

STP PortFast BPDU guard feature

By default, STP runs on all ports on a switch but most of these ports are connected to an end-user device (printers, PCs, servers).

Suppose that someone turns off the PC and then turns on, it will take up to 50 seconds before the port transits to the forwarding state and can be usable

- 15 seconds for Listening to Learning,
- 15 seconds for Learning to Forwarding and if that port is running Port Aggregation Protocol (PAgP) to negotiate EtherChannel configuration, an additional 20-second delay can occur

Therefore the STP PortFast feature is used to allow immediate transition of the port into forwarding state.

Notice that PortFast is for access (user) ports only; It causes the port to bypass the STP listening and learning states and transition directly to forwarding; However, Spanning-tree loop detection is still in operation and the port moves into the Blocking state if a loop is ever detected on the port.

There is an issue with PortFast feature. For example, if we connect a switch to a PortFast port, the loop can occur **or** this new switch can make the STP block important ports if it takes over the root bridge function.

This situation can be prevented with the **BPDU guard feature**. This feature disables (shuts down) the port as soon as the switch receives the STP BPDU from the port which has been configured with BPDU guard, placing it in the errdisable state.

The STP PortFast BPDU guard enhancement allows network designers to enforce the STP domain borders and keep the active topology predictable. The devices behind the ports that have STP PortFast enabled are not able to influence the STP topology.