

ITU-T Workshop

“Opportunities and Challenges in Home Networking”

Abstract

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Session: 7 - The Home Networking Future: Efforts and Challenges
Title of Presentation: Common Communication Protocol (CCP) for A/V equipment in the home

CCP (Common Communication Protocol) is a communication protocol between devices on heterogeneous home networks, specifying requirements for the delivery of various kinds of data among those devices. CCP is a high level layer protocol that provides interface to various digital devices at home for end-to-end communication over heterogeneous communication networks. Most of AV (Audio and Video) devices, controlling devices, and data communication devices at home can communicate to each other in accordance with this protocol. The key principle in designing the CCP is compatibility and expandability, which means the CCP is designed to be compatible with existing and future protocols for home networking and to be easily expandable when necessary.

It can be said that CCP is located at the application layer of OSI 7-layer model, and provides a way of connection between home appliances, multimedia devices, and controlling devices by putting all networks together. Therefore, it becomes able to support the end-to-end service over heterogeneous home networks. Its behavior is quite similar to that of tunneling, which means the data created by a specific application on a certain device can be delivered to the specific application on the other device connected to a different kind of communication network using CCP, no matter what kind of low-level structure the network has.

CCP is a single unified signaling protocol that defines the functions such as basic, addressing, device control & monitoring, network management, data service, and multimedia service functions. Basic function includes data delivery using CCP and APIs. Addressing function specifies special naming convention adopted by the CCP. Device controlling & monitoring function specifies registration of attributes and control commands for each device, and execution of control and query commands. Network management function specifies discovery, PnP for devices, and management of devices in the home network. Data service specifies directory service, messaging service, and file transfer service. Multimedia service specifies directory service for multimedia contents and streaming service of multimedia contents.