用Unity语音邮件集成在CallManager和Avaya S8700/G650之间配置Q.SIG PRI Trunk

目录

简介

本文档旨在为思科客户和业务合作伙伴提供在Cisco Call Manager和Avaya S8700/G650之间配置Q.SIG PRI中继的步骤。此外，本文档详细介绍如何在Cisco Call Manager平台上添加Cisco Unity以为Cisco和Ava提供语音邮件支持的步骤aya IP电话。在需要IP-PBX互操作性和语音邮件集成的情况下，这一点尤其重要。Avaya配置屏幕截图是使用标准仿真工具创建的。另外，您还可以使用Avaya Site Administration(ASA)工具在Avaya S8700/G650上执行配置任务。两种情况下的输出显示相同。本IP-PBX互操作性和语音邮件集成文档仅供外部使用。

先决条件

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：

- 使用的Avaya IP-PBX系统是运行Avaya Communication Manager 2.0的Avaya S8700/G650。Q.SIG功能集是此软件版本的标准。
- 本文档中使用的Avaya IP电话是运行电话固件版本2.01的4610SW和4620。
- 使用Cisco Call Manager 4.1.(2)来使用NM-HDV模块控制3745媒体网关控制协议(MGCP)网关，运行Cisco IOS® 12.2.15ZJ3版。Cisco IOS® 12.3.8.T版也重复了测试5。
- 运行4.0(4)版SR1的Cisco Unity用于语音邮件集成测试。

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。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。
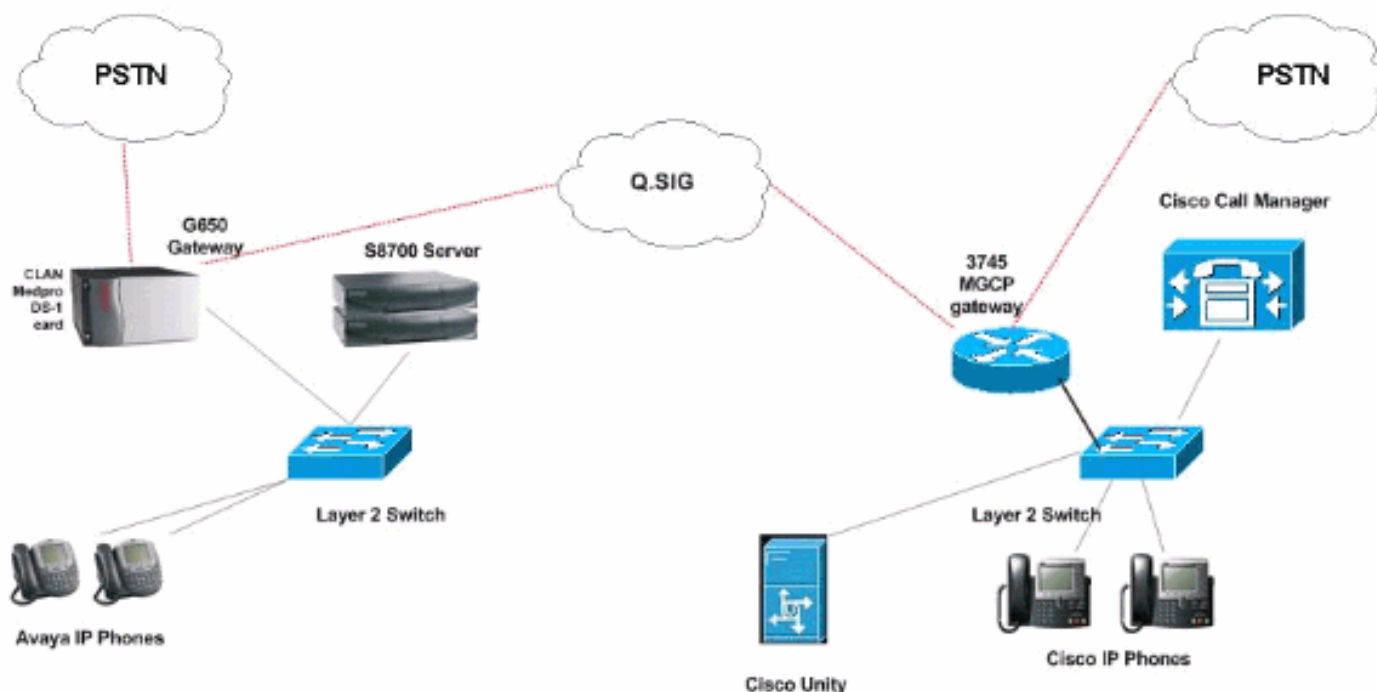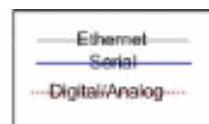
规则

有关文档规则的详细信息，请参阅 Cisco 技术提示规则。

测试设置

使用的Avaya IP-PBX系统是运行Avaya Communication Manager 2.0的Avaya S8700/G650。Q.SIG功能集是此软件版本的标准。使用的AvayaIP电话是运行电话固件版本2.01的4610SW和4620。在Cisco侧，Cisco Call Manager 4.1.2用于使用NM-HDV模块控制3745 MGCP网关，运行Cisco IOS®版12.2.15ZJ3。Cisco IOS® 12.3.8.T5版也重复了测试。运行4.0(4)SR1版的Cisco Unity用于语音邮件集成测试。

测试拓扑

Q.SIG PRI trunk between Cisco Call Manager and Avaya S8700/G650

with Cisco Unity Voice Mail integration

Ethernet
Serial
Digital/Analog

PSTN

PSTN

Q.SIG

Cisco Call Manager

G650
Gateway

S8700 Server

3745
MGCP
gateway

CLAN
Medpro
DS-1
card

Layer 2 Switch

Layer 2 Switch

Avaya IP Phones

Cisco Unity

Cisco IP Phones

思科和Avaya IP-PBX系统之间的互操作性

接下来的部分提供步骤和屏幕截图，帮助您在运行Avaya Communication Manager 2.0的Avaya S8700/G650和运行Call Manager版本4.1(2)的Cisco 3745 MGCP设备（提供物理ISDN）的Cisco Call Manager平台之间配置Q.SIG中继与Avaya S8700/G650的PRI连接。

Avaya S8700/G650 IP-PBX系统的程序

请完成以下步骤：

1. 登录S8700服务器。运行display system-parameters customer命令，以确保S8700服务器上启用了所有必要的Q.SIG功能。

```
display system-parameters customer-options                    Page   8 of  11
                          QSIG OPTIONAL FEATURES

                              Basic Call Setup? y
                   Basic Supplementary Services? y
                          Centralized Attendant? y
                          Interworking with DCS? y
         Supplementary Services with Rerouting? y
                   Transfer into QSIG Voice Mail? y
                              Value-Added (VALU)? y




         (NOTE: You must logoff & login to effect the permission changes.)
```

2. 为Q.SIG PRI配置DS-1卡。

```
display ds1 01A09                                             Page   1 of   2
                          DS1 CIRCUIT PACK

             Location: 01A09                        Name: QSIG
             Bit Rate: 1.544              Line Coding: b8zs
     Line Compensation: 1               Framing Mode: esf
        Signaling Mode: isdn-pri
               Connect: pbx                     Interface: peer-master
     TN-C7 Long Timers? n             Peer Protocol: Q-SIG
  Interworking Message: PROGress                    Side: a
 Interface Companding: mulaw                         CRC? n
             Idle Code: 11111111
                          DCP/Analog Bearer Capability: 3.1kHz




        Slip Detection? n              Near-end CSU Type: other

    Echo Cancellation? n
```

3. 配置中继组。键入add trunk-group #，其中#是所需中继。接下来的三个屏幕截图与中继配置相关。创建中继组后，将23个DS0通道添加到该组。以下是端口分配的示例：01A0901表示：Gateway# 1、机柜A、Slot# 9、DS0 channel# group1。

display trunk-group 1   Page   1 of 22
                            TRUNK GROUP

Group Number: 1   Group Type: isdn   CDR Reports: n
   Group Name: QSIG TRUNKING   COR: 90   TN: 1   TAC: *01
    Direction: two-way   Outgoing Display? y   Carrier Medium: PRI/BRI
 Dial Access? y   Busy Threshold: 99   Night Service:
Queue Length: 0
Service Type: tie   Auth Code? n   TestCall ITC: rest
                      Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
           Codeset to Send Display: 0   Codeset to Send National IEs: 6
          Max Message Size to Send: 260
   Supplementary Service Protocol: b   Digit Handling (in/out): enbloc/enbloc

             Trunk Hunt: ascend   QSIG Value-Added? y
                                               Digital Loss Group: 13
Calling Number - Delete: Insert: Numbering Format: pub-unk
              Bit Rate: 1200   Synchronization: async   Duplex: full
 Disconnect Supervision - In? y Out? y
 Answer Supervision Timeout: 0

display trunk-group 1   Page   2 of 22
TRUNK FEATURES
          ACA Assignment? n   Measured: internal Wideband Support? n
                              Internal Alert? n   Maintenance Tests? y
                              Data Restriction? n   NCA-TSC Trunk Member: 10
                                  Send Name: y   Send Calling Number: y
              Used for DCS? n   Hop Dgt? y
   Suppress # Outpulsing? n   Numbering Format: public
 Outgoing Channel ID Encoding: exclusive   UUI IE Treatment: service-provider

                                          Replace Restricted Numbers? n
                                          Replace Unavailable Numbers? n
                                   Send Called/Busy/Connected Number: y

          Send UUI IE? y
           Send UCID? y
Send Codeset 6/7 LAI IE? y   Ds1 Echo Cancellation? n

Path Replacement with Retention? y

             SBS? n Network (Japan) Needs Connect Before Disconnect? y

```
display trunk-group 1                                          Page   6 of  22
                             TRUNK GROUP
                                   Administered Members (min/max):   1/23
GROUP MEMBER ASSIGNMENTS              Total Administered Members:   23

       Port      Code Sfx Name        Night            Sig Grp
  1: 01A0901    TN464  G                                1
  2: 01A0902    TN464  G                                1
  3: 01A0903    TN464  G                                1
  4: 01A0904    TN464  G                                1
  5: 01A0905    TN464  G                                1
  6: 01A0906    TN464  G                                1
  7: 01A0907    TN464  G                                1
  8: 01A0908    TN464  G                                1
  9: 01A0909    TN464  G                                1
 10: 01A0910    TN464  G                                1
 11: 01A0911    TN464  G                                1
 12: 01A0912    TN464  G                                1
 13: 01A0913    TN464  G                                1
 14: 01A0914    TN464  G                                1
 15: 01A0915    TN464  G                                1
```

4. 添加信令组并指向之前创建的中继组。

```
display signaling-group 1
                             SIGNALING GROUP

Group Number: 1               Group Type: isdn-pri
                     Associated Signaling? y        Max number of NCA TSC: 10
                     Primary D-Channel: 01A0924     Max number of CA TSC: 10
                                                    Trunk Group for NCA TSC: 1
           Trunk Group for Channel Selection: 1    X-Mobility/Wireless Type: NONE
               Supplementary Service Protocol: b    Network Call Transfer? n




















Command:
```

5. 添加路由模式并将其指向信令组。在本例中，路由模式4指向步骤4中创建的信令group# 1。

```
display route-pattern 4                                          Page   1 of   3
                    Pattern Number: 4    Pattern Name: isdn test
                                        Secure SIP? n

    Grp FRL NPA Pfx Hop Toll No.   Inserted                        DCS/  IXC
    No          Mrk Lmt List Del   Digits                          QSIG
                             Dgts                                   Intw
1:  1    0  408      4                                               n    user
2:                                                                   n    user
3:                                                                   n    user
4:                                                                   n    user
5:                                                                   n    user
6:                                                                   n    user

    BCC VALUE  TSC CA-TSC    ITC BCIE Service/Feature BAND  No. Numbering LAR
    0 1 2 3 4 W     Request                                 Dgts Format
                                                                Subaddress
1:  y y y y y n  y  as-needed rest                               pub-unk  none
2:  y y y y y n  n            rest                                        none
3:  y y y y y n  n            rest                                        none
4:  y y y y y n  n            rest                                        none
5:  y y y y y n  n            rest                                        none
6:  y y y y y n  n            rest                                        none
```

6. 在AAR表中添加一个条目，以便使用您创建的路由模式来路由呼叫。在本示例中，对Cisco IP电话分机4XXX的呼叫使用以4开头的AAR表条目，该条目又指向路由模式4。

```
display aar analysis 4                                           Page   1 of   2
                         AAR DIGIT ANALYSIS TABLE
                                                       Percent Full:      2

        Dialed        Total       Route     Call   Node  ANI
        String      Min  Max    Pattern     Type   Num   Reqd
        4            4    4        20        aar          y
        4            7    7        999       aar          n
        4001         4    4        4         aar          y
        4008         4    4        4         aar          y
        4015         4    4        4         aar          n
        44           4    4        4         aar          y
        5            4    4        10        aar          n
        5            7    7        999       aar          n
        5001         4    4        25        aar          n
        5050         4    4        10        aar          n
        555          7    7        4         aar          n
        7            7    7        999       aar          n
        70007950     8    8        45        aar          n
        8            7    7        999       aar          n
        88001        5    5        65        aar          n
```

7. 确保在每部IP电话上启用主叫方ID以发送主叫方名称。

Cisco Call Manager程序

请完成以下步骤：

1. 在"服务"参数下，确保正确设置"开始路径替换最小值"和"最大时间值"，以防止出现任何问题（如发夹）。接下来的两个屏幕截图与Q.SIG服务参数设置相关：

Start Path Replacement Minimum Delay Time (sec)*	5	0
Start Path Replacement Maximum Delay Time (sec)*	10	0
Path Replacement T1 Timer (sec) *	30	30
Path Replacement T2 Timer (sec) *	15	15
Path Replacement PINX Id	4444	
Path Replacement Calling Search Space	< None > ▼	

2. 将Cisco 3745添加为MGCP网关，并为Q.SIG PRI配置NM-HDV T-1模块。接下来的五个屏幕截图与此配置相关
：

```
cancel | refresh | enter | clear |    help | go to page | next page | prev page |

display ds1 01A09                                                Page   1 of   2
                            DS1 CIRCUIT PACK

              Location: 01A09                       Name: QSIG
              Bit Rate: 1.544                Line Coding: b8zs
       Line Compensation: 1                 Framing Mode: esf
          Signaling Mode: isdn-pri
               Connect: pbx                    Interface: peer-master
       TN-C7 Long Timers? n            Peer Protocol: Q-SIG
   Interworking Message: PROGress                    Side: a
   Interface Companding: mulaw                      CRC? n
             Idle Code: 11111111
                         DCP/Analog Bearer Capability: 3.1kHz




       Slip Detection? n              Near-end CSU Type: other

    Echo Cancellation? n
```

```
display trunk-group 1                                      Page   1 of  22
                           TRUNK GROUP

Group Number: 1                    Group Type: isdn        CDR Reports: n
  Group Name: QSIG TRUNKING               COR: 90     TN: 1      TAC: *01
    Direction: two-way       Outgoing Display? y        Carrier Medium: PRI/BRI
 Dial Access? y              Busy Threshold: 99          Night Service:
Queue Length: 0
Service Type: tie                      Auth Code? n         TestCall ITC: rest
                       Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
          Codeset to Send Display: 0    Codeset to Send National IEs: 6
          Max Message Size to Send: 260
  Supplementary Service Protocol: b     Digit Handling (in/out): enbloc/enbloc

            Trunk Hunt: ascend                      QSIG Value-Added? y
                                             Digital Loss Group: 13
Calling Number - Delete:     Insert:              Numbering Format: pub-unk
             Bit Rate: 1200      Synchronization: async     Duplex: full
  Disconnect Supervision - In? y  Out? y
   Answer Supervision Timeout: 0
```

```
display trunk-group 1                                      Page   6 of  22
                           TRUNK GROUP
                              Administered Members (min/max):    1/23
GROUP MEMBER ASSIGNMENTS              Total Administered Members:  23

      Port     Code Sfx Name        Night          Sig Grp
  1:  01A0901  TN464  G                              1
  2:  01A0902  TN464  G                              1
  3:  01A0903  TN464  G                              1
  4:  01A0904  TN464  G                              1
  5:  01A0905  TN464  G                              1
  6:  01A0906  TN464  G                              1
  7:  01A0907  TN464  G                              1
  8:  01A0908  TN464  G                              1
  9:  01A0909  TN464  G                              1
 10:  01A0910  TN464  G                              1
 11:  01A0911  TN464  G                              1
 12:  01A0912  TN464  G                              1
 13:  01A0913  TN464  G                              1
 14:  01A0914  TN464  G                              1
 15:  01A0915  TN464  G                              1
```

```
display signaling-group 1
                          SIGNALING GROUP

   Group Number: 1                Group Type: isdn-pri
                      Associated Signaling? y          Max number of NCA TSC: 10
                      Primary D-Channel: 01A0924        Max number of CA TSC: 10
                                                       Trunk Group for NCA TSC: 1
           Trunk Group for Channel Selection: 1      X-Mobility/Wireless Type: NONE
                 Supplementary Service Protocol: b       Network Call Transfer? n












Command:
```

| cancel | refresh | enter | clear | help | go to page | next page | prev page |

```
                        Pattern Number: 4    Pattern Name: isdn test
                                            Secure SIP? n

    Grp FRL NPA Pfx Hop Toll No.  Inserted                        DCS/ IXC
    No          Mrk Lmt List Del  Digits                          QSIG
                         Dgts                                     Intw
1: 1     0  408     4                                              n    user
2:                                                                 n    user
3:                                                                 n    user
4:                                                                 n    user
5:                                                                 n    user
6:                                                                 n    user

    BCC VALUE   TSC CA-TSC    ITC BCIE Service/Feature BAND  No. Numbering LAR
    0 1 2 3 4 W     Request                                  Dgts Format
                                                             Subaddress
1: y y y y y n   y  as-needed rest                                pub-unk   none
2: y y y y y n   n            rest                                          none
3: y y y y y n   n            rest                                          none
4: y y y y y n   n            rest                                          none
5: y y y y y n   n            rest                                          none
6: y y y y y n   n            rest                                          none
```

3. 最后，创建Cisco Call Manager代答组，以提供PBX的路径建议分机。确保呼叫代答号码也输入到路径PINX替换ID服务参数中（请参阅步骤#1）。 此外，Avaya系统需要路由模式才能路由到代答组。

```
                        AAR DIGIT ANALYSIS TABLE
                                                    Percent Full:     2

           Dialed            Total      Route    Call    Node   ANI
           String          Min  Max    Pattern   Type    Num    Reqd
        4                   4    4       20       aar            y
        4                   7    7       999      aar            n
        4001                4    4       4        aar            y
        4008                4    4       4        aar            y
        4015                4    4       4        aar            n
        44                  4    4       4        aar            y
        5                   4    4       10       aar            n
        5                   7    7       999      aar            n
        5001                4    4       25       aar            n
        5050                4    4       10       aar            n
        555                 7    7       4        aar            n
        7                   7    7       999      aar            n
        70007950            8    8       45       aar            n
        8                   7    7       999      aar            n
        88001               5    5       65       aar            n
```

注意：确保Cisco CallManager Service Parameters (Advanced)下的这两个集群范围参数（设备 — PRI和MGCP网关）与PBX中的Q.SIG配置匹配。所有PBX中继必须完全配置为这些Cisco CallManager参数。**ASN.1 ROSE OID编码**:此参数指定如何为远程操作服务元素(ROSE)编码调用对象ID(OID)。 除非思科支持工程师另有指示，否则请将此参数设置为默认值。这是必填字段，默认值为**使用本地值**。以下是此参数的有效值：**使用本地值**，该值受大多数电话系统支持，当Q.SIG变体服务参数设置为ISO（协议配置文件0x9F）时必须使用。**使用全局值(ISO)**，仅在连接的PBX不支持使用本地值时使用。**使用全局值(ECMA)**，如果Q.SIG变型服务参数设置为ECMA（协议配置文件0x91），则必须使用该值。**Q.SIG变体**:此参数指定当中继配置为Q.SIG时，在出站Q.SIG设施信息元素中发送的协议配置文件。除非思科支持工程师另有指示，否则请将此参数设置为默认值。这是必填字段，默认值为**ISO（协议配置文件0x9F）**。以下是此参数的可用值：**ECMA（协议配置文件0x91）**，通常与ECMA PBX一起使用，并且只能使用协议配置文件0x91。如果此服务参数设置为ECMA（协议配置文件0x91），则ASN.1 Rose OID编码服务参数必须设置为使用全局值(Use Global Value)ECMA)。**ISO（协议配置文件0x9F）**，这是当前的ISO建议。如果此参数设置为ISO（协议配置文件0x9F），则ASN.1 Rose OID编码服务参数必须设置为使用本地值。**警告**：当使用集群间中继时，Cisco CallManager不支持ECMA，在CallManager Administration的Trunk Configuration窗口中，Tunneled Protocol字段设置为Q.SIG。如果将此服务参数设置为ECMA（协议配置文件0x91），则所有集群间中继的"隧道协议"字段必须设置为"无"。

Parameter Name	Parameter Value	Suggested Value
ASN.1 ROSE OID Encoding*	Use Local Value	Use Local Value
QSIG Variant*	ISO (Protocol Profile 0x9F)	ISO (Protocol Profile 0x9F)
Caller ID		
Calling Name Not Available Timeout (msec)*	2000	2000
Calling Party Number Screening Indicator*	CallManager sets the screening indicator value - Default setting	CallManager sets the screening indicator value - Default setting
Change B-Channel Maintenance Status 1		
Change B-Channel		

Cisco 3745 配置

这是Cisco 3745 MGCP设备上的show version和show running-configuration命令输出。Cisco 3745上的控制器T1 1/0连接到Avaya S8700/G650 DS1 PRI卡。Q.SIG信令在Cisco 3745和Avaya S8700/G650之间的PRI链路上配置。

```
CCME_CUE_3745# sh vers
Cisco Internetwork Operating System Software
IOS (tm) 3700 Software (C3745-IS-M), Version 12.2(15)ZJ3, EARLY DEPLOYMENT RELEASE SOFTWARE
(fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Thu 25-Sep-03 22:25 by eaarmas
Image text-base: 0x60008954, data-base: 0x61C2C000

ROM: System Bootstrap, Version 12.2(8r)T2, RELEASE SOFTWARE (fc1)
ROM: 3700 Software (C3745-IS-M), Version 12.2(15)ZJ3, EARLY DEPLOYMENT RELEASE SOFTWARE (fc2)

CCME_CUE_3745 uptime is 39 minutes
System returned to ROM by reload
System image file is "flash:c3745-is-mz.122-15.ZJ3.bin"

cisco 3745 (R7000) processor (revision 2.0) with 246784K/15360K bytes of memory.
Processor board ID JMX0814L3E2
R7000 CPU at 350Mhz, Implementation 39, Rev 3.3, 256KB L2, 2048KB L3 Cache
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
Primary Rate ISDN software, Version 1.1.
2 FastEthernet/IEEE 802.3 interface(s)
25 Serial network interface(s)
1 terminal line(s)
2 Channelized T1/PRI port(s)
1 ATM AIM(s)
```

```
2 Voice FXS interface(s)
2 Voice E & M interface(s)
1 cisco service engine(s)
DRAM configuration is 64 bits wide with parity disabled.
151K bytes of non-volatile configuration memory.
125184K bytes of ATA System CompactFlash (Read/Write)
Configuration register is 0x2102

CCME_CUE_3745# sh run
Building configuration...

Current configuration : 3291 bytes
!
version 12.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname CCME_CUE_3745
!
logging queue-limit 100
!
voice-card 1
 dspfarm
!
voice-card 5
 dspfarm
!
ip subnet-zero
!
!
no ip domain lookup
!
isdn switch-type primary-qsig
!
no voice hpi capture buffer
no voice hpi capture destination
!
!
ccm-manager mgcp
ccm-manager music-on-hold
ccm-manager config server 172.28.221.18
ccm-manager config
mta receive maximum-recipients 0
!
!
controller T1 1/0
 framing esf
 linecode b8zs
 pri-group timeslots 1-24 service mgcp
!
controller T1 1/1
 framing sf
 linecode ami
!
!
!
interface FastEthernet0/0
 description CCME-CUE-3745_to_cat3550
 no ip address
 duplex auto
 speed auto
!
interface FastEthernet0/0.1
```

```
 encapsulation dot1Q 99
!
interface FastEthernet0/0.2
 description NEW_S8700_G650
 encapsulation dot1Q 300
 ip address 172.28.221.49 255.255.255.240
 ip helper-address 172.28.221.19
 h323-gateway voip bind srcaddr 172.28.221.49
!
interface FastEthernet0/0.3
 description MODULAR_MESSAGING_SOLUTION
 encapsulation dot1Q 900
 ip address 172.28.221.129 255.255.255.240
 ip helper-address 172.28.221.19
!
interface FastEthernet0/0.4
 encapsulation dot1Q 301
 ip address 10.1.3.1 255.255.255.128
 ip helper-address 172.28.221.19
!
interface FastEthernet0/0.5
 encapsulation dot1Q 302
 ip address 10.1.3.129 255.255.255.128
 ip helper-address 172.28.221.19
!
interface FastEthernet0/0.6
 encapsulation dot1Q 90
 ip address 90.1.1.254 255.255.255.0
 ip helper-address 172.28.221.19
!
interface Serial0/0
 description CCME-CUE-3745_to_3600
 ip address 25.0.0.1 255.0.0.0
 clockrate 256000
 no fair-queue
!
interface Serial1/0:23
 no ip address
 no logging event link-status
 isdn switch-type primary-qsig
 isdn incoming-voice voice
 isdn bind-l3 ccm-manager
 isdn bchan-number-order ascending
 no cdp enable
!
interface Service-Engine2/0
 no ip address
 shutdown
!
router eigrp 100
 network 10.0.0.0
 network 25.0.0.0
 network 90.0.0.0
 network 172.28.0.0
 auto-summary
!
ip http server
ip classless
!
call rsvp-sync
!
voice-port 1/0:23
!
voice-port 4/0/0
```

```
!
voice-port 4/0/1
!
voice-port 4/1/0
!
voice-port 4/1/1
!
mgcp
mgcp call-agent 172.28.221.18 2427 service-type mgcp version 0.1
mgcp dtmf-relay voip codec all mode out-of-band
mgcp rtp unreachable timeout 1000 action notify
mgcp package-capability rtp-package
no mgcp package-capability res-package
mgcp package-capability sst-package
no mgcp timer receive-rtcp
mgcp sdp simple
mgcp fax t38 inhibit
mgcp rtp payload-type g726r16 static
!
mgcp profile default
!
!
!
dial-peer cor custom
!
dial-peer voice 1 pots
 application mgcpapp
 port 1/0:23
!
dial-peer voice 999410 pots
 application mgcpapp
 port 4/1/0
!
!
line con 0
 password cisco
 login
line 65
 flush-at-activation
 no activation-character
 no exec
 transport preferred none
 transport input all
line aux 0
line vty 0 4
 password cisco
 login
!
end
```

经过测试的Cisco和Avaya IP-PBX系统之间的互操作性

本节提供通过Q.SIG PRI中继在Cisco Call Manager 4.1(2)平台和运行Communication Manager 2.0的Avaya S8700/G650之间测试的功能列表：

- 名称和号码显示（双向）
- 呼叫转移
- 两个系统之间的会议呼叫

集成Cisco Unity Voice Mail以支持Cisco和Avaya IP电话

此时，可以使用Q.SIG中继在运行Avaya Communication Manager 2.0的Avaya S8700/G650与运行Call Manager版本4.1(2)的Cisco Call Manager平台之间进行呼叫，并且Cisco 3745 MGCP设备提供物理ISDNPRI连接到Avaya S8700/G650。Cisco Call Manager平台上可以添加Cisco Unity服务器，以便为Cisco和Avaya IP电话提供语音邮件支持。要启用此功能，管理员需要在Cisco Call Manager平台上配置Cisco Unity。本节包含如何在Cisco Call Manager Administration管理页面上配置Cisco Unity的屏幕截图的步骤。

注意： 大多数配置都在思科语音邮件端口向导上执行。

将Cisco Unity添加到Cisco Call Manager

请完成以下步骤：

1. 在"功能"下，选择**"语音邮件">"语音邮件端口向导"**。选择**创建新语音邮件服务器**并向其添加端口，然后单击**下一步**。

```
display station 7007                                          Page   2 of   4
                                  STATION
FEATURE OPTIONS
              LWC Reception: spe        Auto Select Any Idle Appearance? n
             LWC Activation? y                 Coverage Msg Retrieval? y
     LWC Log External Calls? n                          Auto Answer: none
             CDR Privacy? n                          Data Restriction? n
        Redirect Notification? y        Idle Appearance Preference? n
    Per Button Ring Control? n
       Bridged Call Alerting? n              Restrict Last Appearance? y
     Active Station Ringing: continuous

          H.320 Conversion? y     Per Station CPN - Send Calling Number? y
         Service Link Mode: as-needed
           Multimedia Mode: enhanced         Audible Message Waiting? n
     MWI Served User Type: qsig-mwi          Display Client Redirection? n
                                            Select Last Used Appearance? n
                                               Coverage After Forwarding? s
                                                Multimedia Early Answer? n
                                            Direct IP-IP Audio Connections? y
     Emergency Location Ext: 7007                   IP Audio Hairpinning? y
```

2. 输入思科语音邮件服务器名称，如AvayaUM3，然后单击**Next**。
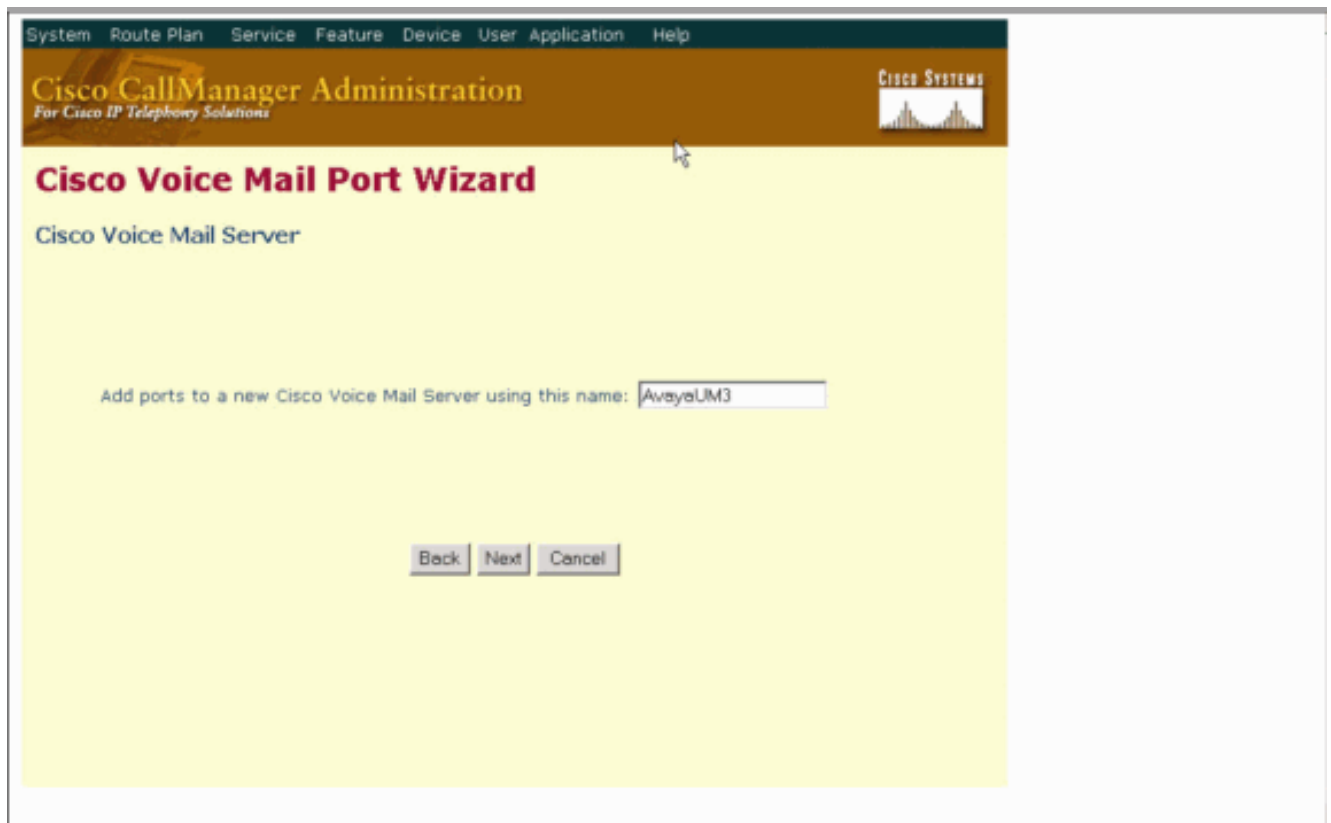
3. 选择所需的语音邮件端口数，然后单击"下**一步**"。
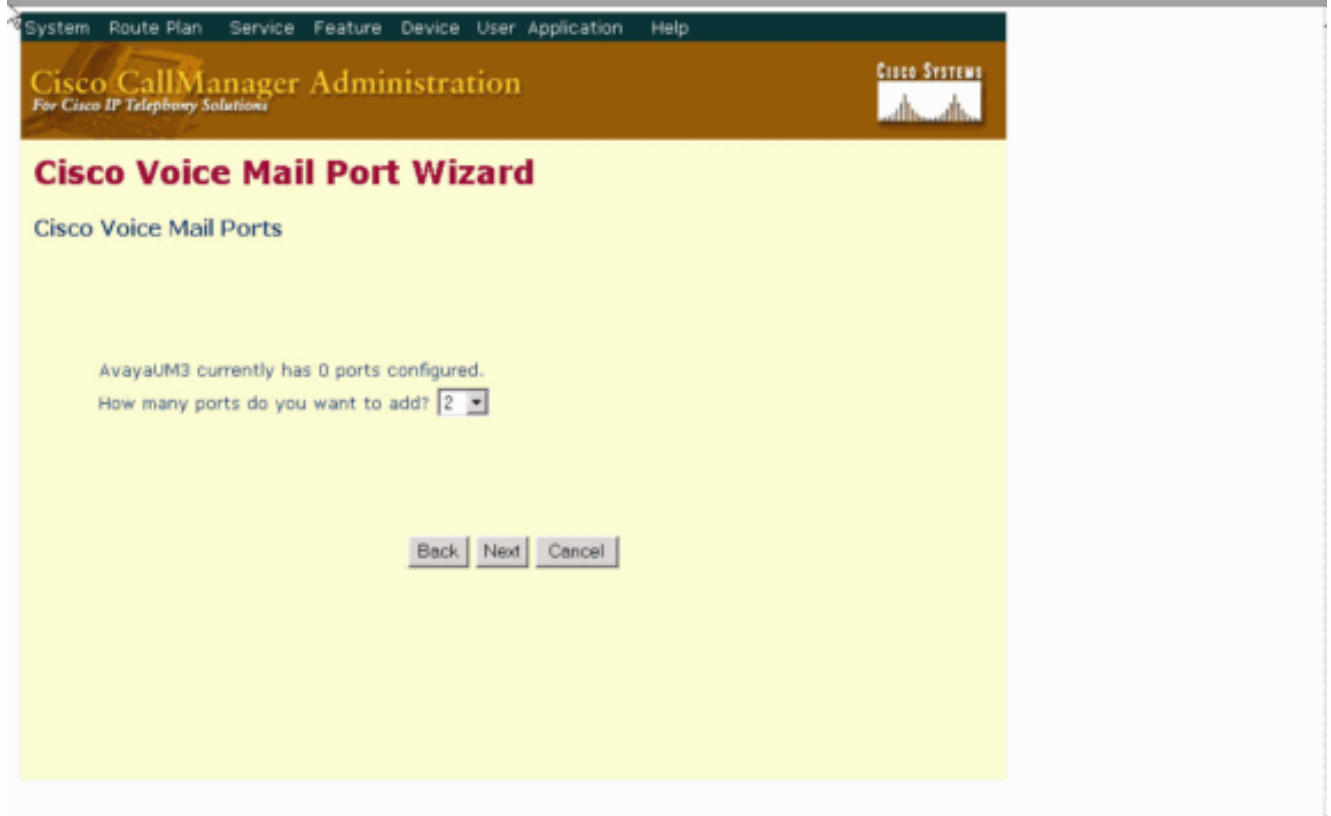
4. 输入语音邮件端口的说明和设备池。在示例配置中，输入Avaya VMailPorts作为说明，输入Default作为设备池。

```
display trunk-group 1                                      Page   2 of  22
TRUNK FEATURES
            ACA Assignment? n             Measured: internal  Wideband Support? n
                                      Internal Alert? n        Maintenance Tests? y
                                    Data Restriction? n    NCA-TSC Trunk Member: 10
                                        Send Name: y       Send Calling Number: y
               Used For DCS? n            Hop Dgt? y
         Suppress # Outpulsing? n   Numbering Format: public
    Outgoing Channel ID Encoding: exclusive    UUI IE Treatment: service-provider

                                              Replace Restricted Numbers? n
                                              Replace Unavailable Numbers? n
                                        Send Called/Busy/Connected Number: y


               Send UUI IE? y
                Send UCID? y
    Send Codeset 6/7 LAI IE? y                    Ds1 Echo Cancellation? n

    Path Replacement with Retention? y

                      SBS? n   Network (Japan) Needs Connect Before Disconnect? y

```

5. 输入起始目录号码（如4406）和显示（如语音邮件），然后单击"下一步"。

```
cancel  refresh  enter  clear    help  go to page next page prev page

display ds1 01A09                                          Page   1 of   2
                              DS1 CIRCUIT PACK

                 Location: 01A09                    Name: QSIG
                 Bit Rate: 1.544               Line Coding: b8zs
         Line Compensation: 1                 Framing Mode: esf
           Signaling Mode: isdn-pri
                  Connect: pbx                    Interface: peer-master
         TN-C7 Long Timers? n              Peer Protocol: Q-SIG
      Interworking Message: PROGress                 Side: a
     Interface Companding: mulaw                     CRC? n
                Idle Code: 11111111
                             DCP/Analog Bearer Capability: 3.1kHz




          Slip Detection? n              Near-end CSU Type: other

      Echo Cancellation? n

```

6. 下一个屏幕会问，"是否要将这些目录号码添加到线路组？" 选择是。将目录号码添加到新线路组，然后单击"下一步"。

```
display trunk-group 1                                   Page   1 of   22
                              TRUNK GROUP

Group Number: 1                     Group Type: isdn        CDR Reports: n
   Group Name: QSIG TRUNKING                COR: 90      TN: 1      TAC: *01
     Direction: two-way        Outgoing Display? y      Carrier Medium: PRI/BRI
  Dial Access? y                 Busy Threshold: 99      Night Service:
Queue Length: 0
Service Type: tie                    Auth Code? n             TestCall ITC: rest
                       Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
            Codeset to Send Display: 0    Codeset to Send National IEs: 6
            Max Message Size to Send: 260
     Supplementary Service Protocol: b    Digit Handling (in/out): enbloc/enbloc

            Trunk Hunt: ascend                      QSIG Value-Added? y
                                               Digital Loss Group: 13
Calling Number - Delete:      Insert:          Numbering Format: pub-unk
                  Bit Rate: 1200     Synchronization: async      Duplex: full
  Disconnect Supervision - In? y   Out? y
  Answer Supervision Timeout: 0
```

7. 输入与您之前输入的语音邮件服务器匹配的线路组名称，例如AvayaUM3。

```
display trunk-group 1                                   Page   2 of   22
TRUNK FEATURES
            ACA Assignment? n          Measured: internal  Wideband Support? n
                                    Internal Alert? n      Maintenance Tests? y
                                   Data Restriction? n     NCA-TSC Trunk Member: 10
                                        Send Name: y       Send Calling Number: y
                 Used For DCS? n           Hop Dgt? y
     Suppress # Outpulsing? n     Numbering Format: public
Outgoing Channel ID Encoding: exclusive     UUI IE Treatment: service-provider

                                              Replace Restricted Numbers? n
                                              Replace Unavailable Numbers? n
                                          Send Called/Busy/Connected Number: y

            Send UUI IE? y
            Send UCID? y
Send Codeset 6/7 LAI IE? y                    Ds1 Echo Cancellation? n

Path Replacement with Retention? y

                  SBS? n  Network (Japan) Needs Connect Before Disconnect? y
```

8. 下一个屏幕显示目前为止输入的**配置**。如果配置没有更改，请单击**完成**。

```
display trunk-group 1                                         Page   6 of  22
                              TRUNK GROUP
                              Administered Members (min/max):    1/23
GROUP MEMBER ASSIGNMENTS          Total Administered Members:    23

        Port      Code Sfx Name        Night            Sig Grp
   1: 01A0901    TN464  G                                  1
   2: 01A0902    TN464  G                                  1
   3: 01A0903    TN464  G                                  1
   4: 01A0904    TN464  G                                  1
   5: 01A0905    TN464  G                                  1
   6: 01A0906    TN464  G                                  1
   7: 01A0907    TN464  G                                  1
   8: 01A0908    TN464  G                                  1
   9: 01A0909    TN464  G                                  1
  10: 01A0910    TN464  G                                  1
  11: 01A0911    TN464  G                                  1
  12: 01A0912    TN464  G                                  1
  13: 01A0913    TN464  G                                  1
  14: 01A0914    TN464  G                                  1
  15: 01A0915    TN464  G                                  1
```

9. 在寻线列表管理网页上单击添加新寻线列表。

```
display signaling-group 1
                              SIGNALING GROUP

Group Number: 1              Group Type: isdn-pri
                     Associated Signaling? y      Max number of NCA TSC: 10
                      Primary D-Channel: 01A0924  Max number of CA TSC: 10
                                                  Trunk Group for NCA TSC: 1
          Trunk Group for Channel Selection: 1    X-Mobility/Wireless Type: NONE
              Supplementary Service Protocol: b   Network Call Transfer? n




Command:
```

10. 输入寻线列表名称和说明，例如Avaya VMailHL。此外，为Cisco Call Manager组选择 Default。

```
display route-pattern 4                                    Page   1 of   3
                  Pattern Number: 4    Pattern Name: isdn test
                               Secure SIP? n

    Grp FRL NPA Pfx Hop Toll No.  Inserted                       DCS/ IXC
    No          Mrk Lmt List Del  Digits                         QSIG
                             Dgts                                 Intw
1: 1    0  408      4                                              n   user
2:                                                                n   user
3:                                                                n   user
4:                                                                n   user
5:                                                                n   user
6:                                                                n   user

    BCC VALUE  TSC CA-TSC     ITC BCIE Service/Feature BAND  No. Numbering LAR
    0 1 2 3 4 W     Request                                  Dgts Format
                                                                 Subaddress
1: y y y y y n  y  as-needed rest                                pub-unk   none
2: y y y y y n  n            rest                                          none
3: y y y y y n  n            rest                                          none
4: y y y y y n  n            rest                                          none
5: y y y y y n  n            rest                                          none
6: y y y y y n  n            rest                                          none
```

11. 此屏幕捕获是成功添加寻线列表的结果。点击**添加线路组**。

```
display aar analysis 4                                     Page   1 of   2
                    AAR DIGIT ANALYSIS TABLE
                                              Percent Full:      2


        Dialed         Total       Route    Call   Node  ANI
        String        Min  Max    Pattern   Type   Num   Reqd
    4                  4    4       20       aar          y
    4                  7    7       999      aar          n
    4001               4    4       4        aar          y
    4008               4    4       4        aar          y
    4015               4    4       4        aar          n
    44                 4    4       4        aar          y
    5                  4    4       10       aar          n
    5                  7    7       999      aar          n
    5001               4    4       25       aar          n
    5050               4    4       10       aar          n
    555                7    7       4        aar          n
    7                  7    7       999      aar          n
    70007950           8    8       45       aar          n
    8                  7    7       999      aar          n
    88001              5    5       65       aar          n
```

12. 选择之前配置的线路组。在本例中，它是AvayaUM3。

```
display station 7007                                    Page   2 of   4
                              STATION
FEATURE OPTIONS
               LWC Reception: spe       Auto Select Any Idle Appearance? n
              LWC Activation? y              Coverage Msg Retrieval? y
      LWC Log External Calls? n                       Auto Answer: none
                CDR Privacy? n                    Data Restriction? n
        Redirect Notification? y          Idle Appearance Preference? n
    Per Button Ring Control? n
        Bridged Call Alerting? n           Restrict Last Appearance? y
     Active Station Ringing: continuous

            H.320 Conversion? y   Per Station CPN - Send Calling Number? y
        Service Link Mode: as-needed
           Multimedia Mode: enhanced        Audible Message Waiting? n
   MWI Served User Type: qsig-mwi          Display Client Redirection? n
                                           Select Last Used Appearance? n
                                            Coverage After Forwarding? s
                                              Multimedia Early Answer? n
                                        Direct IP-IP Audio Connections? y
    Emergency Location Ext: 7007                 IP Audio Hairpinning? y
```
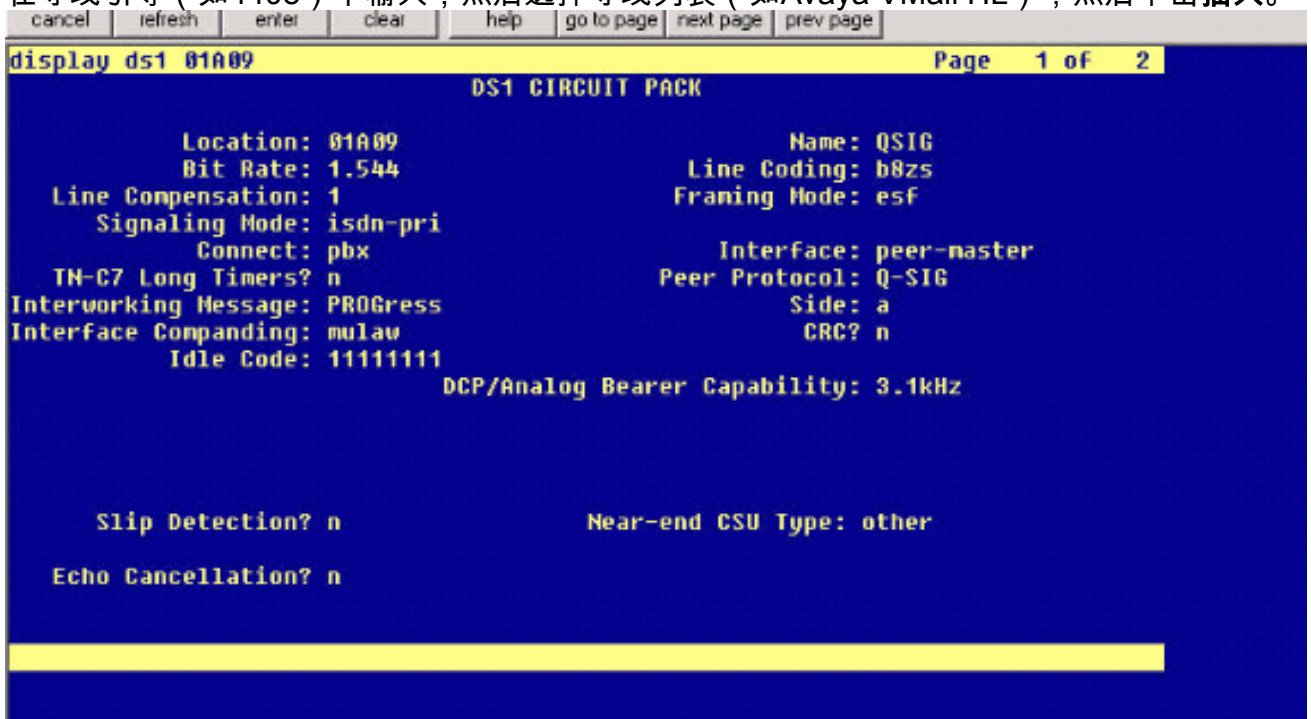
13. 下一个屏幕截图显示成功插入线路组的结果。

14. 转到Route Plan > Route/Hunt > Hunt Pilot。从Hunt Pilot屏幕中单击Add a New Hunt Pilot。
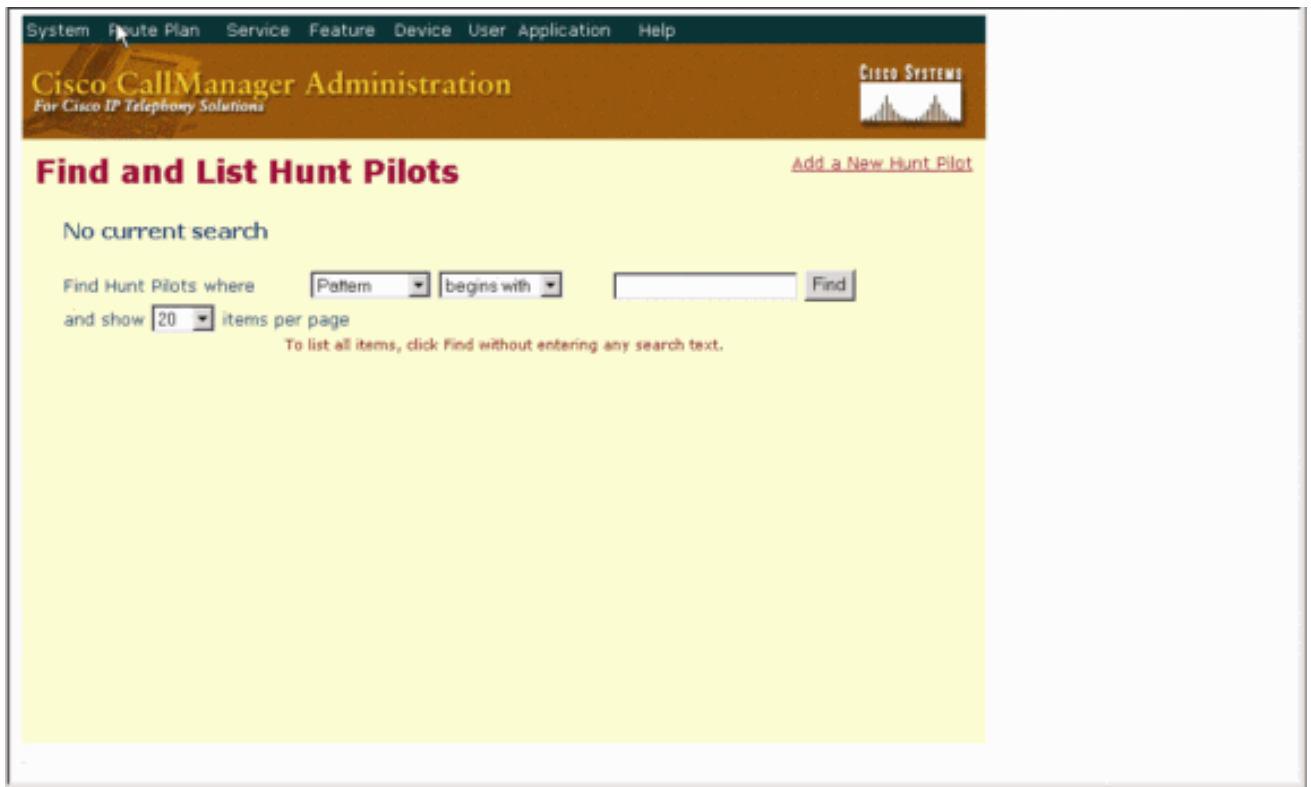
15. 在寻线引导（如4408）中输入，然后选择寻线列表（如Avaya VMail HL），然后单击**插入**。

16. 转到Feature > Voice Mail > Voice Mail Pilot，然后在结果的屏幕上单击Add a New Voice Mail Pilot。

```
display trunk-group 1                                          Page   1 of  22
                              TRUNK GROUP

Group Number: 1                     Group Type: isdn          CDR Reports: n
  Group Name: QSIG TRUNKING                COR: 90      TN: 1      TAC: *01
   Direction: two-way           Outgoing Display? y     Carrier Medium: PRI/BRI
 Dial Access? y                  Busy Threshold: 99     Night Service:
Queue Length: 0
Service Type: tie                     Auth Code? n           TestCall ITC: rest
                      Far End Test Line No:
TestCall BCC: 4
TRUNK PARAMETERS
             Codeset to Send Display: 0     Codeset to Send National IEs: 6
             Max Message Size to Send: 260
         Supplementary Service Protocol: b   Digit Handling (in/out): enbloc/enbloc

               Trunk Hunt: ascend                   QSIG Value-Added? y
                                                  Digital Loss Group: 13
Calling Number - Delete:       Insert:            Numbering Format: pub-unk
                  Bit Rate: 1200       Synchronization: async    Duplex: full
 Disconnect Supervision - In? y  Out? y
 Answer Supervision Timeout: 0
```

17. 输入与先前配置的寻线引导号匹配的语音邮件引导号。在本例中，寻线引导号和语音邮件引导号均为4408。

```
display trunk-group 1                                          Page   2 of  22
TRUNK FEATURES
           ACA Assignment? n        Measured: internal   Wideband Support? n
                                Internal Alert? n        Maintenance Tests? y
                                Data Restriction? n   NCA-TSC Trunk Member: 10
                                    Send Name: y        Send Calling Number: y
              Used For DCS? n            Hop Dgt? y
     Suppress # Outpulsing? n   Numbering Format: public
 Outgoing Channel ID Encoding: exclusive     UUI IE Treatment: service-provider

                                              Replace Restricted Numbers? n
                                              Replace Unavailable Numbers? n
                                         Send Called/Busy/Connected Number: y


              Send UUI IE? y
              Send UCID? y
 Send Codeset 6/7 LAI IE? y                     Ds1 Echo Cancellation? n

 Path Replacement with Retention? y

                  SBS? n  Network (Japan) Needs Connect Before Disconnect? y
```

18. 转到功能>语音邮件>语音邮件配置文件，然后单击添加新的语音邮件配置文件。

```
                              TRUNK GROUP
                           Administered Members (min/max):   1/23
GROUP MEMBER ASSIGNMENTS         Total Administered Members:  23

       Port   Code Sfx Name        Night        Sig Grp
  1: 01A0901  TN464  G                              1
  2: 01A0902  TN464  G                              1
  3: 01A0903  TN464  G                              1
  4: 01A0904  TN464  G                              1
  5: 01A0905  TN464  G                              1
  6: 01A0906  TN464  G                              1
  7: 01A0907  TN464  G                              1
  8: 01A0908  TN464  G                              1
  9: 01A0909  TN464  G                              1
 10: 01A0910  TN464  G                              1
 11: 01A0911  TN464  G                              1
 12: 01A0912  TN464  G                              1
 13: 01A0913  TN464  G                              1
 14: 01A0914  TN464  G                              1
 15: 01A0915  TN464  G                              1
```

19. 输入语音邮件配置文件名称和说明，如AvayaVMailProfile，并在步骤17中选择语音邮件引导号。在这种情况下，语音邮件引导号为4408。

```
display signaling-group 1
                         SIGNALING GROUP

Group Number: 1              Group Type: isdn-pri
                       Associated Signaling? y      Max number of NCA TSC: 10
                       Primary D-Channel: 01A0924   Max number of CA TSC: 10
                                                    Trunk Group for NCA TSC: 1
        Trunk Group for Channel Selection: 1    X-Mobility/Wireless Type: NONE
              Supplementary Service Protocol: b      Network Call Transfer? n












Command:
```

20. 单击**功能>语音邮件>留言等待指示器>添加新留言等待号**码以添加留言等待指示器(MWI)开/关号码。此处包含两个屏幕截图，用于显示消息等待指示灯开/关号码。

```
cancel   refresh    enter    clear      help     go to page  next page  prev page

display route-pattern 4                                      Page   1 of   3
                    Pattern Number: 4    Pattern Name: isdn test
                              Secure SIP? n

    Grp FRL NPA Pfx Hop Toll No.  Inserted                       DCS/ IXC
    No          Mrk Lmt List Del  Digits                         QSIG
                             Dgts                                 Intw
1: 1    0   408      4                                             n   user
2:                                                                 n   user
3:                                                                 n   user
4:                                                                 n   user
5:                                                                 n   user
6:                                                                 n   user

    BCC VALUE  TSC CA-TSC     ITC BCIE Service/Feature BAND  No. Numbering LAR
    0 1 2 3 4 W     Request                                      Dgts Format
                                                               Subaddress
1: y y y y y n   y  as-needed rest                                 pub-unk   none
2: y y y y y n   n             rest                                           none
3: y y y y y n   n             rest                                           none
4: y y y y y n   n             rest                                           none
5: y y y y y n   n             rest                                           none
6: y y y y y n   n             rest                                           none


display aar analysis 4                                       Page   1 of   2
                       AAR DIGIT ANALYSIS TABLE
                                                 Percent Full:     2

         Dialed       Total      Route    Call   Node  ANI
         String      Min  Max   Pattern   Type   Num   Reqd
    4                 4    4      20       aar          y
    4                 7    7      999      aar          n
    4001              4    4      4        aar          y
    4008              4    4      4        aar          y
    4015              4    4      4        aar          n
    44                4    4      4        aar          y
    5                 4    4      10       aar          n
    5                 7    7      999      aar          n
    5001              4    4      25       aar          n
    5050              4    4      10       aar          n
    555               7    7      4        aar          n
    7                 7    7      999      aar          n
    70007950          8    8      45       aar          n
    8                 7    7      999      aar          n
    88001             5    5      65       aar          n
```

经测试的Cisco Unity语音邮件功能

以下是Cisco Unity语音邮件功能列表，该功能已通过Avaya IP电话进行测试，该电话用于通过Cisco Call Manager 4.1(2)平台和运行Communication Manager 2.0的Avaya S8700/G650之间的Q.SIG PRI中继访问Cisco Unity语音邮件：

- 内部问候语
- 忙线问候语
- MWI
- 轻松访问消息

相关信息

- [语音技术支持](#)
- [语音和统一通信产品支持](#)
- [Cisco IP 电话故障排除](#)
- [技术支持和文档 - Cisco Systems](#)