



ศูนย์เทคโนโลยีสารสนเทศและการสื่อสาร สป.มท.
Information and Communication Technology Center.

SAMART

IP Telephony

Add ISR4000 To CUCM

ศูนย์เทคโนโลยีสารสนเทศและการสื่อสาร สป.มท.

Voice GW types

ISR4351



ISR4431



ISR4331



ISR4321



❖ Path Selection Configuration Process

1. Add Devices (gateways and trunks).
2. Build route groups from available devices.
3. Build route lists from available route groups.
4. Build route patterns pointing to route lists.

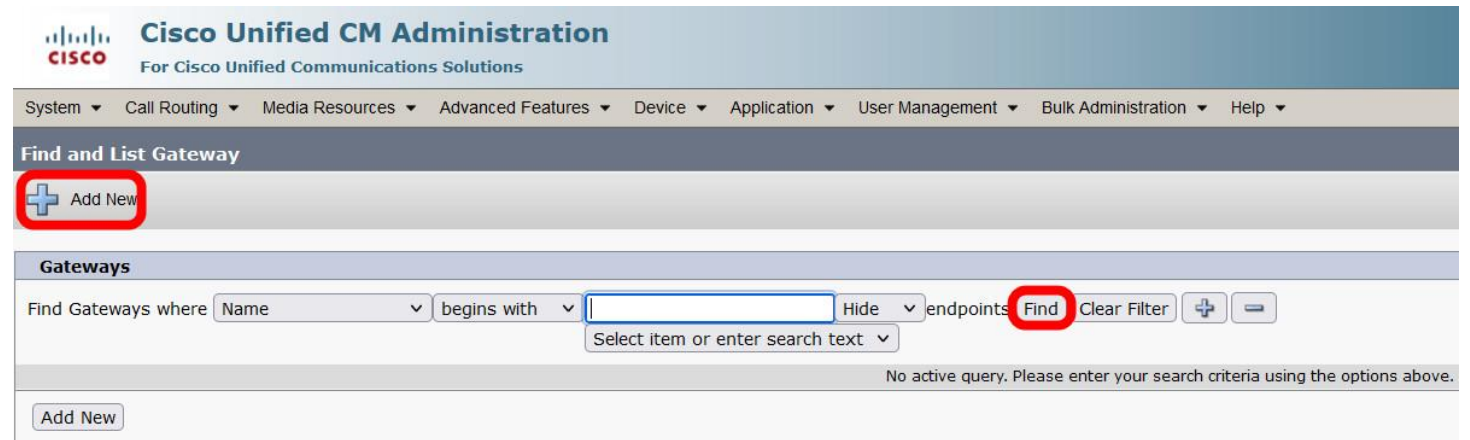
Add ISR4000 To CUCM

- MGCP

- เลือก Device > Gateway



- เลือก Find เพื่อตรวจสอบข้อมูลที่มีอยู่ในระบบ และเลือก Add New



- Gateway Type*: เลือก Gateway ที่มีอยู่ในรายการและเลือก Next

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ De

Add a new Gateway

➔ Next

Select the type of gateway you would like to add:

Gateway Type* -- Not Selected -- ▾

- Cisco ISR 4321
- Cisco ISR 4331
- Cisco ISR 4351
- Cisco ISR 4431
- Cisco ISR 4451
- Cisco ISR 4461
- Cisco VG200
- Cisco VG248 Gateway
- Cisco VGD-1T3
- Communication Media Module
- H.323 Gateway
- VG202
- VG204
- VG224
- VG310
- VG320

Next

i *- indicate

- เลือก Next

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ De

Add a new Gateway

➔ Next

Select the type of gateway you would like to add:

Gateway Type* Cisco ISR 4431 ▾

Next

i *- indicates required item.


Add ISR4000 To CUCM

- Protocol*: MGCP
- เลือก Next

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾

Add a new Gateway


 Next

Select the type of gateway you would like to add:

Gateway Type Cisco ISR 4431 Change Gateway type

Protocol* MGCP ▾

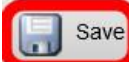
Next

 *- indicates required item.


- Domain Name*: ใส่ชื่ออุปกรณ์ตามด้วย Domain name
- Cisco Unified Communications Manager Group* เลือกกลุ่ม CUCM
- Module in Slot 0: เลือกชนิดของที่อยู่ใน Slot 0

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Ma


Gateway Configuration

 Save

Status

 Status: Ready

Gateway Details

Product	Cisco ISR 4431
Protocol	MGCP
 Device is not trusted	
Domain Name*	COPI-Test.moi.go.th
Description	COPI-Test.moi.go.th
Cisco Unified Communications Manager Group*	01-COPI-CM_Group ▾

Configured Slots, VICs and Endpoints

Module in Slot 0 ISR-3NIM-MBRD ▾

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾

Gateway Configuration

Save Delete Reset Apply Config Add New

Status
Add successful

Gateway Details

Product	Cisco ISR 4431
Gateway	COPI-voip-voicegw50.moi.go.th
Protocol	MGCP
⚠ Device is not trusted	
Domain Name*	COPI-voip-voicegw50.moi.go.th
Description	COPI-voip-voicegw50.moi.go.th
Cisco Unified Communications Manager Group*	01-COPI-CM_Group

Configured Slots, VICs and Endpoints

Module in Slot 0

Subunit 1	<input type="text" value="NIM-2MFT-T1E1-E1"/>	Begin Port	<input type="text" value="0"/>
Subunit 2	<input type="text" value="NIM-4FXO"/>	Begin Port	<input type="text" value="0"/>
Subunit 3	<input type="text" value="<None >"/>	Begin Port	<input type="text" value="0"/>

Product Specific Configuration Layout

- **Subunit 1:** เลือก Card ให้ตรงกับที่ Plug อยู่ที่ Slot ของอุปกรณ์
- **Subunit 2:** เลือก Card ให้ตรงกับที่ Plug อยู่ที่ Slot ของอุปกรณ์
- **Subunit 3:** เลือก Card ให้ตรงกับที่ Plug อยู่ที่ Slot ของอุปกรณ์
- เลือก Save

🌐 10.230.1.21

Click the Apply Config to have the changes take effect.

- เลือก OK

Product Specific Configuration Layout

?

Global ISDN Switch Type	EURO
Switchback Timing *	Graceful
Switchback uptime-delay (min)	10
Switchback schedule (hh:mm)	12:00
Type Of DTMF Relay *	Current GW Config
Modem Passthrough *	Enable
Cisco Fax Relay *	Disable
T38 Fax Relay *	Disable
RTP Package Capability *	Enable
MT Package Capability *	Disable
RES Package Capability *	Disable
PRE Package Capability *	Enable
SST Package Capability *	Enable
RTP Unreachable OnOff *	Enable
RTP Unreachable timeout (ms) *	1000
RTCP Report Interval (secs) *	0
Simple SDP *	Enable

Save

- Global ISDN Switch Type*: เลือกประเภท Global ISDN

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Click the Apply Config to have the changes take effect.

OK

- เลือก OK

- MGCP – E1

Subunit1 NIM-2MFT-T1E1-E1: เลือก Port ที่ต้องการ Config เพื่อใช้งาน

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Adm

Gateway Configuration

Save Delete Reset Apply Config Add New

Status

Update successful

Gateway Details

Product: Cisco ISR 4431
Gateway: COPI-Test.moi.go.th
Protocol: MGCP

Device is not trusted

Domain Name*: COPI-Test.moi.go.th
Description: COPI-Test.moi.go.th
Cisco Unified Communications Manager Group*: 01-COPI-CM_Group ▾

Configured Slots, VICs and Endpoints

Module in Slot 0: ISR-3NIM-MBRD ▾

Subunit	Module	Begin Port	0/1/0	0/1/1	0/2/0	0/2/1	0/2/2	0/2/3
Subunit 1	NIM-2MFT-T1E1-E1 ▾	0						
Subunit 2	NIM-4FXO ▾	0						
Subunit 3	< None > ▾	0						

- MGCP – E1

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User ▾

Gateway Configuration

Save

Status
Status: Ready

Device Information

Product	Cisco MGCP E1 Port
Gateway	COPI-voip-voicegw50.moi.go.th
Device Protocol	Digital Access PRI
⚠ Device is not trusted	
End-Point Name *	S0/SU1/DS1-0@COPI-voip-voicegw50.moi.go.th
Description	S0/SU1/DS1-0@COPI-voip-voicegw50.moi.go.th
Device Pool *	01-COPI-DP
Common Device Configuration	< None >
Call Classification *	Use System Default
NetworkLocale	< None >
Packet Capture Mode *	None
Packet Capture Duration	0
Media Resource Group List	01-COPI-MRGL
Location *	Hub_None
AAR Group	< None >
Load Information	
Use Trusted Relay Point *	Default
Route Class Signaling Enabled *	Off

Transmit UTF-8 for Calling Party Name
 V150 (subset)
 Enable Protected Facility IE
 PSTN Access

- Description: ใส่คำอธิบายเพิ่มเติม
- Device Pool*: เลือก Device Pool
- Media Resource Group List: เลือกกลุ่ม Media Resource


- MGCP – E1

Interface Information	
PRI Protocol Type*	PRI EURO
QSIG Variant*	No Changes
ASN.1 ROSE OID Encoding*	No Changes
Protocol Side*	User
Channel Selection Order*	Bottom Up
Channel IE Type*	Use Number when 1B
PCM Type*	A-law
Delay for first restart (1/8 sec ticks)*	32
Delay between restarts (1/8 sec ticks)*	4
<input checked="" type="checkbox"/> Inhibit restarts at PRI initialization	
<input type="checkbox"/> Enable status poll	
<input type="checkbox"/> Unattended Port	
<input type="checkbox"/> Enable G.Clear	

- PRI Protocol Type*: เลือกชนิด Protocol PRI
- Protocol Side*: ให้เลือก Protocol ที่ไม่ตรงกันกับ PABX
- Channel Selection Order: เลือกลำดับช่องสัญญาณที่ต้องการให้เริ่มทำงานก่อน
- Channel IE Type*: กำหนดวิธีการเลือก Channel ซึ่งการเลือกในช่องนี้ขึ้นอยู่กับ การเชื่อมต่อในอีกด้านหนึ่ง
- Calling Search Space: เลือก Calling Search Space


Gateway Configuration	
Save	
Call Routing Information - Inbound Calls	
Significant Digits*	All
Calling Search Space	01_COPI_class_2
AAR Calling Search Space	< None >
Prefix DN	

Gateway Configuration

 Save

Subscriber Number

Product Specific Configuration Layout



Line Coding*

Framing*

Clock*


Input Gain (-6..14 db)*

Output Attenuation (-6..14 db)*

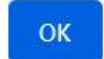
Echo Cancellation Enable*

Echo Cancellation Coverage (ms)*

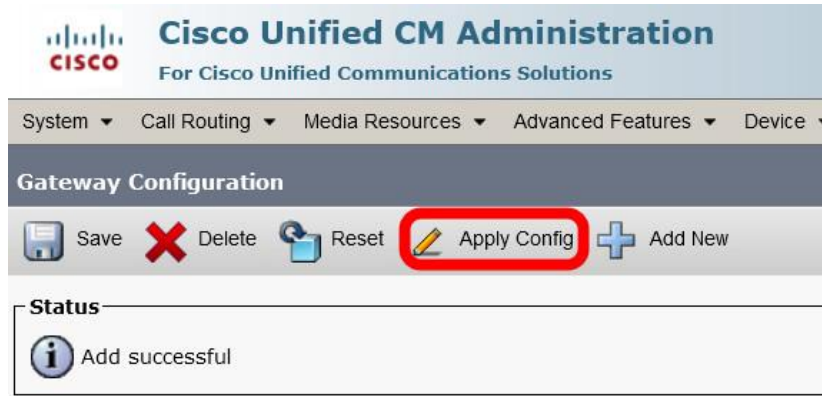
- Framing*: เลือกการตรวจสอบ Framing
- Clock*: เลือกประเภท Clock
- เลือก Save

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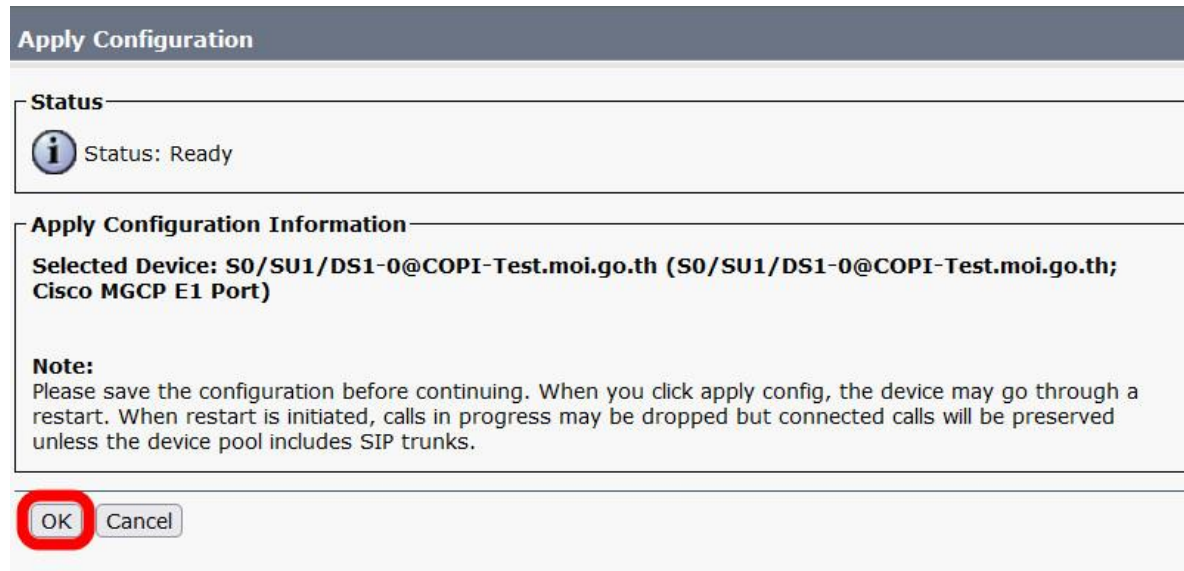
Click the Apply Config to have the changes take effect.



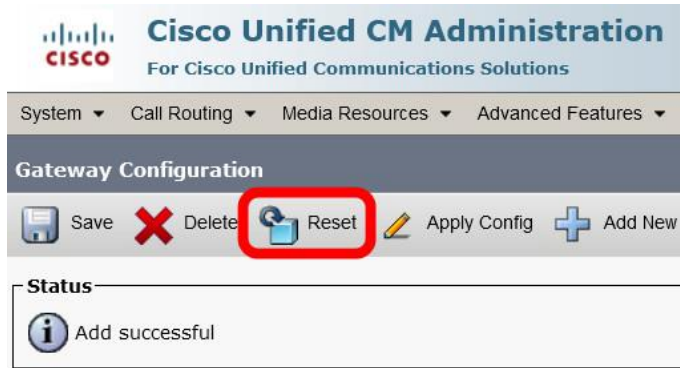
- เลือก OK



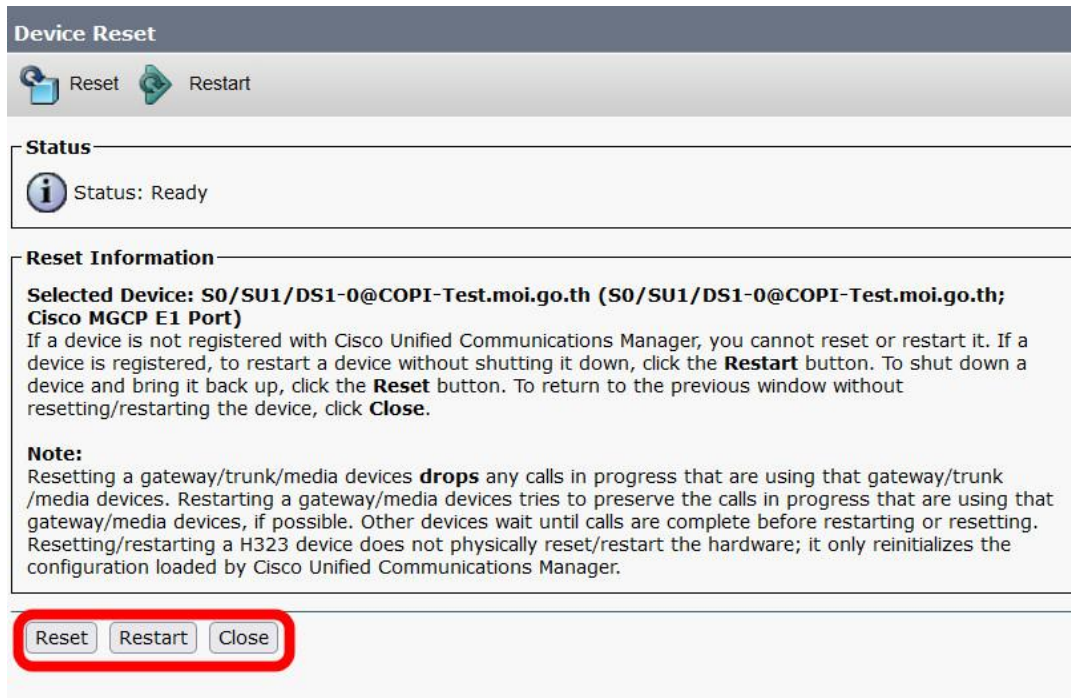
- เลือก Apply Config



- เลือก OK



- เลือก Reset



- เลือก Reset
- เลือก Restart
- เลือก Close

- MGCP - FXO

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Admin

Gateway Configuration

Save Delete Reset Apply Config Add New

Status
Status: Ready

Gateway Details
Product: Cisco ISR 4431
Gateway: COPI-Test.moi.go.th
Protocol: MGCP
⚠ Device is not trusted
Domain Name*: COPI-Test.moi.go.th
Description: COPI-Test.moi.go.th
Cisco Unified Communications Manager Group*: 01-COPI-CM_Group ▾


Configured Slots, VICs and Endpoints
Module in Slot 0: ISR-3NIM-MBRD ▾

Subunit 1	NIM-2MFT-T1E1-E1 ▾	Begin Port	0	0/1/0	0/1/1		
Subunit 2	NIM-4FXO ▾	Begin Port	0	0/2/0	0/2/1	0/2/2	0/2/3
Subunit 3	< None > ▾	Begin Port	0				


- NIM-4FXO: เลือก Port ที่ต้องการ Config เพื่อใช้งาน

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾

Gateway Configuration


 Next

Status

 Status: Ready

Port Selection

Port Type*

 *- indicates required item.

- Port Type*: เลือก Loop Start
- เลือก Next

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application

Gateway Configuration

Save

Status

Status: Ready

Device Information

Product	Cisco MGCP FXO Port
Gateway	COPI-Test.moi.go.th
Device Protocol	Analog Access
Device is not trusted	
End-Point Name *	AALN/S0/SU2/0@COPI-Test.moi.go.th
Description	AALN/S0/SU2/0@COPI-Test.moi.go.th
Device Pool*	01-COPI-DP ▾
Common Device Configuration	< None > ▾
Media Resource Group List	01-COPI-MRGL ▾
Packet Capture Mode*	None ▾
Packet Capture Duration	0
Calling Search Space	01_COPI_class_2 ▾
AAR Calling Search Space	< None > ▾
Location*	Hub_None ▾
AAR Group	< None > ▾
Network Locale	< None > ▾
Use Trusted Relay Point*	Default ▾
<input type="checkbox"/> Transmit UTF-8 for Calling Party Name	
Called Party Transformation CSS	< None > ▾

- **Description:** ใส่คำอธิบายเพิ่มเติม
- **Device Pool*:** เลือก Device Pool
- **Media Resource Group List:** เลือก Media Resource
- **Calling Search Space:** เลือก Calling Search Space

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Ap

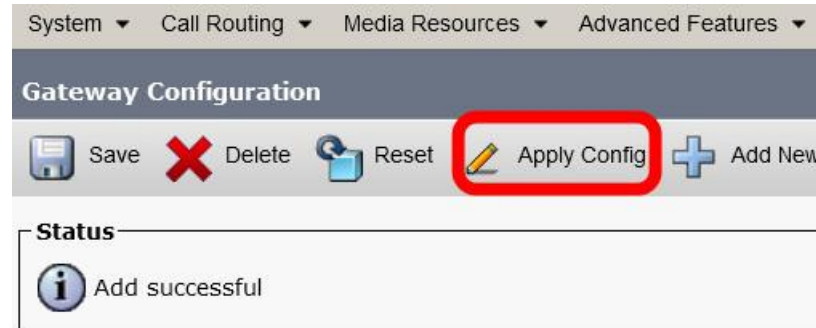
Gateway Configuration

Save

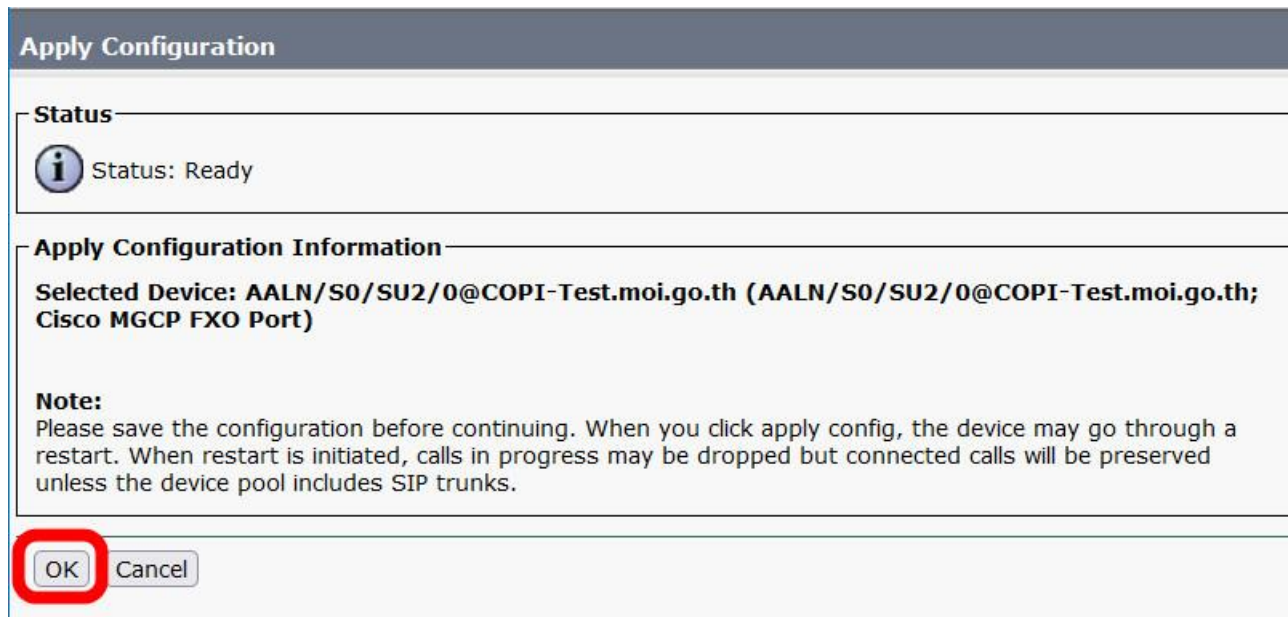
Port Information (Loop Start)

Port Direction*	Bothways ▾
Attendant DN*	98998
Prefix DN	
<input checked="" type="checkbox"/> Unattended Port	

- **Attendant DN*:** ใส่หมายเลขที่ต้องการให้รับสายเมื่อมีสายเรียกเข้า
- เลือก Save



- เลือก Apply Config



- เลือก OK



- เลือก Reset



- เลือก Reset
- เลือก Restart
- เลือก Close

Delete ISR4000 Port (E1, FXO)

- Delete E1, FXO Port



The screenshot shows the Cisco Unified CM Administration web interface. The top navigation bar includes 'System', 'Call Routing', 'Media Resources', 'Advanced Features', 'Device', 'Application', and 'User Management'. The 'Device' menu is open, displaying a list of options: CTI Route Point, Gatekeeper, Gateway (highlighted), Phone, Trunk, Remote Destination, Expressway-C, Device Settings, and Headset. The main content area displays system information: 'Cisco Unified CM Administration', 'System version: 12.5.1.13900-152', 'VMware Installation: 4 vCPU Intel(R) Xeon(R) Gold 6132', and 'Last Successful Backup: 0 day(s) ago'. A footer note states: 'User administrator last logged in to this cluster on Friday, July 14, 2023 4:38:56 AM ICT, to node 10.230.1.21, from 10.230.1.21'.

- เลือก Device > Gateway

Delete ISR4000 Port (E1, FXO)

- ใส่ Gateway ที่ต้องการลบ Port และกด Find

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾ Help ▾

Find and List Gateway

+ Add New

Gateways

Find Gateways where Description ▾ contains ▾ COPI-Test.moi.go.th Hide ▾ endpoints Find Clear Filter + -

Select item or enter search text ▾

No active query. Please enter your search criteria using the search criteria above.

Add New

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾ Help ▾

Find and List Gateway

+ Add New Select All Clear All Delete Selected Reset Selected Apply Config to Selected

Status

i 1 records found

Gateways (1 - 1 of 1) Rows per Page 50 ▾

Find Gateways where Description ▾ contains ▾ COPI-Test.moi.go.th Hide ▾ endpoints Find Clear Filter + -

Select item or enter search text ▾

	Device Name ^	Description	Device Pool	Calling Search Space	Device Type	Status	IPv4 Address
<input type="checkbox"/>	COPI-Test.moi.go.th	COPI-Test.moi.go.th			Cisco ISR 4431	See Endpoints	None

Add New Select All Clear All Delete Selected Reset Selected Apply Config to Selected

- เลือก See Endpoints

Delete ISR4000 Port (E1, FXO)

- เลือก Port E1 หรือ Port FXO ที่ต้องการลบ และเลือก Delete Selected

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾ Help ▾

Find and List Gateway

+ Add New Select All Clear All Delete Selected Reset Selected Apply Config to Selected

Status

2 records found

Gateways (1 - 2 of 2) Rows per Page 50 ▾

Find Gateways where Name ▾ contains ▾ @COPI-Test.moi.go.th Show ▾ endpoints Find Clear Filter

Select item or enter search text ▾

<input type="checkbox"/>		Device Name ^	Description	Device Pool	Calling Search Space	Device Type	Status	IPv4 Address
<input checked="" type="checkbox"/>	FXO MGCP	AALN/S0/SU2/0@COPI-Test.moi.go.th	AALN/S0/SU2/0@COPI-Test.moi.go.th	01-COPI-DP	01_COPI_class_2	Cisco MGCP FXO Port	None	None
<input checked="" type="checkbox"/>	E1 MGCP	S0/SU1/DS1-0@COPI-Test.moi.go.th	S0/SU1/DS1-0@COPI-Test.moi.go.th	01-COPI-DP	01_COPI_class_2	Cisco MGCP E1 Port	None	None

Add New Select All Clear All Delete Selected Reset Selected Apply Config to Selected

🌐 10.230.1.21

You are about to permanently delete 2 gateway(s). This action cannot be undone. Continue?

OK Cancel

- เลือก OK

- Delete Gateway ISR 4000



- เลือก Device > Gateway

Delete ISR4000

The screenshot shows the Cisco Unified CM Administration interface. At the top, there is a navigation menu with options like System, Call Routing, Media Resources, Advanced Features, Device, Application, User Management, Bulk Administration, and Help. Below this is the 'Find and List Gateway' section. It includes an 'Add New' button with a plus icon. The main area is titled 'Gateways' and contains a search bar. The search criteria are: 'Find Gateways where' followed by a dropdown menu set to 'Description', another dropdown set to 'contains', a text input field containing 'COPI-Test.moi.go.th', a 'Hide' dropdown, and 'endpoint'. The 'Find' button is circled in red. To the right of the search bar are 'Clear Filter', '+', and '-' buttons. Below the search bar, there is a message: 'No active query. Please enter your search criteria using'. At the bottom left of the search area, there is another 'Add New' button.

- ใส่ Gateway ที่ต้องการลบ Port และกด Find

- เลือก Gateway ที่ต้องการลบ และเลือก Delete Selected

System ▾ Call Routing ▾ Media Resources ▾ Advanced Features ▾ Device ▾ Application ▾ User Management ▾ Bulk Administration ▾ Help ▾

Find and List Gateway

+ Add New Select All Clear All **Delete Selected** Reset Selected Apply Config to Selected

Status
1 records found

Gateways (1 - 1 of 1) Rows per Page 50 ▾

Find Gateways where Description ▾ contains ▾ OPI-Test.moi.go.th Hide ▾ endpoints Find Clear Filter + -
Select item or enter search text ▾

	Device Name ^	Description	Device Pool	Calling Search Space	Device Type	Status	IPv4 Address
<input checked="" type="checkbox"/>	COPI-Test.moi.go.th	COPI-Test.moi.go.th			Cisco ISR 4431	See Endpoints	None

Add New Select All Clear All Delete Selected Reset Selected Apply Config to Selected

🌐 10.230.1.21

You are about to permanently delete 1 gateway(s). This action cannot be undone. Continue?

OK Cancel

- เลือก OK



ศูนย์เทคโนโลยีสารสนเทศและการสื่อสาร ส.ป.ม.ท.
Information and Communication Technology Center.

SAMART

Thanks and Regards.

สำนักงานปลัดกระทรวงดิจิทัลฯ