

# Qdy – NMDA vs. admin-oper- pairs

yangsters-Qdy-NMDA-vs-admin-oper-pairs

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2024-11-05

# Background: Comments R1-6 and R1-7

## **Comment R1-6:**

`/if:interfaces/if:interface/dot1q:bridge-port/rstp:rstp/rstp:port-path-cost`  
leaf `port-path-cost` is not defined with default value.

Understanding is if `port-path-cost` is not configured, device to derive `port-path-cost` automatically based on the link speed.

## **Comment R1-7:**

`/if:interfaces/if:interface/dot1q:bridge-port/rstp:rstp/rstp:port-path-cost`  
If `port-path-cost` is automatically calculated, a config false leaf required to view the default value derived by the device based on speed of the link.

# RSTP YANG model

component (name)		
string	name;	// r-w
...		
rstp // (13.4)		
enum	force-protocol-version;	// (13.7.2) r-w
bridge-id	bridge-id	
{ uint64	bridge-id;	// (13.26.2) r
id-priority	bridge-priority;	// (14.2) r-w
uint16	system-id-extension;	// (13.26.2) r
ieee:macaddress	bridge-address; };	// (8.13.8) r
bridge-id	root-id	
{ uint64	bridge-id;	// (13.4) r
id-priority	bridge-priority;	// (14.2) r
uint16	system-id-extension;	// (13.26) r
ieee:macaddress	bridge-address; };	// (8.13.8) r
uint32	root-path-cost;	// (13.4) r
union	root-port;	// (13.4) r
uint8	max-age;	// (13.15) r
uint8	hello-time;	// (13.25) r
uint8	forward-delay;	// (13.25) r
uint8	bridge-max-age;	// (13.25) rw
uint8	bridge-forward-delay;	// (13.25) rw
uint8	tx-hold-count;	// (13.25) rw
yang:date-and-time	last-topology-change;	// (13.25) r

bridge-port		
leafref	bridge-name;	// r-w
leafref	component-name;	// r-w
...		
rstp // (13.4)		
bool	admin-bridge-port-enabled;	// (8.4) rw
port-state	port-state;	// (8.4) r
port-role	port-role;	// (13.4) r
bool	restricted-role;	// (13.20) rw
bool	restricted-tcn;	// (13.20) rw
port-id	port-id	
{ uint16	port-id;	// (13.26) r
id-priority	port-priority;	// (14.2) rw
id-port-number	port-number; };	// (12.3) r
uint32	port-path-cost;	// (13.4) r-w
uint8	designated-protocol-version;	// (14.2) r
bridge-id	root-id	
{ uint64	bridge-id;	// (13.4) r
id-priority	bridge-priority;	// (14.2) r
uint16	system-id-extension;	// (13.26) r
ieee:macaddress	bridge-address; };	// (8.13.8) r
uint32	root-path-cost;	// (13.4) r
bridge-id	designated-bridge-id	
{ uint64	bridge-id;	// (13.4) r
id-priority	bridge-priority;	// (14.2) r-w
uint16	system-id-extension;	// (13.26) r
ieee:macaddress	bridge-address; };	// (8.13.8) r
port-id	designated-port-id	
{ uint16	port-id;	// (13.26) r
id-priority	port-priority;	// (14.2) r
id-port-number	port-number; };	// (12.3) r
bool	admin-edge-port;	// (13.33) r-w
bool	oper-edge-port;	// (13.33) r
bool	auto-edge-port;	// (13.33) r-w
bool	disputed-port;	// (13.21) r
bool	isolate-port;	// (13.23) r
action	port-protocol-migration-check;	// (13.32)

- VLAN Bridge component and port nodes
- Objects added or augmented by this model

# Required Behavior

- Two values to control the device (config true)
  - calculate-port-path-cost (bridge to calculate the value)
  - port-path-cost-default (value to use if 'bridge to calculate this is false' or bridge can't calculate this')
- One value to be read from the device (config false)
  - port-path-cost (value currently used)
- The "admin" value would still have to have 2 values itself - one would be "bridge to calculate this" and the other would be "value to use if 'bridge to calculate this is false' or bridge can't calculate this". So that's really a total of 3 values, which is unnecessary. In the more direct approach we have just have 2 - one r/w for the value, and one r/w boolean that allows the bridge to auto update the value if it can.

# Solution admin-oper-pairs

rw	calculate-port-path-cost	boolean
rw	admin-port-path-cost	uint32
r	oper-port-path-cost	uint32

# Solution NMDA

rw	calculate-port-path-cost	boolean
rw	port-path-cost	uint32

port-path-cost preset value is written to “running” datastore  
current port-path-cost value is read from “operational” datastore

# Question

- which method is preferred for 802.1Q YANG models?