

Cisco Unified Communications Manager Express配置指南

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简介

本文档介绍配置Cisco Unified Communications Manager Express(CUCME/CME)的步骤。

先决条件

要求

Cisco 建议您了解以下主题：

- Cisco IOS®路由器
- IP 电话
- 与PSTN的连接 (可选)

使用的组件

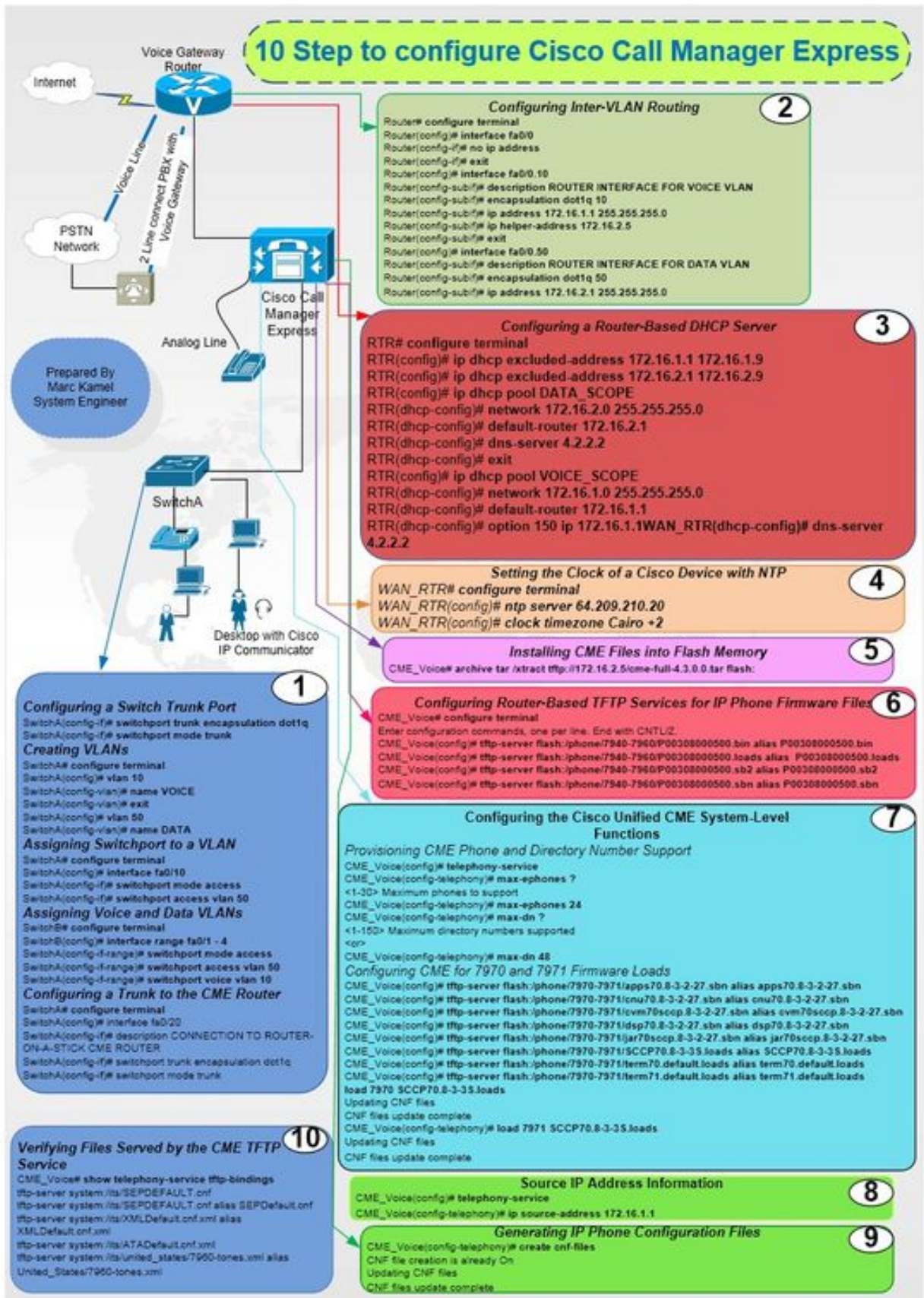
本文档中的信息基于以下软件和硬件版本：

- 任何CUCME版本
- 任何IP电话

本文档中的信息都是基于特定实验室环境中的设备编写的。此处使用的所有设备都以清除（默认）配置开始。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

配置

请参阅此映像和为配置Cisco Call Manager Express而记录的步骤。



10 Step to configure Cisco Call Manager Express

1

```

SwitchA(config-if)# switchport trunk encapsulation dot1q
SwitchA(config-if)# switchport mode trunk

Creating VLANs
SwitchA# configure terminal
SwitchA(config)# vlan 10
SwitchA(config-vlan)# name VOICE
SwitchA(config-vlan)# exit
SwitchA(config)# vlan 50
SwitchA(config-vlan)# name DATA
SwitchA(config-vlan)# exit

Assigning Switchport to a VLAN
SwitchA# configure terminal
SwitchA(config)# interface fa0/10
SwitchA(config-if)# switchport mode access
SwitchA(config-if)# switchport access vlan 50

Assigning Voice and Data VLANs
SwitchB# configure terminal
SwitchB(config)# interface range fa0/1 - 4
SwitchA(config-if-range)# switchport mode access
SwitchA(config-if-range)# switchport access vlan 50
SwitchA(config-if-range)# switchport voice vlan 10

Configuring a Trunk to the CME Router
SwitchA# configure terminal
SwitchA(config)# interface fa0/20
SwitchA(config-if)# description CONNECTION TO ROUTER-ON-A-STICK CME ROUTER
SwitchA(config-if)# switchport trunk encapsulation dot1q
SwitchA(config-if)# switchport mode trunk
    
```

2

```

Router# configure terminal
Router(config)# interface fa0/0
Router(config-if)# no ip address
Router(config-if)# exit
Router(config)# interface fa0/0.10
Router(config-subif)# description ROUTER INTERFACE FOR VOICE VLAN
Router(config-subif)# encapsulation dot1q 10
Router(config-subif)# ip address 172.16.1.1 255.255.255.0
Router(config-subif)# ip helper-address 172.16.2.5
Router(config-subif)# exit
Router(config)# interface fa0/0.50
Router(config-subif)# description ROUTER INTERFACE FOR DATA VLAN
Router(config-subif)# encapsulation dot1q 50
Router(config-subif)# ip address 172.16.2.1 255.255.255.0
    
```

3

```

RTR# configure terminal
RTR(config)# ip dhcp excluded-address 172.16.1.1 172.16.1.9
RTR(config)# ip dhcp excluded-address 172.16.2.1 172.16.2.9
RTR(config)# ip dhcp pool DATA_SCOPE
RTR(dhcp-config)# network 172.16.2.0 255.255.255.0
RTR(dhcp-config)# default-router 172.16.2.1
RTR(dhcp-config)# dns-server 4.2.2.2
RTR(dhcp-config)# exit
RTR(config)# ip dhcp pool VOICE_SCOPE
RTR(dhcp-config)# network 172.16.1.0 255.255.255.0
RTR(dhcp-config)# default-router 172.16.1.1
RTR(dhcp-config)# option 150 ip 172.16.1.1WAN_RTR(dhcp-config)# dns-server 4.2.2.2
    
```

4

```

WAN_RTR# configure terminal
WAN_RTR(config)# ntp server 64.209.210.20
WAN_RTR(config)# clock timezone Cairo +2
    
```

5

```

CME_Voice# archive tar /xtract tftp://172.16.2.5/cme-full-4.3.0.0.tar flash:
    
```

6

```

CME_Voice# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
CME_Voice(config)# tftp-server flash:iphone/7940-7960/P00308000500.bin alias P00308000500.bin
CME_Voice(config)# tftp-server flash:iphone/7940-7960/P00308000500.loads alias P00308000500.loads
CME_Voice(config)# tftp-server flash:iphone/7940-7960/P00308000500.sb2 alias P00308000500.sb2
CME_Voice(config)# tftp-server flash:iphone/7940-7960/P00308000500.sbn alias P00308000500.sbn
    
```

7

```

Configuring the Cisco Unified CME System-Level Functions

Provisioning CME Phone and Directory Number Support
CME_Voice(config)# telephony-service
CME_Voice(config-telephony)# max-ephones ?
<1-30> Maximum phones to support
CME_Voice(config-telephony)# max-ephones 24
CME_Voice(config-telephony)# max-dn ?
<1-150> Maximum directory numbers supported
<cr>
CME_Voice(config-telephony)# max-dn 48

Configuring CME for 7970 and 7971 Firmware Loads
CME_Voice(config)# tftp-server flash:iphone/7970-7971/apps70.8-3-2-27.sbn alias apps70.8-3-2-27.sbn
CME_Voice(config)# tftp-server flash:iphone/7970-7971/cnu70.8-3-2-27.sbn alias cnu70.8-3-2-27.sbn
CME_Voice(config)# tftp-server flash:iphone/7970-7971/cvm70sccp.8-3-2-27.sbn alias cvm70sccp.8-3-2-27.sbn
CME_Voice(config)# tftp-server flash:iphone/7970-7971/dsp70.8-3-2-27.sbn alias dsp70.8-3-2-27.sbn
CME_Voice(config)# tftp-server flash:iphone/7970-7971/jar70sccp.8-3-2-27.sbn alias jar70sccp.8-3-2-27.sbn
CME_Voice(config)# tftp-server flash:iphone/7970-7971/SCCP70.8-3-3S.loads alias SCCP70.8-3-3S.loads
CME_Voice(config)# tftp-server flash:iphone/7970-7971/term70.default.loads alias term70.default.loads
CME_Voice(config)# tftp-server flash:iphone/7970-7971/term71.default.loads alias term71.default.loads
load 7970 SCCP70.8-3-3S.loads
Updating CNF files
CNF files update complete
CME_Voice(config-telephony)# load 7971 SCCP70.8-3-3S.loads
Updating CNF files
CNF files update complete
    
```

8

```

CME_Voice(config)# telephony-service
CME_Voice(config-telephony)# ip source-address 172.16.1.1
    
```

9

```

CME_Voice(config-telephony)# create cnf-files
CNF file creation is already On
Updating CNF files
CNF files update complete
    
```

10

```

Verifying Files Served by the CME TFTP Service
CME_Voice# show telephony-service tftp-bindings
tftp-server system:/its/SEPDEFAULT.cnf alias SEPDefault.cnf
tftp-server system:/its/XMLDefault.cnf.xml alias XMLDefault.cnf.xml
tftp-server system:/its/ATADefault.cnf.xml
tftp-server system:/its/united_states/7960-tones.xml alias United_States/7960-tones.xml
    
```

步骤1.配置交换机中继端口

```
SwitchA(config-if)#switchport trunk encapsulation dot1q
```

```
SwitchA(config-if)# switchport mode trunk
```

步骤1.1.创建VLAN

```
SwitchA# configure terminal
```

```
SwitchA(config)# vlan 10
```

```
SwitchA(config-vlan)# name VOICE
```

```
SwitchA(config-vlan)# exit
```

```
SwitchA(config)# vlan 50
```

```
SwitchA(config-vlan)# name DATA
```

步骤1.2.将交换机端口分配给VLAN

```
SwitchA# configure terminal
```

```
SwitchA(config)# interface fa0/10
```

```
SwitchA(config-if)# switchport mode access
```

```
SwitchA(config-if)# switchport access vlan 50
```

步骤1.3.分配语音和数据VLAN

```
SwitchA# configure terminal
```

```
SwitchA(config)# interface range fa0/1 - 4
```

```
SwitchA(config-if-range)# switchport mode access
```

```
SwitchA(config-if-range)# switchport access vlan 50
```

```
SwitchA(config-if-range)# switchport voice vlan 10
```

步骤1.4.配置到CME路由器的中继

```
SwitchA# configure terminal
```

```
SwitchA(config)# interface fa0/20
```

```
SwitchA(config-if)# description CONNECTION TO ROUTER-ON-A-STICK CME ROUTER
```

```
SwitchA(config-if)# switchport trunk encapsulation dot1q
```

```
SwitchA(config-if)# switchport mode trunk
```

步骤2.配置VLAN间路由

```
Router# configure terminal
```

```
Router(config)# interface fa0/0
```

```
Router(config-if)# no ip address
```

```
Router(config-if)#exit

Router(config)# interface fa0/0.10

Router(config-subif)# description ROUTER INTERFACE FOR VOICE VLAN

Router(config-subif)# encapsulation dot1q 10

Router(config-subif)# ip address 172.16.1.1 255.255.255.0

Router(config-subif)# ip helper-address 172.16.2.5

Router(config-subif)#exit

Router(config)# interface fa0/0.50

Router(config-subif)# description ROUTER INTERFACE FOR DATA VLAN

Router(config-subif)# encapsulation dot1q 50

Router(config-subif)# ip address 172.16.2.1 255.255.255.0
```

步骤3.配置基于路由器的DHCP服务器

```
RTR# configure terminal

RTR(config)# ip dhcp excluded-address 172.16.1.1 172.16.1.9

RTR(config)# ip dhcp excluded-address 172.16.2.1 172.16.2.9

RTR(config)# ip dhcp pool DATA_SCOPE

RTR(dhcp-config)# network 172.16.2.0 255.255.255.0

RTR(dhcp-config)# default-router 172.16.2.1

RTR(dhcp-config)# dns-server 4.2.2.2

RTR(dhcp-config)# exit

RTR(config)# ip dhcp pool VOICE_SCOPE

RTR(dhcp-config)#network 172.16.1.0 255.255.255.0

RTR(dhcp-config)# default-router 172.16.1.1

RTR(dhcp-config)# option 150 ip 172.16.1.1

RTR(dhcp-config)# dns-server 4.2.2.2
```

步骤4.使用NTP设置思科设备的时钟

```
RTR# configure terminal

RTR(config)# ntp server 64.209.210.20

RTR(config)# clock timezone Cairo +2
```

步骤5.将CME文件安装到闪存中

```
CME_Voice# archive tar /xtract tftp://172.16.2.5/<file name> flash:
```

步骤6.为IP电话固件文件配置基于路由器的TFTP服务

```
CME_Voice# configure terminal
```

```
CME_Voice(config)# tftp-server flash:/phone/<file name>
```

步骤7.配置Cisco Unified CME系统级功能

调配CME电话和电话号码：

```
CME_Voice# configure terminal
```

```
CME_Voice(config)# telephony-service
```

```
CME_Voice(config-telephony)# max ephone x
```

```
CME_Voice(config-telephony)# max dn x
```

为固件加载配置CME:

```
CME_Voice# configure terminal
```

```
CME_Voice(config)# tftp-server flash:/phone/<phone model>/<file name>
```

设置每部电话的固件负载：

```
CME_Voice# configure terminal
```

```
CME_Voice(config)# load <phone model> <firmware load>
```

步骤8.源IP地址信息

```
CME_Voice# configure terminal
```

```
CME_Voice(config)# telephony-service
```

```
CME_Voice(config-telephony)# ip source address 172.16.1.1
```

步骤9.生成IP电话配置文件

```
CME_Voice# configure terminal
```

```
CME_Voice(config)# telephony-service
```

```
CME_Voice(config-telephony)# creat cnf-files
```

步骤10.检验CME TFTP服务提供的文件

```
CME_Voice# show telephony-service tftp-bindings
```

验证

当前没有可用于此配置的验证过程。

故障排除

目前没有针对此配置的故障排除信息。