

# Simple and secure networked home

August 18 2008

---

(PhysOrg.com) -- Most people will only start to control equipment remotely in their homes when they believe it is simple and safe to do so. A newly developed control system provides personalised answers.

Software that enables people to control the audiovisual equipment and white goods in their home through one simple, remote interface has been demonstrated by researchers on the ESTIA project.

New networked devices are automatically recognised by the system, and the network can be administered using a wide range of devices readily found in the home, including TVs, cordless phones, handheld PDAs, or from a PC.

Increasingly, multimedia equipment and even ovens, washing machines and tumble driers in our homes can be controlled remotely. While we see the benefits, few of us are firing up the oven from work so dinner is cooked when we arrive home. Why?

There are two main reasons we are reluctant to tap into home networks, according to Professor Lars Dittmann, a lead researcher in the EU-funded ESTIA project which studied what is needed in an enhanced networked environment for personalised AV content and appliances.

Firstly, he says, people perceive the control of networked devices as too complicated – particularly as the thousands of ‘networkable’ devices available for the home tend to have their own proprietary control systems. There is also a trust issue. Parents, for instance, worry that if it

is possible to turn the oven on over the internet, their children will learn how to do it with potentially catastrophic consequences.

## **ESTIA's solution**

The ESTIA team sought to address both these issues by producing a single, simple and easy-to-use interface for all networked devices, and by giving each network user a personal identity with different access rights.

“For example, it would allow people entering the house to type in a four digit pin code on a pad by the door,” says Dittmann. “If there was an adult in the house, the children would be able to use the oven or microwave, but they couldn't if they were home alone. Similarly, it is a way to control or block content on the TV.”

As well as the residential gateway software, for control of the home network via an internet connection, the team also developed a Home Media Gateway – a set-top box using Windows Vista, that allows a higher level of administration and control.

The ESTIA home networking architecture selects and uses whatever networking technologies are available – from IP-based networks to KNX. KNX, or ‘European Installation Bus’ as it has been known, is a wire-based platform for building control systems. Based on this physical infrastructure, ESTIA defined a set of higher-layer interfaces for machine-to-machine and person-to-machine interoperability.

## **Road to new standards**

“We don't believe that we have set the ultimate standard here,” says Dittmann, “but we believe we have moved the debate ahead by demonstrating that network control systems don't have to be too

complicated. It is simple for anyone who can use TV text to set up a device and an administrator, after connecting a device, can decide that it should only be visible or controllable by certain people.”

Having all devices on a single network and sharing one interface adds considerable flexibility and enables home users to personalise the services they use. For example, when a meal is ready in the oven an alert could pop up on the television screen in the living room.

Some of the participants are incorporating elements from ESTIA into their next-generation products. Keletron is introducing ESTIA’s audiovisual handling core logic in its product portfolio and presenting this to potential customers considering gateway installed services.

All of the companies that participated in the ESTIA project, including Siemens and the Slovenian white goods group Gorenje, have gained a lot of experience in how to exploit the commercial potential of a personalised home-networking control system, according to Dittmann. Moving forward from that point will require consensus.

“We demonstrated that devices could be automatically recognised by the network. To move forward requires the manufacturers of home-network-enabled devices to agree on a number of standards,” he concludes.

Provided by [ICT Results](#)

Citation: Simple and secure networked home (2008, August 18) retrieved 1 May 2024 from <https://phys.org/news/2008-08-simple-networked-home.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is

provided for information purposes only.