

Migrate Cisco CSR1000V Instances to Cisco Catalyst 8000V

If you're a user who has deployed Cisco CSR1000V instances in AWS and you want to update to Cisco Catalyst 8000V, it is recommended that you migrate your instances to Cisco Catalyst 8000V. Cisco Catalyst 8000V supports an AWS migration tool, using which you can migrate the instances from Cisco CSR1000V to Cisco Catalyst 8000V.

This one-click tool eases your migration effort saving you the manual effort from performing a fresh Cisco Catalyst 8000V installation and copying the configuration files from Cisco CSR1000V. This tool makes the migration process seamless and is available as a deployable CloudFormation template in AWS. You can also access advanced features that are available with Cisco Catalyst 8000V such as secure object storage, post migration.

The migration tool is available for autonomous (non-SDWAN) PAYG and BYOL Cisco CSR1000V deployments.

To migrate your Cisco CSR1000V instances using this tool, log in to the AWS Marketplace and select the CloudFormation template. As the next step, provide additional inputs, such as the list of CSR1000V instances that need to be migrated, the Cisco IOS XE version that you want to migrate to, and so on. Submit your inputs and initiate the migration process.

The tool receives all the inputs and creates the following two AWS Lambda functions that are nothing but AWS resources that you can invoke to run your code in Lambda:

- **Trigger Lambda**: This Lambda function triggers the migration workflow. This Lambda validates whether all the prerequisites for the migration are valid. Further, this component also validates each of the CSR1000V instances that you have specified to be migrated before invoking a worker Lambda.
- **Worker Lambda**: This Lambda function processes the request from the Trigger Lambda. It launches identical Cisco Catalyst 8000V instances for every CSR1000V instance that you want to migrate, with the same cloud configuration. For every CSR1000V instance to be migrated, the tool generates one worker Lambda.

After the workflow is processed, the migration is successfully completed. The Cisco Catalyst 8000V instances will then be available in your AWS account.

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Prerequisites for the Migration

- You must be subscribed to Cisco Catalyst 8000V with appropriate license, before initiating a migration. The migration tool uses the AMIs from the C8000V product listings in the marketplace, and you must be subscribed in order for the tool to get the AMIs from your AWS account.
- You must have the username and password for your Cisco CSR1000V instance handy. These credentials are used as inputs in the tool to gain access to the Cisco CSR1000V instances, since the automation does not have access to the user's PEM files. Before you begin the migration, perform the **username [user name] privilege 15 password [password]** configuration.
- Your Cisco CSR 1000V instance must have a public IP address. Public IP address is required to have connectivity over public internet so that the AWS migration tool can login to the device.
- Your Cisco CSR1000V instance must be in the autonomous mode and in a running state.

Limitations and Notes

- You can migrate only the following cloud properties: subnets, AZ, Security Groups, secondry IPs, elastic IPs, and tags (multiple tags).
- You can perform this migration only for Cisco CSR1000V instances having the t3, c5n, and c5 instance types. The instance type and the size you selected must be supported by both Cisco CSR 1000V and Cisco Catalyst 8000V.
- Migration from one license type to another is not supported, for example, you cannot migrate an instance with PayG license type to BYOL license type.
- You can perform this migration only for Cisco CSR1000V instances that run in autonomous mode. The AWS migration tool does not work with Cisco CSR1000V instances deployed in SD-WAN mode.
- At release, none of the other logs, configuration files, or packages will be migrated. The migration will fail if you provide a Cisco CSR1000V instance in controller mode.
- The following day-0 configuration commands are not supported for this migration:
  - `'Building.*?bytes\n',`

    `'hostname.*?\n',`
  - `'\ncrypto pki.*?quit',`
  - `'no aaa new-model\n',`
  - `'login local\n',`
  - `'spanning-tree extend system-id\n',`
  - `'no mop enabled\n’,`
  - `'no mop sysid'`

Any IOS configurations from Cisco CSR1000V that are not supported on Cisco Catalyst 8000V will not not be applied to the Cisco Catalyst 8000V instances. Although this scenario does not cause migration failure, you might experience discrepancies in the Cisco Catalyst 8000V configuration.

- To minimize the risk of failure, it is recommended you migrate only up to 10 Cisco CSR1000V instances at a time with a single CloudFormation deployment.
- Only the current IOS configuration that is running will be migrated.

Migrating a CSR1000V Instance to Cisco Catalyst 8000V

Procedure

Step 1 Log in to the AWS Marketplace.

Step 2 Choose the appropriate Cisco CSR1000V to Cisco Catalyst 8000V Migration Tool template by clicking one of the following:

- BYOL
- PAYG Network-Advantage
- PAYG Network-Essentials

Step 3 The **Create Stack** window appears where a template is provided already. You do not have to fill in any details on this page. Click **Next** to go to the next screen.

Step 4 On the **Specify Stack Details** window, in the **Stack Name** field, specify a name for your stack. The **Name** field can contain alphabets A to Z, a to z, numbers 0 to 9, and dashes. The Stack Name must start with an alphabet and the maximum allowed character length for this field is 128.

Step 5 In the **Parameters** area, choose the **Version** that you want to migrate to.

Step 6 From the **CSR1000V Instance IDs** drop-down list, choose the instances that you want to migrate. The field lists all your current EC2 instances. Choose up to 10 Cisco CSR1000V instances to migrate at one time. After a successful migration, you will have equal number of Cisco Catalyst 8000V instances.

Step 7 (Optional) In the **C8000V BYOL Token** field, provide the token so that it is registered on the Cisco Catalyst 8000V instances. This token is required for the Cisco Catalyst 8000V to boot up with the proper licensing level. This token is required for Cisco Catalyst 8000V to establish trust with the CSSM server and get the target license registered on Cisco Catalyst 8000V. This field is required only when you migrate a BYOL Cisco CSR1000V instance. If you do not provide this token, the migration will go through. However, the tool will not register a license in Cisco Catalyst 8000V.

Step 8 In the **SSH Key to Associate With C8000V** field, enter the **SSH key**. Use this key to log in to your Cisco Catalyst 8000V instance after it is created.

Step 9 (Optional) Specify the SNS ARN in the **SNS Topic ARN** field if you want to receive failure notifications through email and SMS.

Note
You must enable the Amazon Simple Notification Service and have the ARN handy before you specify the SRS ARN.

Step 10 In the **Username to SSH Into Device** field, enter the username that you created in your CSR1000V instance for the migration.

Step 11 In the **Password to SSH Into Device field**, enter the password that you created in your CSR1000V instance for the migration.

This SSH username and password enable SSH access to the CSR1000V instances. The same SSH credentials are used to log in to Cisco Catalyst 8000V once the migration is complete.

Step 12 From the **Rollback Option** drop-down list, choose **Yes** if you want the stack to rollback the resources and re-deploy your Cisco CSR1000V instances if the migration fails.

Step 13 From the **Terminate C8KV Option** drop-down list, choose **Yes** if you want to terminate the Cisco Catalyst 8000V instances if the migration fails.

Step 14 From the **Terminate CSR Option** drop-down list, choose **Yes** if you want to automatically terminate the CSR1000V instances after successful migration. Otherwise, choose **No**.

Step 15 Click **Next**.

Step 16 (Optional) In the **Stack Failure Options** area, in the **Select Rollback All Stack Resources** field, click the **Rollback to Last Known Stable State** radio button.

Step 17 Click **Next**.

Step 18 On the Review and Create window, review all your settings. At the bottom of this page, acknowledge the resources that will be created in this migration by checking the check boxes.

Step 19 Click **Submit** to launch the migration.

Verifying Successful Migration

This task specifies the steps to verify whether the migration of instances from Cisco CSR1000V to Cisco Catalyst 8000V is successful.

Before you begin

Perform these verification steps after you initiate the migration.

Procedure

Step 1 After you submit the stack, the **CloudFormation Stack** window appears. View the creation and completion of the stack events on this page. The events of the migration tool trigger the lambda functions that validate the Cisco CSR1000V instances and create identical Cisco Catalyst 8000V instances. The CREATE_COMPLETE of the stack indicates a successful creation of stack resources, or the lambda functions.

Step 2 To view each of the resources and logs for the migration, go to **CloudWatch** > **Log Groups**. Your stack name will be displayed on this window. Click your stack name to view all the details and logs that are related to this stack.

Step 3 Verify whether the Cisco Catalyst 8000V instances are created. The Cisco Catalyst 8000V instances have the same name as your CSR1000V instances. However, the instance IDs will be different for the CSR1000V instances and the corresponding Cisco Catalyst 8000V instances.

Note

If a migration fails during the Cisco Catalyst 8000V deployment, the Cisco Catalyst 8000V console logs are saved to the migration S3 bucket. You can also choose not to terminate the Cisco Catalyst 8000V instances to debug a failed migration on the new Cisco Catalyst 8000V device.

Performing a Rollback

If the migration workflow is not successful, the rollback process occurs automatically. However, ensure that you have chosen **Yes** from the **Rollback Option** drop-down list before you click **Submit** and trigger the migration.

If you chose **No** from the **Rollback Option** drop-down list, the migration stops and the Cisco CSR1000V instances will not be restored to its running state.