

使用直接IP寻址的Cisco Unity Express网络

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简介

本文档提供四个站点之间的Cisco Unity Express语音邮件语音配置文件Internet邮件(VPIM)网络的示例配置。其中两个站点是Cisco CallManager Express (CME)站点，而另外两个站点则由中央Cisco CallManager控制。您的网络可以是Cisco CME专用网络，也可以是Cisco CallManager专用网络。要在完成此配置后对网络进行建模，请参阅与预期部署匹配的配置。此配置方案在所有四个站点之间启用语音邮件网络。该配置具有以下特征：

- 网状网络-所有站点均可发送和接收来自所有其他站点的语音消息。多达500个Cisco Unity Express站点在网络中网状布网。
- 站点之间的VPIM网络使用直接IP寻址。您也可以使用域名系统(DNS)编址设置这些配置，但本配置示例中未显示这些配置。
- 网络在所有站点上使用固定长度的四位数拨号方案。例如，站点2的电话分配为2001和2002，站点3的电话分配为3001和3002。只需拨打四位数的分机号，网络中的所有IP电话即可相互呼叫。
- 站点的网络位置ID与站点编号相同。例如，站点2的位置ID为2，站点3的位置ID为3。
- 这四个站点的配置中没有显示任何PSTN连接，因为这与Cisco Unity Express网络配置无关。

将真实办公室连在一起也包含这一附加组件。

先决条件

以下各节提供了解此配置示例的重要信息。在继续配置示例之前，请阅读以下各节：

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- 在站点2，运行Cisco CME和Cisco Unity Express的Cisco 3725路由器
- 在站点3，运行Cisco CME和Cisco Unity Express的Cisco 2691路由器
- 在站点4，运行Cisco安全可存活远程站点电话(SRST)和Cisco Unity Express的Cisco 3725路由器
- 在站点6，运行Cisco SRST和Cisco Unity Express的Cisco 3725路由器
- 思科IOS版本12.3(11)T
- Cisco CME 3.2
- 思科Unity Express 2.0
- IP Voice Cisco IOS 功能集

所有站点都是连接到IP网络的以太网。所有站点都有两部Cisco 7960 IP电话。对于Cisco CME站点（站点2和3），IP电话和拨号方案由Cisco CME控制。对于其他两个站点（站点4和6），IP电话和拨号方案受中央Cisco CallManager控制，并且路由器已配置为SRST运行。

本文档中的信息是从特定实验环境中的设备创建的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响

相关产品

此配置也可在下列硬件与软件版本中使用：

- Cisco 2800 系列路由器
- Cisco 3800 系列路由器
- 对于Cisco 2800系列路由器，Cisco IOS版本12.3(8)T4或更高版本。对于Cisco 3800系列路由器，Cisco IOS版本12.3(11)T和更高版本。

规则

如果适用，本文档将使用表1中的约定。

表1 Cisco Unity Express配置示例文档约定

| 约定 | 描述 |
|--|--|
| 加粗文本 | 加粗文本用于： <ul style="list-style-type: none"> 键和按钮名称。（示例：单击确定。） 您输入的信息。（示例：在“用户名”框中输入Administrator。） |
| < > (尖括号) | 尖括号用于提供值的参数。（示例：在命令提示符窗口中，输入ping <IP地址>。） |
| - (连字符) | 用连字符分隔必须同时按下的键。（示例：按Ctrl+Alt+Delete。） |
| > (右尖括号) | 右尖括号用于分隔您所做的选择： <ul style="list-style-type: none"> 在菜单上。（示例：在Windows“开始”菜单上，单击“设置”>“控制面板”>“电话和调制解调器选项”。） 在Cisco Unity Administrator的导航栏中。（示例：转到系统(System) >配置(Configuration) >设置(Settings)页面。） |
| 在IP V4格式地址的高位地址范围中使用的字母a。 示例：a .23.10.224 | 表示公有A类Internet地址或网络。只用于说明目的来防止使用公共编号。 |
| 电话号码中使用的字母x和y 示例：2 xx . yyy .1234 | 表示电话号码的区域代码和前缀。只用于说明目的来防止使用公共编号。 |

本文档还使用以下一般约定：

注意：表示读者需要注意。“注意”中包含有用的建议或本文档未涵盖的材料的引用。

警告：表示读者应小心。在这种情况下，可能会因操作不当而导致设备损坏或数据丢失。

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

配置

本部分提供有关如何配置本文档所述功能的信息。

注意：要查找有关本文档中所用命令的其他信息，请使用[命令查找工具](#)（仅限注册用户）。

网络图

本文档使用下图所示的网络设置。

站点2位置使用具有以下特征的Cisco 3725路由器：

- 通过IP地址a.3.235.1访问IP网络
- Cisco CME配置，带两个IP电话，分机2001和2002
- PSTN区号2xx
- NM-CUE
- Cisco Unity Express IP地址a.3.235.128
- 网络位置ID 2

站点3位置使用具有以下特征的Cisco 2691路由器：

- 通过IP地址a.3.229.1访问IP网络
- Cisco CME配置，带两个IP电话，分机3001和3002
- PSTN区号3xx
- NM-CUE
- Cisco Unity Express IP地址a.3.229.128
- 网络位置ID 3

站点4位置使用具有以下特征的Cisco 3725路由器：

- 通过IP地址a.3.231.10访问IP网络
- Cisco CallManager/SRST配置，带有两个IP电话，分机4001和4002
- PSTN区号4xx
- NM-CUE
- Cisco Unity Express IP地址a.3.231.128
- 网络位置ID 4

站点6位置使用具有以下特征的Cisco 3745路由器：

- 通过IP地址a.3.245.1访问IP网络
- Cisco CallManager/SRST配置，带有两个IP电话，分机6001和6002
- PSTN区号6xx
- NM-CUE
- Cisco Unity Express IP地址a.3.245.128
- 网络位置ID 6

配置提示

- 请确保在呼叫之前可以在站点之间执行ping。
- 在尝试Cisco Unity Express联网之前，请确保您可以在站点间进行呼叫。
- 确保可以在每个站点的Cisco Unity Express节点之间执行ping。

配置

本文档使用如下所示的配置。

- 站点2配置 (Cisco 3725/Cisco CME路由器) , 第5页)
- 站点3配置 (Cisco 2691/Cisco CME路由器) , 第11页
- 站点4配置 (Cisco 3725 SRST路由器) , 第16页)
- 站点6配置 (Cisco 3745 SRST路由器) , 第21页)

站点2配置 (Cisco 3725/Cisco CME路由器)

• 路由器配置

路由器配置的相关摘要如下所示：

```
cme-3725#
show running-config
Current configuration : 8184 bytes
!
! Last configuration change at 11:01:46 PST Fri Nov 5 2004
! NVRAM config last updated at 08:29:05 PST Fri Nov 5 2004
!
version 12.3
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname cme-3725
!
boot-start-marker
boot system flash:c3725-ipvoice-mz.123-10.3.PI5
boot-end-marker
!
! Allow intersite H.323 calls to reach Cisco Unity Express
!
voice service voip
  allow-connections h323 to sip
!
!
! IP address of the router
!
interface FastEthernet0/0
  ip address a.3.235.1 255.255.0.0
  duplex auto
  speed auto
  no cdp enable
!
interface FastEthernet0/1
  ip address a.1.1.100 255.255.0.0
  speed auto
  half-duplex
  no cdp enable
!
! IP address of Cisco Unity Express
!
interface Service-Engine1/0
  ip unnumbered FastEthernet0/0
  service-module ip address a.3.235.128 255.255.0.0
```

```
service-module ip default-gateway a.3.235.1
hold-queue 60 out
!
ip classless
ip route a.3.235.128 255.255.255.255 Service-Engine1/0
!
! Dial-peer to allow calls to forward from Cisco CME to Cisco Unity Express
!
dial-peer voice 2100 voip
destination-pattern 21..
session protocol sipv2
session target ipv4:a.3.235.128
dtmf-relay sip-notify
codec g711ulaw
no vad
!
! Dial-peers to direct intersite calls
!
dial-peer voice 3000 voip
destination-pattern 3...
session target ipv4:a.3.229.1
dtmf-relay h245-alphanumeric
codec g711ulaw
no vad
!
dial-peer voice 4000 voip
destination-pattern 4...
session target ipv4:a.3.231.5
dtmf-relay h245-alphanumeric
codec g711ulaw
no vad
!
dial-peer voice 6000 voip
destination-pattern 6...
session target ipv4:a.3.231.5
dtmf-relay h245-alphanumeric
codec g711ulaw
no vad
!
!
telephony-service
load 7960-7940 P00303020214
max-ephones 50
max-dn 120
ip source-address a.1.1.100 port 2000
time-format 24
date-format dd-mm-yy
auto assign 1 to 5
timeouts interdigit 20
timeouts ringing 120
system message CME-3725
create cnf-files version-stamp 7960 Sep 27 2004 12:31:02
voicemail 2105
max-conferences 8
moh music-on-hold.au
web admin system name admin password cisco
web admin customer name custlogin password custpswd
dn-webedit
time-webedit
transfer-system full-consult
transfer-pattern 3...
transfer-pattern 2...
```

```

directory last-name-first
!
!
! Extension definitions
!
ephone-dn 1 dual-line
number 2001 secondary 2xyyy2001
label Alice
description Alice Davidson
name Alice Davidson
call-forward max-length 4
call-forward busy 2105
call-forward noan 2105 timeout 10
!
!
ephone-dn 2 dual-line
number 2002 secondary 2xyyy2002
label Aaron
description Aaron Wilkins
name Aaron Wilkins
call-forward max-length 8
call-forward busy 2105
call-forward noan 2105 timeout 10
!
!
! Dial-peers for MWI
!
ephone-dn 51
number 8000....
mwi on
!
!
ephone-dn 52
number 8001....
mwi off
!
!
!
! IP phone definitions
!
ephone 1
ephone-template 1
username "adavidson"
mac-address 0003.6BAA.D1F8
type 7960
button 1:1
!
!
!
ephone 2
ephone-template 1
username "awilkins"
mac-address 0003.6BAA.D362
type 7960
button 1:2

```

- Cisco Unity Express配置

Cisco Unity Express的配置如下所示：


```
ccn application promptmgmt
  description "promptmgmt"
  enabled
  maxsessions 1
  script "promptmgmt.aef"
end application
ccn application voicemail
  description "voicemail"
  enabled
  maxsessions 8
  script "voicebrowser.aef"
  parameter "logoutUri" "http://localhost/voicemail/vxmlscripts/mbxLogout.jsp"
  parameter "uri" "http://localhost/voicemail/vxmlscripts/login.vxml"
end application
ccn engine
end engine
ccn subsystem jtapi
  ccm-manager address
end subsystem
ccn subsystem sip
  gateway address "a.3.235.1"
end subsystem
ccn trigger sip phonenumber 2100
  application "custom-aa"
  enabled
  locale "en_US"
  maxsessions 8
end trigger
ccn trigger sip phonenumber 2102
  application "autoattendant"
  enabled
  locale "en_US"
  maxsessions 8
end trigger
ccn trigger sip phonenumber 2105
  application "voicemail"
  enabled
  idletimeout 5000
  locale "en_US"
  maxsessions 8
end trigger
ccn trigger sip phonenumber 2106
  application "promptmgmt"
  enabled
  idletimeout 5000
  locale "en_US"
  maxsessions 1
end trigger
! Definitions of the four networking sites
network location id 2
  abbreviation "S2"
  email domain a.3.235.128
  name "site2-cme-3725"
end location
network location id 3
  abbreviation "S3"
  email domain a.3.229.128
  name "site3-cme-2691"
end location
network location id 4
  abbreviation "S4"
  email domain a.3.231.128
```

```
name "site4-ccm-3725"
end location
network location id 6
abbreviation "S6"
email domain a.3.245.128
name "site6-ccm-3745"
end location
! Definition of this site's location ID
network local location id 2
voicemail default expiration time 30
voicemail default language en_US
voicemail default mailboxsize 5520
voicemail recording time 900
voicemail default messagesize 60
voicemail operator telephone 2001
voicemail capacity time 6000
voicemail mailbox owner "Sales" size 5520
description "Sales mailbox"
zerooutnumber "2100"
end mailbox
voicemail mailbox owner "acoley" size 5520
description "acoley mailbox"
zerooutnumber "2100"
end mailbox
voicemail mailbox owner "adavidson" size 5520
description "adavidson mailbox"
zerooutnumber "2100"
end mailbox
voicemail mailbox owner "amcdougal" size 5520
description "amcdougal mailbox"
zerooutnumber "2100"
end mailbox
voicemail mailbox owner "awilkins" size 5520
description "awilkins mailbox"
zerooutnumber "2100"
end mailbox
voicemail mailbox owner "awyant" size 5520
description "awyant mailbox"
zerooutnumber "2100"
end mailbox
end
```

站点3配置 (Cisco 2691/Cisco CME路由器)

- 路由器配置

路由器配置的相关摘要如下所示：

```
cme-2691#
show running-config
Building configuration...
Current configuration : 4868 bytes
!
! Last configuration change at 07:35:10 PST Fri Oct 22 2004
! NVRAM config last updated at 12:07:37 PST Fri Oct 22 2004
```

```
!  
version 12.3  
service timestamps debug uptime  
service timestamps log uptime  
no service password-encryption  
!  
hostname cme-2691  
!  
boot-start-marker  
boot system flash:c2691-ipvoice-mz.123-10.3.PI5  
boot-end-marker  
!  
! Allow intersite H.323 calls to reach Cisco Unity Express  
!  
voice service voip  
  allow-connections h323 to sip  
!  
! IP address of the router  
!  
interface FastEthernet0/0  
  ip address a.3.229.1 255.255.0.0  
  no ip mroute-cache  
  load-interval 30  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  ip address a.10.1.100 255.255.0.0  
  no ip mroute-cache  
  duplex auto  
  speed auto  
!  
! IP address of Cisco Unity Express  
!  
interface Service-Engine1/0  
  ip unnumbered FastEthernet0/0  
  service-module ip address a.3.229.128 255.255.0.0  
  service-module ip default-gateway a.3.229.1  
!  
ip classless  
ip route a.3.229.128 255.255.255.255 Service-Engine1/0  
!  
ip http server  
ip http path flash:  
!  
! Dial-peer to allow calls to forward from Cisco CME to Cisco Unity Express  
!  
dial-peer voice 3100 voip  
  description VM-AA  
  destination-pattern 31..  
  session protocol sipv2  
  session target ipv4:a.3.229.128  
  dtmf-relay sip-notify  
  codec g711ulaw  
  no vad  
!  
! Dial-peers to direct intersite calls  
!  
dial-peer voice 2000 voip  
  destination-pattern 2..  
  session target ipv4:a.3.235.1  
  dtmf-relay h245-alphanumeric
```

```
codec g711ulaw
no vad
!
dial-peer voice 4000 voip
destination-pattern 4...
session target ipv4:a.3.231.5
dtmf-relay h245-alphanumeric
codec g711ulaw
no vad
!
dial-peer voice 6000 voip
destination-pattern 6...
session target ipv4:a.3.231.5
dtmf-relay h245-alphanumeric
codec g711ulaw
no vad
!
!
telephony-service
load 7960-7940 P00303020214
max-ephones 48
max-dn 192
ip source-address a.10.1.100 port 2000
system message CME-2691
create cnf-files version-stamp 7960 Jul 15 2003 13:48:12
voicemail 3105
max-conferences 8
web admin system name admin password cisco
dn-webedit
time-webedit
transfer-system full-consult
transfer-pattern 3...
transfer-pattern 2...
!
! Extension definitions
!
ephone-dn 1 dual-line
number 3001
description User1
name User1
call-forward busy 3105
call-forward noan 3105 timeout 10
!
!
ephone-dn 2 dual-line
number 3002
description User2
name User2
call-forward busy 3105
call-forward noan 3105 timeout 10
!
!
! Dial-peers for MWI
!
ephone-dn 51
number 8000....
mwi on
!
!
ephone-dn 52
number 8001....
mwi off
```

```

!
! IP phone definitions
!
ephone 1
  username "User1" password null
  mac-address 0009.B7F7.5793
  button 1:1
!
!
!
ephone 2
  username "User2" password null
  mac-address 0002.FD06.D959
  button 1:2

```

- Cisco Unity Express配置

Cisco Unity Express的配置如下所示：

```

cue-nm-2691#
show running-config
Generating configuration:
clock timezone America/Los_Angeles
hostname cue-nm-2691
ip domain-name localdomain
ntp server a.3.229.1
software download server url "ftp://127.0.0.1/ftp"
  credentials hidden "6u/dKTN/hsEuSAEfw40X1F2eFHnZfyUTSd8ZZNgd+Y9J3x1k2B35j0nfGWYHfmPSd8ZZNgd+Y9J3x1k"
groupname Administrators create
groupname customer-service create
username admin create
username User1 create
username User2 create
username User3 create
username User4 create
username User5 create
username User6 create
groupname customer-service phonenumE164 "4xxyyy3050"
groupname customer-service phonenum "3050"
username User1 phonenum "3001"
username User2 phonenum "3002"
username User3 phonenum "3003"
username User4 phonenum "3004"
username User5 phonenum "3005"
username User6 phonenum "3006"
groupname Administrators member admin
groupname customer-service member User2
groupname customer-service member User3
groupname Administrators privilege superuser
groupname Administrators privilege ManagePrompts
backup server url "ftp://a.3.231.201/cme2691_4nov04/"
  credentials hidden "xx0aioWv/uC5WSZLs/L2XY/frZzvmJ2MSd8ZZNgd+Y9J3x1k2B35j0nfGWYHfmPSd8ZZNgd+Y9J3x1k"
ccn application autoattendant
  description "autoattendant"
  enabled
  maxsessions 8
  script "aa.aef"
  parameter "MaxRetry" "3"

```

```
parameter "operExtn" "0"
parameter "welcomePrompt" "AAgreeting.wav"
end application
ccn application ciscoMWIapplication
description "ciscoMWIapplication"
enabled
maxsessions 8
script "setMWI.aef"
parameter "strMWI_OFF_DN" "8001"
parameter "strMWI_ON_DN" "8000"
parameter "CallControlGroupID" "0"
end application
ccn application promptmgmt
description "promptmgmt"
enabled
maxsessions 1
script "promptmgmt.aef"
end application
ccn application voicemail
description "voicemail"
enabled
maxsessions 8
script "voicebrowser.aef"
parameter "logoutUri" "http://localhost/voicemail/vxmlscripts/mbxLogout.jsp"
parameter "uri" "http://localhost/voicemail/vxmlscripts/login.vxml"
end application
ccn engine
end engine
ccn subsystem jtapi
ccm-manager address
end subsystem
ccn subsystem sip
gateway address "a.3.229.1"
end subsystem
ccn trigger sip phonenumber 3100
application "autoattendant"
enabled
maxsessions 8
end trigger
ccn trigger sip phonenumber 3105
application "voicemail"
enabled
maxsessions 8
end trigger
ccn trigger sip phonenumber 3106
application "promptmgmt"
enabled
maxsessions 1
end trigger
! Definitions of the four networking sites
network location id 2
abbreviation "S2"
email domain a.3.235.128
name "site2-cme-3725"
end location
network location id 3
abbreviation "S3"
email domain a.3.229.128
name "site3-cme-2691"
end location
network location id 4
abbreviation "S4"
```

```
email domain a.3.231.128
name "site4-ccm-3725"
end location
network location id 6
abbreviation "S6"
email domain a.3.245.128
name "site6-ccm-3745"
end location
! Definition of this site's location ID
network local location id 3
voicemail default expiration time 60
voicemail default language en_US
voicemail default mailboxsize 5520
voicemail recording time 900
voicemail default messagesize 60
voicemail operator telephone 0
voicemail capacity time 6000
voicemail mailbox owner "User1" size 5520
end mailbox
voicemail mailbox owner "User2" size 5520
end mailbox
voicemail mailbox owner "User3" size 5520
end mailbox
voicemail mailbox owner "User4" size 5520
end mailbox
voicemail mailbox owner "User5" size 5520
end mailbox
voicemail mailbox owner "User6" size 5520
end mailbox
voicemail mailbox owner "customer-service" size 5520
description "customer-service mailbox"
zerooutnumber "3101"
end mailbox
end
```

站点4配置 (Cisco 3725 SRST路由器)

- 路由器配置

路由器配置的相关摘要如下所示：

```
ccm_3725#
show running-config
Building configuration...
Current configuration : 2278 bytes
!
! Last configuration change at 07:11:44 PST Wed Nov 10 2004
! NVRAM config last updated at 07:11:52 PST Wed Nov 10 2004
!
version 12.3
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname ccm_3725
```

```

!
boot-start-marker
boot system flash:c3725-ipvoice-mz.123-10.3.PI5
boot-end-marker
!
! Allow intersite H.323 calls to reach Cisco Unity Express during SRST
!
voice service voip
  allow-connections h323 to sip
!
! IP address of the router
!
interface FastEthernet0/0
  ip address a.3.231.10 255.255.0.0
  speed auto
  half-duplex
!
interface FastEthernet0/1
  no ip address
  shutdown
  duplex auto
  speed auto
!
! IP address of Cisco Unity Express
!
interface Service-Engine1/0
  ip unnumbered FastEthernet0/0
  service-module ip address a.3.231.128 255.255.0.0
  service-module ip default-gateway a.3.231.10
!
ip classless
ip route a.3.231.128 255.255.255.255 Service-Engine1/0
!
ip http server
ip http path flash:
!
! Dial-peer to allow calls to forward from Cisco SRST to Cisco Unity Express
!
dial-peer voice 4100 voip
  destination-pattern 41..
  session protocol sipv2
  session target ipv4:a.3.231.128
  dtmf-relay sip-notify
  codec g711ulaw
  no vad
!
! SRST definition to ensure Cisco Unity Express and IP Phone operation during Cisco CallManager unavail.
!
call-manager-fallback
  max-conferences 8
  ip source-address a.3.231.5 port 2000
  max-ephones 24
  max-dn 48
  voicemail 4105
  call-forward busy 4105
  call-forward noan 4105 timeout 7

```

- Cisco Unity Express配置

Cisco Unity Express的配置如下所示：


```
end application
ccn application voicemail
description "voicemail"
enabled
maxsessions 8
script "voicebrowser.aef"
parameter "logoutUri" "http://localhost/voicemail/vxmlscripts/mbxLogout.jsp"
parameter "uri" "http://localhost/voicemail/vxmlscripts/login.vxml"
end application
ccn engine
end engine
ccn subsystem jtapi
ctiport 4901 4902 4903 4904
ccm-manager address a.3.231.5
ccm-manager
credentials hidden "QiUfMZRFsRBqrOHVxftjAknfGWTYHfmPSd8ZZNgd+Y9J3x1k2B35j0nFGWTYHfmPSd8ZZNgd+Y9J3x1"
end subsystem
ccn subsystem sip
gateway address "a.3.231.10"
end subsystem
ccn trigger jtapi phonenumber 4100
application "autoattendant"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger jtapi phonenumber 4101
application "abccorp"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger jtapi phonenumber 4105
application "voicemail"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger jtapi phonenumber 4106
application "promptmgmt"
enabled
locale "en_US"
maxsessions 1
end trigger
ccn trigger sip phonenumber 4100
application "autoattendant"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger sip phonenumber 4101
application "abccorp"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger sip phonenumber 4105
application "voicemail"
enabled
locale "en_US"
maxsessions 8
end trigger
```

```
ccn trigger sip phonenumber 4106
application "promptmgmt"
enabled
locale "en_US"
maxsessions 1
end trigger
! Definitions of the four networking sites
network location id 2
abbreviation "S2"
email domain a.3.235.128
name "site2-cme-3725"
end location
network location id 3
abbreviation "S3"
email domain a.3.229.128
name "site3-cme-2691"
end location
network location id 4
abbreviation "S4"
email domain a.3.231.128
name "site4-ccm-3725"
end location
network location id 6
abbreviation "S6"
email domain a.3.245.128
name "site6-ccm-3745"
end location
! Definition of this site's location ID
network local location id 4
voicemail default expiration time 30
voicemail default language en_US
voicemail default mailboxsize 3000
voicemail recording time 900
voicemail default messagesize 60
voicemail operator telephone 0
voicemail capacity time 6000
voicemail mailbox owner "Bob" size 3000
end mailbox
voicemail mailbox owner "anders" size 3000
end mailbox
voicemail mailbox owner "zacks" size 3000
end mailbox
end
```

站点6配置 (Cisco 3745 SRST路由器)

- 路由器配置

路由器配置的相关摘要如下所示：

```
ccm_3745#
show running-config
Building configuration...
Current configuration : 3295 bytes
!
```

```
! Last configuration change at 02:46:54 UTC Fri Apr 12 2002
! NVRAM config last updated at 17:20:53 UTC Thu Apr 11 2002
!
version 12.3
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname ccm_3745
!
boot-start-marker
boot system flash:c3745-ipvoice-mz.123-10.3.PI5
boot-end-marker
!
!
! Allow intersite H.323 calls to reach Cisco Unity Express during SRST
!
voice service voip
  allow-connections h323 to sip
!
! IP address of the router
!
interface FastEthernet0/0
  ip address a.3.245.1 255.255.0.0
  speed auto
  half-duplex
  no mop enabled
!
interface FastEthernet0/1
  ip address 172.19.153.31 255.255.0.0
  duplex auto
  speed auto
!
! IP address of Cisco Unity Express
!
interface Service-Engine1/0
  ip unnumbered FastEthernet0/0
  service-module ip address a.3.245.128 255.255.0.0
  service-module ip default-gateway a.3.245.1
!
!
ip classless
ip route a.3.245.128 255.255.255.255 Service-Engine1/0
!
ip http server
ip http path flash:
!
!
! Dial-peer to allow calls to forward from Cisco SRST to Cisco Unity Express
!
dial-peer voice 6100 voip
  destination-pattern 61..
  session protocol sipv2
  session target ipv4:a.3.245.128
  dtmf-relay sip-notify
  codec g711ulaw
  no vad
!
! SRST definition to ensure Cisco Unity Express and IP Phone operation during Cisco CallManager unavail
!
call-manager-fallback
  max-conferences 8
```

```
ip source-address a.3.231.5 port 2000
max-ephones 24
max-dn 48
voicemail 6105
call-forward busy 6105
```

- Cisco Unity Express配置

Cisco Unity Express的配置如下所示：

```
cue-ccm3745#
show running-config
Generating configuration:
clock timezone America/Los_Angeles
hostname cue-ccm3745
ip domain-name localdomain
ntp server a.3.233.100
software download server url "ftp://127.0.0.1/ftp"
  credentials hidden "6u/dKTN/hsEuSAEfw40XlF2eFHnZfyUTSd8ZZNgd+Y9J3x1k2B35j0nfGWYHfmPSd8ZZNgd+Y9J3x1k"
groupname Administrators create
groupname Broadcasters create
username admin create
username Yvon create
username Zack create
username Yvon phonenumber "6001"
username Zack phonenumber "6002"
groupname Administrators member admin
groupname Administrators member Yvon
groupname Administrators privilege superuser
groupname Administrators privilege ManagePrompts
backup server url "ftp://a.3.231.243/ccm3745_5nov/"
  credentials hidden "GixGRq8cUmFqrOHVxftjAknfGWYHfmPSd8ZZNgd+Y9J3x1k2B35j0nfGWYHfmPSd8ZZNgd+Y9J3x1k"
ccn application autoattendant
  description "autoattendant"
  enabled
  maxsessions 8
  script "aa.aef"
  parameter "MaxRetry" "3"
  parameter "operExtn" "0"
  parameter "welcomePrompt" "AAWelcome.wav"
end application
ccn application ciscomwiapplication
  description "ciscomwiapplication"
  enabled
  maxsessions 8
  script "setmwi.aef"
  parameter "strMWI_OFF_DN" "8001"
  parameter "strMWI_ON_DN" "8000"
  parameter "CallControlGroupID" "0"
end application
ccn application promptgmt
  description "promptgmt"
  enabled
  maxsessions 1
  script "promptgmt.aef"
end application
ccn application voicemail
  description "voicemail"
```

```
enabled
maxsessions 8
script "voicebrowser.aef"
parameter "logoutUri" "http://localhost/voicemail/vxmlscripts/mbxLogout.jsp"
parameter "uri" "http://localhost/voicemail/vxmlscripts/login.vxml"
end application
ccn engine
end engine
ccn subsystem jtapi
ctiport 6901 6902 6903 6904
ccm-manager address a.3.231.5
ccm-manager
  credentials hidden "1anJW38IVSZ1d67dzhL9pEnfGWTYHfmPSd8ZZNgd+Y9J3x1k2B35j0nfgWTYHfmPSd8ZZNgd+Y9J3x1"
end subsystem
ccn subsystem sip
gateway address "a.3.45.1"
end subsystem
ccn trigger jtapi phonenummer 6100
application "autoattendant"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger jtapi phonenummer 6105
application "voicemail"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger jtapi phonenummer 6106
application "promptmgmt"
enabled
locale "en_US"
maxsessions 1
end trigger
ccn trigger sip phonenummer 6100
application "autoattendant"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger sip phonenummer 6105
application "voicemail"
enabled
locale "en_US"
maxsessions 8
end trigger
ccn trigger sip phonenummer 6106
application "promptmgmt"
enabled
locale "en_US"
maxsessions 1
end trigger
! Definitions of the four networking sites
network location id 2
abbreviation "S2"
email domain a.3.235.128
name "site2-cme-3725"
end location
network location id 3
abbreviation "S3"
email domain a.3.229.128
```

```
name "site3-cme-2691"
end location
network location id 4
abbreviation "S4"
email domain a.3.231.128
name "site4-ccm-3725"
end location
network location id 6
abbreviation "S6"
email domain a.3.245.128
name "site6-ccm-3745"
end location
! Definition of this site's location ID
network local location id 6
voicemail default expiration time 30
voicemail default language en_US
voicemail default mailboxsize 3000
voicemail recording time 900
voicemail default messagesize 60
voicemail operator telephone 0
voicemail capacity time 6000
voicemail mailbox owner "Yvon" size 3000
end mailbox
voicemail mailbox owner "Zack" size 3000
end mailbox
```

验证

本部分所提供的信息可用于确认您的配置是否正常工作。

[命令输出解释程序工具 \(仅限注册用户\) 支持某些](#) show 命令，使用此工具可以查看对 show 命令输出的分析。

请按照以下步骤验证您的配置是否工作正常。

第 确认您可在各个站点的所有Cisco Unity Express位置之间执行ping操作。

1

步 验证站点到站点连接

以下是ping命令的输出示例，在站点2系统的Cisco Unity Express CLI上执行到站点3 Cisco Unity Express。

```
cue-cme3725#
ping a.3.229.128
PING a.3.229.128 (a.3.229.128) 56(84) bytes of data.
64 bytes from a.3.229.128: icmp_seq=1 ttl=62 time=1.22 ms
64 bytes from a.3.229.128: icmp_seq=2 ttl=62 time=0.271 ms
64 bytes from a.3.229.128: icmp_seq=3 ttl=62 time=0.263 ms
64 bytes from a.3.229.128: icmp_seq=4 ttl=62 time=0.262 ms
64 bytes from a.3.229.128: icmp_seq=5 ttl=62 time=0.263 ms
```

```
--- a.3.229.128 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4ms
rtt min/avg/max/mdev = 0.262/0.456/1.224/0.384 ms, ipg/ewma 1.094/0.827 ms
```

以下是ping命令的输出示例，在站点2系统的Cisco Unity Express CLI上执行到站点4 Cisco Unity Express。

```
cue-cme3725#
ping a.3.231.128
PING a.3.231.128 (a.3.231.128) 56(84) bytes of data.
64 bytes from a.3.231.128: icmp_seq=1 ttl=62 time=1.03 ms
64 bytes from a.3.231.128: icmp_seq=2 ttl=62 time=0.262 ms
64 bytes from a.3.231.128: icmp_seq=3 ttl=62 time=0.257 ms
64 bytes from a.3.231.128: icmp_seq=4 ttl=62 time=0.256 ms
64 bytes from a.3.231.128: icmp_seq=5 ttl=62 time=0.257 ms
--- a.3.231.128 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4ms
rtt min/avg/max/mdev = 0.256/0.412/1.032/0.310 ms, ipg/ewma 1.048/0.711 ms
```

以下是在Site 2系统的Cisco Unity Express命令行界面(CLI)上执行的ping命令到站点6 Cisco Unity Express的输出示例。

```
cue-cme3725#
ping a.3.245.128
PING a.3.245.128 (a.3.245.128) 56(84) bytes of data.
64 bytes from a.3.245.128: icmp_seq=1 ttl=62 time=0.953 ms
64 bytes from a.3.245.128: icmp_seq=2 ttl=62 time=0.251 ms
64 bytes from a.3.245.128: icmp_seq=3 ttl=62 time=0.248 ms
64 bytes from a.3.245.128: icmp_seq=4 ttl=62 time=0.246 ms
64 bytes from a.3.245.128: icmp_seq=5 ttl=62 time=0.249 ms
--- a.3.245.128 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4ms
rtt min/avg/max/mdev = 0.246/0.389/0.953/0.282 ms, ipg/ewma 1.025/0.661 ms
```

步骤 使用以下命令验证网络配置：

步骤

2 检验网络配置

- 显示网络位置
- show network detail location id < location-id >
- show network detail local

以下是在Site 2系统的Cisco Unity Express CLI上执行的show network locations命令的输出示例。


```

cue-cme3725#
show network locations
ID          NAME                               ABBREV DOMAIN
2           'site2-cme-3725'                   S2      a.3.235.128
3           'site3-cme-2691'                   S3      a.3.229.128
6           'site6-ccm-3745'                   S6      a.3.245.128
4           'site4-ccm-3725'                   S4      a.3.231.128
Local location id: 2

```

以下是在Site 2系统的Cisco Unity Express CLI上执行的show network detail location id 4命令的输出示例。

```

cue-cme3725#
show network detail location id 4
Name:                site4-ccm-3725
Abbreviation:        S4
Email domain:        a.3.231.128
Minimum extension length: 2
Maximum extension length: 15
Phone prefix:
VPIM encoding:       dynamic
Send spoken name:    enabled
Sent msg count:      0
Received msg count:  0

```

以下是在Site 3系统的Cisco Unity Express CLI上执行的show network detail local命令的输出示例。

```

cue-cme3725#
show network detail local
Location Id:         3
Name:                site3-cme-2691
Abbreviation:        S3
Email domain:        a.3.229.128
Minimum extension length: 2
Maximum extension length: 15
Phone prefix:
VPIM encoding:       dynamic
Send spoken name:    enabled

```

步 从站点2向一个或多个其他站点发送语音消息。当您按#发送消息时，在发送系统的Cisco
 骤 Unity Express系统中输入show network queues命令。继续重复此命令的显示，直到已发送所
 3 有VPIM消息，或者直到目标电话的MWI灯亮起。

验证消息发送VPIM活动

以下是show network queues命令的输出示例，该命令在站点3 Cisco Unity Express系统中在将消息发送到站点6分机6001后执行。

```
cue-cme3725#
show network queues
Running Job Queue
=====
ID    TYPE TIME      RETRY SENDER      RECIPIENT
4     VPIM 09:09:45    0     User1          6001@1.3.245.128
Urgent Job Queue
=====
ID    TYPE TIME      RETRY SENDER      RECIPIENT
No entries
Normal Job Queue
=====
ID    TYPE TIME      RETRY SENDER      RECIPIENT
No entries
```

故障排除

本部分提供的信息可用于对配置进行故障排除。

[命令输出解释程序工具（仅限注册用户）支持某些](#) show 命令，使用此工具可以查看对 show 命令输出的分析。

注意：在发出debug命令之前，请参阅[有关Debug命令的重要信息](#)。

在发送或接收Cisco Unity Express系统上可以发出以下trace命令，以监控它们之间的SMTP和VPIM活动。

第 1 步 trace networking smtp all

 监视SMTP事件

步骤 2 trace networking vpim all

 监控VPIM事件

步骤 3 show trace buffer tail

 在屏幕上显示跟踪缓冲区的内容

故障排除示例

以下示例显示了从站点2分机2001向站点3分机3001发送消息时，发送站点（站点2）的trace命令的输出示例。

```
cue-nm-2691#
trace networking smtp all
cue-nm-2691#
trace networking vpim all
cue-nm-2691#
show trace buffer tail
Press <CTRL-C> to exit...
2464 10/22 09:10:05.206 VMSS vmdb 0 Freed connection: 1, inUse: 0, active: 3
2805 10/22 09:25:07.844 netw smtp 2
2805 10/22 09:25:07.869 netw smtp 1
7177 10/22 09:25:07.913 netw smtp 3 a.3.235.128
7177 10/22 09:25:07.918 netw smtp 4
7177 10/22 09:25:17.966 netw smtp 6 220 a.3.235.128 Simple Mail Transfer Service Ready
7177 10/22 09:25:17.966 netw smtp 5 EHLO
7177 10/22 09:25:17.972 netw smtp 6 250-a.3.235.128 (Cisco Unity Express)
7177 10/22 09:25:17.973 netw smtp 6 250-X-VPIM-Wave
7177 10/22 09:25:17.975 netw smtp 6 250-X-Broadcast
7177 10/22 09:25:17.978 netw smtp 6 250-DSN NOTIFY
7177 10/22 09:25:17.981 netw smtp 6 250 SIZE
7177 10/22 09:25:18.478 netw smtp 5 MAIL FROM 3001@a.3.229.128
7177 10/22 09:25:18.488 netw smtp 6 250 ok
7177 10/22 09:25:18.490 netw smtp 5 RCPT TO 2001@a.3.235.128
7177 10/22 09:25:18.495 netw smtp 6 250 ok
7177 10/22 09:25:18.497 netw smtp 5 DATA
7177 10/22 09:25:18.501 netw smtp 6 354 Start mail input; end with <CRLF>.<CRLF>
7177 10/22 09:25:18.509 netw vpim 3 VPIM
7177 10/22 09:25:18.543 netw vpim 3 VPIM: To: <2001@a.3.235.128>
7177 10/22 09:25:18.544 netw vpim 3 VPIM: From: User<3001@a.3.229.128>
7177 10/22 09:25:18.546 netw vpim 3 VPIM: Date: Fri, 22 Oct 2004 09:25:07 -0700 (PDT)
7177 10/22 09:25:18.547 netw vpim 3 VPIM: MIME-Version: 1.0 (Voice 2.0)
7177 10/22 09:25:18.547 netw vpim 3 VPIM: Content-Type: Multipart/Voice-Message; Version=2.0;
7177 10/22 09:25:18.547 netw vpim 3 VPIM: Boundary=="=VpimMsg==1098462318504"
7177 10/22 09:25:18.547 netw vpim 3 VPIM: Content-Transfer-Encoding: 7bit
7177 10/22 09:25:18.547 netw vpim 3 VPIM: Message-ID: <1098462307586_0@a.3.229.128>
7177 10/22 09:25:18.548 netw vpim 3 VPIM:
7177 10/22 09:25:18.550 netw vpim 3 VPIM: ---=VpimMsg==1098462318504
7177 10/22 09:25:18.550 netw vpim 3 VPIM: Content-Type: text/directory; charset=us-ascii; profile=vCard
7177 10/22 09:25:18.551 netw vpim 3 VPIM: Content-Transfer-Encoding: 7bit
7177 10/22 09:25:18.551 netw vpim 3 VPIM: Content-Disposition: attachment; filename="User.vcf"
7177 10/22 09:25:18.551 netw vpim 3 VPIM:
7177 10/22 09:25:18.551 netw vpim 3 VPIM: BEGIN:vCard
7177 10/22 09:25:18.551 netw vpim 3 VPIM: FN:User
7177 10/22 09:25:18.552 netw vpim 3 VPIM: EMAIL;TYPE=INTERNET;TYPE=VPIM:3001@a.3.229.128
7177 10/22 09:25:18.552 netw vpim 3 VPIM: TEL:3001
7177 10/22 09:25:18.552 netw vpim 3 VPIM: VERSION: 3.0
7177 10/22 09:25:18.552 netw vpim 3 VPIM: END:vCard
7177 10/22 09:25:18.553 netw vpim 3 VPIM:
7177 10/22 09:25:18.597 netw vpim 3 VPIM: ---=VpimMsg==1098462318504
7177 10/22 09:25:18.597 netw vpim 3 VPIM: Content-Type: Audio/x-wav
7177 10/22 09:25:18.597 netw vpim 3 VPIM: Content-Transfer-Encoding: Base64
7177 10/22 09:25:18.597 netw vpim 3 VPIM: Content-Disposition: inline; voice=Originator-Spoken-Name
7177 10/22 09:25:18.598 netw vpim 3 VPIM:
7177 10/22 09:25:18.646 netw vpim 3 VPIM: Uk1GRjI3AABXQVZFZm10IBIAAAAHAAEAQB8AAEAFAAAABAAgAAABmYWN0BAAA
```

APT6/fr6+/19eXZ4e314eXt9/fv9fX37/f/9/f/7/X17eXt5eH37/f34+vv7+Pv/+v7/339//99
eHh7e314fX3//Xt9/33///3///v6+Pb7/fv9//99/317e3t9/319/310eHn//3t9ff/9+Pj///r0

以下是接收站点 (站点3) 在将消息从站点2分机2002发送到站点3分机3001时trace命令的输出示例

。

```
cue-cme3725#
trace networking smtp all
cue-cme3725#
trace networking vpim all
cue-cme3725#
show trace buffer tail
Press <CTRL-C> to exit...
3220 11/08 08:58:43.359 ACCN HTTPS 0 -> LtdSemaph [1297198140] permits: 1 limit: 1
3082 11/08 09:03:23.851 netw smtp 2
3082 11/08 09:03:33.871 netw smtp 3 socket hostName: a.3.229.128, hostAddress: a.3.229.128
3082 11/08 09:03:33.872 netw smtp 3 hostname: a.3.229.128 found in good address cache
3082 11/08 09:03:33.882 netw smtp 1
8850 11/08 09:03:33.888 netw smtp 5 Initial connection message
8850 11/08 09:03:33.893 netw smtp 6 UNKNOWN: EHLO a.3.229.128
8850 11/08 09:03:33.894 netw smtp 5 250-a.3.235.128
8850 11/08 09:03:34.400 netw smtp 6 EHLO : MAIL FROM: <3001@a.3.229.128>
8850 11/08 09:03:34.406 netw smtp 5 250 ok
8850 11/08 09:03:34.411 netw smtp 6 MAIL FROM:: RCPT TO: <2002@a.3.235.128>
8850 11/08 09:03:34.412 netw smtp 5 250 ok
8850 11/08 09:03:34.417 netw smtp 6 RCPT TO:: DATA
8850 11/08 09:03:34.417 netw smtp 5 354 Start data
8850 11/08 09:03:34.483 netw vpim 4 VPIM: To: <2002@a.3.235.128>
8850 11/08 09:03:34.486 netw vpim 4 VPIM: From: User<3001@a.3.229.128>
8850 11/08 09:03:34.489 netw vpim 4 VPIM: Date: Fri, 22 Oct 2004 09:30:06 -0700 (PDT)
8850 11/08 09:03:34.494 netw vpim 4 VPIM: MIME-Version: 1.0 (Voice 2.0)
8850 11/08 09:03:34.497 netw vpim 4 VPIM: Content-Type: Multipart/Voice-Message; Version=2.0;Boundary="
8850 11/08 09:03:34.501 netw vpim 4 VPIM: Content-Transfer-Encoding: 7bit
8850 11/08 09:03:34.504 netw vpim 4 VPIM: Message-ID: <1098462606180_0@a.3.229.128>
8850 11/08 09:03:34.507 netw vpim 4 VPIM:
8850 11/08 09:03:34.510 netw vpim 4 VPIM: ----VpimMsg==1098462616955
8850 11/08 09:03:34.523 netw vpim 1 Message
8850 11/08 09:03:34.528 netw vpim 4 VPIM: Content-Type: text/directory; charset=us-ascii; profile=vCard
8850 11/08 09:03:34.532 netw vpim 4 vCard: Content-Transfer-Encoding: 7bit
8850 11/08 09:03:34.535 netw vpim 4 vCard: Content-Disposition: attachment; filename="User.vcf"
8850 11/08 09:03:34.538 netw vpim 4 vCard:
8850 11/08 09:03:34.541 netw vpim 4 vCard: BEGIN:vCard
8850 11/08 09:03:34.544 netw vpim 4 vCard: FN:User
8850 11/08 09:03:34.547 netw vpim 4 vCard: EMAIL;TYPE=INTERNET;TYPE=VPIM:3001@a.3.229.128
8850 11/08 09:03:34.550 netw vpim 4 vCard: TEL:3001
8850 11/08 09:03:34.553 netw vpim 4 vCard: VERSION: 3.0
8850 11/08 09:03:34.556 netw vpim 4 vCard: END:vCard
8850 11/08 09:03:34.559 netw vpim 4 vCard:
8850 11/08 09:03:34.564 netw vpim 4 vCard: ----VpimMsg==1098462616955
8850 11/08 09:03:34.570 netw vpim 4 VPIM: Content-Type: Audio/x-wav
8850 11/08 09:03:34.573 netw vpim 4 VPIM: Content-Transfer-Encoding: Base64
8850 11/08 09:03:34.577 netw vpim 4 VPIM: Content-Disposition: inline; voice=Originator-Spoken-Name
8850 11/08 09:03:34.585 netw vpim 5 17477
8850 11/08 09:03:34.588 netw vpim 4 VPIM audio: Uk1GRjI3AABXQVZFZm10IBIAAAAHAAEAQB8AAEAfAAABAAgAAABmYWN
8850 11/08 09:03:34.589 netw vpim 4 VPIM audio: APT6/fr6+/19eXZ4e314eXt9/fv9fX37/f/9/f/7/X17eXt5eH37/f3
8850 11/08 09:03:34.591 netw vpim 4 VPIM audio: eHh7e314fX3//Xt9/33///3///v6+Pb7/fv9//99/317e3t9/319/31
8850 11/08 09:03:34.593 netw vpim 4 VPIM audio: 9vb2+/99/319/X12/319///9//99e//9fX19ffv/ffv//fv69vj6+vv
```

8850 11/08 09:03:34.594 netw vpim 4 VPIM audio: +33//f//eXh7+/39+v/9+vr6+/v9ff99//r///v9/fr7+/v/e3h5e3h
8850 11/08 09:03:34.596 netw vpim 4 VPIM audio:

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