

Configuration of Rapid Spanning Tree Protocol (RSTP) Settings on WRVS4400N Routers

Objective

Rapid Spanning Tree Protocol (RSTP) is a layer 2 network protocol used to obtain a loop free topology. RSTP is an enhanced version of Spanning Tree Protocol (STP), which provides a faster convergence to obtain a loop free topology.

The objective of this document is to explain the steps to configure RSTP on Cisco Small Business WRVS4400N routers.

Applicable Devices

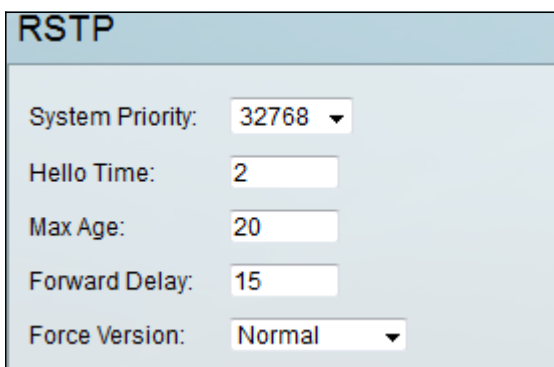
- WRVS4400N Wireless-N Gigabit Security Router

Software Version

- v2.0.1.3

RSTP Configuration

Step 1. Log in to the web configuration utility and choose **L2 Switch > RSTP**. The *RSTP* page opens:



System Priority:	32768
Hello Time:	2
Max Age:	20
Forward Delay:	15
Force Version:	Normal

Step 2. Choose the system priority from the *System Priority* drop-down list. The device priority number is used in the election of the root of the spanning tree. The lower the number, the higher the priority.

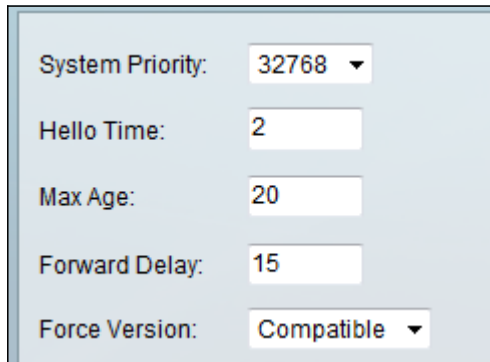
Step 3. Enter the time between hello packets in the *Hello Time* field. This is the time interval between consecutive Bridge Protocol Data Units (BPDUs). BPDUs acts as hello packets to form and maintain connections in spanning tree. Hello time can have a value between 1 to 10, with a default value of 2 seconds.

Step 4. Enter a value for the maximum age in *Max Age* field. This is the maximum waiting time, after which the broken link is declared non-operational and a re-calculation of the spanning tree starts. Max age has a range of 6 to 40, with a default value of 20 seconds.

Note: The value of maximum age should be less than twice the value of Forward Delay (next step) and more than double the value of Hello Time.

Step 5. Enter the value for forward delay in the *Forward Delay* field. This is the time spent in the learning and forwarding state before actual data is allowed on the port. Forward delay has range of 4 to 30, with default value of 15 seconds.

Step 6. Choose the force version from the *Force Version* drop-down list. This can be used to enable backward compatibility for RSTP with STP. To make RSTP compatible with STP, choose **Compatible** from the drop-down list.



The image shows a configuration panel with the following fields and values:

System Priority:	32768
Hello Time:	2
Max Age:	20
Forward Delay:	15
Force Version:	Compatible

The available options are defined as follows:

- RSTP — Rapid Spanning Tree Protocol (RSTP) detects and uses network topologies that allow a faster STP convergence without creating forwarding loops.
- STP — Spanning Tree Protocol (STP) is a layer 2 network protocol that runs on switches and bridges. It is used to eliminate loops in the topology. Loops occur when there is an alternate route to the destination. Formation of loops will result in increased traffic and low network efficiency.
- Compatible — Select Compatible for old STP.
- Normal — Select Normal for RSTP.

Step 7. (Optional) Check the **Protocol Enable** check box beside a port number to enable the RSTP protocol for the particular port.

Step 8. (Optional) Check the **Edge** check box, to make the particular port an edge port. An edge port operates in half-duplex mode and is not connected to any further bridges participating in SPT or RSTP.

Step 9. (Optional) To manually assign the RSTP path cost, enter the RSTP path cost in the

Past Cost field for particular port. Past cost has a range of 1 to 200000000. Path cost is the sum of the port costs between a bridge and the root bridge.

Step 10. Click **Save** to apply settings.