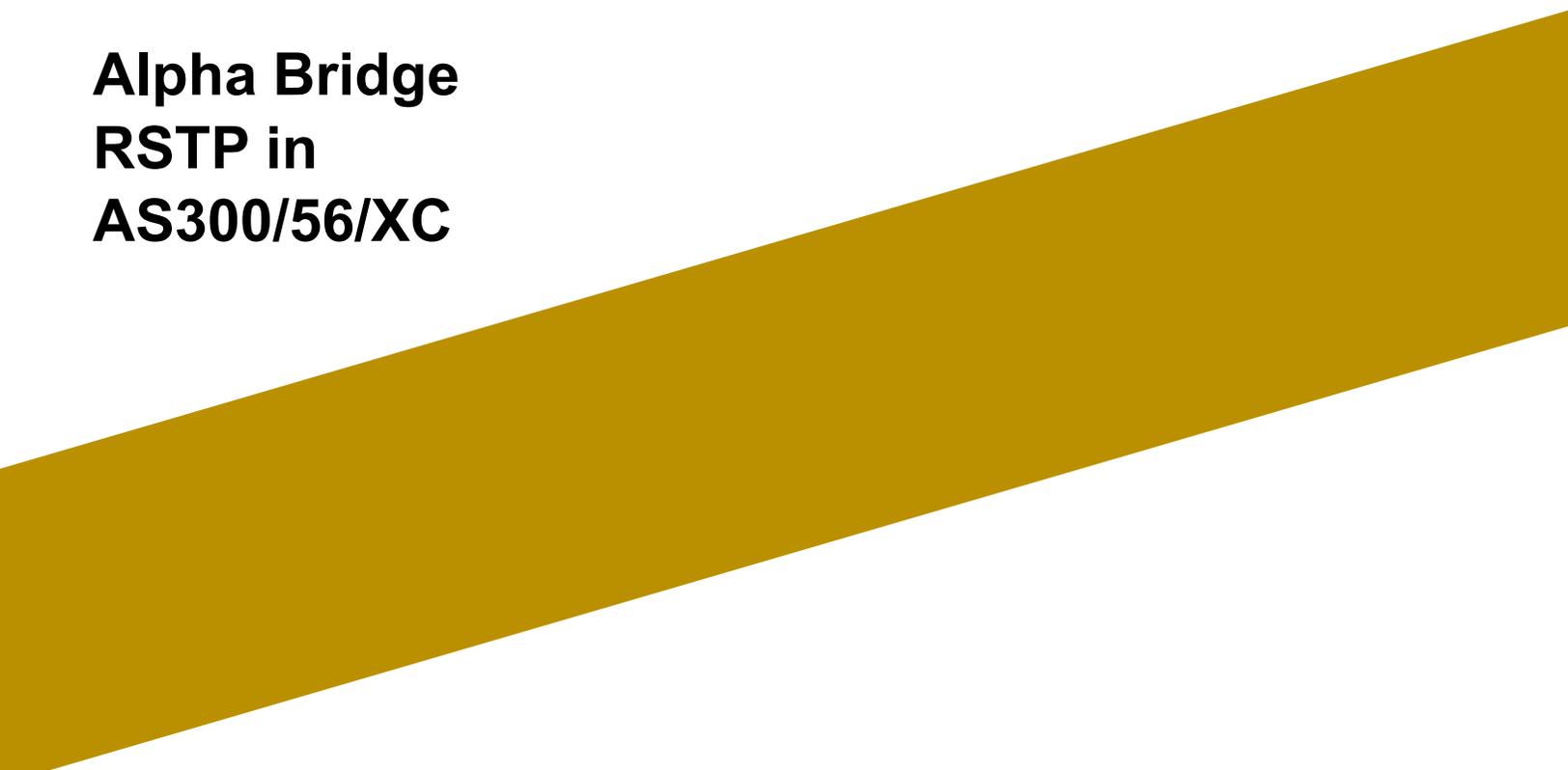


**Alpha Bridge
RSTP in
AS300/56/XC**



Test	RSTP with AS300/56/XC and AS200/28/XF
Test procedure	
configuration	<p>Configuration in AS356XC:</p> <pre> ! hostname AS356XC ! vlan 1,780,2750-2752 ! stp // to enable stp stp hello-time 1 // to set stp timer hello-time =1 stp max-age 6 // to set stp timer max-age =6 stp forward-delay 4 // to set stp timer forward-delay =4 stp mode rstp // to select mode RSTP stp priority 0 // to set stp priority ! ! interface 10gigaethernet 1/0/2 </pre>

```
port link-type trunk
port trunk allow-pass vlan 780,2750
stp path-cost 1000 // to set path-cost on interface (optional config )
!
interface 10gigaethernet 1/0/4
port link-type trunk
port trunk allow-pass vlan 780,2750
!
Configuration in AS228XF_switch_1:
!
hostname AS228XF_switch_1
!
spanning-tree mode rstp
spanning-tree rstp hello-time 1
spanning-tree rstp forward-time 4
spanning-tree rstp max-age 6
!
interface TGigaEthernet0/2
switchport mode trunk
switchport trunk vlan-allowed 780,2750
!
interface TGigaEthernet0/4
switchport mode trunk
switchport trunk vlan-allowed 780,2750
!
Configuration in AS228XF_switch_2:
!
hostname AS228XF_switch_2
!
```

```

spanning-tree mode rstp
spanning-tree rstp hello-time 1
spanning-tree rstp forward-time 4
spanning-tree rstp max-age 6
!
interface TGigaEthernet0/2
switchport mode trunk
switchport trunk vlan-allowed 780,2750
!
interface TGigaEthernet0/4
switchport mode trunk
switchport trunk vlan-allowed 780,2750
!
    
```

Results for RSTP

STP status in all 3 switches

test result

The screenshots show the following content:

- Top-left:** Configuration for AS228XF_switch_1# showing RSTP mode, hello-time 1, forward-time 4, max-age 6, and interface configurations for TGigaEthernet0/2 and TGigaEthernet0/4.
- Top-right:** 'show stp information' for AS356XC, showing STP instance details, bridge times, and root information.
- Bottom-left:** 'show stp information' for AS228XF_switch_2_config#, showing its role as a designated bridge and its priority of 32768.
- Bottom-right:** A Windows command prompt showing a series of successful ping replies from 10.10.10.10.

Switch-1 becomes the root bridge because its priority is 0

When the tg0/2 is down in the switch-1

The screenshot shows three terminal windows. The top-left window shows the configuration for switch-1 (AS228XF_switch_1) with STP enabled. The top-right window shows the STP status for switch-1, where port tg0/4 is in a 'designated' state. The bottom-left window shows the configuration for switch-2 (AS228XF_switch_2) with STP enabled. The bottom-right window shows a PC (C:\WINDOWS\system32\cmd) receiving ping replies from 10.10.10.10.

The port tg0/4 in switch-2 is changed to designated when the link is down without any packet loss

When the tg0/2 is restored in the switch-1

The screenshot shows the same three terminal windows as above. In the top-right window, the STP status for switch-1 now shows port tg0/2 as 'root' and port tg0/4 as 'designated'. In the bottom-right window, the PC continues to receive ping replies from 10.10.10.10.

The port tg0/4 in switch-2 is changed to Alternate when the link is restored without any packet loss

When the tg0/4 is down in the switch-1

STP status when the AS356XC priority is zero and remaining are default

The screenshot shows four terminal windows. The top-left window shows the STP configuration for AS228XF-switch_1, where the root priority is 0. The top-right window shows the STP configuration for AS356XC, where the root priority is 32768. The bottom-left window shows the STP status for AS228XF-switch_2, where the root priority is 4096. The bottom-right window shows a series of ping replies from 10.10.10.10.

```

RSTP
  Root ID Priority 0
  Address C868.BCAB.AA04
  Port TGiGigEthernet0/2
  Cost 2000
  Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

  Bridge ID Priority 32768
  Address C868.BCAB.C633
  Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Interface Role Sts Cost Pri Nbr Type
-----
g0/2 Desg FWD 20000 128.166 Edge
tg0/2 Root FWD 2000 128.190 P2p
tg0/4 Altn BLK 2000 128.192 P2p

AS228XF_switch_1_config#

AS356XC(config)#
AS356XC(config)#show stp inf
AS356XC(config)#show stp information
<<>
AS356XC(config)#show stp information
CIST Bridge : 0.c868-bcab-a400
Bridge Times : Hello 1s MaxAge 6s FwDly 4s RemainingHops 20
CIST Root/ERPC : 0.c868-bcab-a400/0
CIST Rghoot/IRPC : 0.c868-bcab-a400/0
Number of TC : 0
Last TC occurred : N/A

AS356XC(config)#
AS356XC(config)#show stp brief
MSTID Port Role STP State Protection Region
0 10g1/0/2 designated forward N/A different
0 10g1/0/4 designated forward N/A different
0 10g1/0/23 designated forward N/A different

AS356XC(config)#

RSTP
  Root ID Priority 4096
  Address C868.BCAB.AA04
  Port TGiGigEthernet0/4
  Cost 2000
  Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

  Bridge ID Priority 32768
  Address C868.BCAB.BF67
  Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Interface Role Sts Cost Pri Nbr Type
-----
g0/2 Desg FWD 20000 128.166 Edge
tg0/2 Desg FWD 2000 128.190 P2p
tg0/4 Root FWD 2000 128.192 P2p

AS228XF_switch_2_config#

Reply from 10.10.10.10: bytes=32 time=1ms TTL=128
Reply from 10.10.10.10: bytes=32 time=4ms TTL=128
Reply from 10.10.10.10: bytes=32 time=1ms TTL=128

```

AS356XC becomes the root bridge since the priority is 0

- Stp port status when:
- AS228XF-switch1 priority =4096
- AS228XF-switch2 priority =0
- AS356XC priority = 32768 (default)

```

192.168.200.241 - PuTTY
RSTP
Root ID Priority 0
Address C869.BCA0.BF67
Port 10GigEthernet0/4
Cost 2000
Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Bridge ID Priority 4096
Address C869.BCA0.C633
Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Interface Role Sts Cost Pri.Nbr Type
-----
g0/2 Desg FWD 20000 128.156 Edge
t0/2 Desg FWD 2000 128.198 P2p
t0/4 Root FWD 2000 128.192 P2p

AS228XP_switch_1#

192.168.200.241 - PuTTY
AS356XC(config)#show stp info
AS356XC(config)#show stp information
CIST Bridge : 32768.c86b-bca0-a80a
Bridge Times : Hello 1s MaxAge 6s FwDly 4s RemainingHops 20
CIST Root/ERPC : 0.c86b-bca0-bf67 / 2000
CIST Rghoot/LRPC : 32768.c86b-bca0-a80a / 0
CIST RootPort : 10GigEthernet1/0/4
Number of TC : 0
Last TC occurred : N/A

AS356XC(config)#
AS356XC(config)#show stp bri
AS356XC(config)#show stp brief
NSID Port Role STP State Protection Region
-----
0 10ge1/0/2 alternate discarding N/A different
0 10ge1/0/4 root forward N/A different
0 10ge1/0/13 designated forward N/A different

AS356XC(config)#

192.168.200.242 - PuTTY
RSTP
Root ID Priority 0
Address C869.BCA0.BF67
This bridge is the root
Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Bridge ID Priority 0
Address C869.BCA0.BF67
Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Interface Role Sts Cost Pri.Nbr Type
-----
g0/2 Desg FWD 20000 128.156 Edge
t0/2 Desg FWD 2000 128.198 P2p
t0/4 Desg FWD 2000 128.192 P2p

AS228XP_switch_2#
AS228XP_switch_2#
  
```

Port cost of interface 10g1/0/2 in AS356XC

```

192.168.200.241 - PuTTY
RSTP
Root ID Priority 0
Address C869.BCA0.BF67
Port 10GigEthernet0/4
Cost 2000
Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Bridge ID Priority 4096
Address C869.BCA0.C633
Hello Time 1 sec Max Age 6 sec Forward Delay 4 sec

Interface Role Sts Cost Pri.Nbr Type
-----
g0/2 Desg FWD 20000 128.156 Edge
t0/2 Desg FWD 2000 128.198 P2p
t0/4 Root FWD 2000 128.192 P2p

AS228XP_switch_1#

192.168.200.241 - PuTTY
AS356XC(config)#
AS356XC(config)#
AS356XC(config)#
AS356XC(config)#
AS356XC(config)#
AS356XC(config)#show stp interface 10Gigsethernet 1/0/2
-----[CIST Info]-----
CIST Bridge : 32768.c86b-bca0-a80a
Bridge Times : Hello 1s MaxAge 6s FwDly 4s RemainingHops 20
CIST Root/ERPC : 0.c86b-bca0-bf67 / 2000
CIST Rghoot/LRPC : 32768.c86b-bca0-a80a / 0
CIST RootPort : 10GigEthernet1/0/4

-----[PORT Info instance 0]-----
Description : 10ge1/0/2
Port Role : alternate
STP State : discarding
Priority : 118
Port Cost(Dot1t) : config=auto / active=2000
Desg. Bridge/Port : 4096.c86b-bca0-c640 / 128.190
TC or TCN TX : 45
TC or TCN RX : 39
Last forwarding time : 2000/01/16 06:25:26
Port Edged : config=disable / active=disable
POINT-to-point : config=auto / active=true
TCN RX : 0
Config RX : 0
RSTP RX : 11463
NSTP RX : 0
TCN TX : 0
Config TX : 0
RSTP TX : 98568
NSTP TX : 0
BPDU Filter : disable
Protection Type : N/A

AS356XC(config)#
AS356XC(config)#
AS356XC(config)#
AS356XC(config)#
  
```

When the port cost of 10g1/0/2 is changed to 1000

