Initial configuration

To install Cisco Cyber Vision on the Cisco IR8340, you must perform the Initial configuration which steps are described in this section.

Check the software version

- Check the software version using the following command in the router's CLI:

  ```
  Show version
  ```

  The displayed version must be 17.8.1 or higher to be compatible with the Cisco Cyber Vision Sensor Application.

  If the version is lower, you must update the router firmware. To do so, go to cisco.com and refer to the Cisco IR8340's documentation.

Check date and time

The internal clock of the router must be synchronized and configured properly.

Note The Cisco Cyber Vision IOx sensor application gets the time from the host. Therefore, it is critical that the host synchronizes its time with the Center or a valid NTP server. If the time difference is large (hours or more), the user should adjust the Cisco IR8340 time using the CLI or the WebUI so it is close to the reference time. If not, the synchronization may take many update cycles.

1. Check the date and time using the following command:

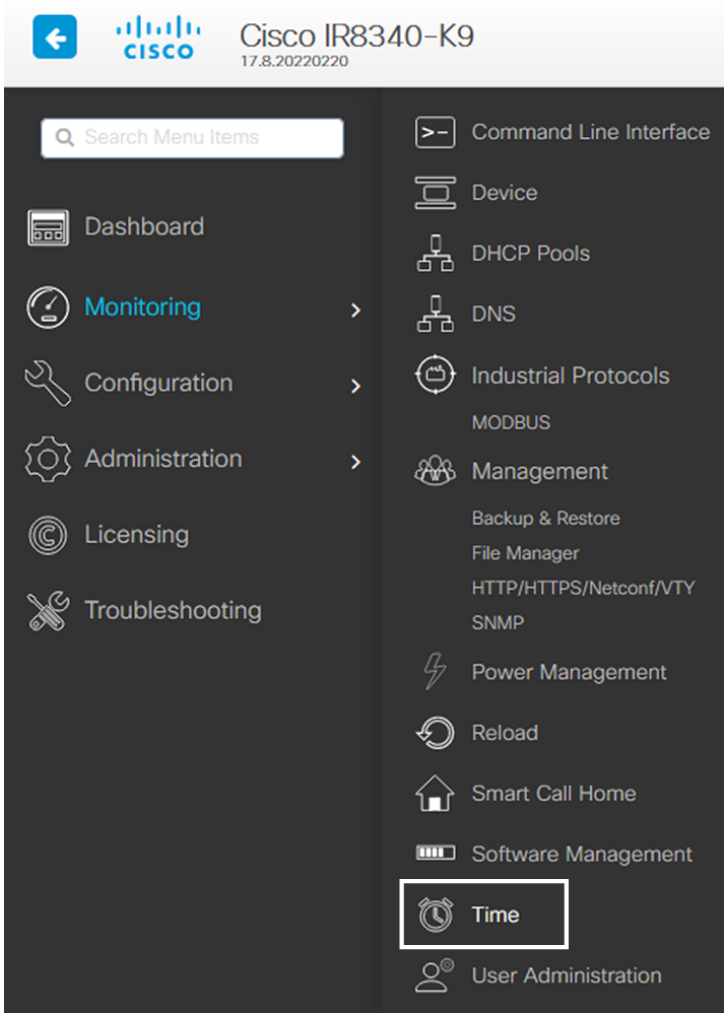
   ```
   Show clock
   ```

```
IR110CCV#
IR110CCV#Show clock
*14:33:05.354 UTC Fri Apr 17 2020
IR110CCV#
```

2. If needed, adjust to the UTC time using the following command:

   ```
   clock set [hh:mm:ss] [month] [day] [year]
   ```

Or in the WebUI, navigate to Monitoring > Time.



Enable IOx

Before installing the Cisco Cyber Vision sensor on the Cisco IR8340, you must enable IOx.

Procedure

Step 1 Enable IOx using the following command.

```
configure terminal
iox
```

Step 2 Check that the CAF and IOxman services are running using the following command.

```
exit
show iox
```

```
IR8340#
IR8340#
IR8340#sh iox

IOx Infrastructure Summary:
---------------------------
IOx service (CAF)              : Running
IOx service (HA)               : Not Supported
IOx service (IOxman)           : Running
IOx service (Sec storage)      : Running
Libvirtd 5.5.0                 : Running
Dockerd v19.03.13-ce           : Running

IR8340#
```

Setup ERSPAN

In order to receive traffic in the Cisco Cyber Vision IOx application, the application:

- must be connected to a VirtualPortGroup and the Appgigabit interface,
- must have the correct IP address assigned (do not use the same IP subnet for the VPG interface and the VLAN interface),
- must have one or two monitor sessions created:
  - one to capture traffic on routed ports,
  - and a different one to capture traffic on switched ports.

Setup ERSPAN for routed ports

Procedure

Step 1 Connect the application to a VirtualPortGroup and set an IP address using the following commands:

```
Configure terminal
ip routing
interface virtualportgroup 0
```

```
ip address 169.254.1.1 255.255.255.252
exit
```

Step 2 Create the monitor session using the following commands. The monitor session number must be 5 or higher.

```
monitor session 5 type erspan-source
source interface Gi0/0/0
no shutdown
destination
erspan-id 1
mtu 1464
ip address 169.254.1.2
origin ip address 169.254.1.1
end
```

Setup ERSPAN for switched ports

Procedure

Step 1 Configure a VLAN for traffic mirroring using the following commands. The VLAN number must be between 2340 and 2349.

```
configure terminal
vlan 2340
exit
int vlan 2340
ip address 169.254.2.1 255.255.255.252
no shutdown
exit
```

Step 2 Configure the AppGigabitEthernet port which will enable the communication to the IOx virtual application.

```
interface AppGigabitEthernet 0/1/1
switchport mode trunk
exit
```

Step 3 Configure the SPAN session and add to the session the interfaces to monitor. The monitor session number must be between 1 and 4.

```
monitor session 1 type erspan-source
source interface Gi0/1/0 - 10 both
no shutdown
destination
erspan-id 2
mtu 9000
ip address 169.254.2.2
origin ip address 169.254.2.1
exit
exit
```

Setup NAT

You must add NAT rules so that the container can reach the outside. This will be on a different virtual port group from the ERSPAN to separate the traffic.

Procedure

Step 1 Type the following commands to achieve this configuration.

```
Configure terminal
interface GigabitEthernet 0/0/0
ip nat outside
media-type rj45
exit
interface VirtualPortGroup 1
ip address 169.254.0.1 255.255.255.252
ip nat inside
exit
ip nat inside source list NAT_ACL interface GigabitEthernet 0/0/0 overload
ip access-list standard NAT_ACL
10 permit 169.254.0.0 0.0.0.3
exit
```

```
IR110CCV#
IR110CCV#Configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
IR110CCV(config)#interface GigabitEthernet 0/0/0
IR110CCV(config-if)#ip nat outside
IR110CCV(config-if)#media-type rj45
IR110CCV(config-if)#exit
IR110CCV(config)#interface VirtualPortGroup 1
IR110CCV(config-if)#ip address 169.254.0.1 255.255.255.252
IR110CCV(config-if)#ip nat inside
IR110CCV(config-if)#exit
IR110CCV(config)#ip nat inside source list NAT_ACL interface GigabitEthernet 0/0/0 overload
IR110CCV(config)#ip access-list standard NAT_ACL
IR110CCV(config-std-nacl)#10 permit 169.254.0.0 0.0.0.3
IR110CCV(config-std-nacl)#exit
IR110CCV(config)#
```

Step 2 Save the configuration.

```
exit
write mem
```

```
IR110CCV#
IR110CCV#write mem
Building configuration...

[OK]
IR110CCV#
*Apr 17 16:22:58.709: %SYS-2-PRIVCFG_ENCRYPT: Successfully encrypted private config file
IR110CCV#
```

What to do next

Proceed with one of the following procedures:

- Procedure with the Cisco Cyber Vision sensor management extension
- Procedure with the Local Manager
- Procedure with the CLI