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Cisco DNA Center ITSM Integration Guide, Release 2.2.3

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Americas Headquarters

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CHAPTER

New and Changed Information

• New and Changed Information, on page 1

New and Changed Information

This table summarizes the new and changed features for this release and tells you where they are documented.

Table 1: New and Changed Features

Feature	Description	Where Documented
New Cisco WebEx integration with Cisco DNA Center.	This release supports a new Cisco WebEx integration with Cisco DNA Center. Click Subscribe to configure the event for a Cisco WebEx subscription.	new Cisco WebEx integration,
Basic ITSM (ServiceNow) CMDB synchronization bundle	With this release while configuring the basic ITSM (ServiceNow) CMDB synchronization bundle, the location reference field supports area and address as additional attributes.	For more information, see Configure the Basic ITSM (ServiceNow) CMDB Synchronization Bundle, on page 24



Note

The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on standards documentation, or language that is used by a referenced third-party product.



About Cisco DNA Center ITSM Integration

- Cisco DNA Center ITSM Integration Use Cases, on page 3
- Cisco DNA Center ITSM Support, on page 3

Cisco DNA Center ITSM Integration Use Cases

Cisco DNA Center supports the following types of integration use cases with other third-party applications:

- Network management integrations:
 - · Bidirectional IP grid synchronization
 - · Integration with third-party IP Address Management (IPAM) systems
- Operation integrations:
 - · ITSM event, problem, and incident management
 - · Approvals and schedule window information
 - · Assistance in issue triage and association
 - · Data exports for building custom dashboards and reports

Cisco DNA Center ITSM Support

Cisco DNA Center supports the following capabilities:

- Integrating Cisco DNA Center into ITSM processes of incident, event, change, and problem management.
- · Integrating Cisco DNA Center into ITSM approval and preapproval chains.
- Integrating Cisco DNA Center with formal change and maintenance window schedules.

The scope of the integration is primarily to monitor your network for assurance and maintenance issues, as well as for events that require software image updates for compliance, security, or any other operational triggers. Details about these issues are then published to an ITSM (ServiceNow) system or any REST endpoint.

Cisco DNA Center bundles are prebuilt solutions that enable integration between DNA capabilities and specific IT domains. The following bundles can be configured and used:

- Basic ITSM (ServiceNow) CMDB Synchronization
- Cisco DNA Center REST API
- Endpoint Attribute Retrieval with ITSM (ServiceNow)
- Network Issue Monitor and Enrichment for ITSM (ServiceNow)
- Rogue and aWIPS
- Cisco DNA Center Automation Events for ITSM (ServiceNow)



Cisco DNA Center ITSM Integration Workflows

- Cisco DNA Center Integration Supported Workflows, on page 5
- Cisco DNA Center Integration with a Generic REST Endpoint, on page 5
- Cisco DNA Center Integration with ServiceNow Without the Cisco DNA App, on page 11
- Cisco DNA Center Integration with ServiceNow Using the Cisco DNA App, on page 21
- Cisco DNA Center Endpoint Attribute Retrieval with ServiceNow, on page 41

Cisco DNA Center Integration Supported Workflows

The following Cisco DNA Center ITSM integration workflows are supported:

- Cisco DNA Center ITSM integration with a generic REST endpoint: For information about this workflow, see Cisco DNA Center Integration with a Generic REST Endpoint, on page 5.
- Cisco DNA Center ITSM integration with ServiceNow without using the Cisco DNA application for ServiceNow: For information about this workflow, see Cisco DNA Center Integration with ServiceNow Without the Cisco DNA App, on page 11.
- Cisco DNA Center ITSM integration with ServiceNow using the Cisco DNA application for ServiceNow: For information about this workflow, see Cisco DNA Center Integration with ServiceNow Using the Cisco DNA App, on page 21.
- Cisco DNA Center ITSM endpoint attribute retrieval with ServiceNow using the Cisco DNA application for ServiceNow: For information about this workflow, see Cisco DNA Center Endpoint Attribute Retrieval with ServiceNow, on page 41.

Cisco DNA Center Integration with a Generic REST Endpoint

The following table describes the procedure for configuring Cisco DNA Center integration with a generic REST endpoint. You may wish to publish network and SWIM events to a REST endpoint (outside of a configuration management database) for performance, security, event response, or other reasons.

Step	Description
Step 1	Install or upgrade to Cisco DNA Center, Release 2.2.3.
	For information about installing Cisco DNA Center, see the Cisco DNA Center Installation Guide.
Step 2	Determine the REST endpoint (system location and IP address) for the publication of the Assurance (network) events and/or SWIM events.
Step 3	Configure network events using Events window in the Cisco DNA Center GUI.
	You can configure REST API endpoints for events using the GUI. Click Platform > Developer Toolkit > Events . Review the network events listed in the window and click a specific event to configure, then click Subscribe to create a REST API endpoint.
	For information, see Configure Network Events, on page 6.
	Important Network event notifications are sent when the event actually occurs and not according to any polling schedule that you configure.
Step 4	Configure network event settings in Event Settings .
	The Cisco DNA Center platform and ITSM integration allows the user to choose from a list of possible issues to create and modify the severity of events, incidents, or problems to match business priorities.
	For information, see Configure Event Settings, on page 10.
Step 5	Access the REST endpoint and review the network event data that has been posted using the REST APIs in this procedure. Begin to review and manipulate this data according to your business or network needs.

Configure Network Events

You can subscribe to specific events that may occur in your network. After you subscribe, you receive a notification by REST API whenever the event occurs. You subscribe to an event using the **Events** window in the Cisco DNA Center platform GUI.

≡ C	isco DNA Center		Platform				0 4 =
Dev	eloper Toolkit						
APIs	Integration Flows Data and Re	eports Multivendor Support Events					
Events	1						
Subs	cribe					Ξ	Q Find
	Event ID 🔺	Name	Description	Туре	Category	Severity	Status
	NETWORK-DEVICES-2-152	WLC Reboot Crash	WLC has rebooted due to a hardware or software crash	NETWORK	ERROR	2	Not Subscribed
	NETWORK-DEVICES-2-153	WLC Power Supply Failure	Power supply has failed on this WLC	NETWORK	ERROR	2	Not Subscribed
	NETWORK-DEVICES-2-201	Switch Power Failure	Power supply failure on switch	NETWORK	ERROR	2	Not Subscribed
	NETWORK-DEVICES-2-202	Device Reboot Crash	Device has rebooted due to a hardware or software crash	NETWORK	ERROR	2	Not Subscribed
	NETWORK-DEVICES-2-204	Stack Member Running Incompatible Image	Stack member is running an incompatible image	NETWORK	ERROR	2	Not Subscribed
	NETWORK-DEVICES-2-205	Switch Fan Failure	Fan failure on switch	NETWORK	ERROR	2	Not Subscribed
	NETWORK-DEVICES-3-103	AP CPU High Utilization	AP is experiencing high CPU utilization	NETWORK	WARN	3	Not Subscribed
	NETWORK-DEVICES-3-104	AP Memory High Utilization	AP is experiencing high memory utilization	NETWORK	WARN	3	Not Subscribed
		AD Debash Oresh	AD has schooled due to a bandware as addressed associ	NETWODY	LALA DAL	-	Mark Prokessalland

Figure 1: Cisco DNA Center Platform Events Window

Before you begin

- For a REST API subscription of events, you have configured the REST API event notifications in the Webhook window in Cisco DNA Center. You access the Webhook window by clicking the Menu icon
 (=) > System > Settings > External Services > Destinations > Webhook.
- You must have the appropriate permissions to perform the tasks described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.
- **Step 1** In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Developer Toolkit** > **Events**.
- **Step 2** In the **Events** window, review the events displayed in the table.

Note You can adjust the events that are displayed by entering a keyword in the Find field.

Step 3 Review the data on an individual event within the table.

The following Events data is provided:

- Event ID: Identification number for the event.
- Name: Name of the event (link).

If you click this link, the **Name** slide-in pane opens for the selected event. The **Name** slide-in pane consists of two tabs: **Events Details** and **Active Subscriptions**.

- Description: Brief description of the event.
- Type: Network, App, System, Security, or Integrations type of event.
- Category: Error, Warn, Info, Alert, Task Progress, or Task Complete.
- Severity: 1 through 5.

- **Note** Severity 1 is the most important or critical priority and should be assigned for this type of event.
- **Status**: Subscription status (whether a user has subscribed to the event and will appear in the **Active Subscriptions** tab). If subscribed to an event, the type of notification also appears in the **Broadcast Methods** column (REST URL, email, or SNMP trap).
- **Step 4** Click a **Name** link to open an event subscription slide-in pane.

Figure 2: Individual Event Window

■ Cisco DNA Center			WLC Rebo	ot Crash			×
Developer Toolkit			Event Details	Active Subscriptions			
APIs Integration Flows Data and Reports Multivendor Suppo			GENERAL IN	FORMATION		Í	i
Event	S		Description	WLC has rebooted due to a hardware or software or	rash		
			Event Id	NETWORK-DEVICES-2-152	Version	1.0.0	
			Namespace	ASSURANCE	Domain	Know Your Network	
	Event ID *	Name	Sub Domain	Devices	Туре	NETWORK	
			Category	ERROR	Severity	2	
	NETWORK-DEVICES-2-152	WLC Reboot Crash WLC Power Supply Failure	Cisco DNA Event link	dna/assurance/issueDetails?issueId=\$instanceId\$	Note	To programmatically get more info see here - https://cip-address-/dna/platform/app/consumer- portal/developer-toolkit/apis?apild=8684-39bb- 4e89-a6e4	
	NETWORK-DEVICES-2-201	Switch Power Failure					
	NETWORK-DEVICES-2-202	Device Reboot Crash	TAGS ASSURANCE	wlc_reboot_crash_trigger			
	NETWORK-DEVICES-2-204	Stack Member Running Incompatib	MODEL SCH	EMA			
	NETWORK-DEVICES-2-205	Switch Fan Failure	Details RI	EST Schema		-	
	NETWORK-DEVICES-3-103	AP CPU High Utilization	1 • { 2 * Tyr 3 * As:	pe": "SeventSource\$", surance Issue Priority": "\$priority\$",			-
	NETWORK-DEVICES-3-104	AP Memory High Utilization	-			Cancel Subscri	be

Step 5 Review the data displayed in the event subscription slide-in pane.

The following Event Details tab data is displayed:

- Description: Brief description of the event and how it is triggered.
- Event ID: Identification number of the event.
- Version: Version number of the event.
- Namespace: Namespace of the event.

The default value for all events is ASSURANCE.

- Domain: REST API domain to which the event belongs.
- Sub Domain: Sub-group under the REST API domain to which the event belongs.
- Type: Network, App, System, Security, or Integrations type of event.
- Category: Error, Warn, Info, Alert, Task Progress, Task Complete.
- Severity: 1 through 5.
- **Note** Severity 1 is the most important or critical priority and should be assigned for this type of event.
- Cisco DNA Event Link: Event broadcast using REST URL.

- Note: Additional information about the event or to assist in further understanding the event.
- Tags: Cisco DNA Center component that is affected by the event. The default value is ASSURANCE with additional syntax for the specific Assurance issue.
- Model Schema: Model schema about the event:
 - Details: Example of model schema detail for the event.
 - **REST Schema**: REST schema format for the event.
- **Step 6** Click the **Active Subscriptions** tab.

The following data is displayed:

- Broadcast Methods: Email, REST API, or SNMP trap.
- Count and Instances: Number of instances of notifications for emails, REST APIs, or SNMP traps.

Click the subscription count under **Count and Instances**. To edit the subscription, click **Edit**. To unsubscribe, click **Unsubscribe**. For multiple subscriptions, you need to unsubscribe from each subscription one at a time. The ability to subscribe to or unsubscribe from multiple subscriptions is not supported using the GUI.

- Actions: Either unsubscribe or edit the active subscription.
- **Note** After subscribing to an event, a **Try It** button appears in the **Active Subscriptions** tab. To run an event simulation, click **Try It**. For information about this feature, see the Cisco DNA Center Platform User Guide.

Step 7 To add the event to your active subscription of events and receive future notifications, click **Subscribe**.

You subscribe to an event to receive either an email, REST API endpoint, or SNMP trap notification. If you subscribe to a REST API endpoint notification (for example for a web hook), then configure the following fields:

- Name: Name of the event.
- Subscription Type: REST

Subscription type can be set for either email, REST API endpoint, or SNMP trap.

- Select an existing endpoint: Select the Subscription Endpoint and URL by using the drop down arrow.
- Create a new endpoint: Click the active link to access the Webhook tab and configure the settings for the REST API endpoint.
- **Note** After you configure the values in the **Webhook** tab, return to the event and select it as your configured REST API endpoint.
- Trust certificate: Choose whether a trust certificate is required for REST API endpoint notification.
- HTTP Method: Choose either the PUT or POST method.
- Authentication: Select the Authentication type:
 - **Basic**: Authentication where the client sends HTTP requests with the Authorization header that contains the word 'Basic', followed by a space and a base64-encoded string 'username:password'. If you select **Basic**, then the **Header Key** field is automatically populated with the **Authorization** value.
 - Token: Authentication where users are authenticated using a security token provided by the server. If you select Token, the Header Key field is automatically populated with the X-Auth-Token value.

- No Authentication: No authentication needed.
- Headers: Enter the Header Name and Header Value. Click Add to add the header values.
- **Note** The **Header Name** field may be auto-populated depending upon your **Authentication** selection above.

Click Subscribe to save and enable the subscription or Cancel to cancel and exit the window.

Configure Event Settings

The Cisco DNA Center platform and ITSM integration permits you to choose from a list of possible issues to create and modify the severity of events, incidents, or problems in ServiceNow to match your business priorities. You perform these tasks in the **Events Settings** window. The **Events Settings** window is accessible from the **Configurations** menu option in the Cisco DNA Center platform.

Note

For this release, there are no SWIM events to configure in **Event Settings**, you only configure network assurance events.

```
6
```

Important

The **Event Settings** window and its functionality are applicable only to events for an ITSM (ServiceNow) integration and not for events configured to other destinations. To configure events to a webhook or other destination, click the link above the columns. Use the **Events** window to configure events for an email, webhook, or SNMP trap.

Figure 3: Events Settings Window

■ Cisco DNA Center		F	Platform				0	. ≡
Manage Bundles Configurations								
Configurations Set global settings or across mult	iple bundles for a custom platform experien	e.						
Event Settings	Event Settings							
General Settings	∑ Filter						EQ Find	
	Event Name	Domain	Туре	Category	Severity	Workflow	Actions	
	AP Coverage Hole	Know Your Network	NETWORK	WARN	3	Incident	Edit	Â
	AP CPU High Utilization	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP License Exhausted	on WLC Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP Memory High Utiliza	tion Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP Reboot Crash	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	BGP Tunnel Connectivi	y Know Your Network	NETWORK	ERROR	2	Incident	Edit	

Before you begin

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the Menu icon (\equiv) and choose Platform > Manage > Configurations.

A Configurations window that contains an Events Settings section is displayed.

- **Step 2** Review the information presented in the **Event Settings** section:
 - Event Name: Name of the Cisco DNA Center event.
 - Domain: Domain of the Cisco DNA Center event.
 - Type: Network, App, System, Security, or Integrations.
 - Category: Error, Warn, Info, Alert, Task Progress, or Task Complete.
 - Severity: P1 (Severity 1) through P5 (Severity 5).
 - **Note** Severity 1 is the most important or critical priority and should be assigned for this type of event.
 - Workflow: Incident, Problem, Event, or RFC (Request for Change).
 - Actions: Edit.

To adjust what is displayed in the table, click the **Filter** icon or enter a keyword in the **Find** field. For example, to display all access point notifications, enter **AP** in the **Find** field. To view all network notifications, enter **Network** in the **Find** field. To view all severity notifications, enter **1** in the **Find** field.

Step 3 To edit an event, click **Edit** in the **Actions** column.

To choose a setting, click the down-arrow and adjust the value. For example, click **Network** and adjust to **App**. This changes the event type from a network type to an application type. Click **Severity** and adjust the setting from **5** to **1**. The severity level is raised from 5 to 1.

Step 4 Click the box next to the event name to enable notifications.

This enables notifications through Cisco DNA Center when the event occurs in the future.

Step 5 Click Save.

Cisco DNA Center Integration with ServiceNow Without the Cisco DNA App

The following table describes the procedure for configuring Cisco DNA Center integration with ServiceNow without using the Cisco DNA app. Follow the procedure to configure integration for network events, SWIM events, or both event types depending upon the functionality that you require.



Note You can also use the **Basic ITSM** (ServiceNow) CMDB synchronization bundle with this workflow. If you use this bundle, be sure to choose Post device inventory details to a staging table as the destination type. The other destination type (Synchronize device inventory directly with CMDB) requires the Cisco DNA App. Additionally, the Post device inventory details to a staging table destination type only sends data to the REST API endpoint. You will need to create a script to perform any further action on the data.

Step	Description
Step 1	Install or upgrade to Cisco DNA Center, Release 2.2.3.
	For information about <i>installing</i> Cisco DNA Center, see the Cisco DNA Center Installation Guide.
Step 2	Install or upgrade to ServiceNow running any of the following versions:
	• Quebec
	• Paris
	• Rome
	• San Diego
	• Tokyo
	Refer to your ServiceNow documentation for its installation and upgrade procedures.
	Note This procedure needs to be performed by a ServiceNow administrator.
Step 3	Configure the Network Issue Monitor and Enrichment for ITSM (ServiceNow) bundle. For information, see Configure the Network Issue Monitor and Enrichment for ITSM (ServiceNow) Bundle, on page 13.
	This bundle enables Change Management between the two systems (Cisco DNA Center and ServiceNow). Change Management and Incident/Problem Management workflows should be enabled based on the automation or assurance use cases that you want to log tickets to in ServiceNow.
Step 4	Configure network event settings in Event Settings .
	For information, see Configure Event Settings, on page 16.
	Note The Cisco DNA Center platform and ITSM integration allows the user to choose from a list of possible issues to create and modify the severity of events, incidents, or problems in ServiceNow to match business priorities.

Step	Description
Step 5	Configure the Cisco DNA Center Automation events for ITSM (ServiceNow) bundle.
	For information, see Configure the Cisco DNA Center Automation Events for ITSM (ServiceNow) Bundle, on page 18.
	 The Cisco DNA Center Automation events for ITSM (ServiceNow) bundle has been improved for this release. This bundle retrieves events relating to software image updates required for compliance, security or any other operational triggers from Cisco DNA Center. With past releases, the bundle published the event data on a user-defined recurring schedule to an ITSM (Service Now) system. In this release, SWIM event notifications are sent from Cisco DNA Center to ServiceNow when they occur and not on a polling and notify schedule. Additionally, for this release there is no SWIM event that you must configure in Event Settings. Previous releases required that you configure a single SWIM event (Device Image Outdated). For additional information about this improved bundle and feature, see About SWIM Closed Loop Automation, on page 47.
Step 6	Access your ServiceNow instance and review the network and SWIM event data that has been posted using the REST APIs in this procedure. Begin to review and manipulate this data in ServiceNow per your business or network needs.

Configure the Network Issue Monitor and Enrichment for ITSM (ServiceNow) Bundle

Perform this procedure to set up monitoring for network for assurance and maintenance issues, as well as publishing event details to a ServiceNow system.



Note Event data can be published to the **Event** table in ServiceNow. This requires that you have the Event Management plugin in your ServiceNow instance. If you do not have the Event Management plugin in your ServiceNow instance, the bundle can be configured to send the data to a REST API endpoint in the Cisco DNA App.

Before you begin

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Manage** > **Bundles**.

Review the displayed bundles and their current status.

Step 2 Click the **Network Issue Monitor and Enrichment for ITSM (ServiceNow)** bundle link or icon (colored square with initial) for additional information about the bundle.

Additional information provided may include the following:

- General information: Vendor, version, platform, tags displayed under the square icon.
- **Information**: Tab that displays general information (purpose of bundle and how bundle works in the network), sample schemas, configuration notes, and other data about the bundle.
- **Contents**: Tab that accesses the APIs and integration flows that make up the bundle, or provides information about the integration flows that make up the bundle.
- Release Notes: Tab that displays latest release information about the bundle, including its version.
- **Step 3** Click each of the above tabs and review the information about the bundle.
- **Step 4** Click the **Enable** button to enable the bundle.

An Information field appears in the window.

Step 5 In the **Information** field, click the **Enable** button to confirm enabling the bundle.

After clicking the **Enable** button to confirm, a success message appears.

- **Step 6** Click **OK** in the success message.
- **Step 7** Click the **Configure** button to configure at the bundle level.

A configuration slide-in pane appears.

- **Step 8** In the configuration slide-in pane, click **ServiceNow Access Settings** to configure a ServiceNow Connection instance.
- **Step 9** Click the radio button to configure either an existing ServiceNow Connection instance or configure a new instance.

Figure 4: Example of ServiceNow Instance Configuration Fields

■ Cisco DNA Center		Configure Network Issue Monitor and Enrichment for ITSM (ServiceNow)		
Bundles Configurations		Configure your bundle	×	
		 ServiceNow Access Settings 	Â	
	Network Issue Monitor and Enrichment for	>> Back to Select Instance		
	You can use this bundle to monitor your network for assurance and system. This bundle also contains APIs that extract rich network oc Center and the ITSM (ServiceNow CMDB) system, then activate the	INFORMATION		
Vendor Cisco Systems, Inc.	Information Contents Release Notes	Instance Name *		
Version 1.7.5 Platform	The Network Issue Monitor and Enrichment for ITSM (Servic bundle then publishes the event data on a recurring schedule to	Description		
Cisco DNA Center 1.2.5 +	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-po	SERVICENOW ACCESS SETTINGS Host Name *		
Tags IT Event Network Management, ITSM.	To view the list of Assurance issues that you may wish to monito event, the values for 'Domain', 'Category', 'Severity' and 'Worl	https://servicenow-host-name>		
Assurance, Enrichment	The 'Workflow' value determines the ITSM(ServiceNow) workfl an Event; 'Incident' or 'Problem!	<username-for-servicenow-host></username-for-servicenow-host>		
	Note: This bundle also receives updates from the ITSM(Service populates the Runtime Dashboard with this data.	Password * SHOW	- 1	
	The following is the sample schema of the event posted to the I	Hint Check connectivity		
	"severity": "integer", "source": "string", "node": "string", "type": "string",	> Destination to receive events	Ţ	
	"event_class': "string", "time_cd_event": "string", "message_kay": "string", "description": "string", "description": "string",	Cancel Activate) 	

For configuring an existing ServiceNow Connection instance, choose it from the drop-down menu in the window and click Activate.

- **Step 10** For configuring a new ServiceNow Connection instance, the following additional information must be entered.
 - Instance Name: Name of the instance.

- Description: Descriptive text of the instance.
- Host name: Host name for the ServiceNow system.
- Username: Username required to access the ServiceNow system.
- Password: Password required to access the ServiceNow system.
- Step 11Click Check Connectivity to test whether you can connect to the server where the endpoint is located.After a successful test of connectivity to the server, proceed to configure Destination to receive events.
- **Step 12** In the configuration slide-in pane, click **Destination to receive events** to configure a Destination Connection instance.
- **Step 13** Click the radio button to configure either an existing Destination Connection instance or configure a new instance.

Figure 5: Example of Destination to Receive Events Configuration Fields

≡ Cisco DNA (Center	Configure Network Issue Monitor and Enrichment for ITSM (ServiceNow)	
Bundles Configu	rations	Configure your bundle	×
		> ServiceNow Access Settings	*
	Network Issue Monitor and Enrichment for	 Destination to receive events 	
N	You can use this bundle to monitor your network for assurance and system. This bundle also contains APIs that extract rich network co Center and the ITSM (ServiceNow CMDB) system, then activate the		
Vendor Cisco Systems, Inc.	Information Contents Release Notes	Instance Name *	
Version 1.7.5 Platform	The Network Issue Monitor and Enrichment for ITSM (Servic bundle then publishes the event data on a recurring schedule to	Description	
Cisco DNA Center 1.2.5 + Tags	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-pc To view the list of Assurance issues that you may wish to monito	DESTINATION TO RECEIVE EVENTS	
IT Event Network Management, ITSM, Assurance, Enrichment	event, the value for 'Domain', 'Category', 'Severity' an 'Worl The 'Workflow' value determines the ITSM(ServiceNow) workfl an Event, 'Incident' or 'Problem'	Destination to receive events *	
Enrichment	An event, incident or indulem. Note: This bundle also receives updates from the ITSM(Service populates the Runtime Dashboard with this data.	Destination Uri Enter a custom endpoint	
	The following is the sample schema of the event posted to the I		
	{ "seventy": "integer", "seventy": "integer", "node": "string", "node": "string", "type": "string", "event_class": "string",	e	v F
	"time_of_event": "string", "message_key": "string", "description": "string",	Cancel Activ	ate

For configuring an existing Destination Connection instance, choose it from the drop-down menu in the window and click **Activate**.

Step 14 For configuring a new Destination instance, the following additional information must be entered.

- Instance Name: Name of the instance.
- Description: Descriptive text of the instance.
- Destination to receive events: Choose one of the following:
 - Event Management: When setting up Cisco DNA Center integration with ServiceNow without using the Cisco DNA App, choose the Event Management option. The Event Management option also requires that you have the Event Management plugin configured within the ServiceNow instance.
 - **REST API Endpoint**: The **REST API Endpoint** option can be used with the Cisco DNA App. Data is sent to a REST API endpoint within the Cisco DNA App with the **REST API Endpoint** option.
 - Generic REST Endpoint in ServiceNow: For the Generic REST Endpoint in ServiceNow option, you can send the data to a different staging table in ServiceNow.

• **Destination URI**: Enter a destination URI (Uniform Resource Indicator) for the **Generic REST Endpoint in ServiceNow** option. This field is mandatory for this option.

After entering this information, proceed to the next step.

Step 15 Click **Activate** to save your changes and activate the bundle or click **Cancel** to cancel the configuration and close the slide-in pane.

The changes made to the bundle begin to take effect immediately. Additionally, the bundle status changes from **ENABLED** to **ACTIVE**.

Configure Event Settings

The Cisco DNA Center platform and ITSM integration permits you to choose from a list of possible issues to create and modify the severity of events, incidents, or problems in ServiceNow to match your business priorities. You perform these tasks in the **Events Settings** window. The **Events Settings** window is accessible from the **Configurations** menu option in the Cisco DNA Center platform.



Note

For this release, there are no SWIM events to configure in **Event Settings**, you only configure network assurance events.



Important The Event Settings window and its functionality is only applicable to events for an ITSM (ServiceNow) integration and not for events configured to other destinations. For events being configured to a webhook or other destination, click the link above the columns to access the Events window. Use the Events window to configure events for an email, webhook, or SNMP trap.

Figure 6: Events Settings Window

■ Cisco DNA Center	Plat	form				⊘ ٿ		
Manage								
Bundles Configurations Configurations Set global settings or across multiple bundles for a custom platform experience.								
Event Settings Event Settings								
General Settings	<i>∀</i> Filter						EQ Find	
	Event Name A	Domain	Туре	Category	Severity	Workflow	Actions	
	AP Coverage Hole	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP CPU High Utilization	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP License Exhausted on WLC	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP Memory High Utilization	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP Reboot Crash	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	BGP Tunnel Connectivity	Know Your Network	NETWORK	ERROR	2	Incident	Edit	

Before you begin

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Manage** > **Configurations**.

A Configurations window opens that contains an Events Settings section.

Step 2 Review the **Event Settings** section that appears.

The following **Event Settings** information is displayed:

- Event Name: Name of the Cisco DNA Center event.
- Domain: Domain of the Cisco DNA Center event.
- Type: Network, App, System, Security, Integrations type.
- Category: Error, Warn, Info, Alert, Task Progress, Task Complete
- Severity: P1 (Severity 1) through P5 (Severity 5).
- **Note** Severity 1 is the most important or critical priority and should be assigned as such.
- Workflow: Incident, Problem, Event, or RFC (Request for Change)
- Actions: Edit

You can adjust what is displayed in the table by clicking the **Filter** icon and using the filter, or by typing a keyword in the **Find** field. For example, to display all access point notifications, type 'AP' in the **Find** field. To view all network notifications, type 'Network' in the **Find** field. To view all severity notifications, type '1' in the **Find** field.

Step 3 Click **Edit** in the **Actions** column to edit an event.

Choose a setting by clicking on the downward pointing angle and adjust the value. For example, click **Network** and adjust to **App**. This changes the event type from a network type to an application type. Click **Severity** and adjust to **1** from **5**. This raises the severity level from 5 to 1.

- Step 4Click the box next to the Event name to enable notifications.This enables notifications through Cisco DNA Center when the event occurs in the future.
- **Step 5** Click **Save** to save your configuration.

Configure the Cisco DNA Center Automation Events for ITSM (ServiceNow) Bundle

Perform this procedure to set up monitoring and publishing events requiring software image updates for compliance, security, or other operational triggers to a ServiceNow system.



Note

Event data can be published to the **Event** table in ServiceNow. This requires that you have the Event Management plugin in your ServiceNow instance. If you do not have the Event Management plugin in your ServiceNow instance, the bundle can be configured to send the data to a REST API endpoint in the Cisco DNA App.

Before you begin

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Manage** > **Bundles**.

Review the displayed bundles and their current status.

Step 2 Click the **Cisco DNA Center Automation events for ITSM (ServiceNow)** bundle link or icon (colored square with initial) for additional information about the bundle.

Additional information provided may include the following:

- General information: Vendor, version, platform, tags displayed under the square icon.
- **Information**: Tab that displays general information (purpose of bundle and how bundle works in the network), sample schemas, configuration notes, and other data about the bundle.
- **Contents**: Tab that accesses the APIs and integration flows that make up the bundle, or provides information about the integration flows that make up the bundle.
- Release Notes: Tab that displays latest release information about the bundle, including its version.
- **Step 3** Click each of the above tabs and review the information about the bundle.

Step 4	Click the Enable button to enable the bundle.
	An Information field appears in the window.
Step 5	Click the Enable button in the Information field to confirm enabling the bundle.
	After clicking the Enable button to confirm, a success message appears.
Step 6	Click OK in the success message.
Step 7	Click the Configure button to configure at the bundle level.
	A configuration slide-in pane appears.
Step 8	In the configuration slide-in pane, click ServiceNow Access Settings to configure a ServiceNowConnection instance.
Step 9	Click the radio button to configure either an existing ServiceNow Connection instance or configure a new instance.

≡ Cisco DNA (Center	Configure SWIM Events for ITSM (ServiceNow)	
Bundles Configur	rations	Configure your bundle	×
		 ServiceNow Access Settings 	Â
	SWIM Events for ITSM (ServiceNow)	>> Back to Select Instance	- 1
	You can use this bundle to monitor and publish events that require system. Please note that, if your network devices have not been sy ServiceNow CMDB synchronization' bundle before activating this b	INFORMATION	
Vendor Cisco Systems, Inc.	Information Contents Release Notes	Instance Name *	- 1
Version 1.7.6 Platform	This SWIM Events for ITSM (ServiceNow) bundle retrieves ev triggers from Cisco DNA Center. This bundle can then publish th	Description	- 1
Cisco DNA Center 1.2.5 +	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-po	SERVICENOW ACCESS SETTINGS Host Name *	- 1
Tags SWIM, Image Update	This bundle also receives updates for the event and its associate data.	https://servicenow-host-name>	- 1
	The following is a sample schema of the event posted to the IT { "secured": "integer", "secured": "string", "topic": "string", "topic": "string", "tome_of_event": "string", "description": "strind	susemame-for-servicenow-host> Passeord *	
	"additional_info": "string" } Configuration Notes	< Cancel Cancel Activate	•

For configuring an existing ServiceNow Connection instance, choose it from the drop-down menu in the window and click **Activate**.

Step 10 For configuring a new ServiceNowConnection instance, the following additional information must be entered.

• Instance Name: Name of the instance.

Figure 7: Example of ServiceNow Instance Configuration Fields

- Description: Descriptive text of the instance.
- Host name: Host name for the ServiceNow system.
- Username: Username required to access the ServiceNow system.
- Password: Password required to access the ServiceNow system.
- Step 11Click Check Connectivity to test whether you can connect to the server where the endpoint is located.After a successful test of connectivity to the server, proceed to activate the bundle.

- **Step 12** In the configuration slide-in pane, click **Destination to receive events** to configure an Destination Connection instance.
- **Step 13** Click the radio button to configure either an existing Destination Connection instance or configure a new instance.

Figure 8: Example of Destination to Receive Events Configuration Fields

≡ Cisco DNA (Center	Configure SWIM Events for ITSM (ServiceNow)
Bundles Configur	ations	Configure your bundle X
		> ServiceNow Access Settings
s	You can use this bundle to monitor and publish events that require	 Destination to receive events
	system. Please note that, if your network devices have not been sy ServiceNow CMDB synchronization' bundle before activating this b	INFORMATION
Vendor Cisco Systems, Inc.	Information Contents Release Notes	Instance Name *
Version 1.7.6 Platform	This SWIM Events for ITSM (ServiceNow) bundle retrieves eventriggers from Cisco DNA Center. This bundle can then publish the	Description
Cisco DNA Center 1.2.5 + Tags SWIM,	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-pc This bundle also receives updates for the event and its associat	DESTINATION TO RECEIVE EVENTS
Image Update	data. The following is a sample schema of the event posted to the IT	Destination to receive events *
	f seventy': Integer', "source": "string", "topt: "string", topt: "string", topt: "string", topt: _string", topt: _string", topt: _string", topt: _string", topt: _string", topt: _string", topt: _string", topt: _string",	Destination Uri Enter a custom endpoint
	J Configuration Notes	Cancel Activate

For configuring an existing Destination Connection instance, choose it from the drop-down menu in the window and click **Activate**.

- **Step 14** For configuring a new Destination instance, the following additional information must be entered.
 - Instance Name: Name of the instance.
 - Description: Descriptive text of the instance.
 - Destination to receive events: Choose one of the following:
 - Event Management: When setting up Cisco DNA Center integration with ServiceNow without using the Cisco DNA App, choose the Event Management option. The Event Management option also requires that you have the Event Management plugin configured within the ServiceNow instance.
 - **REST API Endpoint**: The **REST API Endpoint** option can be used with the Cisco DNA App. Data is sent to a REST API endpoint within the Cisco DNA App with the **REST API Endpoint** option.
 - Generic REST Endpoint in ServiceNow: For the Generic REST Endpoint in ServiceNow option, you can send the data to a different staging table in ServiceNow.
 - Destination URI: Enter a destination Uniform Resource Indicator (URI) for the Generic REST Endpoint in ServiceNow option. This field is mandatory for this option.

After entering this information, proceed to the next step.

Step 15 Click **Activate** to save your changes and activate the bundle or click **Cancel** to cancel the configuration and close the slide-in pane.

Note

By clicking **Activate**, you enable the changes made to the bundle and the changes take effect immediately. Additionally, the bundle's status changes from **ENABLED** to **ACTIVE**.

Cisco DNA Center Integration with ServiceNow Using the Cisco DNA App

Cisco DNA Center supports an application (Cisco DNA) that facilitates integration with ServiceNow. This application or app is designed to work with ServiceNow *without* its Event Management plugin.

The Cisco DNA app is installed within the ServiceNow instance and performs the following tasks:

- Schedules the basic one-way synchronization of Cisco DNA Center discovered devices into the ServiceNow Configuration Management Database (CMDB) using Cisco DNA Center inventory as a source of truth. The Cisco DNA app supports CMDB synchronization from Cisco DNA Center to ServiceNow.
- Automatically triggers problem, incident, and change workflows for network events published by Cisco DNA Center.
- Enriches ITSM tickets with network details from Cisco DNA Center. The Cisco DNA app makes REST API calls into Cisco DNA Center for fetching enrichment information of various types such as device, issue, user, and client for a user created ticket.
- Supports integration of the Cisco DNA Center platform with ServiceNow for an automated way to create change request (CR) tickets in ServiceNow for network events.

The following table describes the procedure for configuring Cisco DNA Center integration with ServiceNow using the Cisco DNA app. Follow the procedure to configure integration for network events, SWIM events, or both event types depending upon the functionality that you require.

Step	Description
Step 1	Install or upgrade to Cisco DNA Center, Release 2.2.3.
	For information about <i>installing</i> Cisco DNA Center, see the Cisco DNA Center Installation Guide.

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Step	Description				
Step 2	Install or upgrade to ServiceNow running the following version:				
	• Quebec				
	• Paris				
	• Rome				
	• San Diego				
	• Tokyo				
	Refer to your ServiceNow documentation for its installation and upgrade procedures.				
	Note This procedure is to be performed by a ServiceNow administrator.				
Step 3	Click the following link to access the ServiceNow Store website where the Cisco DNA app is located:				
	https://store.servicenow.com/sn_appstore_store.do#!/store/application/ 03eb0f4ddbf6ba00f27978b5ae96197b/2.0.0				
	Proceed to download and install the Cisco DNA app (version 2.0.0) into ServiceNow by following the documentation available at the website.				
	Note This procedure is to be performed by a ServiceNow administrator.				
Step 4	Review and ensure that the requirements are met for the Cisco DNA Center to ServiceNow integration.				
	For information, see Requirements, on page 23.				
Step 5	Access the Cisco DNA Center platform GUI and configure the Basic ITSM (ServiceNow) CMDB Synchronization bundle.				
	For information, see Configure the Basic ITSM (ServiceNow) CMDB Synchronization Bundle, on page 24.				
	Note Synchronizing the network device inventory with the ServiceNow CMDB is a prerequisite to enable the auto-generation of ITSM tickets. Therefore, the CMDB Sync must be enabled first (if it is not already done outside of Cisco DNA Center). Check with your ServiceNow administrator to see whether the CMDB Sync is being done elsewhere.				
Step 6	Configure the Network Issue Monitor and Enrichment for ITSM (ServiceNow) bundle. For information, see Configure the Network Issue Monitor and Enrichment for ITSM (ServiceNow) Bundle, on page 13.				
	This bundle enables data to be sent from Cisco DNA Center to create any type of workflow in ServiceNow. Change Management and Incident/Problem Management workflows should be enabled based on the automation or assurance use cases that you want to log tickets to in ServiceNow.				
Step 7	Configure network event settings in Event Settings .				
	For information, see Configure Event Settings, on page 36.				
	Note The Cisco DNA Center platform and ITSM integration allows the user to choose from a list of possible issues to create and modify the severity of events, incidents, or problems in ServiceNow to match business priorities.				

Step	Description
Step 8	Configure the Cisco DNA Center Automation events for ITSM (ServiceNow) bundle.
	For information, see Configure the Cisco DNA Center Automation Events for ITSM (ServiceNow) Bundle, on page 18.
Step 9	Access your ServiceNow instance and review the network and SWIM event data that has been posted using the Cisco DNA Center REST APIs in this procedure. Begin to review and utilize this data per your business or network needs.

Requirements

Review and ensure that the following networking and systems requirements are met for the Cisco DNA Center-to-ServiceNow integration:

- Networking:
 - The Cisco DNA app is configured with the IP address and access information of the Cisco DNA Center installation that it is being integrated with.



Contact your Cisco DNA Center administrator to obtain this information.

 HTTPS network access between Cisco DNA Center and ServiceNow (including the MID server) is established.



Note

Contact and work with your network administrator to establish this.

- Management, Instrumentation, and Discovery (MID) Server:
 - The MID server is up and running, as well as accessible from the ServiceNow instance.
 - The Cisco DNA Center platform is accessible from the MID server.
 - The Cisco DNA Center platform REST APIs are allowed from the MID server.



Note

The MID server is used to proxy the REST requests from the ServiceNow instance.

See the *Scope Certified Application Installation and Configuration Guide* on the ServiceNow Store website for MID server configuration information: https://store.servicenow.com/sn_appstore_store.do#!/store/application/03eb0f4dbf6ba00f27978b5ae96197b/2.0.0

- Cisco DNA Center Platform:
 - The Cisco DNA Center platform is enabled in Cisco DNA Center.

• The requisite bundle or bundles in the Cisco DNA Center platform are configured and activated (as described in the following procedures).



Note

These bundles have the required APIs that integrate with the Cisco DNA app in ServiceNow.

Configure the Basic ITSM (ServiceNow) CMDB Synchronization Bundle

Perform this procedure to either trigger or schedule a synchronization between the Cisco DNA Center devices and your ServiceNow CMDB system. If devices have not been synchronized between Cisco DNA Center and the ServiceNow CMDB system, this bundle must be activated as a prerequisite, before activating any other bundles.



Note The Cisco DNA Center CMDB synchronization cannot detect multiple instances of Cisco DNA Center:

- To identify the attributes that were synchronized from a particular Cisco DNA Center instance, each attribute is tagged with a Cisco DNA Center IP address.
- ServiceNow can now identify which Cisco DNA Center instance the attribute came from. An extra attribute for the Configuration Item (CI) has been added to retain the Cisco DNA Center IP address or hostname information.

Before you begin

- Ensure that you have ServiceNow running on a system that you will integrate with Cisco DNA Center platform.
- Run a successful **Discovery** job in Cisco DNA Center. You can check whether a **Discovery** job is successful in **Device Inventory**. In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Provision** > **Inventory** to view the results.
- You must have the appropriate permissions to perform the tasks as described in this procedure. For information about role-based access control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Manage** > **Bundles**.

Review the displayed bundles and their current status.

Step 2 Click the **Basic ITSM (ServiceNow) CMDB synchronization** bundle link or icon (colored square with initial) for additional information about the bundle.

Additional information provided may include the following:

• General information: Vendor, version, platform, tags displayed under the square icon.

- **Information**: Tab that displays general information (purpose of bundle and how bundle works in the network), sample schemas, configuration notes, and other data about the bundle.
- Contents: Tab that accesses the integration flows and APIs that make up the bundle.
- Release Notes: Tab that displays latest release information about the bundle, including its version.
- **Step 3** Click the **Contents** tab.
- **Step 4** Click the **Integration Flows** header.

An integration flow or list of integration flows appear underneath the header.

Step 5 Click the **Enable** button to activate the integration flow links.

An **Information** field appears in the window.

Step 6 In the **Information** field, click the **Enable** button to confirm enabling the bundle.

After clicking the **Enable** button to confirm, a success message appears.

- **Step 7** Click **Okay** in the success message.
- **Step 8** Click the integration flow link to perform the tasks listed below:
 - Review the Description, Tags, How to Use this Flow, and scheduler.
 - Click **Run Now** (to run the scheduler now), **Run Later** (to schedule for a later time), or **Recurring** (to set up a recurring schedule).

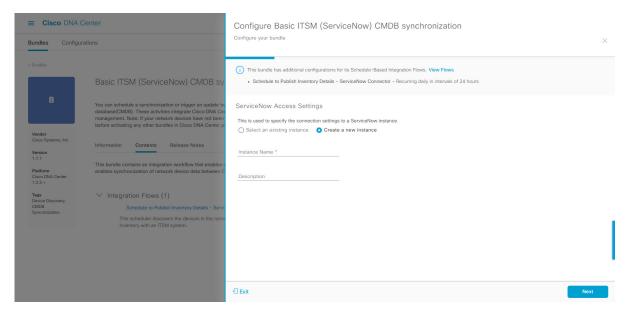
For **Run Later**, you need to select a date, time, and time zone. For **Recurring**, you need to set a repeating interval (daily or weekly), an interval duration (minutes or hours), and a start and end date.

- Click Schedule to enable the scheduler.
- Important
 Only configure and enable an integration flow schedule, after you have finished configuring the bundle itself as described in this procedure. You configure and enable an integration flow schedule by returning to this view and clicking Schedule, or by clicking the View Flows link in the Configure Basic ITSM (ServiceNow) CMDB synchronization slide-in pane (see following steps), or by clicking the menu icon (≡) > Platform > Developer Toolkit > Integration Flows > Schedule to Publish Inventory Details-ServiceNow Connector.
- **Step 9** Click the X icon to return to the previous bundle window.
- **Step 10** Click the **Configure** button to configure at the bundle level.

A configuration slide-in pane appears. Review the CMDB synchronization information.

Step 11 Click the radio button to configure either existing or new ServiceNow access settings for the CMDB synchronization.

Figure 9: ServiceNow Access Settings



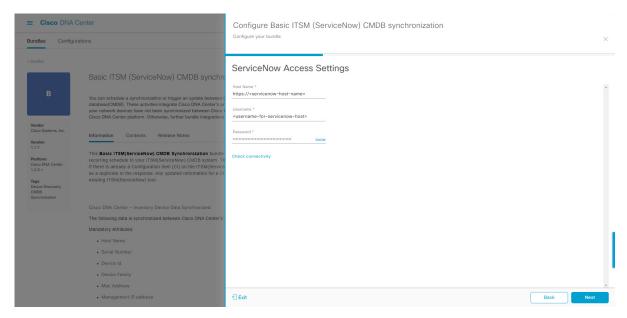
For configuring an existing setting, choose it from the drop-down menu in the window and click Next.

- **Step 12** For configuring a new access setting, the following instance information must be entered.
 - Instance Name: Name of the instance.
 - Description: Descriptive text of the instance.

Click Next.

Step 13 For configuring a new access setting, the following additional settings information must be entered.

Figure 10: ServiceNow Access Settings



- Hostname: Hostname or IP address of the ServiceNow server.
- Username: Username for access to the ServiceNow server.
- Password: Password for access to the ServiceNow server.

Click Check Connectivity to check access to the ServiceNow server.

Click Next.

Step 14 Click the radio button to configure either an existing instance or configure a new instance for the CMDB inventory settings.

Figure 11: CMDB Inventory Settings

≡ Cisco DNA (Center	Configure Basic ITSM (ServiceNow) CMDB synchronization	
Bundles Configur	rations	Configure your bundle	×
< Bundles	Basic ITSM (ServiceNow) CMDB sy	This bundle has additional configurations for its Schedule-Based Integration Flows. View Flows Schedule to Publish Inventory Details - ServiceNow Connector - Recurring daily in intervals of 24 hours	
B Vendor Caco Systems, Inc. Vension 1.7.7 Parton Caco Systems Parton Caco Systems Parton Par	You can schedule a synchronization or trigger an update to database(CMDB). These activities integrate Gisco DNA Center processing and the top of the schedules in Gisco DNA Center processing and the top of the schedules in Gisco DNA Center processing and the top of the schedules in Gisco DNA Center processing and the top of the schedules in Gisco DNA Center processing and the schedules	CMDB Inventory Settings This is used to specify the CMDB Configuration details for ServiceNow, which includes the list of device attributes(mandatory/optional) that needs to be synced, by of destination within ServiceNow to receive the CMDB details, connection settings to the ServiceNow instance, transformation mapping between Claco DNA Center device families and ServiceNow CI classes, maximum number of devices that can be synced in a single API call and the discovery source details. Select an existing instance Create a new instance Instance Name *	
		Exit Back Next	

For configuring an existing instance, choose it from the drop-down menu in the window and click **Configure**.

Step 15 For configuring a new instance, the following additional information must be entered.

- Instance Name: Name of the instance.
- Description: Descriptive text of the instance.

Click Next.

- **Step 16** In the **Select Destination** window, enter the following information:
 - Destination Type: There are two destination type options to choose from:
 - Synchronize device inventory directly with CMDB
 - · Post device inventory details to a staging table

- Note Use the Synchronize device inventory directly with CMDB destination type to send data to a REST API endpoint within the Cisco DNA app. You should use this destination type, if you are using the Cisco DNA app and do not have your own customized ServiceNow instance. Use the other destination type (Post device inventory details to a staging table) to send data to a REST API endpoint outside of the Cisco DNA app. Ensure that the created staging table has a field called u_inventory_details. The inventory details from the Cisco DNA app are mapped to this field. With the Post device inventory details to a staging table destination type, after data transfer you must write custom code to take the data from the staging table and map it to the ServiceNow CMDB.
- Destination URI: Uniform Resource Indicator of the ServiceNow server (CMDB) or staging table.

Figure 12: Select Destination Window

≡ Cisco DNA (Center	Configure Basic ITSM (ServiceNow) CMDB synchronization	
Bundles Configur	rations	Configure your bundle	×
< Bundles B Vendor Caco Systems, Inc.	Basic ITSM (ServiceNow) CMDB synchro You can schedule a synchronization or trigger an update between of database(CMDB). These activities integrate Gaco DNA Center's per your network devices have not been synchronized between Claco Claco DNA Center platform. Otherwise, further bundle integrations Information Contents Release Notes	Select Destination Destination Type * Synchronize device Inventory direct Destination Usi * Japi/now/Import/s_caci_cisco_dna_ciss Enter a Custom Endpoint	*
Version 1.7.7 Platform Cisco DNA Center 1.2.5 × Tegs Device Discovery, CMDB Syncronization	This Basic ITSM(ServiceNow) CMDB Synchronization bundle recurring schedule to your ITSM(ServiceNov) CMDB system. Th If there is already a Configuration Item (C) on the ITSM(Service as a duplicate in the response. Any updated information for a CI existing ITSM(ServiceNov) tool.		
	The following data is synchronized between Clisco DNA Centers Mandatory Attributes: • Host Name • Serial Number • Device Id • Device Id • Mac Address		
	Management IP address	Exit Back	Next

Click Next.

- **Step 17** In the **Select Inventory Data Fields** window, select the data fields to by synchronized.
 - **Note** Inventory data fields are Cisco created data types that can be designated as an attribute or reference to be synchronized into a CMDB or staging table.

Clicking the top check box in the **Select Inventory Data Fields** window will select all of the inventory data fields for synchronization. Click this top check box if you want to sync all of the inventory data fields. Otherwise, review and click one check box at a time to create a smaller subset of inventory data fields for synchronization.

Cisco DNA Center Bundles Configurations		Configure Basic ITSM (ServiceNow) CMDB synchronization				×
< Bundles	Basic ITSM (ServiceNow) C	Sel	ect Inventory Da	ata Fields		
в	You can schedule a synchronization or trigger		Name	Description	Is Attribute / Is F	Reference
	configuration management database(CMDB). Management processes of incident, change o		Host Name	Hostname of the device	 Attribute 	O Reference
Vendor	between Cisco DNA Center and the CMDB sy: Center platform. Otherwise, further bundle inte		MAC Address	MAC Address of the Device	 Attribute 	O Reference
Cisco Systems, Inc.	Information Contents Release Notes		Device Id	Id of the Device	 Attribute 	O Reference
1.3.1			IP Address	Management IP Address of the device	 Attribute 	O Reference
Platform DNAC 1.2.5 +	This Basic ITSM(ServiceNow) CMDB Sync publishes it either one-time or on a recurring		Serial Number	Serial Number of the device	 Attribute 	O Reference
Tags Device Discovery,	Reconciliation API on the ITSM(ServiceNow on the ITSM(ServiceNow) system with the si a duplicate in the response. Any updated inf activity does not delete any CIs on the exist		Upgrade Failure Reason	Upgrade Failure Reason	() Attribute	O Reference
CMDB Syncronization			CurrentSMU Upgrade Date	CurrentSMU Upgrade Date	 Attribute 	O Reference
			CurrentSMU	CurrentSMU	 Attribute 	O Reference
	Cisco DNA Center - Inventory Device Data !		Prior Upgrade Date	Prior Upgrade Date	 Attribute 	O Reference
	The following data is synchronized between (Mandatory Attributes:		Code Upgrade Date	Code Upgrade Date	 Attribute 	O Reference
	Host Name	🖯 Exi	t			Back Next

Figure 13: Select Inventory Data Fields Window

The Select Inventory Data Fields window consists of the following columns:

- Name: Name of the inventory data field.
- Description: Brief description of the inventory data field.
- Is Attribute/Is Reference: Whether the inventory data field is an attribute or a reference. A reference data field is used to create a relationship between two tables in a database. This is used for querying purposes. An attribute data field is used to add more data to a table in a database.
- **Step 18** For the data fields selected to be synchronized in the preceding step, review their designation as either attribute or reference.

To change a data field's default designation, just click the desired data field designation (Attribute or Reference).

Currently, the integration only supports 'location', 'building', and 'part number' as reference fields.

After selecting the data fields to be synchronized and whether the data field is an attribute or reference, click Next.

Step 19 In the **Update Transforms** window, either accept or update the ServiceNow transformation mapping between Cisco DNA Center device families and ServiceNow CI classes.

Figure 14: Update Transforms Window

E Cisco DNA Center		Configure Basic ITSM (ServiceNow) CMDB synchronization			
Bundles Configu	rations	Configure your but	dle		×
< Bundies	Basic ITSM (ServiceNow) C	Update Tr	ansforms		
в	You can schedule a synchronization or trigger	Device Family	CI Class		*
	configuration management database(CMDB). Management processes of incident, change o between Cisco DNA Center and the CMDB sy:	Routers	cmdb_ci_ip_router		
Vendor Cisco Systems, Inc.	Center platform. Otherwise, further bundle intr	Switches and Hubs	cmdb_ci_ip_switch		
Version 1.3.1	Information Contents Release Notes				
Platform DNAC 1.2.5 +	This Basic ITSM(ServiceNow) CMDB Sync publishes it either one-time or on a recurring				
Tags Device Discovery, CMDB Syncronization	Reconciliation API on the ITSM(ServiceNow on the ITSM(ServiceNow) system with the s- a duplicate in the response. Any updated inf activity does not delete any CIs on the exist				
	Cisco DNA Center - Inventory Device Data :				
	The following data is synchronized between (
	Mandatory Attributes: • Host Name	€ Exit		Back	Next

Device families are the Cisco DNA Center device classifications (for example, Unified AP, Routers, Wireless Controller, Switches, and Hubs), where the inventory attributes/references mapping to ServiceNow is already available in the existing Cisco DNA Center application in ServiceNow. The type and number of device families can vary depending upon the different Cisco devices in the user's network.

Note Cisco DNA Center platform is able to automatically retrieve all of the device families in the user's Cisco DNA Center network and display them in this GUI window.

CI classes are the database tables for ServiceNow (for example, cmdb_ci_wap_network, cmdb_ci_ip_router, cmdb_ci_ip_switch, and x_caci_cisco_dna_wireless_lan_controller). The **CI Class** column in the GUI window is used to map the CI classes to their respective device families.

The following table displays the Cisco DNA Center default CI classes for each device family. The default CI classes can be modified by the user. In case of other device families not listed below, Cisco will not have any default values specified in the **CI Class** column. The ServiceNow application user needs to either manually create the corresponding CI Classes and attributes/references mapping or use a pre-existing CI class a 'parent' CI class. Ensure the pre-existing or newly created class is inherited from the Network Gear (cmdb_ci_netgear) class.

Device Family	Corresponding CI Class	
Unified AP	cmdb_ci_wap_network	
Wireless Controller	x_caci_cisco_dna_wireless_lan_controller	
Routers	cmdb_ci_ip_router	
Switches and Hubs	cmdb_ci_ip_switch	
Meraki Access Point	cmdb_ci_wap_network	

Device Family	Corresponding CI Class
Meraki Cameras	cmdb_ci_netgear
Meraki Dashboard	cmdb_ci_netgear
Meraki Security Appliances	cmdb_ci_netgear
Meraki Switches	cmdb_ci_ip_switch

After accepting or updating the information in this window, click Next.

Step 20In the Set Source Identifier and Operational Limit window, configure the data source and maximum limit.Figure 15: Set Source Identifier and Operational Limit Window

E Cisco DNA Center		Configure Basic ITSM (ServiceNow) CMDB synchronization	
Bundles Configu	urations		
		Set Source Identifier and Operational Limit	
	Basic ITSM (ServiceNow) C	Enter Discovery Source * Other Automated 32	
В	You can schedule a synchronization or trigger configuration management database(CMDB). ¹ Management processes of incident, change o between Cisco DNA Center and the CMDB sy-	Enter Max Limit * 1000	
Vendor Cisco Systems, Inc.	Center platform. Otherwise, further bundle inte		
Version 1.3.1	Information Contents Release Notes		
Platform DNAC 1.2.5 + Tags Device Discovery, CMDB Syncronization	This Basic ITSM(ServiceNow) CMDB Sync publishes it either one-time or on a recurring Reconciliation API on the ITSM(ServiceNow on the ITSM(ServiceNow) system with the s a duplicate in the response. Any updated int activity does not delete any Cfs on the exist		

Configure the following values:

- Enter Destination Type: Enter the same value as previously selected or keep the value at its default, Other Automated.
 - Synchronize device inventory directly with CMDB
 - · Post device inventory details to a staging table
- **Note Other Automated** is a preconfigured value for the discovery source attribute in an OOB ServiceNow instance. This is the value that indicates the data source from where the ServiceNow CI was discovered. As a default, Cisco uses one of the existing preconfigured values for the integration.

We recommend that the user creates their own discovery source, so as to uniquely identify the source from where the devices were fetched to sync into the ServiceNow instance. The steps to create a new discovery source are described in the ServiceNow App 'Installation and Configuration guide'.

• Enter the Max Limit: Maximum number of devices that can be synchronized in an iteration (single API call).

After entering the above information, click Next.

Step 21 In the **Summary** window, review the configuration summary.

Figure 16: Summary Window

E Cisco DNA Center		Configure Basic ITSM (ServiceNow) CMDB synchronization
Bundles Configu	rations	
< Bundles		Summary Review your configuration and make any changes.
	Basic ITSM (ServiceNow) C	V Destination and Instance of Vinneget. Destination and Instance Cellt Destination ServiceNow Domain: https://ven02562.service-now.com Un: /api/x_caci_cisco_dna/dna_utils/CreateReferencesForCls Username alamelu Password: ********
В	You can schedule a synchronization or trigger configuration management database(CMDB). Management processes of incident, change o between Cisco DNA Center and the CMDB sy	Inventory Data Fields Edit Send To Destination: Host Name (A), MAC Address (A), Device Id (A), IP Address (RF), Serial Number (A), Upgrade Failure Reason (A), CurrentSMU Upgrad Date (A), CourrentSMU (A), Prior Upgrade Date (A), Code Upgrade Date (A), Euliding (RF), Location (RF), Time Since Code Upgrade (A), Ports (A), Number 4 Users (A), Role (A), Uptime (A), Reachability status (A), Part Number (RF), Type (A), Software Version (A)
Vendor Cisco Systems, Inc.	Center platform. Otherwise, further bundle intr	V Data Transforms Edit
Version 1.3.1	Information Contents Release Notes	Transformations: Routers: cmdb_ci_ip_router, Switches and Hubs: cmdb_ci_ip_switch
Platform DNAC 3:2:5 + Tags Device Discovery, CMDB Syncrenization	This Basic ITSM(ServiceNow) CMDB Sync publishes it either one-time or on a recurring Reconciliation API on the ITSM(ServiceNow on the ITSM(ServiceNow) system with the s a duplicate in the response. Any updated int activity does not delete any CIs on the exist	Discovery Source: Other Automated Max Limit: 1000

After reviewing the information, click Configure.

For a successful configuration, you will receive a Done! Bundle Configured message.

What to do next

Configure the Integration Flow for this bundle (Schedule to Publish Inventory Details - ServiceNow Connector), using one of the methods described in Step 8.

You can also test the CMDB synchronization by performing the following tasks:

- In the Cisco DNA Center GUI, click the Menu icon (≡) and choose Platform > Runtime Dashboard > CMDB Synchronization Summary. Click Refresh to refresh the GUI view. Review the inventory device synchronization status to ServiceNow.
- In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Runtime Dashboard** > **Event Summary**. Click **Refresh** to refresh the GUI view. Click the individual events in the window to view the event data and access links to ServiceNow.
- Go to ServiceNow and search for a synchronized device. Check the **Configuration** and **Other Attributes** tabs for synchronized data in that device's record.

Configure the Network Issue Monitor and Enrichment for ITSM (ServiceNow) Bundle

Perform this procedure to set up monitoring for network for assurance and maintenance issues, as well as publishing event details to a ServiceNow system.

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Note Event data can be published to the **Event** table in ServiceNow. This requires that you have the Event Management plugin in your ServiceNow instance. If you do not have the Event Management plugin in your ServiceNow instance, the bundle can be configured to send the data to a REST API endpoint in the Cisco DNA App.

Before you begin

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Manage** > **Bundles**.

Review the displayed bundles and their current status.

Step 2 Click the **Network Issue Monitor and Enrichment for ITSM (ServiceNow)** bundle link or icon (colored square with initial) for additional information about the bundle.

Additional information provided may include the following:

- General information: Vendor, version, platform, tags displayed under the square icon.
- **Information**: Tab that displays general information (purpose of bundle and how bundle works in the network), sample schemas, configuration notes, and other data about the bundle.
- **Contents**: Tab that accesses the APIs and integration flows that make up the bundle, or provides information about the integration flows that make up the bundle.
- Release Notes: Tab that displays latest release information about the bundle, including its version.
- **Step 3** Click each of the above tabs and review the information about the bundle.
- **Step 4** Click the **Enable** button to enable the bundle.

An **Information** field appears in the window.

Step 5 In the **Information** field, click the **Enable** button to confirm enabling the bundle.

After clicking the **Enable** button to confirm, a success message appears.

- **Step 6** Click **OK** in the success message.
- **Step 7** Click the **Configure** button to configure at the bundle level.

A configuration slide-in pane appears.

- **Step 8** In the configuration slide-in pane, click **ServiceNow Access Settings** to configure a ServiceNow Connection instance.
- **Step 9** Click the radio button to configure either an existing ServiceNow Connection instance or configure a new instance.

Figure 17: Example of ServiceNow Instance Configuration Fields

E Cisco DNA Center		Configure Network Issue Monitor and Enrichment for ITSM (ServiceNow)	
Bundles Configurations		Configure your bundle	×
		 ServiceNow Access Settings 	Â
	Network Issue Monitor and Enrichment f	>> Back to Select Instance	
	You can use this bundle to monitor your network for assurance and system. This bundle also contains APIs that extract rich network co Center and the ITSM (ServiceNow CMDB) system, then activate the		
Vendor Cisco Systems, Inc.	Information Contents Release Notes	Instance Name *	
Version 1.7.5	The Network Issue Monitor and Enrichment for ITSM (Servic bundle then publishes the event data on a recurring schedule to		
Platform Cisco DNA Center 1.2.5 +	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-po		
Tags IT Event Network Management,	To view the list of Assurance issues that you may wish to monito event, the values for 'Domain', 'Category', 'Severity' and 'Worl		
ITSM, Assurance, Enrichment	The 'Workflow' value determines the ITSM(ServiceNow) workfl an Event, 'Incident' or 'Problem.'	Username * <username-for-servicenow-host></username-for-servicenow-host>	
	Note: This bundle also receives updates from the ITSM(Service populates the Runtime Dashboard with this data.	Password * SHOW	
	The following is the sample schema of the event posted to the	Hint Check connectivity	
	* seventy*: "integer", *source*: *string; *node*: *string; *type: * string; *veverclass*: *string; *time_of_event*: *string;	> Destination to receive events	×
	"message_key": "string", "description": "string",	Cancel	Activate

For configuring an existing ServiceNow Connection instance, choose it from the drop-down menu in the window and click **Activate**.

Step 10 For configuring a new ServiceNow Connection instance, the following additional information must be entered.

- Instance Name: Name of the instance.
- Description: Descriptive text of the instance.
- Host name: Host name for the ServiceNow system.
- Username: Username required to access the ServiceNow system.
- Password: Password required to access the ServiceNow system.
- **Step 11** Click **Check Connectivity** to test whether you can connect to the server where the endpoint is located.

After a successful test of connectivity to the server, proceed to configure **Destination to receive events**.

- **Step 12** In the configuration slide-in pane, click **Destination to receive events** to configure a Destination Connection instance.
- **Step 13** Click the radio button to configure either an existing Destination Connection instance or configure a new instance.

E Cisco DNA	Center	Configure Network Issue Monitor and Enrichment for ITSM (ServiceNow)	
Bundles Configu	rations	Configure your bundle	×
		> ServiceNow Access Settings	*
Ν	Network Issue Monitor and Enrichment f	 Destination to receive events 	
	You can use this bundle to monitor your network for assurance and system. This bundle also contains APIs that extract rich network or Center and the ITSM (ServiceNow CMDB) system, then activate the		
Vendor Cisco Systems, Inc.	Information Contents Release Notes	Instance Name *	
Version 1.7.5 Platform	The Network Issue Monitor and Enrichment for ITSM (Servic bundle then publishes the event data on a recurring schedule to	Description	
Cisco DNA Center 1.2.5 + Tags	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-po To view the list of Assurance issues that you may wish to monito	DESTINATION TO RECEIVE EVENTS	
IT Event Network Management, ITSM, Assurance,	event, the values for 'Domain', 'Category', 'Severity' and 'Worl The 'Workflow' value determines the ITSM(ServiceNow) workfl	Destination to receive events * \sim	
Enrichment	an Event, 'Incident' or 'Problem' Note: This bundle also receives updates from the ITSM[Service populates the Runtime Dashboard with this data.	Destination Uri Enter a custom endpoint	
	The following is the sample schema of the event posted to the I		- 1
	{ "severity": "integer", "source": "string", "node": "string",		
	"type": "string", "event_class": "string", "time_of_event": "string",	¢	w b
	"time_of_event::"string", "message_key": "string", "description": "string",	Cancel Activate	

Figure 18: Example of Destination to Receive Events Configuration Fields

For configuring an existing Destination Connection instance, choose it from the drop-down menu in the window and click **Activate**.

Step 14 For configuring a new Destination instance, the following additional information must be entered.

- Instance Name: Name of the instance.
- Description: Descriptive text of the instance.
- Destination to receive events: Choose one of the following:
 - Event Management: When setting up Cisco DNA Center integration with ServiceNow without using the Cisco DNA App, choose the Event Management option. The Event Management option also requires that you have the Event Management plugin configured within the ServiceNow instance.
 - **REST API Endpoint**: The **REST API Endpoint** option can be used with the Cisco DNA App. Data is sent to a REST API endpoint within the Cisco DNA App with the **REST API Endpoint** option.
 - Generic REST Endpoint in ServiceNow: For the Generic REST Endpoint in ServiceNow option, you can send the data to a different staging table in ServiceNow.
- Destination URI: Enter a destination URI (Uniform Resource Indicator) for the Generic REST Endpoint in ServiceNow option. This field is mandatory for this option.

After entering this information, proceed to the next step.

Step 15 Click **Activate** to save your changes and activate the bundle or click **Cancel** to cancel the configuration and close the slide-in pane.

The changes made to the bundle begin to take effect immediately. Additionally, the bundle status changes from **ENABLED** to **ACTIVE**.

Configure Event Settings

The Cisco DNA Center platform and ITSM integration permits you to choose from a list of possible issues to create and modify the severity of events, incidents, or problems in ServiceNow to match your business priorities. You perform these tasks in the **Events Settings** window. The **Events Settings** window is accessible from the **Configurations** menu option in the Cisco DNA Center platform.

Note For this release, there are no SWIM event to configure in **Event Settings**, you only configure network assurance events.

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Important The Event Settings window and its functionality is only applicable to events for an ITSM (ServiceNow) integration and not for events configured to other destinations. For events being configured to a webhook or other destination, click the link above the columns to access the Events window. Use the Events window to configure events for an email, webhook, or SNMP trap.

Figure 19: Events Settings Window

■ Cisco DNA Center		Pla	tform				0	<
Manage Bundles Configurations								
Configurations Set global settings or across multiple bundl	es for a custom platform experience.							
Event Settings	Event Settings							
General Settings	√ Filter						EQ Find	
	Event Name	Domain	Туре	Category	Severity	Workflow	Actions	
	AP Coverage Hole	Know Your Network	NETWORK	WARN	3	Incident	Edit	Â
	AP CPU High Utilization	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP License Exhausted on WLC	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP Memory High Utilization	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	AP Reboot Crash	Know Your Network	NETWORK	WARN	3	Incident	Edit	
	BGP Tunnel Connectivity	Know Your Network	NETWORK	ERROR	2	Incident	Edit	

Before you begin

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the Menu icon (\equiv) and choose Platform > Manage > Configurations.

A Configurations window opens that contains an Events Settings section.

Step 2 Review the **Event Settings** section that appears.

The following Event Settings information is displayed:

- Event Name: Name of the Cisco DNA Center event.
- Domain: Domain of the Cisco DNA Center event.
- Type: Network, App, System, Security, Integrations type.
- Category: Error, Warn, Info, Alert, Task Progress, Task Complete
- Severity: P1 (Severity 1) through P5 (Severity 5).
- **Note** Severity 1 is the most important or critical priority and should be assigned as such.
- Workflow: Incident, Problem, Event, or RFC (Request for Change)
- Actions: Edit

You can adjust what is displayed in the table by clicking the **Filter** icon and using the filter, or by typing a keyword in the **Find** field. For example, to display all access point notifications, type 'AP' in the **Find** field. To view all network notifications, type 'Network' in the **Find** field. To view all severity notifications, type '1' in the **Find** field.

Step 3 Click **Edit** in the **Actions** column to edit an event.

Choose a setting by clicking on the downward pointing angle and adjust the value. For example, click **Network** and adjust to **App**. This changes the event type from a network type to an application type. Click **Severity** and adjust to **1** from **5**. This raises the severity level from 5 to 1.

Step 4 Click the box next to the Event name to enable notifications.

This enables notifications through Cisco DNA Center when the event occurs in the future.

Step 5 Click **Save** to save your configuration.

Configure the Cisco DNA Center Automation Events for ITSM (ServiceNow) Bundle

Perform this procedure to set up monitoring and publishing events requiring software image updates for compliance, security, or other operational triggers to a ServiceNow system.



Note Event data can be published to the **Event** table in ServiceNow. This requires that you have the Event Management plugin in your ServiceNow instance. If you do not have the Event Management plugin in your ServiceNow instance, the bundle can be configured to send the data to a REST API endpoint in the Cisco DNA App.

Before you begin

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Manage** > **Bundles**.

Review the displayed bundles and their current status.

Step 2 Click the **Cisco DNA Center Automation events for ITSM (ServiceNow)** bundle link or icon (colored square with initial) for additional information about the bundle.

Additional information provided may include the following:

- General information: Vendor, version, platform, tags displayed under the square icon.
- **Information**: Tab that displays general information (purpose of bundle and how bundle works in the network), sample schemas, configuration notes, and other data about the bundle.
- **Contents**: Tab that accesses the APIs and integration flows that make up the bundle, or provides information about the integration flows that make up the bundle.
- Release Notes: Tab that displays latest release information about the bundle, including its version.
- **Step 3** Click each of the above tabs and review the information about the bundle.
- **Step 4** Click the **Enable** button to enable the bundle.

An **Information** field appears in the window.

Step 5 Click the **Enable** button in the **Information** field to confirm enabling the bundle.

After clicking the Enable button to confirm, a success message appears.

- **Step 6** Click **OK** in the success message.
- **Step 7** Click the **Configure** button to configure at the bundle level.

A configuration slide-in pane appears.

- **Step 8** In the configuration slide-in pane, click **ServiceNow Access Settings** to configure a ServiceNowConnection instance.
- **Step 9** Click the radio button to configure either an existing ServiceNow Connection instance or configure a new instance.

Figure	20:	Example	of	ServiceNow	Instance	Configuration Fields	
--------	-----	---------	----	------------	----------	----------------------	--

E Cisco DNA Center		Configure SWIM Events for ITSM (ServiceNow)	
Bundles Configurations		Configure your bundle	×
		 ServiceNow Access Settings 	Â
	SWIM Events for ITSM (ServiceNow)	>> Back to Select Instance	- 1
s	You can use this bundle to monitor and publish events that require system. Please note that, if your network devices have not been sy ServiceNow CMDB synchronization' bundle before activating this b		
Vendor Cisco Systems, Inc.	Information Contents Release Notes		- 1
Version 1.7.6 Platform	This SWIM Events for ITSM (ServiceNow) bundle retrieves ev triggers from Cisco DNA Center. This bundle can then publish th		- 1
Cisco DNA Center 1.2.5 +	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-pu		- 1
Tags SWIM, Image Update	This bundle also receives updates for the event and its associat data.	https:// <servicenow-host-name></servicenow-host-name>	- 1
	The following is a sample schema of the event posted to the IT (- 1
	"severity"-""integer", "sever": "string", "node": "string", "type": "string", "sever_class": "string",	Password *	
	<pre>"time_of_event": "string"; "message_key": "string"; "description": "string"; "cd_identiler": string"; "additional_info": "string"</pre>	> Destination to receive events	•
	} Configuration Notes	Cancel Activate	

For configuring an existing ServiceNow Connection instance, choose it from the drop-down menu in the window and click **Activate**.

Step 10 For configuring a new ServiceNowConnection instance, the following additional information must be entered.

- Instance Name: Name of the instance.
- Description: Descriptive text of the instance.
- Host name: Host name for the ServiceNow system.
- Username: Username required to access the ServiceNow system.
- Password: Password required to access the ServiceNow system.
- **Step 11** Click **Check Connectivity** to test whether you can connect to the server where the endpoint is located.

After a successful test of connectivity to the server, proceed to activate the bundle.

- **Step 12** In the configuration slide-in pane, click **Destination to receive events** to configure an Destination Connection instance.
- **Step 13** Click the radio button to configure either an existing Destination Connection instance or configure a new instance.

Figure 21: Example of Destination to Receive Events Configuration Fields

≡ Cisco DNA C	Center	Configure SWIM Events for ITSM (ServiceNow)
Bundles Configur	ations	Configure your bundle X
		> ServiceNow Access Settings
s	SWIM Events for ITSM (ServiceNow) EMA You can use this bundle to monitor and publish events that require system. Please note that, if your network devices have not been sy	 Destination to receive events
Vendor Cisco Systems, Inc.	ServiceNow CMDB synchronization' bundle before activating this b	INFORMATION Instance Name *
Version 1.7.6 Platform	This SWIM Events for ITSM (ServiceNow) bundle retrieves ov triggers from Cisco DNA Center. This bundle can then publish th	Description
Cisco DNA Center 1.2.5 + Tegs SWIM, Image Update	The event data can be published to the "Event" table in ServiceN can be configured to receive events in any generic REST end-port This bundle also receives updates for the event and its associate data.	
	The following is a sample schema of the event posted to the iT { teaure(r)*:instepari, teaure(r)*:strong), topat::istrong), topat::istrong', tome.of_exent::istrong', terme.of_exent::istrong', teaure(r)*:strong', t	Destination Uri Enter a custom endpoint
	Configuration Notes	Cancel Activate

For configuring an existing Destination Connection instance, choose it from the drop-down menu in the window and click Activate.

- **Step 14** For configuring a new Destination instance, the following additional information must be entered.
 - Instance Name: Name of the instance.
 - Description: Descriptive text of the instance.
 - Destination to receive events: Choose one of the following:
 - Event Management: When setting up Cisco DNA Center integration with ServiceNow without using the Cisco DNA App, choose the Event Management option. The Event Management option also requires that you have the Event Management plugin configured within the ServiceNow instance.
 - **REST API Endpoint**: The **REST API Endpoint** option can be used with the Cisco DNA App. Data is sent to a REST API endpoint within the Cisco DNA App with the **REST API Endpoint** option.
 - Generic REST Endpoint in ServiceNow: For the Generic REST Endpoint in ServiceNow option, you can send the data to a different staging table in ServiceNow.
 - Destination URI: Enter a destination Uniform Resource Indicator (URI) for the Generic REST Endpoint in ServiceNow option. This field is mandatory for this option.

After entering this information, proceed to the next step.

- **Step 15** Click **Activate** to save your changes and activate the bundle or click **Cancel** to cancel the configuration and close the slide-in pane.
 - **Note** By clicking **Activate**, you enable the changes made to the bundle and the changes take effect immediately. Additionally, the bundle's status changes from **ENABLED** to **ACTIVE**.

L

Cisco DNA Center Endpoint Attribute Retrieval with ServiceNow

With this Cisco DNA Center release, you can schedule a synchronization or trigger an update between the endpoint inventory and your ITSM (ServiceNow) configuration management database (CMDB). Endpoint attribute information from ServiceNow can be used to help profile endpoints in your network. ServiceNow appears in the endpoint profiling workspace as an additional probe. You may create custom profiling rules leveraging the attributes sent by ServiceNow.

Mapping between the ServiceNow CMDB fields and endpoint attributes occur at the platform level and is accomplished using the **Endpoint Attribute Retrieval with ITSM (ServiceNow)** bundle. This bundle supports the **Scheduler for ServiceNow Asset Sync** integration flow, which can be configured to run on a set schedule to invoke an internal Cisco API to retrieve the endpoint attribute information from ServiceNow.

The following table describes the procedure for configuring Cisco DNA Center endpoint attribute retrieval with ServiceNow.



Note

This procedure does not modify or delete any CIs on the existing ITSM (ServiceNow) tool.

Table 6: Cisco DNA Center Endpoint Attribute Retrieval with ServiceNow

Step	Description
Step 1	Install or upgrade to Cisco DNA Center, Release 2.2.3.
	For information about installing Cisco DNA Center, see the Cisco DNA Center Installation Guide.
Step 2	Install or upgrade to ServiceNow running any of the following versions:
	• Quebec
	• Paris
	• Rome
	• San Diego
	• Tokyo
	Refer to your ServiceNow documentation for its installation and upgrade procedures.
	Note This procedure must be performed by a ServiceNow administrator.

Step	Description
Step 3	Download and install the Cisco DNA app (version 2.0.0) into ServiceNow by following the documentation available at the ServiceNow website.
	Note Cisco DNA Center supports an application (Cisco DNA) that facilitates endpoint attribute retrieval with an ITSM (ServiceNow). This application or app is designed to work with ServiceNow <i>without</i> its Event Management plug-in.
	Click this link to access the ServiceNow Store website where the Cisco DNA app is located:
	https://store.servicenow.com/sn_appstore_store.do#!/store/application/ 03eb0f4ddbf6ba00f27978b5ae96197b/2.0.0
	Note This procedure must be performed by a ServiceNow administrator.
Step 4	Review and ensure that the requirements are met for the Cisco DNA Center-to-ServiceNow integration. For information, see Requirements, on page 23.
Step 5	Configure the Endpoint Attribute Retrieval with ITSM (ServiceNow) bundle.
	For information, see Configure the Endpoint Attribute Retrieval Bundle with ITSM (ServiceNow), on page 43.

Requirements

Review and ensure that the following networking and systems requirements are met for the Cisco DNA Center-to-ServiceNow integration:

- Networking:
 - The Cisco DNA app is configured with the IP address and access information of the Cisco DNA Center installation that it is being integrated with.



Note

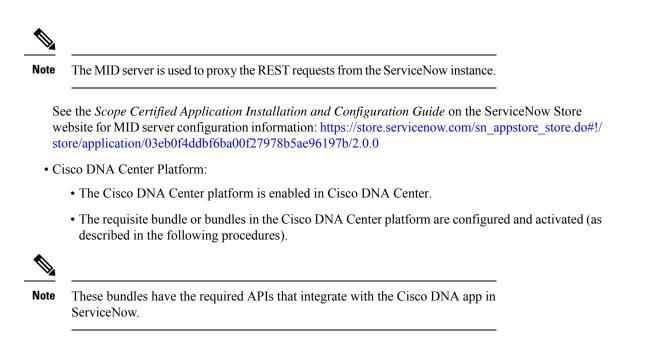
Contact your Cisco DNA Center administrator to obtain this information.

• HTTPS network access between Cisco DNA Center and ServiceNow (including the MID server) is established.

Note Contact and work with your network administrator to establish this.

• Management, Instrumentation, and Discovery (MID) Server:

- The MID server is up and running, as well as accessible from the ServiceNow instance.
- The Cisco DNA Center platform is accessible from the MID server.
- The Cisco DNA Center platform REST APIs are allowed from the MID server.



Configure the Endpoint Attribute Retrieval Bundle with ITSM (ServiceNow)

Perform this procedure to configure the Cisco DNA Center endpoint attribute retrieval from the ServiceNow CMDB.

Before you begin

- Ensure that you have ServiceNow running on a system that you will integrate with Cisco DNA Center platform
- You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Manage** > **Bundles**.

Review the displayed bundles and their current status.

Step 2 Click the **Endpoint Attribute Retrieval with ITSM (ServiceNow)** bundle link or icon (colored square with initial) for additional information about the bundle.

Additional information provided may include the following:

- General information: Vendor, version, platform, tags displayed under the square icon.
- **Information**: Tab that displays general information (purpose of bundle and how bundle works in the network), sample schemas, configuration notes, and other data about the bundle.

- **Note** The specific endpoint attribute data that is retrieved is displayed in the **Information** tab. The following endpoint attribute data will be retrieved from ServiceNow (with the display name in Cisco DNA Center within the parenthesis):
 - Asset Tag (CMDB asset tag)
 - Model Category (CMDB model category)
 - Model (CMDB model)
 - Managed by (CMDB managed by)
 - Serial Number (CMDB serial number)
 - Location (CMDB location)
 - Department (CMDB department)
 - MAC address (CMDB MAC address)
 - Display name (CMDB display name)
- **Contents**: Tab that accesses the APIs and integration flows that make up the bundle, or provides information about the integration flows that make up the bundle.
- Release Notes: Tab that displays latest release information about the bundle, including its version.
- Step 3 Click the Contents tab.
- Step 4 Click the Integration Flows header.

An integration flow or list of integration flows appear underneath the header.

Step 5 Click the **Enable** button to activate the integration flow links.

An **Information** field appears in the window.

Step 6 In the **Information** field, click the **Enable** button to confirm enabling the bundle.

After clicking the **Enable** button to confirm, a success message appears.

- **Step 7** Click **Okay** in the success message.
- **Step 8** Click the link for the individual integration flow to perform the tasks listed below:

For Schedule-based integration flow (Scheduler for ServiceNow Asset Sync), perform the following tasks:

- Review the Description, Tags, How to Use this Flow, and scheduler.
- Click **Run Now** (to run the scheduler now), **Run Later** (to schedule for a later time), or **Recurring** (to set up a recurring schedule).

For **Run Later**, you need to select a date, time, and time zone. For **Recurring**, you need to set a repeating interval (daily or weekly), an interval duration (minutes or hours), and a start and end date.

• Click Schedule to enable the scheduler.

 Important
 Only configure and enable an integration flow schedule, after you have finished configuring the bundle itself as described in this procedure. You can configure and enable an integration flow schedule by returning to this view and clicking Schedule, or by clicking the View Flows link in the Endpoint Attribute Retrieval with ITSM (ServiceNow) slide-in pane (see following steps), or by clicking the Menu icon (≡) > Platform > Developer Toolkit > Integration Flows > Scheduler for ServiceNow Asset Sync.

Figure 22: Scheduler for ServiceNow Asset Sync

Eisco DNA Center	Data ani	Scheduler for ServiceNow Asset Sync	×
Integration Flows		DESCRIPTION	
 Integrations ITSM Integration 	Inte	This BAPI runs on defined schedule to invoke an other BAPI-Get CI Data from SNow TAGS	
	View RES base	CMDB Asset ITSM Integration HOW TO USE THIS FLOW	
	ITSI	The integration flows can be scheduled to run periodically at a specified date/time. Configure scheduling the integration flow with the form provided. * Schedule window cannot be lower than 1 hour with a concurrency of 1	
	Get /	Run Now Run Later	
	Schr	Recurring	
		Schedule	

- **Step 9** Click the **X** icon at the upper right of the window to close it and return to the previous bundle window.
- **Step 10** Click the **Configure** button to configure at the bundle level.

A configuration slide-in pane appears. Proceed to review the **Configure Endpoint Attribute Retrieval with ITSM** (ServiceNow) information.

Step 11 Click the **Configure** button to configure at the bundle level.

A configuration slide-in pane appears.

- **Step 12** In the configuration slide-in pane, click **ServiceNow Access Settings** to configure a ServiceNow Connection instance.
- Step 13 Click the radio button to configure either an existing ServiceNow Connection instance or configure a new instance.

Figure 23: Example of ServiceNow Instance Configuration Fields

■ Cisco DNA Center			Configure Endpoint Attribute Retrieval with ITSM (ServiceNow)	
Bundles Configu	irations		Configure your bundle	×
< Bundles	Endpoint Attr	ribute Retrieval with I	 This bundle has additional configurations for its Schedule-Based Integration Flows. View Flows Scheduler for ServiceNow Asset Sync - Unscheduled 	
E	database (CMDB). Er	synchronization or trigger an upda adpoint attribute information from rkspace as an additional probe. U	ServiceNow Access Settings This is used to specify the connection settings to a ServiceNow instance Select an existing instance Greate a new instance	
Vendor Cisco Systems, Inc.	Information Cont	ents Release Notes		*
Version 1.0.9		ute Synchronization with ITSM (dule to DNA Center. This activity	INFORMATION	
Platform ServiceNow			Instance Name *	
Tags Endpoint Profiling, Endpoint Classification, CMDB	DNA Center - Endp	omt Data Retrieval	Description	
			SERVICENOW ACCESS SETTINGS	
	ServiceNow Field Name	Display name in DNA	e	•
	Asset Tag	CMDB_assetTag		
	Model Category	CMDB_modelCategory		
	Model	CMDB_model		
	Managed by	CMDB_managedBy		
	Serial Number	CMDB_serialNumber	<u>د</u>	•
	Location	CMDB_location	Car	ncel Activate
	Department	CMDB_department		

For configuring an existing ServiceNow Connection instance, choose it from the drop-down menu in the window and click **Activate**.

Step 14 For configuring a new ServiceNow Connection instance, the following additional information must be entered.

- Instance Name: Name of the instance.
- Description: Descriptive text of the instance.
- Host name: Host name for the ServiceNow system.
- Username: Username required to access the ServiceNow system.
- Password: Password required to access the ServiceNow system.
- **Step 15** Click **Check Connectivity** to test whether you can connect to the server where the endpoint is located.
- **Step 16** Click **Activate** to activate the bundle.

What to do next

Configure the integration flow (**Scheduler for ServiceNow Asset Sync**) for this bundle, using one of the methods described in Step 8 above.



SWIM Closed Loop Automation

- About SWIM Closed Loop Automation, on page 47
- SWIM Closed Loop Automation Requirements, on page 48
- SWIM Closed Loop Automation Workflow, on page 48

About SWIM Closed Loop Automation

This release supports closed loop automation for software image management (SWIM) between Cisco DNA Center and ServiceNow. Closed-loop automation consists of a user configuring the provisioning of software device images in Cisco DNA Center. This configuration information is then communicated directly from Cisco DNA Center to ServiceNow as an immediate or scheduled change request. The ServiceNow administrator reviews the change request and either approves or rejects it in ServiceNow. The change request acceptance or rejection is then communicated back to Cisco DNA Center.

After receipt of an approved change request from ServiceNow, Cisco DNA Center performs the software update at that time (immediately) or at its scheduled future time.

After Cisco DNA Center successfully performs the software update, a notification (task completed) is sent back to ServiceNow. If the software update fails, then this is also communicated back to ServiceNow (task fail), so that the user can then manually perform the software update in Cisco DNA Center.



Note

If the SWIM provisioning is stopped by the user in Cisco DNA Center during this process, a task termination notification is sent to ServiceNow.

Perform the following procedures to enable SWIM closed loop automation between Cisco DNA Center and ServiceNow:

- 1. Review the requirements to ensure that the prerequisites for this feature have been met. See SWIM Closed Loop Automation Requirements, on page 48.
- 2. Review the SWIM closed loop automation workflow to ensure that the required Cisco DNA Center admin and ServiceNow admin tasks are performed for this feature. See SWIM Closed Loop Automation Workflow, on page 48.

SWIM Closed Loop Automation Requirements

The following table lists the requirements for SWIM closed loop automation feature.

Table 7: SWIM Closed Loop Automation Requirements

Software Product, App, or Procedure	Requirement
Cisco DNA Center	Release 2.2.3.
Service Now	The following ServiceNow release versions support this feature:
	• Quebec
	• Paris
	• Rome
	• San Diego
	• Tokyo
Cisco DNA Center app	Cisco DNA app (version 2.0.0)
	This app is available through the ServiceNow website located at:
	https://store.servicenow.com/sn_appstore_store.do#!/store/application/ 03eb0f4ddbf6ba00f27978b5ae96197b/2.0.0
	The Cisco DNA app is to be installed in your ServiceNow instance by a ServiceNow administrator.
Cisco DNA Center to ServiceNow ITSM integration	Review the <i>Cisco DNA Center Integration with ServiceNow using the Cisco DNA App</i> workflow and use it to set up the integration.
	See Cisco DNA Center Integration with ServiceNow Using the Cisco DNA App, on page 21.

SWIM Closed Loop Automation Workflow

The following table describes the SWIM closed loop automation workflow between Cisco DNA Center and ServiceNow.

Table 8: SWIM Closed Loop Automation Workflow

Step	Description	1
Step 1	The Cisco I in the netwo Note	DNA Center admin configures the Image Repository to prepare for the provisioning of devices ork. See the Manage Software Images chapter in the Cisco DNA Center User Guide for information about setting up the Image Repository, as well as to review the software image provisioning process.

	Description	Description						
Step 2	The Cisco DNA C	enter admin distributes the software image to a device or devices at the present time of						
	schedules this activ	vity for a later time.						
	Note Before	e this step is done, ensure that the Cisco DNA Center Automation events for ITSM						
		iceNow) bundle is configured and activated.						
	• From the Cisc	co DNA Center home page, the admin clicks Provision .						
	• From the Foc image to upgr	us drop-down list, the admin chooses Software Images and selects the device with the rade.						
	• From the Acti following:	ions drop-down list, the admin chooses Software Images > Update Image and does the						
		As Clinks Manual start the distribution increased in the second inter-						
		te: Clicks Now to start the distribution immediately or clicks Later to schedule the ion at a specific time.						
	• Clicks N	ext.						
	Activate	: Clicks Now to start the activation immediately or clicks Later to schedule the activation						
	at a spec	•						
	• Confirm	a: Clicks Confirm to confirm the update.						
	5							
	Figure 24: Cisco I	DNA Assurance Provision						
	E Cisco DNA Cen							
	Inventory Plug and Pl	tay						
	Inventory Plug and Pl zq. Find Hierarchy							
	Inventory Plug and Pl	tay DEVICES (1394) rocus: Inventory → ♀ Global						
	Inventory Plug and Pl EQ. Find Herarchy < & Global © Unassigned Devices & area5	tay						
	Inventory Plug and Pl EQ. Find Herarchy & @ Global © Unassigned Devices	tay itsy itsy itsy itsy itsy itsy itsy its						
	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	tay						
	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	Services (1394) Procuss. Inventory ~ Clobal Clobal Estimation <						
	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	Set State Sta						
	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	Iteration Op/Constructory Image: Constructory operation ope						
	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	Iteration Op/Construint Corry Image: Construint Corry						
	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	Itery O Add Device Tag Device Actions of 0 Take a Tour East one of 0 Control (1)						
	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	Selected 1384/ roccus: Inventory ~ © Global Envices 1384/ roccus: Inventory ~ Envices 1384/ roccus: Inventory ~ Envices 1384/ roccus: Inventory ~ Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384/ roccus: Inventory ~ Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour Envices 1384 mag benice Actions ~ 0 Take a Tour • Ovices Name ~ P Addres Pervice Name ~ 0 PAddres Reschable 10 Assign 70031738-186 # Addres 8 8.130.0 85.499.0 2 mag 2 addres 2 mag • Addres Add						
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	Inventory Plug and Pl <u>cq</u> Find Herarchy ✓ இ Global © Unassigned Devices @ area6 > @ Canada	Instrument Concernment						
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)	Desc	riptio	on										
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	The S	SWI	M ever	nt app	bear	s in the	ServiceNow GU	Л in th	e Servio	ceNow Cha	nge Requ	ests table	
	Figure	25: S	erviceN	ow Ch	ange	Request	s						
	servic	enow	Service Manager	ment							<u>.</u>	Cisco Employee 1001	• Q 🗗 🕐
	Filter n	avigator			Change I	Requests New	Search Updated v Search				V	A ≪≪ ≪ 1	to 20 of 224 🕨 🎽
			r C) 🖓	All Q		■ Short description	≡ Type	≡ State	■ Planned start date	Planned end date	≡ Assigned to	≡ Updated ▼
	🟦 Home			2		Search	Search	Search	Search	Search	Search	Search	Search
	E Change	e - All			i	CHG0030654	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:19:5
					()	CHG0030652	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:03:4
					<u>(</u>)	CHG0030653	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:03:4
					í	CHG0030651	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:03:4
					(j)	CHG0030650	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-22 09:43:4
					i	CHG0030649	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:57:1
					<u>(</u>)	CHG0030648	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:42:1
					(i)	CHG0030647	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:42:1
					í	CHG0030646	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:42:1
					(i)	CHG0030645	SWIM Upgrade Request Creation Image Activation	Standard	Closed	2019-10-21 23:47:00	(empty)	(empty)	2019-10-21 23:52:5
					(j)	CHG0030644	SWIM Upgrade Request Creation Image Activation	Standard	Canceled	2019-10-22 00:13:00	(empty)	(empty)	2019-10-21 23:44:1
					(j)	CHG0030643	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-21 23:14:4
					(j)	CHG0030641	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-21 22:58:2

Step	Description						
Step 4	In the Change R open and review request. For exar Management' for request with info	its status and d nple, the admin r the Assignme	ata. In the Se a can change nt group . Th	erviceNow GUI the State from the ServiceNow a	, the ServiceNo 'New' to 'Scheo	bw admin can a luled' and ente	edit the change r 'Change
	Figure 26: Change Re	equest					
	servicence Service Management					Cisco E	mployee 1001 - 🔍 🗗 🕐 🧔
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	0 ★ 0	Number	INC0011945		Contact type	None	•
	合 Home	* Caller	Cisco Employee 1001	Q =< (1)	State	In Progress	*
	DNA App Log	Category	Inquiry / Help	•	Impact	4	*
	Problems - All	Subcategory	None	•	Urgency	4	•
	Events - All	Business service		٩	Priority	5 - Planning	
	🗮 Alerts - All	Configuration item		Q & O	Assignment group		Q
	incidents - All				Assigned to		Q
	Import Sets	* Short description	Device name: CSR_REG_4.cisco.co	m' at site:'Global/Bangalore/Electronic city' - BGI	P peering with neighbor '1.1.1.1' failed due to	Autonomous System (AS) Number m	8
	Echange - All	Description					
		·		Related Sea	arch Results >		
		Notes Related Records Closure Infor	mation Cisco DNA				
		Watch list	8 2		Work notes list	8 8	
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	· · · · · · · · · · · · · · · · · · ·	Work notes	Work notes				01
	S /						
tep 5	The ServiceNow synchronized fro <i>Figure 27: Cisco DNA</i>	om Cisco DNA				s tab.	sionee 1001 • Q, 다가 ĝ) (호) 2014 Change Request : Recolve : Delete
	+ Hitter navigator	< = INC0011945				Torion Cleare cisco	own change wequest in source Determined
		Number	INC0011945		Contact type	None	•
	Home	* Caller	Cisco Employee1001	Q #6 ①	State	In Progress	×
		Category	Inquiry / Help	*	Impact	4	¥
	erroblems - All	Subcategory	None	•	Urgency	4	¥
	Events - All	Business service		Q	Priority	5 - Planning	
	Alerts - All	Configuration item		Q 🖁 🛈	Assignment group		Q
	Incidents - All				Assigned to		Q
	Import Sets	* Short description	Device name: CSR_REG_4.clsco.com	n' at site:'Global/Bangalore/Electronic city' - BGP	peering with neighbor '1.1.1.1' failed due to A	utonomous System (AS) Number m	Ŷ
	Change - All	Description					
				Related Sear	rch Results >		
		Notes Related Records Closure Inform	nation Cisco DNA				
		Cisco DNA Network Userid					
		Cisco DNA Event Domain	None				×
		Cisco 360 View	https://www.wwi/dna/assurance/h	ome#networkDevice/becc81f6-f1ac-4f21-9b76-4	13aa2c056d8		8
	\odot /						

Step	Description										
Step 6	The ServiceNow admin no	The ServiceNow admin now either approves or rejects the change request ticket in the ServiceNow GUI.									
	to approve the request or I	In the Cisco DNA tab, the ServiceNow admin clicks the Approval Status field and clicks either Approved to approve the request or Rejected to reject the request.									
		ServiceN	quest is executed, it must be approved in ServiceNow. Or low will the change request be executed in Cisco DNA C								
	∀ Filter navigator	e Request	₽ √ ≒ eee Fatav	✓ Review Update Delete							
	Planning Schedu		es Closure Information Cisco DNA								
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	Hompage Dusiness Applications Clacs DN Cashboards	DNA Network Details	Image Pecality al Isaaning Image Nucl: 443ax7+3645434303057c Weisine: 16.64								
	Service Catalog Rocovindige Helg the Help Deak Visual Task Boards		Solution 2.4 (1997) 10 (Softman 1997) 10 (Softman 2002) 10 (Softman								
	Connect Chat Cisco D	o DNA Event Domain									
	Incidents Cisco DNA	NA Event Details and	Event Details								
	Watched Incidents	Suggested Actions	Device Upgrade Status: OUTDATED								
	My Requests		Suggested Actions Action: undefined								
	Requested Items										
	Watched Requested Items	Cisco DNA Event Id	cb088873-7fe8-447e-a245-18c8d6dc4b08								
	My Connected Apps										
	My Profile	Approval Status	✓ None Approved	•							
	My Tagged Documents Review Update	ate Delete	Rejocted								
	My Tagged Locuments Related Links										
	rey rage Calculate Risk My Knowledge Articles Workflow Context										
	~	pacted Services/Cls A	Approvers Change Tasks (2) Problems Incidents Fixed By Change Incidents Caused By Change								
Step 7	'Implement', a notification	n is sent	roves the ticket and the status of the change request is cha to Cisco DNA Center. In case the ticket is rejected, then reduled' state itself and the ServiceNow ticket is automatic	the update is							
Step 8		ow then o	update in Cisco DNA Center, a notification (task comple closes the change request ticket. The change request ticke DNA app.	· · · · · · · · · · · · · · · · · · ·							
	admin can ma the change rea	anually ta equest tic e and a te	update, ServiceNow proceeds to report the failure so that t ake action on the change request ticket. For a terminated so cket is canceled in ServiceNow. The reporting of both a f erminated software image update are also done through t	oftware update, failed software							

Step	Description												
Step 9	The Cisco DNA Center adı Summary.	The Cisco DNA Center admin can review the SWIM event by clicking on Runtime Dashboard > Event Summary .											
	Figure 29: Event Summary												
	E Cisco DNA Center			Platform -	Runtime Dashb	oard		Last Updated: 9 minutes ago 💦 📿 Refres	Q 💮 🖒				
	Runtime Dashboard									i			
	API Summary 0				Event Summ	ary O							
	Call Status				12	∑ Filter			EQ Find	_			
	Total API's O				Events published	Domain *	ztwork	Event Name BGP Tunnel Connectivity		Sount			
	Completed Call Performance API Name Version Average	Low	ŀ	ligh	DNA Event Severity Court 1 0 2 12 3 0	nt Know Your N	etwork	Network Device Interface Connectivity - OSPF Adja	cency Falure (3			
	No data to display	n/			4 0 5 0			Showing 2 of 2					
	Integration Flow Summary												
	REST-Based (0) 0 Faled Schedule-Base	ed (0) 0 Failed											
Step 10	The Cisco DNA Center adı	min click	s on a	an eve	nt nam	e (link)	to viev	v additional detail	ed data				
	Figure 30: Event History												
	Cisco DNA Center *	BGP Tunnel (Connect	ivity (6)						×			
	Runtime Dashboard	V Filter							Last Updated: a few s	econds ago O Refresh			
	Kultume Dashooaru		Last In-I	Event Flow									
	API Summary 0 Call Status	Event Id ecf17b41-	Source	Destination	ITSM Workflow	ITSM Status	ITSM Id	ITSM Link	ITSM Last UpdatedTime	ITSM Entity Severity/Priority			
		4148-4583-	ServiceNow	DNACP	Incident	In Progress	INC0011945	https://ven02561.service-now.com/nav_to.do? uri=incident.do? sys_id=6321ee6bdba44c506415f482ba9619fe	October 23rd 2019, 9:32:34 am	5 - Planning			
	Total APP's O	697d3d6a- 64cf-4617- a596- 5bb84d075830	ServiceNow	DNACP	Incident	Resolved	INC0011943	https://ven02561.service-now.com/nev_to.do? uri=incident.do? sys_id=45dbd263dbe44c506415f482be961974	October 23rd 2019, 9:00:39 am	5 - Planning			
	Completed Gall Performance API Name Version Average i No data to display.	c668fc12- 04be-4588- a034- 9891ee4a24af	ServiceNow	DNACP	Problem	Closed/Resolved	PRB0040050	https://ven02561.service-now.com/nav_to.do? uri=problem.do? sys_id=8c89a63dba44c506415f482ba9619db	October 23rd 2019, 8:39:13 am	4 - Low			
		667d5d31- 5d88-4e7d- bdc7- a9b5d9b172ae	ServiceNow	DNACP	RFC	Scheduled	CHG0030363	https://ven02561.service-now.com/nev_to.do? uri=change_request.do? sys_id=4466cse7db68c850475a5ad3ca96197a	October 23rd 2019, 7:31:23 am	4 - Low			
	Integration Flow Summary	21d6464e- 8a60-4e4b- 963e- 1551a423bfb3	ServiceNow	DNACP	Incident	Resolved	INC0011941	https://ven02561.service-now.com/nav_to.do? uri=incident.do? sys_id=a4d68a27db68c850475a5ad3ca96199e	October 23rd 2019, 7:20:14 am	5 - Planning			
	REST-Based (0) 0 Faled Schedule-Based (0)	84edad3b-						https://wen02561.service-now.com/nav_to.do?	October 23rri				

	Description										
		A Center admin c	licks on	an eve	nt ID) numl	per (link) to view	only data	a asso	ociated v	with
	specific event.										
	Figure 31: Event IL) Data									
		< BGP Turnel									
	Cisco DNA Center	P		7b41-414	8-45a3	8-b777-6	30effbe8623		Last Up	pdated: a few seconds	ago 📿 R
	the second second									EQ Find	
	Runtime Dashboard	j Last	In-Event Flow								
		Source	Destination	ITSM Workflow	ITSM Status	ITSM Id	ITSM Link	ITSM Updat	Last edTime *	ITSM Entity Severity/Priority	DNA E Severi
	API Summary 0		DNACP		In		https://ven02561.service-now.com/nav_to.do	? Octob	er 23rd		
	Call Status	ServiceNow	DNACP	Incident	Progress	INC0011945	uri=incident.do? sys_id=6321ee6bdba44c506415f482ba9619f	2019, am	9:32:34	5 - Planning	2
	Total API's	ServiceNow	DNACP	Incident	New	INC0011945	https://ven02561.service-now.com/nav_to.do url=incident.do? sys_id=6321ee6bdbs44c506415f482bs9619fi	 Octob 2019, am 	er 23rd 9:12:47	5 - Planning	2
	U							Octob	er 23rd		
	Completed Call Perform	DNACP	ServiceNow	Incident	New	NA	NA	2019, am	9:12:46	NA	2
	API Name	Version Average									
		No data to display									
	Integration Flow Sur	nmary 0									
	REST-Based (0) 0 Fai	Schedule-Based (0)		(l 17)	CN 4 T	:1- 4 -			C		
			licks on	the ITS	SM I	Link to	o return to the Ser	viceNow	Serv	vice Mar	nage
2	The Cisco DN GUI and speci	fic incident. <i>Now Incident</i>	licks on t	the ITS	SM I	link to	e return to the Ser	viceNow		rice Mar	
2	The Cisco DN GUI and speci <i>Figure 32: Service</i>	fic incident. <i>Now Incident</i>	licks on	the ITS	SM I	Link to	 P return to the Ser <i>P</i> ∧ ≒ ∞ 	retow - update	Cisco B	Employee 1001 💌	Q 67
2	The Cisco DN GUI and speci <i>Figure 32: Service</i> servicencw servicemage	fic incident. Now Incident		the ITS	SM I	Link to	₽ √ ≒ ∞∞	Follow + Update	Cisco B	Employee 1001 💌	Q 67
2	The Cisco DN GUI and speci Figure 32: Service Servicencw serva Manager	fic incident. Now Incident wet C = moder Honders Humber	INC0011945				₽ √ 🔁 👓 Contact type	Follow • Update	Cisco B	Employee 1001 💌	Q 67
2	The Cisco DN GUI and speci Figure 32: Service Servicencw serve hanger Fifter nardgår The nardgår	fic incident. Now Incident ref C = records remer * caller	INC0011945 Cisco Employee 1		Q, 54		₽ √ ± ∞∞ Contact type Sate	Follow • Update - None - In Progress	Cisco B	Employee 1001 - co DNA Change Request	Q 67
2	The Cisco DN GUI and speci Figure 32: Service Servicencw serve Manger	fic incident. Now Incident	INC0011945 Cisco Employee 1 Inquity / Help				৶৴ঽ৽৽৽ Contact type State Impact	Follow • Update -None - In Progress 4	Cisco B	Employee 1001 - co DNA Change Request	Q 67
2	The Cisco DN GUI and speci Figure 32: Service Servicencw serve Manger The navigate To the company to the compan	fic incident. Now Incident	INC0011945 Cisco Employee 1		↓ ↓ ↓		ومی در این کی کی دی د معلم این Sate Impact Urgorcy	Fotow • Update - None In Progress 4 4 4	Cisco B	Employee 1001 - co DNA Change Request	Q 67
2	The Cisco DN GUI and speci Figure 32: Service Servicencw serve Manger The navigate To the company to the compan	fic incident. Now Incident	INC0011945 Cisco Employee 1 Inquity / Help		 Q. V V Q. 	0	● 小 芒 ∞∞ Contact type Sate Impact Urgency Proofly	Follow • Update -None - In Progress 4	Cisco B	Employee 1001 • co DNA Change Request • • •	Q 67
2	The Cisco DN GUI and speci Figure 32: Service Servicentw service Manager There avegate torace torace torace torace torace torace torace torace torace torace torace torace torace torace torace torace torace torace torace	fic incident. Now Incident	INC0011945 Cisco Employee 1 Inquity / Help		↓ ↓ ↓	0	● 水 さ ∞∞ Contact type Sate Impact Urgency Ptootfly Assignment group	Fotow • Update - None In Progress 4 4 4	Cisco B	Imployee 1001 • DDAA Change Request • • • • • • • • • • • • •	Q 67
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Cisco DNA Center to PagerDuty Integration

- About Cisco DNA Center to PagerDuty Integration, on page 55
- Subscribe Cisco DNA Center Event Notifications to PagerDuty, on page 57

About Cisco DNA Center to PagerDuty Integration

You can now integrate Cisco DNA Center with PagerDuty.



Note PagerDuty is an incident management platform that provides reliable notifications to help detecting and correcting infrastructure problems. For information about PagerDuty, see https://www.pagerduty.com/.

The following table displays the supported Cisco DNA Center to PagerDuty integration workflow.

Step	Description	1			
Step 1	Review the	Cisco DNA Center to PagerDuty integration requirements.			
	The following are the requirements for an integration:				
	Cisco DNA Center, Release 2.2.3				
	• PagerI	Duty			
	Note	PagerDuty integration with Cisco DNA Center is accomplished using REST APIs and webhooks. For information about the PagerDuty integration with Cisco DNA Center using these APIs, see https://developer.pagerduty.com/docs/events-api-v2/ overview/.			

Table 9: Cisco DNA Center to PagerDuty Integration Workflow

Step	Description						
Step 3	Select and subscribe one or more event notifications from Cisco DNA Center to PagerDuty.						
	To access an event in Cisco DNA Center, click the Menu icon > Platform > Developer Toolkit > Events . Review and select an event from the Events table that supports PagerDuty integration. For example, from the list of events in the window, select AP Down and proceed to subscribe to that event.						
	Click Subscribe to configure the event for a subscription.						
Step 4	Configure the PagerDuty settings in the selected event.						
	The following data must be entered in the Cisco DNA Center platform GUI for the selected event:						
	PagerDuty Events REST API URL						
	PagerDuty Integration key (routing key)						
	For detailed information about this event configuration procedure, see Subscribe Cisco DNA Center Event Notifications to PagerDuty, on page 57.						
Step 5	Notifications for the selected event are now forwarded to PagerDuty from Cisco DNA Center.						
	The following are the supported workflow connections between Cisco DNA Center issues and PagerDuty events:						
	Open Cisco DNA Center to trigger PagerDuty.						
Step 6	PagerDuty responds to Cisco DNA Center with one of the following REST API responses:						
	• 202: The event has been accepted by PagerDuty.						
	• 400: Bad Request - Check that the JSON is valid.						
	• 429: Too many API calls at a time.						
	• 500 or other 5xx: Internal Server Error - the PagerDuty server experienced an error while processing the event.						
	Networking Error: Error while trying to communicate with PagerDuty servers.						
Step 7	Review and change (if necessary) the incident status in PagerDuty.						
	Note Refer to your PagerDuty documentation for information about performing this step.						

Step	Description
Step 8	Close the incident in PagerDuty.
	Note Refer to your PagerDuty documentation for information about performing this step.
Step 9	PagerDuty integration is a one-way notification from Cisco DNA Center to PagerDuty. Cisco DNA Center is not dependent on Pagerduty status to close an issue.

Subscribe Cisco DNA Center Event Notifications to PagerDuty

You can configure a Cisco DNA Center platform event notification to appear in PagerDuty as an alert. Follow the steps described in this procedure to configure a Cisco DNA Center event notification so that it appears in PagerDuty.

Before you begin

Ensure that you have PagerDuty running on a system that you will integrate with Cisco DNA Center platform. Refer to your PagerDuty documentation for instructions on setting up PagerDuty.

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (\equiv) and choose **Platform** > **Developer Toolkit** > **Events**.

The Events window appears.

Step 2 In the **Events** window, review the events table that is displayed by the GUI.

Note You can adjust the events that are displayed in the GUI by entering a keyword in the **Find** field.

Step 3 Review the data on an individual event within the table.

The following **Events** data is provided:

- Event ID: Identification number for the event.
- Name: Name of the event (link).

If you click this link, the **Name** slide-in pane opens for the event. The **Name** slide-in pane consists of two tabs: **Events Details** and **Active Subscriptions**.

- Description: Brief description of the event.
- Type: Network, App, System, Security, or Integrations type of event.
- Category: Error, Warn, Info, Alert, Task Progress, Task Complete.
- Severity: 1–5.
- **Note** Severity 1 is the most important or critical priority and should be assigned for this type of an event.

- **Status**: Subscription status (whether a user has subscribed to the event). If subscribed to an event, then a link appears in this column to the **Active Subscription** tab.
- **Step 4** Click a Name link to open an event subscription slide-in pane.
- **Step 5** Review the data displayed in the event subscription slide-in pane.

The following Event Details tab data is displayed:

- Description: Brief description of the event and how it is triggered.
- Event ID: Identification number of the event.
- Version: Version number of the event.
- Namespace: Namespace of the event.

The default value for this release for all of the events is ASSURANCE.

- **Domain**: REST API domain to which the event belongs.
- Sub Domain: Subgroup under the REST API domain to which the event belongs.
- Type: Network, App, System, Security, or Integrations type of event.
- Category: Error, Warn, Info, Alert, Task Progress, Task Complete.
- Severity: 1 through 5.

Note Severity 1 is the most important or critical priority and should be assigned for this type of an event.

- Cisco DNA Event Link: Event broadcast using REST URL.
- Note: Additional information about the event or to help further understanding the event.
- Tenant Aware: Whether the event is tenant aware or not.
- Tags: Tags indicate what Cisco DNA Center component is affected by the event. The default value for tags for this release is ASSURANCE with more syntax for the specific Assurance issue.
- **Supported Endpoints**: What endpoint types are supported for the event notifications. The following endpoints are supported with this release:
 - REST API
 - · Syslog server
 - Email
 - SNMP trap
- Model Schema: Presents model schema about the event:
 - Details: Example of model schema detail for the event.
 - REST Schema: REST schema format for the event.
- **Step 6** Click the **Active Subscriptions** tab.

The following Active Subscriptions tab data is displayed:

- Broadcast Methods: Email, REST API, or SNMP trap
- Count and Instances: Number of instances of notifications for emails, REST APIs or SNMP traps.
- Note After subscribing to an event, click the subscription count under **Count and Instances** to edit or unsubscribe to the active subscription. After clicking on the individual subscription count, click **Unsubscribe** to unsubscribe or **Edit** to further edit it. For multiple subscriptions, you will need to unsubscribe to each subscription one at time. The ability for multiple subscribing or unsubscribing is not supported using the GUI.
- Actions: Either unsubscribe or edit the active subscription.
- **Note** After subscribing to an event, a **Try It** button will appear in the **Active Subscriptions** tab. By clicking on this button, you are able to run an event simulation.
- **Step 7** Click the **Subscribe** button to add this event to your active subscription of events. For a *PagerDuty subscription*, configure the following fields:
 - Name: Name of the event.
 - Subscription Type: PAGER_DUTY
 - **Note** Subscription type can be set for either email, REST API endpoint (webhook), syslog server, SNMP trap, or PagerDuty.
 - Select an existing endpoint: Select the Subscription Endpoint by using the drop-down arrow.
 - Create a new endpoint: Enter a new Endpoint Name and Endpoint Description.

Enter values for the following fields:

- PagerDuty Events API URL
- PagerDuty Integration Key
- PagerDuty Events API Version

Click Subscribe to save and enable the subscription or Cancel to cancel and exit the window.

Step 8 Review your subscriptions in the **Active Subscriptions** tab.

The following information is provided for a subscription:

- Broadcast Method: Email, REST API, or SNMP trap notification.
- Counts and Instances: Number of instances of notification.
 - Click the Unsubscribe and Edit links to unsubscribe or edit the subscription respectively.
- Actions: Actions taken for the events.
- **Note** You can adjust the subscriptions that are displayed in the GUI by clicking the **Filter** icon and using the filter, or entering a keyword in the **Find** field.

What to do next

Proceed to access PagerDuty to review the events.

The Cisco DNA Center events will appear in PagerDuty as alerts within the PagerDuty **INCIDENTS** window. You can review and mark the alert as **Resolved** in this window.



Cisco DNA Center to Cisco WebEx Integration

- About Cisco DNA Center to Cisco WebEx Integration, on page 61
- Configure Cisco WebEx Integration, on page 62
- Subscribe Cisco DNA Center Event Notifications to Cisco WebEx, on page 65

About Cisco DNA Center to Cisco WebEx Integration

You can now integrate Cisco DNA Center with Cisco WebEx.

The following table displays the supported Cisco DNA Center to Cisco WebEx integration workflow.

Table 10: Cisco DNA Center to Cisco WebEx Integration Workflow

Step	Description
Step 1	Review the Cisco DNA Center to Cisco WebEx integration requirements.
	The following requirements are necessary for an integration:
	Cisco DNA Center, Release 2.2.3
	• Cisco WebEx
	Note Cisco DNA Center integration with Cisco WebEx is accomplished by using a Cisco WebEx Bot, as well as using REST APIs.
Step 2	Create a Cisco WebEx Bot for use in the integration.
	For information about creating a Cisco WebEx Bot, see Webex Teams - Integrations & Bots.
Step 4	Select and subscribe one or more events to forward notifications from Cisco DNA Center to Cisco WebEx.
	To access an event in Cisco DNA Center, click the Menu icon > Platform > Developer Toolkit > Event Notifications > Event Catalog . Event Catalog displays all the events. Review the events and click the Notifications tab to subscribe to an event.

Step	Description
Step 5	In the Notifications tab, create a new notification for the event.
	Follow the steps in the Create a New Notification wizard and select Cisco WebEx as the notification channel.
	The following required data must be entered in the Cisco DNA Center platform GUI:
	Authentication (Bot Access Token)
	• Space name (or room id)
	For detailed information about this procedure, see Subscribe Cisco DNA Center Event Notifications to Cisco WebEx, on page 65.
Step 6	Any notifications for the selected event are now forwarded to Cisco WebEx from Cisco DNA Center and published as a new message in Cisco WebEx.
Step 6	Cisco WebEx responds to Cisco DNA Center with one of the following API messages:
	• 202: The event has been accepted by Cisco WebEx.
	• 400: Bad Request - Check that the JSON is valid.
	• 429: Too many API calls at a time.
	• 500 or other 5xx: Internal Server Error - the Cisco WebEx server experienced an error while processing the event.
	• Networking Error: Error while trying to communicate with Cisco WebEx servers.
Step 7	Review the issue in Cisco WebEx.
Step 8	Close the issue in Cisco WebEx.
Step 9	Cisco DNA Center receives the status from Cisco WebEx and then closes the issue.

Configure Cisco WebEx Integration

You can now configure a Cisco DNA Center to Cisco WebEx integration. Follow the steps described in this procedure to configure a Cisco DNA Center to Cisco WebEx integration.

Before you begin

Ensure that you have Cisco WebEx running on a network that you will integrate with Cisco DNA Center platform.

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the *Cisco DNA Center Platform User Guide*.

Step 1 In the Cisco DNA Center GUI, click the Menu icon (\equiv) and choose System > Settings > External Services > Destination > Webhook.

Step 2

Figure 33: Webhook Tab

Review the Webhook tab.

E Cisco DNA Center	System - System Administration - Settings					0 🔿		
EQ. Search Settings	Settings / External Services							
Device EULA Acceptance	Destinations							
Network Resync Interval	Configure the various types of destinations to deliver the events from Clisco DNA Center							
SFTP								
SNMP	Webbook Email Syslog							
Events and Subscriptions \sim	Configure the REST Endpoint to receive Audit logs and Events from Cisco DNA Center							
Event Catalog								
External Services \checkmark						Add		
Authentication and Policy Serv	√ Filter				EQ Find			
Authentication Tokens	Name 🔺	Description	App.table.column.url	Method				
CMX Servers								
Destinations	demo		https://webhook.site/f304d295-8e8f-4f87-8df5-d838558359b9	POST	Edit	_		
Integrity Verification	Dnacaap-runtime proxy update	Dnacaap-runtime proxy update	http://dnacaap-runtime.dnacaap.svc.cluster.local:8095/dnacaap/msnagement/maglev-config-update	POST	Edit			
IP Address Manager	my own webhook	lorem ipsum	https://10.20.21.121	POST	Edit			
Stealthwatch	temp-rest-ep	temp-rest-ep-desc	https://wehbook.cisco.com	POST	Edit			
vManage	webhook-ep-before-upgrade	webhook-ep-before-upgrade	https://webhook.site/764da05a-40a3-4095-a651-09e01b68374c	POST	Edit			
System Configuration V	noonoon op oorore opgraae	neonook op bolote opgrade	unter la constra sa naces anna ana ana ana ana ana ana ana ana a	1007	2.04	_		
Debugging Logs						_		
High Availability						_		
Integration Settings Login Message						_		
Login Message Proxy Config								
Proxy Contig	5 Records					1 - 5		

The following fields are displayed:

- Name: Name of the webhook.
- Description: Description (user provided) of the webhook.
- URL: URL of webhook (callback URL).
- Method: REST API method of webhook (POST).
- Edit: Link that opens field to edit the configured webhook fields. After editing the webhook configuration, click Update to save your changes.
- **Step 3** Click the **Add** link/icon to configure a webhook.

An Add Webhook slide-in pane opens.

Step 4 Enter values in the fields in the **Add Webhook** slide-in pane to configure the webhook.

Figure 34: Add Webhook

■ Cisco DNA Center		System	Add Webhook	
	Settings / External Services			
Device EULA Acceptance	Destinations		Name*	
Network Resync Interval	Configure the various types of e	destinations to deliver the events from Cise		
SFTP	Webhook Email Sy	slog	Description	
Events and Subscriptions	Configure the REST Endpoint to	receive Audit logs and Events from Cisco	Url*	
Event Catalog External Services ~				Trust Certificate
Authentication and Policy Serv	∀ Filter			Ves 💿 No
Authentication Tokens	Name 🔺	Description	App.table.column.url	POST Y
Destinations	demo		https://webhook.site/f304d295-8e8f-4f87-8df5-d838558359b9	Authentication
Integrity Verification	Dnacaap-runtime proxy update	Dnacaap-runtime proxy update	http://dnacaap-runtime.dnacaap.svc.cluster.local.8095/dnacaap/man	basic O Token on Auth
IP Address Manager Stealthwatch	my own webhook	lorem lpsum	https://10.20.21.121	Headers
vManage	temp-rest-ep	temp-rest-ep-desc	https://wehbook.cisco.com	🖶 Add
System Configuration \sim	webhook-ep-before-upgrade	webhook-ep-before-upgrade	https://webhook.site/764da05a+40a3+4095-a651-09e01b68374c	
Debugging Logs				
High Availability Integration Settings				
Login Message				Save
Proxy Config	5 Records			
System Health Notifications				

- Name: Name of the webhook.
- Description: Description of the webhook.
- URL: URL address of the webhook (callback URL).
- **Step 5** Choose whether a trust certificate is associated with the webhook URL.

Depending upon your webhook configuration, with the **Trust Certificate** field click **Yes** or **No**.

Step 6 Choose the authentication type associated with your webhook URL.

Depending upon your webhook configuration, within the **Authentication** field click one of the following:

- **Basic**: Authentication where the client sends HTTP requests with the Authorization header that contains the word 'Basic', followed by a space and a base64-encoded string 'username:password'. If you select **Basic** in the GUI, the **Header Key** field following enters the value **Authorization**.
- Token: Authentication where users are authenticated using a security token that is provided by the server. If you select Token, the Header Key field below enters the value X-Auth-Token.
- No Authentication: No authentication needed.

Step 7 Within the **Headers** field, enter values for the **Header Name** and **Header Value**.

Click Add to add the header name and value.

Note The **Headers** field may be auto-populated depending upon your **Authentication** selection above.

Step 8 Click **Save** to save your webhook destination configuration.

What to do next

Proceed to select individual events in the **Events** table and subscribe to Cisco WebEx.

Subscribe Cisco DNA Center Event Notifications to Cisco WebEx

You can subscribe Cisco DNA Center platform event notifications to Cisco WebEx. Follow the steps described in this procedure to subscribe Cisco DNA Center event notifications to Cisco WebEx.

Before you begin

Ensure that you have Cisco WebEx running on a network that you will integrate with Cisco DNA Center platform.

Ensure that you have **WebEx Teams Room Id** and **WebEx Teams Bot Access Token**. For more information, see About Cisco DNA Center to Cisco WebEx Integration, on page 61.

You must have the appropriate permissions to perform the tasks as described in this procedure. For information about Role-Based Access Control for the Cisco DNA Center platform, see the Cisco DNA Center Platform User Guide.

Step 1 In the Cisco DNA Center GUI, click the Menu icon (\equiv) and choose Platform > Developer Toolkit > Event Notifications > Event Catalog.

The Event Catalog window appears.

Step 2 In **Event Catalog**, review the events table that is displayed by the GUI.

Note You can adjust the events that are displayed in the GUI by entering a keyword in the **Search** field.

Step 3 Review the data on an individual event within the table.

The following Events data is provided:

- Event ID: Identification number for the event.
- Name: Name of the event (link).

If you click this link, the **Name** slide-in pane opens for the event. The **Name** slide-in pane consists of two tabs: **Events Details** and **Active Subscriptions**.

- Description: Brief description of the event.
- Type: Network, App, System, Security, or Integrations type of event.
- Category: Error, Warn, Info, Alert, Task Progress, Task Complete.
- Severity: 1–5.

Note Severity 1 is the most important or critical priority and should be assigned for this type of an event.

- Status: Subscription status (whether a user has subscribed to the event). If subscribed to an event, then a link appears in this column to the Active Subscription tab.
- **Step 4** Click a **Name** link to open an event subscription slide-in pane.

Step 5 Review the data displayed in the event subscription slide-in pane.

The following Event Details tab data is displayed:

- Description: Brief description of the event and how it is triggered.
- Event ID: Identification number of the event.
- Version: Version number of the event.
- Namespace: Namespace of the event.

The default value for this release for all the events is ASSURANCE.

- Domain: REST API domain to which the event belongs.
- Sub Domain: Subgroup under the REST API domain to which the event belongs.
- Type: Network, App, System, Security, or Integrations type of event.
- Category: Error, Warn, Info, Alert, Task Progress, Task Complete.
- Severity: 1–5.

Note Severity 1 is the most important or critical priority and should be assigned for this type of an event.

- Cisco DNA Event Link: Event broadcast using REST URL.
- Note: Additional information about the event or to help further understanding the event.
- Tenant Aware: Whether the event is tenant aware or not.
- Tags: Tags indicate what Cisco DNA Center component is affected by the event. The default value for tags for this release is ASSURANCE with additional syntax for the specific Assurance issue.
- **Supported Endpoints**: What endpoint types are supported for the event notifications. The following endpoints are supported with this release:
 - REST API
 - Syslog server
 - Email
 - SNMP trap
 - PagerDuty
 - Cisco WebEx
- Model Schema: Presents model schema about the event:
 - Details: Example of model schema detail for the event.
 - REST Schema: REST schema format for the event.

Step 6 Click the **Active Subscriptions** tab.

The following Active Subscriptions tab data is displayed:

• Broadcast Methods: Email, REST API, or SNMP trap

- Count and Instances: Number of instances of notifications for emails, REST APIs or SNMP traps.
 - Note After subscribing to an event, click the subscription count under Count and Instances to edit or unsubscribe to the active subscription. After clicking on the individual subscription count, click Unsubscribe to unsubscribe or Edit to further edit it. For multiple subscriptions, you will need to unsubscribe to each subscription one at time. The ability for multiple subscribing or unsubscribing is not supported using the GUI.
- Actions: Either unsubscribe or edit the active subscription.
- **Note** After subscribing to an event, a **Try It** button will appear in the **Active Subscriptions** tab. By clicking on this button, you are able to run an event simulation.
- **Step 7** Click **Subscribe** to add this event to your active subscription of events. For a Cisco WebEx notification, configure the following fields:
 - Name: Name of the event.
 - Subscription Type: From the Subcription drop-down list, choose WEBEX.
 - **Note** Subscription type can be set for either email, REST API endpoint (webhook), syslog server, SNMP trap, PagerDuty, or Cisco WebEx.
 - Select an existing endpoint: Select the Subscription Endpoint from the drop-down list.
 - Create a new endpoint: To create a new endpoint, enter a new Endpoint Name and Endpoint Description.
 - In the SERVICE CONFIGURATION area enter the WebEx Teams URL, WebEx Teams Room Id, and WebEx Teams Bot Access Token.

Click **Subscribe** to save and enable the subscription or **Cancel** to cancel and exit the window.

Step 8 Review your subscriptions in the **Active Subscriptions** tab.

The following information is provided for a subscription:

- Broadcast Method: Email, REST API, or SNMP trap notification.
- · Counts and Instances: Number of instances of notification.

Click the **Unsubscribe** and **Edit** links to unsubscribe or edit the subscription respectively.

- Actions: Actions taken for the events.
- **Note** You can adjust the subscriptions that are displayed in the GUI by clicking the **Filter** icon and using the filter, or entering a keyword in the **Find** field.

What to do next

Proceed to access Cisco WebEx to review the events.