Configure ThousandEyes on SDWAN Devices

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Introduction

This document describes how to integrate ThousandEyes Agent (TE) on a Software-Defined Wide Area Network (SD-WAN).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics.

- Templates
- Thousand Eyes
- SD-WAN (General Overview)

Components Used

The information in this document is based on these software and hardware versions.

- Cisco vBond Version 20.6.3

- Cisco vSmart Version 20.6.3
- Cisco vManage Version 20.6.3.1
- ThousandEyes-Enterprise-Agent-4.3.0.Cisco
- Integrated Service Routers (ISR)4451-X/K9 Version 17.6.3a

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.

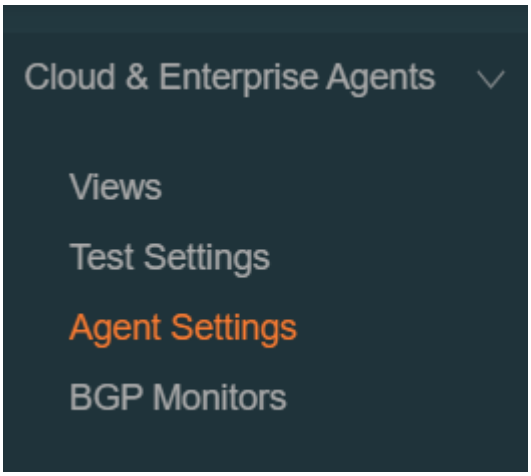
Configure

Download TE Agent

Note: You must have a Thousand Eyes account to download the latest version.

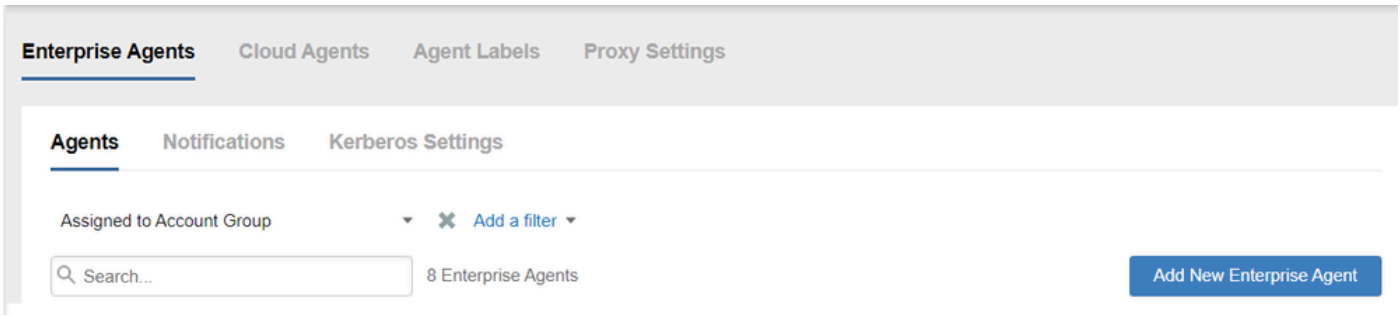
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1. Log in to your TE account from the Cisco ThosandEyes Agent page.
2. Navigate to **Cloud & Enterprise Agents > Agent Settings.**



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3. Click **Add New Enterprise Agent**.

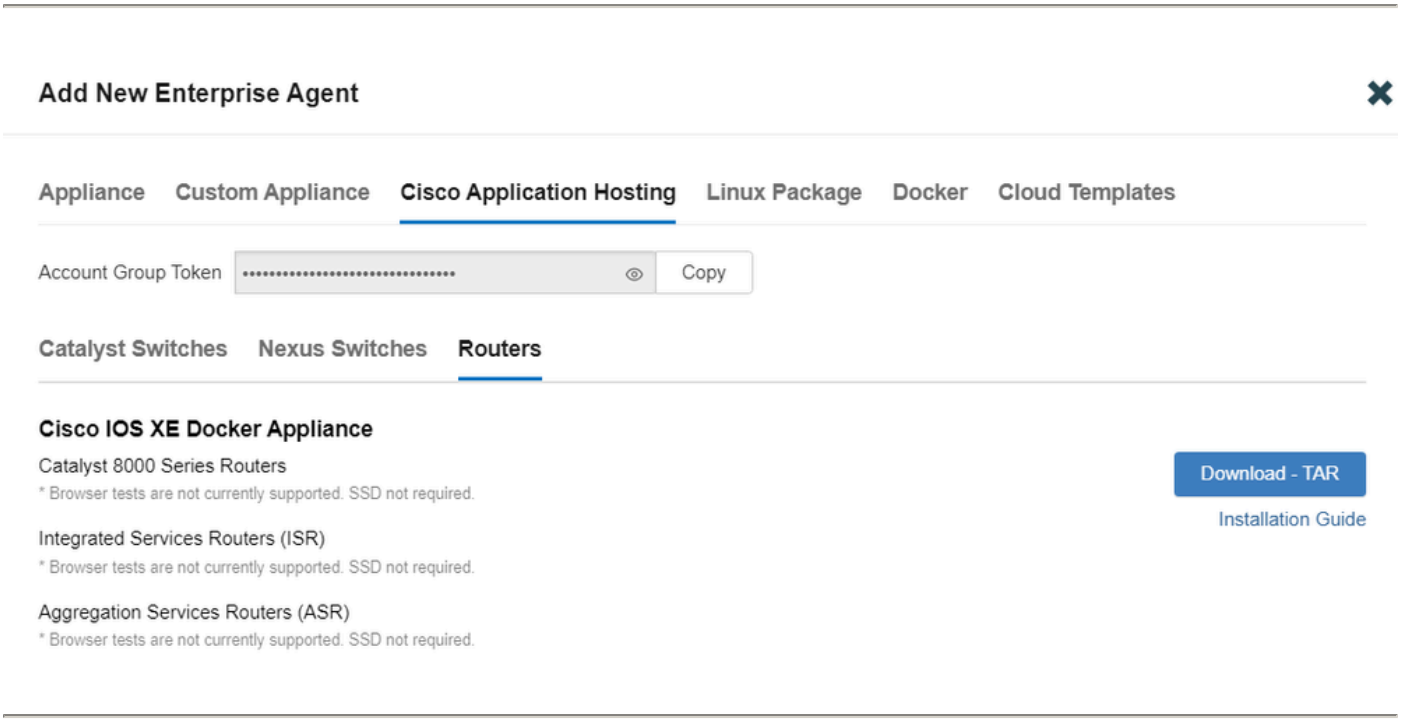


4. Navigate to **Cisco Application Hosting**.

5. **Copy** and **Save** your Account Group Token.

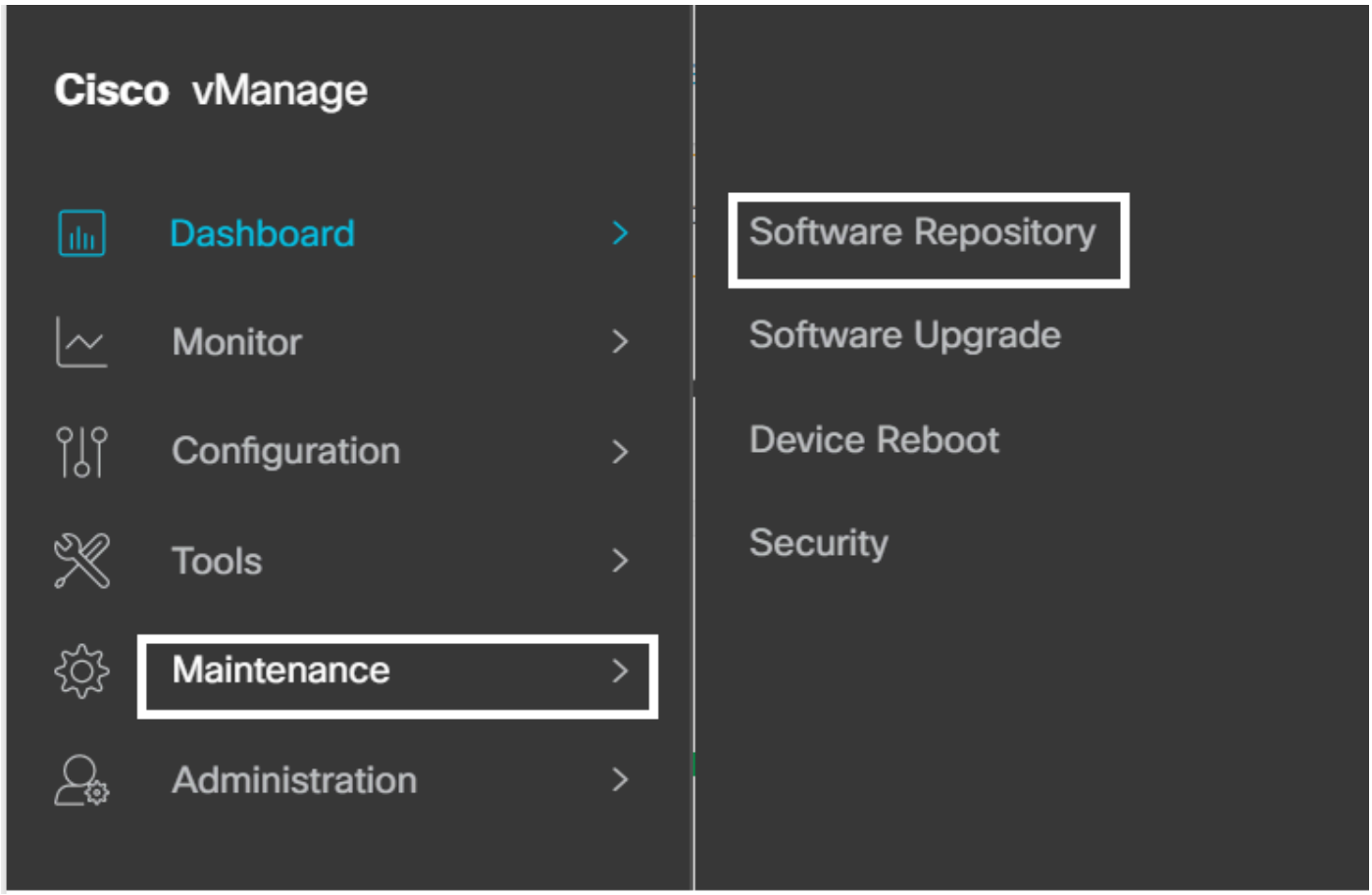
6. Choose the type of Device, in an SD-WAN Case, Click **Routers**.

7. Click **Download-TAR** to download the agent.



Upload TE Agent to Cisco vManage

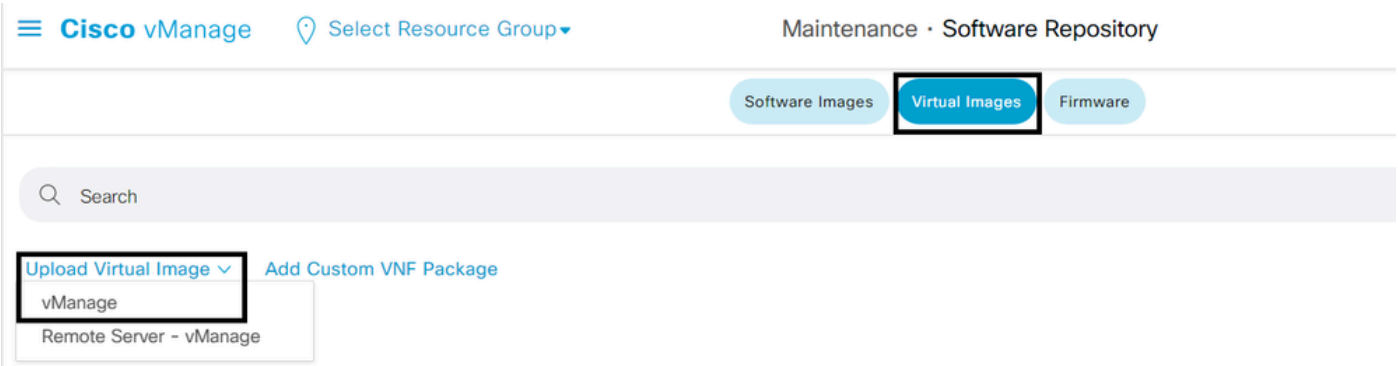
1. From Cisco vManage, choose **Maintenance > Software Repository**.



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2. Click **Virtual Images**.

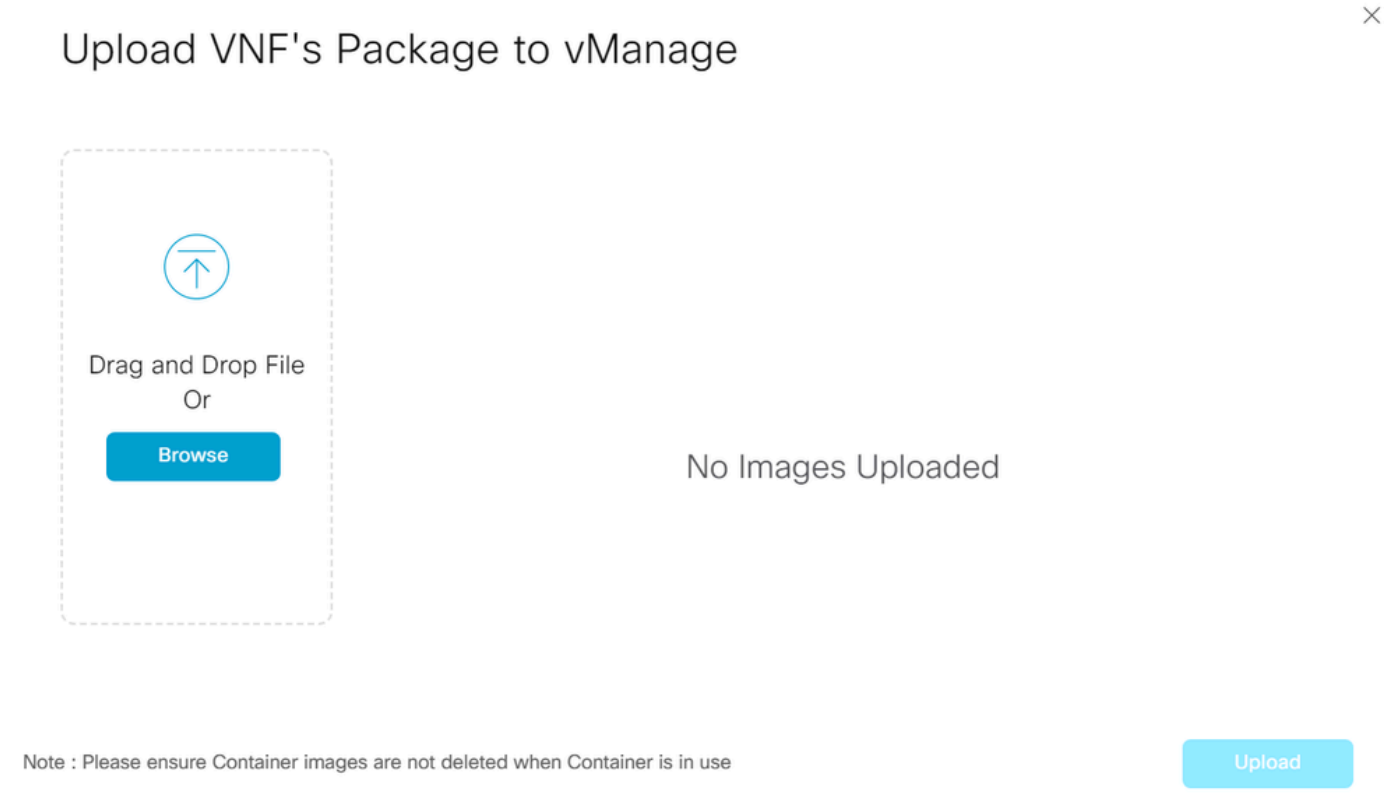
3. Click **Upload Virtual Image** and click **vManage**.



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4. In the Upload VNF Package to the vManage dialog box, browse to the location of the downloaded TE agent software file and choose the file. Alternatively, drag and drop the Cisco ThousandEyes Enterprise agent software file.

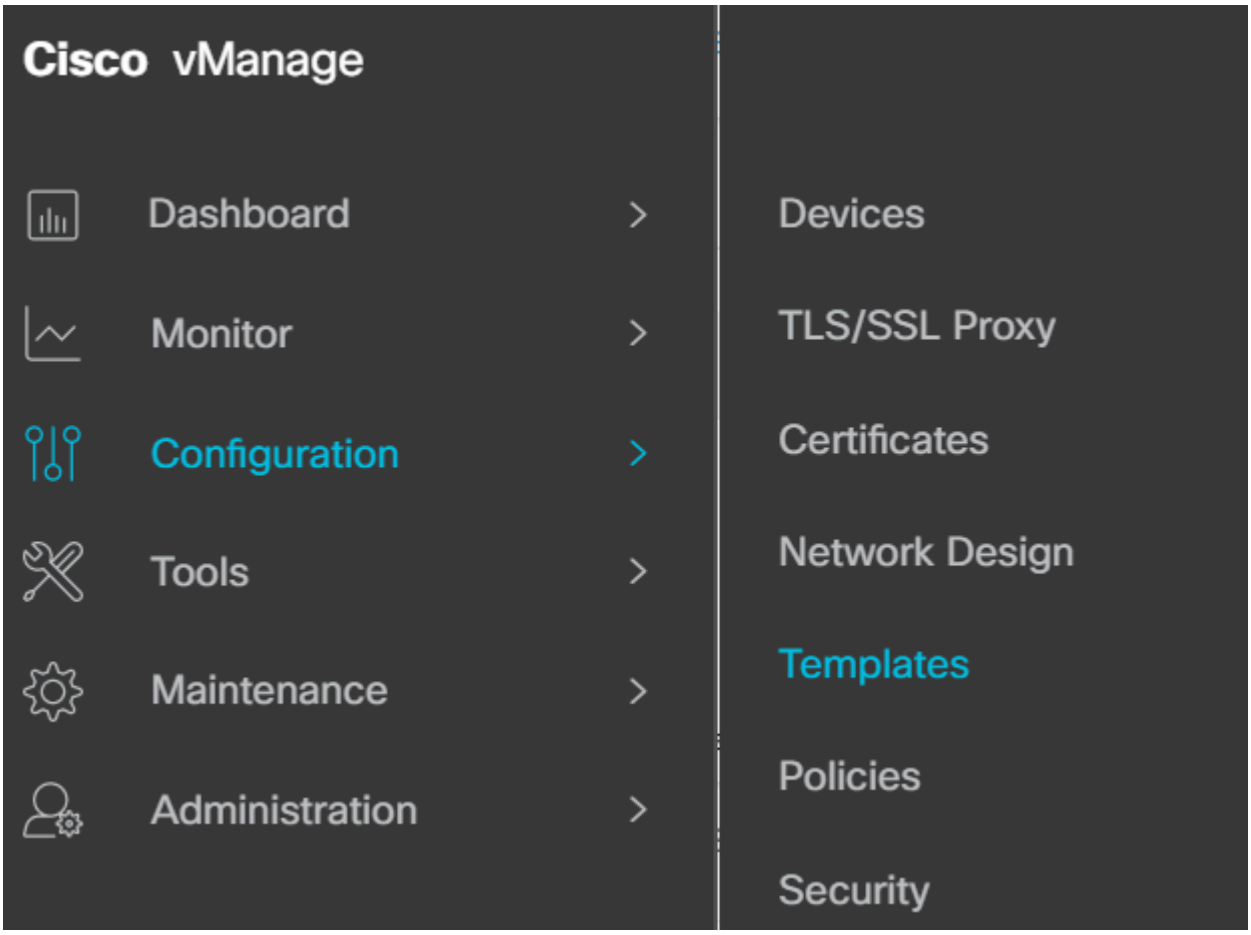
5. Click **Upload**.



Note: The provision for Cisco ThousandEyes Enterprise Agent in transport VPN (VPN 0) is not supported.

Configure TE on Service VPN

1. Navigate to **Configuration** > **Templates**.



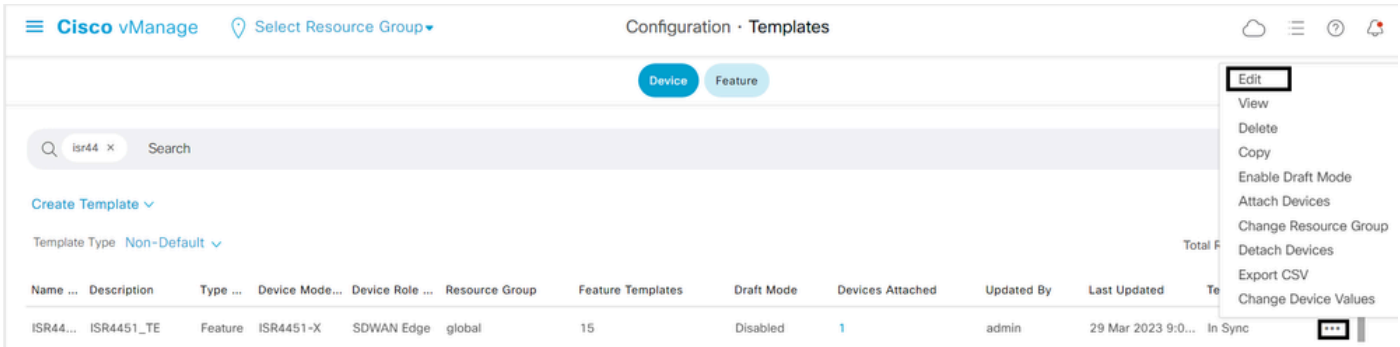
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2. From Device Template, choose the template you want to integrate with TE.

Note: In Cisco vManage Release 20.7.x and earlier releases, Device Templates are titled as Device.

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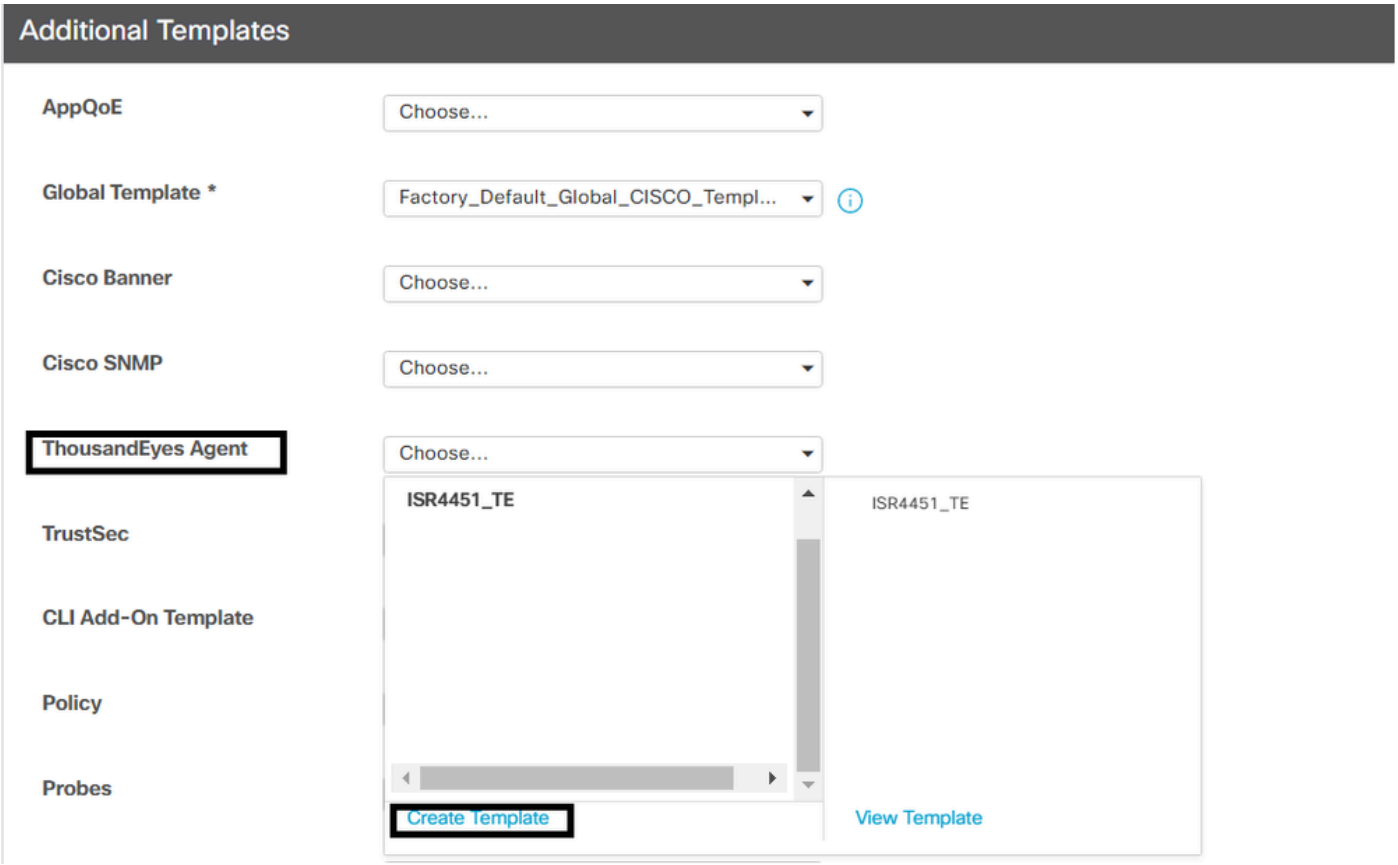
3. Click the **three dots (...)** > then click **Edit**.



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4. Navigate to **Additional Templates**.

5. Choose the **ThousandEyes Agent** from the drop-down menu and click **Create Template**.



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a. **Template Name**: Enter a name for the template and ensure the template name is unique.

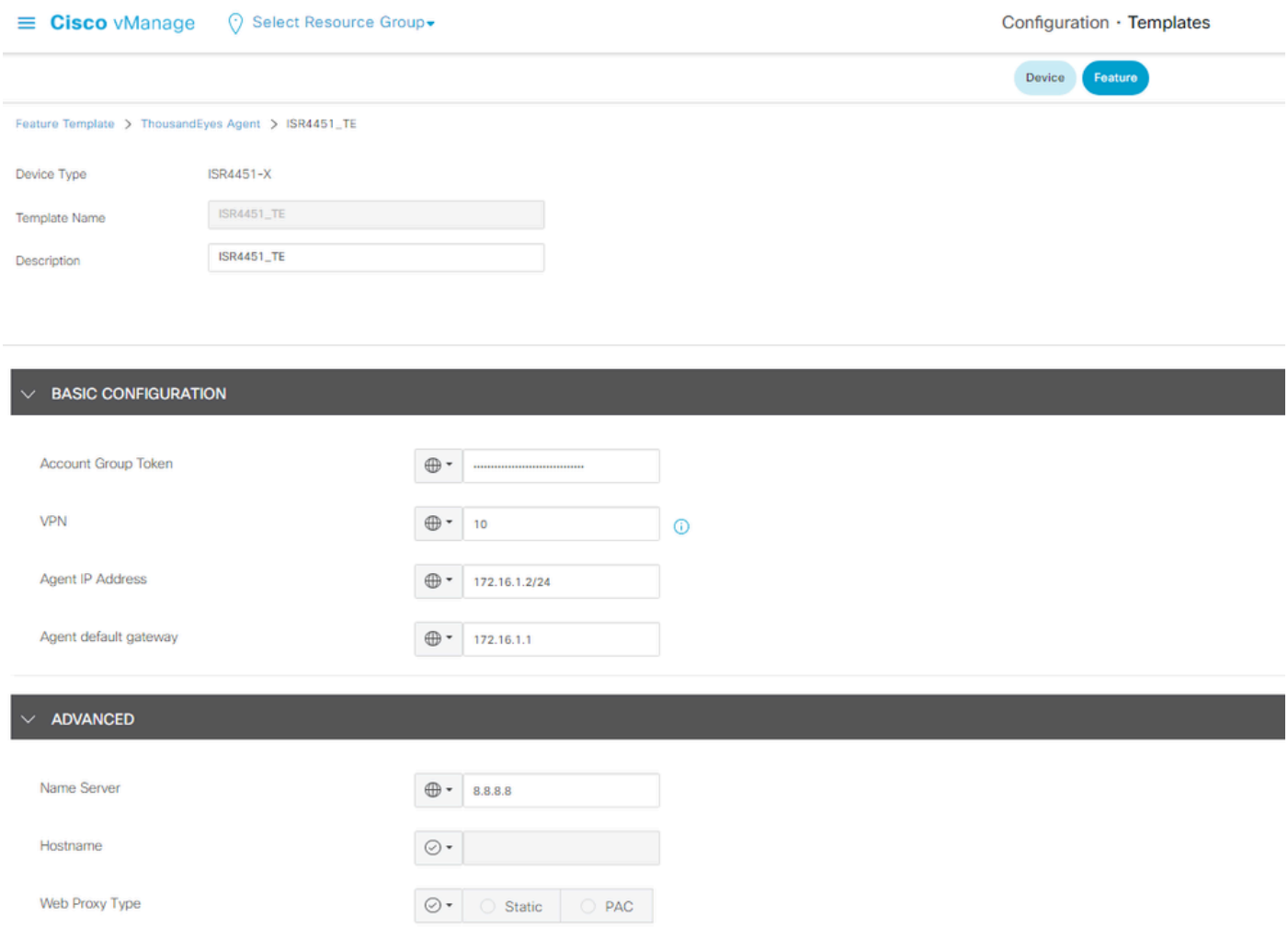
b. **Description**: Enter a description for the template.

c. In the Basic Configuration, enter the Account Group Token obtained from the previous steps.

d. Choose the service VPN, and on this step, you can use Global Values or Device Specific.

e. In the ADVANCED section, enter the IP address of your preferred Name Server.

f. Hostname and Web Proxy Type are optional.



6.Click **Save**.

7.Click **Update**.

8. Push the template to your device.

Verify

Router Side

```
Router#show app-hosting list
App id                                   State
---------------------------------------------------------
te                                       RUNNING   >>>> verify the status of app id

Router#show app-hosting detail
App id                 : te
Owner                  : iox
```

```
State                  : RUNNING
Application
  Type                 : docker
  Name                 : ThousandEyes Enterprise Agent
  Version              : 4.3.0  >>> verify latest version
  Description          :
  Author               : ThousandEyes
  Path                 : bootflash:.TE_IMAGES/iox-te_4.3.0.tar
  URL Path             :
Activated profile name : custom

Resource reservation
  Memory               : 500 MB
  Disk                 : 1 MB
  CPU                  : 1500 units
  CPU-percent          : 3 %
  VCPU                 : 1

Platform resource profiles
  Profile Name                  CPU(unit)  Memory(MB)  Disk(MB)
  ----------------------------------------------------------------

Attached devices
  Type              Name               Alias
  ---------------------------------------------
  serial/shell     iox_console_shell   serial0
  serial/aux       iox_console_aux     serial1
  serial/syslog    iox_syslog          serial2
  serial/trace     iox_trace           serial3

Network interfaces
   ---------------------------------------
eth0:
   MAC address         : 52:54:dd:23:79:c4
   IPv4 address        : 172.16.1.2  >> verify here display the proper default gateway
   IPv6 address        : ::
   Network name        : VPG4

Router#show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0/0   10.0.12.21      YES other  up                    up
GigabitEthernet0/0/1   unassigned      YES unset  down                  down
GigabitEthernet0/0/2   unassigned      YES unset  down                  down
GigabitEthernet0/0/3   172.16.10.1     YES other  down                  down
GigabitEthernet0       unassigned      YES other  administratively down down
Sdwan-system-intf      10.10.10.10     YES unset  up                    up
Loopback65528          192.168.1.1     YES other  up                    up
NVI0                   unassigned      YES unset  up                    up
Tunnel0                10.0.12.21      YES TFTP   up                    up
VirtualPortGroup4      172.16.1.1      YES other  up                    up  >>> check virtual group int
```

Connect to Cisco ThousandEyes Enterprise Agent and check **var/log/agent/te-agent.log**.

```
Router#app-hosting connect appid te session
# cat var/log/agent/te-agent.log
2023-03-29 13:35:53.900 INFO  [a273cf00]   enable-iox                          53.5207 seconds
2023-03-29 13:35:55.900 INFO [a273cf00]   download-package-te                 24.0457 seconds
```

```
2023-03-29 13:35:55.900 INFO  [a273cf00]   install-te                          82.3967 seconds
2023-03-29 13:35:55.902 INFO [15816]:   pre-config-callback                 169.5950 seconds
2023-03-29 13:35:55.902 INFO [15816]:   verify-install-te                   58.4398 seconds
2023-03-29 13:35:55.902 INFO [15816]:   post-config-callback                59.3583 seconds
2023-03-29 13:35:55.941 INFO [15816]: utdapp.py profile info
2023-03-29 13:35:55.941 INFO [15816]:   is-config-interesting               0.0012 seconds
2023-03-29 13:35:55.942 INFO [15816]:   TOTAL                               3.96 minutes
```

Note: Check the reachability with the internet and with Virtual Group 4 Default Gateway.

ThousandEyes Side

Verify your device shows as active (green) in the portal.

1. In the TE portal, navigate to **Cloud & Enterprise Agents > Agent Settings**.



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2. Click your device and check the information.

