

The Cisco Live! logo features the word "CISCO" in a dark blue, sans-serif font, followed by "Live!" in a dark blue, cursive script font.

CISCO *Live!*

The text "Let's go" is displayed in a dark blue, sans-serif font. The background behind the text is a vibrant, multi-colored geometric pattern of overlapping triangles and lines, transitioning from dark blue on the left to bright yellow and white in the center, and then back to dark blue on the right.

Let's go



The bridge to possible

Managing your data center network with ServiceNow

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@LHercot

CISCO *Live!*

BRKDCN-2969

Agenda

- What/Why/How of ServiceNow?
- Cisco DC Networking Integrations
- Use cases
 - ServiceNow as a Centralized CMDB
 - Centralized Dashboards
 - Automated Ticketing
 - Service Catalog and Automation
- Recap and next steps

What is ServiceNow?



- The Now Platform, a PaaS/SaaS platform for:
 - IT Services Management (ITSM)
 - IT Operations Management (ITOM)
 - IT Business Management (ITBM)
- Large Ecosystem of Partners and Integrations
- Build around data and workflows

ServiceNow Capabilities



Incident Management



Problem Management



Change Management



Configuration Management Database (CMDB)



Service Catalog

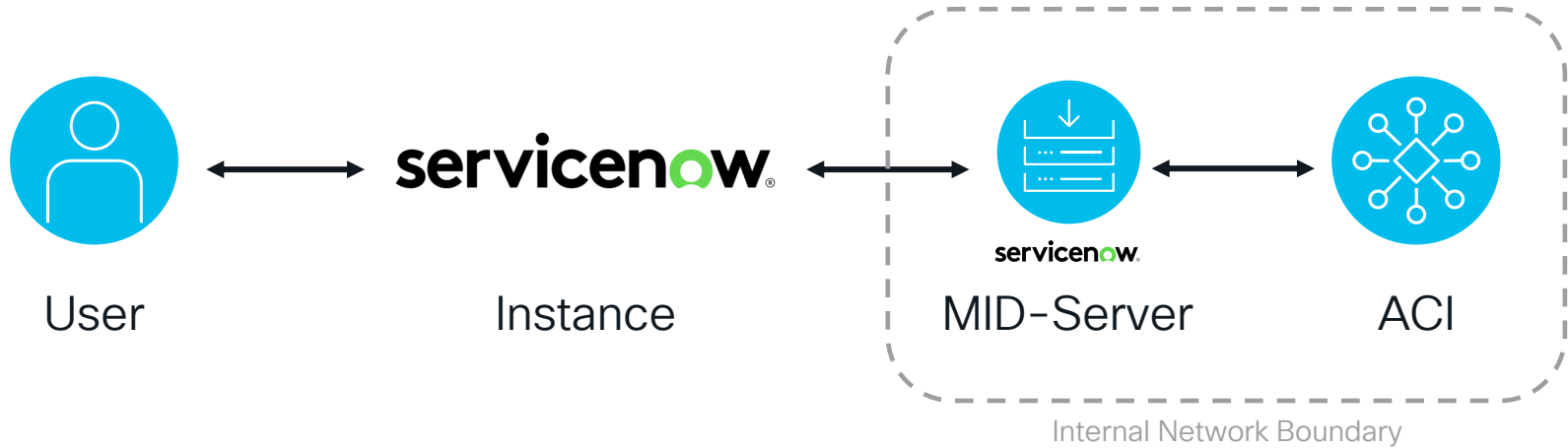
Why ServiceNow and Cisco DC Networking?

- Enhance ServiceNow CMDB data with product specific information
- Automate Incident Management but creating Incidents from network events and alert
- Enrich Incidents with deep insights to speed up recovery
- Reduce MTTR by aggregating information in one location
- Increase IT efficiency by streamlining processes
- Provide a self-service experience

The ServiceNow Architecture



The ServiceNow Architecture



The ServiceNow Store

The screenshot displays the ServiceNow Store interface with a search for 'Cisco'. The top navigation bar includes the ServiceNow logo, a search bar with 'Cisco' entered, and a 'Log In' button. Below the navigation bar, there are tabs for 'Apps and Solutions', 'ServiceNow Products', 'Integrations', 'Innovation Lab', and 'Events'. The main content area is divided into a left sidebar with filters and a main grid of product cards.

Listing Type

- Applications
- Integrations
- Built With ServiceNow
- OEM Solutions
- Ancillary Software
- Content
- Template
- Utility/Tool

Offered By

- Partners
- ServiceNow

Release

- Rome
- San Diego
- Tokyo
- Utah

Price

- Free
- Paid

Additional Filters

- Free Trial
- Demo
- Plug & Play

Search Results:

Search filters: Ancillary Software, Applications, Built With ServiceNow, Content, Integrations, OEM Solutions, Template, Utility/Tool, Partners, Clear

Apps and Solutions (5)

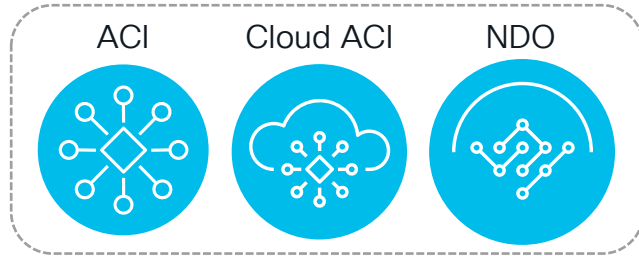
- Cisco Nexus Dashboard Insights Application**
Monitor and analyze your data center fabric in real time
Cisco Systems Inc. ☆☆☆☆☆

Integrations (26)

- Cisco Secure Endpoint**
Stop attacks and simplify security operations.
Cisco Systems Inc. ☆☆☆☆☆
- Cisco ACI Orchestration**
Inventory discovery and CMDB update for Cisco ACI
Cisco Systems Inc. ☆☆☆☆☆
- Cisco SecureX threat response**
Security that works together
Cisco Systems Inc. ☆☆☆☆☆
- Cisco Intersight ITSM Plugin**
Visibility and monitoring for Cisco UCS and HyperFlex.
Cisco Systems Inc. ★★★★★
- Cisco ACI Application**
Inventory discovery and CMDB update for Cisco ACI.
Cisco Systems Inc. ☆☆☆☆☆
- Cisco BCS Operational Insights**
Cisco BCS Operational Insights API Plugin
Cisco Systems Inc. ☆☆☆☆☆

Cisco DC Networking ServiceNow Integrations

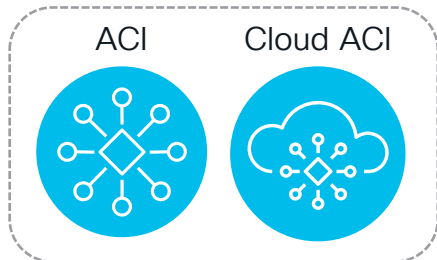
Cisco ACI Application



Nexus Dashboard Insights



Cisco ACI Orchestration

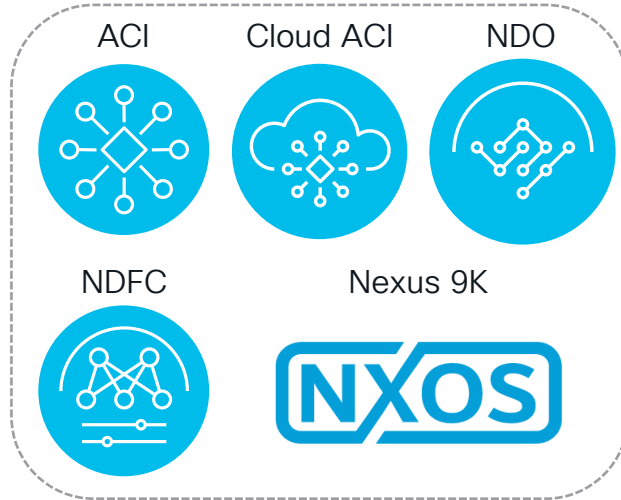


Nexus 9K



Cisco DC Networking ServiceNow Integrations

Cisco DC Networking Inventory Application



Nexus Dashboard Insights



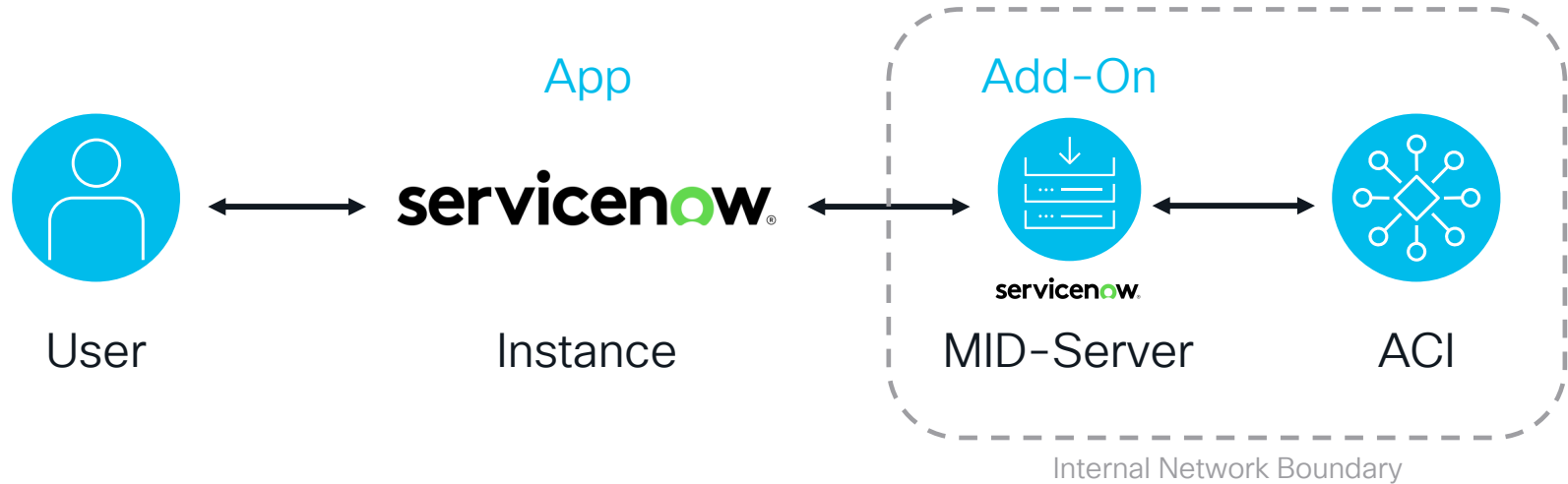
ServiceNow Release Compatibility

- ServiceNow release a new version every 6 month
- Keep N-2 supported at any time
- Current Supported Releases:
 - Tokyo
 - Utah
 - Vancouver
- Next Release: Washington DC

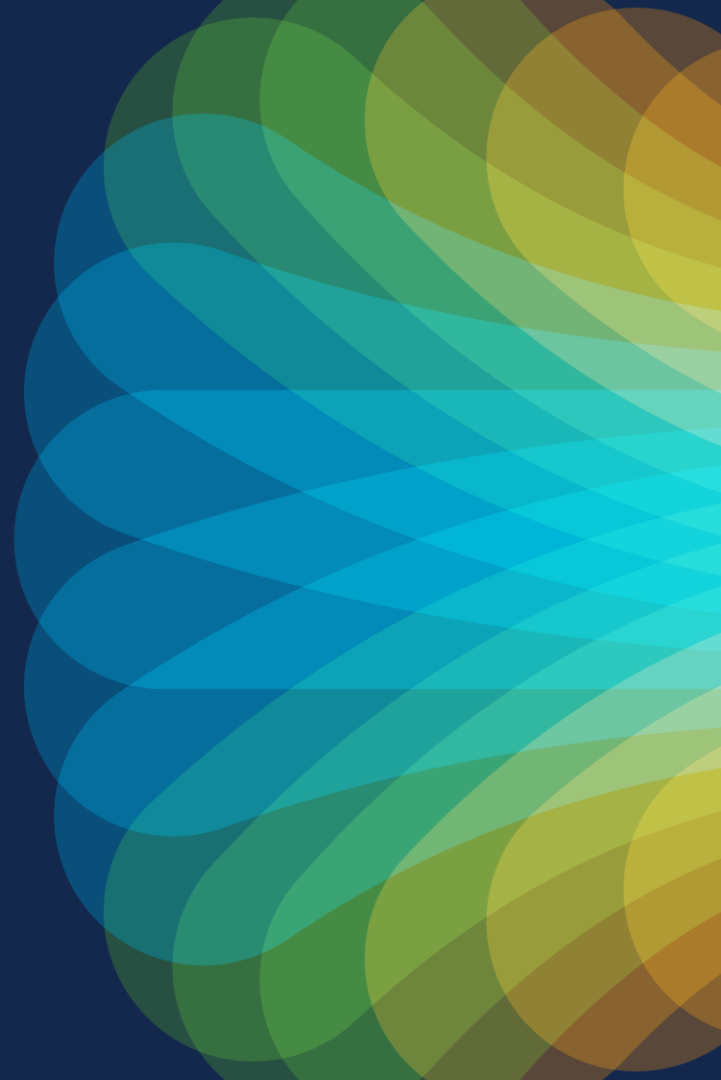
How are Apps deployed?



How are Apps deployed?



Use Cases



Use Case #1: ServiceNow as a Centralized CMDB

- Inventory switches, interfaces, logical components (Tenant, VRF, ...)
- Create relationship between logical and physical components
- Create relationship with ServiceNow native classes
- Backup configurations of switches and controllers

Guided Setups

servicenow Service Management LH Lionel Hercot

Network M Filter Show all

0% Complete

Cisco DC Network Management Application Pre-Requisite Setup

MID Server Configuration

This step is required.

The MID Server facilitates communication and the movement of data between a ServiceNow instance and external applications like Cisco NDO/ACI/NX-OS/NDFC. You must require one MID Server to integrate ServiceNow Cisco Cloud Network Management Application with NDO, ACI, NX-OS, or NDFC. The NDO, ACI, NX-OS, or NDFC must be directly accessible from the MID Server.

Status: Not Started [Get Started](#)

0 / 7 Tasks completed

- Configure MID Server User
- Add Roles to MID Server User
- Download MID Server on machine
- Register the MID Server in ServiceNow
- Install and Configure a MID Server
- Validate the MID Server
- Configure MID Server Cluster

IntegrationHub ETL Mapping

This step is required.

WARNING: It is NOT recommended any changes here since it is completely functional and based on Cisco's assets structure.

Once the Cisco Cloud Network Management application is installed, the user will be able to customize the ETL mapping, which is the process that transforms the data from Cisco into ServiceNow CMDB final tables.

Status: Not Started [Get Started](#)

0 / 1 Tasks completed

- ETL Configuration

Navigation Menu:

- Network M
- Cisco DC Network Management
 - Dashboards
 - NDO
 - ACI
 - NX-OS
 - NDFC
 - Guided Setup**
 - Pre-Requisite
 - NDO
 - ACI
 - NX-OS
 - NDFC
 - Contact Cisco Support
 - Configurations
 - User Guide
 - NDO
 - ACI
 - NX-OS
 - NDFC
 - Application Configuration

Create a Configuration

- Give it a Name
- Select a Mid-Server (must be already configured and Up)
- Provide the IP/Hostname
- Provide Credentials

Configuration for NDO

servicenow Service Management LH Lionel Hercot

Network M Add Discovery

NDO Configuration
New record

NDO Configuration allows you to configure Cisco Nexus Dashboard Orchestrator in the ServiceNow.

- Name: Provide the name of NDO to distinguish configuration.
- IP Address(es)/ URL(s): Enter IP Address(es)/ URL(s) of NDO (in case of cluster add comma separated IP Address or URL).
- MID Server: Choose the MID Server. Please ensure that MID Server is reachable to NDO and it is up & running.
- MID Server Cluster: Choose the MID Server that is part of any cluster. Please ensure that the MID server(s) belonging to the cluster is up and running.
 - If the MID Server is part of any cluster then the checkbox of "Use MID Server Cluster" will be marked as true.
 - If the MID Server is not part of any cluster then the checkbox of "Use MID Server Cluster" will not be populated.
- Platform: Select the Platform as ND or MSO as per your requirement.
- Authentication Type: Select the Authentication Type as Local [NDO Local User] or Remote [RADIUS/TACACS+/LDAP User].
- Username: Enter the Username of NDO based on the selected Authentication Type.
- Password: Enter the Password of NDO based on the selected Authentication Type.
- Login Domain: Enter the Login Domain name of NDO (Note: Login Domain field will only be available when Authentication Type is selected as Remote).

Name **Platform**

*** IP Address(es)/ URL(s)** **Authentication Type**

*** Username** *** MID Server**

*** Password**

Use MID Server Cluster

This MID Server Belongs to following Clusters:
Cluster1

Navigation Menu:
Cisco DC Network Management
Dashboards
NDO
ACI
NX-OS
NDFC
Guided Setup
Pre-Requirement
NDO
ACI
NX-OS
NDFC
Contact Cisco Support
Configurations
User Guide
NDO
ACI
NX-OS
NDFC
Application Configuration

Configuration for NDO

* Name

* IP Address(es)/ URL(s)

* Username

* Password

Add

Discovery

Platform

Authentication Type

* MID Server

This MID Server Belongs to following Clusters:
Cluster1

Use MID Server Cluster

Configuration for ACI

* Name

* IP Address(es)/ URL(s)

Authentication Type

* MID Server

This MID Server Belongs to following Clusters:
Cluster1

Use MID Server Cluster

Last Discovery Time

Cloud ACI

Local Credentials **Remote** External Credentials

* Username

* Password

Authentication Type - Local User [ACI Local User]

Enter Username and Password. Please ensure that the local user has at least all read only permissions.

Component Configuration / Orchestration with Activity Packs will not work if the user doesn't have write permissions.

Configuration for NDFC

* Name

* IP Address(es)/ URL(s)

* Username

* Password

Add Discovery

* Platform

Authentication Type

* MID Server

This MID Server Belongs to following Clusters:
Cluster1

Use MID Server Cluster

Configuration for Nexus 9k

* Name

* IP Address

* Username

* Password

Add Discovery

* MID Server

This MID Server Belongs to following Clusters:
Cluster1

Use MID Server Cluster

Discovery

- Two scheduling mechanisms:
 - Scheduled Job
 - at scheduled intervals
 - configured in the Scheduled Job menu
 - On Demand
 - via the Discovery button in the Configuration
- For ACI, two types of Discovery
 - Full Discovery
 - Incremental Discovery

NDO Inventory Data in the CMDB

The screenshot displays the ServiceNow interface for managing Schemas. The left sidebar shows the navigation menu with 'NDO Inventory' selected. The main content area shows a table of Schemas with columns for Schema Name, NDO, and Schema ID. The table contains three rows of data, each with an information icon and a checkbox. Below the table is an 'Actions on selected rows...' dropdown menu.

servicenow Service Management

Network M

Schemas Search Schema Name Search

All

	Schema Name	NDO	Schema ID
<input type="checkbox"/>	ndo-schema	Test_NDO 10.1.105.15	62e0d5031c000014bbc76327
<input type="checkbox"/>	SN_ndo_schema	Test_NDO 10.1.105.15	62e0e0e81c0000c5bcc7632e
<input type="checkbox"/>	Test	Test_NDO 10.1.105.15	62dfdd5b1c00001c9dc76325

Actions on selected rows...

NDO Inventory Data in the CMDB

The screenshot displays the ServiceNow interface for managing Schemas. The left-hand navigation menu is highlighted with a blue box, showing the following items: Network M, Sites, Schemas, Templates, and Policies. The main content area is titled 'Schemas' and features a search bar with the text 'Schema Name' and a search button. Below the search bar, there are icons for 'All' and 'Schema Name'. The main table lists three schemas:

	Schema Name	NDO	Schema ID
<input type="checkbox"/>	ndo-schema	Test_NDO 10.1.105.15	62e0d5031c000014bbc76327
<input type="checkbox"/>	SN_ndo_schema	Test_NDO 10.1.105.15	62e0e0e81c0000c5bcc7632e
<input type="checkbox"/>	Test	Test_NDO 10.1.105.15	62dfdd5b1c00001c9dc76325

At the bottom of the table, there is a dropdown menu labeled 'Actions on selected rows...'.

Detailed view of a NDO Schema CI

Schemas
ndo-schema(62e0d5031c000014bbc76327)

Dashboard Form Update

Schema Name	ndo-schema	NDO	Test_NDO 10.1.105.15
Schema ID	62e0d5031c000014bbc76327	Last Seen	2023-02-09 12:42:32

Related Items

Search for CI

Contains - L3Outs

[L3] [NDO_tenant1 || →] NDO_tenant1 || 3out

Contains - VRFs

[L3] [NDO_tenant1 || →] NDO_tenant1 || vrf1

Contains - Templates

[L1] ndo-schema || Template1

Hosted on - Sites

[L2] [ndo-schema || Template1 →]
apic_v42(62a4345a459b56dc8dd8a4da)

Uses - Tenants

[L2] [ndo-schema || Template1 →] NDO_tenant1 ||

Deleted

Relation_Build_Flag

false

Update

Delete Schema

Related Links

[Subscribe](#)

Detailed view of a NDO Schema CI

Navigation bar: Schemas, ndo-schema(62e0d5031c000014bbc76327), Dashboard, Form, Update

Schema Name: ndo-schema
Schema ID: 62e0d5031c000014bbc76327

NDO: Test_NDO || 10.1.105.15
Last Seen: 2023-02-09 12:42:32
Deleted:
Relation_Build_Flag: false

Related Items: Search for CI

- Contains - L3Outs
 - [L3] [NDO_tenant1 || ->] NDO_tenant1||3out
- Contains - VRFs
 - [L3] [NDO_tenant1 || ->] NDO_tenant1||vrf1
- Contains - Templates
 - [L1] ndo-schema || Template1
- Hosted on - Sites
 - [L2] [ndo-schema || Template1 ->] apic_v42(62a4345a459b56dc8dd8a4da)
- Uses - Tenants
 - [L2] [ndo-schema || Template1 ->] NDO_tenant1 ||

Buttons: Update, Delete Schema

Related Links: [Subscribe](#)

Detailed view of a NDO Schema CI

< Schemas ndo-schema(62e0d5031c000014bbc76327) Dashboard Form Update

Schema Name: ndo-schema
Schema ID: 62e0d5031c000014bbc76327

NDO: Test_NDO || 10.1.105.15
Last Seen: 2023-02-09 12:42:32
Deleted:
Relation_Build_Flag: false

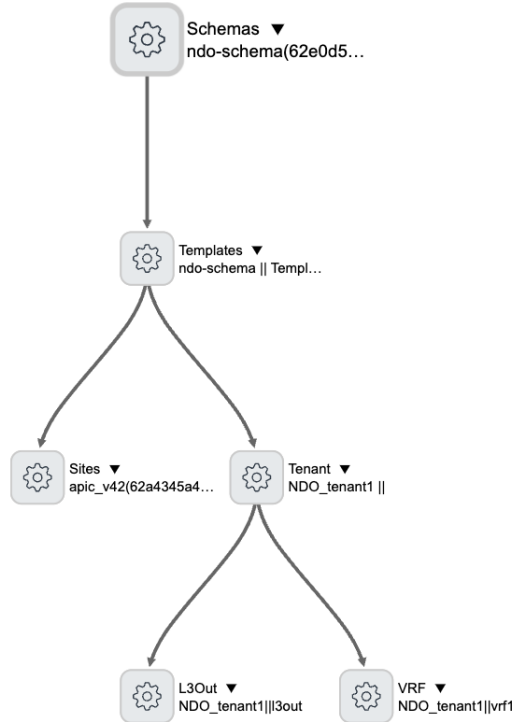
Related Items +  

- Contains - L3Outs
 - [L3] [NDO_tenant1 || ->] NDO_tenant1||3out
- Contains - VRFs
 - [L3] [NDO_tenant1 || ->] NDO_tenant1||vrf1
- Contains - Templates
 - [L1] ndo-schema || Template1
- Hosted on - Sites
 - [L2] [ndo-schema || Template1 ->] apic_v42(62a4345a459b56dc8dd8a4da)
- Uses - Tenants
 - [L2] [ndo-schema || Template1 ->] NDO_tenant1 ||

Update Delete Schema

Related Links
[Subscribe](#)

Dependency tree visualization



NDFC and ACI Inventory Data in the CMDB

Fabric Interfaces											
Search Mode Search											
All											
Name	ACI Cluster	Interface Name	Fabric Node Name	Discovery source	Switching State	Speed	Mode	ConfVLAN	Layer	Usage	
<input type="checkbox"/>	leaf101 SAL18474KNC eth1/32	Crest_APIC 192.168.10.102	eth1/32	leaf101 SAL18474KNC	Cisco ACI	disabled	inherit	trunk	Layer2	discovery	
<input type="checkbox"/>	9TANQWYNAS Ethernet1/26	(empty)	Ethernet1/26		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	9F91AEV7VBH Ethernet1/63	(empty)	Ethernet1/63		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	95G2RV9DSH Ethernet1/54	(empty)	Ethernet1/54		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	95G2RV9DSH Ethernet1/63	(empty)	Ethernet1/63		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	leaf101 SAL18474KNC eth1/28	Crest_APIC 192.168.10.102	eth1/28	leaf101 SAL18474KNC	Cisco ACI	disabled	inherit	trunk	Layer2	discovery	
<input type="checkbox"/>	leaf101 SAL18474KNC eth1/19	Crest_APIC 192.168.10.102	eth1/19	leaf101 SAL18474KNC	Cisco ACI	disabled	inherit	trunk	Layer2	discovery	
<input type="checkbox"/>	9TANQWYNAS Ethernet1/38	(empty)	Ethernet1/38		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	9TANQWYNAS Ethernet1/22	(empty)	Ethernet1/22		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	9CT63TURL2L Ethernet1/7	(empty)	Ethernet1/7		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	95G2RV9DSH Ethernet1/50	(empty)	Ethernet1/50		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	95G2RV9DSH Ethernet1/59	(empty)	Ethernet1/59		Cisco NDFC		10Gb	trunk		INTERFACE_ETHERNE	
<input type="checkbox"/>	leaf101 SAL18474KNC eth1/24	Crest_APIC 192.168.10.102	eth1/24	leaf101 SAL18474KNC	Cisco ACI	disabled	inherit	trunk	Layer2	discovery	
<input type="checkbox"/>	leaf101 SAL18474KNC eth1/15	Crest_APIC 192.168.10.102	eth1/15	leaf101 SAL18474KNC	Cisco ACI	disabled	inherit	trunk	Layer2	discovery	

Detailed Related Item for Switches

Related Items

Contained by - Switches

  [L1] leaf101|SAL18474KNC

Cooled By - Fabric Fan Trays

  [L2] [leaf101|SAL18474KNC →] leaf101|SAL18474KNC|ch|FantraySlot_1|Fantray_1

  [L2] [leaf101|SAL18474KNC →] leaf101|SAL18474KNC|ch|FantraySlot_2|Fantray_1

  [L2] [leaf101|SAL18474KNC →] leaf101|SAL18474KNC|ch|FantraySlot_3|Fantray_1

InstalledWith - Fabric Firmwares

  [L2] [leaf101|SAL18474KNC →] n9000-11.0(3f)

Powered by - Fabric Power Supply Units

  [L2] [leaf101|SAL18474KNC →] leaf101|SAL18474KNC|PowerSupply_1

  [L2] [leaf101|SAL18474KNC →] leaf101|SAL18474KNC|PowerSupply_2

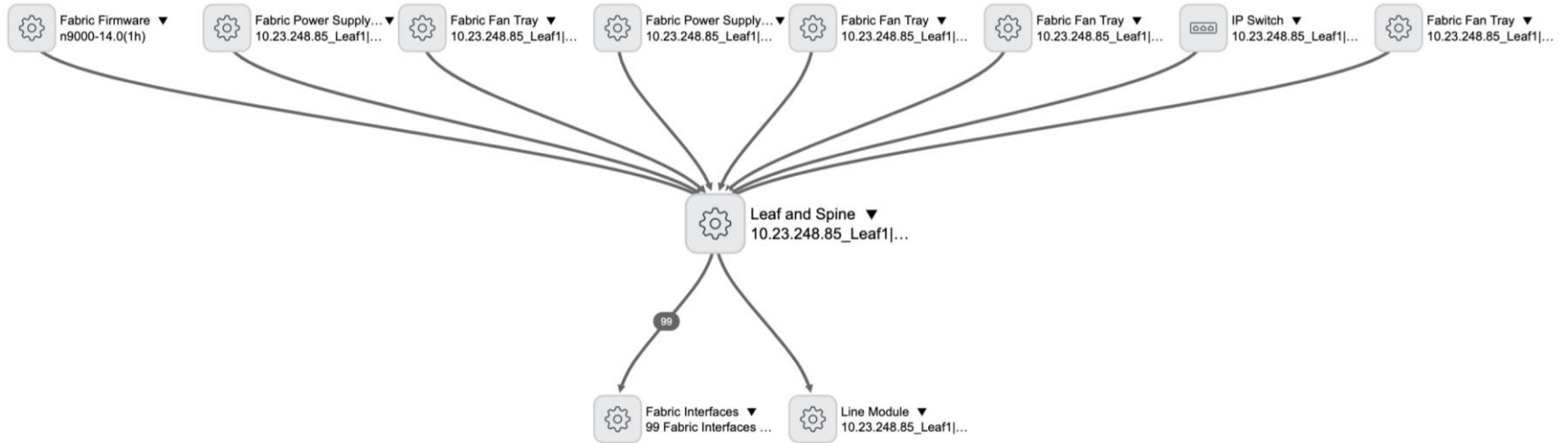
Rack contains - IP Switches

  [L2] [leaf101|SAL18474KNC →] leaf101|SAL18474KNC

Relation_Build_Flag

False

Dependency tree visualization for Switches



ACI EPGs Inventory Data in the CMDB

servicenow Service Management

LH Lionel Hercot

Network M

Application EPGs New Search Discovery source Search

1 to 20 of 58

Name	ACI Cluster	EPG Name	Application Profile Name	Tenant Name	Discovery source	DN	Deleted
ndo-main Test_AP1 Test_EPGs	apic_v42	Test_EPGs	ndo-main Test_AP1	ndo-main	Cisco NDO		false
q6qen q6qen q6qen	Crest_APIC 192.168.10.102	q6qen	q6qen q6qen	q6qen	Cisco ACI	uni/tn-q6qen/ap-q6qen/epg-q6qen	false
esha_tenant demo_ap demo_epg	Crest_APIC 192.168.10.102	demo_epg	esha_tenant demo_ap	esha_tenant	Cisco ACI	uni/tn-esha_tenant/ap-demo_ap/epg-demo_epg	false
md_test md_test test_acc_epg	Crest_APIC 192.168.10.102	test_acc_epg	md_test md_test	md_test	Cisco ACI	uni/tn-md_test/ap-md_test/epg-test_acc_epg	false
rclm6 rclm6 rclm6	Crest_APIC 192.168.10.102	rclm6	rclm6 rclm6	rclm6	Cisco ACI	uni/tn-rclm6/ap-rclm6/epg-rclm6	false
fsyuy fsyuy fsyuy	Crest_APIC 192.168.10.102	fsyuy	fsyuy fsyuy	fsyuy	Cisco ACI	uni/tn-fsyuy/ap-fsyuy/epg-fsyuy	false
zp1ja zp1ja zp1ja	Crest_APIC 192.168.10.102	zp1ja	zp1ja zp1ja	zp1ja	Cisco ACI	uni/tn-zp1ja/ap-zp1ja/epg-zp1ja	false
b73z9 b73z9 b73z9	Crest_APIC 192.168.10.102	b73z9	b73z9 b73z9	b73z9	Cisco ACI	uni/tn-b73z9/ap-b73z9/epg-b73z9	false
infra ave-ctrl ave-ctrl	Crest_APIC 192.168.10.102	ave-ctrl	infra ave-ctrl	infra	Cisco ACI	uni/tn-infra/ap-ave-ctrl/epg-ave-ctrl	false
lm891 lm891 lm891	Crest_APIC 192.168.10.102	lm891	lm891 lm891	lm891	Cisco ACI	uni/tn-lm891/ap-lm891/epg-lm891	false
1490_aniket_test_tenant nobody_exists_o...	Crest_APIC 192.168.10.102	application_epg_sample	1490_aniket_test_tenant nobody_exists_o...	1490_aniket_test_tenant	Cisco ACI	uni/tn-1490_aniket_test_tenant/ap-nobody...	false
test_tfr1 demo_ap demo_epg	Crest_APIC 192.168.10.102	demo_epg	test_tfr1 demo_ap	test_tfr1	Cisco ACI	uni/tn-test_tfr1/ap-demo_ap/epg-demo_epg	false

Detailed view of an ACI Schema CI

The screenshot displays the ServiceNow interface for an ACI Schema CI. The top header shows the user 'Lionel Hercot' and navigation options like 'Dashboard', 'Form', 'Update Application EPG', and 'Delete Application EPG'. The left sidebar lists navigation items such as 'Application inventory', 'Tenants', 'Application Profiles', 'Application EPGs', 'External EPGs', 'L3Outs', 'Endpoints', 'VRFs', 'Bridge Domains', 'Cloud Context Profiles', 'CIDRs', 'Subnets', 'Contracts', 'Contract Subjects', 'Filters', 'Filter Entries', 'Service Graph Templates', 'Regions', 'Multicast Route Map Policies', and 'Health, Faults and Alarms'. The main content area is titled 'Application EPG' and 'ndo-main||Test_AP1||Test_EPGs'. It contains several fields for configuration, including Name, Application Profile Name, Description, DN, Last Seen, Discovery source, Deleted, EPG Name, Tenant Name, Method, ACI Cluster, ACI Domain, uSeg EPG, NDO, Tenant ID, NDO Display Name, and NDO Status. Below these fields are sections for 'Extras' and 'Instructions', and a 'Related Items' section with a search bar and a list of related items.

Application EPG Details:

- Name: ndo-main||Test_AP1||Test_EPGs
- Application Profile Name: ndo-main||Test_AP1
- Description: [Empty]
- DN: [Empty]
- Last Seen: 2023-02-09 12:42:32
- Discovery source: Cisco NDO
- Deleted: [Checked]
- EPG Name: Test_EPGs
- Tenant Name: ndo-main
- Method: Perform Action on ACI
- ACI Cluster: apic_v42
- ACI Domain: On-premises
- uSeg EPG: [Empty]
- NDO: Test_NDO || 10.1.105.15
- Tenant ID: 62e0d72f1c00068bbc76329
- NDO Display Name: Test_EPGs
- NDO Status: Created and Deployed

Extras and Instructions:

- Category: [Empty]
- Fault count: 0
- Installed: [Empty]
- Assigned to: [Empty]
- Asset tag: [Empty]
- Status: Installed
- Relation_Build_Flag: false

Related Items:

- Contained by - Application Profiles
 - [L1] ndo-main||Test_AP1
- Contained by - Tenants
 - [L2] [ndo-main||Test_AP1 , ndo-main||Test_BD1 →] ndo-main ||
 - [L3] [ndo-main||Test_vrf1 →] ndo-main ||
- Contained by - VRFs
 - [L2] [ndo-main||Test_BD1 →] ndo-main||Test_vrf1

Naming Convention for Imported CI

The screenshot shows the ServiceNow 'CI Naming Configuration' page. At the top, the user is identified as Lionel Hercot. The page title is 'CI Naming Configuration' with a creation timestamp of 'Created 2022-08-10 06:39:49'. Action buttons for 'Update', 'Change Name', and 'Delete' are visible. A light blue instruction box states: 'Table: Select the table for which you want to change name field.' and 'Discovery Source: Select the discovery source of the record.' Below this, the 'Table' dropdown is set to 'Tenant' and the 'Discovery Source' dropdown is set to 'ACI'. The 'Fields of Record' section contains a search bar and a list of fields: 'aci_domain', 'action', 'apic_name', 'asset_tag', 'attestation_status', 'attributes', and 'category'. The 'Display Field Mapping' section includes an instruction box: 'Compose Display name fields by either entering fixed text in the 'Input Expression' below, dragging an MO field from the MO fields to the right, or a combination of the two.' and 'In 'Input Expression', you may enter custom text that can be associated with value of MO field.' Below this, the 'Input Expression' field contains the text: `${tenant_name}$ ||`.

Custom Relationships

< ☰ Custom Relationship
New record

📎 ⚙️ ⋮ Save Create Relationship for All Records

* Cisco CNM Table	Endpoint ▼	* CMDB Table	VMware Network Adapter ▼
* Discovery Source	ACI ▼	* Relationship	Connected by::Connects 🔍 ⓘ
* Field	IP Address ▼	* Field	IP Address ▼
Field Information	Type: string Max Length: 255	Field Information	Type: string Max Length: 255
* Parent	Cisco CNM Table ▼		

Save Create Relationship for All Records

Use Case #2: Centralized Dashboards

NDO Dashboard

The screenshot displays the Cisco Nexus Dashboard Orchestrator (NDO) interface. The top navigation bar includes the 'servicenow Service Management' logo, a user profile for 'Lionel Hercot', and search, help, and settings icons. The left sidebar lists navigation options under 'Cisco DC Network Management', including 'Dashboards' (NDO, ACI, NX-OS, NDFC) and 'Configurations' (User Guide, NDO, ACI). The main content area is titled 'Cisco Nexus Dashboard Orchestrator' and features a 'Select NDO Cluster' dropdown set to 'All'. Two inventory tables are shown: 'NDO Inventory' and 'Application Inventory'. Below these are two status charts: 'Schema Verification Status' (a solid blue donut chart) and 'Site Status' (a donut chart with green and red segments).

NDO Inventory		Application Inventory	
Sites	3	Tenants	8
Schemas	3	Application Profiles	1
Templates	3	Application EPGs	1
Policies	0	External EPGs	0
Users	0	L3Out	0
		uSeg EPGs	0
		VRFs	2

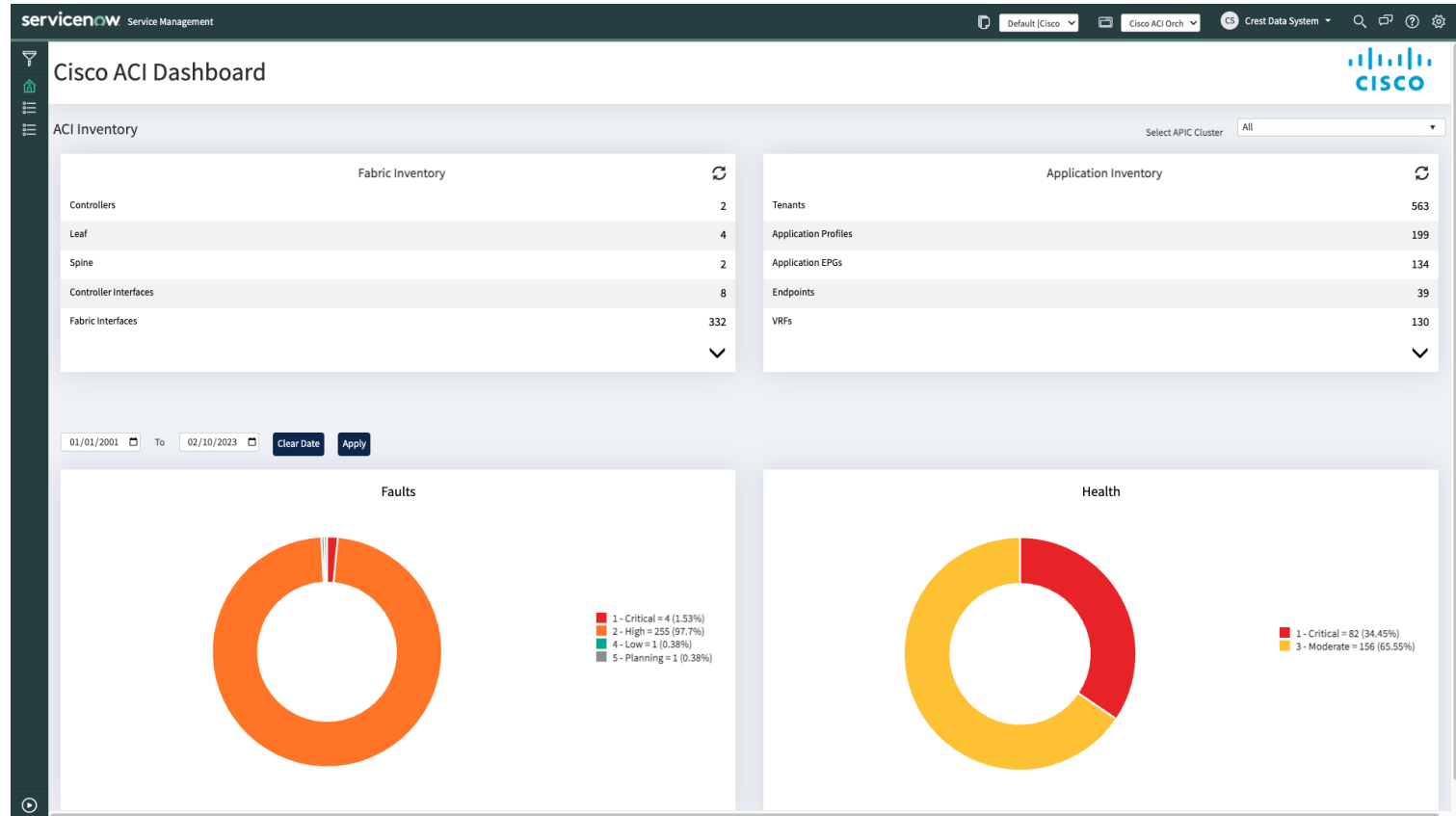
NDO Dashboard

The screenshot displays the Cisco Nexus Dashboard Orchestrator (NDO) interface. The top navigation bar includes the 'servicenow Service Management' logo and user information 'LH Lionel Hercot'. The sidebar on the left is titled 'Cisco DC Network Management' and contains sections for 'Dashboards' (NDO, ACI, NX-OS, NDFC) and 'Configurations' (User Guide, NDO, ACI). The main content area is titled 'Cisco Nexus Dashboard Orchestrator' and features a 'Select NDO Cluster' dropdown menu with options 'All' and 'Test_NDO || 10.1.105.15'. Below this are two inventory tables: 'NDO Inventory' and 'Application Inventory'. The 'NDO Inventory' table lists Sites (3), Schemas (3), Templates (3), Policies (0), and Users (0). The 'Application Inventory' table lists Tenants (8), Application Profiles (1), Application EPGs (1), External EPGs (0), L3Out (0), uSeg EPGs (0), and VRFs (2). At the bottom, there are two donut charts: 'Schema Verification Status' (a solid blue circle) and 'Site Status' (a donut chart with green and red segments).

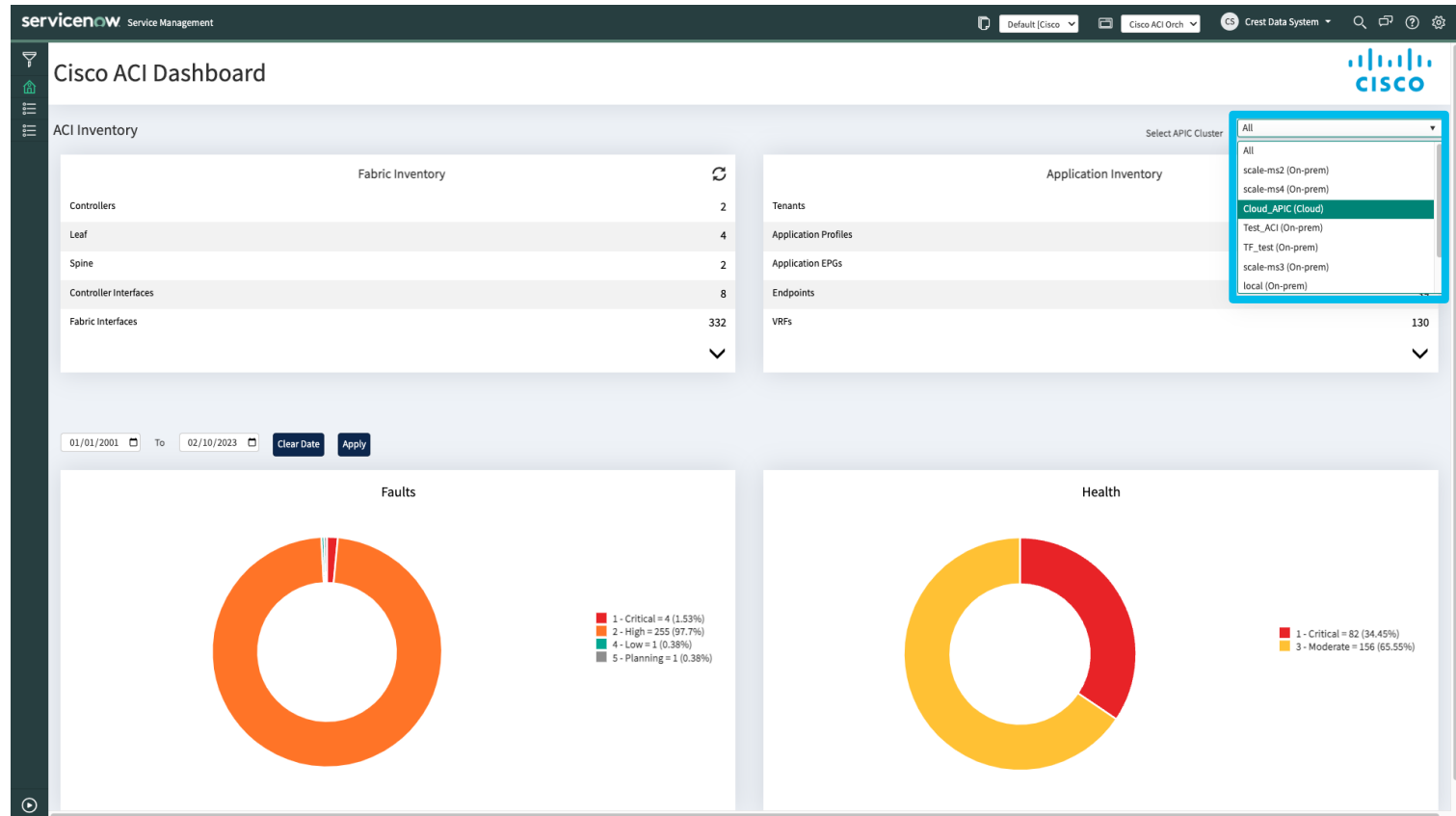
NDO Inventory	
Sites	3
Schemas	3
Templates	3
Policies	0
Users	0

Application Inventory	
Tenants	8
Application Profiles	1
Application EPGs	1
External EPGs	0
L3Out	0
uSeg EPGs	0
VRFs	2

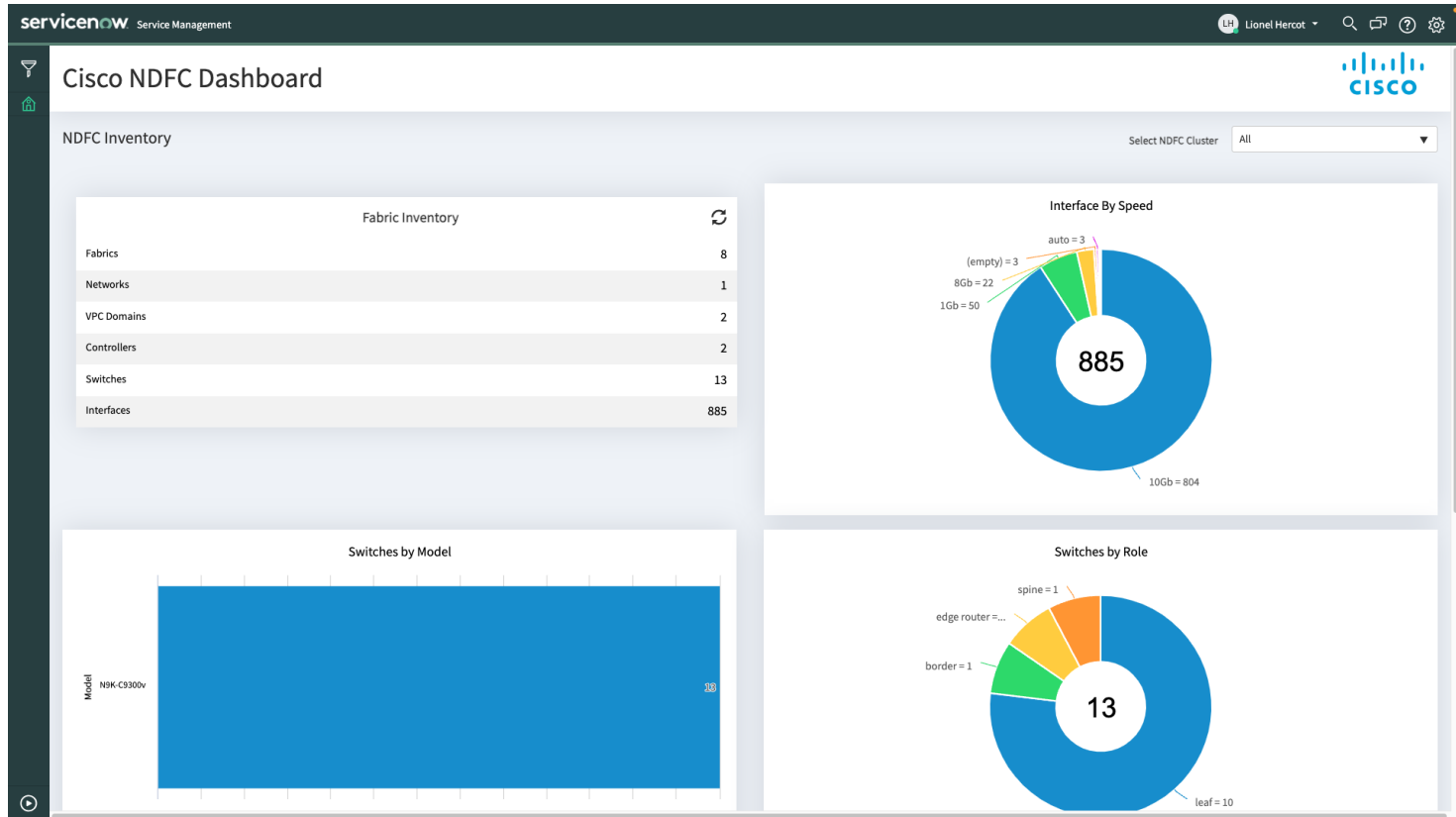
ACI Dashboard



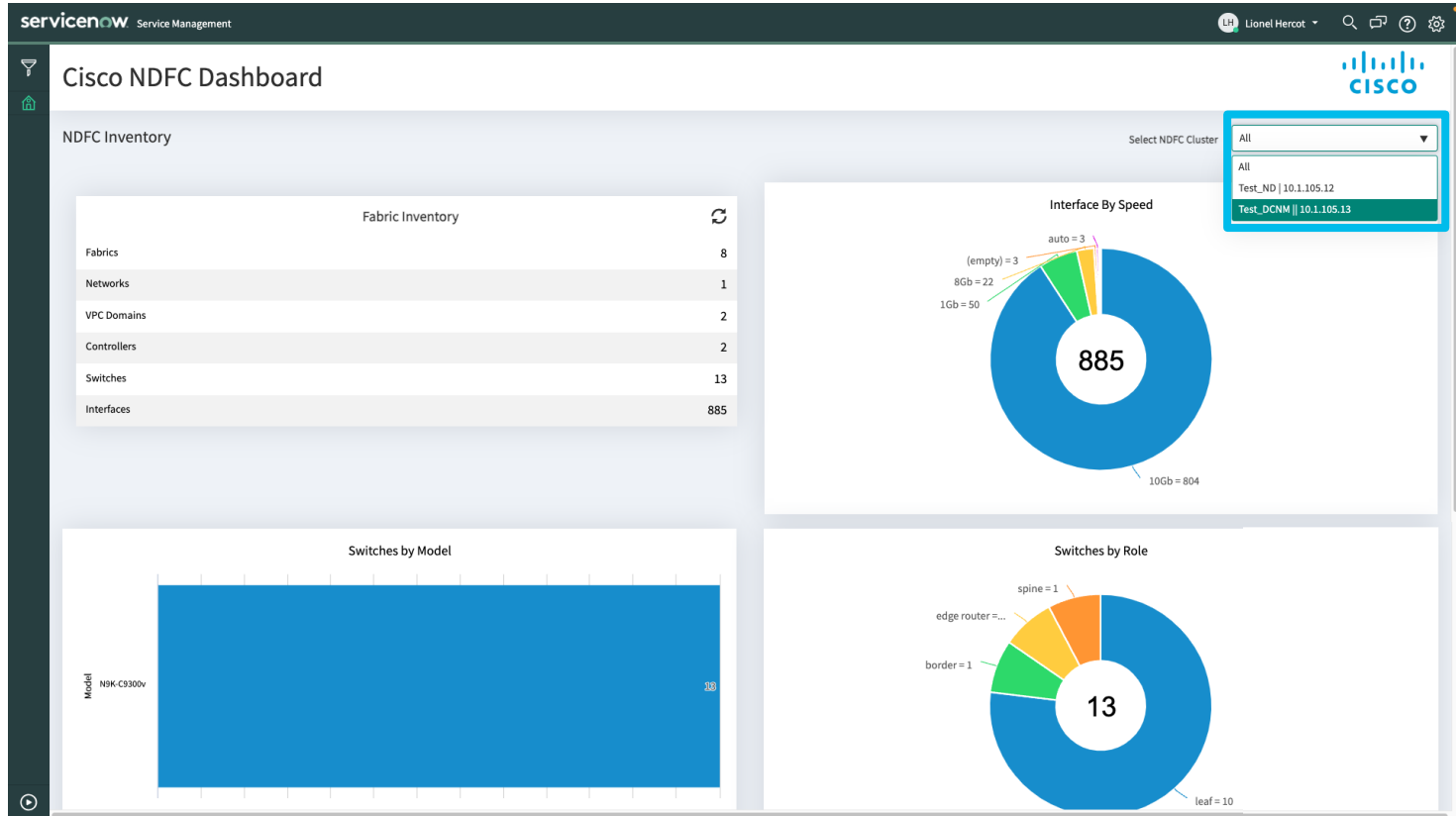
ACI Dashboard



NDFC Dashboard



NDFC Dashboard



Use Case #3: Automated Ticketing

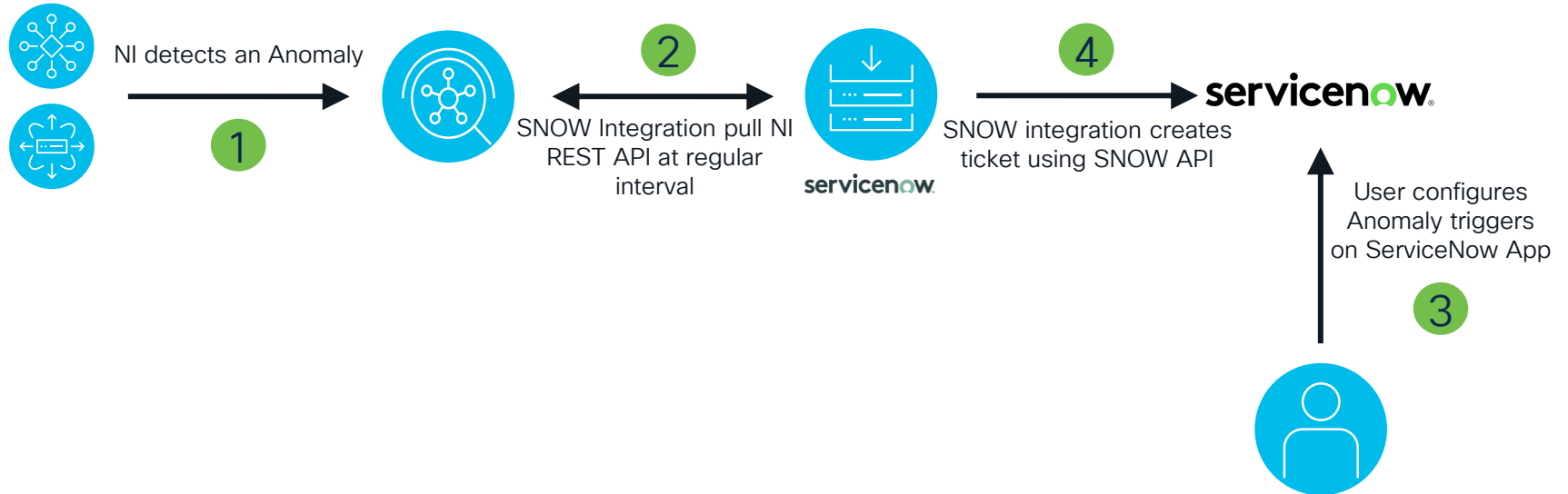
- Collect Alerts, Health and Faults from ND Insights, NDFC and ACI.
- Create a ServiceNow Incidents (also called tickets) automatically based on a condition
- Assign Incidents to specific teams depending on a condition automatically
- Close Incidents automatically when a condition is met

Collect the data into ServiceNow

- Collect:
 - Alarms from NDFC
 - Anomalies and Advisories from ND Insights
 - Faults and Health from ACI
- Only collect needed item with the collection criteria

How does the collection works

Taking ND Insights as an example



Configuration for ND Insights

* Name	<input type="text" value="Configuration3"/>
* Nexus Dashboard Cluster Endpoint(s)	<input type="text" value="10.1.105.17"/>
* Authentication Type	<input type="text" value="Local"/>
* Username	<input type="text" value="crest-user"/>
* Password	<input type="password" value="*****"/>
* MID Server	<input type="text" value="Cisco_MID"/> <input type="button" value="Q"/> <input type="button" value="i"/>
	<div style="background-color: #e0f2f1; padding: 5px;">This MID Server Belongs to following Clusters: Cluster1</div>
Use MID Server Cluster	<input type="checkbox"/>
* Alert Type	<input type="button" value="🔒"/> Anomalies, Advisories
* 1st Fetch Time Range (In hours)	<input type="text" value="1"/>
Last Collection Time	<input type="text" value="2022-07-22 01:28:36"/>

ND Insights Collection Criteria

Anomalies Filter Conditions	Advisories Filter Conditions
Severity <input type="text" value="All"/>	Severity <input type="text" value="All"/>
Category <input type="text" value="All"/>	Category <input type="text" value="All"/>

Anomalies Filter Conditions	Advisories Filter Conditions
Severity <input type="text" value="All"/>	Severity <input type="text" value="All"/>
Category <input type="text" value="All"/>	Category <input type="text" value="All"/>

Detail view of a ND Insights Anomalies

< Anomalies VM553512169850 ✎ ☰ ⋮ Delete ↑

ND Cluster	configuration2	Incident	INC0317562
Anomaly ID	VM553512169850	Alert Type	anomaly
Anomaly Score	81	Anomaly Type	alarm
Insights Group	TME-Lab	Category	vcenter
Fabric Name	SF	Severity	Critical
Node Names		Title	
Vendor	CISCO_ACI	Resource Type	vm
Entity Name	/controller-tme-vc1/host-85/vm-114	Resource Name	alarm-5
Acknowledged	<input type="checkbox"/>	Recommendation	<input type="checkbox"/>
Cleared	<input checked="" type="checkbox"/>	Impact	<input checked="" type="checkbox"/>
Expired	<input type="checkbox"/>	Streaming Anomaly	<input type="checkbox"/>
Start Time	2022-06-16 00:20:03	Clear Time	2022-06-16 00:53:41
End Time	2022-06-16 00:25:03	Master Clear Time	2022-06-16 00:53:36
Acknowledgement Time			
Mnemonic Title	VCENTER_VM_ALARM		
Mnemonic Number	100,498		
Mnemonic Description	vcenter alarm		
Anomaly String	[Ten-2-SF-EPG1-VM1] - Default alarm to monitor virtual machine CPU usage		
Anomaly Reason	[ten-2-sf-egg1-vm1] - default alarm to monitor virtual machine cpu usage		
Anomaly URL	https://172.31.217.203/apocenter/cisco/nir/ai/#/detailsScreen/analyze?insightsGroupName=TME-Lab&endTs=2022-06-16T07:25:03.000Z&startTs=2022-06-16T07:20:03.000Z&filter=anomalyId:VM553512169850		

Delete

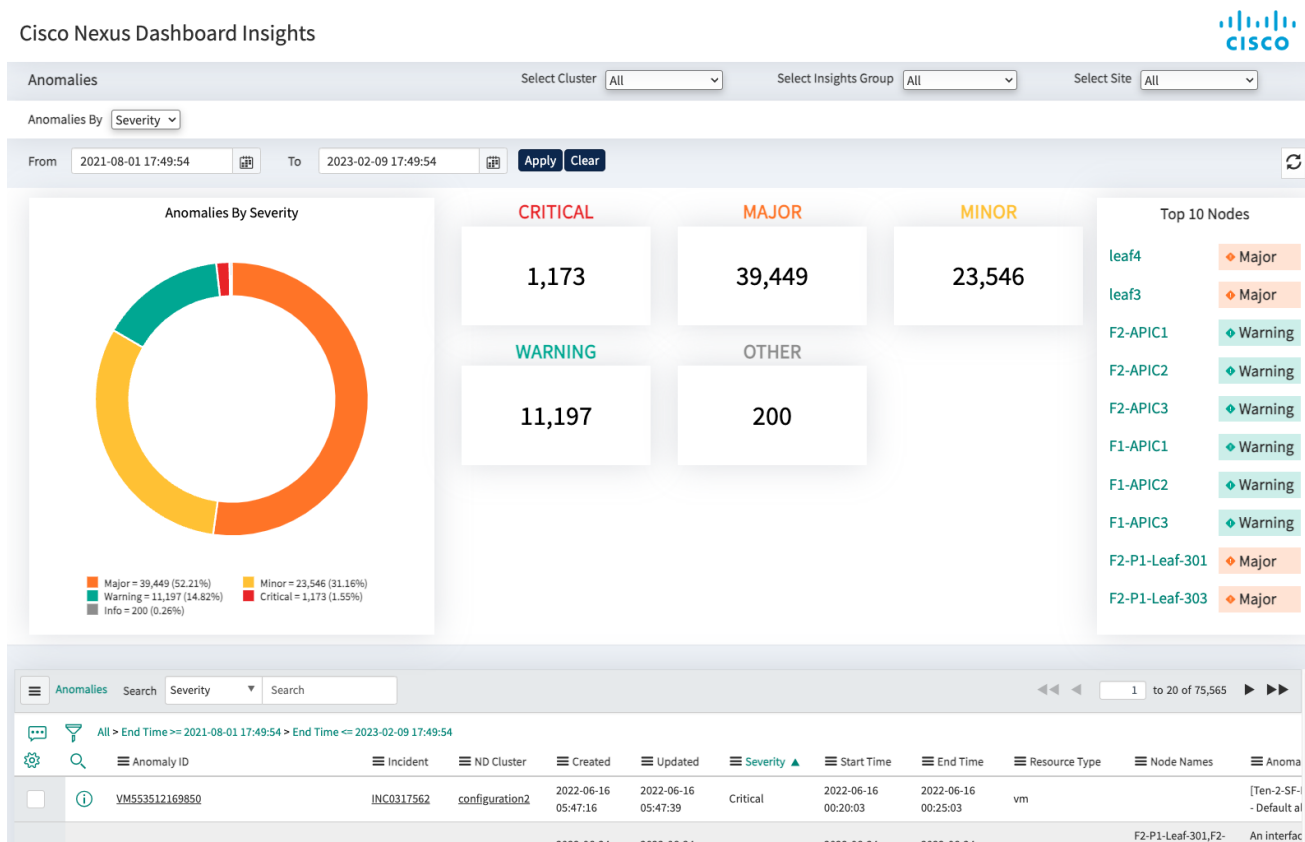
Detail view of a ND Insights Anomalies

< Anomalies VM553512169850 🔍 ⋮ ⋮ ⋮ Delete ↑

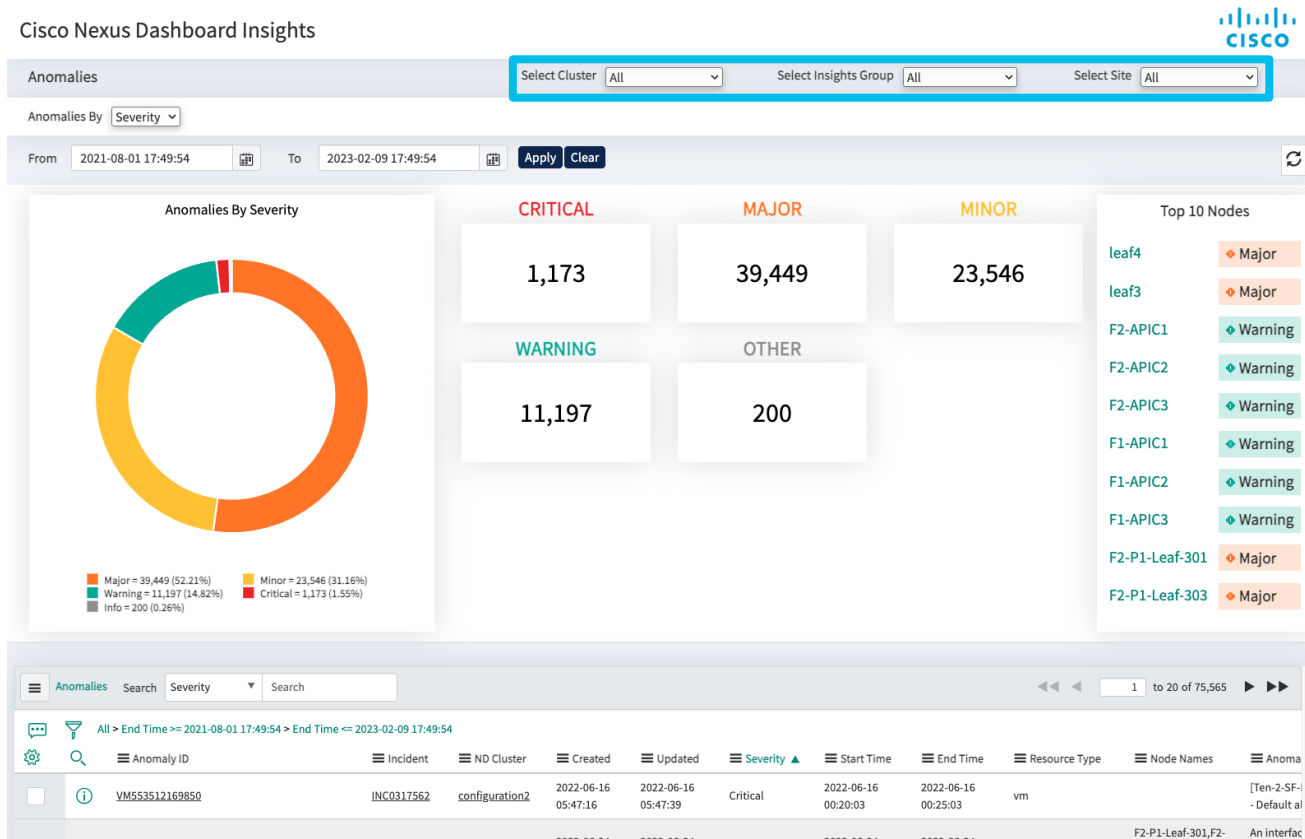
ND Cluster	configuration2 ⓘ	Incident	INC0317562 ⓘ
Anomaly ID	VM553512169850	Alert Type	anomaly
Anomaly Score	81	Anomaly Type	alarm
Insights Group	TME-Lab	Category	vcenter
Fabric Name	SF	Severity	Critical
Node Names		Title	
Vendor	CISCO_ACI	Resource Type	vm
Entity Name	/controller-tme-vc1/host-85/vm-114	Resource Name	alarm-5
Acknowledged	<input type="checkbox"/>	Recommendation	<input type="checkbox"/>
Cleared	<input checked="" type="checkbox"/>	Impact	<input checked="" type="checkbox"/>
Expired	<input type="checkbox"/>	Streaming Anomaly	<input type="checkbox"/>
Start Time	2022-06-16 00:20:03	Clear Time	2022-06-16 00:53:41
End Time	2022-06-16 00:25:03	Master Clear Time	2022-06-16 00:53:36
Acknowledgement Time			
Mnemonic Title	VCENTER_VM_ALARM		
Mnemonic Number	100,498		
Mnemonic Description	vcenter alarm		
Anomaly String	[Ten-2-SF-EPG1-VM1] - Default alarm to monitor virtual machine CPU usage		
Anomaly Reason	[ten-2-sf-epg1-vm1] - default alarm to monitor virtual machine cpu usage		
Anomaly URL	https://172.31.217.203/apocenter/cisco/nir/ai/#/detailsScreen/analyze?insightsGroupName=TME-Lab&endTs=2022-06-16T07:25:03.000Z&startTs=2022-06-16T07:20:03.000Z&filter=anomalyid:VM553512169850		

Delete

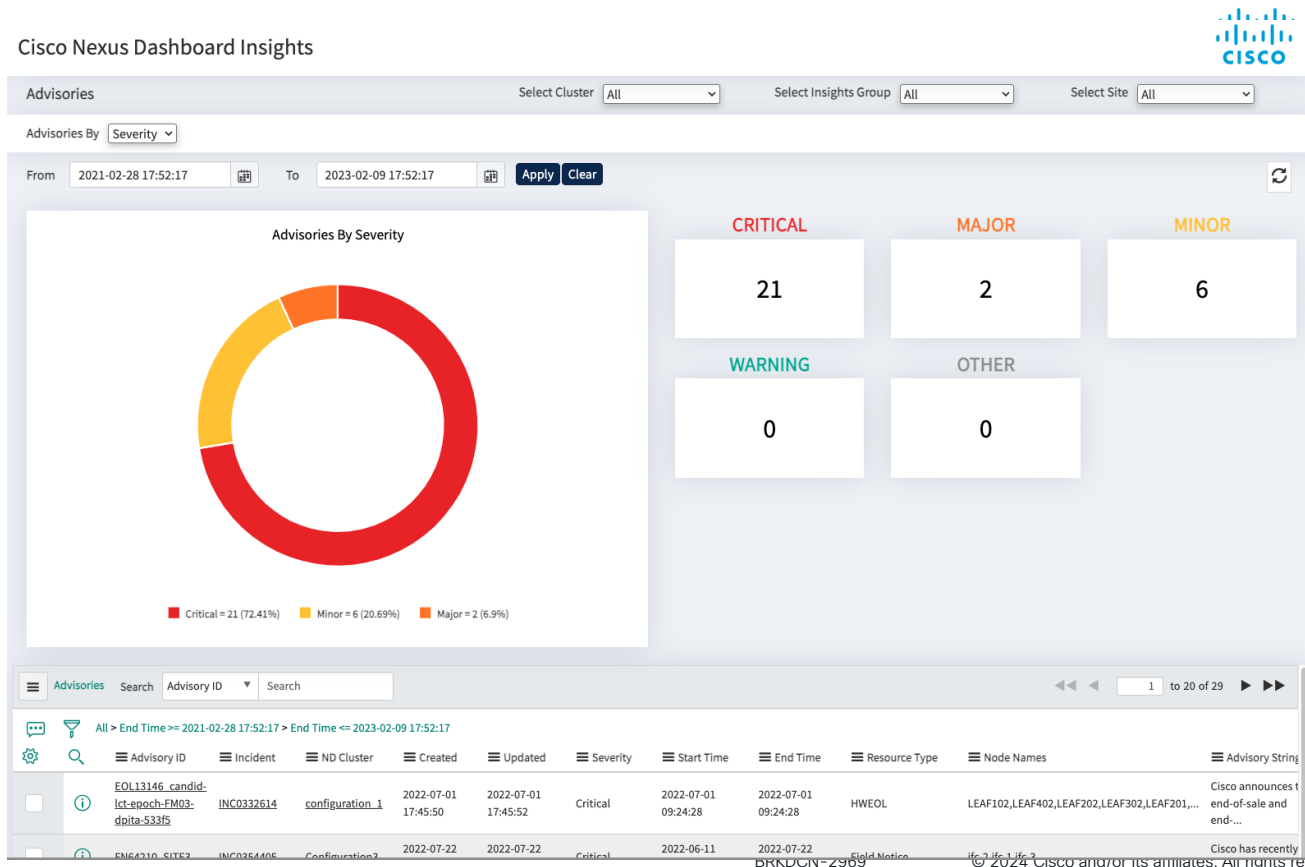
ND Insights Anomalies Dashboard



ND Insights Anomalies Dashboard



ND Insights Advisories Dashboard



ACI Collection Criteria

Converged App

Health Instance **Faults Instance**

Health MO

Health Threshold

* Selected Health Threshold

Takes Health Threshold as input.

Health records having threshold values LESS tha

Health Faults Update Delete

Health Instance **Faults Instance**

Fault MO

Severity

Fault Code

* Selected Fault Severity

Enter COMMA separated values of fault code in the Fault Code field.

Select different severity levels to filter out the fault events.

Health Faults Update Delete

Health and Faults in ServiceNow

Faults

Faults New Search First Seen Search											
	All	Number	ACI Domain	APIC Cluster	Cause	Change Set	DN	Fault Code	First Seen	Incident	Rule
		Search	Search	Search	Search	Search	Search	Search	Search	Search	Search
<input type="checkbox"/>		ACI-FI-INC0010140	infra	Test_ACI	port-down		topology/pod-1/node-1/sys/cphys-[eth2/2]...	F0103	2021-01-09T17:47:30	INC0293959	cnw-phys-if-down
<input type="checkbox"/>		ACI-FI-INC0010200	management	Test_ACI	upgrade-failed		topology/pod-1/node-1/sys/ctrlr/wstatusc...	F0105	2021-01-09T17:47:30	INC0294019	maint-upg-job-upgrade-failed
<input type="checkbox"/>		ACI-FI-INC0010213	infra	Test_ACI	port-down		topology/pod-1/node-1/sys/cphys-[eth1/2]...	F0103	2021-01-09T17:47:31	INC0294032	cnw-phys-if-down
<input type="checkbox"/>		ACI-FI-INC0010194	external	Test_ACI	evaluation-period-expired		licensecont/eval/fault-F3062	F3062	2021-01-09T17:51:33	INC0294013	license-evaluation-evaluation-expired
<input type="checkbox"/>		ACI-FI-INC0010255	external	Test_ACI	product-register-failure		licensecont/manager/fault-F3058	F3058	2021-01-09T17:51:33	INC0294074	license-manager-registration-failure
<input type="checkbox"/>		ACI-FI-INC0010108	tenant	Test_ACI	unsupported-operation		comp/prov-VMware/ctrlr-[ESX1-Leaf102]-vc...	F0135	2021-01-09T17:52:21	INC0293927	comp-eppd-unsupported-operation

Health

Healths Search Number Search										
	All	Number	APIC Cluster	Change	Current Health	DN	Incident	Max Severity	Min Score	Previous Health
		Search	Search	Search	Search	Search	Search	Search	Search	Search
<input type="checkbox"/>		ACI-HI-INC0010003	Test_ACI	-100	0	uni/tn-AppDynamics/ap-AppD-AppProfile1/h...	INC0293584	cleared	0	100
<input type="checkbox"/>		ACI-HI-INC0010011	Test_ACI	-1	90	topology/pod-1/node-101/local/svc-policy...	INC0293592	cleared	90	91
<input type="checkbox"/>		ACI-HI-INC0010008	Test_ACI	-1	90	topology/pod-1/node-101/local/svc-policy...	INC0293589	cleared	90	91
<input type="checkbox"/>		ACI-HI-INC0010005	Test_ACI	-1	90	topology/pod-1/node-101/local/svc-policy...	INC0293586	cleared	90	91
<input type="checkbox"/>		ACI-HI-INC0010015	Test_ACI	9999	30	uni/tn-ServiceNow/ap-WordPress/egg-Tetra...	INC0293596	cleared	30	0
<input type="checkbox"/>		ACI-HI-INC0010013	Test_ACI	-100	0	uni/tn-AppDynamics/ap-WordPress/egg-test...	INC0293594	cleared	0	90
<input type="checkbox"/>		ACI-HI-INC0010017	Test_ACI	-100	0	uni/tn-AppDynamics/ap-AppD-AppProfile1/e...	INC0293598	cleared	0	100

NDFC Collection Criteria

* NDFC Cluster

Test_ND | 10.1.105.12

* Category

External
Fan
hardware
Interface Bandwidth
Interface Bandwidth (RX)
Interface Bandwidth (TX)
Interface Egress Packet Discards
Interface Egress Packet Errors
Interface Ingress Packet Discards
Interface Ingress Packet Errors

-- None --

Update

Discovery

Delete

NDFC Alarms in ServiceNow

Alarms Search									
		Category	Search						
All									
	Event ID	Category	NDFC Cluster	Incident	Severity	Name	Status	Source	
	8340	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	leaf1	CLEARED	10.1.107.101	
	8120	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	leaf2	CLEARED	10.1.107.102	
	8110	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	leaf3	CLEARED	10.1.107.103	
	8370	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	leaf1	CLEARED	10.1.107.101	
	8350	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	border1	CLEARED	10.1.107.105	
	8320	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	border1	CLEARED	10.1.107.105	
	8330	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	spine1	CLEARED	10.1.107.106	
	8360	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	spine1	CLEARED	10.1.107.106	
	8130	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	leaf4	CLEARED	10.1.107.104	
	8140	DEVICE_ACCESS_ICMP	Test_ND 10.1.105.12	(empty)	CLEARED	leaf1	CLEARED	10.1.107.101	
	8310	DEVICE_ACCESS_SNMP	Test_ND 10.1.105.12	(empty)	CLEARED	border1	CLEARED	10.1.107.105	
	100	DEVICE_ACCESS_SSH	Test_ND 10.1.105.12	INC0354547	CRITICAL	spine1	RAISED	10.1.107.106	
	8150	DEVICE_ACCESS_SSH	Test_ND 10.1.105.12	INC0354667	CRITICAL	border1	RAISED	10.1.107.105	
	8090	EXTERNAL	Test_ND 10.1.105.12	INC0354657	CRITICAL	Fabric->Fabric_Template-postAdd.switchCI	RAISED	fabric-standalon	
	8080	HW_MODULES_MODULE	Test_ND 10.1.105.12	INC0354480	CRITICAL	spine1	RAISED	10.1.107.106	
	8180	HW_MODULES_MODULE	Test_ND 10.1.105.12	(empty)	CLEARED	leaf4	CLEARED	10.1.107.104	
	8100	HW_MODULES_MODULE	Test_ND 10.1.105.12	INC0354559	CRITICAL	spine1	RAISED	10.1.107.106	
	8170	HW_MODULES_MODULE	Test_ND 10.1.105.12	(empty)	CLEARED	leaf1	CLEARED	10.1.107.101	
	8160	HW_MODULES_MODULE	Test_ND 10.1.105.12	INC0354671	CRITICAL	border1	RAISED	10.1.107.105	
	930	INTERFACE_STATUS	Test_ND 10.1.105.12	INC0354434	MINOR	leaf1	RAISED	10.1.107.101	

Creating and Assigning an Incident

- Define at least one matching Creation Criteria
 - Condition can use any fields from the “Event” object (Alarms, Anomalies, Advisories, Health and Faults)
- Define an Assignment Group Criteria to assign a specific group to handle the automatically created Incident
- Define a Severity Criteria of an Incident
 - Set the Urgency and Impact values based on a condition
- All configurations are done from the Configuration Cl

ND Insights Criteria's and Conditions

The screenshot displays the configuration page for 'ND-Amsterdam' in the ND Insights interface. The configuration form includes the following fields:

- Name: ND-Amsterdam
- Nexus Dashboard Cluster Endpoint(s): 10.1.105.17
- Authentication Type: Local
- Username: crest-user
- Password: [Redacted]
- MID Server: Cisco_MID
- Use MID Server Cluster:
- Alert Type: Anomalies, Advisories
- 1st Fetch Time Range (In hours): 1
- Last Collection Time: 2022-07-22 01:28:36

Below the configuration form, there are tabs for 'Anomalies Filter Conditions' and 'Advisories Filter Conditions'. The 'Anomalies Filter Conditions' tab is active, showing filters for Severity and Category, both with lock icons. Below the filters are 'Update', 'Collect Data', and 'Delete' buttons.

The bottom section shows a table of 'Anomalies Severity Criteria' with the following columns: Condition, Impact, Urgency, and Order. The table contains one entry:

Condition	Impact	Urgency	Order
anomalyIdISNOTEMPTY^EQ	3-Low	3-Low	100

Creating and Assigning an Incident

Creation Criteria

* Condition

All of these conditions must be met

Anomaly ID is not

Severity is Critical

Severity Criteria

Impact

Urgency

* Condition

Acknowledged is true

Assignment Criteria

* Assignment Group

* Order

* Condition

Category is FORWARDING

An Automatically created Incident

Configuration Configuration3 Update Collect Data Delete ↑

* Name ND-Amsterdam

* Nexus Dashboard Cluster Endpoint(s) 10.1.105.17

* Authentication Type Local

* Username crest-user

* Password

* MID Server Cisco_MID 🔍 ⓘ

This MID Server Belongs to following Clusters: Cluster1

Use MID Server Cluster

* Alert Type 🔒 Anomalies, Advisories

* 1st Fetch Time Range (in hours) 1

Last Collection Time 2022-07-22 01:28:36

Anomalies Filter Conditions Advisories Filter Conditions

Severity 🔒

Category 🔒

Update Collect Data Delete

Anomalies Incident Creation Crite... Anomalies Assignment Group Crit... Anomalies Severity Criteria (1) Anomalies Closure Criteria (1) Advisories Incident Creation Crite... Advisories Assignment Group Crit... Advisories Severity Criteria Advisories Closure Criteria (1)

Anomalies Severity Criteria New Search Order Search 1 to 1 of 1

Anomalies Severity Criteria








Condition Impact Urgency Order ▲


🔒 ⓘ anomalyid|ISNOTEMPTY^EQ 3-Low 3-Low 100

Map specific fields in an Incident

Field Mappings **New** Search Source Field Search 1 to 3 of 3

☰ All

  Source Field	 Destination Field	 Alert Type
<input type="checkbox"/>  <u>max_severity</u>	description	Health (ACI)
<input type="checkbox"/>  <u>description</u>	short_description	Alarms (NDFC)
<input type="checkbox"/>  <u>fault_code</u>	description	Faults (ACI)

Actions on selected rows... 1 to 3 of 3 

Automatically close an Incident

- Define a Closure Criteria to automatically close a ticket
- When the Closure condition is met, automatically set a Resolution Code and Resolution Notes

* Resolution code

* Resolution Notes

* Condition

Use Case #4: Service Catalog and Orchestration

- To create a Service Catalog, ServiceNow need a way to modify the configuration of the device it targets
- 3 Ways to make it happens:
 - Use a ServiceNow native workflow action packs
 - ACI Orchestration provide a Workflow Editor Orchestration Activities Pack
 - Cisco DC Networking Inventory App has the same Activities Pack for Flow Designer
 - Integrate ServiceNow with Ansible
 - Integrate ServiceNow with Terraform

Use Case: Service Catalog and Orchestration

- To create a Service Catalog, ServiceNow need a way to modify the configuration of the device it targets
- 3 Ways to make it happens:

servicenow®



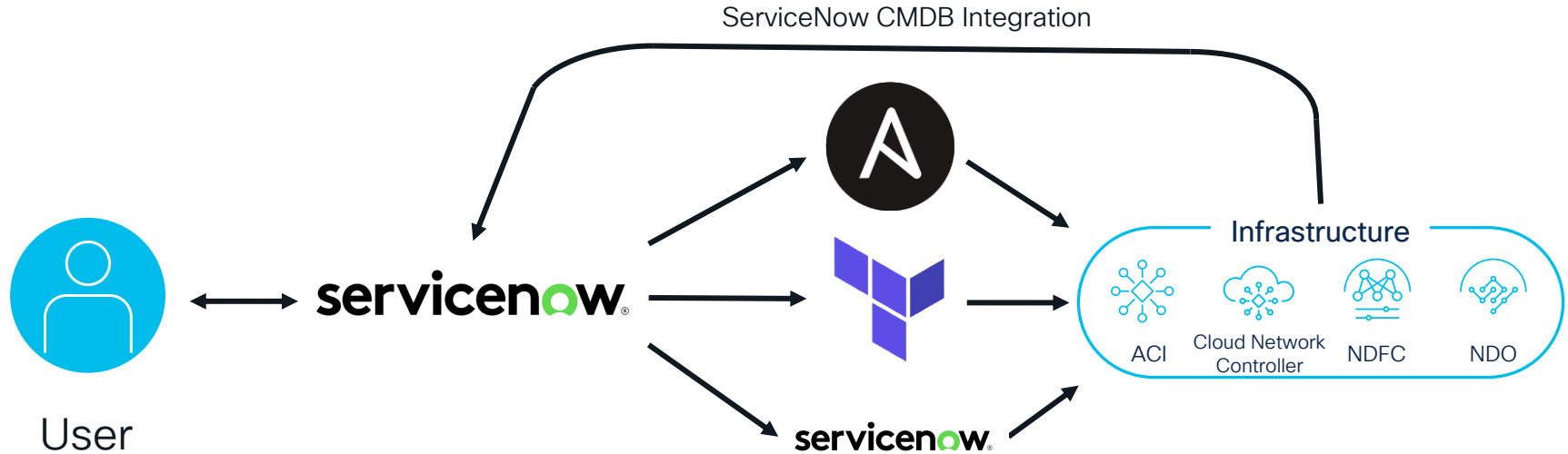
HashiCorp

Terraform



ANSIBLE

ServiceNow as a Service Catalog for Automation



ServiceNow Native Workflow Solutions

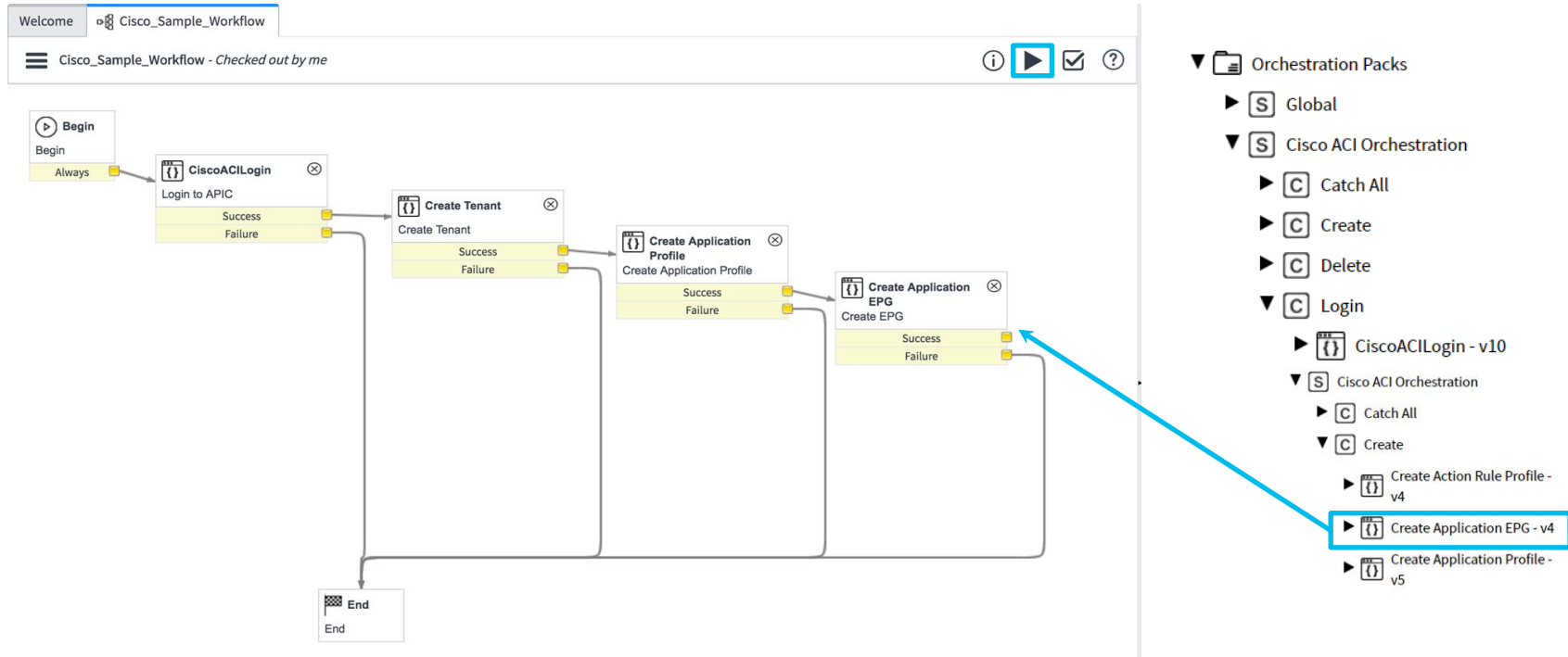
Workflow Editor

ACI Orchestration Activities Pack

Flow Designer

Cisco DC Networking Management
Activity Pack

ACI Orchestration Workflow Editor Activity Pack



ACI Orchestration Workflow Editor Activity Pack

Workflows Core Packs Custom Data

Filter orchestration packs

Orchestration Packs

- Global
- Cisco ACI Orchestration
 - Catch All
 - DELETE - v5
 - POST - v8
 - Create
 - Create Action Rule Profile - v4
 - Create Application EPG - v5
 - Create Application Profile - v5
 - Create Attachable Entity Profile - v3

Create Bridge Domains - v3

Create Consumer Contracts - v5

Create Contract Subjects - v3

Create Contracts - v4

Create Discovery Protocol - v6

Create End Point Retention Policy - v5

Create Fiber Channel Interface Policy - v3

Create Filter Entry - v3

Create Filters - v3

Create L2 Interface Policy - v5

Create LLDP Interface Policy - v3

Create Login Domain - v6

Create MCP Interface - v3

Create Monitoring Policy - v4

Create Port Channel Interf Policy - v4

Create Port Security Interface Policy - v3

Create Private Networks[Tenant VRF] - v3

Create Provider Contracts - v9

Create Route Tag Policy - v5

Create SPAN Dst Group - v4

Create SPAN Src Group - v5

Create Taboo Contract - v6

Create Tenant - v13

Delete

Login

REST Packs

ACI Orchestration Workflow Editor Activity Pack

Workflows Core **Packs** Custom Data

Filter orchestration packs

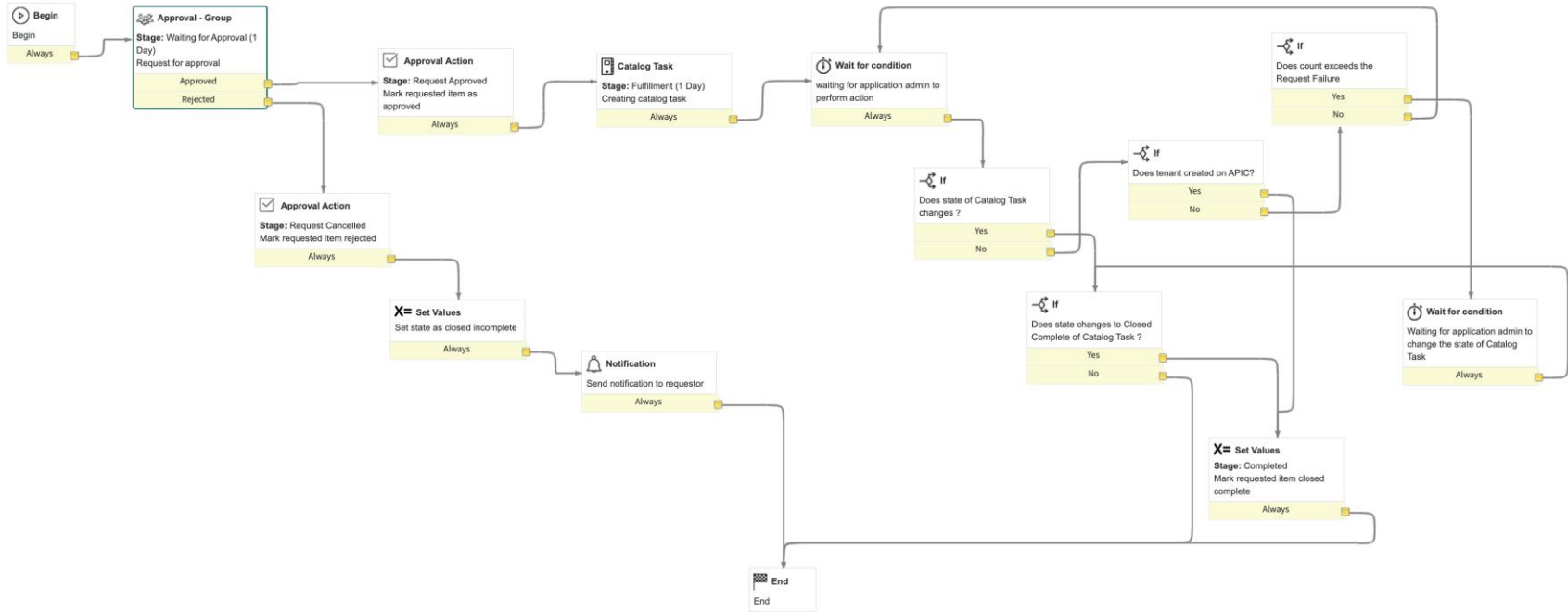
Orchestration Packs

- Global
- Cisco ACI Orchestration
 - Catch All**
 - DELETE - v5
 - POST - v8
 - Create
 - Create Action Rule Profile - v4
 - Create Application EPG - v5
 - Create Application Profile - v5
 - Create Attachable Entity Profile - v3

- Create Bridge Domains - v3
- Create Consumer Contracts - v5
- Create Contract Subjects - v3
- Create Contracts - v4
- Create Discovery Protocol - v6
- Create End Point Retention Policy - v5
- Create Fiber Channel Interface Policy - v3
- Create Filter Entry - v3
- Create Filters - v3
- Create L2 Interface Policy - v5
- Create LLDP Interface Policy - v3
- Create Login Domain - v6
- Create MCP Interface - v3
- Create Monitoring Policy - v4
- Create Port Channel Interface Policy - v4
- Create Port Security Interface Policy - v3
- Create Private Networks[Tenant VRF] - v3
- Create Provider Contracts - v9
- Create Route Tag Policy - v5
- Create SPAN Dst Group - v4
- Create SPAN Src Group - v5
- Create Taboo Contract - v6
- Create Tenant - v13
- Delete
- Login
- REST Packs

ACI Orchestration Workflow Editor Activity Pack

☰ Cisco ACI catalog Item Tenant - Published (out-of-scope: workflow version belongs to Cisco ACI Application)



An ACI Automation Flow in Flow Designer

The screenshot displays the Cisco Flow Designer interface for an automation flow titled "Cisco ACI catalog item Filter". The flow is currently in an "Active" state. The interface includes a top navigation bar with "Test", "Deactivate", "Activate", and "Save" buttons. The main workspace shows a sequence of actions and decision points:

- TRIGGER:** Service Catalog
- ACTIONS:**
 - Update Requested Item Record
 - Get Catalog Variables from Filters
 - Cisco Get Approvers
 - Ask For Approval
 - IF:** If (4 - Ask For Ap... Approval St... is Approved OR 4 - Ask For Ap... Approval St... is Skipped)
 - THEN:** Create Catalog Task
 - Set Flow Variables
 - Do the following:**
 - Wait For Condition where (State Change Tracker is true, or Fulfill request automatically ACI is true)
 - Does state of Catalog Task changes?
 - IF:** If (10 - Does state of Cat... ans... is true)
 - THEN:** Does state changes to Closed Complete of Catalog Task?
 - IF:** If (12 - Does state chang... ans... is true)
 - THEN:** Update Requested Item Record
 - Set Flow Variables
- End Flow

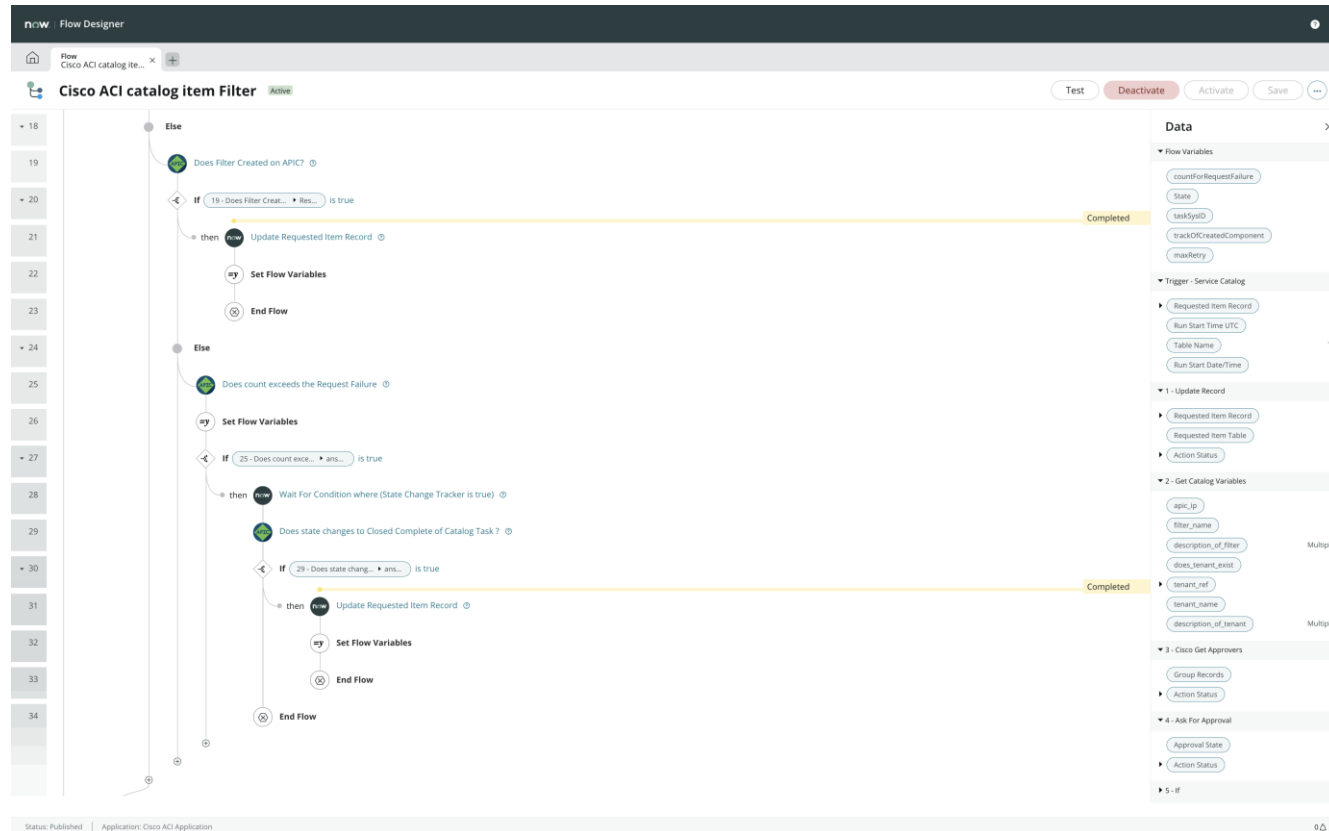
Yellow horizontal bars indicate the duration of various stages: "Waiting for Approval - 1 Days", "Request Approved", "Fulfillment - 1 Days", and "Completed".

The right-hand side of the interface shows a "Data" panel with a tree view of variables and data objects:

- Flow Variables:** countForRequestsFailure, State, taskSysId, trackOfCreatedComponent, maxRetry
- Trigger - Service Catalog:** Requested Item Record, Run Start Time UTC, Table Name, Run Start Date/Time
- 1 - Update Record:** Requested Item Record, Requested Item Table, Action Status
- 2 - Get Catalog Variables:** appc_ip, filter_name, description_of_filter, does_tenant_exist, tenant_ref, tenant_name, description_of_tenant
- 3 - Cisco Get Approvers:** Group Records, Action Status
- 4 - Ask For Approval:** Approval State, Action Status
- 5 - If:** (empty)

At the bottom left, the status is "Published" and the application is "Cisco ACI Application". At the bottom right, there is a zoom icon.

An ACI Automation Flow in Flow Designer



Flow Designer Actions

now | Flow Designer ?

Flow Designer Cisco ACI catalog ite... x

Flows Subflows **Actions** Executions Connections Help New ▾

🔍 All > Application Name starts with Cisco ACI Application

<input type="checkbox"/>	🔍 Name ▲	Internal name	Application	Status	Active	Updated by	Updated
<input type="checkbox"/>	Cisco Get Approvers	testapprover04	Cisco ACI Application	Published	true	admin	2022-08-10 03:09:37
<input type="checkbox"/>	Cisco NDFC Login	cisco_ndfc_login	Cisco ACI Application	Published	true	admin	2022-08-10 03:09:35
<input type="checkbox"/>	CiscoACIDiscovery	ciscoacidiscovery	Cisco ACI Application	Published	true	admin	2022-08-10 03:10:24
<input type="checkbox"/>	CiscoACIIncrementalDiscovery	ciscoaciincrementaldiscovery	Cisco ACI Application	Published	true	admin	2022-08-10 03:09:36
<input type="checkbox"/>	CiscoACILogin	ciscoacilogin	Cisco ACI Application	Published	true	admin	2022-08-10 03:10:34
<input type="checkbox"/>	CiscoNDFCLogin	ciscondfclogin	Cisco ACI Application	Draft	true	admin	2022-08-10 03:10:26
<input type="checkbox"/>	Create Action Rule Profile	create_action_rule_profile	Cisco ACI Application	Published	true	admin	2022-08-10 03:09:25
<input type="checkbox"/>	Create Application EPG	create_application_epg	Cisco ACI Application	Published	true	admin	2022-08-10 03:10:11
<input type="checkbox"/>	Create Application Profile	create_application_profile	Cisco ACI Application	Published	true	admin	2022-08-10 03:10:16
<input type="checkbox"/>	Create Attachable Entity Profile	create_attachable_entity_profile	Cisco ACI Application	Published	true	admin	2022-08-10 03:09:36
<input type="checkbox"/>	Create Bridge Domain	create_bridge_domain	Cisco ACI Application	Published	true	admin	2022-08-10 03:10:14
<input type="checkbox"/>	Create Consumer Contract	create_consumer_contract	Cisco ACI Application	Published	true	admin	2022-08-10 03:09:54

Integrating ServiceNow with Ansible

The screenshot shows the ServiceNow Store interface for the 'Ansible Spoke' integration. The page is titled 'Ansible Spoke' and includes a description: 'Simplify and accelerate how you integrate with Ansible'. It lists compatibility for ServiceNow instances in Utah, Tokyo, San Diego, and Rome, and notes that it is automatically entitled on customer sub-production instances without purchase or license. The page features a 'Get' button, a 'Type' section (Integration), a 'Version' section (2.2.7), a 'Dependencies and Licensing' section, a 'Subscription Required' section (Yes, for a for-free subscription), and a 'Compatibility' section (Utah, Tokyo, San Diego, Rome). A 'Summary' section describes automating job scheduling, templates, inventory, and user management in an Ansible Tower environment. A 'Supporting Links and Docs' section provides links to the ServiceNow Store Terms of Use and the ServiceNow Store App Addendum. A 'Search Actions' dropdown menu is visible, showing options like 'Most Recent', 'Popular', and 'ServiceNow Core'.

servicenow | Store

Q Ansible Search

Log In

Apps and Solutions ServiceNow Products **Integrations** Innovation Lab Events

← Back to Search Results

Ansible Spoke
Simplify and accelerate how you integrate with Ansible
ServiceNow
Compatibility: Utah, Tokyo, San Diego, Rome | [Other App Versions](#)
Automatically entitled on customer sub-prod instances without purchase or license

☆☆☆☆ No Reviews

Share With

Product Details Ratings and Reviews

Summary
Automate job scheduling, job templates, inventory, and user management in your Ansible Tower environment from the ServiceNow instance.
From March 11, 2021 IntegrationHub Standard is not available as a separate package to new customers. Existing IntegrationHub Standard customers' entitlements are not affected. New IntegrationHub customers can purchase IntegrationHub Professional or Enterprise to obtain capabilities previously available in

Search Actions
Most Recent
Popular
ServiceNow Core
Ansible

Get

Type
Integration

Version
2.2.7
[Other App Versions](#)

Dependencies and Licensing
[View Dependencies and Licensing Requirements](#)

Subscription Required
Yes. This app is associated with a for-free subscription.
[More Info](#)

Compatibility
Utah
Tokyo
San Diego
Rome

Supporting Links and Docs
[ServiceNow Store Terms Of Use](#)
[ServiceNow Store App Addendum](#)

Adhoc Command Management
Look up Status From Ad-Hoc ...
Run An Ad-Hoc Command

What is Ansible?



ANSIBLE

- Open-source Configuration Management Tool
- Commercial support from RedHat
- Declarative (when possible) and idempotent
- Can manage a wide range of systems:
 - VMs, network devices, cloud instances, etc.
- Agentless
- Python server-side dependencies

Cisco DC Networking Collections



Cisco NXOS



cisco.nxos

ACI
Cloud / Onprem



cisco.aci

Nexus
Dashboard



cisco.nd
cisco.mso
cisco.nae

Nexus
Dashboard
Fabric Controller



cisco.dcnm

All Cisco collections can be found here: <https://galaxy.ansible.com/cisco/>

Integrating ServiceNow with Terraform

The screenshot shows the ServiceNow Store interface for the Terraform integration. At the top, there is a search bar with 'terraform' entered and a 'Search' button. The navigation menu includes 'Apps and Solutions', 'ServiceNow Products', 'Integrations' (which is highlighted), 'Innovation Lab', and 'Events'. A 'Log In' button is visible in the top right corner.

The main content area features a 'Back to Search Results' link. The Terraform app card is prominently displayed, showing the Terraform logo, the title 'Terraform', and a 'now Certified App' badge. The description states: 'Infrastructure as code for provisioning, compliance, and management of any cloud.' Below this, it lists 'HashiCorp Inc' as the provider and 'Compatibility: Tokyo, San Diego, Rome | [Other App Versions](#)'. The pricing is listed as 'Free'. There is a '1 Review' section with five stars and a 'Share With' section with icons for Twitter and Facebook.

Below the app card, there are tabs for 'Product Details' and 'Ratings and Reviews'. The 'Summary' section provides a detailed description: 'HashiCorp Terraform is a tool for building, changing, and versioning infrastructure safely and efficiently. It enables users to define and provision a datacenter infrastructure using code. Configuration files describe to Terraform the components needed to run a single application or your entire datacenter. Codification enables version control and automation, reducing human error and increasing productivity.' To the right of the summary is a screenshot of the ServiceNow interface showing the 'Integration Management' page with 'Service Catalog' and 'Terraform Catalog' sections.

On the right side of the page, there is a 'Get' button and a 'Contact Seller' link. Below that is a 'View Profile' link. The 'Type' is listed as 'Integration'. The 'Version' is '2.1.2' with a link to 'Other App Versions'. The 'Dependencies and Licensing' section includes a link to 'View Dependencies and Licensing Requirements'. The 'Compatibility' section lists 'Tokyo', 'San Diego', and 'Rome'. At the bottom right, there is a 'Supporting Links and Docs' section.

What is Terraform?



- Open-source Infrastructure Provisioning Tool
- Commercial support from HashiCorp
- Declarative and idempotent
- Immutable infrastructure concept
- Can manage a wide range of systems:
 - VMs, network devices, cloud instances, etc.
- Agentless, single binary file
- Zero server-side dependencies

Cisco DC Networking Terraform Providers



ACI
Cloud / Onprem



CiscoDevNet/aci

Nexus
Dashboard
Orchestrator



CiscoDevNet/mso

Nexus
Dashboard
Fabric
Controller



CiscoDevNet/dcnm

All Cisco providers can be found here: <https://registry.terraform.io/search/providers?namespace=CiscoDevNet>

Filter navigator

📁 ★ 🕒

🏠 Home

Cisco DC Networking Management

▼ Dashboards

- 📘 NDO
- 📘 ACI
- 📘 NX-OS
- 📘 NDFC

▶ Guided Setup

▶ Configurations

▶ Application Configuration

▼ Service Catalog

- 📘 Service Catalog Guide
- 📘 Catalog Items
- 📘 My Requests
- 📘 My Approvals
- 📘 My Groups Work

▶ Scripts

▶ NDO Inventory

🏠 ✎️

Cisco ACI Dashboard



ACI Inventory

Select ACI Cluster All ▼

Fabric Inventory		🔄
Controllers	1	
Leaf	0	
Spine	0	
Controller Interfaces	6	
Fabric Interfaces	1090	
		▼

Application Inventory		🔄
Tenants	73	
Application Profiles	35	
Application EPGs	49	
External EPGs	15	
L3Out	16	
		▼

01/01/2001 📅 To 06/05/2023 📅 Clear Date Apply

Fault Incidents (All)

No data to display

Health Incidents (All)

No data to display

Key Takeaways

- Cisco DC Networking has a deep integration with ServiceNow
- The new DC Networking Inventory Integration will bring a lot of new features and capabilities
- ACI, NDFC, NDO, N9K, NDI, they can all be integrated with ServiceNow

References

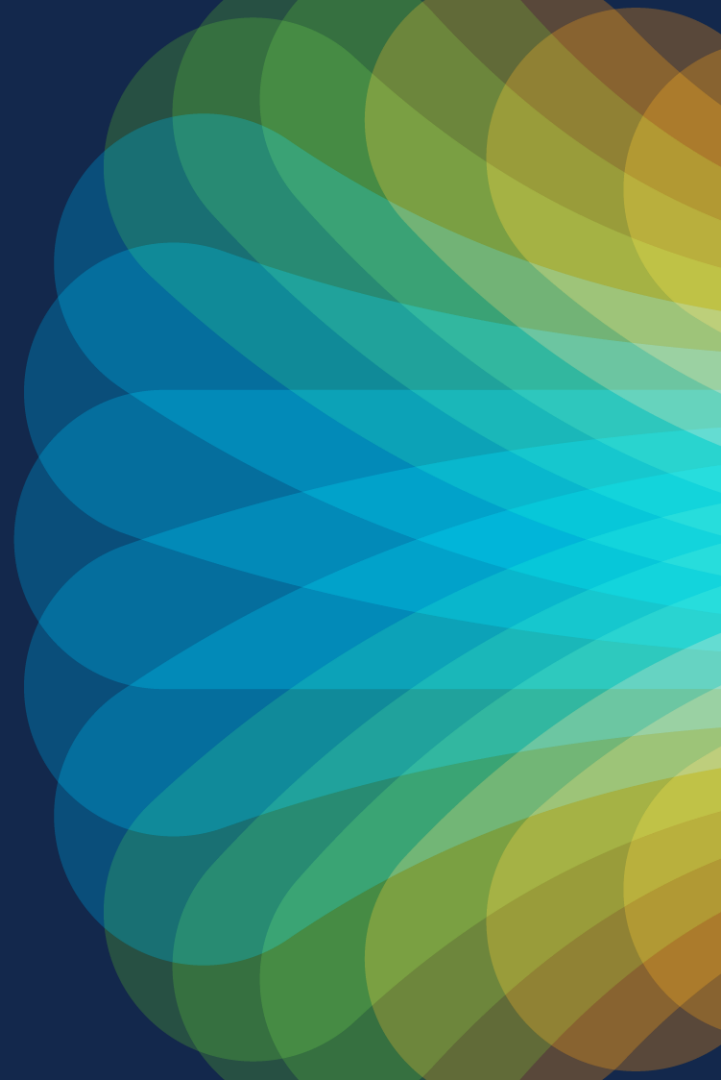
- DEVNET-1892: Self-Service Automation for your DC Network using Ansible, Terraform and ServiceNow
- BRKOPS-2032: 3 Cisco DNA Center and ITSM Workflows
- BRKSEC-2122: Leveraging Cisco's XDR solution with IT Service Management (ITSM) and SIEM Systems for Incident Investigation -
- BRKOPS-2471: Custom Workflows for the Cisco DNA Center integration with ServiceNow
- ServiceNow Store: <https://store.servicenow.com/>



The bridge to possible

Thank you

CISCO *Live!*



The Cisco Live! logo features the word "CISCO" in a bold, black, sans-serif font, followed by "Live!" in a black, cursive script font. The background of the entire image is a vibrant, multi-colored abstract pattern of overlapping, wavy bands in shades of red, orange, yellow, green, and blue, creating a sense of motion and energy.

CISCO *Live!*

Let's go