

# Migrate to IOS XR 64 bit on ASR9K

# ASR9K IOS XR 64 Bit (ASR9K-64) Migration User Guide

This document will help you in getting started with your migration from ASR9K standard 32 bit image to the new 64 bit image. Prior to scheduling migration, you can use these two modules to verify and prepare for migration:

- Configuration Conversion – Visualization of configuration conversion/migration
- Migration-Audit – Hardware audit for migration

Actual migration takes three major steps:

- Pre-Migrate – System preparation
- Migrate – Installation of new 64-bit OS
- Post-Migrate – Post-installation actions

# Notes on Device Configurations

Important: The ASR 9000 operational configuration is not completely compatible with ASR9K-64, therefore it must be converted/migrated\* for use in the 64-bit version. A copy of the 32-bit configuration is backed up for reference.

You have the following two options:

## Option 1: Migration of On-box Configurations

- CSM will migrate the “on-box” ASR9K configurations (admin & IOS-XR) only

## Option 2: Loading Custom Configurations

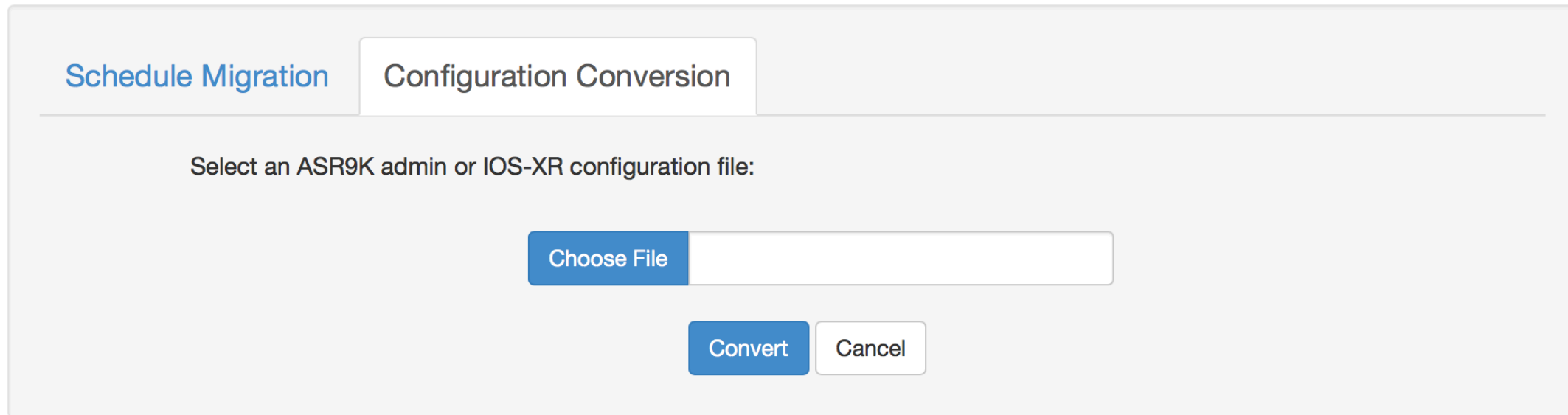
- CSM will migrate the “on-box” ASR9K admin configuration
- In addition, CSM will load any valid ASR9K-64 user-specified IOS-XR configuration

\* Configuration migration is accomplished using the NoX tool. For more information, please visit this site:

[http://xrgeeks.cisco.com/sox/Nox\\_Tool.html](http://xrgeeks.cisco.com/sox/Nox_Tool.html)

# Configuration Conversion

- In the Configuration Conversion module, CSM allows users to see how NoX processes each line of ASR9K configuration.
- **How to access:** [Tools > ASR9K to ASR9K-64 Migration](#), click on [Configuration Conversion](#) tab.
- Choose a ASR9K configuration file on the file system and click Convert.



The screenshot shows a web interface for the Configuration Conversion module. At the top, there are two tabs: 'Schedule Migration' and 'Configuration Conversion'. The 'Configuration Conversion' tab is active. Below the tabs, the text 'Select an ASR9K admin or IOS-XR configuration file:' is displayed. Underneath this text is a file selection interface consisting of a blue button labeled 'Choose File' followed by a white text input field. Below the input field are two buttons: a blue 'Convert' button and a white 'Cancel' button with a grey border.

# Configuration Conversion - Continue

- The conversion process will first make sure that the latest NoX conversion tool from CCO is downloaded.
- Depending on the size of the configuration file, it may take up to minutes to finish conversion and loading.
- The status of the conversion is displayed under the convert button. Some possible statuses:
  - Preparing the conversion
  - Converting the configurations
  - Conversion completed. Loading the files.

[Schedule Migration](#) Configuration Conversion


Select an ASR9K admin or IOS-XR configuration file:

Choose File

PE1-configs

Convert

Cancel



**Preparing the conversion**

# Configuration Conversion - Continue

In the end, you will see this pop-up.

- The textbox on the left contains your input configuration file, with each line color coded according to the conversion report from NoX.
- Each color code/category is explained in the tooltip when you hover over it.
- You can choose to filter certain categories to hide and show lines that belong to certain category. Note that if the configuration file is large, it will take several seconds to update the display.
- The textbox on the right displays the converted ASR9K-64 configurations.
- The part on the bottom allows user to upload converted configuration file(s) to a selected server repository. Click the blue instruction icon to see why there could be one or two converted files.
- The input file and converted files can be found at `csm_data/temp/<username>/config_conversion/`

ASR9K Configuration

```
hostname PE1
clock timezone PST -8
clock summer-time PDT recurring
exception choice 1 compress on filepath harddisk:/dumper/
exception sparse on
exception memory-threshold 3
logging events level informational
logging console disable
logging monitor disable
logging buffered 12500000
logging buffered debugging
logging events link-status software-interfaces
telnet vrf default ipv4 server max-servers 100
domain ipv4 host bhoot 223.255.254.245
domain name cisco.com
taskgroup prime
task read bgp
task read qos
task read ipv4
task read ipv6
task read system
```

☒ Supported/Default ☒ Unsupported ☒ Unprocessed ☒ Unrecognized  
☒ Unimplemented ☒ Syntax Errors

Converted ASR9K-64 Configuration

```
username admin
group root-lr
group cisco-support
secret 5 $1$HoUT$1t8LZrC9LQXJ0VxHwE2Wv1
!
username prime
group prime
!
hostname PE1
logging events level informational
logging console disable
logging monitor disable
logging buffered 12500000
logging buffered debugging
logging events link-status software-interfaces
telnet vrf default ipv4 server max-servers 100
domain ipv4 host bhoot 223.255.254.245
domain name cisco.com
taskgroup prime
task read bgp
task read qos
task read ipv4
```

Select Server Repository to Upload Converted Configuration File(s): 

Server Repository

Server Directory



Upload

# Migration Pre-requisites

- In order to migrate to ASR9K-64 images, the release version on device MUST be at release 6.1.3 or greater.
- Supported hardware for RP, RSP, FC, FAN, PEM and MPA. The full list is on next page.
  - The unsupported line cards may not boot up after migration.
  - User also has a chance to skip the hardware audit for FAN and PEM with the acknowledgement that the unsupported FAN and PEM will fail to boot.
- All supported hardware are in their appropriate final states:
  - RSP, RP and LC: IOS XR RUN
  - FC: OK
  - FAN and PEM: READY
  - MPA: OK
- User must provide console connection for all devices on CSM.
- Must be able to ping the selected server repository (FTP, SFTP or TFTP) from the device.
- FPD package must be already installed on device.

Supported hardware: (\*Note: Card types in red are only supported in 6.2.1 onwards, everything else is supported in 6.1.1 onwards.)

Supported RP/RSP	Supported Line Cards	Supported Fans PIDs	Supported PEMS PIDs	Supported FC PIDs	Supported MPA PIDs
A99-RP2-SE	A99-8X100GE-CM	ASR-9904-FAN	PWR-2KW-DC-V2	A99-SFC2	*A9K-MPA-4X10GE
A99-RP2-TR	A99-8X100GE-SE	ASR-9006-FAN-V2	PWR-3KW-AC-V2	*A99-SFC-S	*A9K-MPA-20X10GE
A9K-RSP880-RL-SE	A99-8X100GE-TR	ASR-9010-FAN-V2	PWR-4.4KW-DC-V3		
A9K-RSP880-RL-TR	A99-12x100GE	ASR-9910-FAN	PWR-6KW-AC-V3		
A9K-RSP880-SE	A9K-4X100GE-SE	ASR-9912-FAN			
A9K-RSP880-TR	A9K-4X100GE-TR	ASR-9922-FAN-V2			
ASR-9922-RP-SE	A9K-8X100GE-CM				
ASR-9922-RP-TR	A9K-8X100GE-L-SE				
*A99-RSP-SE	A9K-8X100GE-L-TR				
*A99-RSP-TR	A9K-8X100GE-LB-SE				
	A9K-8X100GE-LB-TR				
	A9K-8X100GE-SE				
	A9K-8X100GE-TR				
	*A9K-400G-DWDM-SE				
	*A9K-400G-DWDM-TR				
	*A9K-MOD200-SE				
	*A9K-MOD200-TR				
	*A9K-MOD400-SE				
	*A9K-MOD400-TR				



# CSM Migration to ASR9K-64

- CSM allows for the migration from IOS-XR (classic) to IOS-XR 64 bit for ASR9K devices.
- **How to access:** [Tools > ASR9K to ASR9K-64 Migration](#).
- **Verification action:** [Migration-Audit](#)  
[Migration-Audit](#) checks if the hardware on device(s) is supported in ASR9K-64 and is in operational state.
- **Migration actions:** [Pre-Migrate](#), [Migrate](#) and [Post-Migrate](#).  
[Pre-Migrate](#) prepares the device(s) for migration. It also executes Migration-Audit as a part of the pre-requisite check.  
[Migrate](#) updates settings and reloads the device(s) to boot ASR9K-64 image.  
[Post-Migrate](#) upgrades FPD's upon successful booting.

The screenshot displays the 'Configuration Conversion' tab in the CSM interface. On the left, there are three input fields: 'Install Action', 'Scheduled Time', and 'Custom Command Profile'. On the right, a dropdown menu titled 'Select Desirable Action(s)' is open, showing a list of actions. The 'Verification' section is expanded, and 'Migration-Audit' is highlighted in blue. Below the 'Verification' section, the 'Migration' section is visible, listing 'Pre-Migrate', 'Migrate', 'Post-Migrate', and 'ALL'.

Install Action	Scheduled Time	Custom Command Profile	Select Desirable Action(s)
			<b>Verification</b>
			Migration-Audit
			<b>Migration</b>
			Pre-Migrate
			Migrate
			Post-Migrate
			ALL

# Scheduling Action

- Dependencies of the actions:
  - The verification action Migration-Audit can only be selected by itself. The three migration actions has no dependency on it.
  - In order to complete migration, all three migration actions must have successfully executed.
  - Migration actions can be scheduled all at once or one at a time, but they must occur in the order shown below.
  - For example, Migrate cannot be scheduled unless Pre-Migrate is scheduled to run, or is in progress, or has already completed successfully.
  - Failures in pre-requisite actions can suspend the execution of any remaining options.
  - Deleting the pre-requisite will also delete all actions that are dependent on it.
- Choose desirable scheduled time.

The screenshot shows a 'Schedule Migration' dialog box with two tabs: 'Schedule Migration' (active) and 'Configuration Conversion'. The dialog contains the following fields and controls:

- Install Action:** A dropdown menu with three options: '× Pre-Migrate', '× Migrate', and '× Post-Migrate'. The '× Pre-Migrate' option is currently selected.
- Scheduled Time:** A text field displaying '07/27/2016 03:37 PM' with a calendar icon to its right.
- Custom Command Profile:** A text field displaying 'Optional'.
- Buttons:** 'Continue' and 'Cancel' buttons at the bottom right.

# Scheduling Action - Continue

- (Optional) Use the Custom Command Profile if you wish to capture any CLI command output. These custom commands will be executed **before** each selected migration action executes.
- Note: By default, the following CLI commands already run in their appropriate stages and do not need to be duplicated in the Custom Command Profile: admin show running-config, show running-config, show platform.
- Click Continue to trigger the Migration Wizard.

Schedule Migration

Configuration Conversion

Install Action

× Migration-Audit

Scheduled Time

07/27/2016 03:37 PM

Custom Command Profile

× show filesystem

Continue

Cancel

# Scheduling Migration-Audit

Migration Audit

SELECT HOST

SELECT SOFTWARE VERSION

Region

San Jose

Role

Software Version

Available Hosts - showing 23

Filter

.  
9904\_EXR  
a9k-Issus  
Ares  
CRS Test Install  
dummy  
Eddie eXR  
flexr-host  
Hades  
Hera

Selected Hosts - showing 0

Filter

Next


- Depending on the action(s) selected, the Migration Wizard will prompt the user with different options.
- If the Migration-Audit is selected, you will start on the screen shown to the right in the “SELECT HOST” section.
- **Select Host:**
  - In this first section, you will select the device(s) to schedule the action on.

# Scheduling Migration-Audit - Continue

## Migration Audit

SELECT HOST

SELECT SOFTWARE VERSION

Select the version of ASR9K-64 you plan to migrate to: 

ASR9K-64 Software Version



6.1.\*  
6.2.\* and onwards

Previous

Schedule


- **Select Software Version:**

- This is where you select the version of ASR9K-64 you plan to migrate to.
- Then, click Schedule to schedule the Migration-Audit.

# Install Dashboard

- After scheduling any of the verification or migration actions, CSM will redirect you to the install dashboard, where you can:
  - Monitor the job in progress by checking the status and clicking into the Session Logs.
  - Edit scheduled or failed jobs and resubmit them.
  - Check completed jobs.
  - Delete scheduled or failed jobs.

 [Install Dashboard](#)

Action 

Scheduled **5**

In Progress **0**

Failed **0**

Completed (showing **10** of **168**)

10

records per page

Search:

Hostname	Install Action	Dependency	Scheduled Time	Packages	Created By	Action
Hera	Pre-Migrate		07/20/2016 09:00 AM	asr9k-mini-x64.tar-6.1.1 asr9k-px-5.3.3.CSCuy10934.pie	root	Delete
Hera	Migrate	Another Installation	07/20/2016 09:00 AM		root	Delete
Hera	Post-Migrate	Another Installation	07/20/2016 09:00 AM		root	Delete
Saturn	Migration-Audit		08/12/2016 09:00 AM		root	Delete
Venus	Migration-Audit		08/12/2016 09:00 AM		root	Delete


Showing 1 to 5 of 5 entries

← Previous 1 Next →


# Session Logs: Migration-Audit

Scheduled 2   In Progress 0   Failed 1   Completed (showing 10 of 168 )


10 records per page   Search:

Hostname	Install Action	Scheduled Time	Start Time	Packages	Failed Time	Log	Created By	Action
Saturn	Migration-Audit	07/28/2016 03:33 PM	07/28/2016 03:33 PM		07/28/2016 03:34 PM		root	Delete


- Session Logs are available for in-progress, failed and completed jobs.
- If a job failed, check plugins.log, session.log and condoor.log for error.

Session Logs: Saturn 


Session Log Files



172\_27\_143\_156-2016\_07\_28\_22\_33\_43-547/condoor.log



172\_27\_143\_156-2016\_07\_28\_22\_33\_43-547/plugins.log



172\_27\_143\_156-2016\_07\_28\_22\_33\_43-547/session.log

# Session Logs: Migration-Audit - Continue

- Below is an example of plugins.log for a failed Migration-Audit. In this case, PEM on the device is not in operational state for migration.

Session Logs: Saturn 

## Contents

```
2016-07-28 15:33:43,275 INFO: Phase: Device Discovery
2016-07-28 15:33:56,931 INFO: Hostname: ios
2016-07-28 15:33:56,931 INFO: Hardware family: ASR9K
2016-07-28 15:33:56,931 INFO: Hardware platform: ASR9K
2016-07-28 15:33:56,932 INFO: OS type: XR
2016-07-28 15:33:56,932 INFO: Version: 6.1.1.21I
2016-07-28 15:33:56,932 INFO: Connection type: console
2016-07-28 15:34:08,702 INFO: Phase: Migration-Audit
2016-07-28 15:34:08,702 INFO: Dispatching: 'Migration Audit Plugin'
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Key 'hardware_audit_software_version' loaded from CSM storage
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Key 'hardware_audit_software_version' loaded from CSM storage
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Key 'hardware_audit_version' loaded from CSM storage
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Key 'hardware_audit_version' loaded from CSM storage
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Hardware audit for software release version 6.1.1
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Key 'hardware_audit_override_hw_req' loaded from CSM storage
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Key 'hardware_audit_override_hw_req' loaded from CSM storage
2016-07-28 15:34:08,713 INFO: [Migration Audit Plugin] Running hardware audit on all nodes.
2016-07-28 15:34:09,130 INFO: [Migration Audit Plugin] Check if cards on device are supported for migration.
2016-07-28 15:34:09,137 ERROR: [Migration Audit Plugin] 0/PS0/M0/SP is supported in ASR9K-64, but it's in FAILED state. Valid operational state for migration: READY
```



# Scheduling a Migration

If any of the migration action(s) is selected, you will start in the “SELECT HOST” section, where you select the device(s) to schedule the migration actions on.

Migrate to ASR9K-64

SELECT HOST

PRE-MIGRATE

Region

San Jose

Role

Software Version

Available Hosts - showing 23

Filter

Hades  
Hera  
Keres  
Mahendra  
MTRON21  
NCS6K  
NCS6K Test Install  
R2  
Samurai-1  
Saturn

Selected Hosts - showing 0

Filter

≡ >

>

<

< ≡

Next

# Scheduling a Migration - Continue

Migrate to ASR9K-64

SELECT HOST

PRE-MIGRATE

Select Software Packages:

Server Repository

tftp-asr9k-sw

Server Directory

Auto Select

Available Packages - showing 32

Filter

PE1-configs.cal  
PE1-configs.iox  
Saturn\_admin.cal  
Saturn\_admin.iox  
Saturn\_xr.iox  
Venus\_admin.cal  
Venus\_admin.iox  
Venus\_cXR\_xr\_plane\_converted\_eXR.cfg  
Venus\_xr.iox

Selected Packages - showing 1

Filter

asr9k-mini-x64-migrate\_to\_eXR.tar-6.1.1

Select a custom ASR9K-64 config file to be loaded after migration:

Optional

By default, migration requires that all RSP, RP, FC, FAN, PEM and MPA on device are supported in ASR9K-64 and are in operational states. Do you wish to skip the hardware audit for FAN and PEM?

☐ Yes ☒ No

Previous

Schedule

- If Pre-Migrate is selected, you will see this section.
- **Pre-Migrate:**
  - Specify a FTP, SFTP or TFTP server repository and the directory. At this stage, only the following two files can be selected:
    1. The ASR9K-64 tar file containing the ISO image and boot files. The filename must match wildcard expression **asr9k\*.tar\*** and must include the 3 digit ASR9K-64 version. Example: asr9k-mini-x64-migrate\_to\_eXR.tar-6.1.1
    2. (Optional) If you are migrating to a k9 ASR9K-64 tar file and you wish that the system generates crypto keys for you when the k9sec package gets loaded after migration, you can provide a txt file, preferably named as “crypto\_auto\_key\_gen.txt”. In this file, you should put the CLI’s that generate the crypto keys you want to have. For example, you can write “crypto key generate rsa 2048” into the file. The CLI’s to generate crypto keys follow this structure:
      - a) crypto key generate rsa/dsa general-keys <label> <keysize>
      - b) crypto key generate rsa/dsa usage-keys <label> <keysize>
      - c) crypto key generate rsa/dsa <nooption> <nooption> <keysize>

You can find your current key settings on your hosts with CLI’s “show crypto key my rsa” and “show crypto key my dsa”. Note that the default key size in ASR9K is 1024, whereas the default key size in ASR9K-64 is 2048.

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# Scheduling a Migration - Continue

Migrate to ASR9K-64

SELECT HOST

PRE-MIGRATE

Select Software Packages: ⓘ

Server Repository

tftp-asr9k-sw

Server Directory

↑

×

Auto Select

Available Packages - showing 32

Filter

PE1-configs.cal  
PE1-configs.iox  
Saturn\_admin.cal  
Saturn\_admin.iox  
Saturn\_xr.iox  
Venus\_admin.cal  
Venus\_admin.iox  
Venus\_cXR\_xr\_plane\_converted\_eXR.cfg  
Venus\_xr.iox

≡ >

>

<

< ≡

Selected Packages - showing 1

Filter

asr9k-mini-x64-migrate\_to\_eXR.tar-6.1.1

Select a custom ASR9K-64 config file to be loaded after migration: ⓘ

Optional

By default, migration requires that all RSP, RP, FC, FAN, PEM and MPA on device are supported in ASR9K-64 and are in operational states. Do you wish to skip the hardware audit for FAN and PEM?

ⓘ

☐ Yes

☒ No

Previous

Schedule

## ▪ Pre-Migrate - Continue:

- (Optional) You can select a customized IOS-XR configuration file for CSM to load during Post-Migrate. If so, the existing IOS-XR configurations on device will be ignored.
- Alternatively, if no file is provided, CSM will migrate the existing configurations, and the system will load the migrated configurations automatically during Migrate.
- You also have the option of overriding the hardware audit for FAN and PEM.

# Scheduling a Migration - Continue



- The migration action(s) can only be scheduled if CSM confirms that:
  - The pre-requisite for the selected action(s) is scheduled or completed successfully.
  - The latest configuration migration tool NoX from CCO is in csm\_data/migration/, if not, CSM will download it before scheduling the actions.
- Click Schedule to schedule the action(s). CSM will redirect you to the install dashboard.

# Walk-Through: Pre-Migrate


The CSM Pre-Migrate step is a collection of automated tasks designed to ensure your system is prepared for migration. Actions include (but are not limited to):

- Hardware and software checks
- Removing content from `harddiskb:/` and `harddisk:/dumper` and `harddisk:/showtech`
- Backing up the admin and IOS-XR configurations in `harddiskb:/`
- Copy, conversion and storage of existing operational configuration (to be applied later in the Migrate step)
- Copying the ASR9K-64 tar file to `harddisk:/`
- Checking FPD versions and performing FPD upgrades if necessary.









# Session Logs: Pre-Migrate

Venus	Pre-Migrate	04/20/2016 02:04 PM	04/20/2016 02:16 PM		04/20/2016 02:24 PM		root
-------	-------------	---------------------	---------------------	---	---------------------	---	------

- Same as the other actions, check plugins.log, session.log and condoor.log for errors if any.
- Other Pre-Migrate logs:
  - .txt – Are CLI command output capture files.
  - Configuration Log (shown in green) – Are available when the configuration migration tool (NoX) encounters configuration conversion issues. This does not necessarily mean the Pre-Migrate step will fail but you are advised to inspect these files if they exist.

**Session Logs: Venus** 

**Session Log Files**

	172_27_143_156-2016_04_20_21_16_54-191/admin-show-running-config.txt
	172_27_143_156-2016_04_20_21_16_54-191/condoor.log
	172_27_143_156-2016_04_20_21_16_54-191/plugins.log
	172_27_143_156-2016_04_20_21_16_54-191/session.log
	172_27_143_156-2016_04_20_21_16_54-191/show-platform.txt
	172_27_143_156-2016_04_20_21_16_54-191/show-running-config.txt
	172_27_143_156-2016_04_20_21_16_54-191/supported_config_in_xr_configuration
	172_27_143_156-2016_04_20_21_16_54-191/unsupported_config_in_xr_configuration

# Session Logs: Pre-Migrate - Continue

Configurations Known and Supported to the NoX Conversion Tool

Line No.	Configuration
5	interface MgmtEth0/RSP0/CPU0/0
6	ipv4 address 1.66.27.25 255.255.0.0
8	interface MgmtEth0/RSP0/CPU0/1
9	shutdown
11	interface MgmtEth0/RSP1/CPU0/0
12	shutdown
14	interface MgmtEth0/RSP1/CPU0/1
15	shutdown
23	interface HundredGigE0/0/0/0
24	shutdown
26	interface HundredGigE0/0/0/1
27	shutdown
29	interface HundredGigE0/0/0/2
30	shutdown
32	interface HundredGigE0/0/0/3
33	shutdown
35	interface HundredGigE0/0/0/4
36	shutdown
38	interface HundredGigE0/0/0/5
39	shutdown
41	interface HundredGigE0/0/0/6
42	shutdown
44	interface HundredGigE0/0/0/7
45	shutdown
47	router static
48	address-family ipv4 unicast
49	223.255.254.0/24 MgmtEth0/RSP0/CPU0/0 1.66.0.1

Please find original configuration in csm\_data/migration/Venus/xr.cfg  
The final converted configuration is in csm\_data/migration/Venus/xr.iox

More concerning the configuration logs

- If you only scheduled a Pre-Migrate, you can choose to download “show-running-config.txt” and “admin-show-running-config.txt” and use the Configuration Conversion module to see details of the conversion.
- You can also check supported\_config\_in\_xr\_configuration and unsupported\_config\_in\_xr\_configuration for a brief overview.

# Session Logs: Pre-Migrate - Continue

## Configurations Known and Supported to the NoX Conversion Tool

Line No.	Configuration
5	interface MgmtEth0/RSP0/CPU0/0
6	ipv4 address 1.66.27.25 255.255.0.0
8	interface MgmtEth0/RSP0/CPU0/1
9	shutdown
11	interface MgmtEth0/RSP1/CPU0/0
12	shutdown
14	interface MgmtEth0/RSP1/CPU0/1
15	shutdown
23	interface HundredGigE0/0/0/0
24	shutdown
26	interface HundredGigE0/0/0/1
27	shutdown
29	interface HundredGigE0/0/0/2
30	shutdown
32	interface HundredGigE0/0/0/3
33	shutdown
35	interface HundredGigE0/0/0/4
36	shutdown
38	interface HundredGigE0/0/0/5
39	shutdown
41	interface HundredGigE0/0/0/6
42	shutdown
44	interface HundredGigE0/0/0/7
45	shutdown
47	router static
48	address-family ipv4 unicast
49	223.255.254.0/24 MgmtEth0/RSP0/CPU0/0 1.66.0.1

Please find original configuration in csm\_data/migration/Venus/xr.cfg  
The final converted configuration is in csm\_data/migration/Venus/xr.iox

More concerning the configuration conversion logs  
(supported\_config\_in\_xr\_configuration and  
unsupported\_config\_in\_xr\_configuration)

- At the end of both files, CSM points you to the original configuration file and the migrated configuration file. They are stored in csm\_data/migration/<hostname\_of\_device>/. The hostname may be slightly different from the one stored in CSM to ensure it's valid filename.
- If you only scheduled a Pre-Migrate, you will have the option of checking how the conversion went. Otherwise, if there is no serious failure, you can check if any configurations failed to be converted/loaded after the Post-Migrate.
- The following files are available after Pre-Migrate completes:
  - admin.cfg and xr.cfg are the original configurations on device.
  - admin.cal is a part of the migrated admin.cfg that will be loaded in the Calvados/admin plane in ASR9K-64 during Post-Migrate. During Pre-Migrate, we copy this file to device as harddiskb:/cXR\_admin\_plane\_converted\_eXR.cfg.
  - If a custom ASR9K-64 IOS-XR configuration was selected, during Pre-Migrate, CSM will copy this custom configuration file to device as harddiskb:/cXR\_xr\_plane\_converted\_eXR.cfg, which is loaded during Migrate step.
  - If no custom ASR9K-64 IOS-XR configuration was selected, xr.iox and admin.iox are available as migrated xr.cfg and a part of the migrated admin.cfg. During Pre-Migrate, CSM merges these two files to create cXR\_xr\_plane\_converted\_eXR.cfg and then copy it to harddiskb:/ on device, which is loaded during Migrate step.
  - admin.csv and xr.csv(if available) contain the line by line configuration migration detail.



# Walk-Through: Migrate

CSM manages the system migration which includes (but is not limited to) these major steps:






- Un-tars the ASR9K-64 tar file to put image and boot files in place.
- Sets the boot mode
- Reloads the device in order to boot the ASR9K-64 image
- Waits for all RSP/RP and supported line cards to reach their final operational state

Note that during the booting process of ASR9K-64, the system will load the migrated admin configurations; it will also load with best effort either the (a) migrated (converted) IOS-XR configuration or (b) a user-provided (custom) IOS-XR configuration (depending on the operators selection during scheduling).

# Session Logs: Migrate

- A completed Migrate action will have the logs shown below (or more if added by the operator during the scheduling phase).
- By default, “show platform” is executed after the device boots up ASR9K-64 image. Click the red file comparison icon to compare the node status after Migrate completes with the node status during Pre-Migrate.

### Session Log Files

	172_27_143_156-2016_04_20_21_58_52-193/condoor.log	
	172_27_143_156-2016_04_20_21_58_52-193/plugins.log	
	172_27_143_156-2016_04_20_21_58_52-193/session.log	
	172_27_143_156-2016_04_20_21_58_52-193/show-platform.txt	

Click to view diff









# Walk-Through: Post-Migrate

Once the Migrate action has completed, CSM performs the following during the Post-Migrate phase:

- Ensures all RSP/RP and supported line cards are in their final operational state
- Checks FPD versions and, if needed, upgrade FPD's and reload device

# Session Logs: Post-Migrate

- A completed Post-Migrate will have at least the txt files below besides the logs. Post-Migrate executes “admin show running-config” and “show running-config” after loading corresponding configurations. It executes “show platform” in the end. Click the red icon to compare outputs with those from Pre-Migrate.

Session Log Files		
	172_27_143_156-2016_04_20_22_20_54-194/admin-show-running-config.txt	
	172_27_143_156-2016_04_20_22_20_54-194/condoor.log	
	172_27_143_156-2016_04_20_22_20_54-194/plugins.log	
	172_27_143_156-2016_04_20_22_20_54-194/session.log	
	172_27_143_156-2016_04_20_22_20_54-194/show-platform.txt	
	172_27_143_156-2016_04_20_22_20_54-194/show-running-config.txt	