

Add/Modify Network Access Device Entry in ISE by Catalyst Center

Contents

[Introduction](#)

[Background Information](#)

[Problem](#)

[Solution](#)

Introduction

This document describes the procedure to reconfigure the Network Access Device (NAD) entry in ISE which is either modified or removed from ISE.

Background Information

There could be multiple scenarios where the NAD entry for a Network Device (which is managed by Catalyst Center) needs to be modified. For example: a device is returned, the serial number changed, and a new serial number must be updated in NAD entry of that Network Device (Advanced TrustSec Settings).

Otherwise Device TrustSec authentication would not happen, resulting in failure to download PAC/env. data.

There could be another scenario where the NAD entry is deleted from Identity Services Engine (ISE) (due to manual error some other cause). and now all the device authentication fails as there is no NAD entry in ISE.

Problem

The problem in the aforementioned scenarios is that there is no pre-defined option in Catalyst Center to create the NAD entry directly once the Network Device is assigned the site and NAD entry is created first time, resulting in users having to configure/modify the NAD entry in ISE manually which can be time consuming and prone to error.

This document describes the procedure/steps to reconfigure the NAD (Network Access Device) entry for any Network Device in ISE which is either modified or removed from ISE NAD. This procedure is applicable for any Network Device which is managed by Catalyst Center.

Solution

To have Catalyst Center configure the NAD entry in ISE, we basically need to change the management IP address of the device (to any dummy IP) which is backend triggers the NAD entry creation workflow. This procedure is applicable for any Network Device which is managed by Catalyst Center. The NAD entry will be created with original IP (as the workflow triggers before the change in management IP address). In

this example, Advanced TrustSec Settings for a NAD entry is disabled in ISE :

Network Devices

Name	IP/Mask	Profile Name	Location	Type	Description
pod7-9400...	172.19.100.15/32	Cisco	All Locations	All Device Types	

NAD Entry ISE for a Network Device

Cisco ISE Administration · Network Resources

Network Devices | Network Device Groups | Network Device Profiles | External RADIUS Servers | RADIUS Servers

Network Devices

Default Device

Device Security Settings

SNMP Settings

SNMP Version: 2c

SNMP RO Community: ** [Show](#)

SNMP Username: _____

Security Level: _____

Auth Protocol: _____

Auth Password: _____ [Show](#)

Privacy Protocol: _____

Privacy Password: _____ [Show](#)

Polling Interval: 0 seconds (Valid Range 600 to 86400 or zero)

Link Trap Query

MAC Trap Query

Originating Policy Services Node: Auto

Advanced TrustSec Settings

Advanced TrustSec Settings is disabled for this NAD entry

As seen in this image, NAD entry for the device has Advanced TrustSec Settings disabled (generally when Catalyst Center creates the NAD entry, this section is enabled). Change the management IP address in Catalyst Center to **dummy IP** which triggers the workflow to re-configure the NAD entry in ISE. When you change the Management IP address it moves the device Manageability to **Syncing** state and ISE NAD entry must be modified.

Devices (1) Focus: Inventory

deviceName: (*9400*)

1 Selected

Device Name	IP Address
pod7-9400.dr.com	172.19.100.15

Edit Device

Credentials Management IP Resync Interval Device Role

Device IP / DNS Name*

172.19.100.100

- Please ensure that the new IP address is reachable from Cisco DNA Center and device credentials are correct, otherwise the device may go to an unmanaged state.
- Please ensure that the device is re-provisioned if the management interface has changed and IP address of the same has been updated. Failure to do so will cause reachability issues from the device to the network servers.

Device Controllability is **Enabled**. Config changes will be made on network devices during discovery/inventory or when device is associated to a site. [Learn More](#)

Cancel
Update

Changing the Management IP address for the Network Device in Catalyst Center to Dummy IP

Devices (1) Focus: Inventory

deviceName: (*9400*)

0 Selected

Device Name	IP Address	Device Family	Reachability	EoX Status	Manageability
pod7-9400.dr.com	172.19.100.100	Switches and Hubs (WLC Capable)	Reachable	Not Scanned	Managed Syncing...

Network Device goes into Syncing State

Devices (1) Focus: Inventory

deviceName: (*9400*)

0 Selected

As of: Jul 7, 2024 7:13 PM

Device Name	IP Address	Device Family	Reachability	EoX Status	Manageability	Compliance	Health Score	Site
pod7-9400.dr.com	172.19.100.100	Switches and Hubs (WLC Capable)	Unreachable	Not Scanned	Managed Inventory Sync...	Non-Compliant	No Health	...

Network Device becomes Unreachable and UnManaged as Management Ip address is dummy IP and not reachable from Catalyst Center

ISE NAD entry for updated and "Advanced TrustSec Settings" is now enabled :

Network Devices Network Device Groups Network Device Profiles External RADIUS Servers RA

Network Devices

Default Device

Device Security Settings

SNMP Username _____

Security Level _____ ▾

Auth Protocol _____ ▾

Auth Password _____ [Show](#)

Privacy Protocol _____ ▾

Privacy Password _____ [Show](#)

Polling Interval seconds(Valid Range 600 to 86400 or zero)

Link Trap Query

MAC Trap Query

Originating Policy Services Node ▾

▾ **Advanced TrustSec Settings**

▾ Device Authentication Settings

Use Device ID for TrustSec Identification

Device Id

Password [Show](#)

Advanced TrustSec Settings got enabled after updating Management IP address from Catalyst Center

After this is created, we can change the management Ip address back to its original IP.

Provision / Inventory 🔍 ? 🔄 🔔

All
Routers
Switch

Devices (1) Focus: Inventory ▾

🔍 deviceName: (*9400*)

1 Selected Add Device Tag Actions ▾

	Device Name	IP Address
<input checked="" type="checkbox"/>	pod7-9400.dr.com	172.19.100.15

1 Records

Edit Device ✕

Credentials
 Management IP
 Resync Interval
 Device Role

Device IP / DNS Name*
172.19.100.15 ←

- Please ensure that the new IP address is reachable from Cisco DNA Center and device credentials are correct, otherwise the device may go to an unmanaged state.
- Please ensure that the device is re-provisioned if the management interface has changed and IP address of the same has been updated. Failure to do so will cause reachability issues from the device to the network servers.

Cancel
 Update

Device Controllability is Enabled. Config changes will be made on network devices during discovery/inventory or when device is associated to a site. [Learn More](#)

Changing the Management Ip address back to its Original IP

After updating the management IP address to its original IP address, the device goes into "syncing" state and becomes "Managed".

Here is another scenario where NAD entry got deleted :

Network Devices

Edit + Add 📄 Duplicate 📄 Import 📄 Export 📄 Generate PAC 🗑️ Delete

Selected 0 Total 0 🔄 ⚙️

🗑️ Name ^ IP/Mask Profile Name Location Type Description

🔍 Quick Filter ▾

	Name	IP/Mask	Profile Name	Location	Type	Description
9400	×					

No data available

NAD Entry does not exist in ISE for the Network Device

As you see the same device NAD entry does not exist. We use the same procedure, that is, modify the management IP address in Catalyst Center to dummy IP). After using this procedure, NAD entry for the Network Device with its original IP address is created.