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SERIES J: CABLE NETWORKS AND TRANSMISSION OF TELEVISION, SOUND PROGRAMME AND OTHER MULTIMEDIA SIGNALS

Artificial intelligence (AI) assisted cable networks – Requirements for the set-top box

Functional requirements for a smart home gateway

Recommendation ITU-T J.1611

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Functional requirements for a smart home gateway

Summary

Recommendation ITU-T J.1611 specifies functional requirements for a smart home gateway from both the hardware and software point of view to ensure secure interoperability among consumers, businesses and industries by delivering a standardized communications platform and allowing devices to communicate across operating systems, service providers, transport technologies or ecosystems.

In a smart home solution, a gateway is incorporated to connect various appliances. In addition, a connection management platform based on the Internet of things (IoT) is required to enable various applications. These applicable solutions include home health, entertainment, security and home automation, which promote a safer, happier, as well as a more comfortable and convenient lifestyle.

History

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Introduction

A smart home is a kind of home automation system based on the Internet of things (IoT), through which home appliances, sensors and services can be connected by a communication network and remotely accessed, monitored and controlled. A smart home gateway, sometimes called a smart home bridge, collects and translates various protocol communications from smart home devices.

In a smart home solution, a gateway is incorporated to connect appropriate appliances. In addition, an IoT-based connection management platform is required to enable various applications. These applicable solutions include home health, entertainment, security, and home automation, which promote a safer, happier, as well as a more comfortable and convenient lifestyle. The solution will help operators to adapt heritage home broadband services to provide intelligent home services and increase subsequent service income revenues.

As such, a gateway acts as the heart of a smart home network, tying together various devices and systems in a centralized platform. This also simplifies the network for users and gives them a single smart home application to manage all systems and applications. Another important function of the gateway is to act as a protocol converter and translator. Considering that there are different wireless access technologies and different protocols and eco-systems, this function will make it possible to have different smart home systems or even different interoperable ecosystems, which will bring great convenience to the customer.

A gateway can be a standalone device in a smart home solution. It can also be incorporated into a set-top box or other residential gateway devices. The common requirement of the solution is that a smart home gateway should have the capabilities of broadband connection with an IoT management platform, and a long life cycle in the home environment.

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