Configuring the Network and IOx

Configuring the Network for IOX

Cisco Catalyst IE9300 Rugged Series Switches have an additional interface for connectivity to the IOx applications, called Ap1/0/1. You can configure the Ap1/0/1 interface as a regular, physical, interface in trunk mode.

You must configure a VLAN ID for the Ap1/0/1 interface even if the interface is configured in trunk mode. You also must configure an IP Address on an IE9300 VLAN interface where this VLAN is also a member of the Ap1/0/1 trunk interface.

The allowed VLANs on the Ap1/0/1 trunk interface should match the VLANs that need to carry data traffic to or from applications on IOx. These VLANs include ones carrying management traffic. The example used in this guide is 10. VLAN 10 is the VLAN carrying traffic for the application to communicate with the network. This traffic can include the IP traffic to the management VLAN. You should configure the same VLAN ID when managing the applications so the VLANs match. If you intend to use vlan 1 to communicate with the network, then choose a different native VLAN on Ap1/0/1.

After you configure the network, you must enable IOx on the switch.

Figure 1: Connections with IE9300 IOx Network with Applications
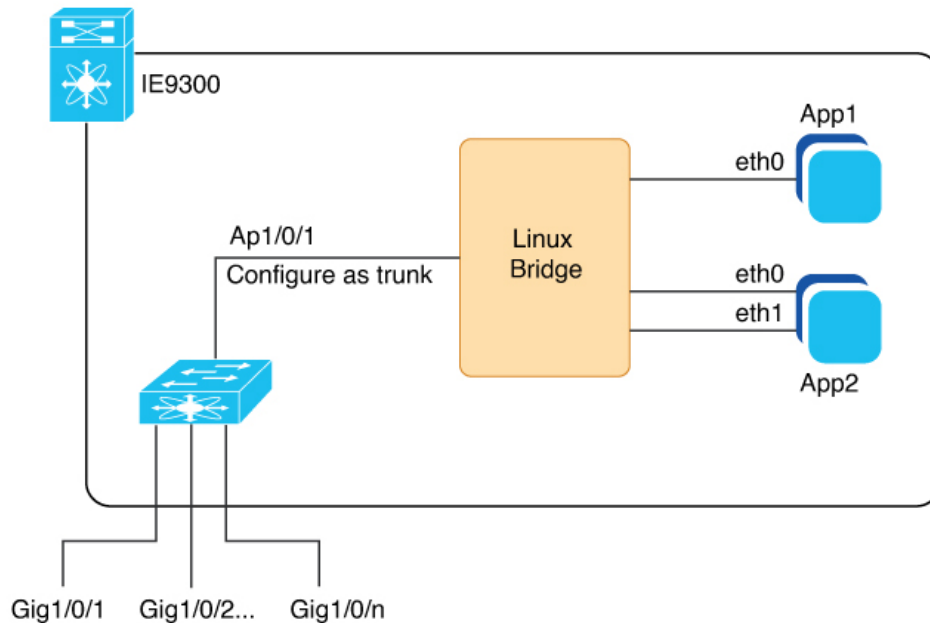
The preceding illustration shows Ethernet and Layer 2 connections possible in an IOx network on a Cisco Catalyst IE9300 Rugged Series Switch. The dedicated interface AppGigabitEthernet1/0/1 for IOx support is internally connnected to a Linux bridge. The interface needs to be configured as a trunk. You can have multiple applications in an IOx network, each of which can have multiple Ethernet connections and can be placed in any VLAN.

For a similar illustration showing a sample network configuration, see the section Deploying IOx Applications Using the IOS-XE CLI in this guide.

Configure the VLAN ID for the IOx Interface

You must configure the VLAN ID for the IOx interface and then configure the SVI address for the VLAN. You do so to connect to and manage the VLAN. You must make sure that the VLAN is routable throughout the network.

SUMMARY STEPS

1. Configure a VLAN ID for the IOx interface.
2. Configure the SVI address for the vlan.

DETAILED STEPS

Step 1   Configure a VLAN ID for the IOx interface.

Enter the following command:

Example:

```
ie9300#conf t
Enter configuration commands, one per line. End with CNTL/Z.
ie9300(config)#interface Ap1/0/1
ie9300(config-if)#switchport trunk allowed vlan 10
ie9300(config-if)#switchport mode trunk
ie9300(config-if)#end
```

Step 2   Configure the SVI address for the vlan.

Example:

```
ie9300#conf t
Enter configuration commands, one per line. End with CNTL/Z.
ie9300(config)#interface vlan 10
ie9300(config-if)#ip address 192.168.0.1 255.255.255.0
ie9300(config-if)#end
```

Enable IOx on the Switch

After you configure the VLAN for the IOx interface, you must enable IOx on the switch.

Note   Cisco IOS requires at least 1 GB on the SD card. If you have a 4 GB SD card partition for IOx, you can format up to 74 percent of the card.

Before you begin

Before enabling IOx on the switch, ensure that you have an SD card for IOx with at least 4GB. An SD card is required by IOx for storage.

SUMMARY STEPS

1. Ensure that the SD card IOx partition are formatted with the EXT4 filesystem using CLI using the following command: **partition sdflash: iox**
2. Enable IOx:
3. Ensure that the web server is enabled and that a user is configured for access:
4. Leave configuration mode and enter enable mode:

DETAILED STEPS

Step 1   Ensure that the SD card IOx partition are formatted with the EXT4 filesystem using CLI using the following command: **partition sdflash: iox**

The SD card is required to store the IOx applications and data.

Example:

```
Switch# partition sdflash: iox
Partitioning IOS:IOX(34%:66%) Default
Partition command reloads the switch, Continue?[confirm]
Please make sure to back-up "sdflash:" contents
Partition operation will destroy all data in "sdflash:". Continue?[confirm]
```

Note	The default behavior of the partition command is for 66 percent of 4GB on the SD Card allocated to IOx, and 34 percent space allocated to IOS as a backup.

After you enter the partition command, the switch reloads.

Step 2 Enable IOx:

Example:

```
ie9300#conf t
Enter configuration commands, one per line. End with CNTL/Z.
ie9300(config)#iox
Warning: Do not remove SD flash card when IOx is enabled or errors on SD device could occur.
*Feb 21 12:49:18.310: %UICFGEXP-6-SERVER_NOTIFIED_START: R0/0: psd: Server iox has been notified
to start
*Feb 21 12:49:48.165: %IM-6-IOX_ENABLEMENT: R0/0: ioxman: IOX is ready.
```

Step 3 Ensure that the web server is enabled and that a user is configured for access:

Example:

```
ie9300#conf t
Enter configuration commands, one per line. End with CNTL/Z.
ie9300(config)#ip http secure-server
ie9300(config)#username admin privilege 15 password 0 secret
```

This step is required to get access to the IOx functionality through the Local Manager UI.

Step 4 Leave configuration mode and enter enable mode:

Example:

```
ie9300#end
```

What to do next

Check whether the IOx infrastructure is ready to use, as shown in the following example:

```
IE9300-2-2006#show iox-service

IOx Infrastructure Summary:
---------------------------
IOx service (CAF) : Running
IOx service (HA) : Running
IOx service (IOxman) : Running
IOx service (Sec storage) : Running
Libvirtd 5.5.0 : Running
Dockerd v19.03.13-ce : Running
```