

Spanning Tree Timers:

STP timers are hello timer, forward delay timer and max age timer.

Hello Time:

- o Hello Time, defines interval Root Bridge send out configuration BPDUs.
- o The Default Spanning Tree Protocol (STP) hello timer is 2 seconds.
- o STP hello timer can be adjust to any value between 1 and 10 seconds.

Forward Delay:

- o Forward delay timer is time interval spent in listening & learning state.
- o The Forward Delay is the length of the Listening and the Learning states.
- o Default Spanning Tree Protocol (STP) forward delay timer is 15 seconds.
- o STP forward delay timer can be adjust to any value between 4 & 30 seconds.

Maximum Age:

- o The Spanning Tree Maximum Age timer often referenced as MaxAge.
- o The time interval that a Cisco Switch stores a BPDU before discarding it.
- o Length of time each Switch save superior BPDU's info before discarding it.
- o Each port of Cisco Switch keeps a copy of the best BPDU it has learned.
- o If the port no longer receives the BPDUs after the Max Age time has elapsed.
- o Switch assumes that topology change must have occurred & BPDU is aged out.
- o By default, Spanning Tree Protocol Maximum Age timer is set to 20 seconds.
- o The STP max age timer can be tune to any value between 6 and 40 seconds.

Commands	Description
SW1# show spanning-tree vlan 1	Display STP details
SW1(config)#spanning-tree vlan 1 hello-time 5	Changing STP Hello time
SW1(config)#spanning-tree vlan 1 forward-time 20	Changing STP Forward Delay time
SW1(config)#spanning-tree vlan 1 max-age 40	Changing STP Maximum Age time

Message Age:

Unlike the three Spanning Tree Protocol timers, Message Age is not a fixed value. This field contains time that has passed since root switch initially originated BPDU. Root switch sends all its BPDUs with Message Age of 0 & all subsequent switches add 1. Effectively, the Message Age tells the switch how far the switch is from the root switch. Remaining lifetime of a BPDU after being received by a switch is MaxAge-MessageAge.