Choose Your Installation Workflow

This chapter contains the following topics:

Overview

This chapter provides the installation workflows for each of the supported environments (VMware and AWS).

The workflows give a high level description of the tasks necessary to install the Crosswork Network Controller and to integrate it with the required components of the solution. Integration with optional components is addressed in the *Crosswork Network Controller 5.0 Administration Guide*.

These workflow steps should be used as your primary installation guidepost and roadmap for the end to end installation of Crosswork Network Controller. After completing each detailed step, it is recommended that you refer back to the workflow chart for the next step to perform.

Note   The time taken for the entire installation can vary based on size of your deployment profile and the performance characteristics of your hardware.

Install Cisco Crosswork Network Controller on VMware vCenter

Before you begin:

- Ensure you have identified the Crosswork components you need and arranged for the resources required to complete the installation. If not, please refer to the guidelines in Plan Your Deployment.

- Please see the *Crosswork Network Controller 5.0 Release Notes* to know the NSO and SR-PCE versions compatible with Crosswork Network Controller.

The following table describes the stages to install Crosswork Network Controller on VMware vCenter.

Table 1: Crosswork Installation Workflow

Step	Action
Prepare for installation	
1. Ensure that your VMware environment meets all the requirements.	Refer to the guidelines in Installation Prerequisites for VMware vCenter.
Install the Crosswork cluster	
2. Install the Cisco Crosswork cluster on VMware vCenter.	Install using your preferred method: • *Using cluster installer tool:* Install Cisco Crosswork on VMware vCenter using Cluster Installer Tool • *Manual Installation:* Manual Installation of Cisco Crosswork using vCenter vSphere UI
3. Verify if the installation was successful, and log into the Cisco Crosswork UI.	Refer to the guidelines in: • Monitor the Installation • Log into the Cisco Crosswork UI
Install the Crosswork Data Gateway	
4. Install one or more Crosswork Data Gateway instances on VMware vCenter.	Choose the profile for the Cisco Crosswork Data Gateway VM (Standard or Extended) and install as per your preferred method: • *Using vSphere:* Install Cisco Crosswork Data Gateway using vCenter vSphere Client • *Using OVF tool:* Install Cisco Crosswork Data Gateway via OVF Tool **Note** If you plan to install multiple Cisco Crosswork Data Gateway VMs due to load or scale requirements, or you wish to leverage Cisco Data Gateway High Availability, you are recommended to install all the Crosswork Data Gateway VMs first and then proceed with adding them to a Data Gateway pool.
5. Complete the Crosswork Data Gateway post-installation tasks.	Follow the steps in Crosswork Data Gateway Post-installation Tasks.
6. Verify that the Crosswork Data Gateway VM or multiple VMs have enrolled successfully with Cisco Crosswork.	Follow the steps in Cisco Crosswork Data Gateway Authentication and Enrollment. After verifying that the Crosswork Data Gateway VM has enrolled successfully with Cisco Crosswork, set up the Crosswork Data Gateway for collection by creating a Crosswork Data Gateway pool. See the *Create a Crosswork Data Gateway Pool* section in *Cisco Crosswork Network Controller 5.0 Administration Guide*.

Step	Action
Install the Cisco Crosswork Applications	
7. Install the Crosswork Applications	Follow the instructions in Install Crosswork Applications.
Integrate NSO with Crosswork	
8. Do you have Cisco NSO already installed?	If yes, proceed to step 9. If no, please follow the install instructions in the NSO Installation Guide.
9. Install the NSO Function Packs	Follow the instructions in Install Cisco NSO Function Packs using Ansible playbook.
10. Add NSO Provider and verify that it is reachable	Follow the instructions in Add Cisco NSO Providers.
Integrate SR-PCE with Crosswork	
11. Is your SR-PCE installed?	If yes, please proceed to step 12. If no, please choose the type of SR-PCE you wish to use (physical or virtual device) and follow the appropriate instructions to get the device (or virtual device) deployed. For more information, see the Cisco IOS XRv 9000 Router Installation Guide.
12. Configure SR-PCE	Follow the instructions in Configure SR-PCE.
13. Add SR-PCE Provider and verify that it is reachable.	Follow the instructions in Add Cisco SR-PCE Providers.
14. (Recommended) Create a backup of your Crosswork Network Controller.	Follow the instructions in *Manage Backups* chapter in *Cisco Crosswork Network Controller 5.0 Administration Guide.*.

Install Cisco Crosswork Network Controller on AWS EC2

Before you begin:

- Ensure you have identified the Crosswork components you need and arranged for the resources required to complete the installation. If not, please refer to the guidelines in Plan Your Deployment.

- Please see the *Crosswork Network Controller 5.0 Release Notes* to know the NSO and SR-PCE versions compatible with Crosswork Network Controller.

Crosswork Network Controller supports **Module deployment** which allows you to pick and choose to install the components of the Cisco Crosswork solution (hybrid and worker nodes needed for Crosswork cluster, one or more Crosswork Data Gateway(s), and NSO) you wish to deploy.

The following table describes the stages to install Crosswork Network Controller on AWS EC2 using CloudFormation (CF) templates.

Table 2: Crosswork Installation Workflow

Step	Action
Prepare for installation	
1. Ensure that your AWS EC2 environment meets all the requirements.	Refer to the guidelines in Installation Prerequisites for AWS EC2.
2. Extract the CF template package	Follow the instructions in Extract CF Template Image.
Install Crosswork components	
3. **Module deployment:**Install the Cisco Crosswork components using module deployment.	Install the Crosswork components individually: • Install the Crosswork cluster: Install Cisco Crosswork Cluster on Amazon EC2 • Install one or more Crosswork Data Gateway(s): Install Crosswork Data Gateway on Amazon EC2 Crosswork Data Gateway is deployed with the default parameter values if you missed configuring the values during deployment. For more information, see Auto-Configuration for Deploying Crosswork Data Gateway. • Install Cisco NSO: Install Cisco NSO on Amazon EC2
4. Verify the installation and access Crosswork UI	Refer to the guidelines in Accessing the Crosswork UI
Install the Crosswork Applications	
5. Install the Crosswork Applications	Follow the instructions in Install Crosswork Applications.
Integrate NSO with Crosswork	
6. Install the NSO Function Packs	Follow the instructions in Install Cisco NSO Function Packs using Ansible playbook.
7. Add NSO Provider and verify that is reachable.	Follow the instructions in Add Cisco NSO Providers.
Integrate SR-PCE with Crosswork	
8. Is your SR-PCE installed?	If yes, please proceed to step 9. If no, please select the SR-PCE type (for AWS) and follow the relevant install instructions in the Cisco IOS XRv 9000 Router Installation Guide.
9. Configure SR-PCE	Follow the instructions in Configure SR-PCE.
10. Add SR-PCE Provider and verify that SR-PCE is reachable.	Follow the instructions in Add Cisco SR-PCE Providers.

Step	Action
11. (Recommended) Create a backup of your Crosswork Network Controller.	Follow the instructions in *Manage Backups* chapter in the *Cisco Crosswork Network Controller 5.0 Administration Guide*.