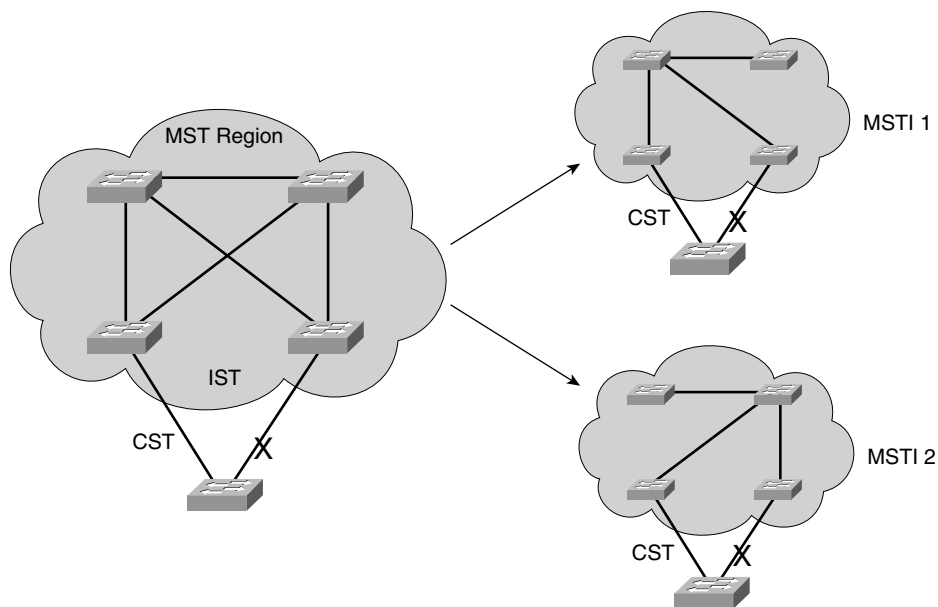




### MST Instances

Recall that the whole idea behind MST is the capability to map multiple VLANs to a smaller number of STP instances. Inside a region, the actual MST instances (MSTI) exist alongside the IST. Cisco supports a maximum of 16 MSTIs in each region. The IST always exists as MSTI number 0, leaving MSTIs 1 through 15 available for use.

Figure 10-5 shows how different MSTIs can exist within a single MST region. The left portion of the figure is identical to that of Figure 10-4. In this network, two MST instances, MSTI 1 and MSTI 2, are configured with different VLANs mapped to each. Their topologies follow the same structure as the network on the left side of the figure, but each has converged differently.



**Figure 10-5** Concepts Behind MST Instances

Notice that within the MST cloud, there are now three independent STP instances coexisting: MSTI1, MSTI 2, and the IST.

Only the IST (MSTI 0) is allowed to send and receive MST BPDUs. Information about each of the other MSTIs is appended to the MST BPDU as an M-record. Therefore, even if a region has all 16 instances active, only 1 BPDU is needed to convey STP information about them all.

Each of the MSTIs is significant only within a region, even if an adjacent region has the same MSTIs in use. In other words, the MSTIs combine with the IST only at the region boundary to form a subtree of the CST. That means only IST BPDUs are sent into and out of a region.