

使用完全升級方法升級ISE

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簡介

本文檔介紹如何使用完全升級方法將現有ISE部署從2.7版升級到3.1版。還包括如何使用運行狀況檢查功能檢測和修復任何潛在的部署問題。傳統升級方法現在稱為剝離升級，如果完全升級方法不是首選方法，則可作為替代選項使用。

必要條件

需求

思科建議您瞭解以下主題：

- 身分識別服務引擎 (ISE)
- 瞭解用於描述不同型別ISE部署的術語

採用元件

本文中的資訊係根據以下軟體和硬體版本：

- ISE 2.7版，補丁4
- ISE版本3.1

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

附註：該過程與其他ISE版本相似或相同。這些步驟可用於2.6及更高版本升級到3.1及更高版本的ISE軟體，除非另有說明。

支援的路徑

支援從ISE完全升級到ISE 3.1

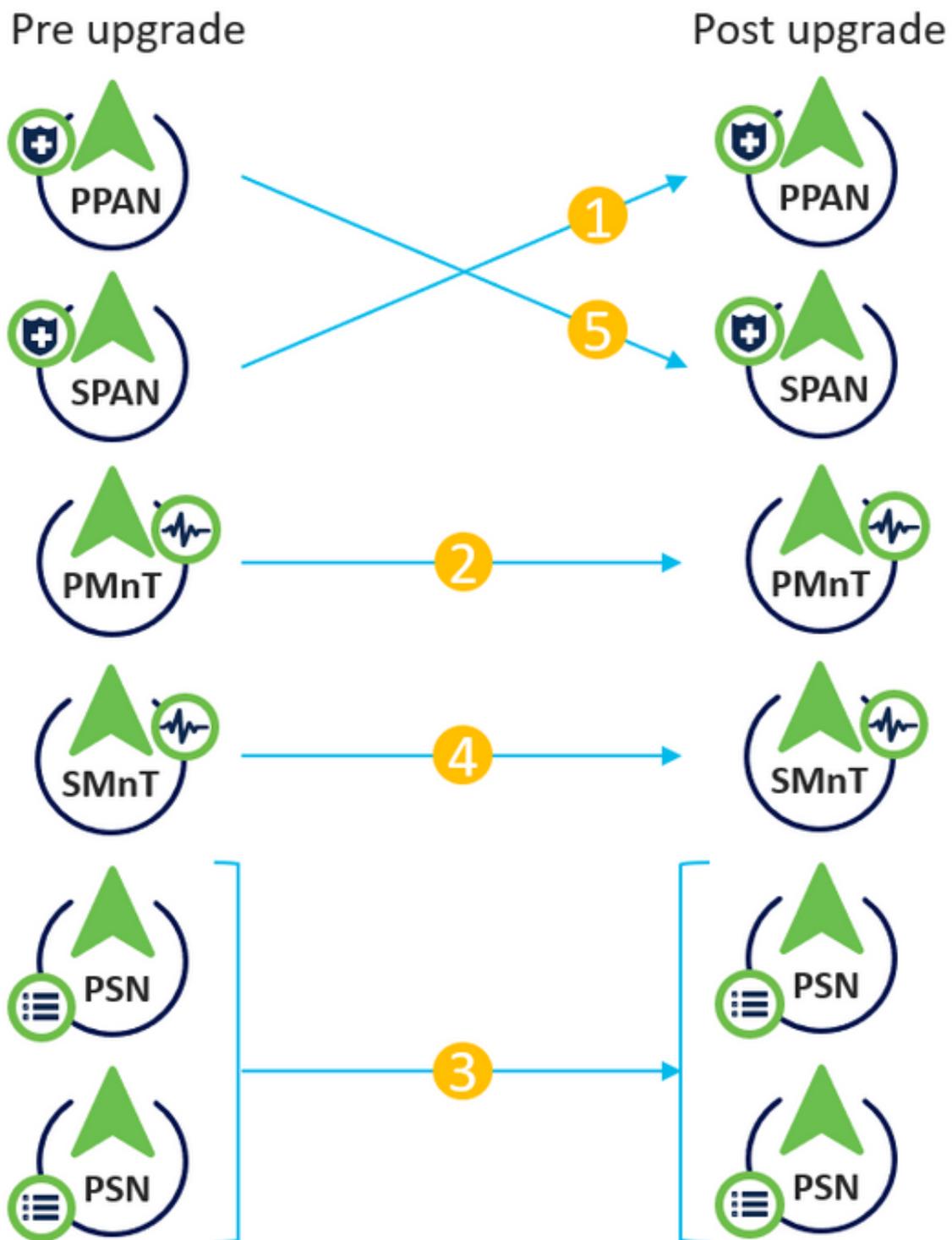
- ISE 2.6補丁10及更高版本
- ISE 2.7補丁4及更高版本
- ISE 3.0補丁3及更高版本

ISE 2.6及更高版本支援拆分升級到ISE 3.1，帶或不帶任何補丁程式。

完全升級與分割升級方法的比較

分散式部署中基於分割升級方法的節點升級順序

完全分散式部署至少需要5個步驟才能升級到較新版本。

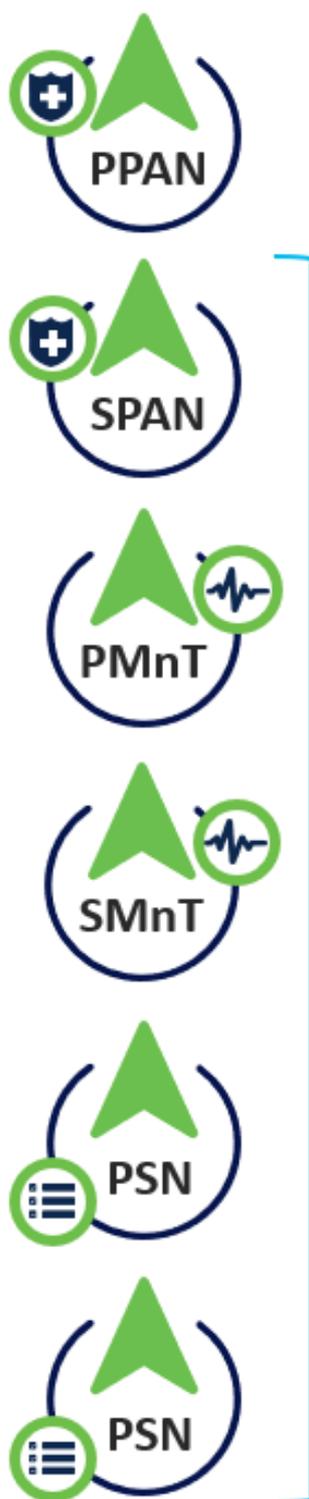


考慮到每個步驟大約需要240分鐘，因此這裡的總升級過程將需要 240×5 分鐘 = 20小時。

分散式部署中採用完全升級方法的節點升級順序

完全分散式部署只需兩個步驟即可升級到較新版本。

Pre upgrade



Post upgrade



1

2

同樣，考慮到每一步大約需要240分鐘，整個升級過程現在減少到 240×2 分鐘 = 8小時。

完全升級相對於拆分升級方法的優勢

- 完全升級方法消耗整個活動的時間較少，這是因為節點是並行升級的，而拆分升級方法需要在較長的維護時段內進行良好的規劃。
- 就升級順序而言，完全升級方法沒有麻煩，因為僅需兩個步驟。Split Upgrade方法要求在開始

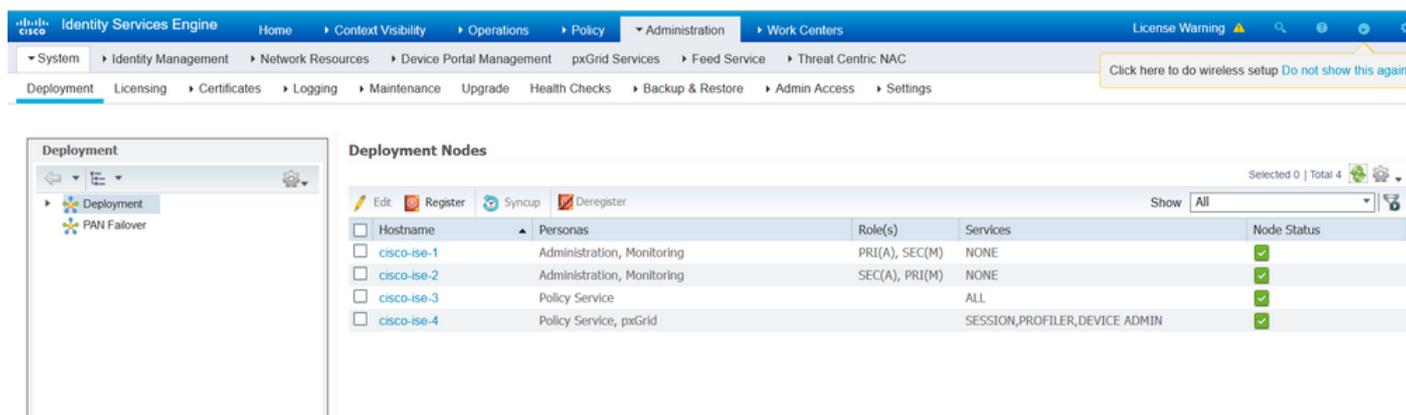
升級過程之前對節點進行適當的排序。

- 完全升級方法保留升級前的角色和角色。Split Upgrade方法在升級版本中切換主要和輔助管理員角色。
- 通過消除升級過程中與部署相關的更改對API的依賴性，完全升級方法減少了故障點。
- 當主管理節點關閉以進行升級時，完全升級方法允許從輔助管理節點跟蹤升級狀態。在分割升級方法中無法實現此功能。
- 升級後補丁安裝是自動進行的，並且是作為完全升級方法中的一個選項提供的。

注意：完全升級需要完全停機時間，因為所有PSN都同時關閉以進行升級。確保在計畫的維護時段內計畫活動。

完整升級流程

本文檔演示4節點部署的升級流程。對於雙節點或其他多節點部署，整個流程保持不變。



The screenshot shows the Cisco Identity Services Engine (ISE) Administration console. The breadcrumb navigation is Administration > Work Centers > Upgrade. The main content area displays the 'Deployment Nodes' table, which lists four nodes: cisco-ise-1, cisco-ise-2, cisco-ise-3, and cisco-ise-4. Each node has a checkbox, a hostname, a list of personas, roles, services, and a node status (indicated by a green checkmark).

Hostname	Personas	Role(s)	Services	Node Status
<input type="checkbox"/> cisco-ise-1	Administration, Monitoring	PRI(A), SEC(M)	NONE	✓
<input type="checkbox"/> cisco-ise-2	Administration, Monitoring	SEC(A), PRI(M)	NONE	✓
<input type="checkbox"/> cisco-ise-3	Policy Service		ALL	✓
<input type="checkbox"/> cisco-ise-4	Policy Service, pxGrid		SESSION,PROFILER,DEVICE ADMIN	✓

升級UI

導覽至Administration > System > Upgrade，以開始活動，如下圖所示。

Upgrade Selection

Select the upgrade process you want to carry out:

1. Full upgrade is a multi-step process that enables a complete upgrade of your Cisco ISE Deployment. This will upgrade all nodes in parallel so services will be down during the upgrade with this option. This is intended to upgrade the deployment as quickly as possible.

2. Split upgrade is a multi-step process that enables the upgrade of your Cisco ISE Deployment while allowing services to remain available during the upgrade process for end-users and administrators. This may require changes to the network or load balancers to ensure there are available nodes to service authentications. Uptime is accomplished by upgrading nodes in batches and is the option to limit downtime while taking longer than full upgrade.

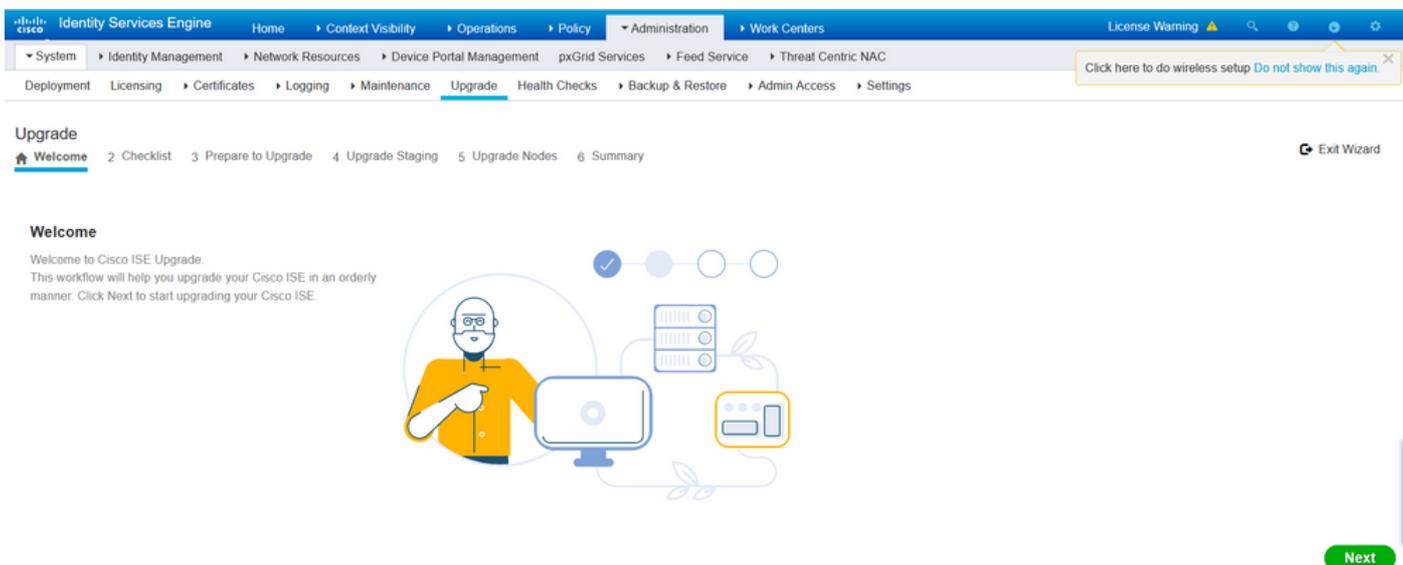
Before you begin an upgrade process, check that all your Cisco ISE software is stable by performing the required [Health Checks](#).

- Full Upgrade
- Split Upgrade

Start Upgrade

附註：ISE 2.6補丁9及以下、ISE 2.7補丁3及以下、ISE 3.0補丁2及以下僅支援拆分升級方法。預設情況下，會為這些版本啟動Split Upgrade視窗。可從此處參閱[拆分升級過程](#)。選擇Full Upgrade單選按鈕，然後按一下Start Upgrade。

歡迎頁面



在歡迎頁嚮導中，按一下下一步以繼續操作。

核對表

檢查核對表並確保在繼續之前完成任務。

Upgrade

Home > Context Visibility > Operations > Policy > Administration > Work Centers

System > Identity Management > Network Resources > Device Portal Management > pxGrid Services > Feed Service > Threat Centric NAC

Deployment > Licensing > Certificates > Logging > Maintenance > Upgrade > Health Checks > Backup & Restore > Admin Access > Settings

Upgrade

1 Welcome 2 Checklist 3 Prepare to Upgrade 4 Upgrade Staging 5 Upgrade Nodes 6 Summary

Exit Wizard

Checklist

Ensure the following tasks are completed, and then proceed to upgrade Cisco ISE nodes.

Backup ISE

- Configuration and operational data (Administration > System > Backup & Restore)
- Backup system logs (Operations > Troubleshoot > Download Logs)
- Export certificates and private keys (Administration > System > Certificates > System Certificates)

Software

- Review the ISE Upgrade Guide and Release Notes for upgrade information (<http://cisco.com/go/ise>)
- Confirm valid ISE upgrade paths. Ensure that a repository is available to store the ISE upgrade bundle (Administration > System > Maintenance > Repository)
- Download the ISE upgrade bundle and place it in the repository (ISE software is available at <http://cisco.com/go/ise>)

Credentials

- Make a note of the Active Directory join credentials, and the RSA SecurID node secret, if applicable.

Operational Data Purge

- Purge operational data to improve upgrade performance (Administration > System > Maintenance > Operational Data Purge)

License

- Convert your old licenses to the new license types through the Cisco Smart Software Manager (CSSM)
- Enable the new licenses in the Administration > System > Licensing window. Check the checkboxes for all your purchased licenses, and click Enable.

I have reviewed the checklist

Print Checklist

Back Next

勾選說明我已審閱檢查清單的覈取方塊，然後按一下下一步。

準備升級

在升級之前對完整部署運行預檢查，結果顯示在此頁面上。除了檢查外，在此步驟中，升級捆綁包下載到所有節點上，離線資料升級(ODU)在輔助管理節點上運行(這類似於分割升級方法的升級準備工具(URT)模擬)，最後還顯示活動的估計時間。

將從[思科軟體下載頁面](#)下載升級套件組合。

Upgrade bundle for upgrading ISE version 2.6, 2.7, 3.0 to 3.1. This is a signed bundle for image integrity.

ise-upgradebundle-2.6.x-3.0.x-to-3.1.0.518.SPA.x86_64.tar.gz

Advisories

11-Aug-2021 12607.68 MB

若要運行升級前檢查，請選擇放置升級捆綁包的儲存庫名稱。從「套件組合」下拉框中選擇升級套件組合檔名。

附註： Full Upgrade方法還介紹了升級後自動補丁安裝。修補程式檔案將與升級捆綁包一起置於同一個儲存庫中，如果需要自動安裝修補程式，可從下拉選單中選擇修補程式檔名。

Upgrade

Home > 1 Welcome > 2 Checklist > 3 Prepare to Upgrade > 4 Upgrade Staging > 5 Upgrade Nodes > 6 Summary

Prepare to Upgrade

From the following drop-down lists, choose the required repository, upgrade software bundle, and patch file. Then, click Start Preparation.

Repository*

Bundle*

Patch

按一下**開始準備**以開始運行預檢查。所有預檢查（捆綁包下載和配置資料升級檢查除外）在啟動系統驗證4小時後自動過期。配置資料升級（僅適用於ODU）將在12小時後過期。

Repository*

Bundle*

Patch

Estimated time of upgrade process: 5hr 15min

Task	Progress	Status
Repository Validation	4%	Success
Bundle Download	4%	Success
Memory Check	4%	Success
MRN Pathver Validation	0%	Success
Scheduled Backup Check	0%	Warning
Config Backup Check	0%	Warning
Configuration Data Upgrade	0%	Success
Platform Support Check	4%	Success
Deployment Validation	0%	Success
DNS Reachability	4%	Success
Trust Store Certificate Validation	0%	Success
System Certificate Validation	4%	Success
Disk Space Check	4%	Success
NTP Reachability and Time Source Check	4%	Success
Local Average Check	4%	Success
License Validation	0%	Warning
Services or Process Failures	4%	Success

附註：應在升級活動之前禁用PAN故障轉移設定。如果沒有手動完成，升級觸發後將自動禁用。

附註：ISE 3.0及更高版本強制使用智慧許可。它不支援傳統許可。如果在升級前未啟用或註冊智慧許可，則ISE會在預設升級後進入智慧許可評估期。許可證遷移參考連結：[產品 — ISE許可遷移指南 — 思科](#)。將ISE從2. x升級到3.x時，涉及許可層更改。詳細資訊可從以下站

點獲得：[思科身份服務引擎 — 思科ISE許可證常見問題解答 — 思科。](#)

注意：觸發配置資料升級後，應避免ISE上的所有型別的配置更改。升級後所做的任何更改都將丟失。

如果任何元件預檢查失敗，則根據元件的重要性以紅色或橙色顯示。以紅色突出顯示的故障需要強制糾正才能繼續操作。以橙色突出顯示的警告不會停止升級過程，但是，最好將它們作為最佳實踐進行修復，以免影響未來的部署特性和功能。

更正錯誤後，按一下「開始暫存」以繼續操作。

升級暫存

升級暫存期間，升級的資料庫檔案將複製到部署中的所有節點，配置檔案將備份在部署的所有節點上。

轉儲檔案已作為ODU的一部分存在於輔助管理節點上。因此，在此步驟中，輔助管理節點只為CA NSS DB、智慧許可和DHCP/DNS配置建立備份檔案。所有其他節點也會建立這些檔案，但還需要從輔助管理節點複製轉儲檔案。

Upgrade

1 Welcome 2 Checklist 3 Prepare to Upgrade 4 Upgrade Staging 5 Upgrade Nodes 6 Summary

Exit Wizard

Upgrade Staging

The upgrade bundle files are being transferred to all nodes in your ISE deployment. The status of transfer for each node can be viewed below. You can continue to use Cisco ISE while the transfer is in progress.

Refresh Failed Nodes

- cisco-ise-1.gce.iselab.local
- cisco-ise-2.gce.iselab.local
- cisco-ise-3.gce.iselab.local
- cisco-ise-4.gce.iselab.local

Back Next

當所有節點的暫存完成時，按一下下一步。

升級節點

按一下「**Start**」以觸發升級。

Upgrade

Home Welcome 2 Checklist 3 Prepare to Upgrade 4 Upgrade Staging 5 Upgrade Nodes 6 Summary

Upgrading Nodes

View the progress of the upgrade process on each Cisco ISE node.

Upgrade progress can be monitored from Secondary PAN UI while Primary PAN is getting upgraded and from Primary PAN UI while Secondary PAN is getting upgraded.

Estimated time of Upgrade process: **5hr 12min**

Start

彈出消息確認升級已觸發，並且所有節點都顯示在具有升級狀態的隊列中。由於升級首先在主管理節點上啟動，因此系統從此節點註銷，現在可以從輔助管理節點的GUI監視升級狀態。在輔助管理節點的GUI上導航到Administration > System > Upgrade，以繼續檢視狀態。

Upgrade

Upgrade Nodes

Upgrading Nodes

View the progress of the upgrade process on each Cisco ISE node.

Upgrade progress can be monitored from Secondary PAN UI while Primary PAN is getting upgraded and from Primary PAN UI while Secondary PAN is getting upgraded.

Estimated time of Upgrade process: **5hr 12min**

Overall Upgrade Progress

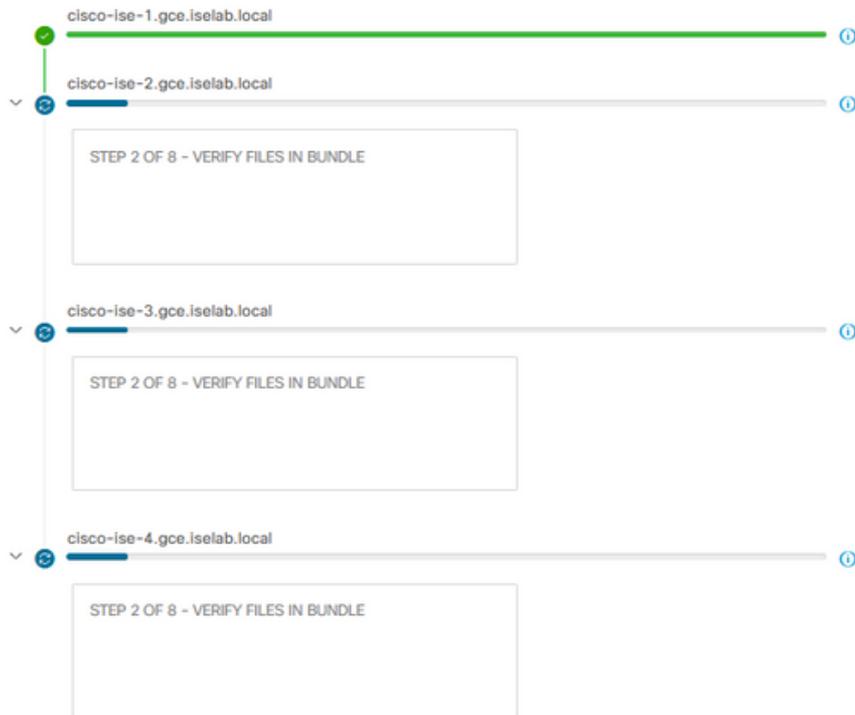
4hr 45min



主管理節點升級且服務啟動後，系統會註銷輔助管理節點的GUI。現在，使用者可以從主管理節點的GUI切換回監視狀態，同時部署的所有其他節點都停止執行升級。



Estimated time of Upgrade process: 5hr 12min



Exit Wizard

成功升級所有節點後，狀態將變為綠色。



Upgrading Nodes

View the progress of the upgrade process on each Cisco ISE node. Upgrade progress can be monitored from Secondary PAN UI while Primary PAN is getting upgraded and from Primary PAN UI while Secondary PAN is getting upgraded.

Estimated time of Upgrade process: 5hr 12min



Exit Wizard

如果存在任何故障節點，則會顯示一個包含有關故障節點資訊的彈出視窗。在彈出視窗中按一下 **OK** 以從部署中註銷失敗節點。必須逐個升級/重新映像這些映像並將其加入部署（如果有）。

按一下「**Next**」以檢視總體升級摘要報告。

摘要

升級過程完成後，可從此頁檢視和下載部署的診斷升級報告。

The screenshot displays the Cisco ISE Administration - System Upgrade Summary page. The navigation menu includes Deployment, Licensing, Certificates, Logging, Maintenance, Upgrade (active), Health Checks, Backup & Restore, Admin Access, and Settings. The progress bar shows six steps: Welcome, Checklist, Prepare to Upgrade, Upgrade Staging, Upgrade Nodes, and Summary (6). The Summary section contains the following links:

- Checklist [Print Checklist](#)
- Prepare to Upgrade [Download Report](#)
- Upgrade Report [Download Report](#)
- System Health [Download Report](#)

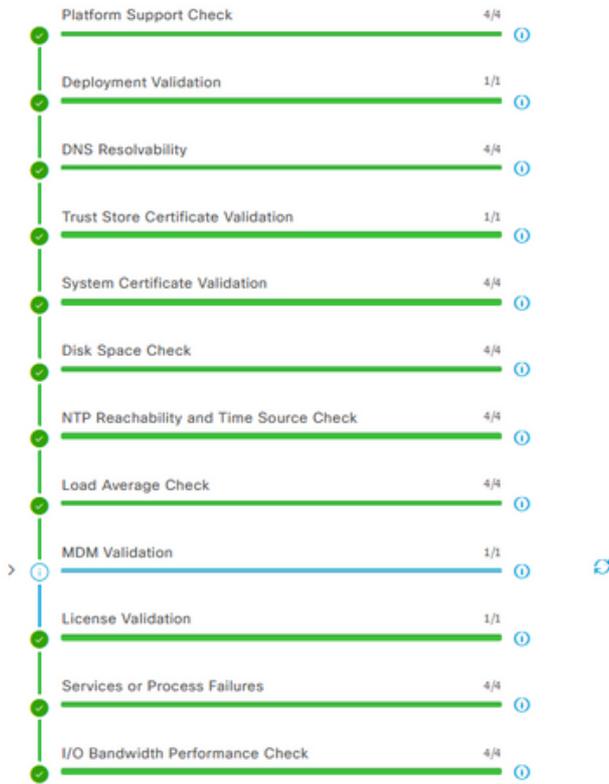
At the bottom left, there is an [Exit Wizard](#) link, and at the bottom right, there is a [Finish](#) button.

運行狀況檢查

為了升級後驗證部署狀態，系統將自動運行運行狀況檢查以驗證部署狀態。可以從升級流程的「摘要」頁面下載此報告。如果需要在任何時間點進行按需運行狀況檢查，請導航到 **Administration > System > Health Checks**，然後按一下 **Start Health Checks**。

Health Checks

Validate your deployment against any critical errors. Starting will perform a range of checks to ensure that all your software is working stable (Health Check might not respond for 15 minutes). Once validation will finish you can download report. After successful checking you can go to [Upgrade Workflow](#).

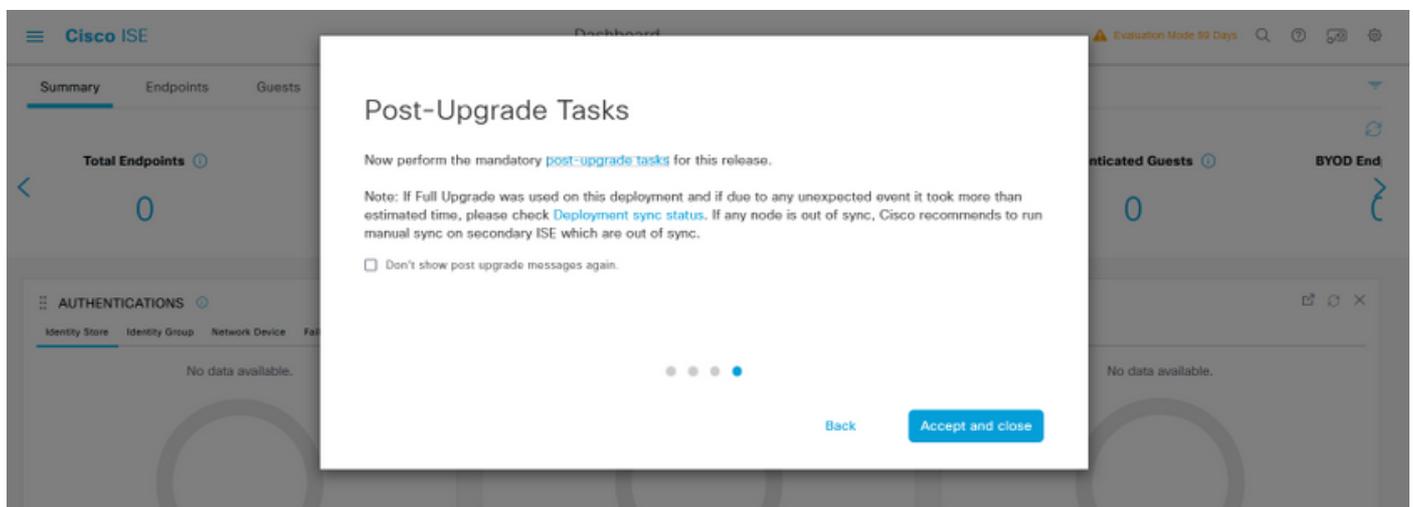


Health Checks completed. You can go to Upgrade Workflow.

[Download report](#)

升級後任務

使用者在您完成升級後登入到主管理節點的GUI時，會顯示有關升級後任務的彈出消息。



按一下彈出消息中的升級後任務超連結，以檢視任務詳細資訊並完成它們。

問題和補救措施

1. 如果主管理節點升級失敗，請將輔助管理節點升級為主管理節點，然後重試升級。
2. 如果升級在除主admin之外的任何其他節點上失敗，則必須從部署中註銷該節點。此節點必須單獨升級，或直接重新映像至升級版本，並且可以重新加入部署。