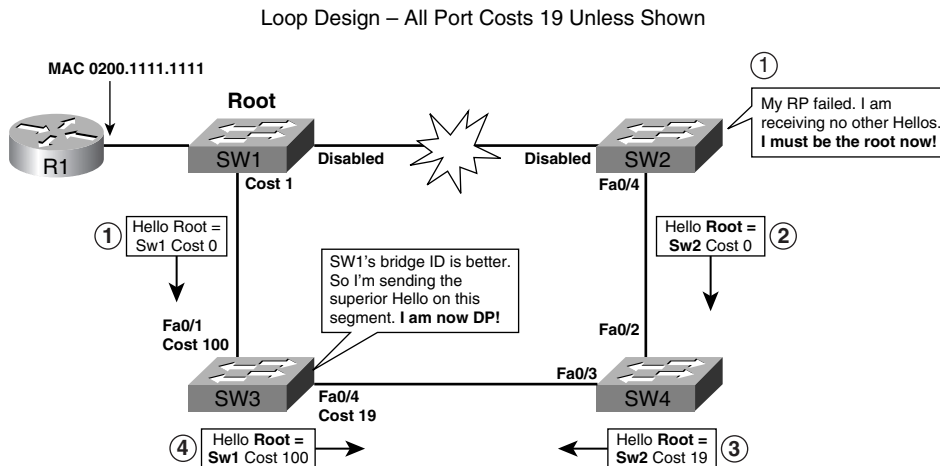


Figure 3-3 *Reacting to Loss of Link Between SW1 and SW2*

The following list describes some of the key steps from Figure 3-3:

1. SW2 ceases to receive Hellos on its RP.
2. Because SW2 is not receiving Hellos over any other path, it begins a new root election by claiming to be root and flooding Hellos out every port.
3. SW4 notices that the latest Hello implies a new root switch, but SW4 ends up with the same RP (for now). SW4 forwards the Hello out toward SW3 after updating the appropriate fields in the Hello.
4. SW3 receives the Hello from SW4, but it is inferior to the one SW3 receives from SW1. So, SW3 becomes the DP on the segment between itself and SW4, and starts forwarding the superior Hello on that port.

Remember, SW1 had won the earlier election; as of Steps 3 and 4, the Hellos from SW1 and SW2 are competing, and the one claiming SW1 as root will again win. The rest of the process results with SW2's fa0/4 as DP, SW4's fa 0/3 as RP, SW4's fa 0/2 as DP, and SW2's fa 0/4 as RP.

Topology Change Notification and Updating the CAM

When STP reconvergence occurs, some Content Addressable Memory (CAM) entries might be invalid (CAM is the Cisco term for what's more generically called the MAC address table, switching table, or bridging table on a switch). For instance, before the link failure shown in Figure 3-3, SW3's CAM might have had an entry for 0200.1111.1111 (Router1's MAC address) pointing out fa0/4 to SW4. (Remember, at the beginning of the scenario described in Figure 3-3,