



# Deploy IOS-XE and SDWAN

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## Overview

You can use the universalk9 image to deploy both Cisco IOS XE SD-WAN and Cisco IOS XE on Cisco IOS XE devices. This helps in seamless upgrades of both the SD-WAN and non SD-WAN features and deployments.

## Restrictions

## Autonomous or Controller Mode

Access the Cisco IOS XE and Cisco IOS XE SD-WAN functionality through Autonomous and Controller execution modes, respectively. The Autonomous mode is the default mode for the routers and includes the Cisco IOS XE functionality. To access Cisco IOS XE SD-WAN functionality switch to the Controller mode.

For more information, see [https://www.cisco.com/c/en/us/td/docs/routers/sdwan/configuration/sdwan-xe-gs-book/install-upgrade-17-2-later.html#Cisco\\_Concept.dita\\_42020dbf-1563-484f-8824-a0b3f468e787](https://www.cisco.com/c/en/us/td/docs/routers/sdwan/configuration/sdwan-xe-gs-book/install-upgrade-17-2-later.html#Cisco_Concept.dita_42020dbf-1563-484f-8824-a0b3f468e787)

## Switch Between Controller and Autonomous Modes

The default mode of the device is autonomous mode. Use the **controller-mode** command in Privileged EXEC mode to switch between controller and autonomous modes.

The **controller-mode enable** command switches the device to controller mode

The **controller-mode disable** command switches the device to autonomous mode

For information see [Cisco SD-WAN Getting Started Guide](#)

## PnP Discovery Process

You can use the existing Plug and Play Workflow to determine the mode of the device.

The PnP-based discovery process determines the mode in which the device operates, based on the controller discovery and initiates a mode change, if required. This discovery is based on the controller profile attached to the device UID in the smart account/virtual account. The mode change results in a reboot of the device. Once reboot is complete, the device performs appropriate discovery process.

Plug and Play (PnP) deployment include the following discovery process scenarios:

<b>Boot up Mode</b>	<b>Discovery Process</b>	<b>Mode Change</b>
Autonomous	Plug and Play Connect Discovery or on-premise plug and play server discovery	No Mode change
Controller	Plug and Play Connect Discovery or on-premise plug and play server discovery	Mode change to autonomous mode