

# 監控ITSM的Catalyst Center Automation (SWIM)事件

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## 簡介

本文說明如何監控Automation事件，例如Catalyst Center和ITSM (ServiceNow)整合的SWIM使用案例。

## 背景資訊

本文檔從涉及的元件、前提條件、事件流程、配置、工作流程執行和故障排除方案開始，介紹了與SWIM閉環操作相關的所有詳細資訊。如果ServiceNow例項上安裝了Cisco DNA應用，則本文檔將適用。

與ServiceNow for SWIM事件的閉環整合使票證的建立、批准、實施到結束流程實現自動化。為SWIM更新打開的更改請求由ServiceNow中的更改所有者批准/拒絕，並且票證將根據批准狀態移至下一個狀態。

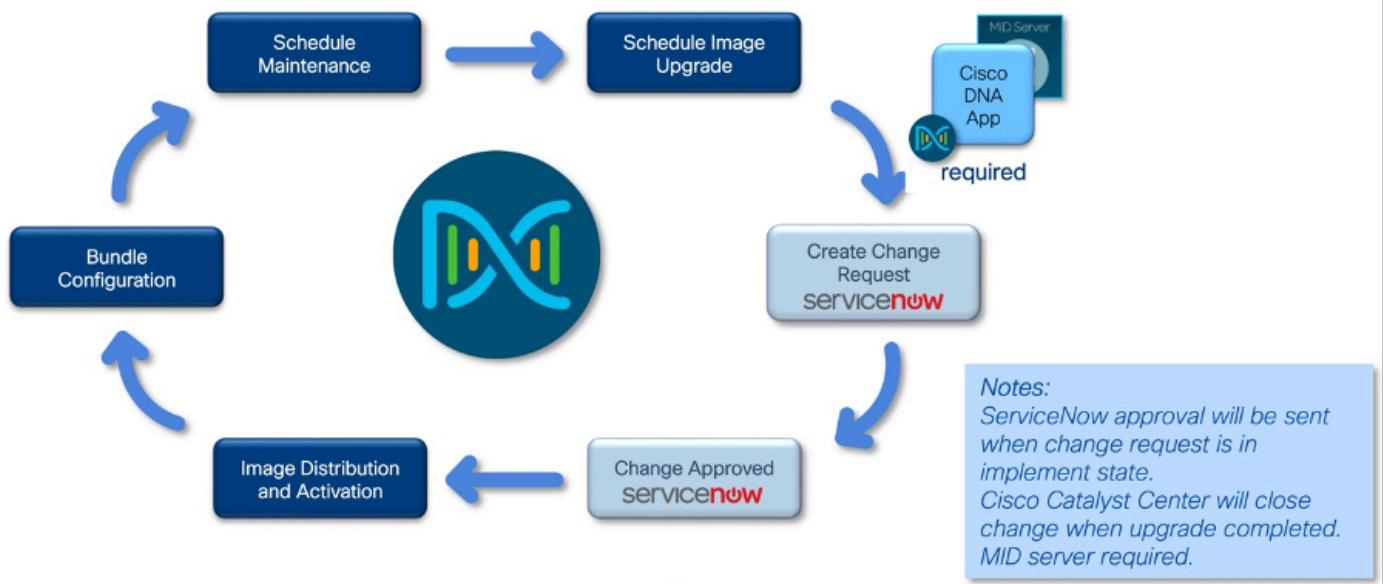
## Cisco Catalyst Center-ITSM (ServiceNow)整合

有關Catalyst Center-ITSM整合的詳細資訊，請參閱此TechZone：

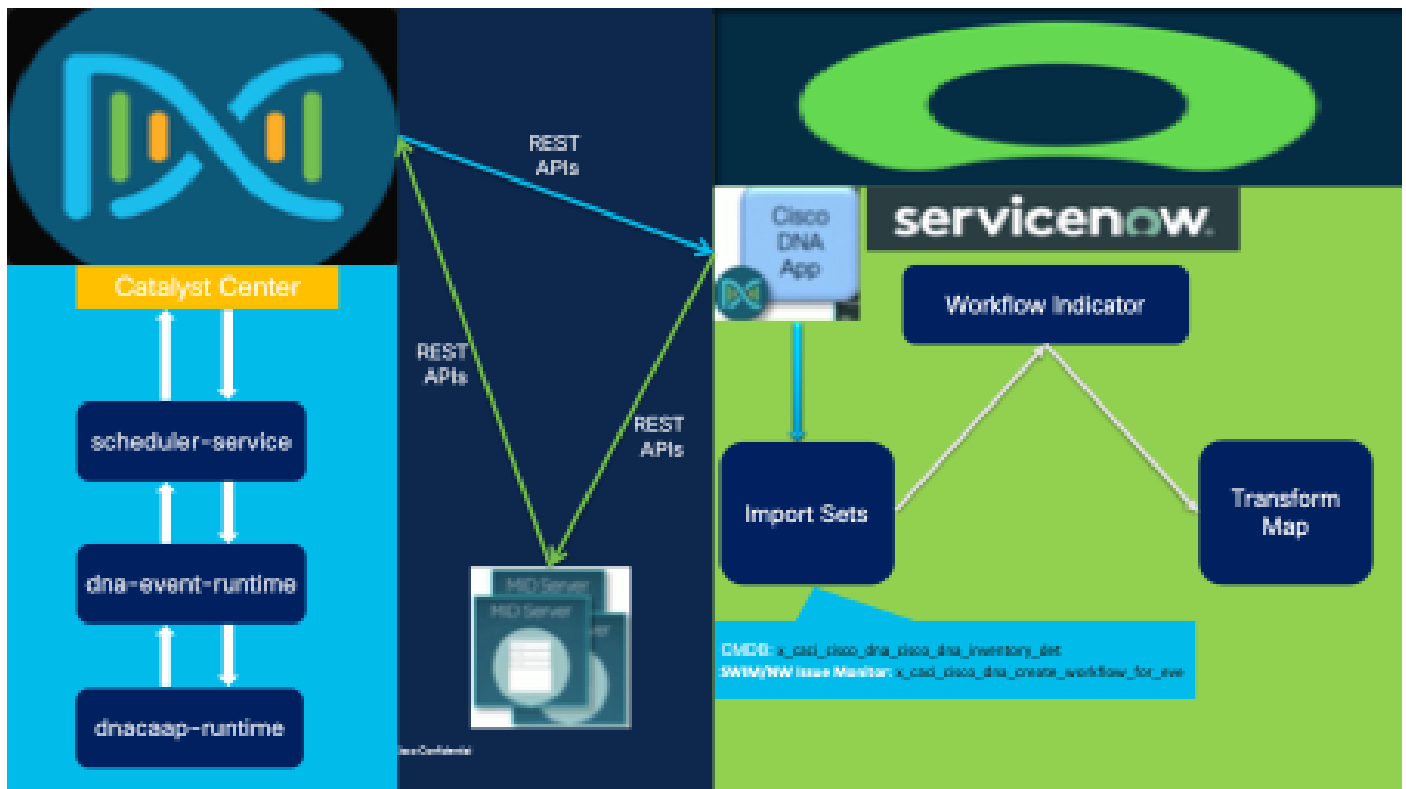
[確定Catalyst Center和ITSM整合的基本概念範圍](#)

## 建築：自動化活動(SWIM)

## SWIM自動化工作流程：高階架構



## SWIM自動化工作流程：Under the Hood



## 事件流程：Catalyst Center

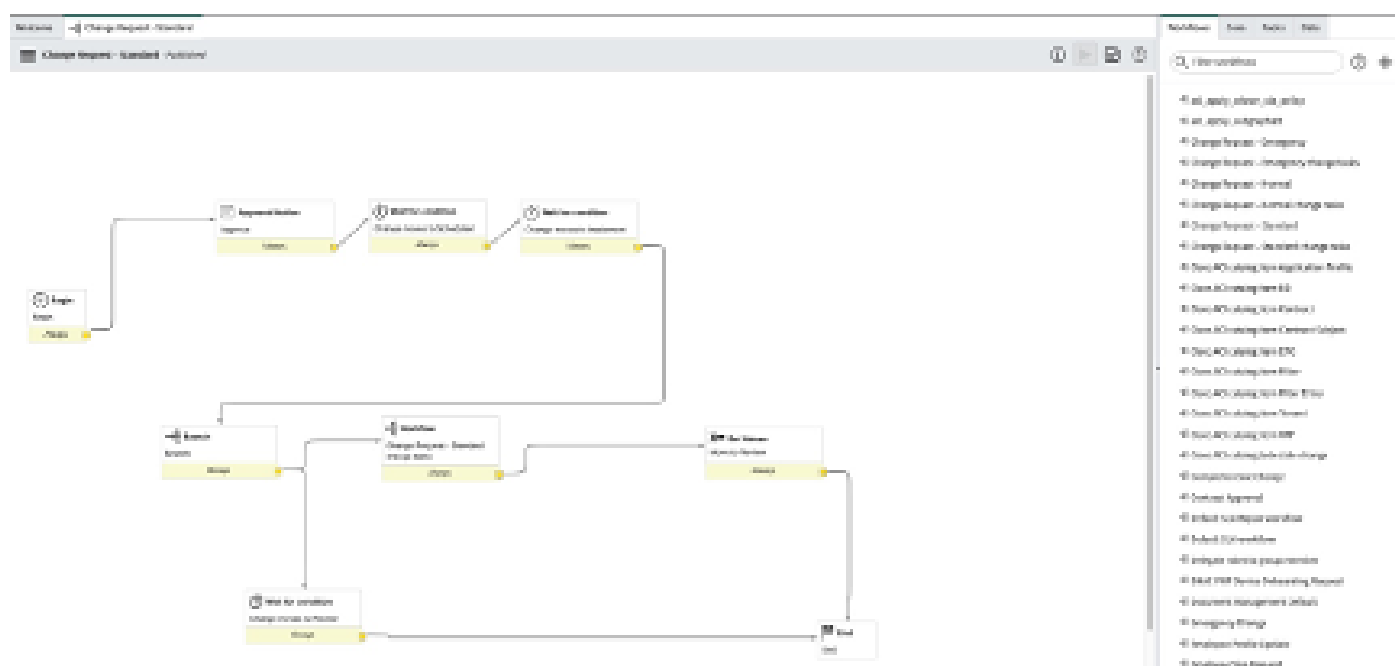
- 從Catalyst Center的「資產控制台」中計畫SWIM事件後，將建立一個任務並透過scheduler-service計畫該任務；此任務的詳細資訊將透過dnacaap-runtime服務傳遞給ServiceNow例項。然後，Catalyst Center會對ServiceNow例項上安裝的思科DNA應用進行REST API呼叫。
- ServiceNow例項收到此事件，思科DNA應用會自動觸發思科DNA中心發佈的網路SWIM事件

的更改請求 workflow。此變更請求需要由網路運營團隊進行稽核，並且需要進一步更新變更請求的狀態。

- 當變更單處於「已計畫」狀態時，「變更請求」的核准狀態屬性是必需的。ServiceNow管理員/網路運營團隊為計畫窗口提供的批准/拒絕對於票證取得進展至關重要。一旦票證進入實施狀態，ServiceNow中就會出現觸發器，通知Cisco Catalyst Center根據提供的批准開始映像分發和升級。
- 然後，Catalyst Center在規定的預定時間觸發SWIM活動，並在成功完成任務後，透過Closed Loop Automation workflow在ServiceNow上關閉更改請求。

## 事件流程：ITSM (ServiceNow)

- 在ServiceNow中使用ServiceNow導入集API或指令碼化REST API或通用REST API終端將Cisco Catalyst Center上計畫的SWIM事件推送到ServiceNow。資料過帳到的「導入集表」為 `x_caci_cisco_dna_create_workflow_for_eve`。
- 根據事件配置中設定的 workflow 指示器值，將根據轉換指令碼在ServiceNow中建立更改請求。
- 每個DNA的SWIM事件記錄都有一個相關聯的 workflow 指示器，該指示器確定事件在ServiceNow中經歷的 workflow 型別。此程式碼片段是「workflow 指示器」的範例。



- 根據 workflow 指示器決定，執行轉換對映之一，分析臨時表中的資料並將其對映到適當的目標表，即SWIM事件情況下的更改。

Name	Source table	Target table
<a href="#">Change CommandOutputUpdate</a>	Change CommandOutputUpdate [x_caci_cisco_dna_change_commandoutputupdate]	Change Request [change_request]
<a href="#">Change DNA Update</a>	Change DNA Update [x_caci_cisco_dna_change_dna_update]	Change Request [change_request]
<a href="#">Change Status Update</a>	Ticket Status Update [x_caci_cisco_dna_ticket_status_update]	Change Request [change_request]

- 目標對象中的思科DNA應用透過思科Catalyst中心的網路裝置詳細資訊豐富了ITSM更改請求。Cisco DNA應用向Cisco Catalyst Center進行REST API呼叫，獲取各種型別的豐富資訊，例如裝置、問題、使用者和使用者建立的票證客戶端。

## 自動化事件(SWIM)套件組態

適用於ITSM的Cisco DNA Center Automation事件(ServiceNow)捆綁包將檢索與從Cisco DNA Center觸發的軟體映像更新相關的事件。然後，此捆綁包可以定期將事件資料發佈到ITSM (立即服務)系統。事件資料可以發佈到ServiceNow中的Event表格。

有關自動化事件(SWIM)捆綁配置，請參閱[Cisco DNA Center ITSM整合指南2.3.5版](#)的「配置Cisco DNA Center Automation Events for ITSM (ServiceNow)捆綁包」部分。

## 自動化事件(SWIM)工作流程執行

### Catalyst中心

- a. 導航到資產>選擇裝置>操作>軟體映象>映象更新。

The screenshot shows the 'Provision / Inventory' page in Cisco Catalyst Center. A search bar at the top shows '1 Selected' for the device 'Theor28260L-Access-shar.com'. A dropdown menu is open for the 'Theor28260L-Access-shar.com' device, listing various actions. The 'Software Image' action is selected, and a sub-menu is visible with 'Image Update' as the primary option. Other options in the sub-menu include 'Image Update Status', 'Download Images - Refreshes Report', and 'Check Image Update - Refreshes'.

- b. 選擇要為其安排升級的裝置。

Image Update ✕

---

1 Analyze Selection
2 Distribute
3 Activate
4 Schedule and Clean Up
5 Summary

**Analyze Selection**  
 Before you proceed for the Update, analyze your selection.

Devices to Update: 1 | Device Family: 1 | Sites: 1

🔍 Search Table 🔼

0 Selected [Update](#) [Filter](#)

<input type="checkbox"/>	Device +	From Image	To Image <input checked="" type="checkbox"/>	Comment
<input checked="" type="checkbox"/>	Thor0000-Access the core (17.12.02) (17.12.02)	val06_16_image.17.05.05.05M&h	val06_16_image.17.12.02.02M&h	<a href="#">Update Readiness Report</a>

c. 啟用 Image Distribution 檢查。

Image Update ✕

---

1 Analyze Selection
2 Distribute
3 Activate
4 Schedule and Clean Up
5 Summary

**Software Distribution Checks**  
 You can set an order on Pre and Post checks for your Software Distributors. If you don't see the check you can add a new custom check.

2 Pre and Post checks

<input type="checkbox"/> Pre: Device Upgrade Check <input checked="" type="checkbox"/>	SYSTEM	PRE	<input checked="" type="checkbox"/>
<input type="checkbox"/> Post: Check <input checked="" type="checkbox"/>	SYSTEM	POST	<input checked="" type="checkbox"/>

Not able to see the check you would like to run? You can [add a new check](#).

d. 選擇是否跳過了映像啟用。

Image Update ✕

---

1 Analyze Selection
2 Distribute
3 Activate
4 Schedule and Clean Up
5 Summary

**Software Activation Checks**  
 You can enable and set an order on Pre and Post checks for your Software Activation. If you don't see the check you can add a new custom check.

Skip Activation

① Activation is skipped for current Image Update workflow.

e. 安排映像分發。

Image Update X

Analyze Selection
  Distribute
  Activate
  4 Schedule and Close Up
  5 Summary

**Schedule**  
Schedule when you want the software distribution and activation tasks to occur.

ⓘ The time zone of the site to which the device belongs will be used as the default site time zone.

**Software Distribution**  
 If the ITSM ServiceNow application is enabled, choose Later.

Now
  Later

Task Name\*  
Software Image Distribution

Start Date/Time  
Aug 1, 2024 📅

1:00 PM ⌵

Time Zone  
Asia/Calcutta ⌵

**Software Activation**  
ⓘ Activation is skipped for current Image Update workflow.

f. 複查SWIM任務，然後點選提交。

Image Update X

Analyze Selection
  Distribute
  Activate
  Schedule and Close Up
  5 Summary

**Summary**  
Review your entry and make changes if you wish to do

Devices to Update: 1 | Device Family: 1 | Sites: 1

Device	From Image	To Image	Update Support
Ther00000-Device000000 (100.18.10.0.00)	swdk_image_170800_000000	swdk_image_170800_000000	

Software Distribution Checks

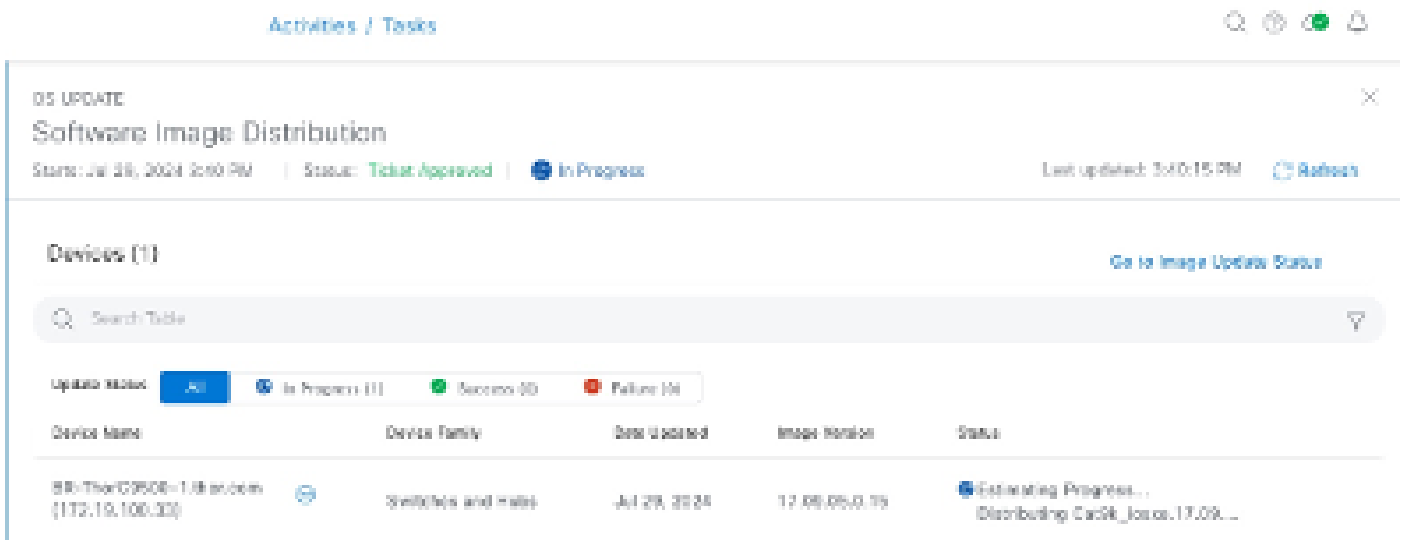
Scheduled On  
Time: Aug 1, 2024 1:10 PM | Time Zone: Asia/Calcutta (GMT+5:30)

Pre And Post Checks

ii. a. 已安排的SWIM任務列在活動>任務下，且處於票證待定狀態。



b.如果ServiceNow上已批准更改票證，且已將其移至「實施」狀態，則Catalyst Center上相應的任務狀態將更改為「已批准票證」。



c.影像發表會在排程時間自動觸發。

## ThorC9200L-Access.thor.com (172.19.100.39) Image Distribution

Date: Aug 1, 2024 1:10 PM    Duration: 1 minute 42 seconds    Status: ●  100%  
 Distributing Cat9k\_Ita\_image\_17...

Operations    Checks

### ▼ ● Distribution

Starting distribution of image: cat9k\_Ita\_image\_17.12.02.S/9k.bin on device: 172.19.100.39 using protocol: HTTP

- > ● Image Integrity Verification(KGV)  
1 second
- > ● Pre Distribution Operation  
1 second
- > ● Distribution  
1 minute 42 seconds

三。 a.計畫的SWIM任務在Catalyst Center的Platform Runtime控制台上被列為事件。

Event Summary ⓘ

1

Events  
(of 2048 total)

DNM Event Severity	Count
1	0
2	1
3	0
4	0
5	0

Filter
EQ Find

Domain	Event Name	Count
Site Management	SWIM Upgrade Request Creation Image Distribution	1

1 Records
Show Records: 10 ▾ 1 - 1 < ⓘ >

b.排定的SWIM任務會取得變更請求的「變更請求ID」與「服務立即」連結。



Event ID	Source	Destination	ITSM Workflow	ITSM Status	ITSM ID	ITSM Link	ITSM Last Updated/Time
22336752-8293-4df0-ad53-578a610c6440	ServiceNow	Cisco DNA Center	RFC	New	0400010004	<a href="https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004">https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004</a>	August 1st 2024, 12:58:08 PM

c.變更請求的ITSM狀態將根據ServiceNow上的變更請求票證的狀態進行更新。

Source	Destination	ITSM Workflow	ITSM Status	ITSM ID	ITSM URL	ITSM Last Updated/Time	ITSM Entry Priority/Time	DNA Event Details
ServiceNow	Cisco DNA Center	RFC	Closed	0400010004	<a href="https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004">https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004</a>	August 1st 2024, 1:15:35 PM	2 - High	0
ServiceNow	Cisco DNA Center	RFC	Closed	0400010004	<a href="https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004">https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004</a>	August 1st 2024, 1:15:35 PM	2 - High	0
ServiceNow	Cisco DNA Center	RFC	Incomplete	0400010004	<a href="https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004">https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004</a>	August 1st 2024, 12:58:08 PM	2 - High	0
ServiceNow	Cisco DNA Center	RFC	Selected	0400010004	<a href="https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004">https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004</a>	August 1st 2024, 12:58:08 PM	2 - High	0
ServiceNow	Cisco DNA Center	RFC	New	0400010004	<a href="https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004">https://serv0000.service-now.com/rfq.do?wf-changes_request.do?sys_id=0400010004&amp;sysparm_query=0400010004</a>	August 1st 2024, 12:58:08 PM	2 - High	0
Cisco DNA Center	ServiceNow	RFC	New	NA	NA	August 1st 2024, 12:58:08 PM	NA	0

## ITSM-ServiceNow

Import Set Table of ServiceNow接收來自Cisco Catalyst Center的SWIM事件。使用ServiceNow中的ServiceNow導入集API或指令碼化REST API或通用REST API終結點將資料推送到ServiceNow。

- 要檢查從Cisco Catalyst Center發佈到ServiceNow的資料，請導航到導入集，並為以下表查詢導入集條目：x\_caci\_cisco\_dna\_cisco\_dna\_inventory\_det

1. 從表x\_caci\_cisco\_dna\_cisco\_dna\_inventory\_det的「導入集」控制台中篩選出導入集條目。

Number	Item Description	Date	Import results	Data source	Created	Last completed	Last run time
0000000001	ServiceNow REST transformation	8/1/2024	Successful	Created tables for ServiceNow DNA (x_caci_cisco_dna_cisco_dna_inventory_det, x_caci_cisco_dna_cisco_dna_inventory_det)	ServiceNow	2024-08-01 00:03:42	Completed

ii.檢查導入集的詳細資訊，並檢查相應事件編號的導入集行。

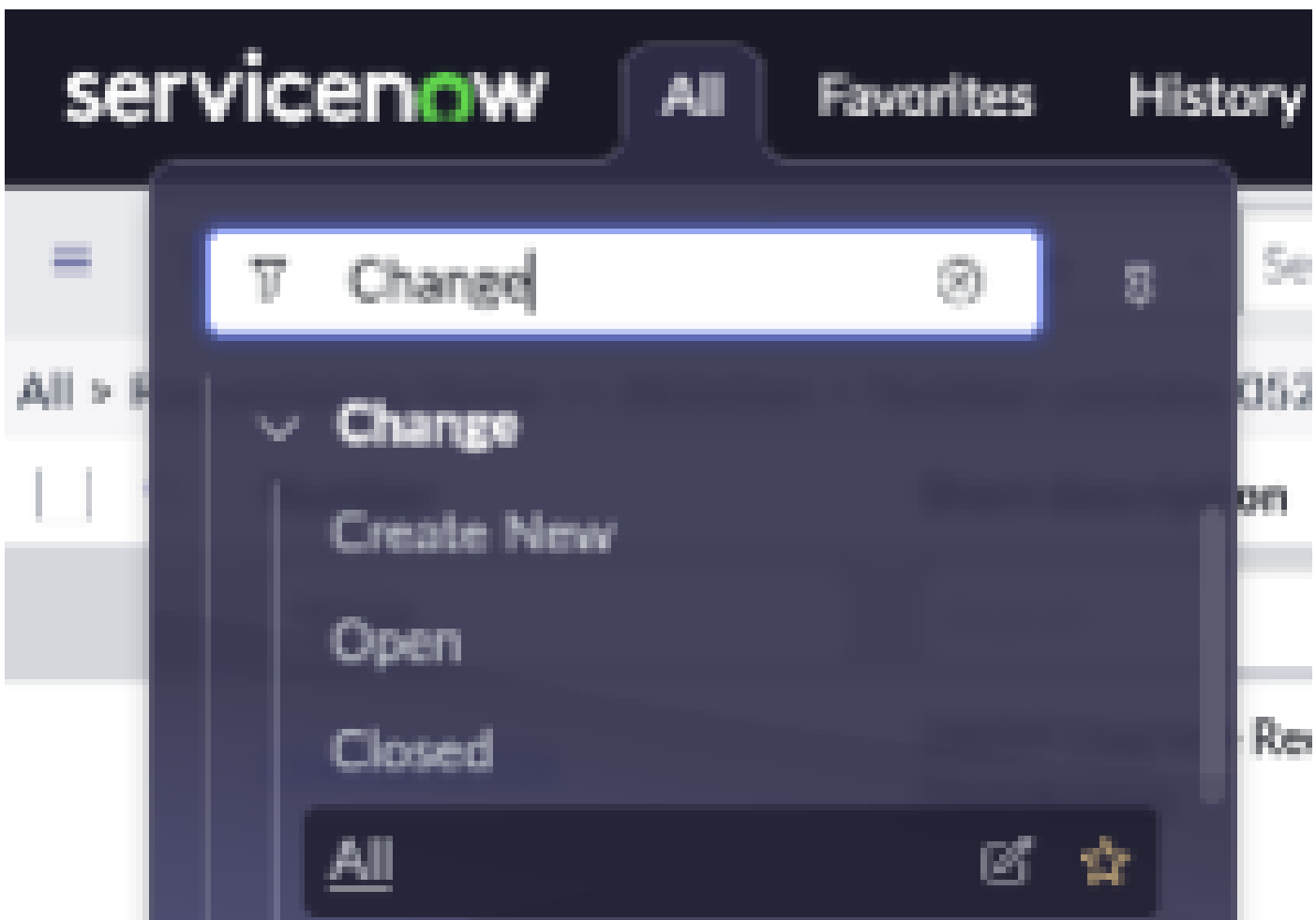


Name	Source table	Target table
<a href="#">Change CommandOutputUpdate</a>	Change CommandOutputUpdate [x_caci_class_dna_change_commandoutputupdate]	Change Request [change_request]
<a href="#">Change DNA Update</a>	Change DNA Update [x_caci_class_dna_change_dna_update]	Change Request [change_request]
<a href="#">Change Status Update</a>	Ticket Status Update [x_caci_class_dna_ticket_status_update]	Change Request [change_request]

## 自動化事件(SWIM)工作流程執行驗證

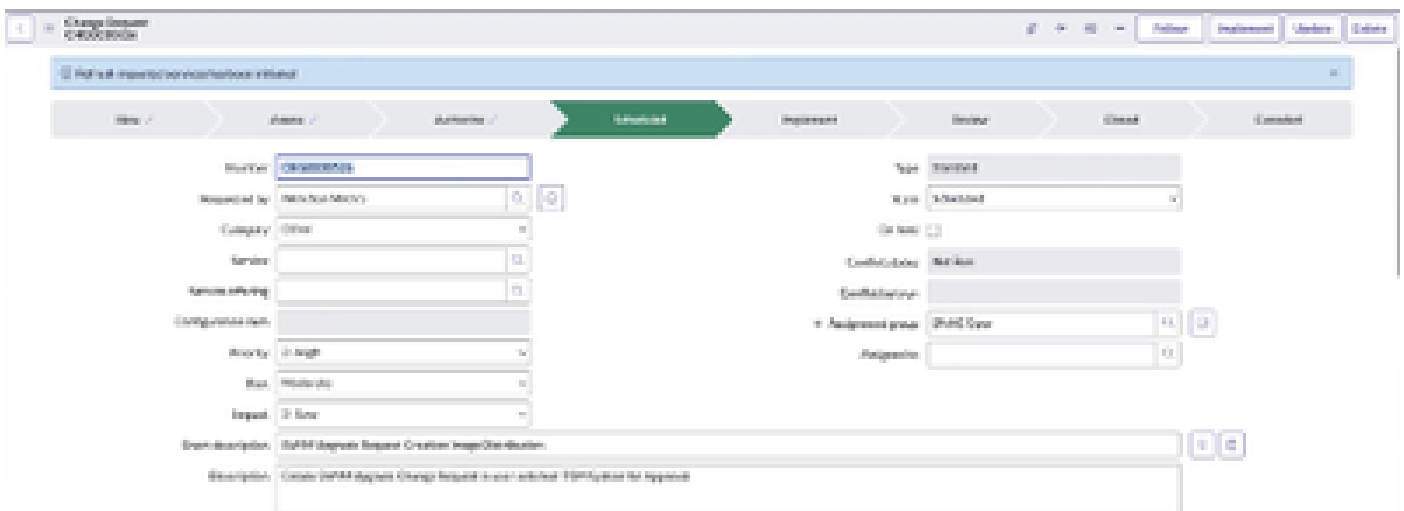
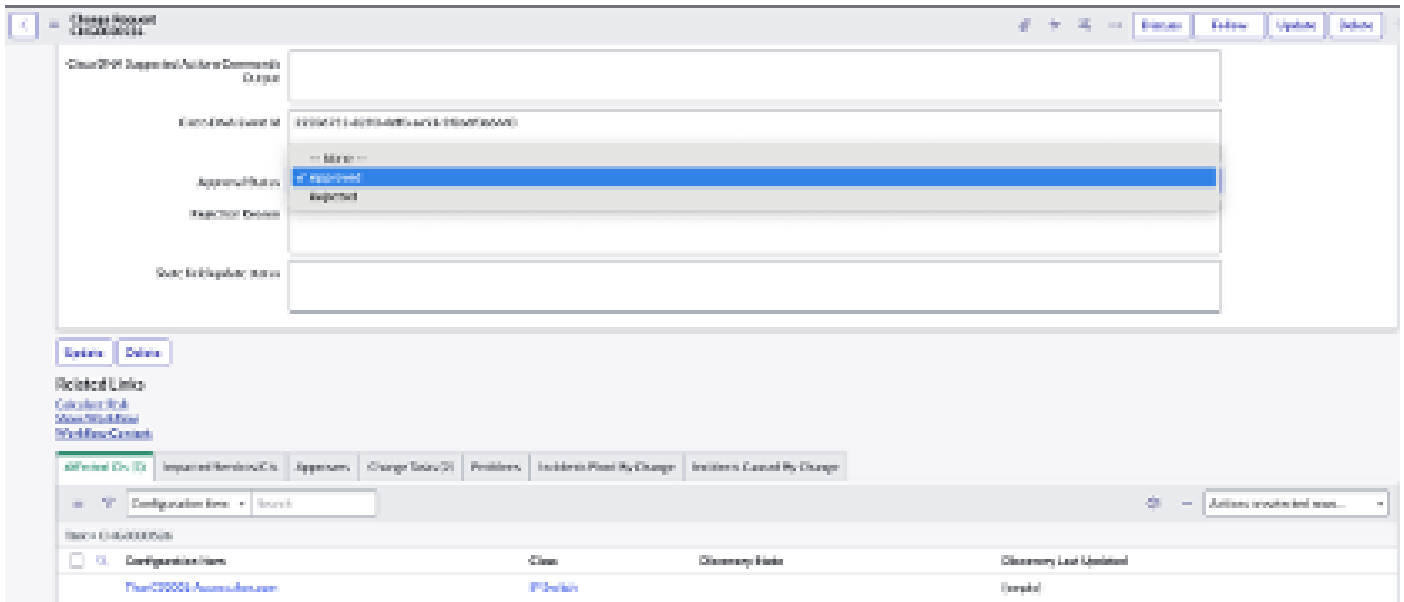
- 成功安排SWIM工作流程後，會建立變更請求，並附帶已安排SWIM升級之裝置的詳細資訊。

### 1. 全域搜尋>變更>全部

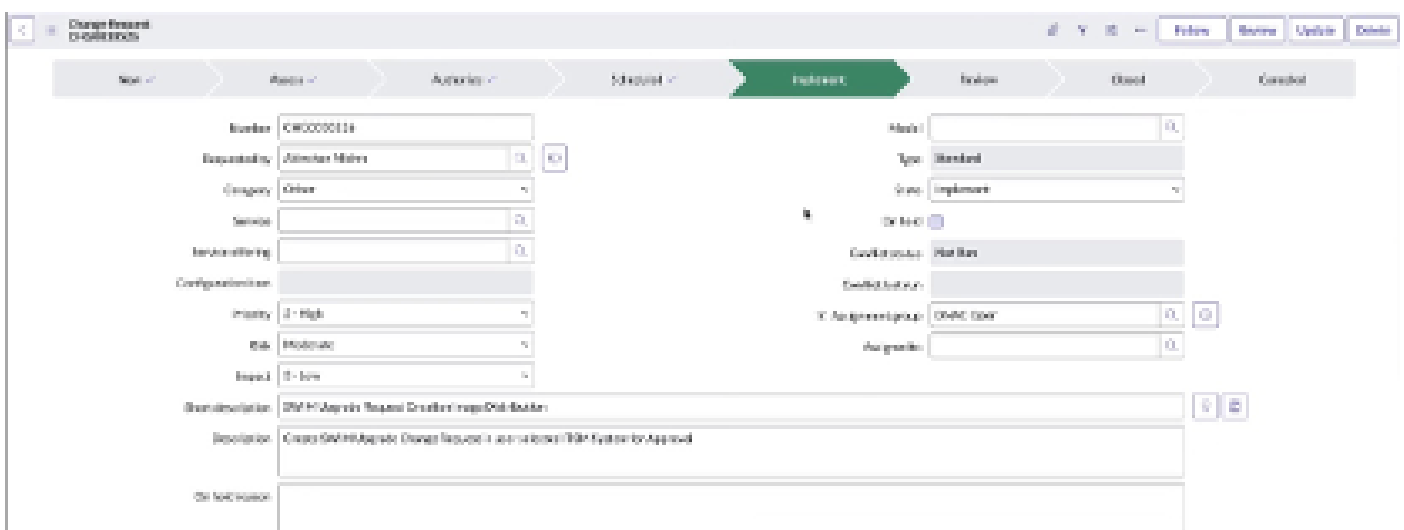


- ii. 從更改請求控制台中過濾更改請求。





c. 驗證變更請求的詳細資訊並實施變更。



d. 成功完成SWIM工作流程後，變更請求會透過「封閉迴路自動化」自動移至「已關閉」狀態。



Import Set

ALL RESULTS

▼ Contact Tracing

▼ Devlo

Devlo Users Risk Report L..

▼ System Import Sets

Load Data

Create Transform Map

Run Transform

> Administration

▼ Advanced

Import Sets



ii. 辨識匯入集並選取它以檢查明細。

Number	Description	Status	Requested by	Requested	Created	Last updated
007000111	Continuous RTR Information	In Progress	Chris Rios/Chris Rios/Chris Rios	007000111	2024-08-08 10:14:07	007000111

iii. 在「匯入集明細」下，勾選「匯入集執行」與「匯入集資料列」。

The screenshot shows the ServiceNow interface for incident 007000111. The incident details are as follows:

- Number: 007000111
- Mode: Continuous
- Parent incident: Create Problem for Event from DNA [url=https://na.servicenow.com/na/]
- Workflow ID: Continuous RTR Information
- Created: 2024-08-08 10:14:07
- Last updated: [blank]

Below the details, there is a table of related incidents:

Created	Row	Status	Requested by	Requested	Comments	Resolution Map
2024-08-08 10:14:07	1	In Progress	Incident	Incident	Run transform (executed by workflow script)	Create Incident for Event from DNA
2024-08-08 10:14:07	1	In Progress	Incident	Incident	Run transform (executed by workflow script)	Create Problem for Event from DNA
2024-08-08 10:14:07	1	In Progress	Change Request: 010000001	Incident		Create Change Request for Event from DNA

iv. 按一下「變更請求」的「匯入集資料列」專案，以檢視SWIM事件的詳細資訊，例如「裝置」特性、版本等。

The screenshot shows the 'Event Details' section for incident 007000111. The details are as follows:

- Event Details: [Detailed technical information including device ID, IP address, and other network-related data]

## 相關資訊

- [確定Catalyst Center和ITSM整合的基本概念範圍](#)
- [將Catalyst Center庫存與ServiceNow CMDB系統同步](#)
- [使用Catalyst Center Network Issue Monitor and Encryption for ITSM](#)



## 關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。