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Cisco DNA Center ITSM Integration Guide, Release 2.2.1

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Americas Headquarters

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CHAPTER

New and Changed Information

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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
Audit logs to multiple syslog servers.	This release supports audit log export to multiple syslog servers. This feature is important in case the primary syslog server data is corrupted or becomes irretrievable. There are two parallel syslog streams going to two different syslog servers for redundancy.	For information about audit logs, see the <i>Cisco DNA</i> <i>Center Administrator Guide</i> . For information about configuring syslog servers for events, see the <i>Cisco DNA</i> <i>Center Platform User Guide</i> , Chapter 6, Configurations.
New event email features.	This release supports new email features for Cisco DNA Center platform events. An event email is no longer in plain text, but now utilizes HTML formatting and images.	For information about email events, see the <i>Cisco DNA</i> <i>Center Platform User Guide</i> , Chapter 8 Developer Toolkit GUI, Work with Events.
Cisco DNA Center platform GUI supports IPv6 configuration settings.	 The Cisco DNA Center platform GUI now supports IPv6 values for the following configuration settings: Webhook configuration Email configuration Syslog configuration SNMP trap configuration Integration Settings configuration 	For information about the Cisco DNA Center platform configuration settings, see the <i>Cisco DNA Center Platform</i> <i>User Guide</i> , Chapter 6, Configurations.

Feature	Description	Where Documented
For this release, the SNMP trap configuration has been moved from individual events to System Settings in the Cisco DNA Center GUI.	For this release, the SNMP trap configuration has been moved from individual events to System Settings in the Cisco DNA Center GUI. Use the SNMP trap configuration in order to forward the audit logs and event notifications. To access the SNMP trap configuration click the Menu	For information about the new SNMP trap configuration settings, see the <i>Cisco DNA</i> <i>Center Platform User Guide</i> , Chapter 6, Configurations.
	icon and choose System > Settings > External Services > Destination > Trap.	
For this release, the ITSM integration configuration (for ServiceNow) has been added to System Settings in the Cisco DNA Center GUI.	The ITSM integration configuration has been added to System Settings in the Cisco DNA Center GUI. Use the ITSM integration configuration GUI window to set up ServiceNow access settings. To access the ITSM configuration, click the Menu icon and choose System > Settings > External Services > Destination > ITSM .	For information about the new ITSM configuration settings, see the <i>Cisco DNA Center</i> <i>Platform User Guide</i> , Chapter 6, Configurations.
New bundle event notifications are supported.	 The following new bundle event notifications are supported: On Active (Enable) On Disable (Disable) On Update 	For information about bundles, see the <i>Cisco DNA Center</i> <i>Platform User Guide</i> , Chapter 6, Configurations. For information about event notifications, see the <i>Cisco</i> <i>DNA Center Platform User</i> <i>Guide</i> , Chapter 9, Runtime Dashboard.
New supported configuration of multiple Cisco DNA Centers to a single ServiceNow.	This release supports multiple Cisco DNA Centers to a single ServiceNow configuration. Additionally, Cisco DNA Center CMDB synchronization is now multi-Cisco DNA Center aware.	For information about configuring Cisco DNA Center to ServiceNow, see Chapter 3, Cisco DNA Center ITSM Integration Workflows.
New and improved Cisco DNA Center platform messages for ServiceNow integration.	This release supports new and improved Cisco DNA Center platform messages for ServiceNow integration errors in the Runtime Dashboard .	For information about event notifications, see the <i>Cisco</i> <i>DNA Center Platform User</i> <i>Guide</i> , Chapter 9, Runtime Dashboard.
Support for the ability to create generic REST API endpoints for the platform bundles.	 This release supports the ability to create generic REST API endpoints for the following bundles: SWIM Events for ITSM (ServiceNow) Network Issue Monitor and Enrichment for ITSM (ServiceNow) 	For information about configuring generic REST API endpoints for specific bundles, see Chapter 3, Cisco DNA Center ITSM Integration Workflows.
	Note Previously you could only use predetermined endpoints as defined in the Cisco DNA App.	

Feature	Description	Where Documented
New Reports support.	 This Cisco DNA Center release supports the following new and updated reports: Licensing Security Advisories 	For information about the new reports, see the <i>Cisco DNA</i> <i>Center Platform User Guide</i> , Chapter 7, Reports.
New API support.	 This Cisco DNA Center platform release supports the following new and updated APIs: Audit logs Compliance Device and Fan power Security Advisories Additionally, you are able to filter on the API fields in the Cisco DNA Center platform GUI. These API fields include the following: Device Site Timestamp Description Workflow User 	For information about the new APIs for this release, see the <i>Cisco DNA Center Platform</i> <i>Release Notes</i> .
New Cisco DNA Center platform event types.	 This Cisco DNA Center platform release supports new event types for the following: Access point events (radio activity and frequency) CMDB synchronization failure event WAN interface events The events are viewable in the Cisco DNA Center GUI Events window. Click the Menu icon and choose Platform > Developer Toolkit > Events to access the list of events. 	For information about the new events, see the <i>Release Notes</i> for Cisco DNA Center Platform.



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 RFP 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 5
- Cisco DNA Center ITSM Support, on page 5

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
- SWIM Events for ITSM (ServiceNow)



Cisco DNA Center ITSM Integration Workflows

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- Cisco DNA Center Integration with a Generic REST Endpoint, on page 7
- · Cisco DNA Center Integration with ServiceNow Without the Cisco DNA App, on page 14
- Cisco DNA Center Integration with ServiceNow Using the Cisco DNA App, on page 23
- Cisco DNA Center Endpoint Attribute Retrieval with ServiceNow, on page 42

Cisco DNA Center Integration Supported Workflows

The following are supported Cisco DNA Center ITSM integration workflows for this release:

- 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 7.
- 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 14.
- 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 23.
- 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 42.

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 2.2.1.
	For information about <i>installing</i> 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 listed network events in this window and click on a specific event that you wish to configure. After clicking on an event in this window, click Subscribe to create a REST API endpoint.
	For information, see Configure Network Events, on page 8.
	Important Network event notifications occur 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 12.
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 per your business or network needs.

Table 2: Cisco DNA Center to Generic REST Endpoint Integration Procedure

Configure Network Events

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

E Cisco DNA Center Platform							0 4 =
Dev	reloper Toolkit	d Reports Multivendor Support Events					
vent	S					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
-	NETWORK DEVICES 3 10F	AD Deheast Creak	AD has selected due to a bandware or adjuste search	NETWORK	MALA DAL		Mark Colonardianal

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 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**.
- **Step 2** In the **Events** window, review the events table 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, then 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 through 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 and will appear in the **Active Subscriptions** tab). If subscribed to an event, then the type of notification will also appear 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

≡ 0	Cisco DNA Center		WLC Rebo	ot Crash			×
Dev	veloper Toolkit		Event Details	Active Subscriptions			
APIs	Integration Flows Data and	Reports Multivendor Suppo	GENERAL IN	FORMATION		Î	
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:// <ip-address- app="" consumer-<br="" dna="" platform="">portal/developer-toolkit/apis?apild=8684-39bb- 4e89-a6e4</ip-address->	
	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	IEMA			
	NETWORK-DEVICES-2-205	Switch Fan Failure	Details Ri	ST Schema			
	NETWORK-DEVICES-3-103	AP CPU High Utilization	1 - 1 2 - Tyr 3 - As	be": "SeventSourceS", sumance Issue Priority": "SpriorityS",		-	
	NETWORK-DEVICES-3-104	AP Memory High Utilization				Cancel Subscrib	pe .

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: 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 an 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: 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.
- 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.

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. For information about this feature, see the *Cisco DNA Center Platform User Guide*.
- **Step 7** Click the **Subscribe** button to add this event to your active subscription of events and to receive future notifications.

You subscribe to an event to receive either an email, REST API endpoint, or SNMP trap notification. If you subscribe for 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** in the GUI, then the **Header Key** field below enters the value **Authorization**.

- Token: Authentication where users are authenticated using a security token provided by the server. If you select Token, then the Header Key field below enters the value X-Auth-Token.
- 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.

C)

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 3: Events Settings Window

■ Cisco DNA Center			Platfo	orm				⑦ ♂ Ξ
Manage Bundles: Configurations								
Configurations Set global settings or across multiple bundles (for a cust	om platform experience.						
Event Settings	Event	Settings						
General Settings	∑ Fil	ter						EQ Find
		Event Name	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 1In 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 5 Click **Save** to save your configuration.

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 2.2.1.
	For information about <i>installing</i> Cisco DNA Center, see the Cisco DNA Center Installation Guide.
Step 2	Install or upgrade to ServiceNow running the following version:
	• Paris
	• Orlando
	New York Patch 1
	Refer to your ServiceNow documentation for its installation and upgrade procedures.
	Note This procedure is to be performed by a ServiceNow administrator.

Table 3: Cisco DNA Center to ServiceNow Integration without the Cisco DNA App Procedure

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	Description				
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 15.				
	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 19.				
	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 5	Configure the SWIM Events for ITSM (ServiceNow) bundle.				
	For information, see Configure the SWIM Events for ITSM (ServiceNow) Bundle, on page 20.				
	The SWIM 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 49.				
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

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 for	>> Back to Select Instance		
N	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 reality		
Version 1.7.5	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,	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></servicenow-host-name>		
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 i	Hint Check connectivity		
	1 seventy1: 1 megar5 1 seventy1: 1 megar5 1 moder 1 string1 1 moder 1 string1 1 megar5 1 megar6 1 me	> Destination to receive events	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 Bundles Configurations		Configure Network Issue Monitor and Enrichment for ITSM (ServiceNow) Configure your bundle ×		
N	Network Issue Monitor and Enrichment fr	V Destination to receive events		
Vendor Cisco Systems, Inc.	Information Contents Release Notes	Instance Name *		
Version 2:3 Partom Cauo DNA Conter 7:3 P T as P T as P T Sont Network Management, 155A, Assume, Endotwent	The Network Issue Monitor and Enrichment for ITSM (Service bundle then publishes the event data on a recurring schedule to The event data can be published to the "Event table in Services an be configured to receive events in any generic REST endp- to view the list of Assurance issues that you may wish to monito event, the values for "Domain", "Category, "severity" and "Wort The "Workflow values determines the ITSM/ServiceNow) workf an Event, "Incident" or "Problem." Note: This bundle also receives updates from the ITSM(Service products the Runtime Dashboard with this data).	Description DESTINATION TO RECEIVE EVENTS Destination to receive events * Destination U/I Enter a custom endpoint.		
	The following is the sample schema of the event posted to the ("seventy": "Integer," "sevents": "samg", "bodt": "samg", "powert, cleas", "samg", "event, cleas", "samg", "man, cleast", "samg", "man, cleast", "samg", "man, cleast", "samg", "described", "samg",	< 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 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.

×4

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

E Cisco DNA Center			Platfo	orm					0	<u></u>	Ξ
Manage Bundles Configurations											
Configurations Set global settings or across multiple bundles f	or a cust	om platform experience.									
Event Settings	Event	Settings									
General Settings	🖓 Fil	ter					1	EQ Find			_
		Event Name	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			H
		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 SWIM 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 **SWIM 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 7: Example of ServiceNow Instance Configuration Fields

≡ Cisco DNA C	Center	Configure SWIM Events for ITSM (ServiceNow)
Bundles Configura	ations	Configure your bundle X
		✓ ServiceNow Access Settings
	SWIM Events for ITSM (ServiceNow)	>> Back to Select Instance
	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 *
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
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-pr	SERVICENOW ACCESS SETTINGS Host Name *
Tags SWIM, Image Update	This bundle also receives updates for the event and its associate data.	https://servicenow-host-name>
	The following is a sample achema of the event posted to the iT { "sevenity": "integer", "source": "string", "rode": "string",	cusername-for-servicenow-host>
	"type": "string", "event_class": "string", "time_of_event": "string", "message_kay": "string",	Hist Check connectivity
	"description": "string", "ci_identifier": string", "additional_info": "string" }	> 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 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 C	Center	Configure SWIM Events for ITSM (ServiceNow)
Bundles Configur	ations	Configure your bundle X
< Bundles		> ServiceNow Access Settings
	SWIM Events for ITSM (ServiceNow)	v Destination to receive events
Š	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 *
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 +	The event data can be published to the 'Event' table in ServiceN can be configured to receive events in any generic REST end-po	DESTINATION TO RECEIVE EVENTS
SWIM, Image Update	This bundle also receives updates for the event and its associate data.	Destination to receive events *
	The following is a sample schema of the event posted to the IT "severel": "stronger", "source": "strong", "rodd:": "strong", "event_class": "strong", "event_class": "strong", "temp.cl_event": "strong", "message_key": "strong", "descarption: "strong",	Destination Url Enter a custom endpoint
	"ci_identifier": string", "additional_info": "string" 3	· · · · · · · · · · · · · · · · · · ·
	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.

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.

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**.

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Step	Description
Step 1	Install or upgrade to Cisco DNA Center, Release 2.2.1.
	For information about <i>installing</i> Cisco DNA Center, see the Cisco DNA Center Installation Guide.
Step 2	Install or upgrade to ServiceNow running the following version:
	• Paris
	• Orlando
	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 25.
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 26.
	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 15.
	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.

• • • • • • • • • • • • • • • • • • • •	Table 4: Cisco DNA	Center to ServiceNov	v Integration with	Cisco DNA App Procedure
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Т

Step	Description					
Step 7	Configure network event settings in Event Settings .					
	For information, see Configure Event Settings, on page 38.					
	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 8	Configure the SWIM Events for ITSM (ServiceNow) bundle.					
	For information, see Configure the SWIM Events for ITSM (ServiceNow) Bundle, on page 20.					
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).



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 is now multi-Cisco DNA Center aware:

- For a list of attributes that were synchronized from a particular Cisco DNA Center instance, each attribute is tagged with a Cisco DNA Center IP address.
- On the ServiceNow side, we are able to maintain as to which Cisco DNA Center instance the attribute came from. An extra attribute for the CI has been added to record the Cisco DNA Center IP 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**. From the Menu icon (≡), click **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 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 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 to proceed.

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 to proceed.

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 Configu	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 Cisco Systems, Inc.	You can schedule a synchronization or trigger an update be databasel(CMDB). These activities integrate Cisco DNA Cer management. Note: If your network devices have not been before activating any other bundles in Cisco DNA Center p Information Contents Release Notes	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 Cisco DNA Cente device families and ServiceNow CI classes, maximum number of devices that can be synced in a single API call and the discovery source details.	pe ir
Version 1.7.7 Platform Cisco DNA Center 1.2.5 +	This bundle contains an integration workflow that enables or enables synchronization of network device data between C	Instance Name *	
Tags Device Discovery, CMOB Syncronization	Integration Flows (1) Schedule to Publish Inventory Details - Servi The scheduler discovers the devices in the network inventory with an ITSM system.	Description	
		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 to proceed.

- **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. 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	ations	Configure your bundle	×
< bookset	Basic ITSM (ServiceNow) CMDB synchro the can schedule a synchronization of trigger an update between of database(CMDB). These activities integrate Cace DNA Center's per- groun reterent, divisors have no been synchronizations between Cace Cleco DNA Center platform. Otherwise, further burdle integrations thermation Center Release Notes This Basic ITSM (ServiceNov) CMDB Synchronization burdler recorring schedule lay your 171AI (ServiceNova) CMDB synchronization there is a analy a Configuration tiem (Ch on the 11SM) Service a dupled and in the response Ary updated Information for a C existing ITSM (ServiceNova) budde Data Synchronization The following data is synchronizated between Cace DNA Center - Mandatory Attributes: Hork Name Sincel Number = Device Id	Select Destination Unit Spectronize device Inventory direct Destination Unit Spectronize device Case_clase_clase_ Enter a Custom Endpoint	
	Mac Address Management IP address	Exit Back Nox	

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.

E Cisco DNA (Center	Configure Basic ITSM (ServiceNow) CMDB synchronization					
Bundles Configur	ations	Confi	igure your bundle				×
< Bundles	Basic ITSM (ServiceNow) C	Se	lect Inventory D	ata Fields			
в	You can schedule a synchronization or trigger		Name	Description	Is Attribute / Is	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 inter		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		Upgrade Failure Reason	Upgrade Failure Reason	 Attribute 	O Reference	
Syncronization	activity does not delete any CIs on the existi		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 (Code Upgrade Date	Code Upgrade Date	 Attribute 	O Reference	
	Host Name	€ Ex	it			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** to proceed.

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

≡ Cisco DNA (Center	Configure I	Basic ITSM (ServiceNow) CMDB synchron	ization	
Bundles Configu	irations	Configure your but	ndle		×
< Bundles	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/ServiceNov 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 above 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.

Table 5: Default Device Family to Cl Cla	iss Mapping Lisi
--	------------------

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
Meraki Cameras	cmdb_ci_netgear

Device Family	Corresponding CI Class
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 20 In 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	an a	
		Set Source Identifier and Operational Limit	
в	Basic ITSM (ServiceNow) C You can schedule a synchronization or trigger configuration management database(CMDB) - Management processes of incident, change o	Enter Discovery Source * Other Automated 33 Enter Mex Limit * 1000	
Vendor Cisco Systems, Inc.	between Cisco DNA Center and the CMDB sy: Center platform. Otherwise, further bundle intr		
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 CIs 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 Configure your bundle Summary eview your configuration and make any changes. Destination and Instance Edit Destination: ServiceNow Domain: https://ven02562.service-now.com Uri: /api/x_caci_cisco_dna/dna_utils/CreateReferencesForCls Useman alamelu Password: ******		
Bundles Configuration	ns			
< Bundles B Vendor Cisco Systems, Inc. Version 1.3.1 Platform DNAC 1.2.5 + Tags Device Discovery, CMDB Syncronization	Basic ITSM (ServiceNow) C You can schedule a synchronization or trigger configuration management database(CMDB). Management processes of incident, change o between Cisco DNA Center and the CMDB sys Center platform. Otherwise, further bundle into Information Contents Release Notes 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 si a duplicate in the response. Any updated inti activity does not delete any CIs on the exist	Summary Review your configuration and make any changes. Destination: ServiceNow Domain: https://wen02562.service-now.com Uh: /api//_caci_cisco_dha/dha_utils/CreateReferencesForCis Username alamela Password: ************************************		

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 platform GUI, click 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 platform GUI, click 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

Eisco DNA Center		Configure Network Issue Monitor and Enrichment for ITSM (ServiceNow)	')			
Bundles Configurations		Configure your bundle	×			
		 ServiceNow Access Settings 	î			
	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 oc Center and the ITSM (ServiceNow CMDB) system, then activate th	INFORMATION				
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	Description				
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	SERVICENOW ACCESS SETTINGS Host Name *				
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	https:// <servicenow-host-name></servicenow-host-name>				
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 * BHOW				
	The following is the sample schema of the event posted to the I	Hint Check connectivity				
	Teaventh's Temper." Teavent's Temper. Teavent's Temper. Teavent, class's Temper. Teavent, class's Temper. Teavent, class's Temper. Teavenagekey?: Tearony.	> Destination to receive events <	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.

Eisco 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	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 + 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	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
	{ "sevenity": "integer", "source": "string", "norde": "string",		
	"type": "string", "event_class": "string", "type.af_count": "string",	¢	w b
	"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.

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

C)

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

Eisco DNA Center				atform				9	୭ ୯	• ≡
Manage Bundles Configurations										
Configurations Set global settings or across multiple bundles	Infigurations t global settings or across multiple bundles for a custom platform experience.						ĺ			
Event Settings	Event	Settings								
General Settings	🖓 Fil	ter					1	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 SWIM 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 **SWIM 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

■ Cisco DNA Center		Configure SWIM Events for ITSM (ServiceNow)	
Bundles Configurations		Configure your bundle	×
		✓ ServiceNow Access Settings	^
	SWIM Events for ITSM (ServiceNow)	>> Back to Select Instance	
	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 *	
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	
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 SWIM, Image Update	This bundle also receives updates for the event and its associat data.	https://servicenow-host-name>	
	The following is a sample schema of the event posted to the IT {	 domining dusername-for-servicenow-host> 	
	"severity": "integer", "source": "string", "node": "string",	Pastword * snow	1
	"type": "string", "event_class": "string", "time_of_event": "string",	Nint Check connectivity	
	<pre>message_key : "string", "description": "string", "cl_identifier": 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 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 21: Example of Destination to Receive Events Configuration Fields

E Cisco DNA Center		Configure SWIM Events for ITSM (ServiceNow)
Bundles Configur	ations	Configure your bundle X
< Bundles		> ServiceNow Access Settings
	SWIM Events for ITSM (ServiceNow)	v Destination to receive events
	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 *
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
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	DESTINATION TO RECEIVE EVENTS
SWIM, Image Update	This bundle also receives updates for the event and its associate data.	Destination to receive events *
	The following is a sample schema of the event posted to the IT { "severity":"integer", "source": "string",	Destination Uri Enter a custom endpoint
	"node": "string", "type": "string", "event_class": "string", "time_of_event": "string", "message_key": "string",	
	"ci_identifier": string", "additional_info": "string"	· · · · · ·
) 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 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 new **Endpoint Attribute Retrieval with ITSM (ServiceNow)** bundle. This bundle supports a new integration flow, **Scheduler for ServiceNow Asset Sync**. The **Scheduler for ServiceNow Asset Sync** integration flow 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.

Step	Description	
Step 1	Install or upgrade to Cisco DNA Center, Release 2.2.1.	
	For information about installing Cisco DNA Center, see the Cisco DNA Center Installation Guide.	

Table 6: Cisco DNA Center Endpoint Attribute Retrieval with ServiceNow

Step	Description	
Step 2	Install or upgrade to ServiceNow running the following version:	
	• Paris	
	• Orlando	
	• New York Patch 1	
	Refer to your ServiceNow documentation for its installation and upgrade procedures.	
	Note This procedure is to be performed by a ServiceNow administrator.	
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 plugin.	
	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 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 25.	
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 44.	

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.



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

■ Cisco DNA Center		Scheduler for ServiceNow Asset Sync	×
APIs Integration Flows	Data and	Hor concurso	
Integration Flows		DESCRIPTION	
		This BAPI runs on defined schedule to invoke an other BAPI-Get CI Data from SNow	
 Integrations 	Inte	TAGS	
ITSM Integration	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.	
	Nam	* Schedule window cannot be lower than 1 hour with a concurrency of 1	
	Get	Run Now Run Later	
		O 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 11Click 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	×
			This bundle has additional configurations for its Schedule-Based Integration Flows. View Flows	*
	Endpoint Attr	ibute Retrieval with I	Scheduler for ServiceNow Asset Sync - Unscheduled	
E	You can schedule a s database (CMDB). Er endpoint profiling wo	ynchronization or trigger an upda ndpoint attribute information from rkspace as an additional probe. L	 ServiceNow Access Settings This is used to specify the connection settings to a ServiceNow instance 	
Vendor Cisco Systems, Inc.	Information Cont	ents Release Notes	Select an existing instance • Create a new instance	
Version 1.0.9 Platform	This Endpoint Attribution a recurring sched	ute Synchronization with ITSM (fule to DNA Center, This activity	INFORMATION	Ш
ServiceNow	DNA Center - Endpo	pint Data Retrieval		
Tags Endpoint Profiling, Endpoint Classification, CMDB	The following endpo	int attribute data is retrieved fron	Description	
			SERVICENOW ACCESS SETTINGS	
	ServiceNow Field Name	Display name in DNA	4	÷
	Asset Tag	CMDB_assetTag		
	Model Category	CMDB_modelCategory		
	Model	CMDB_model		
	Managed by	CMDB_managedBy		
	Serial Number	CMDB_serialNumber	(÷
	Location	CMDB_location	Cancel	ate
	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 49
- SWIM Closed Loop Automation Requirements, on page 50
- SWIM Closed Loop Automation Workflow, on page 50

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 50.
- 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 50.

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 2.2.1.
Service Now	The following ServiceNow release versions support this feature:
	• Paris
	• Orlando
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 23.

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

Step	Description		
Step 2	The Cisco DNA Center schedules this activity f	admin distributes the software imates or a later time.	age to a device or devices at the present time or
	Note Before this configured	step is done, ensure that the SWIN and activated.	M Events for ITSM (ServiceNow) bundle is
	• From the Cisco Dl	IA Center home page, the admin cl	licks Provision .
	• From the Focus dr image to upgrade.	op-down list, the admin chooses $ {f S} $	Software Images and selects the device with the
	• From the Actions following:	lrop-down list, the admin chooses §	Software Images > Update Image and does the
	• Distribute : C distribution a	licks Now to start the distribution i a specific time.	immediately or clicks Later to schedule the
	• Clicks Next.		
	• Activate: Clic	ks Now to start the activation imme	ediately or clicks Later to schedule the activation
	• Confirm: Cli	eks Confirm to confirm the update	2.
	E Cisco DNA Center	Provision • Devices •	- Inventory Q @ 🕰
	Inventory Plug and Play		
	EQ. Find Hierarchy	petvices (1994) Focus: Inventory V	Q Global
	Global Unassigned Devices (1385)	♥ Filter ● Add Device Tag Device Actions ✓ ① Take a Tour	Last updated: 3:10 PM 🖞 Export 🔗 Refresh
	∂b area6	Device Name IP Address Device Family Reachability H	Health Score Site MAC Address Device Role Image Version Uptime
	> 🕭 Canada	□ □ (config)#	10/Vancouver/Britannia Rink. 🧷 DISTRIBUTION 15.0(1)SY4 289 days 20 hrs 3
	> 🛞 United States	□ AP70B3.1738.2DEE	6 Assign 70:b3:17:3e:18:60 / ACCESS 8.8.120.0 85 days 03 hrs 43
		AP188b.9db1.27b4 17.51.47.33 Unified AP	10 Assign 18.8b;9d;c7:1f;a0 ⊘ ACCESS 8.8.120.0 85 days 02 hrs 53
		AP-T-HQ4-35-1 20.3.0.21 Unified AP Reachable 1	10 Assign 00:01:31:00:02:00 CACCESS 8:5:97:181 96 days 01 hrs 04
		AP-T-HQ4-35-2 20.3.0.22 Unified AP O Reachable 1	10 Assign 00:01:31:00:03:00 ⊘ ACCESS 8:5:97.181 96 days 01 hrs 04
		AP-T-HQ4-35-3 20.3.0.23 Unified AP Reachable 1	10 Assign 00:01:31:00:04:00 2 ACCESS 8.5.97.181 96 days 01 hrs 04
		AP-T-HQ4-35-4 20.3.0.24 Unified AP Reachable 1	10 Assign 00:01:31:00:05:00 2 ACCESS 8:5:97.181 96 days 01 hrs 04
Note Before this step is done, ensure that the SWIM Events for ITSM (ServiceNow) bun configured and activated. • From the Cisco DNA Center home page, the admin clicks Provision. • From the Focus drop-down list, the admin chooses • From the Actions drop-down list, the admin chooses • Distribute: Clicks Now to start the distribution immediately or clicks Later to schedule distribution at a specific time. • Clicks Next. • Activate: Clicks Now to start the activation immediately or clicks Later to schedule the act a specific time. • Confirm: Clicks Confirm to confirm the update. Figure 24: Click ONA Assurance Provision • Group Makes and the start of	10 Assign 00:01:31:00:06:00 / ACCESS 8:5:97.181 96 days 01 hrs 04		
		AP-T-HQ4-35-6 20.3.0.26 Unified AP Reachable 1	10 Assign 00:01:31:00:07:00 / ACCESS 8.5:97.181 96 days 01 hrs 04
		AP-T-HQ4-35-7 O 20.3.0.27 Unified AP O Reachable 1	10 Assign 00:01:31:00:08:00 2 ACCESS 8:5.97.181 96 days 01 hrs 04
		AP-T-HQ4-35-8 O 20.3.0.28 Unified AP O Reachable 1	10 Assign 00:01:31:00:09:00 2 ACCESS 8:5.97.181 96 days 01 hrs 04
		AP-T-HQ4-35-9 20.3.0.29 United AP Reachable 1	10 Assign 00:01:31:00:0a:00 2/ ACCESS 8:5:97:181 96 days 01 hrs 04 -
		Show 25 v entries Sho	howing 25 of 1,394 Show More
	Note See th inform	e Manage Software Images chapter i ation about this step.	in the Cisco DNA Center User Guide for detailed

ſ

Step	Desci	ription	ı										
Step 3	Once imme as a c ticket	a soft diatel hange status	ware ir y or lat reques s is nev	nag ær), st tie v.	e di the cke	istribut en a SV t. This	ion is created in VIM event is created is done through	Cisco I ated an the use	DNA Ce nd comm e of API	enter (softw nunicated di s from the I	are image rectly to the DNA app.	update to le Service The chan	be activated eNow ITSM ge request
	The S	WIM	event	app	ears	s in the	ServiceNow GU	Л in th	ne Servi	ceNow Cha	nge Requ	ests table).
	Figure	25: Ser	viceNow	r Cha	nge	Reques	ts						
	service	enow. ser	vice Management								œ,	Cisco Employee 1001	• 오다?? 尊
	Filter nav	vigator			Change R	equests New	Search Updated v Search				٧	▲ ≪ ≪ 1	to 20 of 224
	e	*			All	≡ Number	■ Short description	≡ Type	≡ State	■ Planned start date	Planned end date	≡ Assigned to	≡ Updated ▼
	🟦 Home			~		Search	Search	Search	Search	Search	Search	Search	Search
	E Change	- All			(j)	CHG0030654	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:19:52
					(j)	CHG0030652	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:03:48
					(j)	CHG0030653	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:03:48
					(j)	CHG0030651	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 13:03:47
					(i)	CHG0030650	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-22 09:43:46
					(j)	CHG0030649	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:57:10
					(j)	CHG0030648	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:42:17
					i	CHG0030647	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:42:16
					(i)	CHG0030646	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-22 08:42:13
					(j)	CHG0030645	SWIM Upgrade Request Creation Image Activation	Standard	Closed	2019-10-21 23:47:00	(empty)	(empty)	2019-10-21 23:52:50
					(i)	CHG0030644	SWIM Upgrade Request Creation Image Activation	Standard	Canceled	2019-10-22 00:13:00	(empty)	(empty)	2019-10-21 23:44:18
					(j)	CHG0030643	Network Device Interface Connectivity - OSPF Adjacency Failure	Standard	New	(empty)	(empty)	(empty)	2019-10-21 23:14:40
					(j)	CHG0030641	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-21 22:58:26
	\odot		1		i	CHG0030642	Device Image Outdated	Standard	New	(empty)	(empty)	(empty)	2019-10-21 22:58:26
1													

	2000npaon						
Step 4	In the Change R open and review request. For exan Management' for request with infor	equests table, t its status and d uple, the admin the Assignment mation in the S	the ServiceN ata. In the Se can change nt group . Th Short Descri	ow admin click erviceNow GUI the State from e ServiceNow a i ption field.	s on the change , the ServiceNo 'New' to 'Schec admin can also	e request num ow admin can luled' and ento identify the S	ber (identifier) edit the change er 'Change SWIM change
	Figure 26: Change Red	quest					
	Service Management					Cisc	:o Employee 1001 🔹 🔍 다가 🌔 ද
	(Filter navigator	< Incident INC0011945			∥ √ ≛ ∞∞	Follow - Update Create C	isco DNA Change Request Resolve Dele
	e \star ()	Number	INC0011945		Contact type	None	Ŧ
	film Home	* Caller	Cisco Employee 1001	Q. 45 (1)	State	In Progress	
	E 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.com	n' at site:'Global/Bangalore/Electronic city' - BG	P peering with neighbor '1.1.1.1' failed due to	Autonomous System (AS) Number m	8
	Change - All	Description					
				Related Sea	arch Results 🗲		
		Notes Related Records Closure Inform	mation Cisco DNA				
		Watch list	8 2		Work notes list	8 2	
		Work notes	Work notes				8
	•						
ten 5	• The ServiceNow	admin now cli	cks the Cisco	DNA tab in th	e change reque	est Important	additional data
ep 5	O The ServiceNow synchronized from <i>Figure 27: Cisco DNA</i> Service∩∵W Server Management ♥ Titter madagater	admin now clie n Cisco DNA (<i>Tab</i>	cks the Cisco Center to Ser	DNA tab in th viceNow can b	e change reque e viewed in thi # ∧ ≅	est. Important s tab.	additional data Environce 1001 · Q 다 안 안 좋 co DNA Change Request
ep 5	© The ServiceNow synchronized from Figure 27: Cisco DNA servicen⊂₩ service Management © Thermangement © ▲ ①	admin now clie n Cisco DNA (<i>Tab</i>	cks the Cisco Center to Ser	DNA tab in th viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data Endowes 1001 · Q 다 ② (한 co DMA Change Request) Receive) Delet
ep 5	© The ServiceNow synchronized from Figure 27: Cisco DNA servicen⊂₩ service Management © There management © there © ©	admin now clie n Cisco DNA o Tab	cks the Cisco Center to Ser	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data Employee 3001 · Q 다 ⓒ ⓒ ⓒ co DMA Change Request Request
ep 5	© The ServiceNow synchronized from Figure 27: Cisco DNA servicen○₩ service Management Filter invitaged torus bases invitaged invitage	admin now clie n Cisco DNA (Tab < = modert * caler * caler	cks the Cisco Center to Ser ncou1945 Cieco Employee1001	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	© The ServiceNow synchronized from Figure 27: Cisco DNA Service∩∵₩ Service Management Filter madgater ■ Mone ■ DNA App Log ■ Problems: All	admin now clie n Cisco DNA (Tab	cks the Cisco Center to Ser mc0011945 Cisco Employee1001 Implify/Help	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data Encloses 2001 • Q P () () co DNA Change Request. Resolve
ep 5	© The ServiceNow synchronized from Figure 27: Cisco DNA Service∩™ Service Management ♥ Filter nadagator ♥ Filter nadagator ♥ Filter nadagator ♥ Problems .All ■ Events -All	admin now clie n Cisco DNA (Tab	Conter to Ser mcon1955 Cisco Employee1001 Imagity (Help Nore-	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data Encloses 2001
ep 5	The ServiceNow synchronized from Figure 27: Cisco DNA ServiceNewsont Figure 27: Cisco LNA	admin now clie n Cisco DNA Tab	Inconses Inc	DNA tab in the viceNow can b	ee change reque ee viewed in thi	est. Important s tab.	additional data
ep 5	The ServiceNow synchronized from Figure 27: Cisco DNA ServiceNaugurer Fitter naugurer Fitter	admin now clie n Cisco DNA Tab	Inconstant Inconstant	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	The ServiceNow synchronized from Figure 27: Cisco DNA ServiceNew ServiceMangement Filter navigator	admin now clie n Cisco DNA o Tab	Incollipss Cieco Employee1001 Ingalry/Help -None -	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	The ServiceNow synchronized from Figure 27: Cisco DNA ServiceNews Filter natigator Filter	admin now clie n Cisco DNA o Tab	Incollips6 Cisco Employee1001 Ingaity/Help -None-	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	The ServiceNow synchronized from Figure 27: Cisco DNA ServiceNow Service Management Fitter avaigator Fitter avaigato	admin now clim n Cisco DNA (Tab	Incollists Incollists Ciaco Employee1001 Impairy/Help -Hote- Device nume: CSR_HEG_4.disco.com	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	© The ServiceNow synchronized from Figure 27: Cisco DNA Servicen©₩ Service Management © filter avaigator © filter avaiga	admin now clin n Cisco DNA (Tab	Inconstant Incons	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	The ServiceNow synchronized from Figure 27: Cisco DNA servicenew service Management Filter navigate The Alexts - All Trockderbs - All Trockderbs - All Trockderbs - All Trockderbs - All Trockderbs - All	admin now clie n Cisco DNA (Tab	Inconstruction Inconstructio	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	Carry Control And	admin now clie n Cisco DNA (Tab	Cess the Cisco Center to Ser (NC00156 Cisco Employes1001 Mority/Map -Nore- Device name:CSR_NEC_4.cisco.com	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab. Cece Follow + Update Create Cis - None - In Progress 4 4 5 - Planning 4 5 - Planning	additional data
ep 5	Control of the service of the servic	admin now clim n Cisco DNA o Tab	In Cool DMA In Close DMA In Cl	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	Control of the service of the servic	admin now clin n Cisco DNA (Tab	Inclusion	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data
ep 5	Control of the service of the servic	admin now clin n Cisco DNA of Tab	RC0011945 Cisco Employee1001 Enquiry/Map Routy Map Routy Map Routy Map Routy Map Routy Map Routy Reg. 4.disco.com	DNA tab in the viceNow can b	e change reque e viewed in thi	est. Important s tab.	additional data

Step	Description			
Step 6	The ServiceNow a	admin now eithe	er approves or rejects the change request ticket in the Servic	eNow GUI.
	In the Cisco DNA to approve the req	tab, the Service uest or Rejecte	Now admin clicks the Approval Status field and clicks eith d to reject the request.	er Approved
	Note Befor appro	te the change re- oval in ServiceN	quest is executed, it must be approved in ServiceNow. Only low will the change request be executed in Cisco DNA Cen-	after an ter.
	Figure 28: Cisco DNA	Approval Status Fie	ld	
		/ — Change Request		Lower statistic factors
	Filter navigator	Planning Schedule Conflicts Note	es Clasure information Cisco DNA	Neview Update Decete
	★	Circo Obla Network Hearth		
	Self-Service	Cisco Dina Network Osena		A
	Homepage	Cisco DNA Network Datalia	taxa hasila	
	Business Applications	CISCO DINA NETWORK DETAILS	image beans: a) Running Image Namer re1000-universalie 16.06.04 SPA hin	
	Dashboards		Uuid: 4b42ac74-bdb6-498e-a29d-d6142d90057c Version: 16.6.4	
	Service Catalog		Size In Bytes: 446692391 b) Golden Image	
	Knowledge		Name: CSR1000V[16:03.06] Uuid: undefined	
	Help the Help Desk		Version: 16.03.06 Size In Bytes: undefined	
	Visual Task Boards			
	Connect Chat	Cisco DNA Event Domain		
	Incidents	Cisco DNA Event Details and	Event Details	
	Watched Incidents	auguran scotta	Suggested Actions	
	My Requests		Action: undefined	
	Requested Items			
	Watched Requested Items	Cisco DNA Event Id	cb068873-7fe8-447e-a245-18c8d6dc4b08	
	My Connected Apps			
	My Profile	Approval Status	✓ None Approved _ Delected _	1
	My Tagged Documents	Review Update Delete	nejovisu	
	My Tags	Related Links		
	My Knowledge Articles	Calculate Risk Show Workflow		
	<u></u>	Workflow Context		
	•	Affected Cis Impacted Services/Cis A	oprovers Change Tasks (2) Problems Incidents Fixed By Change Incidents Caused By Change	
~ -				
Step 7	After the Service	Now admin appi	roves the ticket and the status of the change request is change	ged to
	'Implement', a not	ification is sent	to Cisco DNA Center. In case the ticket is rejected, then the	e update is
	sent to Cisco DNA	A Center in 'Sch	eduled' state itself and the ServiceNow ticket is automatical	llv canceled.
Step 8	After a successful	software image	undate in Cisco DNA Center, a notification (task completed) is sent back
Step 6	to Compion New So	muiceNew then	alagas the shares request ticket. The shares request ticket al	o is sent back
	to service now. se		closes the change request ticket. The change request ticket of	osure is done
	through the use of	APIs from the	DNA app.	
	Noto Esna	failed a former	undete ComiceNess and a to non-out the failure of that the	ComicaNor
	Note For a	Talled software	update, ServiceNow proceeds to report the failure so that the	Serviceinow
	admii	n can manually t	ake action on the change request ticket. For a terminated soft	ware update,
	the ch	nange request tio	cket is canceled in ServiceNow. The reporting of both a fail	ed software
	image	e undate and a t	erminated software image undate are also done through the	use of APIs
	frame	the DNA one	erminated software mage apade are also done anough the	
	Irom	ule DINA app.		

Step	Description									
Step 9	The Cisco DNA Center adı Summary.	min can r	review	w the S	SWIM	event by	v clicki	ng on Runtime D	ashboa	rd > Event
	Note By clicking the windows that p	e on indiv permit di	vidua rect a	l even	ts in th to the e	e GUI v event in	vindow Servic	, the admin access eNow.	ses addit	ional GUI
	Figure 29: Event Summary									
	Eisco DNA Center			Platform -	Runtime Dashb	oard		Last Updated: 9 minutes ago 🔿 Refres	Q ⑦ C	
	Runtime Dashboard									*
	API Summary				Event Summ	ary O				
	Call Status				12	∑ Filter			EQ Find	_
	Total API's O				Events published	Domain *	stwork	Event Name BGP Tunnel Connectivity		5
	Completed Call Performance				DNA Event Severity Court 1 0	t Know Your N	stwork	Network Device Interface Connectivity - OSPF Adja	cency Failure 0	5
	API Name Version Average No data to display	Low	F	High	2 12 3 0 4 0 5 0					
								Showing 2 of 2		
	Integration Flow Summary									
	REST-Based (0) 0 Fated Schedule-Base	rd (0) 0 Failed								
G. 10		· 1· 1				(1: 1)	, ·	11 11	114	
Step 10	The Cisco DNA Center adi	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	DODIT	0							×
		BGP Tunnel (Last 6 hours ∨	Connect	tivity (6)					Last Updated: a few s	econds ago 📿 Refresh
	Runtime Dashboard	√ Filter							EQ	ind
	API Summary 0	Event Id	Last In-E Source	Event Flow Destination	ITSM Workflow	ITSM Status	ITSM Id	ITSM Link	ITSM Last UpdatedTime	ITSM Entity Severity/Priority
	Call Status	ecf17b41- 4148-4583- b777- 630effbe8623	ServiceNow	DNACP	Incident	In Progress	INC0011945	https://ven02561.service-now.com/nev_to.do? uri-incident.do? sys_id=6321ee6bdba44c506415f482ba9619fe	October 23rd 2019, 9:32:34 am	5 - Planning
	Total AP's	697d3d6a- 64cf-4617- a596- 5bb84d075830	ServiceNow	DNACP	Incident	Resolved	INC0011943	https://ven02561.service-now.com/nav_to.do? urf=incident.do? sys_id=45dbd263dba44c506415f482ba961974	October 23rd 2019, 9:00:39 am	5 - Planning
	Completed Call 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=f8c89a63dba44c506415f482ba9619db	October 23rd 2019, 8:39:13 am	4 - Low
		667d5d31- 5d88-4e7d- bdc7- a9b5d9b172ae	ServiceNow	DNACP	RFC	Scheduled	CHG0030363	https://ven02561.service-now.com/nav_to.do? uri=change_request.do? sys_id=44f8cse7db68c850475a5ad3ca96197a	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 Failed Schedule-Based (0)	84edad3b-						https://wen02561.service-now.com/nav_to.do?	October 23rd	

The Cisco DN	A Center admin c	licks on a	an ever	nt ID) numl	per (link) to view	only data	associat	ed with
specific event.									
Figure 31: Event II	D Data								
Cisco DNA Center	Event H	listory - ecf17	7b41-4148	8-45a3	8-b777-6	30effbe8623		Last Updated: a fev	v seconds ago 📿 R
the second second								ΞQ	Find
Runtime Dashboard	d Last	In-Event Flow							
	Source	Destination	ITSM Workflow	ITSM Status	ITSM Id	ITSM Link	ITSM Li Update	st ITSM Entit dTime • Severity/P	y DNA E riority Severi
API Summary				In		https://ven02561.service-now.com/nav_to.do	Octobe	23rd	
Call Status	ServiceNow	DNACP	Incident	Progress	INC0011945	uri=incident.do? sys_id=6321ee6bdba44c506415f482ba9619f	2019, 9 am	:32:34 5 - Plannin	g 2
Total API's	ServiceNow	DNACP	Incident	New	INC0011945	https://ven02561.service-now.com/nav_to.do/ uri=incident.do? svs_id=6321ee6bdbs44c506415f482ba9619fi	October 2019, 9 am	23rd 12:47 5 - Plannin	g 2
0							October	23rd	
Completed Call Device	DNACP	ServiceNow	Incident	New	NA	NA	2019, 9 am	12:46 NA	2
API Name	Version Average 1								
	No data to display								
Integration Flow Sur	mmary 0								
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The Cisco DN GUI and speci	A Center admin c	licks on t	the ITS	SM L	link to	return to the Ser	viceNow	Service I	Manage
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 The Cisco DN GUI and speci Figure 32: Service	A Center admin c fic incident.	licks on t	the ITS	SM L	link to	return to the Ser	viceNow	Service I	Manage
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