IPAM Integrator

Catalog

The Catalog allows you to view all the applications that you have installed or enabled on the Cisco DCNM. Few applications are installed and are operational by default, when you install the Cisco DCNM.

The following applications appears based on the Cisco DCNM Deployments:

- Health Monitor (2.1)
- PTP Monitoring (1.1)
- Kibana (2.0)
- Programmable report (1.1.0)
- Elastic Service (1.1)
- Compliance (4.0.0)
- Debug Tools (2.1)
- IPAM Integrator (1.0)
- Endpoint Locator (2.1)
- Kubernetes Visualizer (1.1)
- vmmplugin (4.1)

Note The applications started by default, or also installed on the DCNM utilizes infrastructure services are operational, by default.

You can install more applications from the App Center, via the Web UI.

For instructions about downloading, adding, starting, stopping, and deleting applications from the Cisco DCNM Web UI, see Installing and Deploying Applications.

IPAM Integrator

From Cisco DCNM Release 11.4(1), you can use the IPAM Integrator application to view the IP allocation in IPAM server and relevant networks defined in DCNM. In DCNM 11.4(1), IPAM integration is with Infoblox.

The IPAM Integrator application in DCNM 11.4(1) allows read-only access to the IPAM and DCNM servers. Currently, IPv4 overlay DHCP is supported. In read-only access mode, IPAM records are retrieved and mapped to DCNM networks in Easy Fabric and eBGP VXLAN fabric. You can also choose to sync up records on-demand between DCNM and IPAM server. A Infoblox user who has the API permission and at least IPv4 network read permission of IPAM will be able to view the retrieved Infoblox records.

In addition to the matched subnets that exist on both IPAM server and DCNM, the IPAM Integrator application lists the subnets with conflicting netmask for review.

You can also watch the video that demonstrates how to use the IPAM Integrator application to view the IP allocation in IPAM server and the relevant networks defined in DCNM. See Video: Using IPAM Integrator in Cisco DCNM.

Accessing IPAM Integrator

This procedure shows how to access IPAM integrator application.

Procedure

Step 1 Navigate to **Applications > Catalog**.

Step 2 Click the IPAM Integrator application icon to access the application. If application is not yet started, this action starts the application before accessing the GUI.

Step 3 Provide the required access details in the **Access Authentication** window.

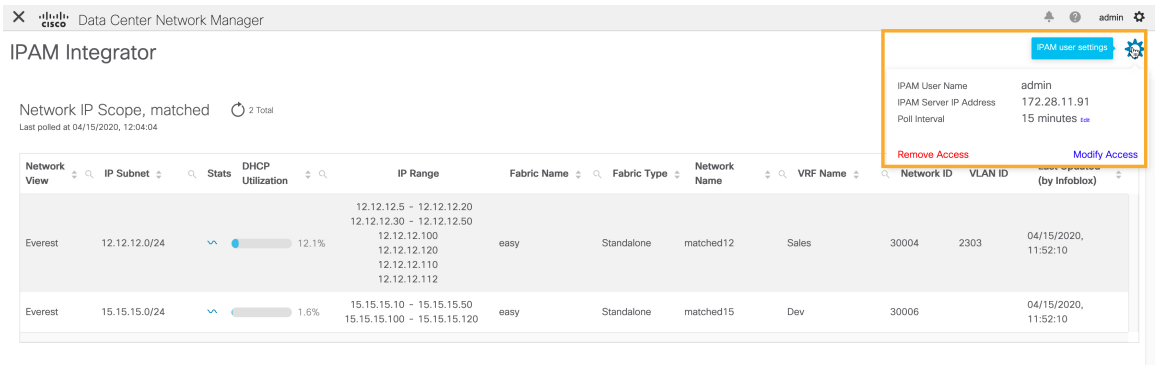
Note You can provide the access details of an Infoblox server or an Infoblox grid manager.

- **IPAM User Name** – Specifies the user name for the IPAM server. The Infoblox user has to be granted API permission for the application to retrieve data from Infoblox server via API.
- **Password** – Specifies the password for the IPAM server with respect to the username.
- **IPAM Server IP Address** – Specifies the IP address of the IPAM server.
- **Poll Interval (minutes)** – Specifies the time in minutes that determines how often you want the data to be retrieved from Cisco DCNM and IPAM server. The default value is 15 minutes. The range of the polling value is 2–60 minutes.

Step 4 Click **Create**.

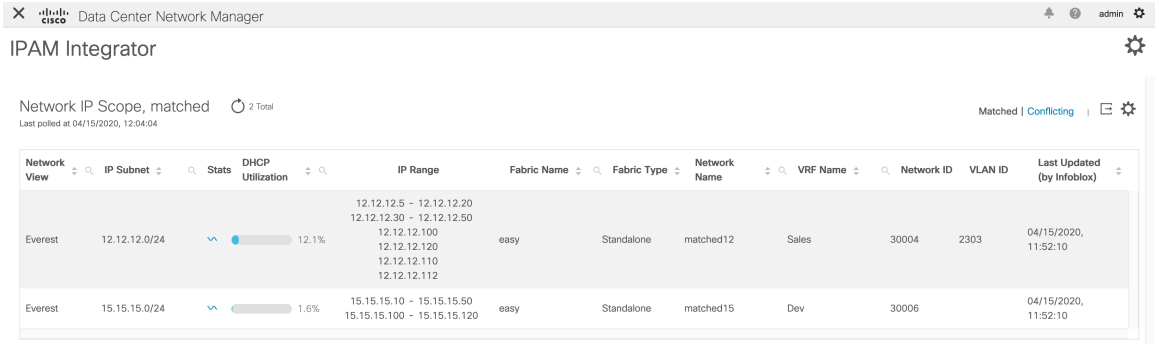
Step 5 After you access IPAM, you can remove or modify the access details using the **Settings** icon. You can also edit the poll interval using **Edit**.

Note Only the DCNM users with the **admin** role can add, update, and delete the access setting. Also, only Infoblox user who has been granted with API permission and at least IPv4 network read access of IPAM permission is able to view the retrieved Infoblox network records.



Viewing Network IP Scope

Network IP Scope is the landing page after you access the IPAM Integrator application.



The following table describes the fields retrieved from the IPAM server.

Field	Description
Network View	Specifies the network view, which is a single routing domain with its own networks and shared networks on the Infoblox server.
IP Subnet	Specifies the IP subnet defined in the IPAM server. A subnet, or subnetwork, is a segmented piece of a larger network. More specifically, subnets are a logical partition of an IP network into multiple, smaller network segments.
Stats	Click the icon under the **Stats** column to view the statistics for the utilization of the IP subnet. For more information, see Viewing Statistics for the Subnet Utilization, on page 4.
DHCP Utilization	Specifies the utilization percentage of a network in terms of the IP addresses that are leased out. Hover over the percentage value to view the number of allocated IPs and their details. In the Infoblox server, it takes time to calculate the DHCP utilization. The IPAM utilization is calculated approximately every 15 minutes on the Infoblox server, and the latest value will be reflected on the IPAM Integrator app after that.

IP Range	Specifies the IP range for the network. Hover over a range to view the enabled DHCP range, the reserved DHCP range, and the fixed addresses for a network.

The following table describes the fields retrieved from DCNM.

Field	Description
Fabric Name	Specifies the name of the fabric.
Fabric Type	Specifies the type of the fabric. It can be multi-site deployment (MSD), or a standalone easy fabric or an eBGP VXLAN fabric.
Network Name	Specifies the name of the network.
VRF Name	Specifies the name of the VRF.
Network ID	Specifies the network ID.
VLAN ID	Specifies the VLAN ID.
Last Updated (by Infoblox)	Specifies the date and time when the data was last updated by Infoblox. **Note** The date and time of the last poll are displayed under the **Network IP Scope** title.

Click **Export** to export the data in a .csv file.

For each field, you can sort the values by clicking the arrow icons, and search by clicking the **search** icon and entering a value.

Click the **Settings** icon above the fields to remove or add the fields to be displayed.

The polling of data is based on the following criteria:

- Poll interval value that the user configured initially in the **Access Authentication** window. It specifies how often you want the data to be retrieved from Cisco DCNM and IPAM.
- User can click the **Refresh** icon to receive instantaneous data from DCNM and IPAM server.
- DCNM Web UI automatically refreshes every 2 minutes and displays data retrieved from DCNM and Infoblox server.

  For example, if the poll interval is 15 minutes and user doesn't refresh (on-demand) the data during this 15-minute duration, the DCNM Web UI displays the same polling data after every 2-minute refresh until 15 minutes. After 15 minutes, new data is polled from DCNM and IPAM, and saved in the database. This new data is fetched by DCNM after a total of 16 minutes.

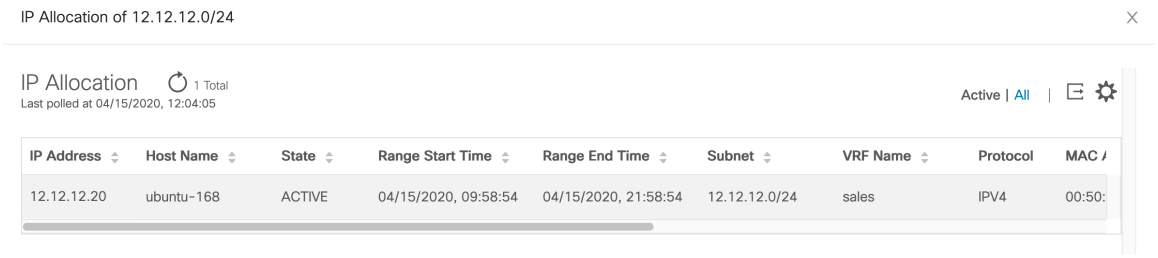
Viewing Statistics for the Subnet Utilization

Click the icon under the **Stats** column to view the statistics for the utilization of the IP subnet over a time.

From the **Time Range** drop-down list, select the time for which you want to view the statistics. These stats include utilization of subnet such as DHCP utilization, total allocations, dynamic allocations, and static allocations.

Viewing IP Allocation for Hosts

Click the IP range value under the **IP Range** column to view the IP allocation for each host.



The following fields are displayed for each host in the **IP Allocation** window. The data for these fields is retrieved from the IPAM server.

- IP Address
- Host Name
- State of the host, that is, active or free
- Range start time and end time
- Subnet
- VRF Name

- Protocol version
- MAC address
- DHCP server info such as IP address and server name
- Last requested by the host

For each field, you can sort the values by clicking the arrow icons, and search by clicking the **search** icon and entering a value.

By default, information about only active hosts are displayed. Click the **All** value to view information about all hosts retrieved from the IPAM server. Click **Export** to export the data in a .csv file.

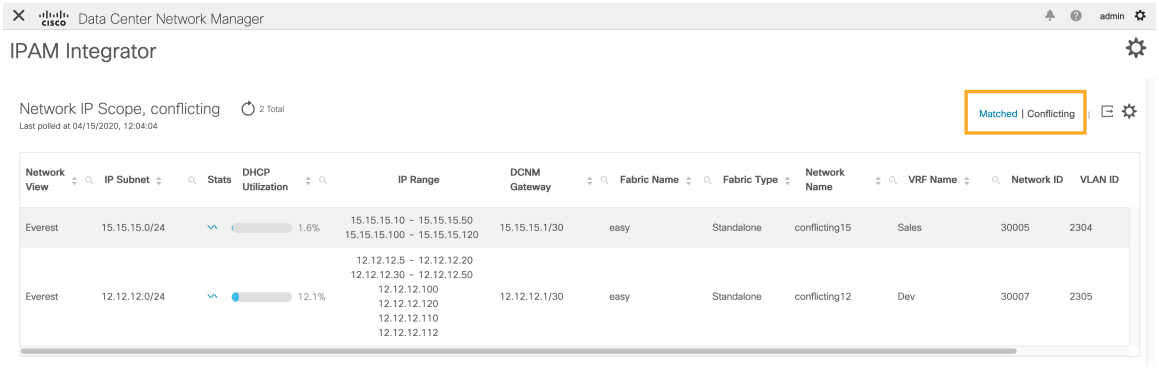
Hosts that were recently freed show as "FREE" in the **All** tab. The all the originally free hosts won't be shown as FREE. Only the hosts that were recently freed appear in this tab.

Click the **Settings** (gear) icon on the right-side to remove or add the fields to be displayed.

Viewing Conflicting Networks

IPAM Integrator detects conflicting networks defined in IPAM server and DCNM. You can view this info by clicking **Conflicting** in the **Network IP Scope** window.

For example, if one network is a subset of another, the conflicting IP addresses of the network are displayed under **Conflicting**.



The data is displayed similar to how the **Matched** data is displayed. You can click the IP range value under the **IP Range** column to view the IP allocation for each host.

Note that this table also lists the DCNM Gateway for the conflicting IP scopes in addition to the subnet information from the IPAM server.

For each field, you can sort the values by clicking the arrow icons, and search by clicking the **search** icon and entering a value.