SECURE MEDIA CONSUMPTION IN A UBICOMP WORLD

Abstract Submitted for UbiComp Security Workshop Sept 29, 2002
By Stephanie Wald, NDS

People who create content professionally want to be paid for their work. Traditionally they have received this payment through controlling the means of distribution of the content – broadcast TV, sale of physical media (e.g., record or DVD). The payment methods were indirect – the user buys the right to access the content, or even watches advertisements, and the payment reaches the content provider through some contractual arrangement with the distributor.

In the ubiquitous computing world, content would naturally spread virally. Each ubicomp device receives content from the devices it passes, and passes it to the next device it is linked to. Content movement is limited by the device profile – no point to put video on a device with no screen – and by the owner's interest – no point to put classical music if the owner doesn't like it.

Content creators are already warning that they will not distribute content digitally unless they can be guaranteed payment through control of the content's destination. The problem of uncontrolled content distribution already exists in the Internet environment. Various digital rights management schemes have been proposed, and most have not even got started. Microsoft is now proposing its Palladium scheme, based on built-in hardware, secrets and security algorithms. Whether or not you think that Microsoft can pull this off, any security expert will tell you that these are the ingredients necessary to make it work.

The ubicomp world is at exactly the right place to define the proper security infrastructure to support the business models required by content creators. The security infrastructure is different from that required for privacy and non-repudiation. The architecture has to be light-weight but solid, functioning with or without online connections to a payment server and with the ability to recover from piracy.

NDS will present directions towards a solution.