

LAB VIÉT POLICY HUB AND SPOKE TRONG SD-WAN

I. Sơ đồ



II. Yêu cầu kỹ thuật

Viết một Centralized policy Hub and Spoke trong giao diện vManage cho vEdge ở site2 làm hub và vEdge site1, 3 làm spoke

Kích hoạt policy Hub and Spoke vừa viết xong.

III. Các bước thực hiện

3.1 Viết một Centralized policy Hub and Spoke trong giao diện vManage

Đầu tiên ta vào giao diện vManage > Configuration > Policies > Centralized Policy > Add Policy.



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Ở phần Site ta chọn New Site List để tạo ra danh sách Site1, Site2, Site3.



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Đầu tiên ta tạo Tloc mpls cho site1

List Name: Site1

Preferred Color Group

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



Tloc IP: 2.1.1.1

Color: mpls

Encap: ipsec

Ta chọn **Add Tloc** để tạo thêm Tloc biz-internet với các thông số tương tự mpls, chỉ thay đổi **Color** là biz-internet. Ta chọn Save để tạo Tloc cho Site1

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Ta tiếp tục tạo Tloc cho Site2 và Site3 tương tự Site1



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Centralized Policy > Add Policy

Create Groups of Interest Configure Topology and VPN Membership Configure Traffic Rules Apply Policies to Sites and VPNs

Select a list type on the left and start creating your groups of interest

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Ta chọn Next để tiếp tục, chọn Add Topology > Custom Control (Route & TLOC)

Centralized Policy > Add Policy Configure Traffic Rules Apply Policies to Sites and VPNs Specify your network topology Topology VPN Membership Configure Traffic Rules Apply Policies to Sites and VPNs Specify your network topology Topology VPN Membership Configure Traffic Rules Apply Policies to Sites and VPNs Foral Rows: 0 C Central Rows: 0	3/#/app/config/policy?type=co	entralizedPolicy&action=add	Policies			\$	0	نە
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Name: Hub_and_Spoke Description: Hub_and_Spoke

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

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Command Prompt Save C	control Policy Cancel			

Tạo Route Match nhằm cho phép Site2 nhận hết tất cả các route mà vSmart phân phối cho. Site1 và Site3 cũng nhận hết tất cả các route nhưng sẽ sửa tloc id thành của Site2.

Tiếp theo Sequence Type > Route

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Sau đó ta chọn **Sequence Rule** và tạo những cái Rule với Match Conditions và Actions tương ứng như:

Match Conditions: Site List: Site2

Actions: Accept

Chọn Save Match And Actions để tạo Rule

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Site1 và Site3 tương tự đối như Site2, nhưng đối với Actions thì ta Accept thêm Tloc List: Site2 Match Conditions: Site List: Site1

Actions: Accept > Tloc List: Site2

Match Conditions: Site List: Site2



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Actions: Accept > Tloc List: Site2

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Sau đó ta chọn **Sequence Type > TLOC**

CÔNG TY TNHH TƯ VÁN VÀ DỊCH VỤ CHUYÊN VIỆT TRUNG TÂM TIN HỌC VNPRO



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

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Ta tạo Rule để apply cho TLOC với

Match Conditions > Site List: *Site2*

Actions > Accept

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CÔNG TY TNHH TƯ VÁN VÀ DỊCH VỤ CHUYÊN VIỆT

TRUNG TÂM TIN HỌC VNPRO

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

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VnPro



Ta chọn Save Control Policy, sau đó ta chọn Next > Next để đến bước Add policies to sites and VPNS

Chỉnh sửa các thông số như sau: **Policy Name**: *Hub_and_Spoke* **Policy Descriptions**: *Hub_and_Spoke*

nPro		CÔNG TY TNHH TƯ VẦN V TRU ĐC: 276 - 278 Ung Văn Khiêm, P ĐT: (028) 35124257 Hotline: 05	VÀ DỊC UNG T 2.25, Q.B 0334270	CH VŲ ÂM T linh Th 79 Em:	CHU TN H(anh, Tp ail: vnp	YÊN PC V Hồ C ro@vi
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Tiếp theo đến phần **Topology > New Site List > Outbound Site List**

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Ta Apply Policy theo chiều out trên vSmart cho Site1 và Site3 và ta chọn Save Policy để hoành việc tạo Policy

nPro			TTR ĐC: 276 - 278 Ung Văn Khiêm, ĐT: (028) 35124257 Hotline: (P.25, Q.E	AM Binh Th 79 Em	rin F nanh, " nail: vi	rp Hồ (npro@v
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3.2. Kích hoạt policy Hub and Spoke

Ở **phần Centralized Policy**, tìm policy *Hub_and_Spoke* ta vừa tạo chọn **Activate** để kích hoạt policy

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Hub_and_Spoke	Hub_and_Spoke	UI Policy Builder	false	admin	06282023T092505367	28 Jun 2023 4:25:05 PM



Chính sách này sẽ được đẩy đến bộ điều khiển vSmart để vSmart phân tích sau đó sẽ tiến hành đẩy xuống các bộ định tuyến vEdge.



IV. Kiểm Tra

Chúng ta truy cập vào từng vEdge **show tunnel statistics** để kiểm tra policy đã được apply chưa. Ở vEdge SITE2 có Bốn tunnel do nó làm Hub.



🕞 vEdge-Site2

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Edge SITE1 và SITE3 có hai tunnel do nó làm Spoke



vEdge-Site1# show tunnel statistics tunnel stats ipsec 172.16.1.1 172.16.1.2 12366 12366 system-ip 3.1.1.1 local-color mpls mpls remote-color tunnel-mtu 1441 tx pkts 178730 24333566 tx octets rx pkts 178721 24332022 rx octets tcp-mss-adjust 1361 tunnel stats ipsec 200.200.1.2 200.200.2.2 12366 12366 system-ip 3.1.1.1 local-color biz-inte biz-internet remote-color biz-internet tunnel-mtu 1441 178735 tx pkts tx octets 30047635 rx pkts 178744 30049383 rx octets tcp-mss-adjust 1361 vEdge-Site1# vEdge-Site3# show tunnel statistics tunnel stats ipsec 172.16.1.3 172.16.1.2 12366 12366 3.1.1.1 system-ip local-color mpls remote-color mpls tunnel-mtu 1441 tx pkts 178773 24339102 tx octets rx pkts 178773 rx octets 24339109 tcp-mss-adjust 1361 tunnel stats ipsec 200.200.3.2 200.200.2.2 12366 12366 3.1.1.1 system-ip local-color biz-internet remote-color biz-internet tunnel-mtu 1441 tx pkts 178791 30058759 tx octets 178790 rx pkts rx octets 30057256 tcp-mss-adjust 1361 vEdge-Site3#



Vào Router R-Site1 ở SITE1, ta thực hiện xem đường đi của route từ SITE1 qua SITE3 phải thông qua SITE2. Vì SITE2 làm Hub thì mọi hoạt động đều phải thực hiện thông qua SITE2

R-Sitel#traceroute 10.10.30.1
Type escape sequence to abort.
Tracing the route to 10.10.30.1
<pre>VRF info: (vrf in name/id, vrf out name/id)</pre>
1 192.168.10.254 20 msec 20 msec 20 msec
2 192.168.20.254 51 msec 34 msec 40 msec
3 192.168.30.254 64 msec 87 msec 74 msec
4 192.168.30.2 99 msec 100 msec *
R-Site1#

Vào Router R-Site1 ở SITE1, ta thực hiện xem đường đi của route từ SITE1 qua SITE2. Vì SITE2 làm Hub nên R-Site1 đi tới thẳng R-Site2.



