



**Avaya Aura™ Communication  
Manager Messaging**  
Installation and Initial Configuration

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# Introduction to CM Messaging Release 5.2

The document covers procedures to install and administer CM Messaging (embedded application).

CM Messaging delivers voice, text, and fax messaging to help improve communications and simplify information exchange within enterprises.

**Note:**

Starting with Communication Manager Release 5.2, the messaging application is called CM Messaging. With Communication Manager pre-5.2 releases, the messaging application is called IA770, except for Communication Manager R4.0.2 in which it is called CM Messaging.

---

## CM Messaging

CM Messaging application resides on the same server as the Communication Manager application. You can install CM Messaging on the following servers: S8300C, S8300D, S8400A, S8400B, S8500C, and S8510 Servers.

Server maximum limits:

| Server Type | Call Answer Ports | Total Ports | Subscriber Mailboxes |
|-------------|-------------------|-------------|----------------------|
| S8300C      | 12                | 18          | 450                  |
| S8300D      | 12                | 18          | 450                  |
| S8400A      | 20                | 30          | 900                  |
| S8400B      | 20                | 30          | 900                  |
| S8500C      | 80                | 120         | 5000                 |
| S8510       | 210               | 250         | 6000                 |



**Important:**

For CM Messaging with Communication Manager release 5.2, customers are required to purchase mailboxes licenses for 501 or more mailboxes with a single messaging application. Customers can order the licenses through the account offer configuration process. The messaging application and the first 500 mailboxes are entitled for the H.323 integration.

---

## Required hardware

- CM Messaging (embedded application) is a software-only solution. Hence the CM Messaging application does not require any additional hardware.

---

## Required software

- Communication Manager Release 5.2.  
Use the CD-ROM that contains the Communication Manager Release 5.2 software to install Communication Manager Messaging and Communication Manager applications.

---

## Related documentation

The following documents provide additional information:

### Avaya Installation Wizards

- *Job Aid: Avaya Installation Wizard*, 555-245-754
- *Job Aid: Avaya Gateway Installation Wizard*, 555-245-756

### S8300 Server

- *Quick Start for Hardware Installation: Avaya G700 Media Gateway and Avaya S8300 Server*, 555-233-150
- *Installing and upgrading the Avaya S8300 Server*, 555-234-100, Issue 12

## **S8400 Server**

- *Installing and Configuring the Avaya S8400 Server*, 03-300678
- *Quick Start for Hardware Installation: Avaya S8400 Server in an Avaya G650 Media Gateway*, 03-300705
- *Quick Start for Hardware Installation: Avaya S8400 Server in an Avaya CMC or G600 Media Gateway*, 03-300706

## **S8500-Series Server**

- *Installing and Configuring the Avaya S8500-Series Server*, 03-300143
- *Quick Start for Hardware Installation: Avaya S8500 Server*, 555-245-701
- *Change Description for Release 5.1 of Avaya Communication Manager, SIP Enablement Services, Avaya Servers, and Media Gateways*, 03-602958. This document contains steps to configure the S8510 server

## **Other necessary installation information**

- *Installing and Connecting the MDF and Telephones*, 03-300686
- *Adding New Hardware for Avaya Media Servers and Gateways*, 03-300684



# Installing the CM Messaging application

You can optionally install the CM Messaging application while installing Communication Manager on a server.

For more information on installing CM Messaging on a specific server, see [Related documentation](#) on page 6. For example, S8500 Server installation procedures are contained in *Chapter 3: "Communication Manager Installation"* in the *Installing and Configuring the Avaya S8500-Series Server* guide, 03-300143.



# Administering the Communication Manager server to work with CM Messaging

This section contains the procedure to administer Communication Manager to work with CM Messaging.

---

## Clearing the ARP cache on the laptop

Depending on the operating system of your Services laptop computer, you might need to clear the Address Resolution Protocol (ARP) cache before you enter a new IP address. If you enter an IP address and your computer cannot connect, perform the following procedure to clear the cache.

1. On your computer, click **Start** > **Run** to open the Run dialog box.
2. Type **command** and press **Enter** to open an MS-DOS command line window.
3. Type **arp -d 192.11.13.6** and press **Enter** to clear the ARP cache in the laptop.  
If the ARP cache does not contain the specified IP address, the message **The specified entry was not found** appears. You can ignore this message.
4. Type **exit** and press **Enter** to close the command line window.

---

## Applying power to the media server

**Note:**

In this procedure, the software CD-ROM must be placed into the CD-ROM drive on the media server immediately after you turn on the power to the media server.

1. Connect the AC power cord to the media server and to the UPS or a nonswitched electrical outlet.
2. Power on the server.
  - On the S8500-Series Server, press the white power control button on the front of the server.
  - On the S8300 and S8400-Series Server, press the red power control button on the front of the server.

3. Immediately place the software CD-ROM into the CD-ROM drive on the media server.

---

## Accessing the media server

1. Use a cross-over cable to connect your laptop computer to the Services port on the back of the media server. The Services port is labeled 2, and is configured as Eth1.
2. An easy way to ensure one has waited as long as necessary for the server to be ready to accept a telnet connection without repeatedly trying or waiting too long is to run the following command from a **Start > Run** prompt: **ping -n 300 192.11.13.6**.
3. This may take 5 minutes. As soon as, you see a response to the ping, type **ctrl-c** to exit the ping command and proceed to start Telnet.

---

## Configuring Telnet (for initial software installation only)

The Telnet application is used only at initial installation of the software and only for initial access to the Services port. Telnet might be set to send a carriage return (CR) and a line feed (LF) whenever you press **Enter**. The Communication Manager installation program sees this as two key presses. If you are running Windows 2000 or Windows XP, you must correct this setting before you copy the software to the hard disk drive.

1. Click **Start > Run** to open the Run dialog box.
2. Type **telnet** and press **Enter** to open a Microsoft Telnet session.
3. Type **unset crlf** and press **Enter**.
4. Type **display** and press **Enter** to verify that you see the message **Line feed mode - Causes return key to send CR**.
5. Type **q** and press **Enter** to exit the Telnet session.

---

## Connecting to the Communication Manager server SAT interface

You use this procedure to connect your configured laptop computer to the Communication Manager server and start the System Administration Terminal (SAT) interface.

To enable H.323 messaging, perform the following steps:

1. Use a SSH session to access **192.11.13.6 5022**.

2. Log in as **craft**.

The system displays the SAT interface.

---

## Checking H.323 customer options for the Communication Manager server

This section presents the **customer-options** forms used by the system. You can use these forms to ensure that features are appropriately set or and the necessary H.323 and messaging options are enabled. You cannot, however, use these forms to actually enable the features.

To view the **customer-options** form on the Communication Manager server, perform the following steps:



**Important:**

If these options are not set as indicated, you must contact your project manager to have a new license file, with the proper features, regenerated for this installation. You cannot perform the installation without the proper customer options. If you do not have the correct options, contact your project manager or Avaya support representative.

1. At the SAT interface prompt, and enter:

**display system-parameters customer-options**

The system displays page 1 of the `OPTIONAL FEATURES` form.

- Go to page 2, and locate the **Maximum Administered H.323 Trunks** field.

|                                                                   |  |              |
|-------------------------------------------------------------------|--|--------------|
| display system-parameters customer-options                        |  | Page 2 of 10 |
| OPTIONAL FEATURES                                                 |  |              |
| IP PORT CAPACITIES                                                |  | USED         |
| Maximum Administered H.323 Trunks: 500                            |  | 324          |
| Maximum Concurrently Registered IP Stations: 12000                |  | 1            |
| Maximum Administered Remote Office Trunks: 0                      |  | 0            |
| Maximum Concurrently Registered Remote Office Stations: 0         |  | 0            |
| Maximum Concurrently Registered IP eCons: 0                       |  | 0            |
| Max Concur Registered Unauthenticated H.323 Stations: 0           |  | 0            |
| Maximum Video Capable H.323 Stations: 0                           |  | 0            |
| Maximum Video Capable IP Softphones: 0                            |  | 0            |
| Maximum Administered SIP Trunks: 100                              |  | 0            |
| Maximum Number of DS1 Boards with Echo Cancellation: 0            |  | 0            |
| Maximum TN2501 VAL Boards: 10                                     |  | 0            |
| Maximum Media Gateway VAL Sources: 0                              |  | 0            |
| Maximum TN2602 Boards with 80 VoIP Channels: 128                  |  | 0            |
| Maximum TN2602 Boards with 320 VoIP Channels: 128                 |  | 0            |
| Maximum Number of Expanded Meet-me Conference Ports: 0            |  | 0            |
| (NOTE: You must logoff & login to effect the permission changes.) |  |              |

- Check the quantity in the first column of the **Maximum Administered H.323 Trunks** field is set to a number that can accommodate the sum of the following:
  - The busy hour number of H.323 connections required by the Communication Manager port networks, including port network-to-port network voice connections, port network to media gateway voice connections, and Communication Manager Server-to-Communication Manager Server voice connections.
  - The number of voice ports and transfer ports (normally 50% of voice ports) for CM Messaging.

4. Go to page 3.

```

display system-parameters customer-options
                                OPTIONAL FEATURES

Abbreviated Dialing Enhanced List? n      Audible Message Waiting? n
Access Security Gateway (ASG)? n          Authorization Codes? n
Analog Trunk Incoming Call ID? n          CAS Branch? n
A/D Grp/Sys List Dialing Start at 01? n   CAS Main? n
Answer Supervision by Call Classifier? n   Change COR by FAC? n
ARS? y Computer Telephony Adjunct Links? n
ARS/AAR Partitioning? y Cvg Of Calls Redirected Off-net? n
ARS/AAR Dialing without FAC? n            DCS (Basic)? n
ASAI Link Core Capabilities? n           DCS Call Coverage? n
ASAI Link Plus Capabilities? n           DCS with Rerouting? n
Async. Transfer Mode (ATM) PNC? n        Digital Loss Plan Modification? n
Async. Transfer Mode (ATM) Trunking? n    DS1 MSP? n
ATM WAN Spare Processor? n               DS1 Echo Cancellation? n
ATMS? n
Attendant Vectoring? n

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

```

5. Verify that the following fields are set as shown:

| Field                 | Setting  |
|-----------------------|----------|
| ARS?                  | <b>y</b> |
| ARS/AAR Partitioning? | <b>y</b> |

### 6. Go to page 4.

```

display system-parameters customer-options                                Page 4 of 10
                                OPTIONAL FEATURES

Emergency Access to Attendant? y                                IP Stations? y
  Enable 'dadmin' Login? y
  Enhanced Conferencing? y                                ISDN Feature Plus? y
    Enhanced EC500? n                                ISDN Network Call Redirection? y
Enterprise Survivable Server? n                                ISDN-BRI Trunks? y
  Enterprise Wide Licensing? n                                ISDN-PRI? y
    ESS Administration? n                                Local Survivable Processor? n
  Extended Cvg/Fwd Admin? n                                Malicious Call Trace? n
  External Device Alarm Admin? n                                Media Encryption Over IP? n
Five Port Networks Max Per MCC? n                                Mode Code for Centralized Voice Mail? n
  Flexible Billing? n
Forced Entry of Account Codes? n                                Multifrequency Signaling? y
  Global Call Classification? n                                Multimedia Call Handling (Basic)? y
    Hospitality (Basic)? y                                Multimedia Call Handling (Enhanced)? y
  Hospitality (G3V3 Enhancements)? n
    IP Trunks? y

IP Attendant Consoles? n
(NOTE: You must logoff & login to effect the permission changes.)

```

### 7. Verify that the following fields are set as shown:

| Field      | Setting  |
|------------|----------|
| IP Trunks? | <b>y</b> |
| ISDN-PRI?  | <b>y</b> |

8. Go to page 5.

```

display system-parameters customer-options                                Page 5 of 10
                                OPTIONAL FEATURES

    Multinational Locations? n                                Station and Trunk MSP? n
Multiple Level Precedence & Preemption? n                        Station as Virtual Extension? n
    Multiple Locations? n
    Personal Station Access (PSA)? n                            System Management Data Transfer? n
        Posted Messages? n                                Tenant Partitioning? n
        PNC Duplication? n                                Terminal Trans. Init. (TTI)? n
        Port Network Support? y                            Time of Day Routing? n
    Processor and System MSP? n                                Uniform Dialing Plan? y
        Private Networking? y                            Usage Allocation Enhancements? y
        Processor Ethernet? y                            TN2501 VAL Maximum Capacity? y
    Remote Office? n                                          Wideband Switching? n
Restrict Call Forward Off Net? y                                Wireless? n
    Secondary Data Module? y

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

```

9. Verify that the following fields are set as shown:

| Field                 | Setting  |
|-----------------------|----------|
| Private Networking?   | <b>y</b> |
| Processor Ethernet?   | <b>y</b> |
| Uniform Dialing Plan? | <b>y</b> |

10. Go to page 8.

display system-parameters customer-options

Page 8 of 10

QSIG OPTIONAL FEATURES

Basic Call Setup? y

Basic Supplementary Services? y

Centralized Attendant? y

Interworking with DCS? n

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.)

11. Verify that the following fields are set as shown:

| Field                                  | Setting  |
|----------------------------------------|----------|
| Basic Call Setup?                      | <b>y</b> |
| Basic Supplementary Services?          | <b>y</b> |
| Supplementary Services with Rerouting? | <b>y</b> |
| Transfer into QSIG Voice Mail?         | <b>y</b> |
| Value-Added (VALU)?                    | <b>y</b> |

12. Exit this form by clicking **Cancel**.

---

## Setting feature access codes for messaging

For messaging to function, you must create two feature access codes (FACs) and set two features to use these FACs on the System Parameters Features form.

You must also create one dial access code (DAC) for later use by the trunk group. The DAC is used to create the Trunk Access Code (TAC) in [Creating a trunk group for messaging](#) on page 37.

To create the two FACs for messaging, perform the following steps:

1. Go to the SAT interface prompt, and enter:

**change dialplan analysis**

The system displays the DIAL PLAN ANALYSIS TABLE form.

|                          |                 |              |                  |                 |              |                  |                 |              |                 |  |  |
|--------------------------|-----------------|--------------|------------------|-----------------|--------------|------------------|-----------------|--------------|-----------------|--|--|
| change dialplan analysis |                 |              |                  |                 |              |                  |                 |              | Page 1 of 12    |  |  |
| DIAL PLAN ANALYSIS TABLE |                 |              |                  |                 |              |                  |                 |              |                 |  |  |
|                          |                 |              |                  |                 |              |                  |                 |              | Percent Full: 1 |  |  |
| Dialed<br>String         | Total<br>Length | Call<br>Type | Dialed<br>String | Total<br>Length | Call<br>Type | Dialed<br>String | Total<br>Length | Call<br>Type |                 |  |  |
| 1                        | 3               | dac          |                  |                 |              |                  |                 |              |                 |  |  |
| 2                        | 5               | ext          |                  |                 |              |                  |                 |              |                 |  |  |
| 3                        | 5               | ext          |                  |                 |              |                  |                 |              |                 |  |  |
| 4                        | 5               | ext          |                  |                 |              |                  |                 |              |                 |  |  |
| 5                        | 5               | ext          |                  |                 |              |                  |                 |              |                 |  |  |
| 8                        | 1               | fac          |                  |                 |              |                  |                 |              |                 |  |  |
| 9                        | 1               | fac          |                  |                 |              |                  |                 |              |                 |  |  |
| *                        | 3               | fac          |                  |                 |              |                  |                 |              |                 |  |  |
| #                        | 3               | fac          |                  |                 |              |                  |                 |              |                 |  |  |

2. Create two FACs. The FACs that you use for messaging can be one or more digits.

For example, in the following screen, Dialed Strings 8 and 9 are specified as FACs, and Dialed String 1 is specified as a DAC.

**Note:**

The first FAC Dialed String value is used for the Auto Alternate Routing (AAR) setting. The second FAC Dialed String value is used for the Auto Route Selection (ARS) setting.

3. Exit this form and save these values by clicking **Submit**.

4. Go to the SAT interface prompt, and enter:

**change feature-access-codes**

The system displays the FEATURE ACCESS CODE (FAC) form.

|                                                 |                |
|-------------------------------------------------|----------------|
| change feature-access-codes                     | Page 1 of 6    |
| FEATURE ACCESS CODE (FAC)                       |                |
| Abbreviated Dialing List1 Access Code:          |                |
| Abbreviated Dialing List2 Access Code:          |                |
| Abbreviated Dialing List3 Access Code:          |                |
| Abbreviated Dial - Prgm Group List Access Code: |                |
| Announcement Access Code:                       |                |
| Answer Back Access Code:                        |                |
| Attendant Access Code:                          |                |
| Auto Alternate Routing (AAR) Access Code: 8     |                |
| Auto Route Selection (ARS) - Access Code 1: 9   | Access Code 2: |
| Automatic Callback Activation:                  | Deactivation:  |
| Call Forwarding Activation Busy/DA: All:        | Deactivation:  |
| Call Forwarding Enhanced Status: Act:           | Deactivation:  |
| Call Park Access Code:                          |                |
| Call Pickup Access Code:                        |                |
| CAS Remote Hold/Answer Hold-Unhold Access Code: |                |
| CDR Account Code Access Code:                   |                |
| Change COR Access Code:                         |                |
| Change Coverage Access Code:                    |                |
| Contact Closure Open Code:                      | Close Code:    |

5. Verify that the Auto Alternate Routing (AAR) Access Code field is set to the first FAC Dialed String value you entered for step 2.  
If you use the example in step 2, the Feature Access Code (FAC) for Auto Alternate routing (AAR) Access Code would be set to 3.
6. Verify that the Auto Route Selection (ARS) - Access Code 1 field is set to the second FAC Dialed String value you entered for step 2.  
If you use the example in step 2, the Feature Access Code (FAC) for Auto Route Selection (ARS) - Access Code 1 would be set to 9.
7. Exit this form and save these values by clicking **Submit**.

---

## Setting feature parameters for messaging

This procedure provides the steps for setting the feature-related parameters needed for messaging.

To set the internal parameters for messaging, perform the following steps:

1. Go to the SAT interface prompt, and enter:

**change system-parameters features**

The system displays the FEATURE-RELATED SYSTEM PARAMETERS form.

|                                                                      |              |
|----------------------------------------------------------------------|--------------|
| change system-parameters features                                    | Page 1 of 17 |
| FEATURE-RELATED SYSTEM PARAMETERS                                    |              |
| Self Station Display Enabled? n                                      |              |
| Trunk-to-Trunk Transfer: all                                         |              |
| Automatic Callback - No Answer Timeout Interval (rings): 3           |              |
| Call Park Timeout Interval (minutes): 10                             |              |
| Off-Premises Tone Detect Timeout Interval (seconds): 20              |              |
| AAR/ARS Dial Tone Required? y                                        |              |
| Music/Tone on Hold: none                                             |              |
| Music (or Silence) on Transferred Trunk Calls? no                    |              |
| DID/Tie/ISDN/SIP Intercept Treatment: attd                           |              |
| Internal Auto-Answer of Attd-Extended/Transferred Calls: transferred |              |
| Automatic Circuit Assurance (ACA) Enabled? n                         |              |
| Abbreviated Dial Programming by Assigned Lists? n                    |              |
| Auto Abbreviated/Delayed Transition Interval (rings): 2              |              |
| Protocol for Caller ID Analog Terminals: Bellcore                    |              |
| Display Calling Number for Room to Room Caller ID Calls? n           |              |

2. Verify that the following fields are set as shown on page 1:

| Field                   | Setting |
|-------------------------|---------|
| Trunk-to-Trunk Transfer | all     |

### 3. Go to page 8.

```

change system-parameters features                                     Page 8 of 17
                        FEATURE-RELATED SYSTEM PARAMETERS

ISDN PARAMETERS

Send Non-ISDN Trunk Group Name as Connected Name? n
Display Connected Name/Number for ISDN DCS Calls? n
    Send ISDN Trunk Group Name on Tandem Calls? n

PARAMETERS FOR CREATING
QSIG SELECTION NUMBERS
    Network Level: 0
    Level 2 Code:
    Level 1 Code:

    QSIG/ETSI TSC Extension: 29999
MWI - Number of Digits Per Voice Mail Subscriber: 5
    Feature Plus Ext:
    National CPN Prefix:
    International CPN Prefix:
    Pass Prefixed CPN to ASAI? n
    Unknown Numbers Considered Internal for AUDIX? y
    USNI Calling Name for Outgoing Calls? n
    Path Replacement with Measurements? y
    QSIG Path Replacement Extension: 29998
    Path Replace While in Queue/Vectoring? y
    Maximum Length: 5

```

### 4. Verify that the following fields are set to the proper values for the installation site.

| Field                                              | Setting                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QSIG/ETSI TSC Extension                            | The number in this field is an unassigned extension. It is used as a Temporary Signaling Connection for configurations where this Communication Manager server is connected to other Communication Manager servers. This number must be one in your assigned block of extensions, but is unused for any other purpose. |
| MWI - Number of Digits Per Voice Mail Subscriber   | This value represents the number of digits used in your dial plan for the extensions that uses voice mail. For example, if extensions are identified with five digits in the implementation, you would set the value in this field to 5.                                                                               |
| Unknown Numbers Considered Internal for messaging? | If an extension has not been defined in Communication Manager, this option must be set to <b>y</b> . This setting indicates that the extension number is viewed as an internal connection by messaging.                                                                                                                |

| Field                                      | Setting                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum Length                             | <p>When the Unknown Numbers Considered Internal for messaging? field is set to <b>y</b>, the Maximum Length field is displayed to the right.</p> <p>This value represents the number of digits that define a number external to the contact center. Any dialed number exceeding this value is considered an external telephone number.</p> <p>For example, if you are using four digit extensions in your dial plan, enter 4 in this field. This field cannot be left blank.</p> |
| QSIG Path Replacement Extension            | <p>This number must be within your assigned block of extensions, and not used for any other purpose. This number is usually the extension before or after the QSIG/ETSI TSC extension.</p>                                                                                                                                                                                                                                                                                       |
| Path Replace While in Queue/<br>Vectoring? | <p>If you use an attendant console that has queueing or vectoring, this option must be set to <b>y</b>.</p> <p>If this option is not set to y, the operator does not see where the incoming call came from, or not hear the caller for approximately 10 seconds. With vector processing the call might go to dead air.</p>                                                                                                                                                       |

5. Exit this form and save these values by clicking **Submit**.

6. Go to the SAT interface prompt, and enter:

**change dialplan parameters**

The system displays the Dialplan Parameters form.

change dialplan parameters
Page 1 of 1

DIAL PLAN PARAMETERS

Local Node Number: 1

ETA Node Number:

ETA Routing Pattern:

UDP Extension Search Order: udp-table-first

EXTENSION DISPLAY FORMATS

|                     | Inter-Location/SAT | Intra-Location |
|---------------------|--------------------|----------------|
| 6-Digit Extension:  | xx.xx.xx           | xx.xx.xx       |
| 7-Digit Extension:  | xxx-xxxx           | xxx-xxxx       |
| 8-Digit Extension:  | xx.xx.xx.xx        | xx.xx.xx.xx    |
| 9-Digit Extension:  | xxx-xxx-xxx        | xxx-xxx-xxx    |
| 10-Digit Extension: | xxx-xxx-xxxx       | xxx-xxx-xxxx   |
| 11-Digit Extension: | xxxx-xxx-xxxx      | xxxx-xxx-xxxx  |
| 12-Digit Extension: | xxxxxx-xxxxxx      | xxxxxx-xxxxxx  |
| 13-Digit Extension: | xxxxxxxxxxxxxx     | xxxxxxxxxxxxxx |

7. Verify that the following fields are set to the proper values for the installation site

| Field             | Setting                                                                                                                                                     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Node Number | The number for this communication server.<br>Usually this number is 1, but it can be a number from 1 to 99, depending on your contact center configuration. |

8. Exit this form and save this value by clicking **Submit**.

9. Go to the SAT interface prompt, and enter:

**change node-names ip**

The system displays the IP NODE NAMES form.

| change node-names ip                                                                                                                                                                                                      |              | Page 1 of 2 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|
| IP NODE NAMES                                                                                                                                                                                                             |              |             |
| Name                                                                                                                                                                                                                      | IP Address   |             |
| c11-vision                                                                                                                                                                                                                | 135.9.84.248 |             |
| default                                                                                                                                                                                                                   | 0.0.0.0      |             |
| mpl-vision                                                                                                                                                                                                                | 135.9.84.249 |             |
| procr                                                                                                                                                                                                                     | 135.9.84.239 |             |
| msgserver                                                                                                                                                                                                                 | 135.9.50.142 |             |
| <p>( 8 of 8 administered node-names were displayed )</p> <p>Use 'list node-names' command to see all the administered node-names</p> <p>Use 'change node-names ip xxx' to change a node-name 'xxx' or add a node-name</p> |              |             |

10. Enter the name of the Communication Manager Messaging server in the next available Name field.
11. Enter the IP Address for Integrated Messaging on the Communication Manager Messaging server. This address is the same IP address you enter in the Integrated Messaging field when configuring the Communication Manager Messaging server. See [Configuring the Server](#) on page 57.



**Important:**

The IP address in the previous step is *not* the IP address of the Communication Manager Messaging server itself.

**Note:**

The Communication Manager Messaging name must be consistent between the IP node names and the signaling group assigned for messaging.

12. Check the list of interfaces for existing Processor Ethernet (PROCR) or C-LAN interfaces. If no PROCR or C-LAN interfaces exist, continue with the following procedure, [Administering IP Interfaces](#).

**Note:**

When both the Processor Ethernet and C-LAN interfaces are available on a system, you may base the decision on which interface to use for messaging communications on factors such as:

- Whether or not an Enterprise Survivable Server (ESS) is being used for reliability. An ESS can support messaging in the event of a Communication Manager server failure *only* if messaging uses the C-LAN interface.
- Load balancing. If media gateways, IP telephones, or other devices have the C-LAN as the primary interface to Communication Manager, then the Processor Ethernet interface may be preferable to the C-LAN interface.

13. Exit the form and save these values by clicking **Submit**.

---

## Administering IP Interfaces

The Communication Manager Messaging server communicates with the Communication Manager server either through a C-LAN circuit pack installed on a port network or through the Processor Ethernet (PROCR) port of the server itself.

S8300-Series Servers only support a Processor Ethernet (PROCR) connection type.  
S8500-Series Server, and S8400-Series Servers support Processor Ethernet (PROCR) or C-LAN or both connection types.

### To define the IP interfaces of an S8400, S8500-Series port network C-LAN boards

1. Type `change ip-interfaces <slot location>` to open the **IP Interfaces** screen.

#### IP Interfaces Screen

change ip-interface 01a07 Page 1 of 1

IP INTERFACES

Type: C-LAN  
Slot: 01A07  
Code/Suffix: TN799 D  
Node Name: cl1-vision  
IP Address: 135.9.84 .248  
Subnet Mask: 255.255.255.0  
Gateway Address: 135.9.84 .254

Link: 1

Enable Ethernet Port? y  
Network Region: 1  
VLAN: n

Allow H.323 Endpoints? y  
Allow H.248 Gateways? y  
Gatekeeper Priority: 5

Target socket load and Warning level: 400  
Receive Buffer TCP Window Size: 8320

ETHERNET OPTIONS

Auto? y

2. Complete the fields as described the in [Table 1](#).

**Table 1: IP interfaces field descriptions**

| Field                          | Conditions/Comments                                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                           | Either C-LAN.                                                                                                                                                                                                                                                                                     |
| Slot                           | The slot location for the circuit pack.                                                                                                                                                                                                                                                           |
| Code/Suffix                    | Display only. This field is automatically populated with TN799 for C-LAN.                                                                                                                                                                                                                         |
| Node name                      | The unique node name for the IP interface. The node name here must already be administered on the Node Names screen.                                                                                                                                                                              |
| IP Address                     | The IP address (on the customer LAN) of the C-LAN.                                                                                                                                                                                                                                                |
| Subnet Mask                    | The subnet mask associated with the IP address for this IP interface.<br>For more information on IP addresses and subnetting, see <i>“Administration for Network Connectivity for Avaya Communication Manager, 555-233-504”</i> .                                                                 |
| Gateway Address                | The address of a network node that serves as the default gateway for the IP interface.                                                                                                                                                                                                            |
| Enable Ethernet Port?          | The Ethernet port must be enabled ( <b>y</b> ) before it can be used. The port must be disabled ( <b>n</b> ) before changes can be made to its attributes on this screen.                                                                                                                         |
| Network Region                 | The region number for this IP interface.                                                                                                                                                                                                                                                          |
| VLAN                           | The VLAN number assigned to the C-LAN, if any.                                                                                                                                                                                                                                                    |
| Target socket load             | The threshold for the number of sockets used by this C-LAN within the same Gatekeeper Priority as that of other IP interfaces. If the targeted number is exceeded on a CLAN, a warning alarm is generated. If the targeted percentage is exceeded on an PE interface, a procr error is generated. |
| Receive Buffer TCP Window Size | The threshold for the number of sockets used by this C-LAN that triggers a warning message to be sent to the error log.                                                                                                                                                                           |
| Link                           | This display only field shows the unique number for the Ethernet link. The Ethernet link was assigned on the data module form.                                                                                                                                                                    |
| Allow H.323 Endpoints          | Enter 'y' to allow H.323 endpoint connectivity on this CLAN. Enter 'n' if you do not want H.323 endpoints to connect to this CLAN.                                                                                                                                                                |

**1 of 2**

**Table 1: IP interfaces field descriptions (continued)**

| Field                 | Conditions/Comments                                                                                                                                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allow H.248 Gateways? | Enter 'y' to allow H.248 gateway connectivity to this C-LAN. Enter 'n' if you do not want H.248 gateways to connect to this C-LAN.                                                                                                                                                |
| Gatekeeper Priority   | This value is used on the alternate gatekeeper list. The lower the number the higher the priority. Valid values for this field are one through nine with five being the default. This field displays only if the <b>allow H.323 endpoints</b> field is set to a yes on this form. |
| Auto?                 | Enter 'y' or 'n' to set auto-negotiation.                                                                                                                                                                                                                                         |
| Speed                 | Enter 10 or 100 Mbps if <b>Auto</b> was set to no.                                                                                                                                                                                                                                |
| Duplex                | Enter half or full if <b>Auto</b> was set to no.                                                                                                                                                                                                                                  |
| <b>2 of 2</b>         |                                                                                                                                                                                                                                                                                   |

3. Close the screen.

### To define the IP interface of the S8300 Processor Ethernet port

**Note:**

This should have already been established as a part of normal S8400, S8500, and S8510 Media Server installation.

1. Type **change ip-interfaces procr** to open the **IP Interfaces** screen.

#### IP Interfaces Screen

change ip-interface procr

Page 1 of 1

IP INTERFACES

Type: PROCR

Enable Ethernet Port? y

Network Region: 1

IPV4 Parameters

Node Name: procr

Subnet Mask: /19

Allow H.323 Endpoints? y

Allow H.248 Gateways? y

Gatekeeper Priority: 5

Target socket load: 1700

2. Complete the fields as described the in [Table 2](#).

**Table 2: IP interfaces field descriptions**

| Field                 | Conditions/Comments                                                                                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                  | Display only. PROCR                                                                                                                                                                                                                                                                               |
| Node name             | The unique node name for the IP interface. <b>procr</b> is the default node name. The node name here must already be administered on the Node Names screen.                                                                                                                                       |
| IP Address            | The IP address (on the customer LAN) of the Processor Ethernet.                                                                                                                                                                                                                                   |
| Subnet Mask           | The subnet mask associated with the IP address for this IP interface.<br>For more information on IP addresses and subnetting, see <i>“Administration for Network Connectivity for Avaya Communication Manager, 555-233-504”</i> .                                                                 |
| Enable Ethernet Port? | The Ethernet port must be enabled ( <b>y</b> ) before it can be used. The port must be disabled ( <b>n</b> ) before changes can be made to its attributes on this screen.                                                                                                                         |
| Network Region        | The region number for this IP interface.                                                                                                                                                                                                                                                          |
| Target socket load    | The threshold for the number of sockets used by this C-LAN within the same Gatekeeper Priority as that of other IP interfaces. If the targeted number is exceeded on a CLAN, a warning alarm is generated. If the targeted percentage is exceeded on an PE interface, a procr error is generated. |
| Allow H.323 Endpoints | Enter 'y' to allow H.323 endpoint connectivity on this CLAN. Enter 'n' if you do not want H.323 endpoints to connect to this CLAN.                                                                                                                                                                |
| Allow H.248 Gateways? | Enter 'y' to allow H.248 gateway connectivity to this CLAN. Enter 'n' if you do not want H.248 gateways to connect to this CLAN.                                                                                                                                                                  |
| Gatekeeper Priority   | This value is used on the alternate gatekeeper list. The lower the number the higher the priority. Valid values for this field are one through nine with five being the default. This field displays only if the <b>allow H.323 endpoints</b> field is set to a yes on this form.                 |

## System parameters coverage

To set the system parameters coverage:

1. At the SAT interface prompt, and enter:

**change system-parameters coverage**

The system displays the **SYSTEM PARAMETERS CALL COVERAGE / CALL FORWARDING** form.

```

change system-parameters coverage-forwarding                               Page  1 of  2
                                SYSTEM PARAMETERS CALL COVERAGE / CALL FORWARDING

CALL COVERAGE/FORWARDING PARAMETERS

      Local Cvg Subsequent Redirection/CFWD No Ans Interval (rings): 2
      Off-Net Cvg Subsequent Redirection/CFWD No Ans Interval (rings): 2
                                Coverage - Caller Response Interval (seconds): 1
      Threshold for Blocking Off-Net Redirection of Incoming Trunk Calls: n
                                Location for Covered and Forwarded Calls: ?

COVERAGE

                                Keep Held SBA at Coverage Point? n
      External Coverage Treatment for Transferred Incoming Trunk Calls? n
      Immediate Redirection on Receipt of PROGRESS Inband Information? n
                                Maintain SBA At Principal? n
                                QSIG VALU Coverage Overrides QSIG Diversion with Rerouting? n
                                Station Hunt Before Coverage? n

FORWARDING

                                Call Forward Override? n
                                Coverage After Forwarding? y
  
```

2. Verify that the following fields are set as shown:

| Field                                                              | Setting  |
|--------------------------------------------------------------------|----------|
| Coverage - Caller Response Interval (seconds)                      | <b>1</b> |
| Threshold for Blocking Off-Net Redirection of Incoming Trunk Calls | <b>n</b> |
| Keep Held SBA at Coverage Point?                                   | <b>n</b> |
| Maintain SBA At Principal?                                         | <b>n</b> |

3. Exit the form and save these values by clicking **Submit**.

## Creating a signaling group for messaging

To create a signaling group for messaging, perform the following steps:

1. At the SAT interface prompt,

**add signaling-group <nnn>** and press **Enter**.

where <nnn> represents the number of this new signaling group

**Note:**

The number of this signaling group must not be in use and should also be available for the creation of a trunk group. For example, if you create this signaling group as 99, the corresponding trunk group should be created as 99. For this group, choose a number that is easily differentiated from other signaling and trunk groups.

The system displays the `SIGNALING GROUP` form.

|                                       |                                        |                           |
|---------------------------------------|----------------------------------------|---------------------------|
| add signaling-group 3                 |                                        | Page 1 of 1               |
| <code>SIGNALING GROUP</code>          |                                        |                           |
| Group Number: 3                       | Group Type: h.323                      |                           |
|                                       | Remote Office? n                       | Max number of NCA TSC: 10 |
|                                       | SBS? n                                 | Max number of CA TSC: 10  |
| IP Video? n                           | Trunk Group for NCA TSC:               |                           |
| Trunk Group for Channel Selection:    |                                        |                           |
| TSC Supplementary Service Protocol: b | Network Call Transfer? y               |                           |
| T303 Timer(sec): 10                   |                                        |                           |
| Near-end Node Name: cli-vision        | Far-end Node Name: msgserver           |                           |
| Near-end Listen Port: 1720            | Far-end Listen Port: 1720              |                           |
|                                       | Far-end Network Region: 1              |                           |
| LRQ Required? n                       | Calls Share IP Signaling Connection? y |                           |
| RRQ Required? n                       |                                        |                           |
|                                       | Bypass If IP Threshold Exceeded? n     |                           |
|                                       | H.235 Annex H Required? n              |                           |
| DTMF over IP: out-of-band             | Direct IP-IP Audio Connections? y      |                           |
| Link Loss Delay Timer(sec): 90        | IP Audio Hairpinning? n                |                           |
| Enable Layer 3 Test? n                | Interworking Message: PROGRESS         |                           |
|                                       | DCP/Analog Bearer Capability: 3.1kHz   |                           |

2. Verify that the following fields are set as shown:

| Field                 | Setting      |
|-----------------------|--------------|
| Group Type            | <b>h.323</b> |
| Remote Office?        | <b>n</b>     |
| Max number of NCA TSC | <b>10</b>    |

## Administering the Communication Manager server to work with CM Messaging

| Field                                             | Setting                                                                                                                                                                                                    |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Max number of CA TSC                              | <b>10</b>                                                                                                                                                                                                  |
| Trunk Group for NCA TSC <sup>1</sup>              | (Leave blank)                                                                                                                                                                                              |
| Trunk Group for Channel Selection                 | (Leave blank)                                                                                                                                                                                              |
| TSC Supplementary Service Protocol                | <b>b</b>                                                                                                                                                                                                   |
| Near-end Node Name                                | <b>procr</b> or name of the C-LAN, depending on which interface connects to Communication Manager Messaging                                                                                                |
| Far-end Node Name                                 | Name of the messaging server that is resident on the Communication Manager Messaging server. This name is the same name that appears on the Node Names screen and has the Integrated Messaging IP address. |
| Near-end Listen Port                              | <b>1720</b>                                                                                                                                                                                                |
| Far-end Listen Port                               | <b>1720</b>                                                                                                                                                                                                |
| Far-end Network Region <sup>2</sup>               | <b>1</b>                                                                                                                                                                                                   |
| Calls Share IP Signaling Connection? <sup>3</sup> | <b>y</b>                                                                                                                                                                                                   |
| DTMF over IP                                      | <b>out-of-band</b>                                                                                                                                                                                         |
| Enable Layer 3 Test?                              | <b>n</b>                                                                                                                                                                                                   |
| Direct IP-IP Audio Connections?                   | <b>y</b>                                                                                                                                                                                                   |
| IP Audio Hairpinning?                             | <b>n</b>                                                                                                                                                                                                   |
| Interworking Message                              | <b>PROGress</b>                                                                                                                                                                                            |

1. The fields that must be left blank must not have any values entered at this time. The values are populated later in the administration process.
2. The field, Far-end Network Region, defaults to 1 if a value is not specified.
3. The Calls Share IP Signaling Connection field is set to y so that messaging does not attempt to create a new TCP/IP connection for each call.

**Note:**

If the configuration of the Far-end Network Region field changes, the signaling group may not function correctly for messaging.

3. Go to the SAT interface prompt, and enter the following command to ensure that the Network Region functions properly for messaging:

**change ip-network-region <n>**

where <n> represents the value in the **Far-end Network Region** field.

4. Press **Enter**.

The system displays the IP NETWORK REGION form.

|                                       |                                      |              |
|---------------------------------------|--------------------------------------|--------------|
| change ip-network-region 1            |                                      | Page 1 of 19 |
| IP NETWORK REGION                     |                                      |              |
| Region: 1                             |                                      |              |
| Location:                             | Authoritative Domain:                |              |
| Name:                                 |                                      |              |
| MEDIA PARAMETERS                      |                                      |              |
| Codec Set: 1                          | Intra-region IP-IP Direct Audio: yes |              |
| UDP Port Min: 2048                    | Inter-region IP-IP Direct Audio: yes |              |
| UDP Port Max: 3329                    | IP Audio Hairpinning? n              |              |
| DIFFSERV/TOS PARAMETERS               |                                      |              |
| Call Control PHB Value: 46            | RTCP Reporting Enabled? y            |              |
| Audio PHB Value: 46                   | RTCP MONITOR SERVER PARAMETERS       |              |
| Video PHB Value: 26                   | Use Default Server Parameters? y     |              |
| 802.1P/Q PARAMETERS                   |                                      |              |
| Call Control 802.1p Priority: 6       |                                      |              |
| Audio 802.1p Priority: 6              |                                      |              |
| Video 802.1p Priority: 5              |                                      |              |
| H.323 IP ENDPOINTS                    |                                      |              |
| H.323 Link Bounce Recovery? y         |                                      |              |
| Idle Traffic Interval (sec): 20       |                                      |              |
| Keep-Alive Interval (sec): 5          |                                      |              |
| Keep-Alive Count: 5                   |                                      |              |
| AUDIO RESOURCE RESERVATION PARAMETERS |                                      |              |
| RSVP Enabled? n                       |                                      |              |

5. Verify that the following fields are set as shown on page 1:

| Field                           | Setting    |
|---------------------------------|------------|
| Intra-region IP-IP Direct Audio | <b>yes</b> |
| Inter-region IP-IP Direct Audio | <b>yes</b> |
| IP Audio Hairpinning?           | <b>n</b>   |

6. Record the value in the **Codec Set** field for use later in this procedure.
7. Go to page 3.

change ip-network-region 1 Page 3 of 19

Inter Network Region Connection Management

| src rgn | dst rgn | codec set | direct WAN | WAN-BW-limits Units | Video Total Norm | Prio Shr | Intervening-regions | Dyn CAC | IGAR |
|---------|---------|-----------|------------|---------------------|------------------|----------|---------------------|---------|------|
| 1       | 1       | 1         |            |                     |                  |          |                     |         |      |
| 1       | 2       |           |            |                     |                  |          |                     |         |      |
| 1       | 3       |           |            |                     |                  |          |                     |         |      |
| 1       | 4       |           |            |                     |                  |          |                     |         |      |
| 1       | 5       |           |            |                     |                  |          |                     |         |      |
| 1       | 6       |           |            |                     |                  |          |                     |         |      |
| 1       | 7       |           |            |                     |                  |          |                     |         |      |
| 1       | 8       |           |            |                     |                  |          |                     |         |      |
| 1       | 9       |           |            |                     |                  |          |                     |         |      |
| 1       | 10      |           |            |                     |                  |          |                     |         |      |
| 1       | 11      |           |            |                     |                  |          |                     |         |      |
| 1       | 12      |           |            |                     |                  |          |                     |         |      |
| 1       | 13      |           |            |                     |                  |          |                     |         |      |
| 1       | 14      |           |            |                     |                  |          |                     |         |      |
| 1       | 15      |           |            |                     |                  |          |                     |         |      |

8. Verify that the following fields are set as shown to ensure that the source region and far-end regions are configured properly.

| Field     | Setting                                                                               |
|-----------|---------------------------------------------------------------------------------------|
| src rgn   | The value in this column must match the Far-end Network Region set in step 2.         |
| codec set | The codec set you recorded in step 6 must be assigned to the first row in this table. |

9. Exit this form and save these values by selecting the **Submit** function.

10. Go to the SAT interface prompt, and enter:

**change ip-codec-set <n>**

where <n> represents the value you recorded for the **Codec Set**.

The system displays the IP Codec Set form.

change ip-codec-set 1
Page 1 of 2

IP Codec Set

Codec Set: 1

|    | Audio<br>Codec | Silence<br>Suppression | Frames<br>Per Pkt | Packet<br>Size (ms) |
|----|----------------|------------------------|-------------------|---------------------|
| 1: | G.711MU        | n                      | 2                 | 20                  |
| 2: |                |                        |                   |                     |
| 3: |                |                        |                   |                     |
| 4: |                |                        |                   |                     |
| 5: |                |                        |                   |                     |
| 6: |                |                        |                   |                     |
| 7: |                |                        |                   |                     |

11. Verify that the following fields are set as shown:

| Field               | Setting        |
|---------------------|----------------|
| Audio Codec         | <b>G.711MU</b> |
| Silence Suppression | <b>n</b>       |

12. Go to page 2 of this form.

change ip-codec-set 1
Page 2 of 2

IP Codec Set

Allow Direct-IP Multimedia? n

|               | Mode  | Redundancy |
|---------------|-------|------------|
| FAX           | relay | 0          |
| Modem         | off   | 0          |
| TDD/TTY       | US    | 3          |
| Clear-channel | n     | 0          |

13. Choose one of the following steps:

- If this installation is NOT using Fax, verify that the following fields are set as shown:

| Field | Setting                     |
|-------|-----------------------------|
| FAX   | Mode is set to <b>relay</b> |

- If this installation is using Fax, verify that the following fields are set as shown

| Field | Setting                             |
|-------|-------------------------------------|
| FAX   | Mode is set to <b>T.38-standard</b> |

14. Exit this form and save these values by selecting the **Submit** function.

## Creating a trunk group for messaging

To create a trunk group for messaging, perform the following steps:

1. Go to the SAT interface prompt, and enter:

```
add trunk-group <nnn>
```

where <nnn> represents the number of this new trunk group.

**Note:**

This number must not be in use. For ease of identification, set this number equal to that of the signaling group that you created. For example, if you created a signaling group as 99, create the corresponding trunk group 99.

The system displays page 1 of the TRUNK GROUP form.

|                       |                                |                       |          |
|-----------------------|--------------------------------|-----------------------|----------|
| add trunk-group 3     |                                | Page 1 of 21          |          |
| TRUNK GROUP           |                                |                       |          |
| Group Number: 3       | Group Type: isdn               | CDR Reports: y        |          |
| Group Name: msgserver | COR: 1                         | TN: 1                 | TAC: 103 |
| Direction: two-way    | Outgoing Display? n            | Carrier Medium: H.323 |          |
| Dial Access? y        | Busy Threshold: 255            | Night Service:        |          |
| Queue Length: 0       | Auth Code? n                   |                       |          |
| Service Type: tie     | Member Assignment Method: auto |                       |          |
|                       | Signaling Group: 3             |                       |          |
|                       | Number of Members: 120         |                       |          |

2. Verify that the following fields are set as shown:



**Important:**

Some of the fields below `Group Type` are not displayed unless this field is set to `isdn`.

| Field                    | Setting                                                                    |
|--------------------------|----------------------------------------------------------------------------|
| Group Type               | <code>isdn</code>                                                          |
| Group Name               | <code>msgserver</code>                                                     |
| Carrier Medium           | <code>H.323</code>                                                         |
| COR                      | <code>1</code>                                                             |
| Dial Access?             | <code>y</code>                                                             |
| Service Type:            | <code>tie</code>                                                           |
| Outgoing Display?        | <code>n</code>                                                             |
| Member Assignment Method | <code>auto</code>                                                          |
| Signaling Group          | The number of the signaling group you created in step 1 of this procedure. |

3. Enter a value in the TAC field. The TAC must start with the `Dialed String` value for the DAC you set up in [Setting feature access codes for messaging](#) on page 18, and include the number of the trunk group.

If you use the example in [Setting feature access codes for messaging](#) on page 18, the TAC would be 199.

4. Enter the number of trunks (ports) in the `Number of Members` field is appropriate for the number of messaging mailboxes for your platform. Use the table in [Number of Ports to Mailboxes Mapping](#) on page 61 to determine the appropriate value.

5. Go to page 2 of this form.

|                                                                                                                                                                                                                                                                                                                                                                                                               |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| <pre>add trunk-group 3   Group Type: isdn  TRUNK PARAMETERS   Codeset to Send Display: 6   Codeset to Send National IEs: 6   Charge Advice: none   Supplementary Service Protocol: b   Digit Handling (in/out): enbloc/enbloc    Digital Loss Group: 18   Incoming Calling Number - Delete:      Insert:      Format: pub-unk    Disconnect Supervision - In? y  Out? n   Answer Supervision Timeout: 0</pre> | Page 2 of 21 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|

6. Verify that the following fields are set as shown:

| Field                          | Setting              |
|--------------------------------|----------------------|
| Supplementary Service Protocol | <b>b</b>             |
| Digit Handling (in/out)        | <b>enbloc/enbloc</b> |
| Format                         | <b>pub-unk</b>       |
| Disconnect Supervision - In?   | <b>y</b>             |
| Out?                           | <b>n</b>             |

### 7. Go to page 3 of this form.

Page 3 of 21

```

add trunk-group 3
TRUNK FEATURES
    ACA Assignment? n          Measured: none
                                Internal Alert? n      Maintenance Tests? y
                                Data Restriction? n     NCA-TSC Trunk Member: 1
                                Send Name: n           Send Calling Number: y
                                Hop Dgt? n            Send EMU Visitor CPN? n
    Used for DCS? n
    Suppress # Outpulsing? n   Format: public
                                UI IE Treatment: service-provider

                                Replace Restricted Numbers? n
                                Replace Unavailable Numbers? n
                                Send Called/Busy/Connected Number: y
                                Hold/Unhold Notifications? y
                                Modify Tandem Calling Number? n
    Send UI IE? y
    Send UCID? n
    Send Codeset 6/7 LAI IE? y
    
```

### 8. Verify that the following fields are set as shown:

| Field                             | Setting        |
|-----------------------------------|----------------|
| Send Name                         | <b>n</b>       |
| NCA-TSC Trunk Member              | <b>1</b>       |
| Send Calling Number               | <b>y</b>       |
| Format <sup>1</sup>               | <b>private</b> |
| Send Called/Busy/Connected Number | <b>y</b>       |

1. The private setting is recommended. If the private setting does not work for your site, use public, unknown, or unk-pvt. You must use AAR or ARS digit conversion for path replacement to work. For more information, see [AAR and ARS digit conversion](#) on page 43.

9. Go to page 4 of this form.

|                                                                                                                                                                                                                                                                                                                                                                                                                                |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| <pre> add trunk-group 3                                  QSIG TRUNK GROUP OPTIONS  TSC Method for Auto Callback: drop-if-possible   Diversion by Reroute? y     Path Replacement? y Path Replacement with Retention? n   Path Replacement Method: better-route     SBS? n Display Forwarding Party Name? y   Character Set for QSIG Name: eurofont     QSIG Value-Added? y       Encoding Method: proprietary           </pre> | Page 4 of 21 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|

10. Verify that the following fields are set as shown:

| Field                            | Setting             |
|----------------------------------|---------------------|
| Path Replacement with Retention? | <b>n</b>            |
| Path Replacement Method          | <b>better-route</b> |
| QSIG Value-Added?                | <b>y</b>            |

**Note:**

After you submit this form, trunk groups are dynamically assigned for all trunks.

11. Exit this form and save these values by clicking **Submit**.

---

## Configuring the new signaling group for messaging

After you have created the new signaling group and trunk group for messaging, you must modify the signaling group to associate it with the new trunk group.

To associate the new signaling group with the new trunk group, perform the following steps:

1. Go to the SAT interface prompt, and enter:

**change signaling-group <nnn>**

where <nnn> represents the number of the signaling group you created in [Creating a signaling group for messaging](#) on page 31.

The system displays the signaling-group form.

|                                       |                                        |                            |
|---------------------------------------|----------------------------------------|----------------------------|
| change signaling-group 3              |                                        | Page 1 of 1                |
| SIGNALING GROUP                       |                                        |                            |
| Group Number: 3                       | Group Type: h.323                      |                            |
|                                       | Remote Office? n                       | Max number of NCA TSC: 10  |
|                                       | SBS? n                                 | Max number of CA TSC: 10   |
| IP Video? n                           |                                        | Trunk Group for NCA TSC: 3 |
| Trunk Group for Channel Selection: 3  |                                        |                            |
| TSC Supplementary Service Protocol: b |                                        | Network Call Transfer? y   |
| T303 Timer(sec): 10                   |                                        |                            |
| Near-end Node Name: cll-vision        | Far-end Node Name: msgserver           |                            |
| Near-end Listen Port: 1720            | Far-end Listen Port: 1720              |                            |
|                                       | Far-end Network Region: 1              |                            |
| LRQ Required? n                       | Calls Share IP Signaling Connection? y |                            |
| RRQ Required? n                       |                                        |                            |
|                                       | Bypass If IP Threshold Exceeded? n     |                            |
|                                       | H.235 Annex H Required? n              |                            |
| DTMF over IP: out-of-band             | Direct IP-IP Audio Connections? y      |                            |
| Link Loss Delay Timer(sec): 90        | IP Audio Hairpinning? n                |                            |
| Enable Layer 3 Test? n                | Interworking Message: PROGRESS         |                            |
|                                       | DCP/Analog Bearer Capability: 3.1kHz   |                            |

2. Set the Trunk Group for NCA TSC field to the number of the new trunk group that you created in [Creating a trunk group for messaging](#) on page 37.

For example, if you created the new signaling group and the new trunk group as 99, enter 99 in this field.

3. Set the Trunk Group for Channel Selection field to the number of the new trunk group that you created in [Creating a trunk group for messaging](#) on page 37.

For example, if you created the new signaling group and the new trunk group as 99, enter 99 in this field.

4. Exit this form and save this value by clicking **Submit**.

---

## AAR and ARS digit conversion

Depending on the `Format` field setting on Page 3 of the `Trunk Group` form, you must translate the ARS and AAR digit conversion tables.

---

### Path replacement settings

The following table lists the AAR and ARS digit conversion translation requirements based on the trunk format.

| Trunk format setting | Digit conversion                              |
|----------------------|-----------------------------------------------|
| Private              | AAR digit conversion                          |
| Public               | ARS digit conversion                          |
| Unknown              | AAR digit conversion, or ARS digit conversion |
| Unk-pvt              | AAR digit conversion, or ARS digit conversion |

## Converting ARS digits

To convert the ARS digits:

1. Go to the SAT interface prompt, and enter:

```
change ars digit-conversion 1
```

[illegible]

2. Verify that the `Net`, `Conv`, and `Req` fields are set as shown in the following example.



**Important:**

You must use values for `Matching`, `Pattern`, `Min`, `Max`, and `Del` that are appropriate for your configuration.

The preceding screen example is based on a system that uses 5 digit extensions that begin with 3.

3. Exit this form and save these values by clicking **Submit**.

## Converting AAR digits

To convert the AAR digits:

1. Go to the SAT interface prompt, and enter:

**change aar digit-conversion 1**

The system displays the AAR DIGIT CONVERSION TABLE form.

| change aar digit-conversion 1 |     |     |     |                    | Page 1 of 2 |      |     |     |
|-------------------------------|-----|-----|-----|--------------------|-------------|------|-----|-----|
| AAR DIGIT CONVERSION TABLE    |     |     |     |                    |             |      |     |     |
| Percent Full: 0               |     |     |     |                    |             |      |     |     |
| Matching Pattern              | Min | Max | Del | Replacement String | Net         | Conv | ANI | Req |
| 2                             | 5   | 5   | 0   |                    | ext         | y    |     | n   |
| 3                             | 5   | 5   | 0   |                    | ext         | y    |     | n   |
| 4                             | 5   | 5   | 0   |                    | ext         | y    |     | n   |
| 5                             | 5   | 5   | 0   |                    | ext         | y    |     | n   |
| x11                           | 3   | 3   | 0   |                    | ars         | y    |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |
|                               |     |     |     |                    |             |      |     | n   |

2. Verify that the Net, Conv, and Req fields are set as shown in the following example.



### Important:

You must use values for Matching Pattern, Min, Max, and Del that are appropriate for your configuration.

The preceding screen example is based on a system that uses 5 digit extensions that begin with 3.

3. Exit this form and save these values by clicking **Submit**.

## Creating a route pattern for the new trunk group

You must create a route pattern for the new trunk group so that messaging can correctly receive and retrieve voice mail.

To create a route pattern for the new trunk group, perform the following steps:

1. Go to the SAT interface prompt, and enter:

**change route-pattern <nnn>**

where <nnn> represents the number of the new trunk group that you created in [Creating a trunk group for messaging](#) on page 37. You must enter this number for messaging to function properly.

The system displays the route-pattern form.

```

change route-pattern 3                                     Page 1 of 3
                Pattern Number: 3   Pattern Name: msgserver
                        Secure SIP? n

  Grp FRL NPA Pfx Hop Toll No.   Inserted           DCS/ IXC
  No          Mrk Lmt List Del  Digits           QSIG
                                Dgts           Intw

1: 3      0
2:
3:
4:
5:
6:

                BCC VALUE   TSC CA-TSC   ITC BCIE Service/Feature PARM No. Numbering LAR
                0 1 2 M 4 W       Request      Dgts Format
                                Subaddress

1: y y y y y n   y   none      rest                               rehu
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

```

2. Verify that the following fields are set as shown:

| Field        | Setting                                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Pattern Name | The route pattern name for the messaging trunk group. For example, msgserver.                                                     |
| Grp<br>No.   | The column contains the number of the trunk group you created in <a href="#">Creating a trunk group for messaging</a> on page 37. |

## Creating a route pattern for the new trunk group

| Field                          | Setting     |
|--------------------------------|-------------|
| FRL                            | 0           |
| DCS/<br>QSIG Intw              | n           |
| IXC                            | user        |
| BCC VALUE<br>0 1 2 3 4 W       | y y y y y n |
| TSC                            | y           |
| CA-TSC<br>Request <sup>1</sup> | none        |
| ITC                            | rest        |
| LAR                            | rehu        |

1. The CA-TSC Request field cannot contain a value until the TSC field is set to y.

- Exit this form and save these values by selecting the **Submit** function.

- Go to the SAT interface prompt, and enter:

**change aar analysis <n>**

where <n> represents the first digit of the welcome to messaging extension.

The system displays the AAR DIGIT ANALYSIS TABLE form.

change aar analysis 3

Page 1 of 2

AAR DIGIT ANALYSIS TABLE

Percent Full: 1

| Dialed<br>String | Total<br>Min Max | Route<br>Pattern | Call<br>Type | Node<br>Num | ANI<br>Reqd |
|------------------|------------------|------------------|--------------|-------------|-------------|
| 30000            | 5 5              | 3                | aar          |             | n           |
| 4                | 7 7              | 999              | aar          |             | n           |
| 5                | 7 7              | 999              | aar          |             | n           |
| 6                | 7 7              | 999              | aar          |             | n           |
| 7                | 7 7              | 999              | aar          |             | n           |
| 8                | 7 7              | 999              | aar          |             | n           |
| 9                | 7 7              | 999              | aar          |             | n           |
|                  |                  |                  |              |             | n           |
|                  |                  |                  |              |             | n           |
|                  |                  |                  |              |             | n           |
|                  |                  |                  |              |             | n           |
|                  |                  |                  |              |             | n           |
|                  |                  |                  |              |             | n           |
|                  |                  |                  |              |             | n           |

- On page 1 of this form, verify that the following fields are set as shown:



## Important:

You must use values that are appropriate for your configuration.

The preceding screen example is based on a system that uses 5 digit extensions. The default messaging voice mail extension number is 30000. This number varies per site.

The columns for Total Min and Total Max refer to the number of digits in the voice mail extension. If you are using a dial plan with more than five digits, you must adjust this number accordingly.

- Exit this form and save these values by clicking **Submit**.

7. Go to the SAT interface prompt, and enter:

**change public-unknown-numbering <n>**

Where <n> is the number of digits for extensions

The system displays the NUMBERING - PUBLIC/UNKNOWN FORMAT form.

```

change public-unknown-numbering 3                                     Page 1 of 2
                                NUMBERING - PUBLIC/UNKNOWN FORMAT
                                Total
Ext  Ext      Trk      CPN      CPN
Len  Code      Grp(s)   Prefix   Len
5    3          3          5
                                Total Administered: 2
                                Maximum Entries: 9999
  
```

8. On page 1 of this form, verify that the following fields are set as shown:



**Important:**

You must define all of the numbers that appear as the first digits in the available extension numbers that use voice mail, and the path replacement numbers on page 8 of the change `system-parameters features` form.

| Field      | Setting                                                                                                                             |
|------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Ext Len    | The number of digits for extensions. For example, if the dial plan is configured for five-digit extensions, enter 5 in this column. |
| Ext Code   | The first digit or digits in the range of extensions for this site plus the path replacement numbers.                               |
| Trk Grp(s) | The number of the new trunk group that you created in <a href="#">Creating a trunk group for messaging</a> on page 37.              |
| CPN Len    | The number of digits for extensions. For example, if the dial plan is configured for five-digit extensions, enter 5 in this column. |

9. Exit this form and save these values by selecting the **Submit** function.

# Creating a hunt group for messaging

To create a hunt group for messaging, perform the following steps:

1. Go to the SAT interface prompt, and enter:

`add hunt-group <nnn>`

where `<nnn>` represents the number of an new, unused hunt group.

This hunt group should be consistent with your country settings. It is only used for messaging.

The system displays the HUNT GROUP form.

add hunt-group 3

Page 1 of 60

HUNT GROUP

Group Number: 3

ACD? n

Group Name: msgserver

Queue? n

Group Extension: 30000

Vector? n

Group Type: ucd-mia

Coverage Path:

TN: 1

Night Service Destination:

COR: 1

MM Early Answer? n

Security Code:

Local Agent Preference? n

ISDN/SIP Caller Display:

2. Verify that the following fields are set as shown:

| Field            | Setting                                                                                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group Name       | msgserver                                                                                                                                                                      |
| Group Extension  | This field identifies the default voice mail extension. This extension must be within the range of extensions you defined, and not be in use as a station or any other entity. |
| Group Type       | ucd-mia                                                                                                                                                                        |
| COR <sup>1</sup> | 1                                                                                                                                                                              |

1. The COR for the hunt group must not be outward restricted.

3. Go to page 2 of this form.

add hunt-group 3
Page 2 of 60

HUNT GROUP

LWC Reception: none
AUDIX Name:

Message Center: qsig-mwi

Send Reroute Request: y

Voice Mail Number: 30000

Routing Digits (e.g. AAR/ARS Access Code): 8
Provide Ringback? n

TSC per MWI Interrogation? n

4. Verify that the following fields are set as shown:



**Important:**

The three fields below `Message Center` are not displayed unless this field is set to `qsig-mwi`.

| Field                                     | Setting                                                                                                                                                                                                                             |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Message Center                            | <b>qsig-mwi</b>                                                                                                                                                                                                                     |
| Send Reroute Request                      | <b>y</b>                                                                                                                                                                                                                            |
| Voice Mail Number                         | This field identifies the default voice mail extension.                                                                                                                                                                             |
| Routing Digits (e.g. AAR/ARS Access Code) | The value in the <code>Routing Digits</code> field must match the Feature Access Code that you specified for the Auto Alternate Routing (AAR) Access Code in <a href="#">Setting feature access codes for messaging</a> on page 18. |

5. Exit this form and save these values by clicking **Submit**.

# Adding a coverage path for messaging

After the hunt groups are created, you must add a coverage path in Communication Manager. To create this coverage path, perform the following steps:

- 1. Go to the SAT interface prompt, and enter:

**add coverage path <nnn>**

where <nnn> represents the number of a new, unused coverage path. You can substitute <nnn> with **next** to use the first unused number. For example, if coverage paths 1 through 5 are in use, the **next** parameter creates coverage path 6.

The system displays the `COVERAGE PATH` form.

add coverage path 3

Page 1 of 1

COVERAGE PATH

Coverage Path Number: 3

Hunt after Coverage? n

Next Path Number: Linkage

COVERAGE CRITERIA

| Station/Group Status | Inside Call | Outside Call |                    |
|----------------------|-------------|--------------|--------------------|
| Active?              | n           | n            |                    |
| Busy?                | y           | y            |                    |
| Don't Answer?        | y           | y            | Number of Rings: 2 |
| All?                 | n           | n            |                    |
| DND/SAC/Goto Cover?  | y           | y            |                    |
| Holiday Coverage?    | n           | n            |                    |

COVERAGE POINTS

Terminate to Coverage Pts. with Bridged Appearances? n

Point1: h3 Rng: Point2:

Point3: Point4:

Point5: Point6:

- 2. Enter in the `Point1` field **hxx**.  
where **xx** is the hunt group you created for messaging.  
For example, **h3** represents hunt group 3.
- 3. Exit this form and save this value by clicking **Submit**.



**Important:**

At this point, an Avaya Tech must be engaged to change the vm and sa passwords.

## Creating stations and assigning coverage paths

Stations must be created before calls can be redirected to messaging through the correct coverage path. You must create two stations to perform the initial testing of your messaging deployment.

To create a station, perform the following steps:

1. At the SAT interface prompt, and enter:

```
add station <nnn>
```

where **<nnn>** represents the number of the extension that you want to create. This number must be within the range of extensions defined for this call center.

The system displays the `add station` form.

|                           |                                 |             |
|---------------------------|---------------------------------|-------------|
| add station 30101         |                                 | Page 1 of 5 |
| STATION                   |                                 |             |
| Extension: 30101          | Lock Messages? n                | BCC: 0      |
| Type: 8410D               | Security Code: *                | TN: 1       |
| Port: 01A0802             | Coverage Path 1: 3              | COR: 1      |
| Name: Ext 30101           | Coverage Path 2:                | COS: 1      |
|                           | Hunt-to Station:                |             |
| STATION OPTIONS           |                                 |             |
| Loss Group: 2             | Time of Day Lock Table:         |             |
| Data Module? n            | Personalized Ringing Pattern: 1 |             |
| Speakerphone: 2-way       | Message Lamp Ext: 30101         |             |
| Display Language: english | Mute Button Enabled? y          |             |
| Survivable COR: internal  | Media Complex Ext:              |             |
| Survivable Trunk Dest? y  | IP SoftPhone? n                 |             |

2. Enter the appropriate information in the `Type` and `Port` fields.

**Note:**

If you are unsure about what information to put in these fields, see *"Completing the station screens"* in the *Administrator Guide for Avaya Communication Manager*.

3. Ensure that the `Coverage Path 1` field is set to the number of the coverage path that you created in [Adding a coverage path for messaging](#) on page 52.

- Go to page 2 of this form.

|                                |                                        |             |
|--------------------------------|----------------------------------------|-------------|
| add station 30101              |                                        | Page 2 of 5 |
| FEATURE OPTIONS                |                                        | STATION     |
| 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 Idle Line Preference? n        |             |
| Bridged Call Alerting? n       | Restrict Last Appearance? y            |             |
| Active Station Ringing: single |                                        |             |
| H.320 Conversion? n            | Per Station CPN - Send Calling Number? |             |
| Service Link Mode: as-needed   |                                        |             |
| Multimedia Mode: basic         |                                        |             |
| MWI Served User Type: qsig-mwi | Display Client Redirection? n          |             |
|                                | Select Last Used Appearance? n         |             |
|                                | Coverage After Forwarding? s           |             |
|                                | Multimedia Early Answer? n             |             |
| Emergency Location Ext: 30101  | Direct IP-IP Audio Connections? y      |             |
|                                | IP Audio Hairpinning? n                |             |

- Verify that the following fields are set as shown:

| Field                | Setting  |
|----------------------|----------|
| LWC Reception        | spe      |
| LWC Activation?      | y        |
| MWI Served User Type | qsig-mwi |

- Save these changes and exit this form by clicking **Submit**.

## Saving translations

Translations refers to the process of configuring the communication server settings through the preceding procedures. When you complete the translations, you must save them.

To save translations, perform the following steps:

- At the SAT interface prompt, and enter:

**save translation**

The system saves the translations.

---

## Verifying product IDs

Confirm that the server is properly installed and registered.

To view the list of installed products, perform the following steps:

1. At the SAT command line prompt, type `logout` to logout of the SAT command line interface.
2. At the Linux prompt, type `productid` and press **Enter**.  
The system displays a list of installed products.
3. Verify that the server product ID, messaging product ID, and the RMB product IDs are displayed.



### Important:

If the IDs are not displayed, you must reinstall the system.

---

## Restarting the system

When you complete the previous procedures, you must restart the Avaya Communication Manager system.

To restart the system, perform the following steps:

1. Open your browser and log in as craft to the Communication Manager server services port using `http://192.11.13.6`.
2. On the **Communication Manager System Management Interface**, from the **Installation** menu, click **Server (Maintenance)**.
3. On the menu on the left side of the Web page, under **Server** category, click **Shutdown Server**.

The **Shutdown This Server** Web page is displayed.

4. Select the **Immediate Shutdown** option.
5. Select the **Restart server after shutdown** check box.
6. Click **Shutdown**.

The Communication Manager server restarts. The server takes approximately 10 to 15 minutes to restart.



---

## Configuring the Server

You can install CM Messaging on an S8300C Server, S8300D Server, S8400A, S8400B Server, S8500C Server, or S8510 Server.

For more information, see [Related documentation](#) on page 6.

---

## Obtaining remote field updates and language files for Communication Manager Messaging

For release 5.2, you might need one or more remote field updates (RFUs). You also need to determine whether optional languages are used. If so, obtain the data files.

### To obtain an Communication Manager Messaging RFU file

1. On the Avaya Support Web site, click on **Find Documentation and Downloads by Product Name** link.
2. Under the letter C, click the **Communication Manager Messaging** link.
3. Under **Document Categories**, click the **Downloads** link.
4. Click the **Avaya Communication Manager Messaging Application Patches** link.
5. Click on the service pack file name for this release.  
For example, **C6072rf+b.rpm**.
6. Click on **Save** and browse to the location on your laptop where you want to save the file.

---

## Obtaining Optional language files

Optional languages are any language other than English (**us-eng** or **us-tdd**). If optional languages are used with Communication Manager Messaging, you can download the appropriate language files from the Download Web site.

1. Follow the procedure in [Obtaining remote field updates and language files for Communication Manager Messaging](#) on page 57.
2. At step 4, select **Communication Manager Messaging Application Languages**.

### Note:

You could also use the two language CDs contained in the media kit that is shipped with the software.

---

## Copying files to the server

You can use the System Management Interface Web Interface to copy the the latest CM Messaging RFUs (if any), the optional languages (if any) and the latest SAMP firmware update file (if any) from the Services laptop to the CM Messaging server.

1. On the **Administration** menu, click **Server (Maintenance)**.
2. Under **Miscellaneous**, click **Download Files**.
3. Select **File(s) to download from the machine I'm using to connect to the server**.
4. Click **Browse** next to the top field to open the Choose File window on your computer. Find the files that you need to copy to the media server.
5. Click **Download** to copy the files to the media server.

The files are automatically copied to the default file location.

---

## Installing the CM Messaging Remote Field Update (RFU)

### Note:

Skip this section if you did not find RFU on the Avaya Support site, see [Obtaining remote field updates and language files for Communication Manager Messaging](#) on page 57

1. On the **Administration** menu, click **Messaging**.  
The system displays the **Messaging Administration** screen.
2. On the left navigation pane, under **Software Management**, select **Software Install**.  
The system displays the backup reminder screen.
3. Click **Continue** without current system backup.  
The system displays the **Packages will be installed from ...** screen. The CM Messaging RFUs are listed and are preselected for installation.
4. Click **Install selected packages**.  
The system displays the list of packages to be installed.
5. Click the **Proceed with installation** button.  
The screen displays status of the installation. When the installation is complete, the message, *All packages successfully installed* at the bottom of the screen.
6. Close the browser window.

**Important:**

You must close and reopen the Messaging Administration Web page in case the RFU made modifications to this Web page.

**Important:**

Do not start the messaging software at this time.

---

## Stop Messaging

### To stop messaging

1. Click **Messaging** from the **Administration** menu.

The system displays the **Messaging Administration** screen.

2. On the left navigation pane, under **Utilities**, select **Stop Messaging**.

The system displays the **Stop Messaging Software** screen.

3. Click the **Stop** button.

The Stop Messaging Software screen displays the status as messaging begins stopping. When Messaging has stopped, the screen displays the message, "Stop of voice system completed" at the top of the screen.

---

## Determining the Messaging Capacity

A system administrator can click **Show Capacity Calculator** to determine the number of call answer ports required to administer the system.

To determine the messaging capacity:

1. On the left navigation pane under **Switch Link Administration**, select **Switch Link Admin**.

The system displays the **Switch Link Administration** screen.

2. Click **Show Capacity Calculator**.

The system displays the **Messaging Capacity Calculator** section.

The image shows a web-based interface titled "MESSAGING CAPACITY CALCULATOR". It features a "Traffic Load" section with five radio button options: "Light", "Medium (default)", "Heavy", "Very Heavy", and "Extremely Heavy". Below this, there are two calculation rows. The first row is for "Minimum Number of Voice Ports", with a text input field containing "0", a "Max Allowed" field containing "12", and a "Calculate Mailboxes" button. The second row is for "Maximum Number of Mailboxes", with a text input field containing "0", a "Max Allowed" field containing "450", and a "Calculate Ports" button. At the bottom center, there is a "Clear All" button.

3. Select the level of traffic for the messaging system.
4. Perform one of the following:
  - Enter the minimum number of voice ports and click **Calculate Mailboxes** to know the number of supported mailboxes.
  - Enter the maximum number of mailboxes and click **Calculate Ports** to know the number of voice ports as recommended by Avaya.

---

## Administering the Switch Link

To administer the switch link:

1. On the left navigation pane under **Switch Link Administration**, select **Switch Link Admin**.

The system displays the **Switch Link Administration** screen.

## Switch Link Administration Screen

**Switch Link Administration**

The Switch Link Administration page is used for administration of the switch link parameters of the messaging system.

**BASIC CONFIGURATION**

|                                   |               |
|-----------------------------------|---------------|
| <a href="#">Switch Number</a>     | 1             |
| <a href="#">Extension Length</a>  | 5             |
| <a href="#">Switch IP Address</a> | 135.9.83.53   |
| <a href="#">Voice Ports</a>       | 12 Maximum 12 |
| <a href="#">Trunks</a>            | 18 Maximum 18 |
| <a href="#">Transfer Ports</a>    | 6             |
| <a href="#">Call Control PHB</a>  | 46            |
| <a href="#">Audio PHB</a>         | 46            |

[Save](#) [Help](#) [Show Capacity Calculator](#)

- Enter **1** in the Switch Number field.
- Select an extension length in the Extension Length field.
- View the IP address of the Communication Manager server in the Switch IP Address field. See [Administering IP Interfaces](#) on page 26
- Enter the number of voice ports and trunks Communication Manager Messaging uses for mailbox connections to the Communication Manager server. You can use the following table to determine the number of ports required for the anticipated number of mailboxes to administer on Communication Manager Messaging.

**Number of Ports to Mailboxes Mapping**

| Users           | Maximum Users | Voice Ports | Transfer Ports | Trunks |
|-----------------|---------------|-------------|----------------|--------|
| 1 to 5 users    | 5             | 2           | 1              | 3      |
| 6 to 10 users   | 10            | 2           | 1              | 3      |
| 11 to 25 users  | 25            | 3           | 2              | 5      |
| 26 to 50 users  | 50            | 4           | 2              | 6      |
| 51 to 100 users | 100           | 5           | 3              | 8      |

## Number of Ports to Mailboxes Mapping

| Users              | Maximum Users | Voice Ports | Transfer Ports | Trunks |
|--------------------|---------------|-------------|----------------|--------|
| 101 to 250 users   | 250           | 8           | 4              | 12     |
| 25 to 500 users    | 500           | 13          | 7              | 20     |
| 501 to 1000 users  | 1000          | 22          | 11             | 33     |
| 1001 to 2000 users | 2000          | 34          | 17             | 51     |
| 2001 to 3000 users | 3000          | 48          | 24             | 72     |
| 3001 to 4000 users | 4000          | 62          | 31             | 93     |
| 4001 to 5000 users | 5000          | 80          | 40             | 120    |
| 5001 to 6000 users | 6000          |             |                |        |

- Enter a value for **Call Control PHB** and **Audio PHB**. The value you enter for both the fields sets the quality of service level for call control messages and audio streams respectively on networks that support this feature. The value for both the fields must be in the range 0 to 63. The value must match the corresponding number configured for the network region used by the messaging signaling group on the switch.
- Click the **Save** button.

The system calculates the number transfer ports and displays them in the Transfer Ports field.

### Note:

The number of H.323 trunks set on the Communication Manager server *must* accommodate the sum of voice ports and transfer ports you administer on the Switch Link screen. This number of H.323 trunks for messaging is in addition to H.323 trunks the Communication Manager server requires for other functions such as IP telephone connections, faxes, and other data connections throughout the network. The number of H.323 trunks on the Communication Manager server are listed in the Maximum Number of H.323 Trunks field, which is available on the System Parameters Customer Options SAT screen.

---

## Starting Messaging

### To start messaging:

1. Under **Utilities**, select **Start Messaging**.

The system displays the Start Messaging Software screen, with the phrase "Start Voice System Info: Starting" at the top. The screen refreshes periodically while messaging is starting. When Messaging has completed its startup, the phrase "Start Voice System Info: Started" appears at the top of the screen, and the message "Voice Messaging is now completely up" appears at the bottom.

---

## Setting Communication Manager Messaging server parameters

### To set parameters for the Communication Manager Messaging server:

1. Under **Server Administration**, select **Messaging Server Admin**.

The system displays the **Edit Messaging Server** screen.

## Edit Messaging Server Screen

The Edit Messaging Server allows the changing of the local messaging server.

|                         |              |                                            |                          |
|-------------------------|--------------|--------------------------------------------|--------------------------|
| <b>Server Name</b>      | voyage       | <b>Password</b>                            | voyage                   |
| <b>IP Address</b>       | 135.9.83.153 | <b>Server Type</b>                         | tcpip                    |
| <b>Extension Length</b> | 5            | <b>Default Community</b>                   | 1                        |
| <b>Voiced Name</b>      | NO           | <b>Send to Non-Administered Recipients</b> | <input type="checkbox"/> |
| <b>Voice ID</b>         |              |                                            |                          |
| <b>Updates In</b>       | yes          | <b>Updates Out</b>                         | yes                      |

| ADDRESS RANGES     |                  |
|--------------------|------------------|
| Starting Extension | Ending Extension |
| 30000              | 39999            |
|                    |                  |

- In the **Server Name** field enter the name of the voice mail system. This name must match the name in the Host Name field you entered in the Set Identities Screen while configuring the server.
- In the **Password** field enter a password for other messaging servers to use to access this messaging server. This password is provided by the customer.
- In the **Starting Extension** and **Ending Extension** fields of the **ADDRESS RANGES** table, enter the starting and ending extensions that are assigned to this call center.
- Verify that the following fields are set as shown:

| Field        | Setting                                                      |
|--------------|--------------------------------------------------------------|
| IP address   | The IP address of the Communication Manager Messaging server |
| Server Type  | <b>TCP/IP</b>                                                |
| Voiced Name? | <b>NO</b>                                                    |

| Field             | Setting                                                            |
|-------------------|--------------------------------------------------------------------|
| Extension Length  | The number of digits that are used in the dial plan for this site. |
| Voice ID          | 0                                                                  |
| Default Community | 1                                                                  |

6. Leave the defaults in all other fields.
7. Click the **Save** button.

The system displays the message, "Server information modified successfully".

---

## Setting system-wide messaging parameters

To set system-wide parameters for messaging:

1. Under **Messaging Administration**, select **System Administration**.

The system displays the **Administer System Attributes and Features** screen.

## Administer System Attributes and Features Screen

**AVAYA** Communication Manager (CM) System Management Interface (SMI)

Help Log Off Installation Administration Upgrade This Server: [1] voyage-icc

**Administration / Messaging**

- Attendant Management
- Enhanced List Setup
- Enhanced List Management
- Classes-of-Service
- Limits
- Features
- Sending Restrictions
- System Administration**
- System Administration (restricted)
- Announcement Sets
- Announcement Admin
- Announcement Copy
- Fax Options
- Fax Dial Strings
- Dial Sequences
- MCAP Options
- MCAP Password
- Thresholds
- Outcalling Options
- Activity Log Configuration
- Non-Admin Remote Subs
- Server Administration**
- External Hosts
- Trusted Servers
- Messaging Server Admin
- Networked Servers
- Request Remote Update
- IMAP/SMTP Administration**
- General Options
- Mail Options
- Email Server Status
- Messaging Networked Machine
- Excluded Mailbox Admin
- Server Information**

### Administer System Attributes and Features

The System Attributes and Feature page allows the administration of system feature parameters.

#### LOG-IN PARAMETERS

|                                              |                                         |                                              |                                 |
|----------------------------------------------|-----------------------------------------|----------------------------------------------|---------------------------------|
| <a href="#">Login Retries</a>                | <input type="text" value="3"/>          | <a href="#">Consecutive Invalid Attempts</a> | <input type="text" value="18"/> |
| <a href="#">System Guest Password</a>        | <input type="text"/>                    | <a href="#">Minimum Password Length</a>      | <input type="text" value="1"/>  |
| <a href="#">Lock Duration</a>                | <input type="text" value="30"/> Minutes | <a href="#">Passwords History</a>            | <input type="text" value="8"/>  |
| <a href="#">Lockout Notification Mailbox</a> | <input type="text"/>                    |                                              |                                 |

#### SUBSCRIBER PASSWORD AGING LIMITS (DAYS)

|                                              |                                                          |
|----------------------------------------------|----------------------------------------------------------|
| <a href="#">Password Expiration Interval</a> | <input type="text" value="0"/> (0 for no password aging) |
| <a href="#">Minimum Age Before Changes</a>   | <input type="text" value="0"/>                           |
| <a href="#">Expiration Warning</a>           | <input type="text" value="0"/> (0 for no warning)        |

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Click for help with the Miscellaneous Parameters field Local intranet

2. In the **Lock Duration** field, enter the length of time a mailbox remains locked after the administered number of failed login attempts.
3. In the **Consecutive Invalid Attempts** field, enter the number of login attempts allowed before a mailbox is locked.
4. In the **Minimum Password length** field, enter the minimum number of digits that subscriber passwords must contain.
5. In the **Passwords History** field, enter the number of old passwords that the system saves to check against old password reuse by a subscriber.
6. In the **Passwords Expiration Interval** field, enter the number of days a subscriber password is valid, after which the system requires the subscriber to change the password.
7. Leave defaults in the remaining fields.
8. Click the **Save** button.

## Adding test subscribers for messaging

### Note:

For each test subscriber, you must administer telephones on the Communication Manager server (see [Creating stations and assigning coverage paths](#) on page 53). The following procedure then creates a mailbox associated with each subscriber's telephone.

Create two subscribers to perform the initial testing of your messaging software.

To create a subscriber of the messaging server, perform the following steps:

1. On the Messaging Administration Web page, select **Subscriber Management**.

The system displays the **Manage Subscribers** screen.

### Manage Subscribers Screen

2. In the **Local Subscriber Mailbox Number** field, enter the extension number of the first test subscriber.
3. Click the **Add or Edit** button.

The system displays the **Add Local Subscriber** screen.

**AVAYA** Communication Manager (CM) System Management Interface (SMI)

Help Log Off Installation Administration Upgrade

Administration / Messaging This Server: [1] voyage-icc

**Manage Subscribers**

The Manage Subscribers page is used to add or edit local subscribers. This page allows for filter creation and management of local and remote subscribers.

• Local Subscriber Mailbox Number  **Add or Edit**

|                      | Machine Name | Subscriber Licenses Used | Total Subscribers | Filtered Subscribers |
|----------------------|--------------|--------------------------|-------------------|----------------------|
| • Local Subscribers  | voyage       | 450 of 450               | 450               | 450                  |
| • Remote Subscribers | quest2       | 0                        | 0                 | 0                    |

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Click for help with the Machine Name column. Local intranet

## Add Local Subscriber Screen

**AVAYA** Communication Manager (CM)  
System Management Interface (SMI)

Help Log Off Installation Administration Upgrade This Server: [1] voyage-icc

**Administration / Messaging**

- Messaging Administration
  - Subscriber Management**
  - Attendant Management
  - Enhanced List Setup
- Enhanced List Management
- Classes-of-Service
- Limits
- Features
- Sending Restrictions
- System Administration
- System Administration (restricted)
- Announcement Sets
- Announcement Admin
- Announcement Copy
- Fax Options
- Fax Dial Strings
- Dial Sequences
- MCAP1 Options
- MCAP1 Password
- Thresholds
- Outcalling Options
- Activity Log Configuration
- Non-Admin Remote Subs

**Server Administration**

- External Hosts
- Trusted Servers
- Messaging Server Admin
- Networked Servers
- Request Remote Update

**IMAP/SMTP Administration**

- General Options
- Mail Options
- Email Server Status
- Messaging Networked Machine
- Excluded Mailbox Admin

**Server Information**

- System Status
- Alarm Summary

### Add Local Subscriber

The Add Local Subscriber allows the creation of a local subscriber.

| BASIC INFORMATION |                      |                    |                      |
|-------------------|----------------------|--------------------|----------------------|
| Last Name         | <input type="text"/> | First Name         | <input type="text"/> |
| Extension Number  | <input type="text"/> | Password           | <input type="text"/> |
| Class Of Service  | 0 - class00          | Covering Extension | <input type="text"/> |
| Switch Number     | 1                    | Account Code       | <input type="text"/> |
| Community ID      | 1                    | Broadcast Mailbox? | no                   |
| Secondary Ext     | <input type="text"/> | Time Zone          | <input type="text"/> |
| Locked?           | no                   |                    |                      |

### SUBSCRIBER DIRECTORY

Email

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Click for help with the Password field Local intranet

4. In the **Name** field, enter the name of the first test subscriber.
5. In the **Password** field, enter the password for the subscriber's mailbox.
6. Ensure that the **Switch Number** field displays the number you administered in the Switch Number field on the Switch Link Administration screen.
7. Click the **Save** button.
8. Repeat steps 2 through 7 for the second test subscriber mailbox.

---

## Verifying the messaging application

You must verify that the messaging application is functioning properly after Communication Manager Messaging is configured.

This section includes the following topics:

- [Calling the hunt group to access messaging](#) on page 69
- [Calling an extension to verify messaging coverage](#) on page 69

---

### Calling the hunt group to access messaging

From one of the stations that you created in [Creating stations and assigning coverage paths](#) on page 53, place a call to the messaging hunt group number that you specified in [Creating a trunk group for messaging](#) on page 37. You should hear the greeting, "Welcome to Audix." If you do not hear this greeting, ensure that the settings for the hunt group, coverage path, station, and subscriber are set properly by reviewing the previous procedures in this document.

---

### Calling an extension to verify messaging coverage

Call one of the two stations that you set as a subscriber to the messaging server and do not let the call be answered. You should be routed to the messaging system. You hear the greeting, "Your call is being answered by AUDIX." If you do not hear this greeting, ensure that the settings for the hunt group, coverage path, station, and subscriber are set properly by reviewing the configuration procedures in this document.

Leave a message and verify that the Message Waiting Indicator (MWI) lamp on the receiving extension is lit. From the receiving extension, retrieve the message and verify that the MWI lamp is no longer lit.



# Upgrading CM Messaging

**Important:**

Back up translations from CM Messaging server to an FTP, SCP or SFTP Server. Translations may get corrupted if you attempt to upgrade the server to a release that is not supported.

You can upgrade CM Messaging by using:

- Manage Software Web page on the System Management Interface
- Software Upgrade Manager tool (SUM)

**Note:**

For more information on using the SUM tool, see chapter "Downloading Software to Targets", in the *Avaya Integrated Management Release 5.2 Software Update Manager User Guide*, 14-300168 on <http://support.avaya.com>.

For more information on upgrading CM Messaging on Avaya S8xxx Servers on , see Chapter 2, "Upgrading Software on Servers", in the *Upgrading Avaya Aura™ Communication Manager on Avaya S8xxx Servers Release 5.2 Guide*, 03-602885.



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