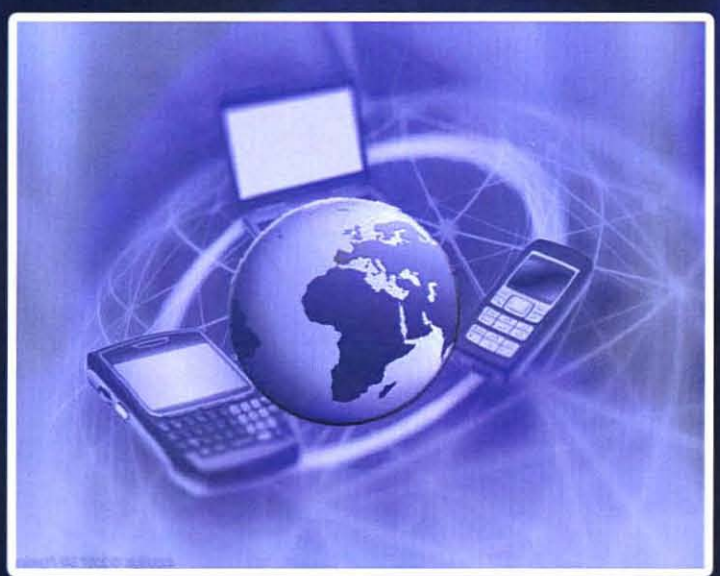
Research Issues in Wireless

Communications and Networking

Farhat Anwar
Wajdi Al-Khateeb



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CHAPTER 6

PATH SELECTION PROTOCOLS FOR IEEE 802.11S WLAN MESH NETWORKS

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6.1 INTRODUCTION

Wireless mesh networks (WMN) have been envisioned as an important solution to the next generation wireless networking. It is a special kind of multihop wireless network that consists of mesh routers and mesh clients [1]. Typically, mesh routers are static and power-enabled and they form a wireless backbone for the WMNs while connected with the wired networks to provide multi-hop wireless internet connectivity to the mesh clients. Mesh clients may be mobile and they can access the network via mesh routers or directly by forming a mesh with each other.

WMN is a fast-growing wireless technology that may serve as a rich set of applications like wireless community networks, wireless enterprise networks, transportation systems, home networking and last-mile wireless internet access.[2]. Figure 6.1 shows an example of wireless mesh network. Mesh Access Points (MAP) are the point of attachment for the mesh clients like Wi-Fi network. However, Mesh Points (MP) act as router which forward the traffic based on their routing (path selection) table and provide mesh services. Mesh Portal Points (MPPs) provides the inter-networking connectivity with other subnet or Basic Service Set (BSS).

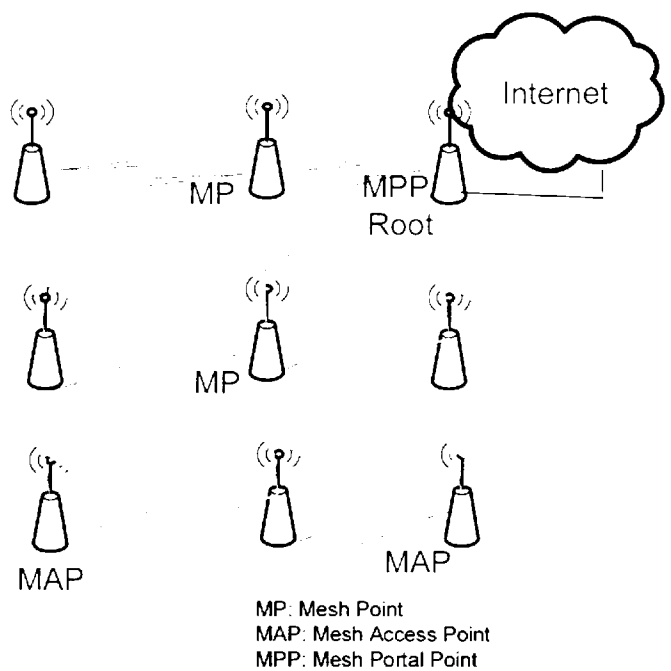

Figure 6.1: Typical example of Wireless Mesh Network

The present 802.11 based wireless networks rely on wired infrastructure to carry the user's traffics. However, this dependency on wired infrastructures is costly and inflexible as wireless