

depending on whether ad hoc or infrastructure modes are used and, in the case of infrastructure mode, whether a wireless station or an AP is sending the frame.) Finally the WEP field indicates whether encryption is being used or not. (WEP is discussed in Chapter 8.)

6.3.4 Mobility in the Same IP Subnet

In order to increase the physical range of a wireless LAN, companies and universities will often deploy multiple BSSs within the same IP subnet. This naturally raises the issue of mobility among the BSSs—how do wireless stations seamlessly move from one BSS to another while maintaining ongoing TCP sessions? As we'll see in this subsection, mobility can be handled in a relatively straightforward manner when the BSSs are part of the subnet. When stations move between subnets, more sophisticated mobility management protocols will be needed, such as those we'll study in Sections 6.5 and 6.6.

Let's now look at a specific example of mobility between BSSs in the same subnet. Figure 6.15 shows two interconnected BSSs with a host, H1, moving from BSS1 to BSS2. Because in this example the interconnection device that connects the two BSSs is *not* a router, all of the stations in the two BSSs, including the APs, belong to the same IP subnet. Thus, when H1 moves from BSS1 to BSS2, it may keep its IP address and all of its ongoing TCP connections. If the interconnection device were a router, then H1 would have to obtain a new IP address in the subnet in which it was moving. This address change would disrupt (and eventually terminate) any on-going TCP connections at H1. In Section 6.6, we'll see how a network-layer mobility protocol, such as mobile IP, can be used to avoid this problem.

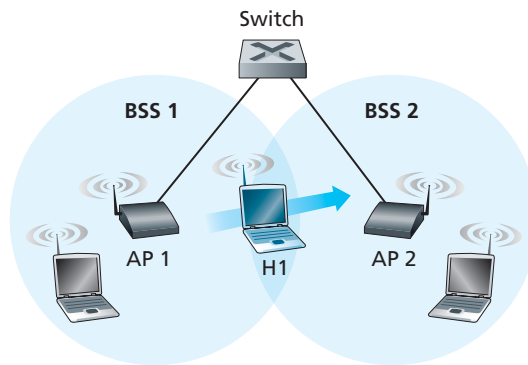


Figure 6.15 ♦ Mobility in the same subnet