

Advanced QoS – VLAN rate limiting

Document Type: Tech Tips

Deployment Scenario: Point-to-Point or Multi-span

Description:

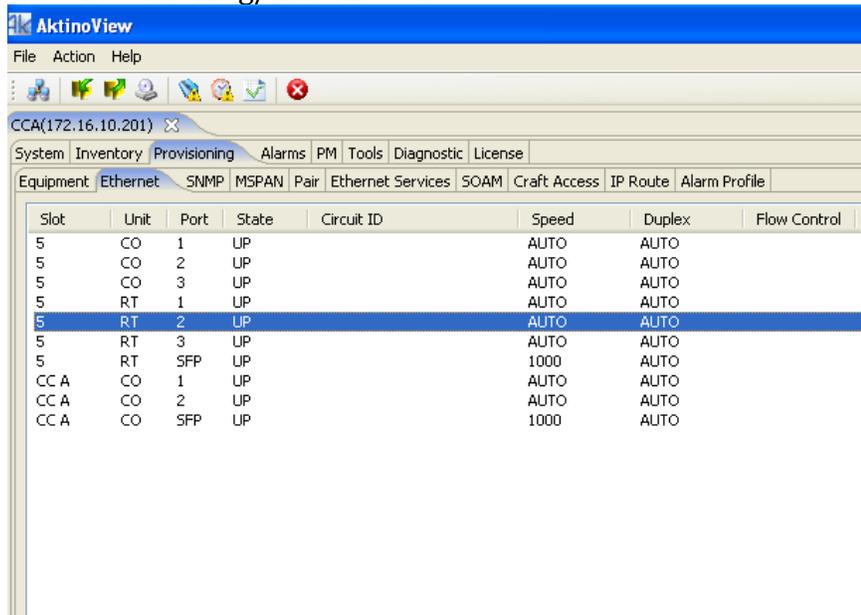
This *Tech Tip brief* describes methods and procedure to setup up multiple VLANs on a port and also setting up VLAN rate limiting to support different types of services. There are three parts:

- Part I goes into details on setting RT port to trusted which allows for multiple VLANs on the remote port
- Part II goes over creating VLANs for each type of service. In this tech tip we are creating three VLANs for data, voice and video
- Part III goes over goes over placing rate limits on each of the VLAN types.

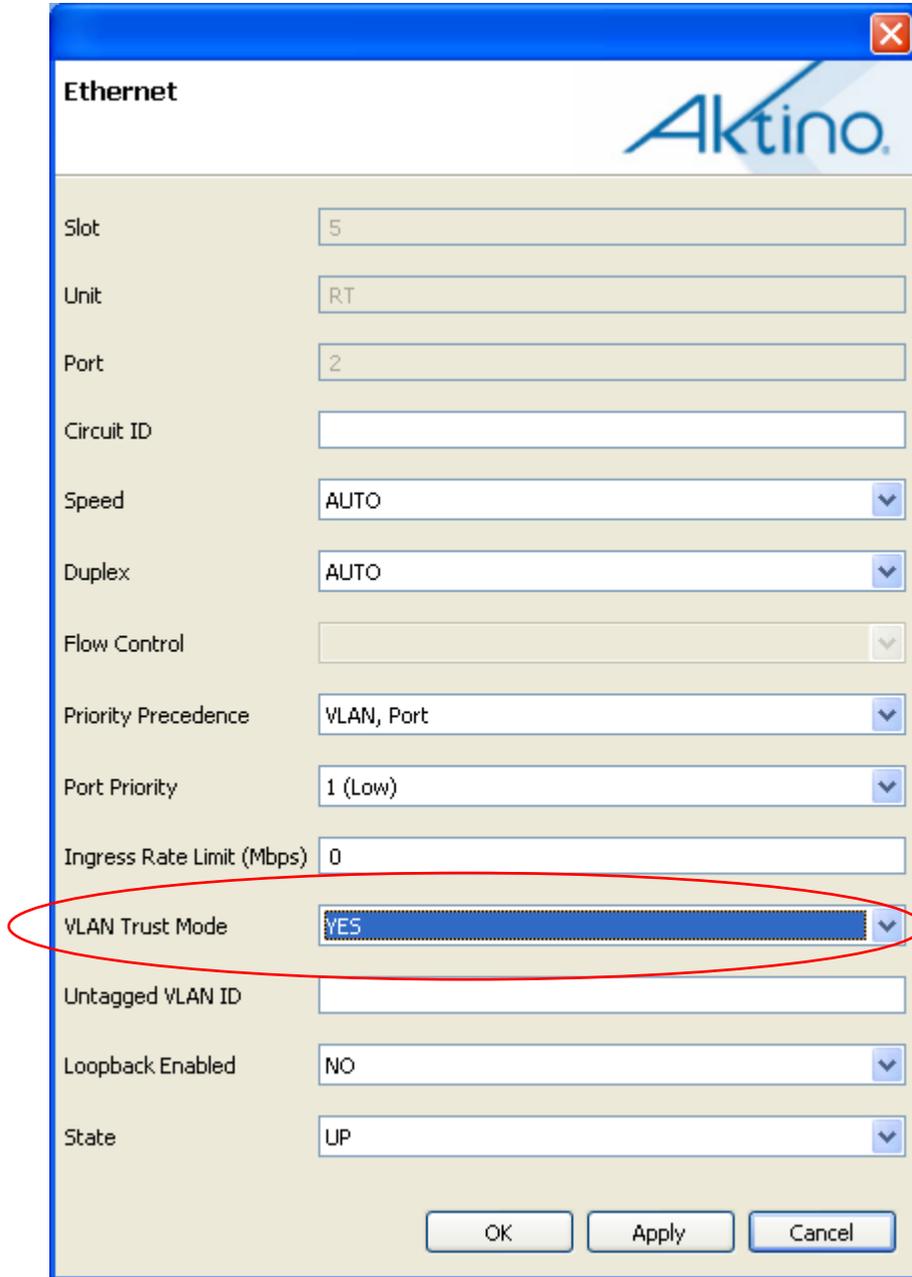
I. Enable Trust Mode on RT:

The RT port must be in trusted mode to support multiple VLANs. Below are the steps to enable trust mode on a single RT port:

1. Go to Provisioning/Ethernet tab



2. Right click on the RT port and select properties
3. In the Ethernet port panel. Set VLAN trust mode parameter to “YES” and click Apply or OK. This parameter is circles in red below:



The screenshot shows the 'Ethernet' configuration window in the Aktino system. The window title is 'Ethernet' and it features the Aktino logo in the top right corner. The configuration fields are as follows:

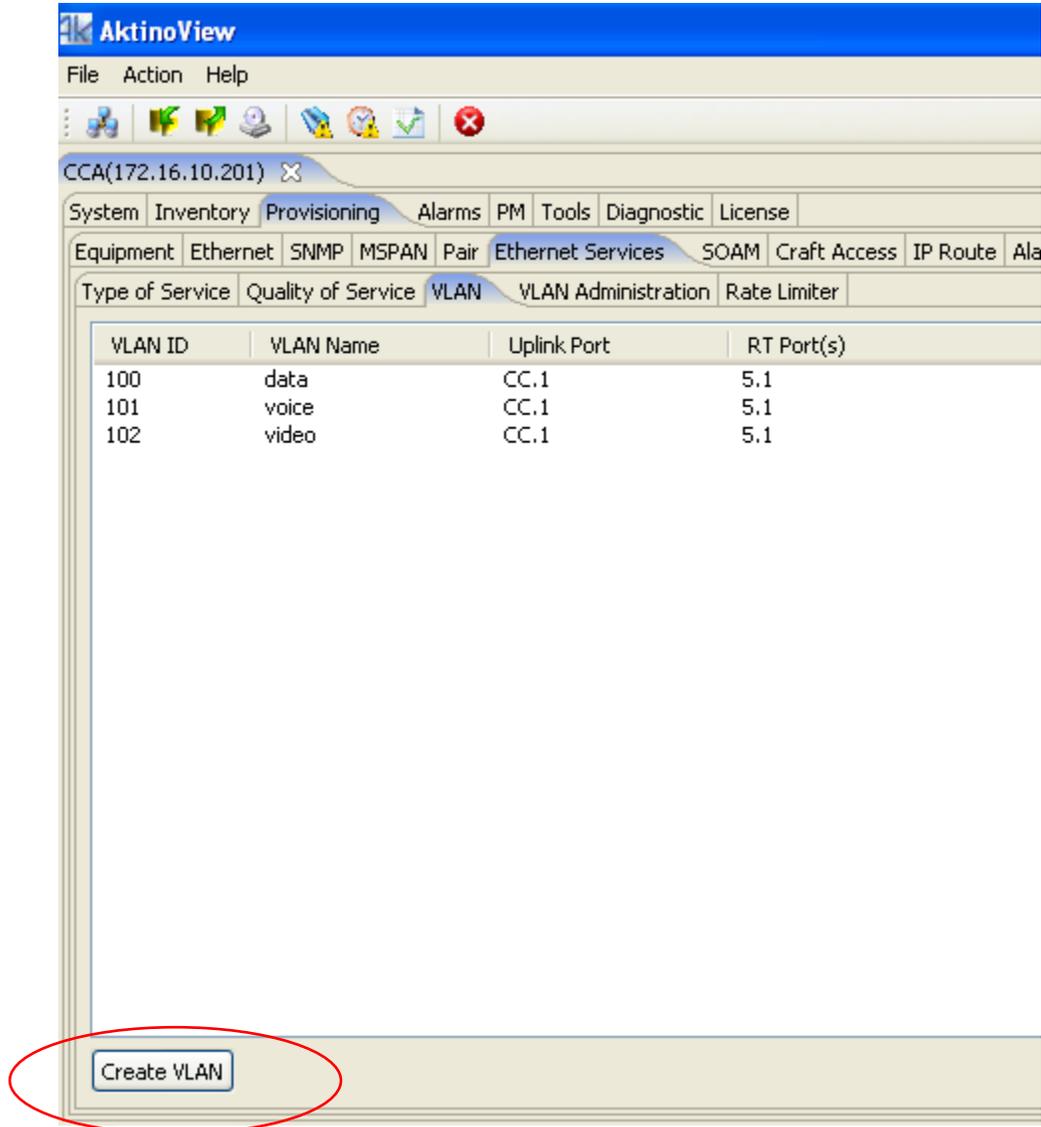
Field	Value
Slot	5
Unit	RT
Port	2
Circuit ID	
Speed	AUTO
Duplex	AUTO
Flow Control	
Priority Precedence	VLAN, Port
Port Priority	1 (Low)
Ingress Rate Limit (Mbps)	0
VLAN Trust Mode	YES
Untagged VLAN ID	
Loopback Enabled	NO
State	UP

At the bottom of the window, there are three buttons: 'OK', 'Apply', and 'Cancel'. The 'VLAN Trust Mode' dropdown menu is highlighted with a red circle, and the 'YES' option is selected.

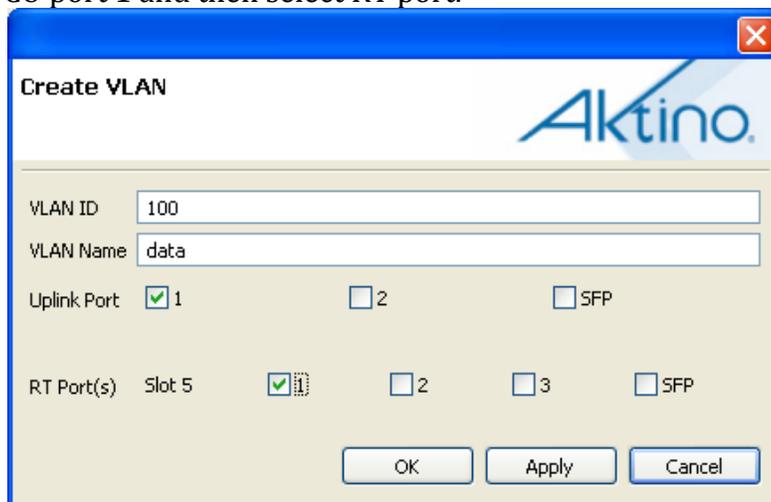
II. Create Multiple VLANs for Each Data, Voice and Video

Procedure to setup Multiple VLANs on Aktino system. In this example we are setting up three VLANs that will carry Data, Voice or Video traffic.

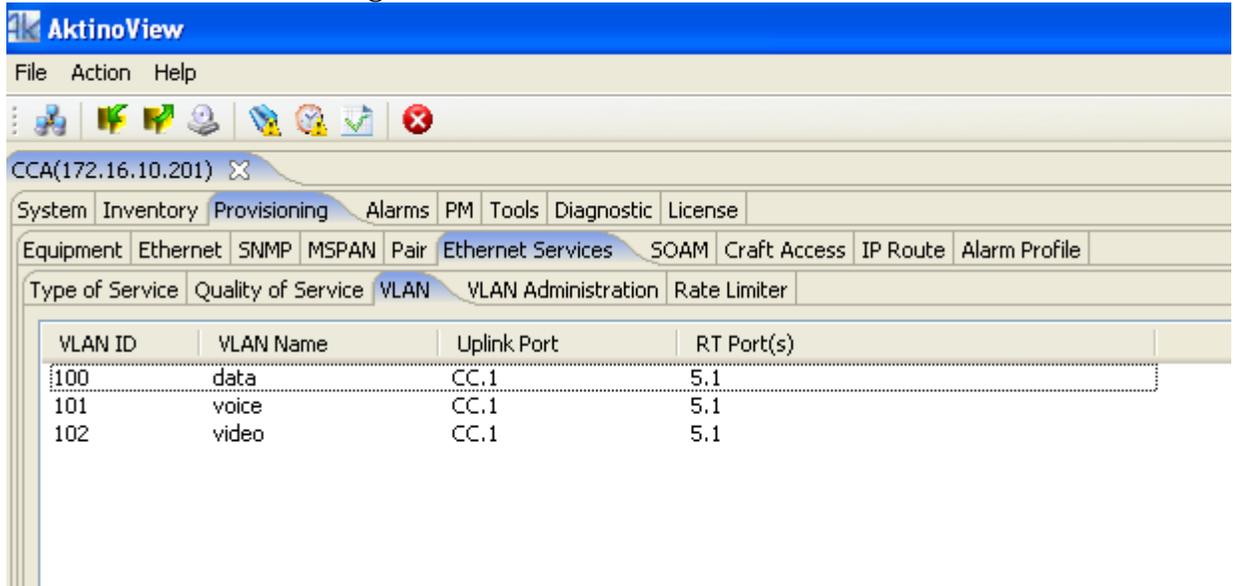
1. Go to Provisioning/Ethernet Services/VLAN tab and then click on "Create VLAN" button at the bottom of the panel. This button is circles in red below:



- Set VLAN ID to “data”, Set the VLAN number to 100 and then click Uplink port 1 or CO port 1 and then select RT port.



- Repeat steps 1 and 2 to create a VLAN for voice and video. The end result should look similar to the following:

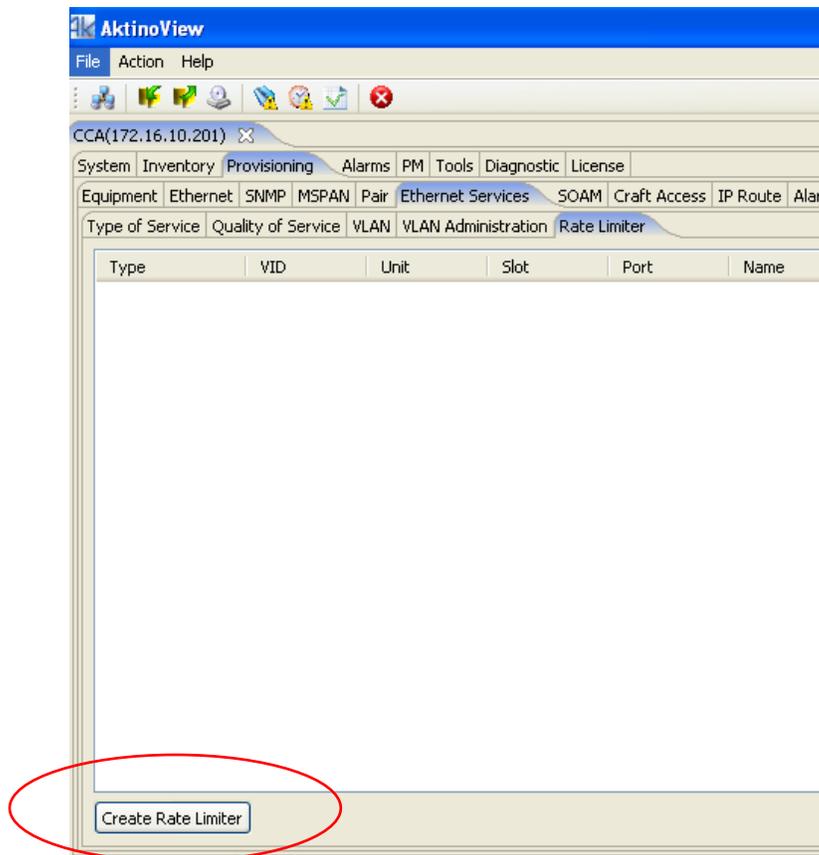


The screenshot shows the AktinoView interface with the 'VLAN' tab selected under 'Ethernet Services'. A table displays the following VLAN configurations:

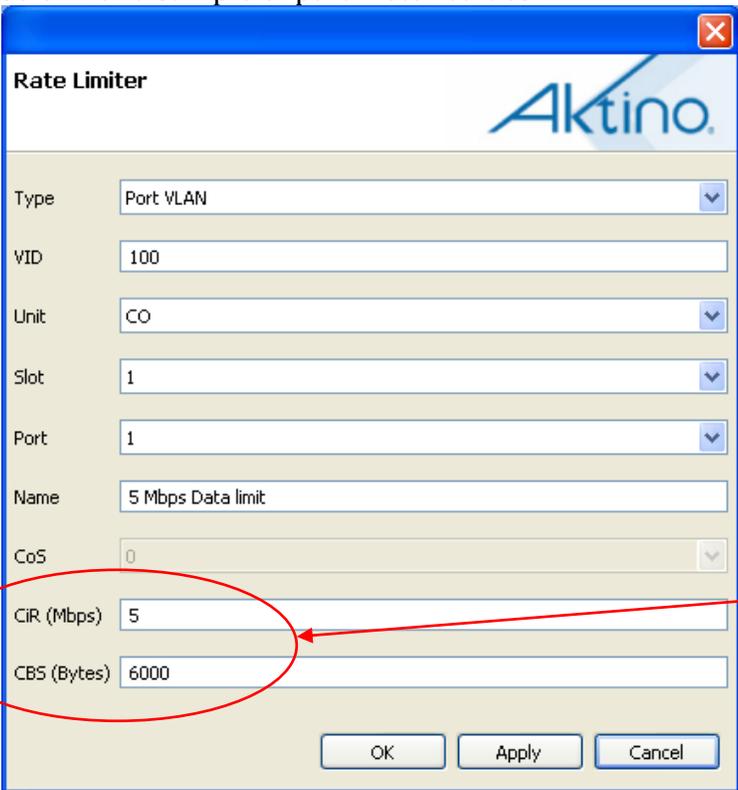
VLAN ID	VLAN Name	Uplink Port	RT Port(s)
100	data	CC.1	5.1
101	voice	CC.1	5.1
102	video	CC.1	5.1

III. Procedure to Rate limit each of the VLANs

- Go to Provisioning/Ethernet Services/Rate Limiter tab under the provisioning master tab and click on "Create Rate Limiter" button:



2. In the create rate limiter panel, set Type to Port VLAN, VID to the VLAN that needs to be limited and CIR (Committed Information Rate) to the rate to limit it to. See below for a sample of parameter values:



Rate Limiter

Type: Port VLAN

VID: 100

Unit: CO

Slot: 1

Port: 1

Name: 5 Mbps Data limit

CoS: 0

CIR (Mbps): 5

CBS (Bytes): 6000

OK Apply Cancel

CIR = Committed Information Rate. This is in Mbps and in this example limits VLAN 100 to 5 Mbps on Slot 1 port 1. CBS = Committed Burst Size is set in bytes.

NOTE: Setting up rate limiter on the CO port will limit the downstream rate. Whereas setting up rate limiter on the RT will limit the upstream rate for the link.

3. Repeat steps 1 and 2 for all the other VLANs that need to be limited on particular ports.