Configuring the Cisco WAAS Container

The Cisco Wide Area Application Services (Cisco WAAS) container is a powerful WAN optimization acceleration solution.

- Prerequisites for Installing an ISR-WAAS Container
- Installing an ISR-WAAS Container on a Single Router
- Installing an ISR-WAAS Container on Multiple Routers
- Uninstalling a Single Cisco ISR-WAAS Container
- Deactivating a Cisco ISR-WAAS Container

Note In this chapter, ISR-WAAS device refers to the router and ISR-WAAS container refers to the container.

Prerequisites for Installing an ISR-WAAS Container

Before you install a Cisco WAAS container, you must configure the following in Cisco Prime Infrastructure:

- Cisco WAAS Central Manager Integration
- Interface Roles
- Importing an OVA image

Note Ensure that the name of the ISR-WAAS container does not exceed 22 characters.

Cisco WAAS Central Manager Integration

To manage thee ISR-WAAS with the Cisco WAAS Central Manager, you must register with the Cisco WAAS Central Manager. Registration of ISR-WAAS with Cisco WAAS Central Manager can be done either from the ISR-WAAS CLI, or from the Cisco WAAS Central Manager GUI, or while activating the ISR-WAAS through Prime Infrastructure. The WCM periodically polls the Cisco 4451-X Integrated Services Router (ISR) to retrieve the current status information and perform configuration synchronization.

Cisco WAAS Central Manager Integration

A typical Cisco WAAS deployment consists of both Prime Infrastructure and Cisco WAAS Central Manager applications. Cisco WAAS Central Manager IP is used during ISR-WAAS activation. After ISR-WAAS is activated, it registers with Cisco WAAS Central Manager. Prime Infrastructure needs the IP address and the server name of WCM for the following reasons:

* To inform Cisco WAAS Central Manager of the new Cisco ISR-WAAS

* For cross-launching Cisco WAAS Central Manager GUI for monitoring purposes

Note   Cisco WAAS Central Manager configuration is a one-time configuration. The Cisco WAAS Central Manager IP address is required for Prime Infrastructure to authenticate itself to Cisco WAAS Central Manager, and is configured in Prime Infrastructure using the Settings menu.

Note   If Cisco WAAS Central Manager IP is not configured in Prime Infrastructure, the newly activated ISR-WAAS will not be registered with Cisco WAAS Central Manager.

To configure the Cisco WAAS Central Manager IP address and server name in Prime Infrastructure:

Step 1   Choose **Administration > Settings > System Settings**.

Step 2   Click **Service Container Management**.

Step 3   Enter the WCM IP address and the WCM server name.

Step 4   Click **Save**.

WCM can be deployed under the following condition:

Prime Infrastructure works only with the active Cisco WAAS Central Manager that is configured in Prime Infrastructure.

After a Cisco WAAS Central Manager failover, one of the following must take place for Prime Infrastructure-Cisco WAAS Central Manager interworking to operate properly again:

* Prime Infrastructure is reconfigured with the IP address of the new Cisco WAAS Central Manager.

* The failed Cisco WAAS Central Manager must become active.

Configuring Single Sign-On

Configuring the Single Sign-On (SSO) feature provides a seamless method to launch Cisco WAAS Central Manager from Prime Infrastructure using the existing Single Sign-On functionality.

To configure SSO:

Step 1   Choose **Administration > User, Roles & AAA > SSO Servers**.

Step 2   Choose **Add SSO Server** from the Select a command drop-down list.

Step 3   Select the type of SSL/TLS certificate being used by the SSO server. Select from either Self-Signed Certificate or Certificate Authority (CA) certificate type.

Step 4   If using Self-Signed Certificate type enter the IP address of the Prime Infrastructure acting as the SSO server. If using CA certificate enter either the IP address or the FQDN of the server of the Prime Infrastructure server that will be the SSO server.

> **Note**   The browser cookies that provide the Single Sign-On functionality are stored in the browser according to either the IP address or the FQDN given here. So, you must be consistent in entering either the IP address or the FQDN across all of the clients to the SSO server.

Step 5   Click **GO**.

Step 6   Click **Save**.

Step 7   Select **AAA Mode Settings**.

Step 8   Select the **SSO** radio button.

Step 9   Click **Save**.

Step 10   Configure the WCM IP address. For information on how to configure the WCM IP address, see the Cisco WAAS Central Manager Integration.

Step 11   After you configure the IP address, log out of Prime Infrastructure and log in to WCM and create a username.

Creating a Username in Cisco WAAS Central Manager

Step 1   Log in to WCM.

Step 2   Choose **Home** > **Admin** > **AAA** > **Users**.

Step 3   Click **Create**.

Step 4   Enter a username that matches the Prime Infrastructure username.

Step 5   Choose **Role Management** and click **admin** to assign a RBAC role to create a user account.

Step 6   Choose **Domain Management** and assign a role and domain.

Step 7   Click **Submit**.

Step 8   Choose **Devices** > **Configure** > **AAA** > **NCS Single Sign-On**.

Step 9   Select the **Enable NCS Single Sign-On** check box and enter the CAS/SSO server URL.

Step 10   Click **Submit** to create the certificate.

Step 11   Click **Submit** after the certificate is created.

Cross-Launching Cisco WAAS Central Manager

You can cross-launch Cisco WAAS Central Manager in the following ways:

- Cross-Launching Cisco WAAS Central Manager on a Single Device
- Cross-Launching Cisco WAAS Central Manager on Multiple Devices

Cross-Launching Cisco WAAS Central Manager on a Single Device

To cross-launch the Cisco WAAS Central Manager from the Device Work Center:

Step 1   Choose **Inventory > Device Management > Network Devices**.

Step 2   Select the ISR-WAAS device.

The device details are displayed in the pane below.

Step 3   Click the **Service Container** tab.

Step 4   Select the corresponding ISR-WAAS container and click **Launch WCM**.

Cross-Launching Cisco WAAS Central Manager on Multiple Devices

To cross-launch from the Deployed Services:

Step 1   Choose **Operate > Deployed Services**.

Step 2   Select the corresponding ISR-WAAS container and click Launch WCM.

> **Note**   Note The Cisco ISR-WAAS Container Lifecycle enables a user to install, uninstall, activate, or deactivate the service container.

Defining Interface Roles

You can define interface roles in **Configuration > Templates** > **Shared Policy Objects** > **Interface Role**. For more information on creating interface roles, see the Creating Interface Roles. Policy objects enable users to define logical collections of elements. Policy Objects are reusable, named components that can be used by other objects and policies. The Shared Policy Objects also eliminate the need to define a component each time you define a policy. For more information on Shared Policy Objects, see the Shared Policy Objects.

Importing an OVA image

To import an OVA image for an ISR-WAAS container:

Step 1   Choose **Services > Router Virtual Containers > WAAS-XE**.

Step 2   Select an OVA image from one of the following locations:

- Device
- URL
- Protocol

- File

Step 3   Click **Submit** to import the image into Prime Infrastructure.

Step 4   Click **Refresh** to view the imported image in the **Services > Router Virtual Containers > WAAS-XE > Services Catalogue** folder.

Configuring Cisco AppNav Automatically During ISR-WAAS Container Activation

A Cisco WAAS container can be configured in two different ways depending on whether you want to configure it on a single router (Installing an ISR-WAAS Container on a Single Router) or multiple routers (Installing an ISR-WAAS Container on Multiple Routers).

Installation of the ISR-WAAS container can be done in two ways. You can either install the container and activate it later, or you can install and activate the container at the same instance.

Note   Ensure that the name of the ISR-WAAS container does not exceed 22 characters.

Installing an ISR-WAAS Container

To install an ISR-WAAS container:

Step 1   Choose **Services > Router Virtual Containers > WAAS-XE > Services Catalogue** to import an OVA image. For information on how to import an OVA image, see the Defining Interface Roles.

Step 2   After importing, click **Refresh** to view the imported image.

Step 3   Click Deploy.

Step 4   In the Network Wizard page, select the ISR-WAAS device on which you want to configure the container.

Step 5   Choose the **Install** option and select a Resource Profile from the drop-down list.

Step 6   Click **OK** to install the ISR-WAAS container.

Note   To successfully install and activate an ISR-WAAS, you need to have enough memory for each resource profile. For ISR-WAAS-750, you need 4194304 KB memory and two CPUs, for ISR-WAAS-1300, you need 6291456 KB memory and four CPUs, and for ISR-WAAS-2500, you need 8388608 KB memory with six CPUs.

Installing and Activating an ISR-WAAS Container

To install and activate a ISR-WAAS container:

Step 1   Choose **Services > Router Virtual Containers > WAAS-XE > Services Catalogue** to import an OVA image. For information on how to import an OVA image, see the Defining Interface Roles.

Step 2 After importing, click **Refresh** to view the imported image

Step 3 Click Deploy.

Step 4 In the Network wizard screen, select the device on which you want to configure the container

Step 5 Choose the **Install and Activate** option.

Step 6 Choose a Resource Profile from the drop-down list.

Step 7 Select the **Redirect Traffic to WAAS-XE with AppNav-XE** check box.

Step 8 Click **OK** to install and activate the ISR-WAAS container.

> **Note** Once the ISR-WAAS is installed and activated, the Cisco AppNav configuration is automatically configured.

> **Note** To successfully install and activate a ISR-WAAS, you should at least have 8 GB RAM in the router for the 750 resource profile.

Installing an ISR-WAAS Container on a Single Router

To install an ISR-WAAS container on a single router:

Step 1 Choose **Inventory > Device Management > Network Devices**.

Step 2 From the list that is displayed, choose the router on which you want to install the ISR-WAAS container.

Step 3 Click the **Service Container** tab.

Step 4 Click **Add** and enter the configuration details in each field.

Step 5 Click **OK**.

Installing an ISR-WAAS Container on Multiple Routers

To install an ISR-WAAS container on multiple routers:

Step 1 Choose **Services > Router Virtual Containers**.

Step 2 Select the ISR-WAAS folder that contains the imported OVA image.

Step 3 Click Deploy.

From the list that is displayed, select the routers on which you want to install the ISR-WAAS container.

After you deploy, you can either click **Install** (Installing an ISR-WAAS Container) or **Install and Activate** (Installing and Activating an ISR-WAAS Container)

Step 4 If you choose **Install and Activate**, enter the following details in the Value Assignment area:

– Enter the ISR-WAAS IP Address/Mask

> – Enter the Router IP/ Mask
>
> – Enter a Service Container name
>
> – Select a Resource Profile

Step 5   Click **OK**.

Uninstalling and Deactivating a Cisco WAAS Container

You can deactivate a Cisco WAAS Container either from the Device Work Center or from the Deployed Services. From the Device Work Center, you can deactivate a single ISR-WAAS container, but from the Deployed Services, you can deactivate multiple ISR-WAAS containers.

Uninstalling a Single Cisco ISR-WAAS Container

To uninstall a single ISR-WAAS container from the Device Work Center:

Step 1   Choose **Inventory > Device Management > Network Devices**.

Step 2   From the list that is displayed, select the router from which you want to uninstall the Cisco WAAS container by clicking it.

Step 3   Click the **Service Container** tab in the bottom pane.

Step 4   Click **Uninstall**.

Step 5   Click **OK**.

Uninstalling a Multiple Cisco ISR-WAAS Container

To uninstall multiple a Cisco ISR-WAAS containers from the Deployed Services:

Step 1   Choose **Services > Router Virtual Containers > WAAS-XE > Deployed Services**.

Step 2   From the list that is displayed, select the routers from which you want to uninstall the Cisco WAAS containers by clicking them.

Step 3   Click **Uninstall**.

Step 4   Click **OK**.

Note   When a Cisco WAAS virtual appliance is uninstalled through Prime Infrastructure, the corresponding Cisco AppNav configuration is removed.

Deactivating a Cisco ISR-WAAS Container

You can deactivate a Cisco ISR-WAAS container in the following two ways:

- Deactivating a Single Cisco ISR-WAAS Container
- Deactivating Multiple Cisco ISR-WAAS Containers

Deactivating a Single Cisco ISR-WAAS Container

To deactivate a single Cisco ISR-WAAS container from the Device Work Center:

Step 1   Choose **Inventory > Device Management > Network Devices**.

Step 2   Select a Cisco ISR-WAAS device name from the device group list.

Step 3   Click the **Service Container** tab.

Step 4   Click **Deactivate**.

Deactivating Multiple Cisco ISR-WAAS Containers

To deactivate multiple Cisco WAAS containers from the Deployed Services:

Step 1   Choose **Services > Router Virtual Containers > WAAS-XE > Deployed Services**.

Step 2   Choose multiple ISR-WAAS device names from the list.

Step 3   Click **Deactivate**.