DCNM Integration with ServiceNow

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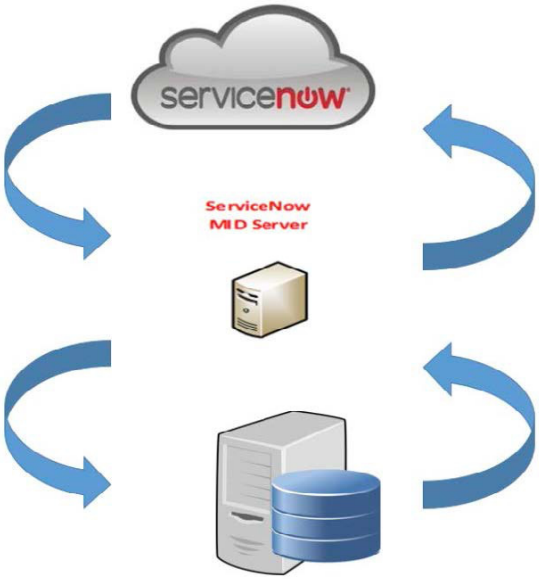
ServiceNow offers applications for IT Service Management (ITSM) and IT Operations Management (ITOM). There are four primary modules - inventory discovery, incident management, event management & change management workflows. Starting from Cisco DCNM Release 11.3(1), we provide Cisco DCNM integration with ServiceNow. This enables you to integrate end-user IT data with the ServiceNow platform. The integration provides a default set of ServiceNow custom tables which are populated with configuration data.

To utilize this functionality, install the DCNM application in the ServiceNow customer instance and provide the DCNM mid-server details. Information or data regarding switch details, port details, and alarms, is retrieved to the ServiceNow Configuration Management Database (CMDB) tables. By default, data is retrieved every 15 minutes and displayed.

Details about the switches and ports of each switch are collected from the DCNM inventory. The alarms are collected by polling DCNM. Alarms are then filtered and categorized based on their type, such as, CPU, MEMORY, POWER, LINKSTATE, EXTERNAL, ICMP, SNMP, and SSH. The alarms are then stored in an Events table. These events are then used to generate incidents for the CPU, MEMORY, SNMP, and SSH categories. The source, description, severity and category of each alarm is stored. When an alarm is cleared on DCNM, it is also cleared on ServiceNow in the next poll cycle. When polling of alarms is initiated for the first time, the alarms that were raised in the last seven days are pulled in from DCNM. In case there is a gap of more than seven days between collection of alarms, the old alarms are cleared and the polling process is reinitiated.

The DCNM application on ServiceNow runs scheduled scripts and connects with the mid-server which in turn connects with DCNM to retrieve data. The DCNM sends the requested data to the mid-server which then passes on the data to DCNM application on ServiceNow. The tables in the DCNM instance on ServiceNow are then populated with this retrieved data.



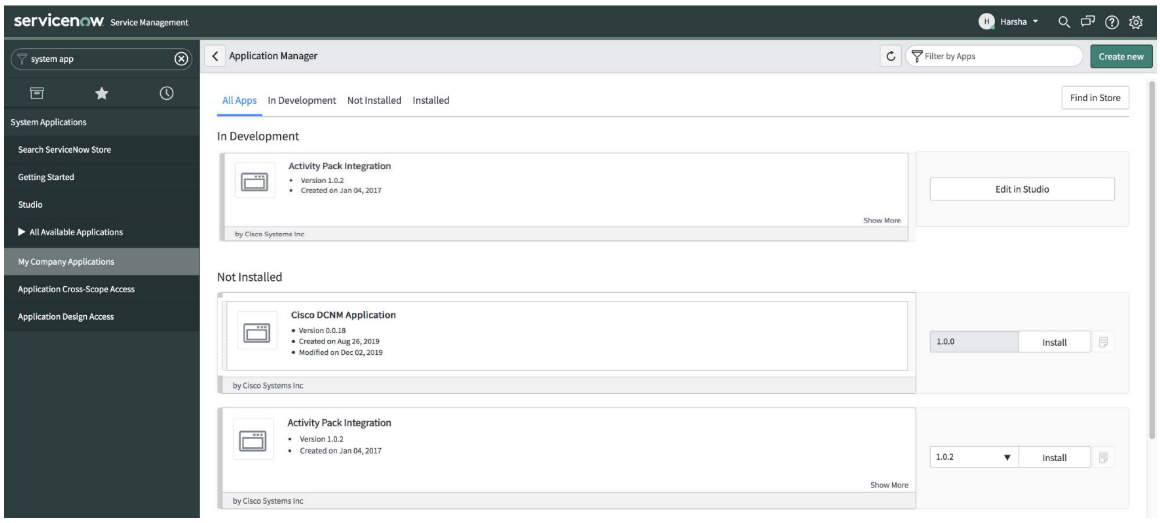
Guidelines and Limitations of DCNM Integration with ServiceNow

- Details about only one mid-server should be added in the **Cisco DCNM>Properties** table.
- Scheduled scripts to retrieve data are run only after insertion of a server record in the **Cisco DCNM>Properties** table.
- In case the mid-server IP Address and credentials in the **Cisco DCNM>Properties** table are changed, the data that was imported using the previous mid-server is deleted from the application scope tables. However, data that was imported to the ServiceNow CMDB (global scope) remains and is not deleted.
- To ensure optimal performance in the ServiceNow database, each entry is matched with the switch database ID and IP Address ensuring that there is no duplication of entries.
- Entries in the cmdb_ci_ip_switch table have to be manually deleted in case a new server is added in the **Cisco DCNM>Properties** table.

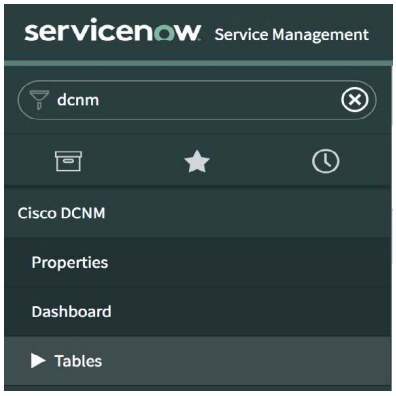
Installing and Configuring the Cisco DCNM Application on ServiceNow

Procedure

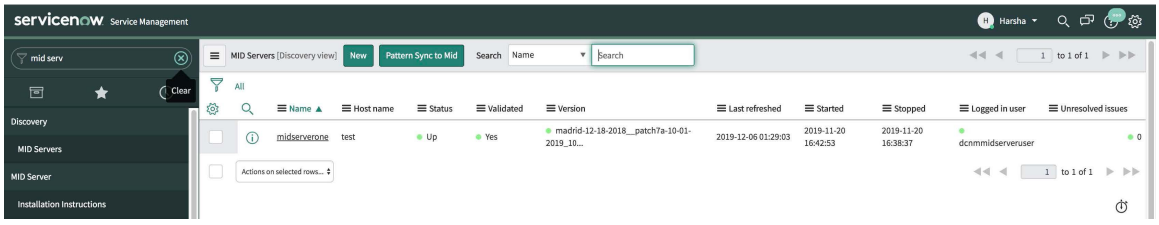
Step 1 Log in to https://dcnm1.service-now.com. Select **System Applications** > **Applications**. Install the **Cisco DCNM Application** from the **All Apps** tab.



Step 2 After installation is complete, verify that the Cisco DCNM Properties and Dashboard tabs are appearing in the application.

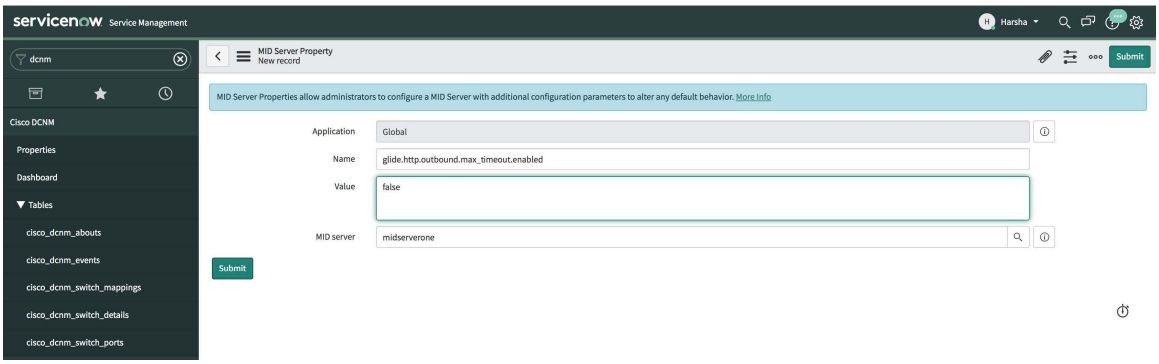


Step 3 Choose **MID Servers** and click the MID Server that is used for DCNM integration.

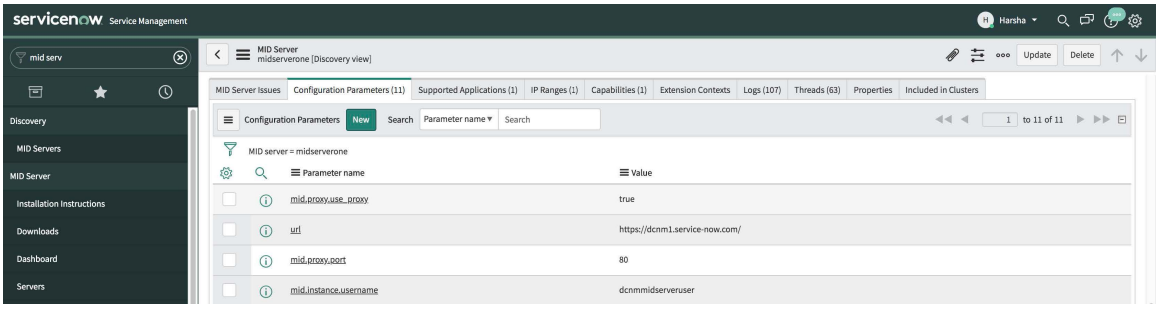


Step 4 Scroll down and click the **Properties** tab. Click **New** and add the property given below in the **MID Server Property New record** window. Click **Submit**.

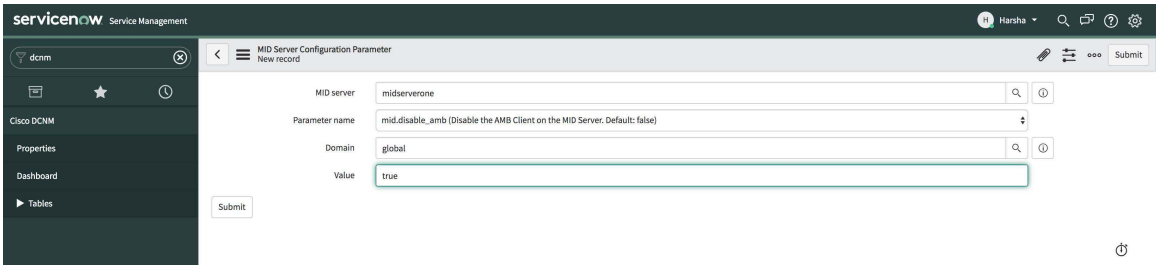
Name	Type	Value
glide.http.outbound.max_timeout.enabled	True/false	False



Step 5 Now, select the **Configuration Parameters** tab.

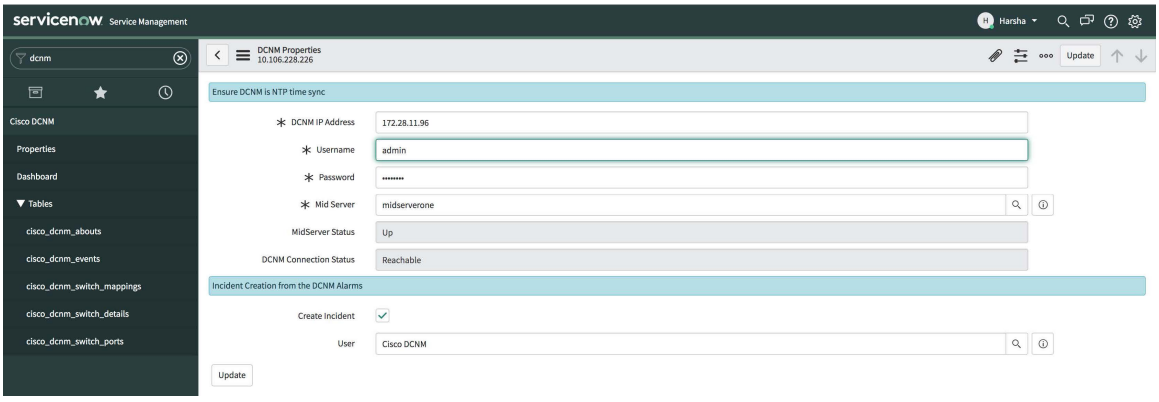


Step 6 In the **Configuration Parameters** tab, click **New**. Enter the required details in the fields.



Step 7 Click **Submit** to set up the MID Server.

Step 8 Choose **Cisco DCNM > Properties**. Click **New Server**. Enter the required parameters.



DCNM IP Address - IP Address of the DCNM.

Username - Enter the username used to log in to DCNM.

Password - Enter the password used to log in to DCNM.

Note Access should be provided only for DCNM admins.

Mid server - Specify the name of the midserver to be used. The name is auto-populated as you type. You can also click the search icon next to this field to bring the MID Servers window. You can then select a MID Server from the list that is displayed.

User - Create a new user and add the user name in this field. The Caller field in the incidents that are created is populated with this user name. This field is auto-populated as you type. You can also click the search icon next to this field to bring the Users window. You can then select a user from the list that is displayed.

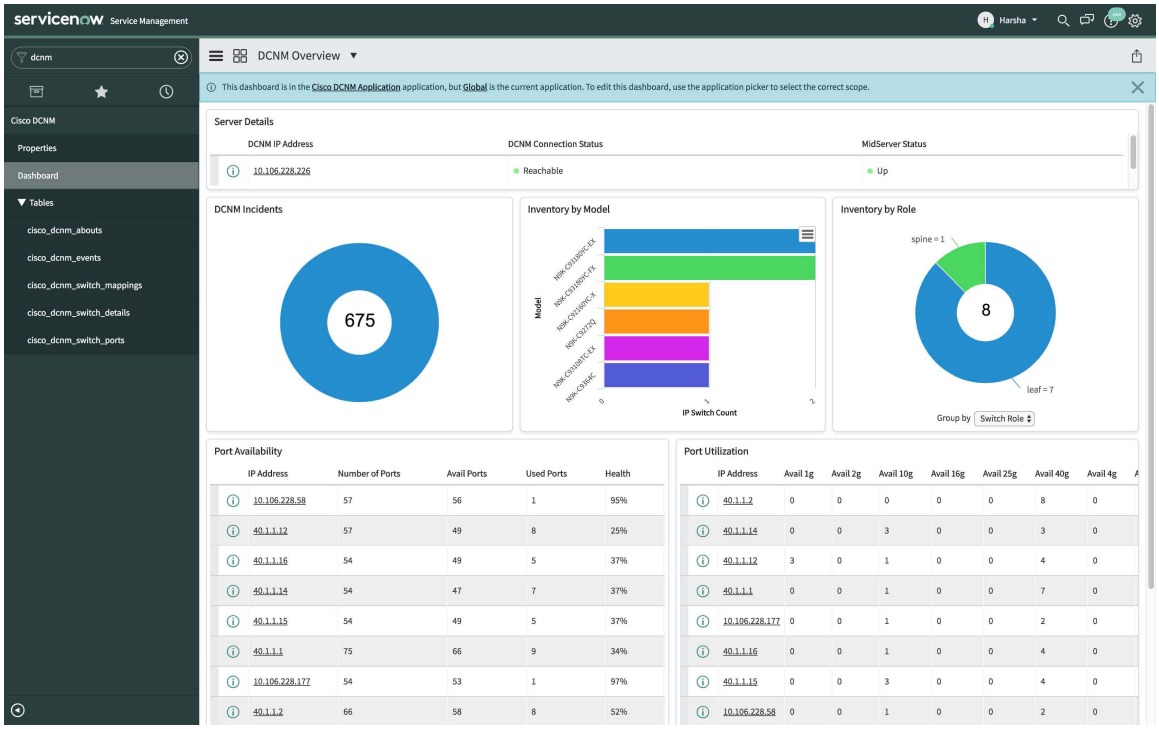
Create Incident - Select this checkbox in case you need incidents to be raised automatically for alarm events.

Now, Click **Submit**.

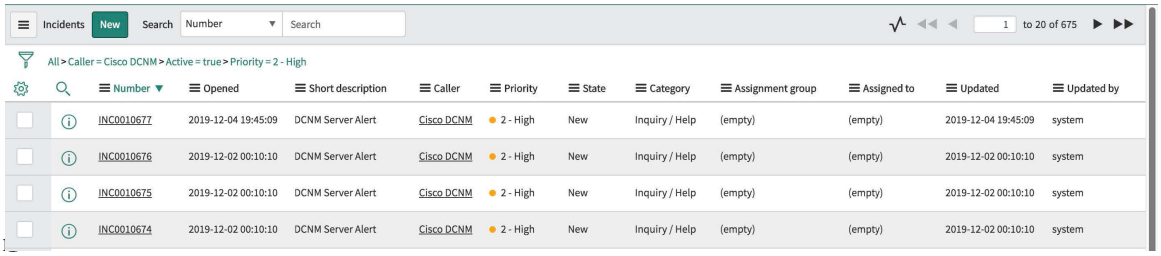
After the server details are submitted, the **DCNM Connection Status** field will display **Reachable** on successful communication with DCNM, and **Unreachable**, in case the connection is unsuccessful.

Viewing the Dashboard

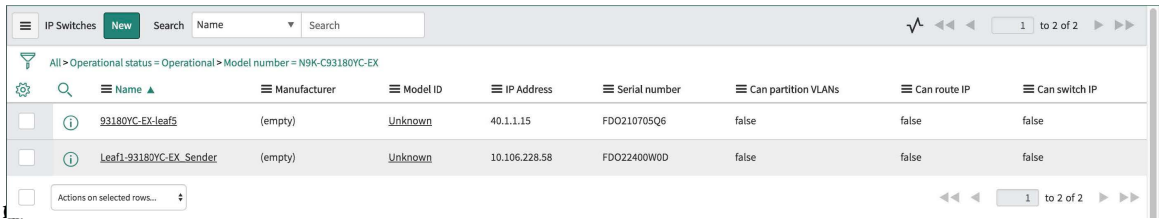
Choose **Cisco DCNM>Dashboard** to display the dashboard. The **DCNM IP Address**, the **DCNM Connection Status** and the **MidServer Status** are displayed at the top of the dashboard.



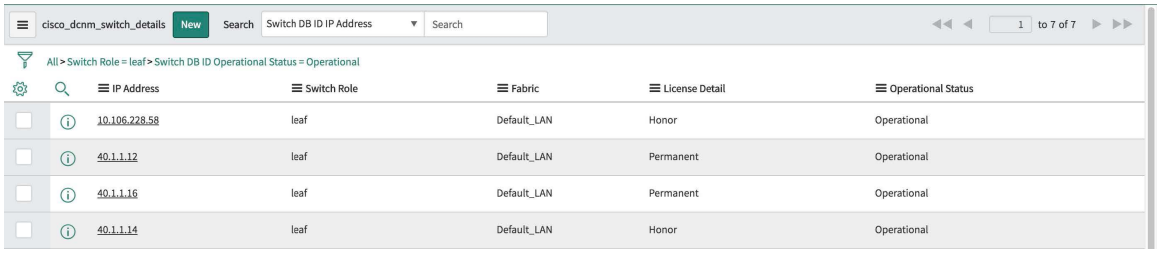
DCNM Incidents - This displays the number of incidents that have been raised based on the alarms retrieved from DCNM. Click the donut for more details about the



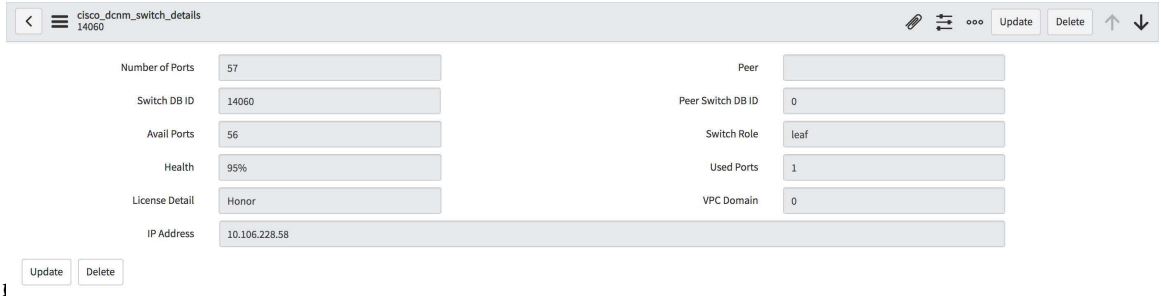
Inventory by Model - This displays the number and type of switches present in DCNM. Each band represents a device model. Click a band for more



Inventory by Role - This displays the number and types of switch roles present in DCNM. Click the required section to display the number of roles that are operational and click on that pictorial representation to display more details about the

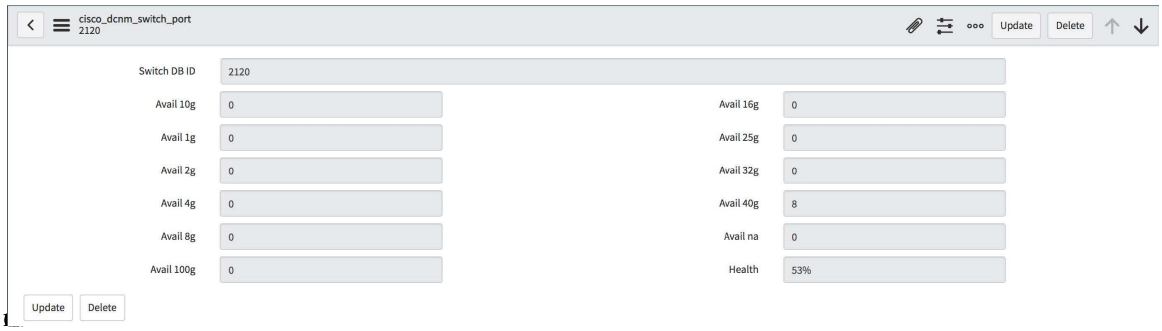


Port Availability - This displays information about port availability. The IP address along with the total number of ports, available ports, used ports and health of the switch id displayed. Click an IP address to display more



Port Utilization - This displays information about port utilization based on each IP address. The number of ports having 1G, 2G, 4G, 8G, 10G, 16G, 25G, 32G, 40G, and 100G availability, are displayed. Click an IP

address to display more



Troubleshooting DCNM Integration with ServiceNow

In case data is not being retrieved in the ServiceNow table:

- Check if the MID server is up or down.
- Check for information entries in system logs with the source “x_caci_cisco_dcnm”.
- Check the login credentials added in Cisco DCNM Properties.

For more information on DCNM application integration with ServiceNow, click here.