

# LAB - THỰC THI CHÍNH SÁCH QOS TRONG CISCO SD-WAN

### I. Sơ đồ



## II. Yêu cầu kỹ thuật

- Thực hiện đấu nối và địa chỉ IP theo sơ đồ.
- Thực thi chính sách QoS cho thiết bị vEdge-Site1 ở site 1 bằng cách sử dụng Centralized Data Policy.
- Kiểm tra và xác định được lưu lượng bằng sử dụng công cụ DPI và giới hạn băng thông của nó bằng cách áp dụng chính sách.

### III. Các bước thực hiện

Bước 1: Kết nối tới Windows và truy cập vào vManage UI

**Bước 2:** Vào Navigate to Configuration > Policies và chọn Custom Options > Lists (Centralized Policy). Vào Policer và tạo the New Policer List, nó sẽ được dùng để giới hạn lưu lượng của iperf. Tạo the Policer List Name (ví dụ: iperf\_policer).

Thiết lập các thông số sau: **the Burst:** 15000 bps **the Exceed:** Drop

the Rate: 100000 bps

Chọn Add.

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**DC**: 276 - 278 Ung Văn Khiêm, P.25, Q.Bình Thạnh, Tp Hồ Chí Minh **DT**: (028) 35124257 | **Hotline**: 0933427079 **Email**: vnpro@vnpro.org



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#### CÔNG TY TNHH TƯ VÁN VÀ DỊCH VỤ CHUYÊN VIỆT

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**ĐC**: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tp Hồ Chí Minh **ĐT**: (028) 35124257 | **Hotline**: 0933427079 **Email**: vnpro@vnpro.org

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Centralized Policy > Add Policy	Create Groups of Interest		
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## Ở phần Site ta chọn New Site List để tạo ra danh sách Site1

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/PN Region Preferred Color Group							
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Ở phần VPN ta chọn New VPN List để tạo ra danh sách VPN11



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**ĐC**: 276 - 278 Ung Văn Khiêm, P.25, Q.Binh Thạnh, Tp Hồ Chí Minh **Đ**T: (028) 35124257 | **Hotline:** 0933427079 **Email:** vnpro@vnpro.org

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Next Cancel

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Ta chọn Next để tiếp tục, ở phần Configure Traffic Rules, chọn Traffic Data, chọn Add Policy, chọn Create New



Website: www.vnpro.vn | Forum: www.vnpro.org | Video: https://www.youtube.com/@vnpro149



Chọn Sequence Type, chọn QoS

E Cisco SD-WAN	O Select Process Server		
dd Data Policy	Select Resource Group•	VPN	$\bigcirc \equiv \bigcirc$
Name* TCP_QoS			
Description* TCP_QoS			
			_
Sequence Type	Default Action	Add Data Policy	
†↓ Drag & drop to reorder	Drop	Add Data Folicy	0
ult Action		Application Firewall	
		Direct application traffic to a firewall.	
		Class/QoS maps for packet forwarding.	
		Service Chaining	
		Rerouting data traffic through hrewalls, load balancers and IDP's.	
		Direct control traffic along a desired path.	
		Custom Create a custom policy.	
		Save Data Policy Cancel	
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Name* TCP_QoS			
Description* TCP_QoS			
Sequence Type	O QoS		Quality of Service
↑↓ Drag & drop to reorder	Sequence Rule     Drag and drop to re-a	Match Actions	
	Protocol IPv4 -	Application/Application Family List DSCP Packet Length PLP	Protocol Source Data Prefix Source Port D
loS			
ult Action	Match Conditions	A	ctions
			Accept Enabled
			Cancel Save Match And Actions

Trong Match, chọn Protocol



Match Conditions: Protocol: 6

Monitor - VPN Cisco SDWAN     ← → C ▲ Not secure	Montor - VPN Closs SDWAN × + V - C × C A bot secure https://192.168.1.18443/#/app/config/policy/type=centralizedPolicy&action=add Q D S O Select Resource Group* VPN Add Data Policy Name* TOP_005 Description* Description* Description* TOP_005 Description* Description* Description* TOP_005 Description* Description	
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ii QoS	Protocol IPv4 - Application/Application Family List DSCP Packet Length PLP Protocol Source Data Prefix Source Port	
Default Action	Match Conditions Actions	
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	Cancel	Save Match And Actions
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Chọn Actions Chọn Policer và điền iperf\_policer Chọn Counter và điền TCP\_QOS Sau đó Save Match And Actions để tạo Rule

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, Tp Hồ Chí Minh DT: (028) 35124257 | Hotline: 0933427079 Email: vnpro@vnpro.org

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## Trong phần Default Action, ta sẽ chọn Accept

#### Chon Save Data Policy

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Ta có thể thấy đã tạo một policy với tên là TCP\_QoS



Tiếp tục ta sẽ chọn Next để qua bước Apply Policies to Sites and VPNs

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0	choose a tab and add Traffic rules	under the selected type									<b>^</b>
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Điền các thông số như sau:

**Policy Name**: *TCP\_QoS* **Policy Descriptions**: *TCP\_QoS* 



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■ Cisco SD-WAN ⑦ Select Resource Group•	VPN	
Centralized Policy > Add Policy Create Groups of Interest Configure Topology and VPN Membership	<ul> <li>Configure Traffic Rules</li> <li>Apply Policies to Sites an</li> </ul>	d VPNs
Add policies to sites and VPNs		
Policy Name* TCP_QoS		
Policy Description* TCP_QoS		
Topology Application-Aware Routing Traffic Data Cflowd Role Mapping for Regions		
TCP_QoS <ul> <li>New Site/Region List and VPN List</li> <li>From Service O From Tunnel O All</li> <li>Site List O Region </li> </ul>		
Select Ste List Stef ×		
Select VPN List VPN11 x		•
		Add Cancel
Back Preview	Save Policy Cancel	
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Vào vEdge-Site1 và bật the iperf server trong VPN11 bằng cách sử dụng câu lệnh sau: *tools iperf vpn 11 options -s* 



Vào vEdge1-Site2, và dùng lệnh sau: tools iperf vpn 11 options "-c 192.168.10.254 -d"



#### Quay lại vManage

Ở phần Centralized Policy, tìm policy TCP\_QoS ta vừa tạo chọn Activate để kích hoạt policy

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Quay lại **vEdge1-Site2** và thực hiện lại the iperf test. Để đánh giá speed sau khi được áp dụng chính sách QoS:





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vEdgel-Site2# tools iperf vpn 11 options -c\ 192.168.10.254\ iperf -c 192.168.10.254 -d in VPN 11	-d
Server listening on TCP port 5001 TCP window size: 85.3 KByte (default)	
Client connecting to 192.168.10.254, TCP port 5001 TCP window size: 16.0 KByte (default)	
[ 1] local 192.168.1.1 port 44192 connected with 192.168.10 6533)	.254 port 5001 (icwnd/mss/irtt=13/1361/5
<pre>[ 2] local 192.168.1.1 port 5001 connected with 192.168.10. [ ID] Interval Transfer Bandwidth [ 1] 0.00-11.40 sec 7.50 MBytes 5.52 Mbits/sec [ 2] 0.00-22.04 sec 117 KBytes 43.5 Kbits/sec</pre>	254 port 60440
<pre>[ 1] local 192.168.1.1 port 44192 connected with 192.168.10 6533) [ 2] local 192.168.1.1 port 5001 connected with 192.168.10. [ ID] Interval Transfer Bandwidth [ 1] 0.00-11.40 sec 7.50 MBytes 5.52 Mbits/sec [ 2] 0.00-22.04 sec 117 KBytes 43.5 Kbits/sec vEdgel-Site2#</pre>	.254 port 5001 (icwnd/m 254 port 60440

Vào vEdge-Site1 và dùng lệnh sau để kiểm tra: show policy data-policy-filter



