Title	A study on remote management mechanism for M2M system
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Citation	
Issue Date	2016-03
Type	Thesis or Dissertation
Text version	author
URL	http://hdl.handle.net/10119/13619
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Abstract

Machine to machine (M2M) is a broad label that can be used to describe any technology that enables networked devices to exchange information and perform actions without the manual assistance of humans. The extensive growth of ubiquitous wireless networks worldwide has facilitated a system that allows for M2M on a drastically larger scale, enabling M2M communication at greater speeds using less power and resources – thereby opening up a huge arena of potential opportunities spanning diverse industries and applications.

Smart home is a significant part of M2M system. During the last two decades, home network has developed very fast, becomes quite complex due to an increasing of number of devices and the coexistence of different kind of technologies in the same environment. Because of the complexity, topology information is required to help solving problems in the network.

Future home networks will also include sensors and controllers that allow end-users to interact with home systems controlling environment energy, appliances and security. ZigBee is one example of the upcoming technology, it has a low data rate, low power consumption, low cost, wireless networking protocol targeted towards automation and remote control applications.

HTIP (Home network Topology Identify Protocol) can identify the home network topology, and can check the connectivity of the target device and network devices present on the route between AGW and the device. But HTIP can only work on IP-based devices, other Non-IP devices, such as ZigBee are out of scope.

This leads to the combination demand of different standards. My research focuses on an example of combination between HTIP and ZigBee to draw a general view of home network topology, by proposing a new design and implementation of a ZigBee - LLDP Proxy, based on that to combine 2 different protocols: HTIP - ZigBee. From the characteristics of HTIP and ZigBee, we can make these technologies more suitable for humanity.