



## **Cisco User Defined Network Install Guide, Release 1.5**

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## CHAPTER

# 1

# Cisco User Defined Network Install Overview

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## Overview of Cisco User Defined Network

Cisco User Defined Network (UDN) is a solution available through Cisco DNA Center. The Cisco User Defined Network grants both device security and control, allowing end users the choice of who can connect to their network or device. This solution also gives end users the ability to invite trusted users, such as friends, to their personal network through the Cisco User Defined Network mobile application so that they can collaborate and share their devices with them. Cisco User Defined Network enables users to create a personal network within a shared network.

For example, students in a university dormitory, which has a Cisco User Defined Network solution enabled, can register their devices to a private network within the larger network. The students can then view and manage their devices through the Cisco User Defined Network mobile application.

The Cisco User Defined Network portal is powered by Cisco DNA Center Cloud.

## Cisco UDN Install Overview

This document describes how to install and onboard Cisco User Defined Network (UDN) 1.5 for a new deployment with Cisco DNA Center Release 2.3.3.

## Prerequisites for Installing the Cisco User Defined Network

Before installing the Cisco User Defined Network, the following prerequisites must be fulfilled:

- Cisco DNA Center is upgraded to Release 2.3.3 or later.

For more information, see the [Cisco DNA Center Installation Guide](#).

- Log in to the Cisco DNA Center GUI and verify that the applications you need are in the **Running** state.

In the Cisco DNA Center GUI, click the menu icon ( ≡ ) and choose **System** > **Software Updates** > **Installed Apps**.

For more information, see [Cisco DNA Center Upgrade Guide](#).

- APs have joined Cisco Wireless Controller.
- Discover devices such as Cisco Wireless Controller and APs in your network using the **Discovery** feature so that the discovered devices are listed in the **Inventory** window.
- Discovered devices should be reachable and in Managed state on the **Inventory** window. For more information, see the [Cisco DNA Center User Guide](#).
- Make sure that you have Cisco (CCO) account ID and password.

## Related Documentation

We recommend that you read the following documents relating to Cisco User Defined Network (UDN).

*Table 1: Related Documentation*

| For This Type of Information...   | See This Document...   |
|---|--|
| Information about Information about Cisco User Defined Network GUI and its features.    | <a href="#">Cisco User Defined Network Cloud User Guide</a>                  |
| Information about Cisco User Defined Network (UDN) mobile application and its features. | <a href="#">User Guide for Cisco User Defined Network Mobile Application</a> |
| Use of the Cisco DNA Center GUI and its applications.                                   | <a href="#">Cisco DNA Center User Guide</a>                                  |
| Installation and configuration of Cisco DNA Center, including postinstallation tasks.   | <a href="#">Cisco DNA Center Installation Guide</a>                          |
| Upgrade information for your current release of Cisco DNA Center.                       | <a href="#">Cisco DNA Center Upgrade Guide</a>                               |
| Supported devices, such as routers, switches, wireless APs, and software releases.      | <a href="#">Cisco DNA Center Compatibility Matrix</a>                        |



## CHAPTER 2

# Install Cisco User Defined Network

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- [Day 0 Workflow to Install Cisco User Defined Network for New Deployment](#), on page 3

## Day 0 Workflow to Install Cisco User Defined Network for New Deployment

Use this procedure if you are installing Cisco User Defined Network for the first time.

### Before you begin

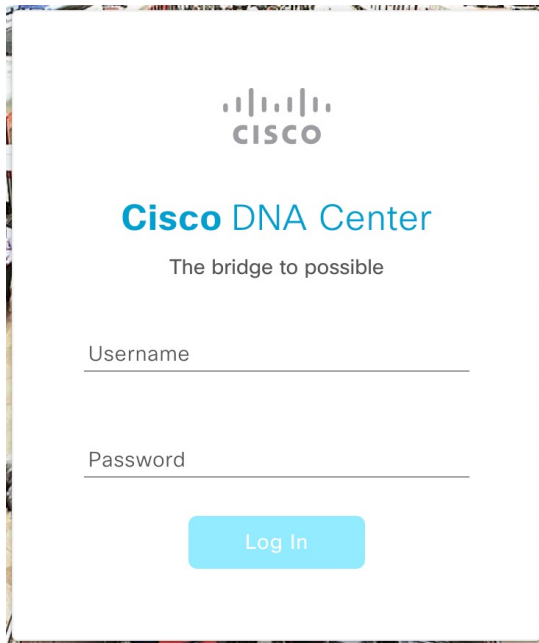
Ensure that you have Cisco (CCO) account and password, which is required to create a new Cisco DNA Center Cloud account.

To create a Cisco (CCO) account, go to [Cisco.com](https://cisco.com) and click **Log in** > > **Sign up** at the top-right corner of the window.

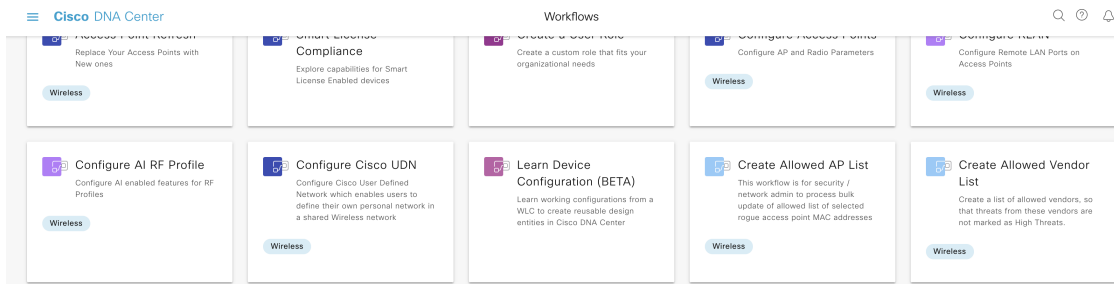
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### Step 1

Log in to Cisco DNA Center using username and password assigned to you by the Cisco DNA Center administrator.

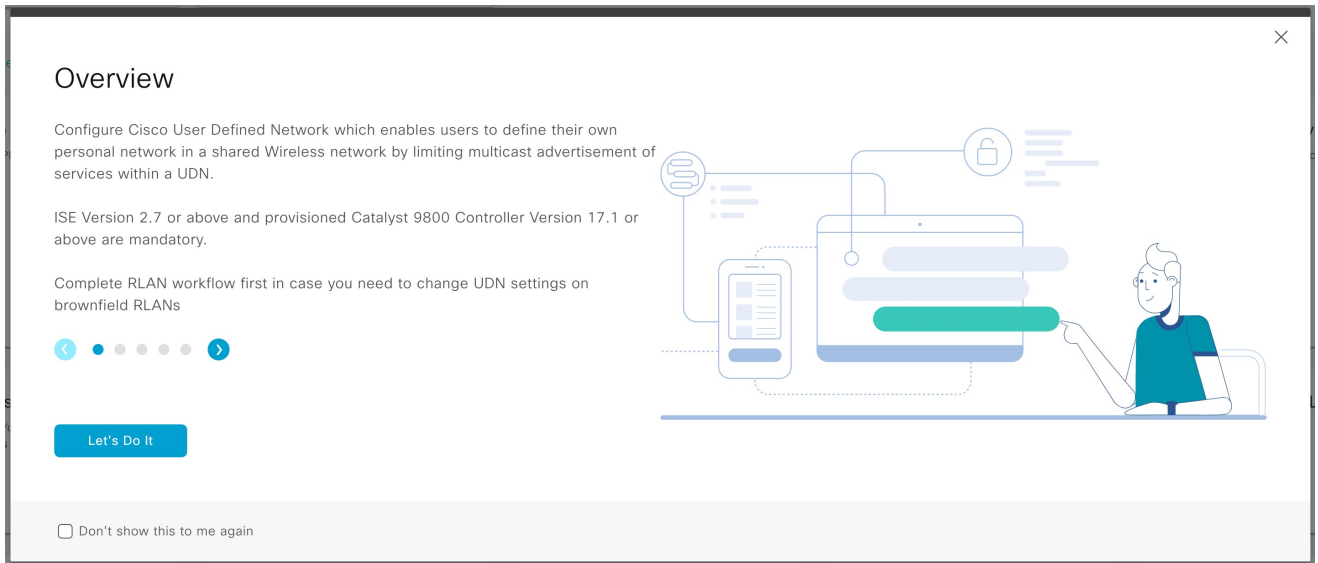


**Step 2** In the Cisco DNA Center GUI, click the menu icon (☰) and choose **Workflows > Configure Cisco UDN**.

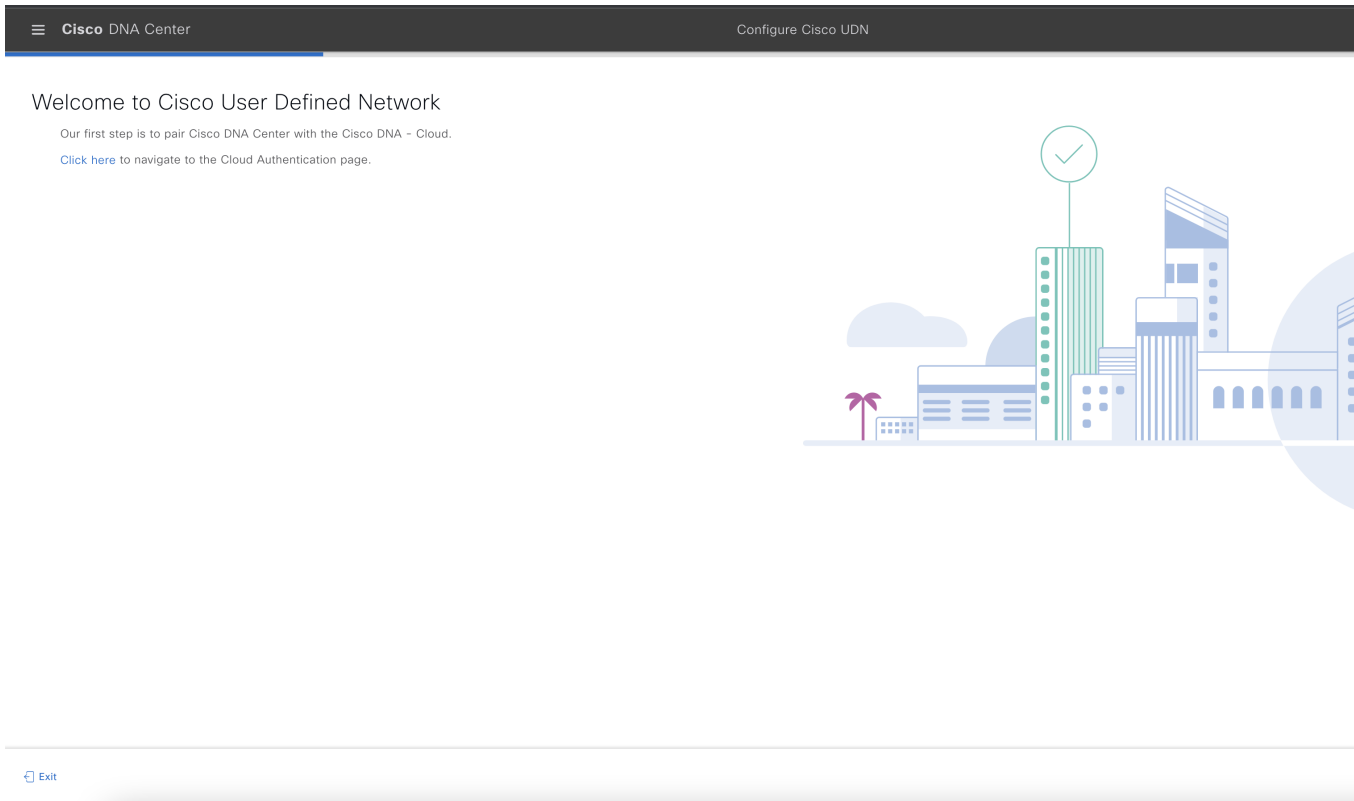


**Step 3** If a task overview window opens, click **Let's Do It** to go directly to the workflow.



**Step 4**

In the **Welcome to Cisco User Defined Network** window, click **Click here** to navigate to the **Cloud Authentication** window to establish a connection between Cisco DNA Center and Cisco DNA Cloud portal.

**Step 5**

In the **Cloud Authentication** window, click **Where did I get my token encryption key?** and click **Go to the Portal** in the dialog box.

The screenshot shows the Cisco DNA Center interface. The left sidebar contains a search bar and a list of settings categories: Cisco Accounts, PnP Connect, Cisco.com Credentials, Smart Account, Smart Licensing, SSM Connection Mode, Device Settings, External Services, and IP Address Manager. The main content area is titled 'Cloud Authentication' under 'Settings / External Services'. It explains that authentication is established between Cisco DNA Center and the Networking Experiences portal (dna.cisco.com) using token encryption keys. A link 'Where did I get my token encryption key?' is provided. A callout box instructs users to login to their Networking Experience account to generate an Authorization Token. A graphic shows a mountain and a city. Below this, a message states 'No Token Keys Saved' and explains that once a token is generated in a cloud service, it should be added here. An 'Add OTP Key' button is visible.

The **Cisco DNA - Cloud** application opens in a new tab.

### Step 6

To create a new Cisco DNA - Cloud account, click **Create a Cisco account** and click **Continue**.

The screenshot shows the 'Cisco DNA - Cloud' Welcome screen. The title is 'Cisco DNA - Cloud' and the subtitle is 'Welcome'. The text reads: 'Register one account for Cisco DNA - Cloud so you can subscribe to multiple cloud offers. You will need a Cisco account to create an account for Cisco DNA - Cloud. [Create a Cisco account](#)'. A blue 'Continue' button is centered at the bottom.

### Step 7

In the **Log In** window, enter your Cisco account ID and click **Next**.

US  
EN

**CISCO**

Log in

Email

Next

[Unlock account?](#)

[Forgot email address?](#)

[Help](#)

Don't have an account? [Sign up](#)

[Contact support](#) [Privacy](#) [Terms & Conditions](#) [Cookies](#) [Trademarks](#)

**Step 8** Enter the CCO password, and click **Log in**.

< Back

US  
EN

**CISCO**

Log in

Email

Password

Log in

[Forgot password?](#)

[Unlock account?](#)

[Help](#)

Don't have an account? [Sign up](#)

[Contact support](#) [Privacy](#) [Terms & Conditions](#) [Cookies](#) [Trademarks](#)

**Step 9** In the **Name your account** field, enter a name to identify your organization and click **Continue**.

**Cisco DNA - Cloud**

Welcome, [redacted] [redacted]

What's the name of your organization, company, or team?

Name your account\*

Ex. Hearst or Hearst Construction

Cancel Continue

**Step 10** In the **Confirm CCO Profile** window, follow the on-screen instructions, and click **Create Account**.

**Cisco DNA - Cloud**

Confirm CCO Profile

Confirm that this is the Cisco profile you would like to register with, or [login to a different CCO](#).

Your Name [redacted]

Your Email [redacted].com

Organization Name [redacted] >

I agree that Cisco DNA - Cloud is governed by the [Cisco End User License Agreement](#) and that I have read and acknowledge the [Cisco Privacy Statement](#).

*Note: If you do not have the authority to bind your company and its affiliates, or if you do not agree with the terms of the Cisco Universal Cloud Agreement, do not check this box.*

Create Account

The Cisco DNA Cloud account is created successfully and the **Cisco DNA - Cloud** home page appears which lists all the available offers as a card.

Subscribe and maintain your offers more efficiently with Cisco DNA - Cloud.

Select an offer below and enjoy your trip with Cisco DNA - Cloud.

**Offers**

- SAN Insights Discovery**  
SAN Insights Discovery as a SaaS offering on DNAC Cloud. This is a much-awaited pre-sales tool for Cisco Sales, Account team and Partners. It provides a comprehensive health check of any customer SAN fabric. SID works for existing Brocade and Cisco SAN fabrics. SID helps the Cisco team to better understand what the customer has and how Cisco can help moving forward.  
[Subscribe](#)  
[Learn More](#)
- Talos Threat Intelligence**  
The offer connects with Talos Threat Intelligence cloud periodically to check for Intelligence Insights (IP reputation data, etc.), fetches it and makes it available to Cisco DNA Center deployments which are subscribed to this offer. On Cisco DNA Center, Cisco AI Endpoint Analytics consumes these insights to provide visibility about the endpoints which are communicating to untrusted IP addresses for further user action.  
[Subscribe](#)
- Cisco User Defined Network**  
Cisco User Defined Network enables users to define their own personal network in a shared Wireless network by limiting multicast advertisement of services within a UDN.  
[Subscribe](#)  
[Learn More](#)

**Step 11**

Subscribe to an offer hosted on a specific region before registering Cisco DNA Center to a region.

- The Cisco DNA - Cloud home page displays all the available offers.
- From the **Cisco User Defined Network** offer's card, click **Subscribe**.

The **Set Up Your Subscription** slide-in pane appears.

Subscribe and maintain your offers more efficiently with Cisco DNA - Cloud.

Select an offer below and enjoy your trip with Cisco DNA - Cloud.

**Offers**

- SAN Insights Discovery**  
SAN Insights Discovery as a SaaS offering on DNAC Cloud. This is a much-awaited pre-sales tool for Cisco Sales, Account team and Partners. It provides a comprehensive health check of any customer SAN fabric. SID works for existing Brocade and Cisco SAN fabrics. SID helps the Cisco team to better understand what the customer has and how Cisco can help moving forward.  
[Subscribe](#)  
[Learn More](#)
- Talos Threat Intelligence**  
The offer connects with Talos Threat Intelligence cloud periodically to check for Intelligence Insights (IP reputation data, etc.), fetches it and makes it available to Cisco DNA Center deployments which are subscribed to this offer. On Cisco DNA Center, Cisco AI Endpoint Analytics consumes these insights to provide visibility about the endpoints which are communicating to untrusted IP addresses for further user action.  
[Subscribe](#)
- Cisco User Defined Network**  
Cisco User Defined Network enables users to define their own personal network in a shared Wireless network by limiting multicast advertisement of services within a UDN.  
[Subscribe](#)  
[Learn More](#)

**Set Up Your Subscription**

You have access to this region and will be able to log into this offer right away. You can manage region access at [User Management](#).

Select an offer and a corresponding region for your subscription.

Offer  
Cisco User Defined Network

Region  
us-west-2

I agree that Cisco DNA - Cloud is governed by the [Cisco End User License Agreement](#) and that I have read and acknowledge the [Cisco Privacy Statement, Terms and Conditions](#).

*Note: If you do not have the authority to bind your company and its affiliates, or if you do not agree with the terms of the Cisco Universal Cloud Agreement, do not check this box.*

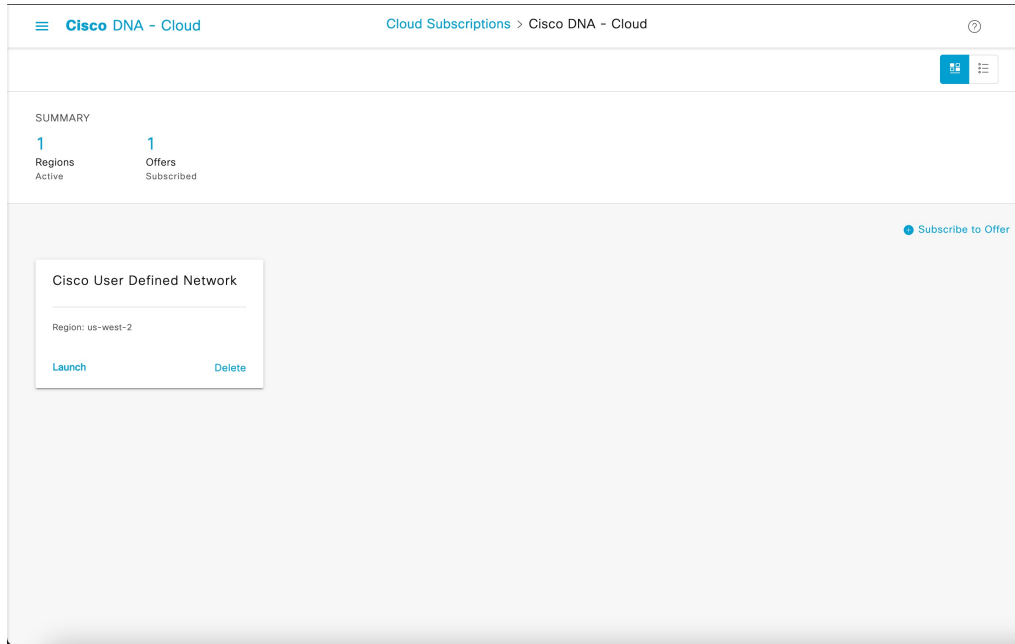
OFFER DETAILS

[Cancel](#) [Subscribe Offer](#)

- From the **Offer** drop-down list, choose **Cisco User Defined Network**.
- From the **Region** drop-down list, choose the region where your on-premise Cisco DNA Center is located.

- Accept the agreement by checking the check box.
- Click **Subscribe Offer**.

Once the subscription is successful, the subscribed offer appears as a card in the **Cisco DNA - Cloud** home page. You can no longer access the Day 0 home page with all the offer cards. If you have already subscribed to an existing offer, then only the dashboard and the list views are available.

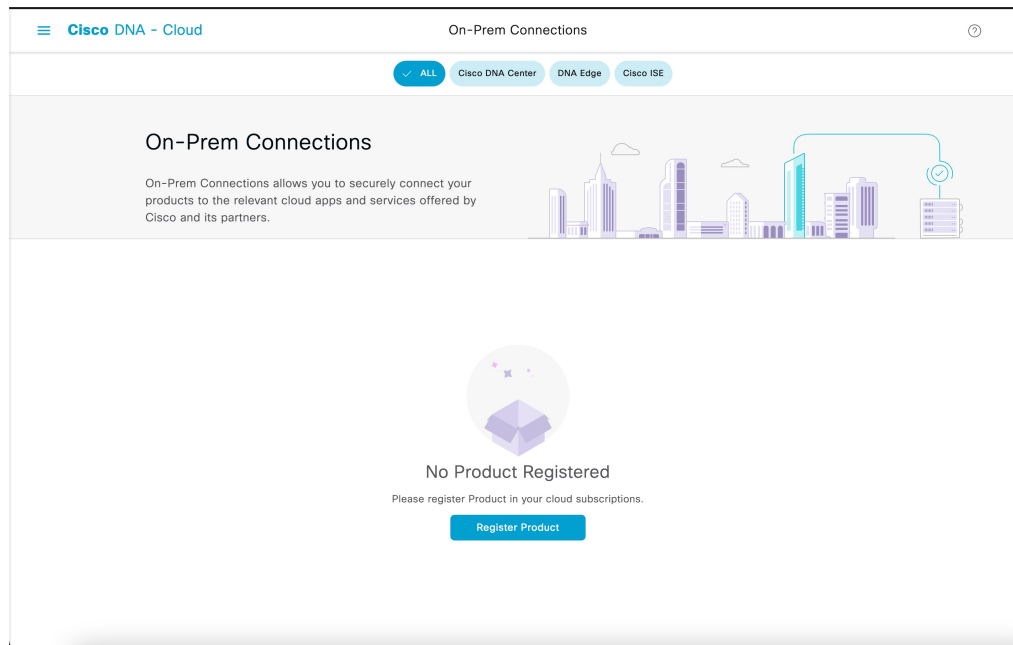


**Step 12** Register Cisco DNA Center to your cloud subscription.

- a) In the **Cisco DNA - Cloud** GUI, click the menu icon ( ≡ ) and choose **On-Prem Connections**.

By default, the **ALL** tab opens and is highlighted with a blue tick mark. You can register either from the **ALL** tab or from the **Cisco DNA Center** tab.

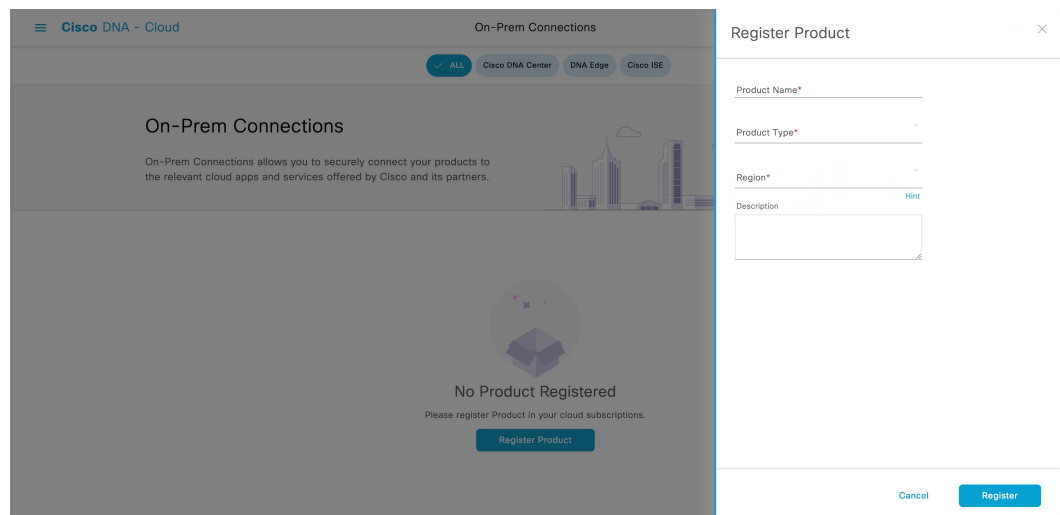
**Note** Cisco DNA Center registration fails intermittently on Cisco DNA - Cloud portal: This is an intermittent issue which happens during every alternate deregistration due to communication failure from Cisco DNA - Cloud to Cisco DNA Center in all regions.



b) Follow these steps to register from the **ALL** tab.

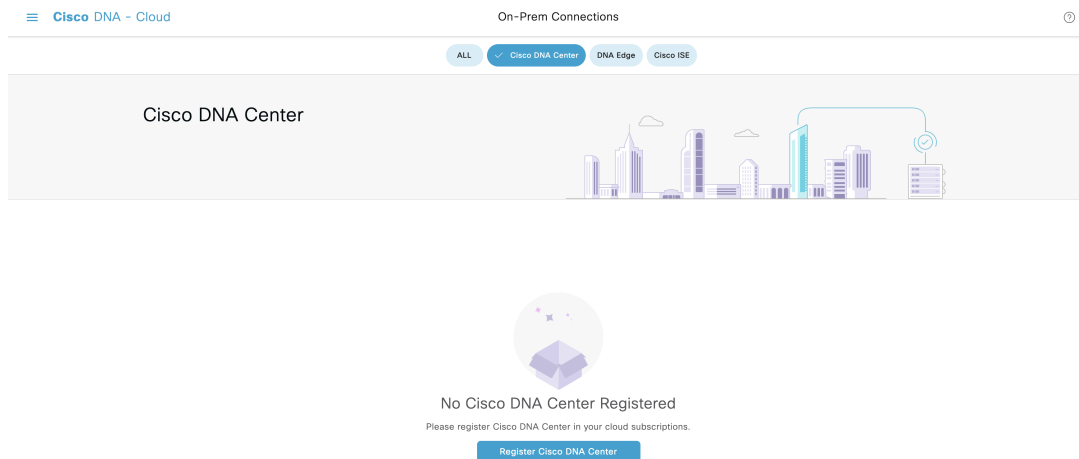
- Click **Register Product**.

The **Register Product** slide-in window appears.

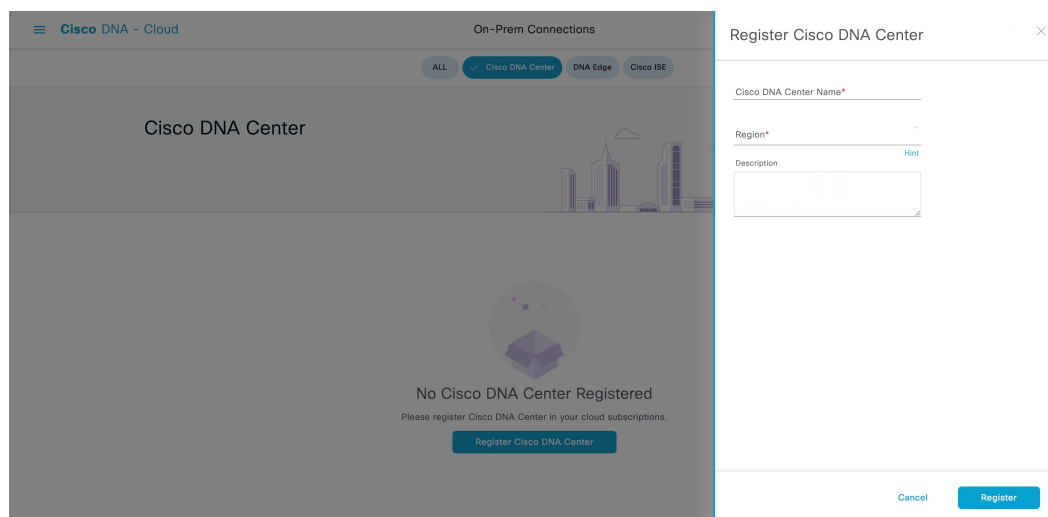


- In the **Product Name** field, enter a name.
- From the **Product Type** drop-down list, choose **Cisco DNA Center**.
- From the **Region** drop-down list, choose the location of the on-premise **Cisco DNA Center**.
- Click **Register**.
- In the **OTP Generated** dialog box, copy the OTP and close the dialog box.

- Alternatively, follow these steps if you are registering from the **Cisco DNA Center** tab.



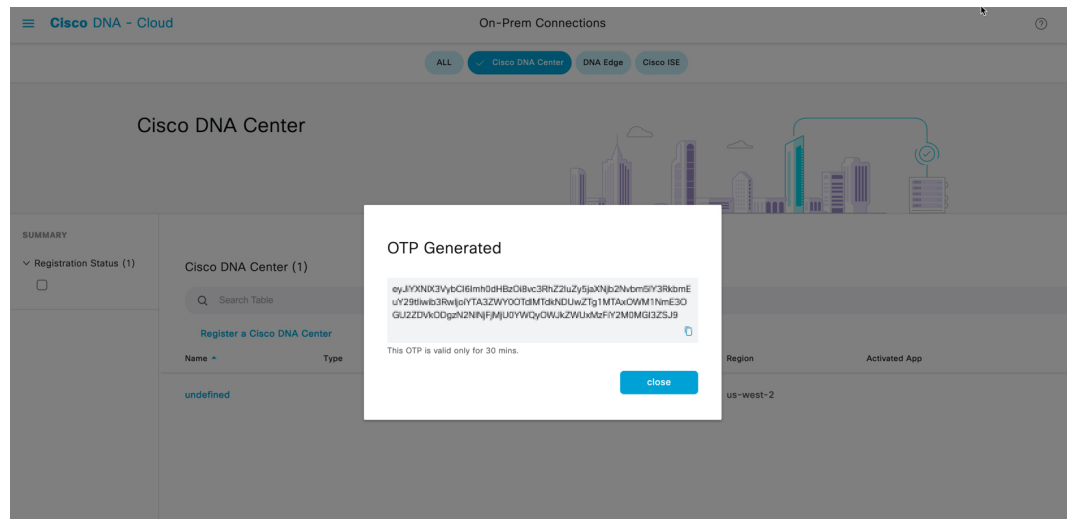
- Click **Register Cisco DNA Center** to securely connect your products to the relevant cloud applications and services offered by Cisco and its partners.



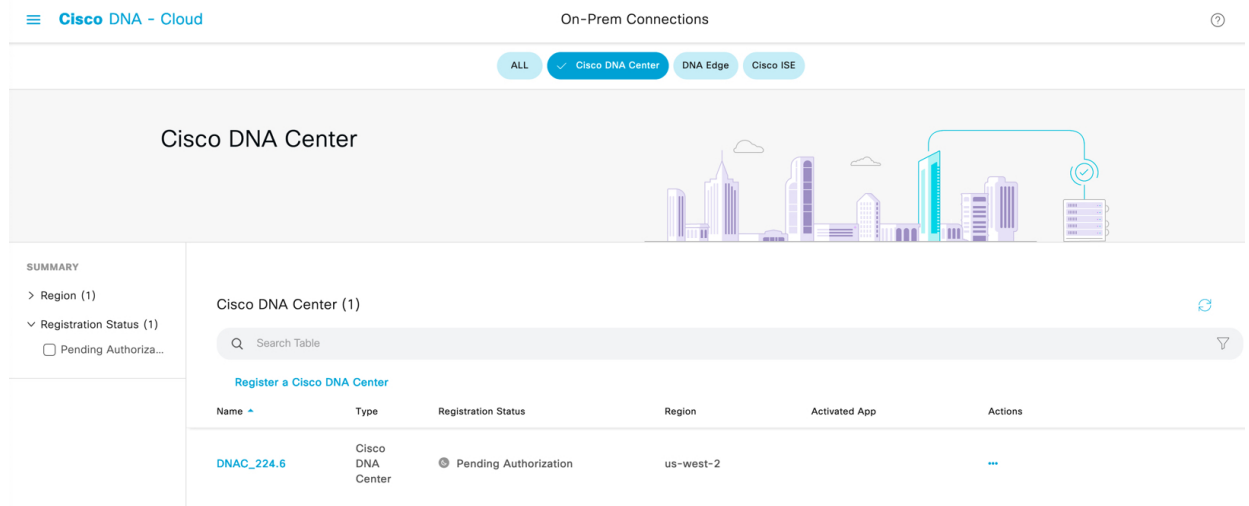
The **Register Cisco DNA Center** slide-in pane appears.

- In the **Cisco DNA Center Name** field, enter the name of the on-premise Cisco DNA Center.
- From the **Region** drop-down list, choose the location of the Cisco DNA Center.
- Click **Register**.
- In the **OTP Generated** dialog box, click **Copy** to copy the OTP and click **close**.



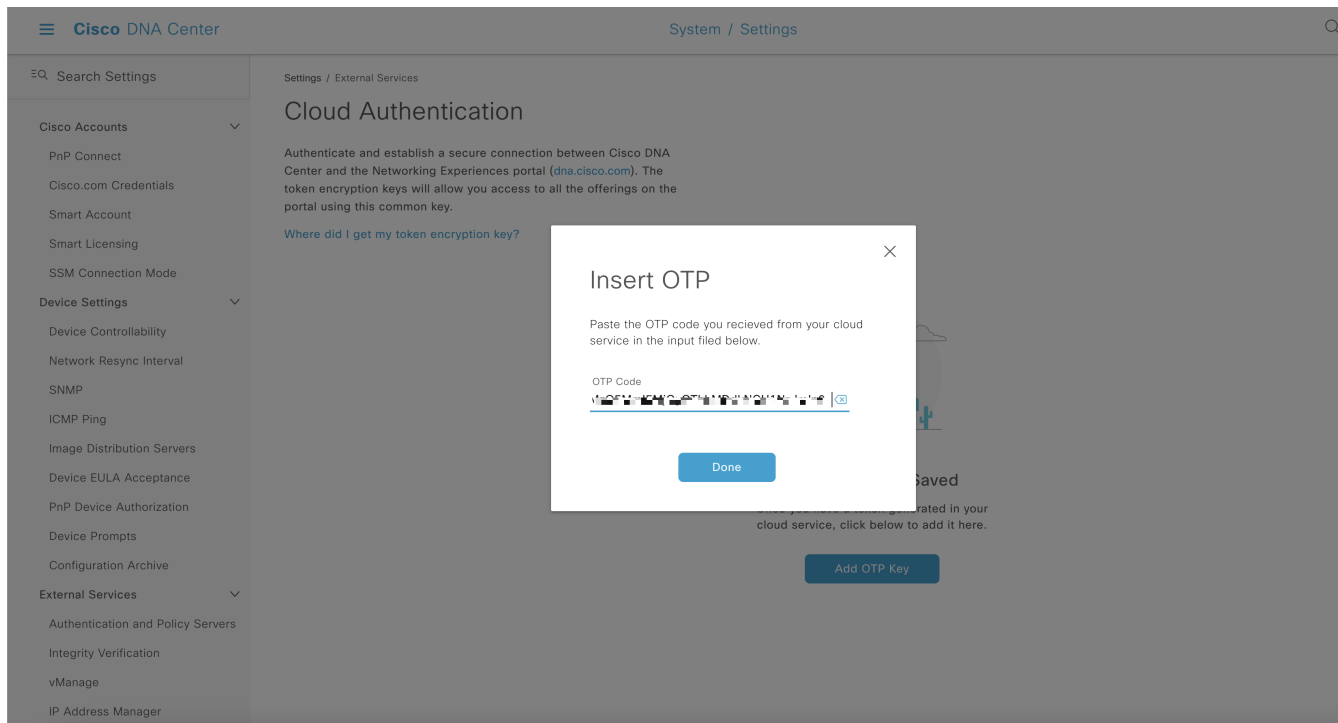


- The **Registration Status** column shows the status as **Pending Authorization**.



**Step 13** Navigate back to **Cloud Authentication** window on Cisco DNA Center to establish the connection:

- In the Cisco DNA Center GUI, click the menu icon (**≡**) and choose **System > Settings > External Services > Cloud Authentication**.
- In the **Cloud Authentication** window, click **Add OTP Key**.



- c) In the **OTP Code** field, paste the OTP that you generated and copied in the Cisco DNA - Cloud application, and click **Done**.

The **Success** dialog box appears. Click **OK**.

#### Step 14

Enable sites and provision Cisco User Defined Network service on your network:

- Navigate back to the **Welcome to Cisco User Defined Network** window in the Cisco DNA Center GUI and click **Next**.
- In the **Select Sites** window, do the following:
  - From the **Select Sites** drop-down list, choose the sites where you want to enable the Cisco User Defined Network service
  - Click **Next**.

#### Step 15

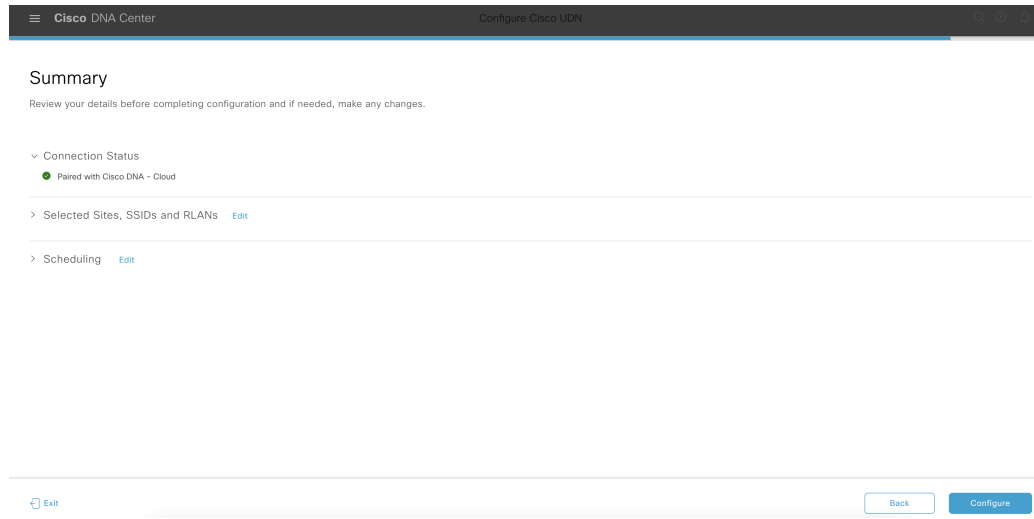
In the **SSID(s)** drop-down list, choose the SSIDs where the Cisco User Defined Network service will be enabled.

- To limit the unicast traffic for the selected SSID, turn the **Unicast Traffic Containment** toggle button on.
- Click **Apply Individually** to apply unicast traffic containment for a specific site.
- Click **Apply to all** to apply the unicast traffic containment for all sites.
- Click **Next**

#### Step 16

In the **Scheduling** window, click **Now** or **Later** to indicate when you want to provision the Cisco User Defined Network service.

- In the **Summary** window, review the configuration summary details. To make changes, click Edit next to the group of settings that you want to change.
- Expand the **Connection Status** area to view the connection status between Cisco DNA Center and Cisco UDN Cloud. A success message saying Paired with Cisco DNA - Cloud appears after establishing a connection between **Cisco DNA Center** and **Cisco UDN Cloud**.



c) Click **Configure**.

A check mark appears next to each step as it gets completed in the next window.

### Step 17

Click **Launch UDN Cloud Service** to launch the Cisco UDN Cloud portal to configure the following if you have not configured yet:

- Connect your active directory and select attributes
- Map roles and permissions for your users
- Customize the mobile application

