

在SD-WAN上配置主用/备用集中星型拓扑

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简介

本文档介绍在思科SD-WAN上配置和验证主用备用集中星型拓扑的步骤。

先决条件

要求

建议掌握下列主题的相关知识：

- 思科SD-WAN
- 基本Cisco IOS-XE®命令行界面(CLI)

使用的组件

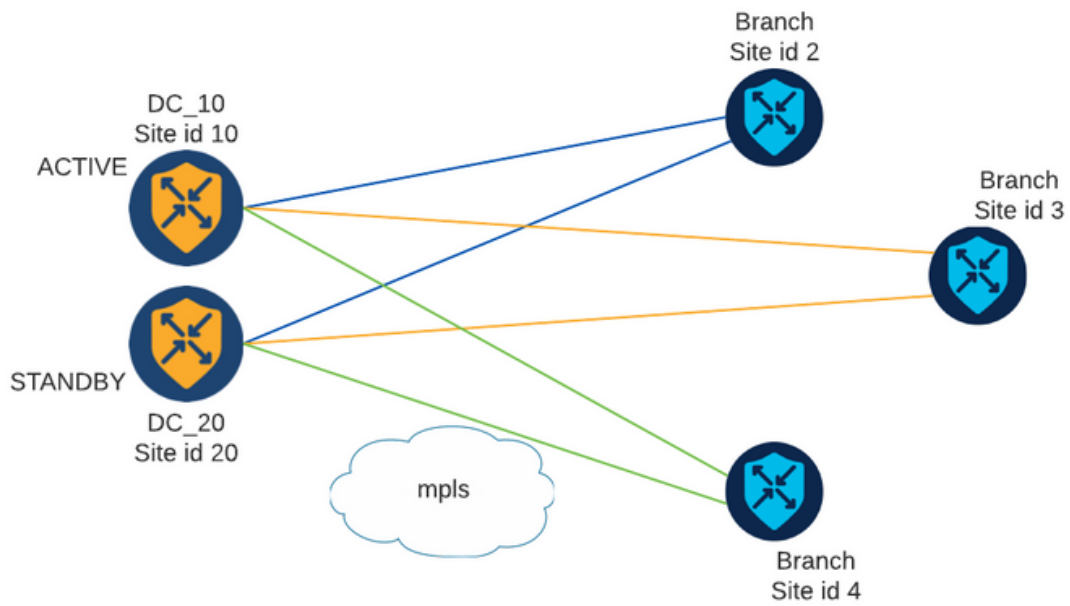
本文档基于以下软件和硬件版本：

- C8000V版本17.6.3a
- vManage版本20.6.3.1
- vSmart版本20.6.3

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

配置

网络图



有两个中心，站点ID为10和20。站点ID 10充当主用集线器，站点ID 20充当备用集线器。分支机构可以相互通信，但所有通信都必须通过集线器。不得在分支站点之间创建隧道。

配置

- 1.登录vManage并导航到Configuration > Policies，然后单击Add Policy。
- 2.在“创建兴趣组”部分中，单击TLOC > New TLOC List，并在同一列表中为活动集线器和备用集线器分别添加一个条目：

TLOC List



List Name

PREFER_DC10_DC20

TLOC IP

Color

Encap

Preference

10.10.10.1

mpls

ipsec

1000



10.10.10.2

mpls

ipsec

500



+ Add TLOC

Cancel

Save

确保为主用集线器设置较高的优先级，为备用集线器设置较低的优先级。

3.定位至地点>新建地点列表，然后创建分支地点列表和中心地点列表：

Site List



Site List Name

BRANCHES

Site

2-4

Save

Cancel

Site List



Site List Name

DCs_10_20

Site

10,20

Save

Cancel

4.单击下一步。在Configure Topology and VPN Membership部分，导航到Add Topology > Custom Control。

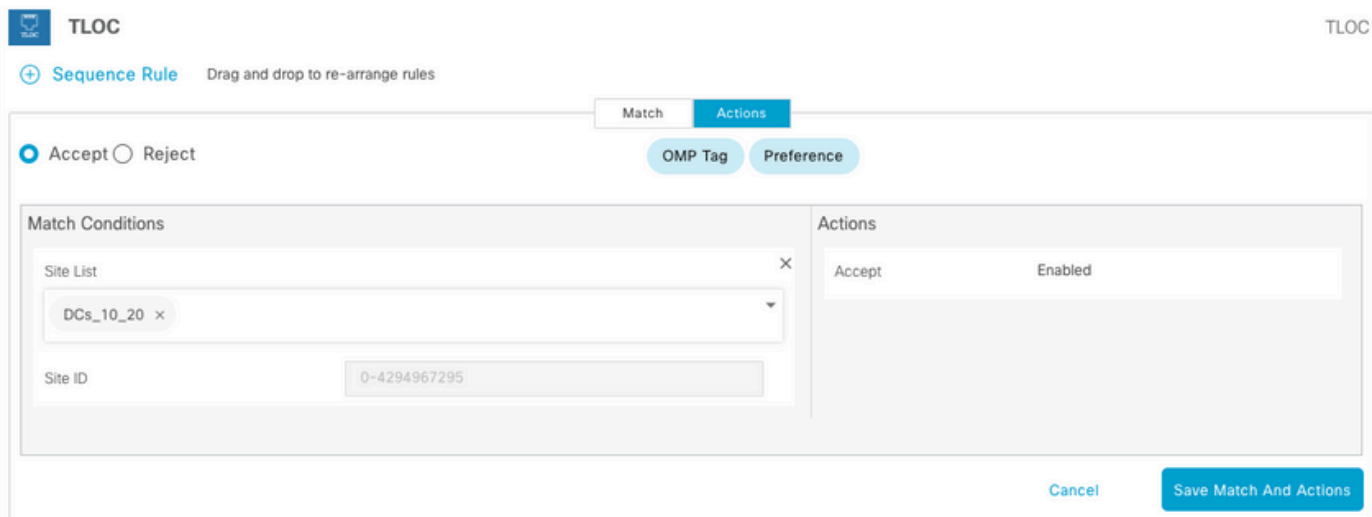
5.为策略添加名称和说明。

6.单击序列类型> TLOC，添加序列规则。

7.选择匹配>地点，然后添加分支的“地点”列表，然后选择活动>拒绝，然后单击保存匹配和活动：

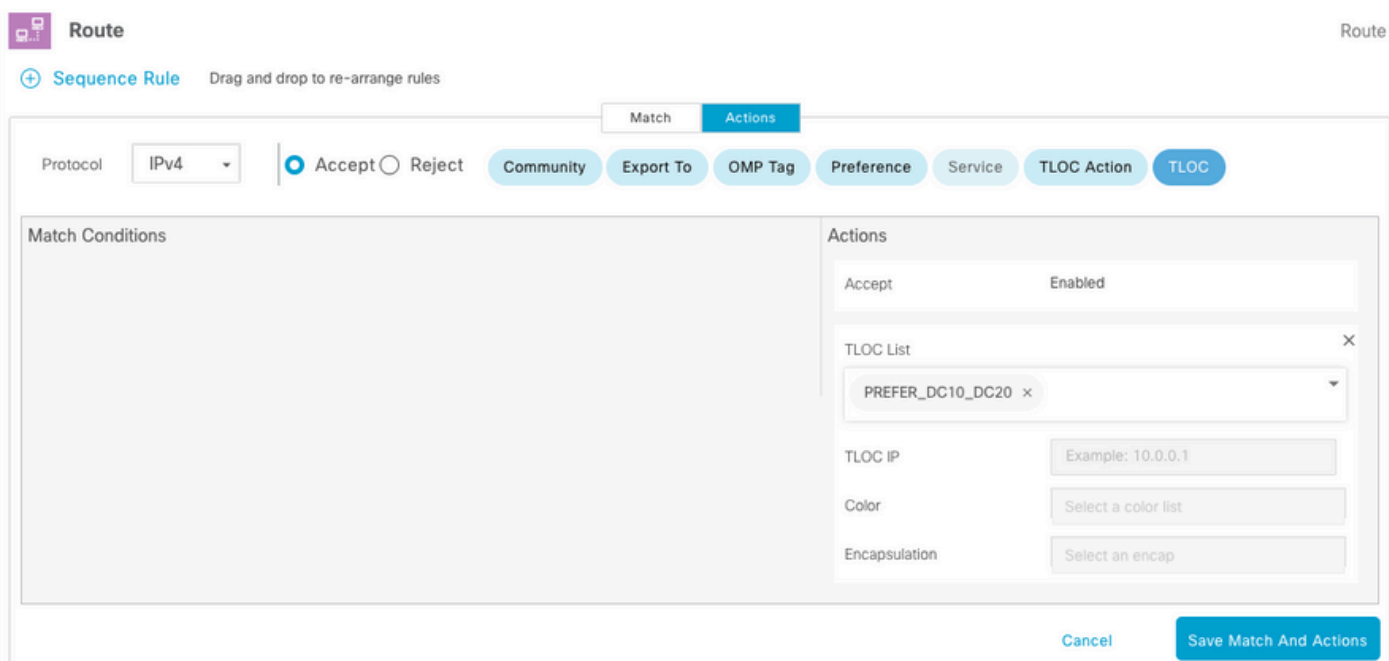
The screenshot shows the configuration interface for a TLOC (Topology Location) rule. The interface is titled "TLOC" and includes a "Sequence Rule" section with a "Drag and drop to re-arrange rules" instruction. The "Match" tab is active, showing "Accept" and "Reject" radio buttons, with "Reject" selected. The "Match Conditions" section includes a "Site List" dropdown menu with "BRANCHES" selected and a "Site ID" field containing "0-4294967295". The "Actions" section shows a "Reject" action that is "Enabled". At the bottom right, there are "Cancel" and "Save Match And Actions" buttons.

8.单击Sequence Rule，然后添加条目以匹配中心站点并接受：



9. 定位至“序列类型”>“路线”，添加“序号规则”。

10. 将“匹配”部分留空，将“操作”设置为接受，选择TLOC，添加之前创建的TLOC列表，然后单击保存匹配和操作：



11. 单击Save Control Policy。

12. 单击Next，直到“Apply Policies to Sites and VPNs”部分。

13. 在“拓扑”部分中，显示您的控制策略，单击新建站点列表，选择“出站站点列表”的“分支”列表，然后单击添加：

Centralized Policy > Add Policy

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

Add policies to sites and VPNs

Policy Name: Centralized_Active_Standby_HnS

Policy Description: Centralized_Active_Standby_HnS

Topology Application-Aware Routing Traffic Data Cflowd

Active_Standby_HnS CUSTOM CONTROL

+ New Site List

Inbound Site List
Select one or more site lists

Outbound Site List
BRANCHES x

Add Cancel

14. 单击Preview并查看策略。

```
viptela-policy:policy
control-policy Active_Standby_HnS
sequence 1
  match tloc
    site-list BRANCHES
  !
  action reject
  !
  !
sequence 11
  match tloc
    site-list DCs_10_20
  !
  action accept
  !
  !
sequence 21
  match route
    prefix-list _AnyIpv4PrefixList
  !
  action accept
  set
    tloc-list PREFER_DC10_DC20
  !
  !
  !
default-action reject
!
lists
site-list BRANCHES
  site-id 2-4
!
site-list DCs_10_20
  site-id 10
  site-id 20
!
tloc-list PREFER_DC10_DC20
```

```

tloc 10.10.10.1 color mp1s encap ipsec preference 1000
tloc 10.10.10.2 color mp1s encap ipsec preference 500
!
prefix-list _AnyIpv4PrefixList
 ip-prefix 0.0.0.0/0 le 32
!
!
!
apply-policy
 site-list BRANCHES
 control-policy Active_Standby_HnS out
!
!

```

15.单击Save Policy。

16.在Centralized Policy (集中策略) 菜单中，点击新创建的策略右侧的3个点，然后选择Activate(激活)。

The screenshot displays a web interface for managing policies. At the top right, there is a 'Custom Options' button. Below it are two tabs: 'Centralized Policy' (selected) and 'Localized Policy'. A search bar is present. Below the search bar is an 'Add Policy' link. On the right side of the table, it says 'Total Rows: 9' with refresh and settings icons. The table has the following data:

Name	Description	Type	Activated	Updated By	Policy Version	Last Updated
Centralized_Active_Stand...	Centralized_Active_Stand...	UI Policy Builder	false	admin	03302023T184504926	30 Mar 2023 6:45:04 PM

A context menu is open over the first row, showing the following options: View, Preview, Copy, Edit, Delete, and Activate.

17.任务完成后，将显示“成功”状态。

Status	Message	Hostname
Success	Done - Push vSmart Policy	vsmart

验证

使用以下命令，验证已在vSmart上创建策略：

```
<#root>
```

```
vsmart#
```

```
show running-config policy
```

```

policy
lists
tloc-list PREFER_DC10_DC20
tloc 10.10.10.1 color mpls encap ipsec preference 1000
tloc 10.10.10.2 color mpls encap ipsec preference 500
!
site-list BRANCHES
site-id 2-4
!
site-list DCs_10_20
site-id 10
site-id 20
!
prefix-list _AnyIpv4PrefixList
ip-prefix 0.0.0.0/0 le 32
!
!
control-policy Active_Standby_HnS
sequence 1
match tloc
site-list BRANCHES
!
action reject
!
!
sequence 11
match tloc
site-list DCs_10_20
!
action accept
!
!
sequence 21
match route
prefix-list _AnyIpv4PrefixList
!
action accept
set
tloc-list PREFER_DC10_DC20
!
!
!
default-action reject
!
!
vsmart#


show running-config apply-policy


```

```

apply-policy
site-list BRANCHES
control-policy Active_Standby_HnS out
!
!
vsmart#

```

 注：这是控制策略。它在vSmart上应用和执行，不会推送到边缘设备。show sdwan policy

 from-vsmart命令不会在边缘设备上显示策略。

故障排除

用于故障排除的有用命令。

在vSmart上：

```
show running-config policy
show running-config apply-policy
show omp routes vpn <vpn> advertised <detail>
show omp routes vpn <vpn> received <detail>
show omp tlocs advertised <detail>
show omp tlocs received <detail>
```

在cEdge上：

```
show sdwan bfd sessions
show ip route vrf <service vpn>
show sdwan omp routes vpn <vpn> <detail>
show sdwan omp tlocs
```

示例：

确认从分支到集线器只形成BFD会话：

```
<#root>
```

```
Branch_02#
```

```
show sdwan bfd sessions
```

SYSTEM IP	SITE ID	STATE	SOURCE TLOC COLOR	REMOTE TLOC COLOR	SOURCE IP	DST PUBLIC IP	DST PUBLIC PORT	ENCAP	DETECT MULTIPLIER
10.10.10.1	10	up	mp1s	mp1s	192.168.1.36	192.168.1.30	12386	ipsec	7
10.10.10.2	20	up	mp1s	mp1s	192.168.1.36	192.168.1.33	12366	ipsec	7

验证来自其他分支的路由是否首选通过Active Hub，首选为1000:

```
<#root>
```

```
Branch_02#
```

```
show sdwan omp route vpn 10 172.16.1.0/24 detail
```

```
Generating output, this might take time, please wait ...
```

```
-----  
omp route entries for vpn 10 route 172.16.1.0/24  
-----
```

```
RECEIVED FROM:
```

```
peer 10.1.1.3  
path-id 8  
label 1002
```

```
status C,I,R          <--  Chosen, Installed, Received
```

```
loss-reason not set  
lost-to-peer not set  
lost-to-path-id not set  
Attributes:  
originator 10.3.3.3  
type installed
```

```
tloc 10.10.10.1, mpls, ipsec  <--  Active Hub
```

```
ultimate-tloc not set  
domain-id not set  
overlay-id 1  
site-id 3
```

```
preference 1000
```

```
tag not set  
origin-proto connected  
origin-metric 0  
as-path not set  
community not set  
unknown-attr-len not set
```

```
RECEIVED FROM:
```

```
peer 10.1.1.3  
path-id 9  
label 1003
```

```
status R          <--  Received
```

```
loss-reason preference  
lost-to-peer 10.1.1.3  
lost-to-path-id 8  
Attributes:  
originator 10.3.3.3  
type installed
```

```
tloc 10.10.10.2, mpls, ipsec  <--  Backup Hub
```

```
ultimate-tloc not set  
domain-id not set  
overlay-id 1  
site-id 3
```

```
preference 500
```

```
tag not set
origin-proto connected
origin-metric 0
as-path not set
community not set
unknown-attr-len not set
```

相关信息

[Cisco SD-WAN策略配置指南, Cisco IOS XE版本17.x](#)

关于此翻译

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