Qdy – NMDA vs. admin-oper-pairs

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

Martin Mittelberger

Siemens AG

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

Figure 48-24—RSTP 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 unneccesary. 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?