

Saving energy with home automation



As computers become more prevalent in our offices and homes, not only as PCs but also in media and entertainment devices and embedded in appliances, so-called home networks can connect these computers and offer new convenience to users. Everyday, consumers use devices at home that are connected with each other such as the TV, the music player, the PC. Lighting or heating can also be controlled electronically via home automation networks and modern appliances can be integrated in them as well. But what most people don't know yet is that home automation can be a key to saving energy.

The growing interest in reducing CO₂ emissions and the ever increasing cost of energy and natural resources are putting pressure on consumers as well as on energy suppliers. Passive energy saving approaches (like thermal insulation) can be complemented by the consumer actively monitoring the energy consumption and feedback between consumers and energy suppliers.

"We have developed a so-called home automation gateway that can act as bridge between consumer,

energy supplier and home automation network. This allows for new scenarios to optimise reductions in energy consumption and CO₂ emissions," says Andreas Steinmetzler, Program Manager at the European Microsoft Innovation Center (EMIC) in Aachen.

Taking advantage of this technology, consumers can monitor their energy consumption and thus understand how their habits relate to their energy consumption, getting a fine-grained picture of the energy consumption in their house. Energy suppliers would be able to activate appliances that consume much energy, such as washing machines or laundry dryers, at times when energy can be produced and provided in ways that is environmentally friendly and well-priced. This is a win-situation for all parties involved: the consumer, the energy supplier and the environment.

"The Home Automation Gateway technology can offer lots more, for example tracking energy consumption upper limits. If these limits are exceeded the consumer will receive a notification telling him that probably an appliance is still running," adds

Alexander Voss, who is the project manager for Microsoft's part in the HOMEPLANE project.

The German Ministry for Economic Affairs and Technology initiated and supports the project HOMEPLANE (www.homeplane.de) which aims at pushing the development of home networks, so the integration and use of appliances, digital media and communication is easy for everyone. HOMEPLANE brings together the European Microsoft Innovation Center (EMIC), Siemens, Alltec and the leading research institutions Technical University Dortmund and Innovations for High Performance Microelectronics (IHP).

HOMEPLANE addresses the fact that there is still no widely accepted concept for home networks; the convergence of technologies has in fact not been achieved yet. Technological advances on many fronts have the potential to pave the way for novel applications, but standards in this area are lacking and thus new applications are hard to integrate. There is still some way to go before homogeneous and easy-to-use home networks are a reality, but with HOMEPLANE, Europe is showing the way. ■



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