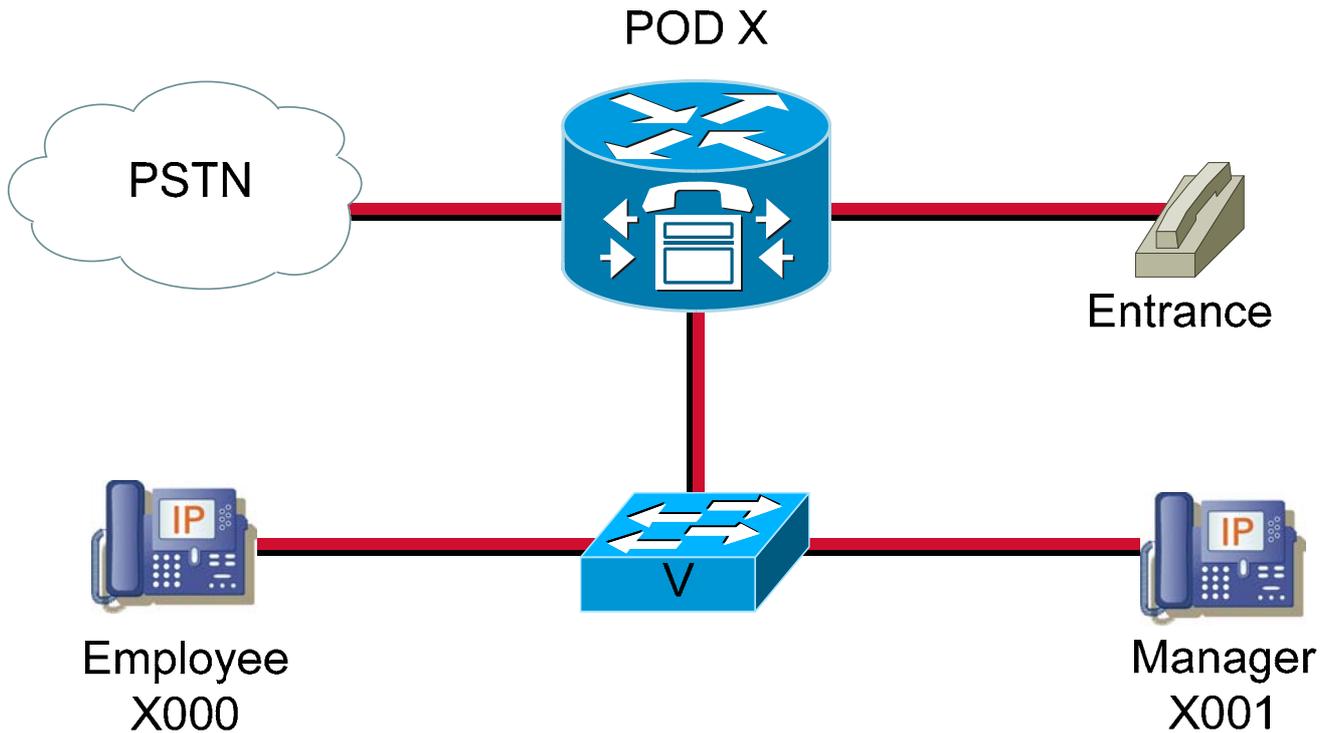


Configuring Class of Restriction Lab (replacement 4.1.5)



Objective

- Configure Class of Service on the IP telephony network.

Equipment Requirements

- Cisco CallManager Express (CME) capable router with FXO/FXS cards
- Inline power capable switch or non-inline power switch with power injectors
- Adtran
- Two IP phones
- One analog phones

This lab relies on labs 2.1.1, 2.1.3, 3.1.1, 4.1.1 and 4.1.2 being successfully completed and loaded.

In this lab ACME.com wishes to implement Class of Service to restrict access to where certain IP phones can call.

- Configure the lowest numbered IP phone to be an employee's phone and allow call's to the entrance and the PSTN, but not to the manager's phone.
- Configure the highest numbered IP phone to be a manager's phone and allow call's to any destination that the router can call.
- The analog phone should only be able to call the employee's phone.

Step 1 Configure Class of Restriction

- a. In this lab do NOT save the changes made to the router. A Class of Restriction (COR) is used to determine which incoming dial peer can use which outgoing dial peer to make a call. A dial peer can have one incoming and one outgoing COR list. The command **cor** is used to set the dial-peer COR parameter for dial peers and directory numbers. COR allows a company to deny certain call attempts on the basis of the incoming and outgoing CORs configured on the dial peers. The COR could be used to block calls to 900 numbers from company phones.
- b. From global configuration mode, configure the custom COR names.
 - Define the COR.
CMERouterX(config)# **dial-peer cor custom**
 - Put names into the COR.
CMERouterX(config-dp-cor)# **name PSTN**
CMERouterX(config-dp-cor)# **name MANAGEMENT**
CMERouterX(config-dp-cor)# **name ENTRANCE**
CMERouterX(config-dp-cor)# **exit**
- c. Define a list of members for each call list for the dial-peers.
 - Define a COR list for calls to the PSTN
CMERouterX(config)# **dial-peer cor list callPSTN**
 - Put a member in the COR list
CMERouterX(config-dp-corlist)# **member PSTN**
CMERouterX(config-dp-corlist)# **exit**
 - Define a COR list for calls to the management phone
CMERouterX(config)# **dial-peer cor list callMANAGEMENT**
 - Put a member in the COR list
CMERouterX(config-dp-corlist)# **member MANAGEMENT**
CMERouterX(config-dp-corlist)# **exit**
- d. Define a list of members for each call list for the users (phones).
 - Define a COR list for Management
CMERouterX(config)# **dial-peer cor list MANAGERS**
 - Put members in the COR list to allow all types of calls
CMERouterX(config-dp-corlist)# **member PSTN**
CMERouterX(config-dp-corlist)# **member MANAGEMENT**
CMERouterX(config-dp-corlist)# **exit**
 - Define a COR list for Employees
CMERouterX(config)# **dial-peer cor list EMPLOYEES**
 - Put members in the COR list to allow calls to all except the Management phones.
CMERouterX(config-dp-corlist)# **member PSTN**
CMERouterX(config-dp-corlist)# **exit**
 - Define a COR for the entrance phone
CMERouterX(config)# **dial-peer cor list VISITOR**
 - Put members in the COR list to allow only calls to the employees phones.
CMERouterX(config-dp-corlist)# **member ENTRANCE**
CMERouterX(config-dp-corlist)# **exit**

Step 2 Apply Class of Restriction to a Dial-Peer

- a. Apply the COR lists to the FXS dial-peer
 - Enter dial-peer configuration mode.
CMERouterX(config)# **dial-peer voice 1 pots**
 - Assign an inbound COR list to the dial-peer.
CMERouterX(config-dial-peer)# **corlist incoming VISITOR**
CMERouterX(config-dial-peer)# **exit**

- b. Apply the COR list to the FXO dial-peer.
 - Enter dial-peer configuration mode.
CMERouterX(config)# **dial-peer voice 3 pots**
 - Assign an outbound COR list to the dial-peer.
CMERouterX(config-dial-peer)# **corlist outgoing callPSTN**
CMERouterX(config-dial-peer)# **exit**

Step 3 Apply Class of Restriction to phone numbers

- a. Apply the COR list to the employees phone number.
 - Enter ephone directory number mode.
CMERouterX(config)# **ephone-dn 1**
 - Assign the COR list to the directory number
CMERouterX(config-ephone-dn)# **cor incoming EMPLOYEES**
CMERouterX(config-dial-peer)# **exit**

- b. Apply the COR list to the managers phone number.
 - Enter ephone directory number mode.
CMERouterX(config)# **ephone-dn 2**
 - Assign the COR lists to the directory number
CMERouterX(config-ephone-dn)# **cor incoming MANAGERS**
CMERouterX(config-ephone-dn)# **cor outgoing callMANAGEMENT**
CMERouterX(config-dial-peer)# **exit**

Step 4 Test COR settings

Test the COR settings by attempting to:

- a. Dial all phones from the manager's phone, this should work.
- b. Dial all phones from the employees phone, this should fail when calling the managers phone.
- c. Dial all phones from the analog phone; this should fail on all except the employee's phone.

Did the tests work as they should? _____ If not, perform appropriate troubleshooting.

Why did this configuration work on the Employee phone?

Why did this configuration work on the Managers phone?

When the test is successful, copy your configurations to a text file and reload the router making sure you do *not* save the configuration.