



Cisco IWAN Application 2.2 on DNA Center, Migration Guide

First Published: 2018-06-05

Last Modified: 2018-06-06

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CONTENTS

CHAPTER 1	Migration to DNA Center 1
CHAPTER 2	Migration Procedure 3
CHAPTER 3	Troubleshooting Tips 7
CHAPTER 4	Related Documentation 9



CHAPTER 1

Migration to DNA Center

The Cisco Intelligent WAN Application (Cisco IWAN App) first appeared as a component of Cisco Application Policy Infrastructure Controller Enterprise Module (APIC-EM), and in December 2017 was added as an optional package to Cisco Digital Network Architecture Center (DNA Center).

The IWAN App 2.2 release, operating on DNA Center 1.2, introduces a utility for migrating an IWAN App configuration on APIC-EM to DNA Center, with the assistance of Cisco Support (TAC).

This guide provides brief instructions for the migration to DNA Center.

Table 1: Supported Versions for Migration

Migrating from	Migrating to	Comments
IWAN App 1.6.0, 1.6.1	DNA Center 1.2	Supported
IWAN App releases earlier than 1.6.0	DNA Center 1.2	Not supported directly. First upgrade APIC-EM and the IWAN App to 1.6.1.



CHAPTER 2

Migration Procedure

Before you begin

- Work with a member of the Cisco support team to download a copy of the utility, and for assistance in the migration procedure.
- The migration process requires for the IWAN App 1.6.x setup operating on APIC-EM to be operating correctly before migration. It must not be in an error state.

Example error states:

- Partial collection failure
 - Unmanaged state in inventory
 - Failed sites
 - Network upgrade required
- DNA Center does not support /31 subnet masks for IP pools. If any /31 subnet masks are defined, change them before migration.
 - Migration of multi-node clusters is not supported.
 - Devices unclaimed by PnP will not be migrated. Remove all unclaimed devices before migration. After migration, devices connect to DNA Center, after discovery by the PnP app, and can be claimed at that point.
 - For any IWAN-provisioned devices, remove any PnP profile CLI, using the IWAN App 1.6.x "custom config" feature. This feature executes CLIs on multiple devices. This step prevents any devices from connecting to the PnP service on DNA Center before the migration process.
 - All IWAN sites must have location defined. Without this, they will be listed as having an "Unknown" location. Location is mandatory in DNA Center network design.
 - Verify that appliance/UCS specifications meet the requirements of DNA Center 1.2.
 - Before proceeding with the migration, remove any site-specific IP pools if there are no sites provisioned for them. If you cannot remove them before migration, then after the migration is complete, create a site with the name indicated by the site-specific IP pool. Do this in DNA Center as follows:

DNA Center home page > Design > Network Hierarchy > Global > Add Site

- Step 1** In the currently operating APIC-EM installation, create a new backup.
- Step 2** After the backup is complete, in the **Downloadable Backups** area, click the **Download** link. Download the backup to a PC or server location.
- Step 3** Shut down the APIC-EM instance if installing DNA Center on a different appliance.
- Step 4** Install and provision DNA Center on its appliance.
- Step 5** On the DNA Center appliance, install the IWAN App, according to instructions in the IWAN App Quick Start guide (see [Related Documentation](#), on page 9).

Use the same network settings for cluster IP as were used in APIC-EM.

Important Do not configure any settings on the DNA Center cluster before completing the migration. These settings will be transferred as part of the migration process below.

- Step 6** Transfer the backup file created in IWAN on APIC-EM to the server on which DNA Center is installed. Note the directory in which you save the file.

Example:

/home/maglev

- Step 7** With assistance from Cisco support (TAC), download the migration support package from the location provided.

Example filename: migration-support-2.1.15.60387.tar.gz

- Step 8** Transfer the migration support package to the server on which DNA Center is installed. Save it in the same directory that contains the backup file (see previous step 6).

- Step 9** On the DNA Center server, extract the migration support package, using the following CLI command:

```
tar -xvf migration-support-*.gz $(tar -tf migration-support-*.gz | grep migration-job-) -O | tar -xvzf -
start_migration.sh
```

This command extracts the package. One of the extracted files is the migration script:

start_migration.sh

- Step 10** Confirm that the backup file (see previous step 6) and the start_migration.sh script are in the same directory.

- Step 11** To begin the migration process, run the start_migration.sh script in the CLI:

```
./start_migration.sh
```

Table 2: Migration Script Actions

Script Step	Description
1	Log into the maglev API, display packages installed on DNA Center. User input: None

Script Step	Description
2	Set up maglev remote backup. User input: • Cluster IP • Port: 2222 • Directory containing backup file • Maglev credentials: Username "maglev" and the password configured during setup of DNA Center.
3	Extract and push the migration-support package. User input: None
4	Deploy migration-support package to cluster. User input: None
5	Find the 1.6.x backup file. User input: Absolute path of the backup file (if the default location is not correct).
6	Migrate the IWAN configuration. The time required depends on the size of the backup file. Typical migration time is 30 to 90 minutes, but may be longer for large IWAN configurations. User input: None
7	Configure Kong. User input: None
8	Restart internal "fusion" services. User input: None
9	Complete migration, restart DNA Center services. User input: None Migration logs available in: /tmp/tmp.xxxxxx/migration-job_console.txt

What to do next

After the migration is complete, perform the following steps to verify operational status and begin using the IWAN App on DNA Center.

Table 3: After Migration

Step	Description
1	Verify that DNA Center services are active. On the DNA Center server, use one of the following commands: <pre>magctl service display</pre> <pre>magctl appstack status</pre> In the command output, the Available column shows a value other than 0 if the service is running.
2	Verify that all devices are in a Managed state. This indicates that DNA Center has recognized the devices and that connectivity is up. If devices are in In Progress state, wait for the devices to reach Managed state. DNA Center home page > Provision
3	In the IWAN App, verify that the site status for each site is the same as before the migration.
4	If you plan to add greenfield devices, add an NTP server in DNA Center. DNA Center home page > Design > Network Settings > Network > Add Servers button > NTP



CHAPTER 3

Troubleshooting Tips

Support Contact Information

IWAN App: iwanaapp-support-leads@cisco.com
PnP: pnP-support@cisco.com
DNA Center escalation team: dnac-ecrt@cisco.com

Checking Package and Service Status

If one or more services do not come up after the migration process, check the status. The Visibility Service (visibility-service) is specific to IWAN, so checking its status is especially relevant in troubleshooting.

```
$maglev catalog package status iwan  
$magctl appstack status | grep visibility-service
```

Checking Log Files for the Visibility Service

Open the Visibility Service.

```
$magctl service attach visibility-service
```

Locate the logs for the Visibility Service using one of the following:

- Open the directory using root access.

```
sudo tail -f /var/log/containers/visibility*
```

or

- Use magctl, with the **-r** option to print log, and the **-f** option to tail the log.

```
magctl service logs -r -f visib
```

Migration Logs

The migration logs appear within /tmp, with a dynamically generated tmp.xyz directory name. When providing troubleshooting information in case of a migration failure, include the two log files described below.

```
$ls /tmp/tmp.fYlpeg76ab  
migration-job_console.txt
```

```
migration_support/
start_migration_console.txt
```

Table 4: Migration Log Files

File	Description
start_migration_console.txt	Screen output of the start-migration.sh script
migration-job_console.txt	Migration job logs. The jobs include transferring data and bringing up services. Check this log if the migration process fails. Failure messages appear at the end of the file.

Migration Backup File

The migration backup file, containing information about the 1.6.x IWAN configuration, is located in the /data/tmp/migration directory. Provide the file to Cisco in case of a migration failure.

Example:

```
backup_2018-05_31_09_15-30.backup
```

Re-running Migration

If the migration script is interrupted by failures, such as terminal connectivity problems or errors that occur when running the script, it is possible to re-run the start_migration.sh migration script. This clears the database and runs the script again.



Note

Do not re-run the migration script if migration was successful and then configuration changes were made in the IWAN App in DNA Center. Doing so may cause an error state.



CHAPTER 4

Related Documentation

Document	Information
Cisco IWAN Application 2.2 on DNA Center, Release Notes	IWAN app release information, including system requirements, software compatibility, and open and resolved caveats.
Cisco IWAN Application 2.2 on DNA Center, Quick Start Guide	IWAN app quick start guide, with information about select features, installation, and so on.
Cisco DNA Center Documentation	DNA Center user documentation.

