program that can provide users with information

on their household energy consumption directly on the display of a metering appliance or remotely on a smartphone or computer. Using this information, consumers will be able to assess their energy use for home appliances and potentially enhance the energy efficiency of their entire house.

Energy@Home’s mission is to develop an interoperable Home Area Network (HAN) focused on energy management and energy saving. The goal of the project is to build a communication infrastructure that enables value-added services related to energy usage, consumption and costs in the HAN.

A typical Energy@Home system includes the following:

-an ADSL gateway with wireless connectivity using ZigBee wireless protocol
-a smart information device, such as a smartphone, connected to the electricity meter through a USB ZigBee dongle key
-smart appliances in the home such as refrigerators, washers and dryers
-smart plugs that allow appliances that are ZigBee-enabled to communicate with the HAN

“Freescale is committed to providing solutions for energy management around the world,” said Bruno Baylac, director of the Medical, Metering and Connectivity solutions division for Freescale Semiconductor. “We are excited about the rapid and innovative developments achieved by the Energy@Home consortium. Our longstanding relationship with Energy@Home members and other leaders in the smart grid, smart meter, appliances and networking sectors enables us to provide a broad and deep level of expertise in supporting this critical project.”

Claudio Borean, Energy@Home task leader with Telecom Italia, announced during the event in Milan that the Energy@Home project is now ready to field test in 100 homes over the coming months. The ZigBee protocol that will be used to build an integrated platform and allow cooperation between the main devices involved in residential energy management is based on the ZigBee Home automation standard promoted by the ZigBee alliance, of which Freescale is a founding member.

Freescale products are present throughout the Energy@Home solution, providing exceptional performance via a ZigBee transceiver (MC13226) in the energy gateway processing unit and the i.MX28 as the gateway’s application processor. In addition to silicon and software solutions, Freescale is also supporting the consortium by leveraging its expertise and leadership in the appliances, industrial and communications markets.

Freescale solutions for smart metering and a smart grid address the challenge of efficient energy management and distribution. Understanding that embedded control and integrated connectivity will be at the heart of future smart grids,.Freescale delivers intelligent controllers for smart electricity, water, gas and heat meters in addition to home energy management systems and communication solutions, including robust power line modems and low–power radios that enable automated meter reading.

About Freescale Semiconductor
Freescale Semiconductor (NYSE:FSL) is a global leader in the design and manufacture of embedded semiconductors for the automotive, consumer, industrial and networking markets. The company is based in Austin, Texas, and has design, research and development, manufacturing and sales operations around the world. www.freescale.com [3].

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