# 为SaaS配置SD-WAN Cloud OnRamp

目录

箇介

先決条件

要求

使用的组件

背景信息

了景信息

配置

座络图

配置

在檢檢接口上启用NAT

创建集中式AAR策略

在vManage中启用应用和直接互联网访问

<u>相关信息</u>

## 简介

本文档介绍使用分支机构本地出口对软件即服务(SaaS)的Cloud OnRamp进行配置。

先决条件

#### 要求

思科建议您了解思科软件定义广域网(SD-WAN)。

使用的组件

本文档中的信息基于以下软件和硬件版本:

- 思科vManage版本20.9.4
- 思科广域网边缘路由器版本17.9.3a

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。

## 背景信息

对于使用SD-WAN的组织,默认情况下,分支站点通常会通过SD-WAN重叠链路将SaaS应用流量路 由到数据中心。SaaS流量从数据中心到达SaaS服务器。 例如,在具有中央数据中心和分支站点的大型组织中,员工可以在分支机构站点使用Office 365。默 认情况下,分支机构站点的Office 365流量通过SD-WAN重叠链路路由至一个集中式数据中心,然 后从DIA出口路由至Office 365云服务器。

本文档介绍了以下场景:如果分支机构站点具有直接互联网接入(DIA)连接,则可以通过绕过数据中 心将软件即服务流量路由到本地DIA来提高性能。



注意:不支持在站点使用环回作为传输定位器(TLOC)接口时为SaaS配置Cloud OnRamp。

## 配置

网络图



#### 网络拓扑

## 配置

### 在传输接口上启用NAT

## 导航到Feature Template。选择模Transport VPN interface 板并启用NAT。

	⑦ Select Resource Group▼	Configuration	· Templates
		Configuration Groups Feature Profiles	Device Templates Feature Templates
Template > Cisco VPN Inte	<pre>rface Ethernet &gt; cEdge_Basic_Transport1_NAT</pre>		
NAT			
		IPv4	IPv6
AT	● • On	Off	
АТ Туре		ce O Pool O Loopback	
AT Type		nce O Pool O Loopback	
AT Type DP Timeout	<ul> <li></li></ul>	ace Pool Coopback	

#### 启用接口NAT

#### 等效的CLI配置:

interface GigabitEthernet2 ip nat outside

ip nat inside source list nat-dia-vpn-hop-access-list interface GigabitEthernet2 overload ip nat translation tcp-timeout 3600 ip nat translation udp-timeout 60

创建集中式AAR策略

#### 要建立集中策略,必须遵循以下步骤:

#### 步骤1:创建站点列表:

≡ Cisco SD-WAN	V					
Centralized Policy > Define Lists						111
Select a list type on the left and sta	rt creating your groups of interest					
Application	New Site List	_				
Color	O Holl old List					
Community						
Data Prefix	Name	Entries	Reference Count	Updated By	Last Updated	Action
Policer	DCsite_100001	100001	3	admin	11 Sep 2023 12:46:54 P	'M P 🖉 🖸 🕻
Prefix						
Site						
w接口 <i>NAT</i> 模板 <b>二步:创建VPN列表</b> :						
W接口 <i>NAT</i> 模板 二步:创建VPN列表: ☰ Cisco SD-WAN	♥ Select Resource Gro	up∙	Configuration	Policies		
W接口 <i>NAT</i> 模板 二步:创建VPN列表: ■ Cisco SD-WAN Centralized Policy > Define Lists	⑦ Select Resource Gro	up •	Configuration	Policies		129
W接口 <i>NAT</i> 模板 二步:创建VPN列表: ■ Cisco SD-WAN Centralized Policy > Define Lists Select a list type on the left and sta	Select Resource Gro	up∙	Configuration	Policies		<u><u><u></u></u></u>
W接口NAT模板 二步:创建VPN列表: ■ Cisco SD-WAN Centralized Policy > Define Lists Select a list type on the left and sta Application	Select Resource Gro	up •	Configuration	Policies		
w接口NAT模板 二步:创建VPN列表: ■ Cisco SD-WAN Centralized Policy > Define Lists Select a list type on the left and sta Application Color	Select Resource Gro rt creating your groups of interest The web Site List	up∙	Configuration	Policies		ĨĴĨ
W接口NAT模板 二步:创建VPN列表: ■ Cisco SD-WAN Centralized Policy > Define Lists Select a list type on the left and sta Application Color Community	Select Resource Gro rt creating your groups of interest New Site List	up∙	Configuration	Policies		ŶŀŶ
W接口NAT模板 二步:创建VPN列表: ■ Cisco SD-WAN Centralized Policy > Define Lists Select a list type on the left and sta Application Color Community Data Prefix	<ul> <li>Select Resource Gro</li> <li>rt creating your groups of interest</li> <li>New Site List</li> <li>Name</li> </ul>	up ▼ Entries	Configuration Reference Count	Policies Updated By	Last Updated	<u>اوار</u> Action
W接口NAT模板 二步:创建VPN列表: ■ Cisco SD-WAN Centralized Policy > Define Lists Select a list type on the left and sta Application Color Community Data Prefix Policer	Select Resource Gro  rt creating your groups of interest  Name DCsite_100001	Entries 100001	Configuration Reference Count 3	Updated By admin	Last Updated 11 Sep 2023 12:46:54 P	Action
W接口NAT模板 二步:创建VPN列表: 重 Cisco SD-WAN Centralized Policy > Define Lists Select a list type on the left and sta Application Color Community Data Prefix Policer	Select Resource Gro  rt creating your groups of interest  Name DCsite_100001	Entries 100001	Configuration Reference Count 3	Policies Updated By admin	Last Updated 11 Sep 2023 12:46:54 P	Action M P 🖉 🖬 🕻

集中策略自定义站点列表



Application Av	vare Routing Policy > Edit Application Aware Route Policy			
Cloud_OnRa	mp_SAAS			
Cloud_OnRa	mp_SAAS			
pe reorder	App Route     Sequence Rule     ACI Sequence Rules     Dra  Protocol IPv4	g and drop to re-arrange rules Match Actions Backup SLA Preferred Color Counter Lo	g SLA Class List Cloud SLA	Application
	Match Conditions	د د	Actions	
	Cloud Saas Application/Application Family List office365_apps ×	*	Counter Name Cloud_OnRamp	×
			Cloud SLA Enabled	×
				, Saw Match And Actin
	Application Av Cloud_OnRa Cloud_OnRa reorder :	Application Aware Routing Policy > Edit Application Aware Route Policy Cloud_OnRamp_SAAS Cloud_OnRamp_SAAS Cloud_OnRamp_SAAS Per	Application Aware Routing Policy > Edit Application Aware Route Policy Cloud_OnRamp_SAAS Cloud_OnRamp_SAAS Per O Sequence Rule O ACI Sequence Rules Drag and drop to re-arrange rules reorder  Protocol IPv4  Backup SLA Preferred Color Counter to Match Conditions Cloud Saas Application/Application Family List office385_apps ×	Application Aware Routing Policy > Edit Application Aware Route Policy Cloud_OnRamp_SAAS Cloud_OnRamp_SAAS Cloud_OnRamp_SAAS  Point Application Call Sequence Rules Drag and drop to re-arrange rules  reorder  Protocol IPv4  Backup SLA Preferred Color Counter Los Los Los Counter Name Cloud Saas Application/Application Family List office365_apps ×  Cloud SLA Enabled

应用感知路由策略

#### 第四步:将策略添加到目标Sites中,然后VPN:

≡ Cisco SD-V	VAN 🔿 Sel	lect Resource Group+	Configuration · P	olicies		
Centralized Policy > A	dd Policy	Create Groups of Interest	Configure Topology and VPN Membership	Onfigure Traffic Rules	Apply Policies to Sites and VPNs	
Add policies to sites	and VPNs					
Policy Name*	Cloud_OnRamp_SAAS					
Policy Description*	Cloud_OnRamp_SAAS					
Topology Applic	ation-Aware Routi	ng Traffic Data Cflowd	Role Mapping for Regions			
Cloud_OnRamp_	SAAS					
New Site/Regio     Site List      Re	on List and VPN List					
Select Site List						
DCsite_100001 ×						÷
Select VPN List						
VPN1 ×						
						Add Cancel
Site/Region List		Region ID	VPN List		Action	
Back			Preview	ave Policy Cancel		

将策略添加到站点和VPN

等效的CLI策略:

viptela-policy:policy app-route-policy \_VPN1\_Cloud\_OnRamp\_SAAS vpn-list VPN1 sequence 1 match cloud-saas-app-list office365\_apps source-ip 0.0.0/0 ! action count Cloud\_OnRamp\_-92622761 ! ! ! lists app-list office365\_apps app skype app ms\_communicator app windows\_marketplace app livemail\_mobile app word\_online app excel\_online app onedrive app yammer app sharepoint app ms-office-365 app hockeyapp app live\_hotmail app live\_storage app outlook-web-service app skydrive app ms\_teams app skydrive\_login app sharepoint\_admin app ms-office-web-apps app ms-teams-audio app share-point app powerpoint\_online app ms-lync-video app live\_mesh app ms-lync-control app groove app ms-live-accounts app office\_docs app owa app ms\_sway app ms-lync-audio app live\_groups app office365 app windowslive app ms-lync app ms-services app ms\_translator app microsoft app sharepoint\_blog app ms\_onenote app ms-teams-video app ms-update app ms-teams-media app ms\_planner app lync app outlook app sharepoint\_online

```
app lync_online
app sharepoint_calendar
app ms-teams
app sharepoint_document
!
site-list DCsite_100001
site-id 100001
!
vpn-list VPN1
vpn 1
!
!
!
apply-policy
site-list DCsite_100001
app-route-policy _VPN1_Cloud_OnRamp_SAAS
!
!
```

#### 在vManage中启用应用和直接互联网访问

#### 步骤1:导航到Cloud OnRamp for SaaS。

≡ Cisco	SD-WAN	Select Resource Group.		Monitor • Overview			0	$\equiv$	0
			Overview Devices	Tunnels Security VPN	Logs Multicloud	1	Cloud onRamp for SaaS	1	
CONTROLLE	RS		WAN Edges	CERTIFICATE STATUS	LICENSING	REBO	Cloud onRamp for laaS Cloud OnRamp for Multicloud	-	
2 vBond	2 vSmart	] vManage	3 Reachable	5 Warning	O Assigned 3 Unassigned	() Last 2	Cloud onRamp for Colocation SD-AVC Cloud Connector		
						-		Action	is V

为SaaS选择Cloud onRamp

#### 第二步:导航到Applications and Policy。

E Cisco SI	D-WAN 💮 Select Res	Durce Group • Da	shboard $\bigcirc \equiv \odot$
Q Search	$\nabla$		How to Get Started Manage Cloud OnRamp for SaaS V
Standard Ap	oplications		Client Sites Gateways Direct Internet Access (DIA) Sites Custom Application Lists
O Active sites	Devices (0) 0 0 0		

选择应用和策略

第三步:导航到Application > Enable和 Save。??然后单击.Next

■ Cisco SD-WAN  Select Resource	Group+	Dashboard			0	4
Cloud onRamp for SaaS 3 Applications and Policy	Appli	ications O Policy				
App Type: All Standard Custom						
Q Search						7
Please click on the table cells Monitoring and Policy/Cloud SLA Applications	to enable/disable them for the Cloud Applic Monitoring	ations. VPN (for Viptela OS Device Models) 🕕	Policy/Cloud SLA (for Cisco OS Device Models) 🕠	Total Rows	14	傪
artun	Libaulau		Disabled		-	
Office 365 Opted Out) Enable Application Feedback for Path	Enabled V	-	Disabled			
Oracle	Disabled	-	Disabled			
Salesforce	Disabled		Disabled			
Sugar CRM	Disabled	58	Disabled			

选择应用并启用监控

#### 第四步:导航到Direct Internet Access (DIA) Sites。

≡ Cisco SD	-WAN 🚫 Select Resource Group•	Dashboard	$\bigcirc \equiv \odot$
Q Search	$\nabla$	How to Ge	t Started Manage Cloud OnRamp for SaaS  Applications and Policy
Standard App	plications		Client Sites Gateways Direct Internet Access (DIA) Sites
Omce 365 O Active sites	Devices (0) 0 0 0		Custom Application Lists

选择直接互联网接入站点

第五步:导航到Attach DIA Sites 并选择站点。

■ Cisco SD-WAN  Select Resource Group.	Dashboard		0	Ξ	0	4
CloudExpress > Manage DIA		How to Get Started	Manage Cloud OnRamp for	SaaS	~	
Q. Search				2	7	
0 Rows Selected Attach DIA Sites Detach DIA Sites Edit DIA Sites			Total Rows: 1	C	@	
Devices in sync A Sync pending 8 One or more devices out of sync						
Site Id	Status					
100001	0			1		

附加DIA站点

确认

本节介绍用于验证SaaS云OnRamp的结果。

• 此输出显示Cloudexpress local-exts:

cEdge\_West-01#sh sdwan cloudexpress local-exits cloudexpress local-exits vpn 1 app 2 type app-group subapp 0 GigabitEthernet2 application office365 latency 6 loss 0

• 此输出显示Cloudexpress应用程序:

cEdge\_West-01#sh sdwan cloudexpress applications cloudexpress applications vpn 1 app 2 type app-group subapp 0 application office365 exit-type local interface GigabitEthernet2 latency 6 loss 0 • 此输出显示感兴趣流量的递增计数器:

<#root>

cEdge_West-01#sh sdwan pol	icy app-rout	e-policy-filter		
NAME	NAME	COUNTER NAME	PACKETS	BYTES
_VPN1_Cloud_OnRamp_SAAS	VPN1	default_action_count	640	66303

Cloud_OnRamp	-403085179	600	432292

• 此输出显示vQoE状态和得分:

E Cisco SD-V	VAN 💮 Select Res	source Group+		0	ashboard				0	≡ ⊚
Noud onRamp for SaaS	> Office 365							How to Get Started	Manage Cloud OnRamp for Manage (5-8) 🛕 🔮 Go	SaaS 🗸 od (8-10) 👩
Q. Search										$\nabla$
VPN List All 🗸									Total Rows: 1	0 @
Sites List	Hostname	vQoE Status	VQoE Score	DIA Status	Selected Interface	Activated Gateway	Local Color	Remote Color	Application Usage	
100001	cEdge_West-01	0	10.0 ~	local	GigsbitEthernet2	N/A	N/A	N/A	View Usage	
										1

vQoE状态和分数

• 此输出显示来自vManage GUI的服务路径:

≡ Cisco SD-WAN	⑦ Select Resource Group •	Moni	tor · Devices · Device 360		
Devices > Troubleshooting > Si	mulate Flows				Troubleshooting v
Select Device	cEdge_West-01   1.1.1.101 Site II	D: 100001 Device Model: C8000	v (j)		
VPN	Source/Interface for VPN - 1	Source IP	Destination IP	Application	
VPN - 1	GigabitEthernet4 - ipv4 - 10.2.21 v	10.2.20.88	ms-office-server-ip	ms-office-365	or
Custom Application (created in CLI)					
Advanced Options >					
					Simulate
Output:					Total next hops: 1   Remote : 1
	<b>_</b>	> 🔀 1.1.1.101			
		$\rightarrow$	Remote IP Interface	10.2.30.129 GigabitEthernet2	
				14	

• 此输出显示来自设备CLI的service-path:

cEdge\_West-01#sh sdwan policy service-path vpn 1 interface GigabitEthernet4 source-ip 10.2.20.70 dest-i Next Hop: Remote Remote IP: 10.2.30.129, Interface GigabitEthernet2 Index: 8

相关信息

- <u>Cisco Catalyst SD-WAN Cloud OnRamp</u>配置指南
- <u>思科技术支持和下载</u>

#### 关于此翻译

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