

Cisco DNA Center Migration to Release 1.2.5

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Introduction



Important

This document provides general guidelines on how to migrate Cisco DNA Center from Release 1.1.6 or higher to 1.2.5 or higher. However, Cisco recommends that customers who wish to migrate from Release 1.1.x to 1.2.5 first contact the Cisco Technical Assistance Center or your Cisco sales representative.

The Cisco SD-Access solution combines the Cisco DNA Center enterprise controller, identity services, and wired and wireless fabric functionality.

Note that users with active SD-Access deployments on Cisco DNA Center Release 1.1.8 or higher can migrate to Cisco DNA Center Release 1.2.5 directly. Users on Cisco DNA Center Release 1.1.5 or lower should first upgrade to Cisco DNA Center Release 1.1.8 and then migrate to Release 1.2.5.

You can now migrate to Cisco DNA Center Release 1.2.5 without bringing down the fabric network. This means your Cisco DNA Center can be upgraded from Release 1.1.x to Release 1.2.x without the need for a fresh Cisco DNA Center installation and without having to reconfigure the fabric from the beginning.

Before you proceed with the migration, Cisco recommends that you familiarize yourself with the features of [Cisco DNA Center 1.2.x](#).

If you want to upgrade a network device image, perform the upgrade in a separate maintenance window prior to Cisco DNA Center migration. Refer the section, "Caveats", in this document to see the list of migration caveats.

SD-Access Migration

SD-Access migration to Release 1.2.5 happens in two stages:

1. Cisco DNA Center migration - does not impact user traffic. This takes about seven hours to complete.
2. Reprovisioning all network devices - disrupts user traffic due to reconfiguration of Cisco Identity-Based Networking Services (IBNS), from IBNS 1.0 to IBNS 2.0. Reprovisioning takes a few hours, largely depending on the number of devices to be reprovisioned. (Based on the migration data, it takes around five minutes of downtime per stack.) You can either complete the entire reprovisioning in one instance or do it in a staggered manner.



Note

You cannot configure any new features on the network until the entire network is reprovisioned.

Before migrating to Cisco DNA Center Release 1.2.5, check the [Release 1.2.5 device matrix](#). Upgrade the devices according to the compatibility matrix, if needed.

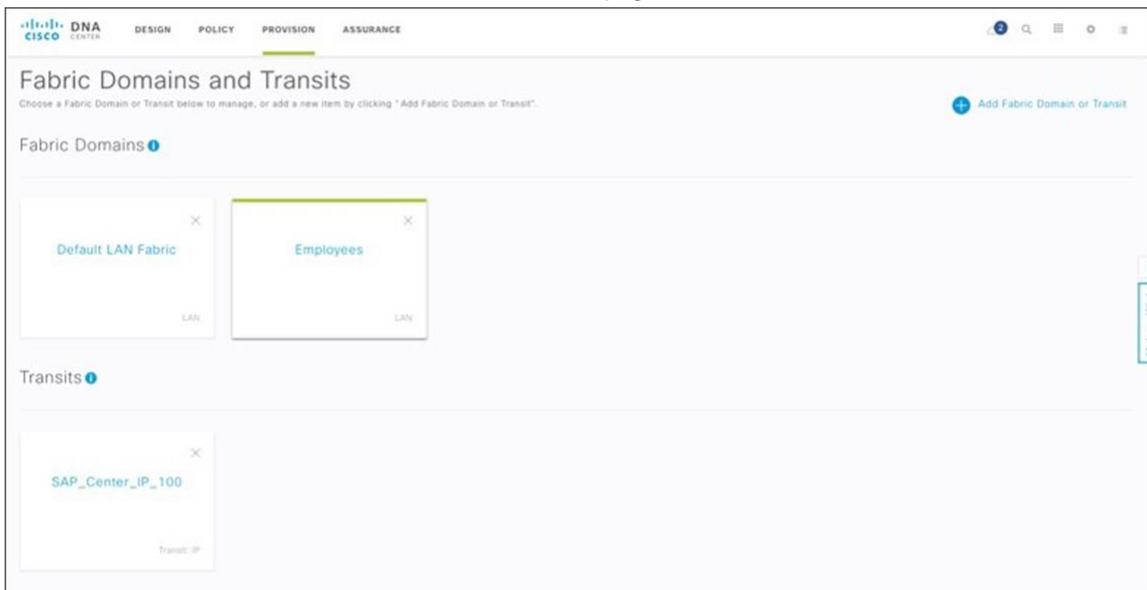


Tip

If you plan to migrate Cisco Identity Services Engine (ISE) from older versions to ISE-2.4 P1, migrate Cisco DNA Center first and then migrate ISE.

Migrating to SD-Access Release 1.2.5 brings about the following major changes in the network and its functions:

- AAA configurations get aligned with IBNS 2.0.
- Fabric sites get structured under fabric domains. (A fabric site is an independent fabric area with a unique set of network devices, including the control plane, border, edge, wireless LAN controller WLC, Identity Services Engine (ISE), and Policy Service Node (PSN).
- Devices and IP pools become associated with fabric sites.
- External connectivity is converted to IP transit if border automation is used. For example, SAP_Center_IP_100 is a transit fabric that is created after migration, as you can see in the following screenshot of the **Fabric Domains and Transits** page.



- The IP Network Groups page is redesigned. IP Network Groups that are created in Release 1.1.x are not shown on the IP Network Groups page after migration.
- Scalable groups created in Release 1.1.x are displayed on the Scalable Groups Page after migration. IP Secure Group Tag (SGT) mappings that are created in Release 1.1.x can be viewed only on Cisco Identity Services Engine (ISE).



Note

- Assurance data is not migrated.
- Cluster migrations are not supported. Remove each Cisco DNA Center from the cluster and migrate separately.
- After the fabric network is reprovisioned, all data will have to be relearned.

Migration Process

The migration process depends on multiple factors, including (but not limited to) the current Cisco DNA Center version, network topology based on sites, IP pool usage, and so on.

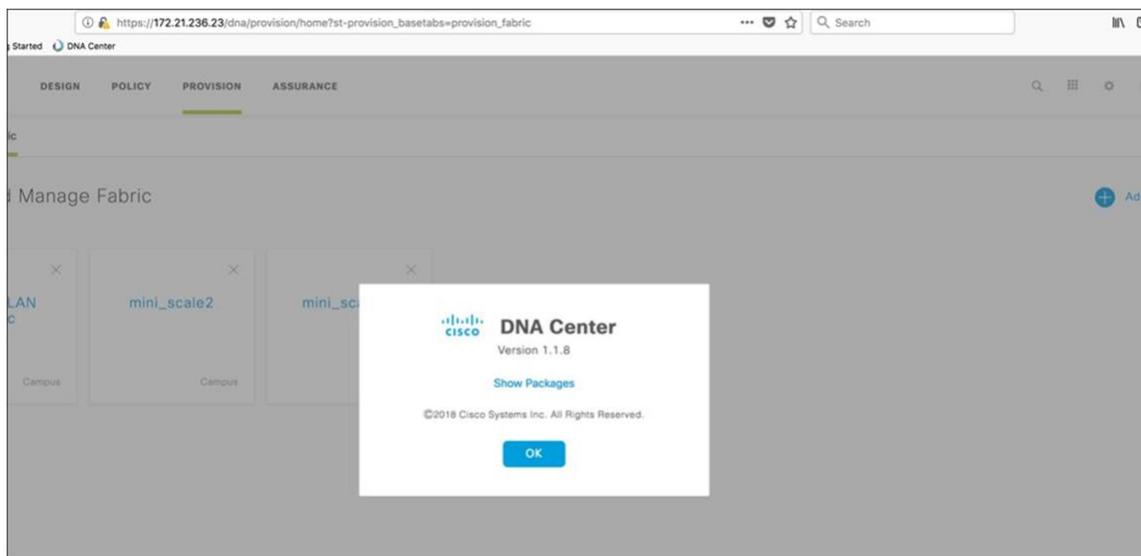
Although Cisco recommends that you perform the migration in a maintenance window or at a time when migration has the least impact on your deployment, the migration process takes a significant amount of time.

Prerequisites for Migration to Cisco DNA Center Release 1.2.x

1. Cisco DNA Center version requirements:

- If you are running Cisco DNA Center Release 1.1.7 or older, first migrate to Cisco DNA Center Release 1.1.8. Refer [Cisco DNA Center Release Notes 1.1.8](#) for the migration steps.
- If you are running Cisco DNA Center Release 1.1.8, ensure that all devices are running compatible images before you begin migration. Refer the [SD-Access product compatibility matrix](#) for compatible versions of software images.

You can verify your Cisco DNA Center version by clicking the “About Cisco DNA Center” option under the Settings icon.



2. Site-based topology requirements:

- SD-Access deployments on releases 1.1.x are site-agnostic. Devices belonging to different sites can be allocated to the same fabric. Cisco DNA Center Release 1.2.x supports creation of sites within a domain. A prerequisite for migration to Release 1.2.5 is that each fabric domain should have devices from the same common site hierarchy as in the Release 1.2.x setup.
3. Remove any manual configurations, like critical VLAN, which are automated in SD-Access 1.2.5 deployments.
 4. Ensure that you do not perform any operation on Cisco DNA Center four hours before the upgrade.
 5. Ensure there are no pending package upgrades that are in progress.
 6. Ensure that your site does not have all devices in the fabric associated with the same building before migration. This is because post- migration, the global IP address pools get reserved only for that building and you will not be able to associate the IP pool if you add another building.

If you have only one building under a site and all fabric devices are associated with it, perform the following steps before migration:

1. Create another building under the same site.
2. Bring up a new device that can be added as a fabric edge node with the software compatible to Cisco DNA Center 1.1.8.
3. Discover the newly added node and associate it with the new building created.
4. Provision the new device.
5. Add the new device as an edge node to the existing fabric and ensure the edge node is added successfully.

Restrictions for Migration to Cisco DNA Center Release 1.2.x

- The migration process identifies a common site for the devices in each fabric domain (going from bottom to top in the site hierarchy) and creates a new fabric site for that common site under each fabric domain. So, if two fabric domains have devices under the same common site, the migration process is aborted.
- If two or more fabric domains use the same IP pool for external layer 3 handoff, the migration process is aborted.
- Do not use overlapping IP pools. Overlapping IP pools are not supported for migration to Cisco DNA Center Release 1.2.5.
- Netconf is currently not supported. Do not use Netconf in configuring device credentials.

Premigration Check

1. Ensure that you are connected to the Cisco DNA Center AWS catalog server.
2. Ensure that Cisco DNA Center is running Release 1.1.8 and all the networking devices are running compatible versions as per the [Compatibility matrix](#).
3. Backup Cisco DNA Center information to an external server.
4. Save a copy of the running configuration on each device in the network to a flash or an external server.
5. Download the Cisco DNA Center ISO that matches the current running version, and build a USB drive using etcher.
6. Check if IP Address Management (IPAM) and Cisco DNA Center are synchronized. Contact the [Cisco Technical Assistance Center](#) for support on IPAM migration.
7. Verify that all services are running fine. Check system 360 and 'magctl appstack status' via Secure Shell (SSH) on port 2222.
8. Take screenshots of some of the key elements in your Cisco DNA Center functions for post migration reference. Examples include:
 - Identity Services Engine (ISE) integrated with Cisco DNA Center
 - Design page with details of IP pools, credentials, network profiles, SSIDs
 - Policy details on the Policy page
 - All devices that are in the provisioned state
 - The domain, topology, and devices on the provisioned fabric

Performing the Migration

Before you begin

 Caution	<p>Migration is a disruptive process. Ensure you have scheduled a minimum 12-hour maintenance window to complete the migration.</p> <p>Stop all ongoing tasks. Ensure there are no pending package upgrades in progress.</p> <p>Ensure you have understood the premigration check and have taken a backup of the Cisco DNA Center information.</p>
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Migration is a two-part process— Cisco DNA Center migration and Network migration.

Cisco DNA Center Migration

Migrating Cisco DNA Center from Release 1.1.8 involves upgrading the system from 1.0.4.x to 1.1.x and upgrading the packages. Following are the steps:

Procedure

Step 1. Perform system upgrades from Release 1.0.4.x to 1.1.x.

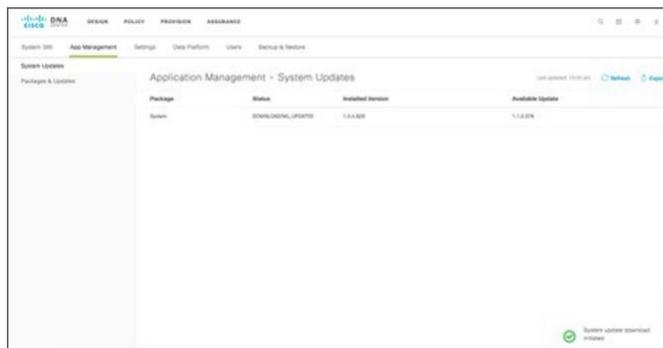
- a) Click the 'Switch Now' button on the upgrade header that comes up.



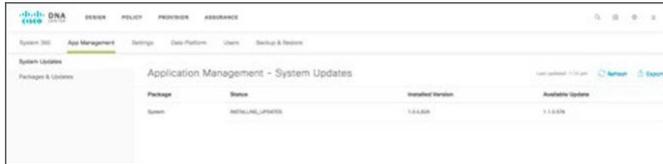
- b) You will see that 'Available Update' is changed to 1.1.0.576.



- c) Click **Install**. Download of the system upgrade files starts. The download takes about 90 minutes to complete.



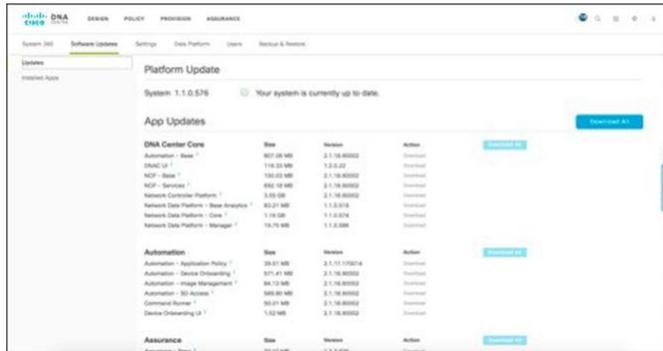
d) Once the download is complete, installation starts.



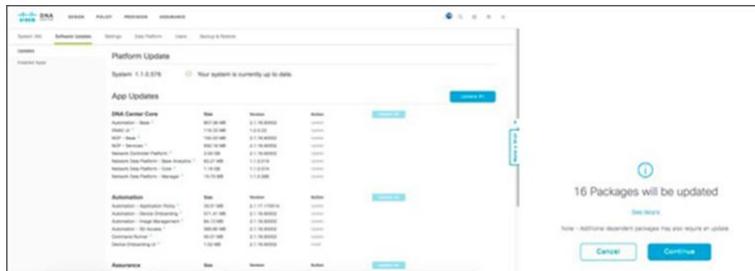
After the installation is complete, the system is updated to a new version but other packages are still on the older version.

Note: Cisco recommends that you do not perform any operation at this stage except package updates.

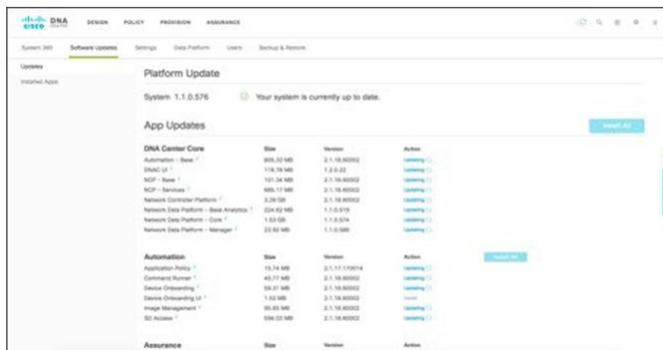
Step 2. Perform package updates. Log back into the Cisco DNA Center and navigate to the **System Settings** Page. Click the **Download All** button at the far-right corner of the page. It will download the packages and update them. It takes about 45 minutes for all packages to download.



a) After download is complete, click **Update All** to start the updates.



b) Click **Continue** to start the installation of the updates. It takes about three hours for the update to complete.



After the packages are updated, Cisco DNA Center is migrated to Release 1.2.5.

What to do next

1. Check that ISE is still integrated with Cisco DNA Center.
2. Check the Design page and verify that IP pools, credentials, network profiles, and SSIDs are migrated properly.
3. Check the Policy page and confirm that all prior policies are migrated.
4. Check the Inventory and confirm that all devices are in a managed state.
5. Check Provision/devices and confirm that all devices are in a provisioned state.
6. Check Provision/Fabric for domain, topology, and devices. (this is new in Cisco DNA Center 1.2.x)
7. Check for Assurance. Assurance data is not migrated. It works afresh for all devices and clients in the network.

Network Migration (Reprovision all Devices)

Before you begin

Network reprovision is a disruptive process and impacts user traffic. Therefore, plan this activity carefully. It can be done in one round or in a staggered manner, wherein you can provision one building or one floor or one edge device at a time.

Cisco recommends that you reprovision the border and control nodes first and then reprovision the edge devices.



Note

While reprovisioning the edge devices, if ports are configured with 'closed authentication', the ports are brought down and brought up again.

Procedure

Step 1. Navigate to the **Provision** tab on the Cisco DNA Center dashboard.

Device Name	Device Family	IP Address	WLAN	Serial Number	Part No.	HW Version	OS Image	Last Sync Status	Operational Status	Last Provisioned Time	Provision Status
AP5508-0P-01-001	Leaflet	100.1.1.2	-SUC25P-0	49020000000	0000	10.0.0.400	A.0.124-00	Managed	Not Provisioned	Jul 08 2018 10:43:03	Success See Details
AP5508-0P-01-002	Leaflet	100.1.1.1	-SUC25P-0	49020000000	0000	10.0.0.400	A.0.124-00	Managed	Not Provisioned	Jul 08 2018 10:43:03	Success See Details

Step 2. Click on **See the list and provision again**.

A window listing all devices to be re-provisioned comes up.

Re-provision all devices until this list is blank.

During re-provisioning, if users are authenticated using dot1x/MAB, they are either automatically re-authenticated if credentials are saved at end hosts, or prompted to reenter credentials. (The dot1x interfaces are brought down and brought up during the migration process.)

This completes your migration to Cisco DNA Center Release 1.2.5.

Troubleshooting Migration Issues

If migration is aborted, there is no automatic recovery. You will be required to do a fresh installation of Cisco DNA Center Release 1.1.x with the restore operation.

For other issues, see the [Cisco DNA Center 1.2.5 Release Notes](#).

Caveats

Following are the resolved caveats in this release:

Caveat identifier	Description
CSCvk46664	The device image upgrade can be done manually or by using the Cisco DNA Center Smart Account and Software Image Management (SWIM) process. There is a known issue for the SWIM upgrade.
CSCvj47757	Cisco DNA Center Release 1.1.6 or prior limits backup/restore operation to 2.0. Backup / restore operations do not work after 20 operations.
CSCvm22605	Postmigration, reprovisioning of multiple devices may fail. Reprovisioning one switch at a time works.
CSCvm25925	On a Command-Line Interface (CLI) check all services are running after maglev is migrated to 1.1.0.576 using 'magctl appstack status'. The GGU may show 'System Ready' while services are still coming up.

Following are the open caveats in this release:

Caveat identifier	Description
CSCvm22575	After maglev is upgraded, download all service packages. Allow 30 minutes after download to 'install all' application packages.
CSCvm75112	Migration from Release 1.1.x to 1.2.x fails when the border handoff IP pool is shared and external IPAM is used.

Obtaining Technical Support

For any technical support, [open a case with the Cisco Technical Assistance Center](#), or contact your Cisco technical support representative.



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