

# Configure and Verify DIA NAT Tracker and Fallback

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## Introduction

This document describes how to configure and verify DIA NAT Tracker and Fallback on Cisco IOS XE® routers using Cisco Catalyst Manager GUI.

## Prerequisites

### Requirements

Cisco SD-WAN NAT DIA policy must be configured on branch devices. Please check the [Related Information](#) section for instructions on how to Implement Direct Internet Access (DIA) for SD-WAN.

### Components Used

This document is based on these software and hardware versions:

- Cisco Catalyst SD-WAN Manager version 20.14.1
- Cisco Catalyst SD-WAN Controller version 20.14.1
- Cisco Edge Router version 17.14.01a

The information in this document was created from the devices in a specific lab environment. All of the

devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

## Restrictions for NAT DIA Tracker

### Restrictions for Cisco IOS XE Catalyst SD-WAN Release 17.10.1a and Earlier Releases

- In Cisco IOS XE Release 17.6.x and earlier, the NAT DIA tracker is not supported on dialer interfaces. From Cisco IOS XE Catalyst SD-WAN Release 17.7.1a, subinterfaces and dialer interfaces support single endpoint and dual endpoint trackers.
- DNS URL endpoint is not supported on Cisco IOS XE Catalyst SD-WAN devices.
- You can only apply one tracker or tracker group to an interface.
- The NAT fallback feature is supported only from Cisco IOS XE Catalyst SD-WAN Release 17.3.2.
- The IP address of the tunnel with address 169.254.x.x is not supported to track the zScaler endpoint on manual tunnels.
- You must configure a minimum of two single endpoint trackers to configure a tracker group.
- A tracker group can incorporate only a maximum of two single endpoint trackers.
- In Cisco IOS XE Release 17.10.1 and previous releases, you cannot configure IPv4 tracker on a IPv6 interface or vice versa. The tracker wont be active.

### Restrictions for Cisco IOS XE Catalyst SD-WAN Release 17.11.1a

- API URL endpoint is supported only on IPv6 DIA tracker and not supported on IPv4 DIA tracker.
- Both IPv4 and IPv6 trackers cannot be used in the same tracker group.
- You must configure the **allow service all** command under the TLOC tunnel interface for IPv6 trackers to work with a TLOC tunnel interface.
- Multiple NAT66 DIA interfaces are not supported.
- NAT fallback on centralized data policy is not supported.

### Restrictions for Cisco IOS XE Catalyst SD-WAN Release 17.13.1a

- Endpoint DNS elements are not supported in a tracker group.

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**Note:** Ensure that you use an endpoint IP address responds to HTTP/HTTPS requests. For instance, Google DNS server 8.8.8.8 cannot be used as an endpoint IP address.

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## Supported Interfaces for NAT DIA Tracker

You can configure the NAT DIA tracker for the these interfaces:

- Cellular Interfaces
- Ethernet Interfaces
- Ethernet (PPPoE) Interfaces
- Subinterfaces
- DSL Dialer Interfaces (PPPoE and PPPoA)

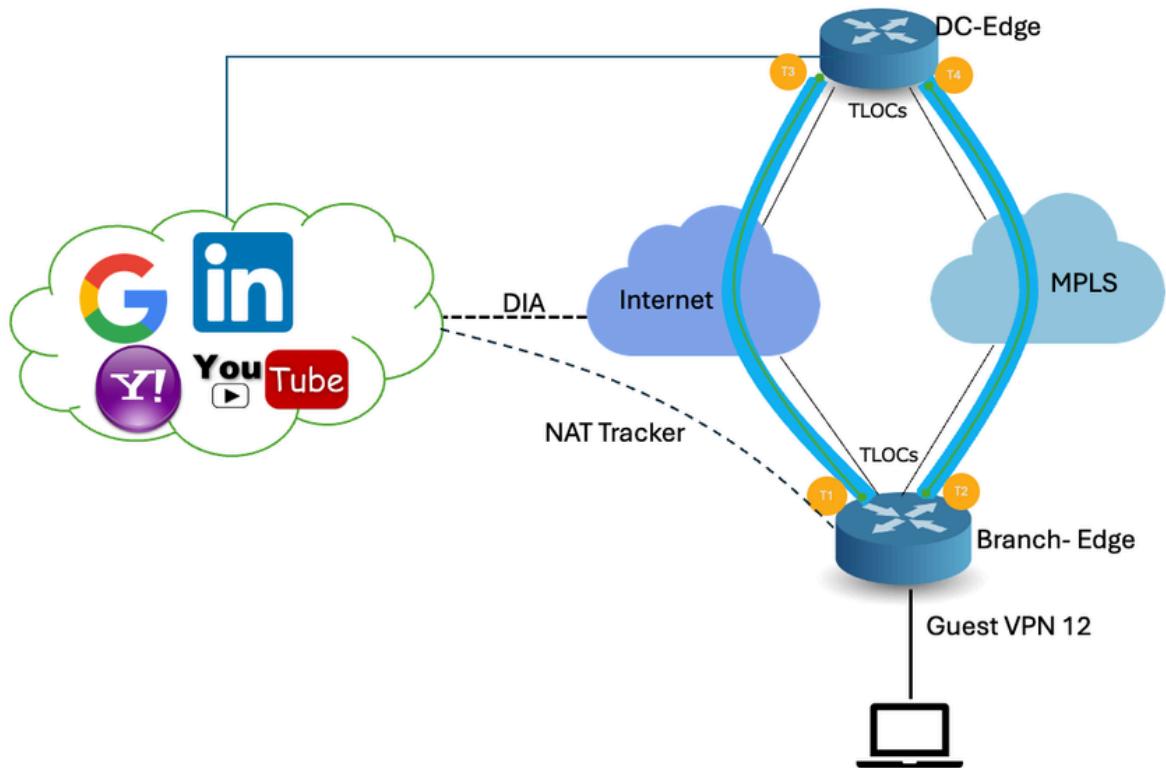
---

**Note:** IPv6 NAT DIA tracker is supported only on physical and subinterfaces of Ethernet interfaces.

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# Configure

## Network Diagram



## Configurations

The DIA tracker helps determine if the internet or external network has become unavailable. The NAT DIA Tracking feature is useful when NAT is enabled on a transport interface in VPN 0 to allow data traffic from the router to exit directly to the internet.

If the internet or external network becomes unavailable, the router continues to forward traffic based on the NAT route in the service VPN. Traffic that is forwarded to the internet gets dropped. To prevent the internet-bound traffic from being dropped, configure the DIA tracker on the edge router to track the status of the transport interface. The tracker periodically probes the interface to determine the status of the internet and return the data to the attach points that are associated with the tracker.

### Step 1. Configure NAT DIA Tracker

On the Cisco SD-WAN Manager menu, navigate to **Configuration > Templates**.

The screenshot shows the Configuration page with the 'Templates' section highlighted by a green box. The 'Templates' section contains a list of device templates with columns for ID, Description, and Actions (Edit, Delete). The first template listed is '1237ea15 Device template of Site400-cE1 with...'.

	Description	
1237ea15	Device template of Site400-cE1 with...	<a href="#">Edit</a>
72fa9563	Device template of Site200-cE1 with...	<a href="#">Edit</a>
b1b238...	Device template of Site200-cE2 with...	<a href="#">Edit</a>
248d5ce	Device template of Site500-cE1 with...	<a href="#">Edit</a>
0983cf18	Device template of Site500-cE2 with...	<a href="#">Edit</a>
718bba...	Device template of Site100-cE1 with...	<a href="#">Edit</a>
58129554-ca0e-4010-a787-71a5288785...	Device template of Site100-cE2 with...	<a href="#">Edit</a>

Click **Feature Templates**. Search for the **Cisco System feature template** in the search bar, click the **three dots (...)**, and click **Edit** to modify.

The screenshot shows the Feature Templates page. A context menu is open over a row for a Cisco System template, with the 'Edit' option highlighted by a green box. The table lists various system templates with columns for Name, Description, Type, Device Model, Device Templates, Devices Attached, Updated By, and Last Updated.

Name	Description	Type	Device Model	Device Templates	Devices Attached	Updated By	Last Updated
ntp_system_21-10-2021_19-3...	Test Drive Template: System ...	Cisco NTP	CSR1000v	8	8	admin	04 Apr 2024 7:19:47 PM GM
system_Site400-cE1_400_28...	Test Drive Template: System ...	Cisco System	C8000v	1	1	admin	04 Apr 2024 4:21:19 PM GM
system_Site500-cE2_500_14...	Test Drive Template: System ...	Cisco System	C8000v	1	1	admin	04 Apr 2024 4:27:53

In the System feature template, click **Tracker**.

## Configuration

Device Templates    **Feature Templates**

Feature Template > Cisco System > system\_Site400-cE1\_400\_288e91b4-e59e-4af4-92f8-847b4237ea15\_04-04-2024\_16-21-17

Device Type      C8000v

Template Name\*      system\_Site400-cE1\_400\_288e91b4-e59e-4af4

Description\*      Test Drive Template: System feature of Site40C

Basic Configuration    GPS    **Tracker**    Advanced

### BASIC CONFIGURATION

Click **New Endpoint Tracker** to configure the tracker parameters.

The screenshot shows the 'Basic Configuration' tab selected. Under the 'TRACKERS' section, there is a button labeled 'New Endpoint Tracker' which is highlighted with a green border. Below this, there is a table with columns: Optional, Name, Threshold, Interval, Multiplier, and Tracker Type. The table currently displays the message 'No data available'.

Optional	Name	Threshold	Interval	Multiplier	Tracker Type
No data available					

Enter the tracker parameters and click **Add**.

**Name:** Name of the tracker. The name can be up to 128 alphanumeric characters. You can configure up to eight trackers.

**Threshold:** Duration to wait for the probe to return a response before declaring that the transport interface is down. Range: 100 to 1000 milliseconds. Default: 300 milliseconds.

**Interval:** Frequency at which a probe is sent to determine the status of the transport interface. Range: 20 to 600 seconds. Default: 60 seconds (1 minute).

**Multiplier:** Number of times a probe can be resent before declaring that the transport interface is down. Range: 1 to 10. Default: 3.

**Tracker Type:** Choose Interface to configure the DIA tracker.

**End Point Type:** You can select IP address or DNS Name or URL.

**End Point DNS Name:** DNS name of the end point. This is the destination in the internet to which the router sends probes to determine the status of the transport interface.

Click drop-down and select **Global** to change any default value.

Tracker

TRACKERS TRACKER GROUPS

New Endpoint Tracker

Name:

Threshold:

Interval:

Multiplier:

Tracker Type:

Endpoint Type:  IP Address  DNS Name  URL

Endpoint DNS Name:

Cancel

Click **Update**.

Optional	Name	Threshold	Interval	Multiplier	Tracker Type	Action
<input type="checkbox"/>	tracker1	<input type="text" value="100"/>	<input type="text" value="30"/>	<input type="text" value="3"/>	<input type="text" value="Interface"/>	

New Object Tracker

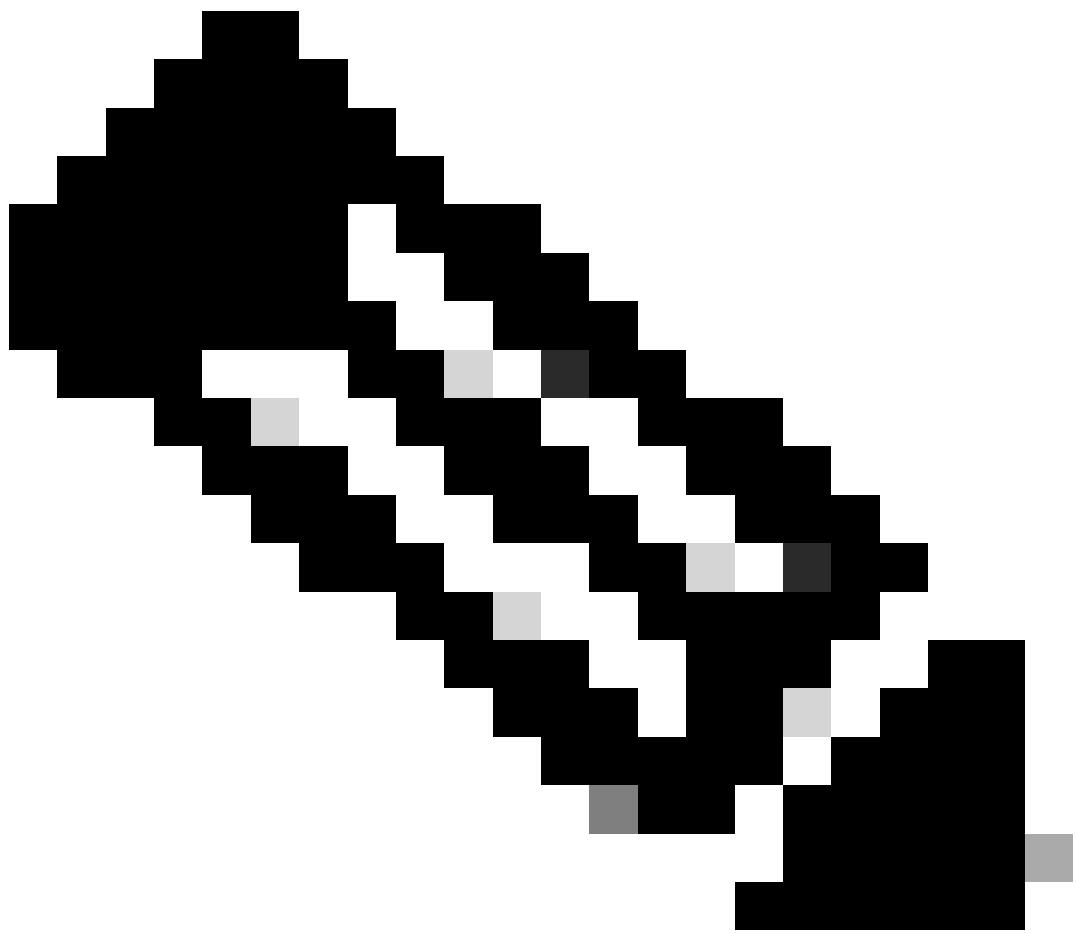
Mark as Optional Row

Tracker Type:  Interface  SIG  Route

Object ID:

Interface:

Cancel



**Note:** Ensure that you have configured two single endpoint trackers before configuring a tracker group.

---

Click **Next**.

Device Template | 288e91b4-e59e-4af4-92f8-847b4237ea15

Device Configuration Overview							
Search:					Total Rows: 1		
S...	Chassis Number	System IP	Hostname	Prefix(0.0.0.0/0)	Address(192.168.1.1)	Interface Name(GigabitEthernet8)	IPv4 Address/ prefix-k
<input checked="" type="checkbox"/>	C8K-08B43DFE-2350-F2B2-E8E2-F80...	Site400-cE1		0.0.0.0/0		GigabitEthernet8	***

**Next** **Cancel**

Click devices, and make sure the config is correct. Click **Config Diff** and **Side by Side Diff**.  
 Click **Configure Devices**.

Device Template Total 1

288e91b4-e59e-4af4-9...

Device list (Total: 1 devices)

Filter/Search

C8K-08B43DFE-2350-F2B2-E8E2-F80F3EDDB887  
Site400-cE1|11.40.1

Configure Devi...

**Config Preview** **Config Diff**

```
system
ztp-status      in-progress
device-model    vedge-C8000V
gps-location latitude 19.04674
gps-location longitude 72.85223
system-ip
overlay-id      1
site-id         400
no transport-gateway enable
port-offset      0
control-session-pps 300
admin-tech-on-failure
sp-organization-name Viptela-POC-Tool
organization-name Viptela-POC-Tool
```

		333 endpoint-tracker tracker1
		334 tracker-type interface
		335 endpoint-dns-name www.cisco.com
		336 threshold 100
		337 interval 30
		338!
333		339 no crypto ikev2 diagnose error
334		340 no crypto isakmp diagnose error
335		341 no network-clock revertive
336		342 snmp-server ifindex persist
337		343 fhrp version vrrp v2
338		344 line con 0
339		345 speed 115200
340		346 stopbits 1
341		347!
342		348 line vty 0 4
343		349 transport input ssh
344		350!
345		351 line vty 5 80

[Back](#)[Configure Devices](#)[Cancel](#)

vManage successfully configured the device template with the tracker configuration.

Push Feature Template Configuration | Validation success

Total Task: 1 | Success : 1

Device Group (1)

Status	Message	Chassis Number
<span>Success</span>	Template successfully attac...	:

### View Logs

Host: Site400-cE1l      }

Site ID: 400

Device C8000v

Model:

```
[29-Jul-2024 7:50:20 PDT] Configuring device with feature template
[29-Jul-2024 7:50:21 PDT] Checking and creating device in Manager
[29-Jul-2024 7:50:22 PDT] Generating configuration from template
[29-Jul-2024 7:50:29 PDT] Device is online
[29-Jul-2024 7:50:29 PDT] Updating device configuration in Manager
[29-Jul-2024 7:50:29 PDT] Sending configuration to device
[29-Jul-2024 7:50:36 PDT] Successfully notified device to pull configuration
[29-Jul-2024 7:50:36 PDT] Device has pulled the configuration
[29-Jul-2024 7:50:39 PDT] Device: Config applied successfully
[29-Jul-2024 7:50:39 PDT] Template successfully attached to device
```

## Step 2. Bind the Tracker to Transport Interface

On the Cisco SD-WAN Manager menu, navigate to **Configuration > Templates**.

**Configuration**

**Feature Templates**

Description	1
4237ea15 Device template of Site400-cE1 wit...	F
72fa9563 Device template of Site200-cE1 wit...	F
b1b238... Device template of Site200-cE2 wit...	F
248d5ce Device template of Site500-cE1 wit...	F
0983cf18 Device template of Site500-cE2 wit...	F
718bba... Device template of Site100-cE1 wit...	F
58129554-ca0e-4010-a787-71a5288785... Device template of Site100-cE2 wit...	F

**Templates**

- Configuration Groups
- Policy Groups
- Service Insertion
- Topology
- Cloud OnRamp for SaaS
- Cloud OnRamp for Multicloud
- Devices
- Network Hierarchy
- Certificates
- Certificate Authority
- Policies
- Security
- Unified Communications
- Network Design
- Cloud onRamp for IaaS
- Application Catalog

Search for the **NAT Transport Interface feature template** in the search bar, click the **three dots (...)**, and click **Edit** to modify.

**Configuration**

**Feature Templates**

**Add Template**

Template Type: Non-Default

Total Rows: 1 of 125

Name	Description	Type	Device Model	Device Templates	Devices Attached	Updated By	Last Updated
Interface_GigabitEth...	Test Drive Template: Int...	Cisco VPN Interface Ethernet	C8000v	1	1	admin	04 Apr 2024 4:22:1. ***

**Actions**

- View
- Edit** (highlighted with a green box)
- Change Device Models
- Delete
- Copy

Click the **Advanced** tab.

**Configuration**

Device Templates   **Feature Templates**

Feature Template > Cisco VPN Interface Ethernet > interface\_GigabitEthernet1\_04-04-2024\_16-21-18

Device Type C8000v

Template Name\* interface\_GigabitEthernet1\_04-04-2024\_16-21-18

Description\* Test Drive Template: Interface GigabitEthernet1 fe

**Basic Configuration**   Tunnel   NAT   VRRP   ACL/QoS   ARP   TrustSec   **Advanced**

To add the tracker name on the Tracker, select **Global** from the drop-down menu.

Tracker

ICMP/ICMPv6 Redirect Disable

GRE tunnel source IP

Global

Device Specific

Default

Enter the **tracker name** that you created in the system template and click **Update**.

Tracker

tracker1

ICMP/ICMPv6 Redirect Disable

On   Off

GRE tunnel source IP

Xconnect

Cancel   **Update**

Click **Next**.

Device Template | 288e91b4-e59e-4af4-92f8-847b4237ea15

Device Configuration Overview						
Search		Device Details				
				Total Rows: 1		
S...	Chassis Number	System IP	Hostname	Prefix(0.0.0.0/0)	Address(192.168.1.1)	Interface Name(GigabitEthernet8)
✓	C8K-06B43DFE-2350-F2B2-E8E2-F80...	Site400-cE1		0.0.0.0/0		GigabitEthernet8
***						

[Next](#) [Cancel](#)

Click devices, and make sure the config is correct. Click **Config Diff** and **Side by Side Diff**.  
Click **Configure Devices**.

Device Template Total 1

288e91b4-e59e-4af4-9...

Device list (Total: 1 devices)

Filter/Search

C8K-06B43DFE-2350-F2B2-E8E2-F80F3EDDB887  
Site400-cE1|1.1.40.1

[Configure Devi...](#)

[Config Preview](#) [Config Diff](#)

```
system
ztp-status          in-progress
device-model        vedge-C8000V
gps-location latitude 19.04674
gps-location longitude 72.85223
system-ip
overlay-id         1
site-id            400
no transport-gateway enable
port-offset         0
control-session-pps 300
admin-tech-on-failure
sp-organization-name Viptela-POC-Tool
organization-name   Viptela-POC-Tool
port-hop
track-transport
track-default-gateway
console-baud-rate  115200
no on-demand enable
on-demand idle-timeout 10
```

```

interface GigabitEthernet1
no shutdown
arp timeout 1200
ip address 10.2.7.2 255.255.255.0
no ip redirects
ip mtu 1500
ip nat outside
load-interval 30
mtu 1500

negotiation auto
exit
interface GigabitEthernet2
no shutdown
arp timeout 1200

```

212	interface GigabitEthernet1
213	no shutdown
214	arp timeout 1200
215	ip address 10.2.7.2 255.255.255.0
216	no ip redirects
217	ip mtu 1500
218	ip nat outside
219	load-interval 30
220	mtu 1500
221	endpoint-tracker tracker1
222	negotiation auto
223	exit
224	interface GigabitEthernet2
225	no shutdown
226	arp timeout 1200

[Back](#)[Configure Devices](#)[Cancel](#)

vManage has successfully configured the device template.

Push Feature Template Configuration | Validation success

Total Task: 1 | Success : 1

Device Group (1)

Search Table		
Status	Message	Chassis Number
<span>Success</span>	Template successfully attac...	

### View Logs

Host: Site400-cE1[400] | Site ID: 400 | Device: C8000v | Model:

```
[29-Jul-2024 8:02:13 PDT] Configuring device with feature template
[29-Jul-2024 8:02:13 PDT] Checking and creating device in Manager
[29-Jul-2024 8:02:14 PDT] Generating configuration from template
[29-Jul-2024 8:02:20 PDT] Device is online
[29-Jul-2024 8:02:20 PDT] Updating device configuration in Manager
[29-Jul-2024 8:02:21 PDT] Sending configuration to device
[29-Jul-2024 8:02:26 PDT] Successfully notified device to pull configuration
[29-Jul-2024 8:02:26 PDT] Device has pulled the configuration
[29-Jul-2024 8:02:29 PDT] Device: Config applied successfully
[29-Jul-2024 8:02:29 PDT] Template successfully attached to device
```

### Step 3. Enable NAT Fallback on Existing DIA Policy

Cisco IOS XE Catalyst SD-WAN devices support the NAT fallback feature for Direct Internet Access (DIA). NAT fallback feature allows traffic to use an alternative path if the primary NAT path fails. This ensures continuous connectivity even if there are issues with the primary NAT configuration.

To enable NAT fallback using Cisco SD-WAN Manager:

From the Cisco SD-WAN Manager menu, navigate to **Configuration > Policy**.



Monitor



Configuration



Tools



Maintenance



Administration



Workflows



Reports



Analytics



Explore

Configuration Groups

Policy Groups

Service Insertion

Topology

Cloud OnRamp for SaaS

Cloud OnRamp for Multicloud

Devices

Network Hierarchy

Certificates

Certificate Authority

Templates

Policies



Security

Unified Communications

Network Design

Cloud onRamp for IaaS

Application Catalog

VIP10\_DC\_Preference

VIP16\_QoS\_Classify\_SIP

```

interface GigabitEthernet1
ip address 10.2.7.2 255.255.255.0
no ip redirects
ip nat outside
load-interval 30
negotiation auto

endpoint-tracker tracker1

arp timeout 1200
end

```

```

Site400-cE1#show sdwan running-config | sec endpoint
endpoint-tracker tracker1
tracker-type interface
endpoint-dns-name www.cisco.com
threshold 100
interval 30

```

The output shows how to verify the tracker status using the commands **show endpoint-tracker** and **show endpoint-tracker GigabitEthernet1**.

```

Site400-cE1#show endpoint-tracker
Interface      Record Name   Status    Address Family   RTT in msecs   Probe ID   Next Hop
GigabitEthernet1    tracker1     Up        IPv4           8                 6          10.2.7.1

Site400-cE1#show endpoint-tracker interface GigabitEthernet1
Interface      Record Name   Status    Address Family   RTT in msecs   Probe ID   Next Hop
GigabitEthernet1    tracker1     Up        IPv4           8                 6          10.2.7.1

```

The output shows timer-related information about the tracker to help debug tracker-related issues, if any:

```

Site400-cE1#show endpoint-tracker records
Record Name   Endpoint       EndPoint Type   Threshold(ms)  Multiplier  Interval(s)  Tracker-Type
tracker1      www.cisco.com    DNS_NAME      100            3             30          interface

```

The output of **show ip sla summary** command.

```

Site400-cE1#show ip sla summary
IPSLAs Latest Operation Summary
Codes: * active, ^ inactive, ~ pending
All Stats are in milliseconds. Stats with u are in microseconds

ID  Type  Destination   Stats  Return  Last
                Code    Run

```

```
-----  
*5 dns      8.8.8.8        RTT=16  OK      16 seconds ago  
*6 http     x.x.x.x        RTT=15  OK      3 seconds ago
```

Verify the fallback configuration applied on the device using the command **show sdwan policy from-vsmart**.

```
<#root>  
  
Site400-cE1#show sdwan policy from-vsmart  
from-vsmart data-policy _VPN12_VPN12_DIA  
direction from-service  
vpn-list VPN12  
sequence 1  
match  
source-data-prefix-list Site400_AllVPN_Prefixes  
action accept  
nat use-vpn 0  
  
nat fallback  
  
no nat bypass  
default-action drop
```

## Troubleshooting Tracker

Enable these debugs on the edge device to check how the router sends probes to determine the status of the transport interface.

- To monitor how the router sends probes and determines the status of the transport interfaces use the **debug platform software sdwan tracker** command which is supported until the 17.12.x release.
- From 17.13.x onwards, to monitor the probes logs, enable these debugs.
  - set platform software trace ios R0 sdwanrp-tracker debug
  - set platform software trace ios R0 sdwanrp-cfg debug
- To check the logs related to IP SLA operations error and trace, enable these debugs. These logs show if IP SLA operations are failing.
  - debug ip sla trace
  - debug ip sla error

Run these show and monitor commands to check the debug logs:

- **show logging profile sdwan internal**
- **monitor logging profile sdwan internal**

```
Site400-cE1#show logging profile sdwan internal  
Logging display requested on 2024/08/13 08:10:45 (PDT) for Hostname: [Site400-cE1], Model: [C8000V], Ve  
  
Displaying logs from the last 0 days, 0 hours, 10 minutes, 0 seconds  
executing cmd on chassis local ...  
Unified Decoder Library Init .. DONE
```

Found 1 UTF Streams

2024/08/13 08:02:28.408998337 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 s  
2024/08/13 08:02:28.409061529 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.409086404 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE: Sla sync  
2024/08/13 08:02:28.409160541 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE: Sla sync  
2024/08/13 08:02:28.409182208 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 St  
2024/08/13 08:02:28.409197024 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 Qu  
2024/08/13 08:02:28.409215496 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 DN  
2024/08/13 08:02:28.409242243 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 So  
2024/08/13 08:02:28.409274690 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 De  
2024/08/13 08:02:28.409298157 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 So  
2024/08/13 08:02:28.409377223 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 Ne  
2024/08/13 08:02:28.409391034 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 Re  
2024/08/13 08:02:28.409434969 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 ac  
2024/08/13 08:02:28.409525831 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 Pr  
2024/08/13 08:02:28.426966448 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 Qu  
2024/08/13 08:02:28.427004143 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 Re  
2024/08/13 08:02:28.427029754 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 RT  
2024/08/13 08:02:28.427161550 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.427177727 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.427188035 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.427199147 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.427208941 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:10 IP  
2024/08/13 08:02:28.427219960 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427238042 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427301952 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427316275 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427326235 {iosrp\_R0-0}{255}: [sdwanrp-tracker] [17432]: (debug): Received IPSLA sta  
2024/08/13 08:02:28.427328425 {iosrp\_R0-0}{255}: [sdwanrp-tracker] [17432]: (debug): DNS status callbac  
2024/08/13 08:02:28.427341452 {iosrp\_R0-0}{255}: [sdwanrp-tracker] [17432]: (debug): DNS query valid TR  
2024/08/13 08:02:28.427343152 {iosrp\_R0-0}{255}: [sdwanrp-tracker] [17432]: (debug): DNS resolved addre  
2024/08/13 08:02:28.427344332 {iosrp\_R0-0}{255}: [sdwanrp-tracker] [17432]: (debug): DNS probe handler  
2024/08/13 08:02:28.427349194 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.427359268 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427370416 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427555382 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427565670 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.427577691 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427588947 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427600567 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427611465 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St  
2024/08/13 08:02:28.427620724 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:28.427645035 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:10 S  
2024/08/13 08:02:55.5999896668 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:3 s1  
2024/08/13 08:02:55.599966240 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:3 St  
2024/08/13 08:02:55.599981173 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 Sta  
2024/08/13 08:02:55.600045761 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 Next  
2024/08/13 08:02:55.600111585 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 DNS  
2024/08/13 08:02:55.600330868 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 s1a  
2024/08/13 08:02:55.610693565 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 Soc  
2024/08/13 08:02:55.610717011 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 Wai  
2024/08/13 08:02:55.610777327 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 Sen  
2024/08/13 08:02:55.610788233 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 Wai  
2024/08/13 08:02:55.618534651 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 Soc  
2024/08/13 08:02:55.618685838 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 HTT  
2024/08/13 08:02:55.618697389 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:3 Sc  
2024/08/13 08:02:55.618706090 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:3 Sc  
2024/08/13 08:02:55.618714316 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:3 Sc  
2024/08/13 08:02:55.618723915 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-INFRA\_TRACE:OPER:3 Sc  
2024/08/13 08:02:55.618732815 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE:OPER:3 IPS  
2024/08/13 08:02:55.618821650 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common St

2024/08/13 08:02:55.618833396 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common Sta  
2024/08/13 08:02:55.618857012 {iosrp\_R0-0}{255}: [buginf] [17432]: (debug): IPSLA-OPER\_TRACE: Common Sta

## Related Information

[Implement Direct Internet Access \(DIA\) for SD-WAN](#)

[Cisco Catalyst SD-WAN NAT Configuration Guide](#)

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