HomeMesh:
A Low-Cost Indoor Wireless Mesh for Home Networking

ABSTRACT

Wi-Fi has brought a new aspect in the ground of networking. The broadcast of data is completed via radio waves and the cost of cables for network lying down.Wi-Fi enable a user to get access to internet anywhere in the given location. A network can be made in Hotels, Libraries, colleges, universities, campus, private institutes, and coffee shops and even on a public place to make business more profitable and connect with their client any time. Wi-Fi makes waves for business with their highly effective cable less media. WiFi is a convenient technology and where the range station exists you are online during travel you can equip with a Wi-Fi network and set up shop anyplace. You will automatically connect with internet if you are near hotspot. These days Wi-Fi exist everywhere with all its wonders.

Current Wi-Fi deployment is limited to areas where wired LAN is available. Due to its relatively short transmission range in indoor environments (typically several tens of meters), Wi-Fi coverage needs to be extended significantly to full coverage of a certain area. To provide Wi-Fi services over a larger area, the traditional approach is to lay down cables and deploys more APs(Access Point). This is not cost-effective solution,especially for some unpopular areas where cable is expensive.(eg.,backyards). The **wireless mesh network (WMN)** is a practical and effective solution. **HomeMesh** is an off-the-shelf, simple, and cost-effective WMN for the indoor home environment. HomeMesh is based on simple protocols, implementable in normal notebooks or PCs, and is compatible with existing Wi-Fi APs and clients (i.e., no AP and client modifications). To achieve better end-to-end delay and throughput, HomeMesh dynamically selects its access path based on the ETX metric.

A WMN consists of mesh routers and mesh clients. Mesh routers form the backbone to provide wireless access to mesh clients. They self-configure to maintain connectivity for clients. Besides routing, they play additional roles to support mesh connection (security,load balancing etc). The communication between mesh routers is transparent to clients ,who regard mesh routers as APs.This mesh solution is shown to be effective in improving Wi-Fi services.

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Sony T

College Of Engineering ,Trivandrum