Avaya™ Interchange

Release 5.4/Intuity™ Interchange R5.3 Adding an Intuity AUDIX System That Uses TCP/IP

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Notice
Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

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Preventing Toll Fraud
Toll Fraud is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or working on your company's behalf). Be aware that there is a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

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Telecommunications security of voice, data, and/or video communications is the prevention of any type of intrusion to, that is, either unauthorized or malicious access to or use of, your company's telecommunications equipment by some party.

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An "outside party" is anyone who is not a corporate employee, agent, subcontractor, o ra person working on your company's behalf. Whereas, a "malicious party" is anyone, including someone who may be otherwise authorized, who accesses your telecommunications equipment with either malicious or mischievous intent.

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- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there could be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company, including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

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The final responsibility for securing both this system and its networked equipment rests with you — an Avaya customer's system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure your:

- Avaya-provided telecommunications systems and their interfaces
- Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products

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To comment on this document, send mail to:
Avaya Inc.
Information Development
Room D1-B53
1300 W. 120th Ave
Westminster, CO 80234

Fax to:
Attention Intuity Interchange Writing team. 303-538-9625

Send an e-mail message to:
infodev@avaya.com

Adding an Intuity AUDIX System That Uses TCP/IP

This document describes how to add to your Interchange network a new Intuity™ AUDIX® system that uses the TCP/IP protocol.

NOTE:
These procedures might also be used for IP600 and DEFINITY® One messaging systems.

Keep in mind the following aspects of the instructions:

- Examples are included to aid in understanding, but the actual configurations and data you enter can vary greatly.
- The instructions apply to both Intuity Interchange R5.3 and Avaya™ Interchange R5.4.
- In general, it is recommended that the dial plan of the Interchange maintain as much consistency as possible between the addresses to send messages and the phone numbers subscribers dial when simply calling other subscribers. The examples in this document are designed to show such consistency.

Checklist for Adding an AUDIX TCP/IP Endpoint

To add a new Intuity AUDIX TCP/IP digital messaging system to an existing Avaya or Intuity Interchange network, do the following:

Task	Details of Task
Task 1: Get Information About the System You Are Adding (see Page 3)	Complete the Planning Worksheet included in this document. You or the Intuity AUDIX administrator get the system name, its mailbox IDs, IP address, and network setup from the Local Machine Administration and Machine Profile screens. The switch administrator for your Interchange system and possibly the switch administrator for the new system will need to give you the dial plan and exact phone numbers (prefixes) for the Intuity AUDIX mailboxes.
Task 2: Determine How to Map the New System's Dial Plan (see Page 8)	Complete the Dial Plan Mapping Worksheet in this document (Professional Services normally does this for you).
Task 3: Determine the Type of Subscriber Update for the New System (see Page 19)	Understand how the full, dynamic, and directory view updates work, and choose the best one for your system.
Task 4: Create an Interchange Profile on the New System (see Page 21)	Enter Interchange as an Intuity AUDIX network node into the new system. **NOTE:** Be sure to enter the *exact* name and IP address of Interchange.
Task 5: Identify the New System to the Interchange System (see Page 26)	Complete the AUDIX Digital Network Machine Administration screen for the new system.
Task 6: Administer Remote Machine Parameters (see Page 28)	Complete the Remote Machine Parameters screen for the new system. Also complete the AUDIX Digital Machine Profile screen by using the Dial Plan Mapping Worksheet.
Task 7: Map the New System's Dial Plan for Interchange (see Page 33)	Complete the Dial Plan Mapping screen for the new system by using the Dial Plan Mapping Worksheet.
Task 8: Administer Directory Views (see Page 36)	Complete the Directory Views screen for the new system.

Task 9: Verify That the Endpoint Has Been Administered (see Page 39)	Check for a new system entry on the Remote Machine List and the Remote Machine Dial Plan List.
Task 10: Test LAN Connectivity (see Page 40)	Run the Remote Connection Test and the Send and Receive Test PacketTest with the new system.
Task 11: Add Remote Subscribers to Interchange (see Page 44)	Run a Remote Update on the new system.
Task 12: Verify the Subscriber Update (see Page 45)	Run the Feature Daily Traffic Report on the Intuity AUDIX system. Run the Subscriber List by Machine Name on Interchange.
Task 13 (Optional): Manually Update the Intuity AUDIX System (see Page 46)	Run **get remote_update** from the Intuity AUDIX system.
Task 14: Test the Connection (see Page 48)	Send messages to and from the test mailbox on the new system.
Task 15: Update Remote Systems for Subscribers on the New System (see Page 49)	Add information to Directory Views, if appropriate. Run **get remote_update** from Intuity AUDIX systems. Run Demand Update Push from Interchange to Aria®, Serenade®, and Octel® 100 systems.

Task 1: Get Information About the System You Are Adding

Your Account Executive determines with you the needed information about the new system and completes a *Planning Worksheet for AUDIX*. Retrieve these items and enter them in the Planning Worksheet that follows.

To complete the worksheet, you or your Intuity AUDIX administrator need to do the following:

1. Get the Name and Password of the New System (see Page 5).
2. Check the Intuity AUDIX Dial Plan and Network Update Capabilities (see Page 6).
3. Determine the Prefixes of the New System Mailboxes and Test Mailbox IDs (see Page 8).

Additionally, you need to know how many digits are in the Interchange dial plan. Usually the dial plan consists of 7 or 10 digits, though the digits can be from 3 to 10.

Planning Worksheet

System Name: _____ **System IP address** _____

Password: _____

End Node Test Mailbox(es):** _____

Full Network Address Ranges for this End Node: excluding address ranges associated with those mailboxes which will never receive messages, such as Auto Attendant, Bulletin Board, etc. **Keep ranges as specific to the actual mailboxes as possible** and consider any potential growth. In an existing system, verify existing ranges (see Existing Point to Point Screen Information for mailbox list information. Interchange requires one network address length.

	Area Code and/or Local Exchange Prefix (if any)	Starting Extension	Ending Extension
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Get the Name and Password of the New System

Use the following steps to get the name and password of the Intuity AUDIX. The administrator of the Intuity AUDIX system can do this for you.

NOTE:
You perform the steps that follow *on the Intuity AUDIX system itself*. These steps are almost identical to remote machine administration of the Intuity AUDIX system on Interchange, which you perform in Task 5: Identify the New System to the Interchange System (see Page 26).

1. Starting from the Intuity AUDIX main menu, select

   > Networking Administration

   > Local Machine Administration

   The system displays the Local Machine Administration window (Figure 1).

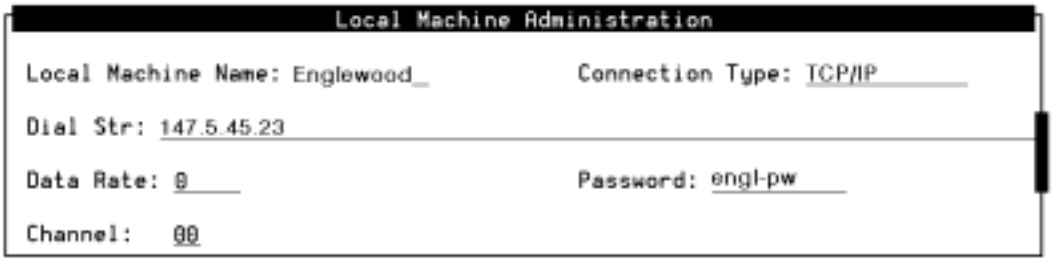


Figure 1. Local Machine Administration Window

2. Check the **Local Machine Name** field for the name of the new system, and enter it in the Planning Worksheet (see Page 4).
3. Check the **Dial Str** field for the IP address of the new system, and enter it in the Planning Worksheet (see Page 4).
4. Check the **Password** field for the password of the system. Interchange, as well as other systems that can be networked to the Intuity AUDIX system, use this password to connect to the AUDIX system. Enter it in the Planning Worksheet (see Page 4).
5. The **Data Rate** and **Channel** fields should contain 0 and 00 respectively.
6. Press F6 (Cancel).

Check the Intuity AUDIX Dial Plan and Network Update Capabilities

To check the Intuity AUDIX dial plan and network update capabilities, do the following:

1. Starting from the Intuity AUDIX main menu, select

   ```
   >AUDIX Administration
   ```

   The system displays a blank administration screen.

2. Enter **change machine** at the **`enter command:`** prompt.

   The system displays the Machine Profile screen (Figure 2).

```
Englewood          Active          Alarms:  mwA                    Logins: 4
change machine                                                    Page 1 of 2
                              MACHINE PROFILE

Machine Name: Englewood     Type: local          Location: local

 Voiced Name? y                                 Extension Length: 4
    Voice ID: 8                                Default Community: 1

ADDRESS RANGES
     Prefix                  Start Ext.   End Ext.        Warnings
 1: _____________________    2000         2999
 2: _____________________    3000         3999
 3: _____________________    5000         5499
 4: _____________________    5500         5999
 5: _____________________    _____        _____
 6: _____________________    _____        _____
 7: _____________________    _____        _____
 8: _____________________    _____        _____
 9: _____________________    _____        _____
10: _____________________    _____        _____

enter command: change machine
```

Figure 2. Machine Profile Screen for the Local Machine — Page 1

3. Note the extension ranges and record them in your Planning Worksheet (see Page 4).

CAUTION:

*Be sure that ranges do **not** include the extensions of automated attendants, bulletin boards, and other special mailboxes that are not intended to accept messages. If these mailboxes are included, then messages sent to Enterprise Lists defined by remote machine will fail*

and will show up in your delivery status reports. More importantly, messages might actually be sent to mailboxes that are not intended to receive E-list messages.

4. Press F7 (NextPage).

   The system displays page 2 of the Machine Profile screen (Figure 3).

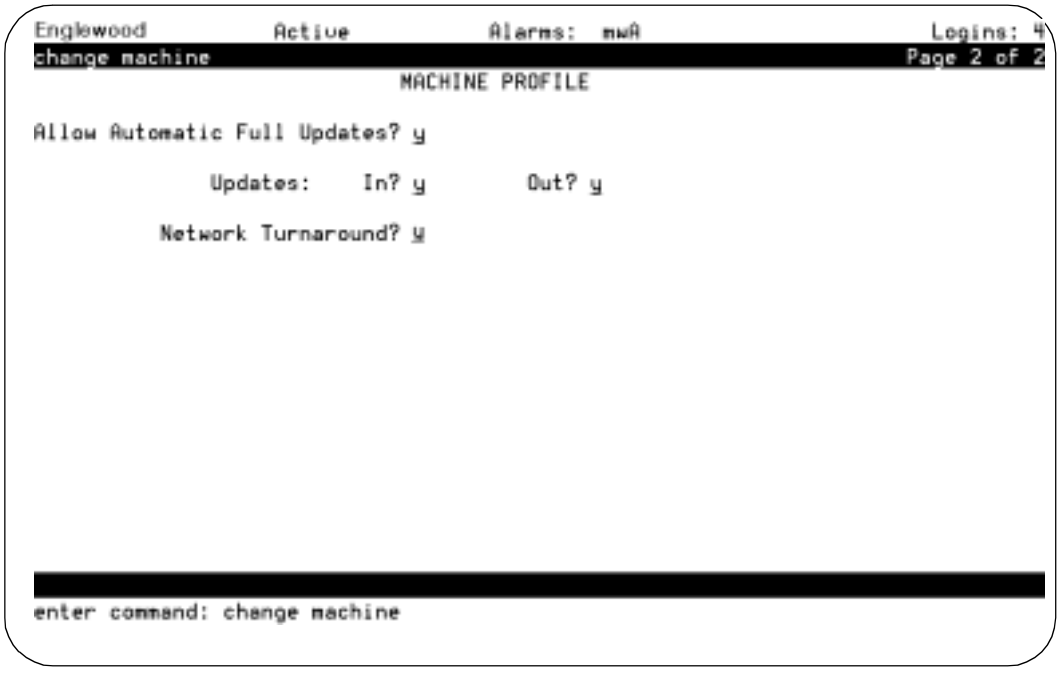


Figure 3. Machine Profile Screen for the Local Machine — Page 2

5. In the **`Allow Automatic Full Updates`** field, type **y**.
6. Type **y**, if necessary, in all other fields.
7. When you finish updating the local machine information, press F3 (Save) to save the information in the system database.

   The cursor returns to the command line, and the system displays the message `Command Successfully Completed.`
8. Type **exit** to leave AUDIX Administration.

Determine the Prefixes of the New System Mailboxes and Test Mailbox IDs

1. Determine the **Area Code and/or Local Exchange Prefix(es)** that Interchange must use to send messages to mailboxes on the new system. Enter the prefixes in your Planning Worksheet (see Page 4).

   Ask the switch administrator for the new system to get the correct digits. These digits are required because Interchange uses a specified address length (normally 7 or 10 digits for the US) to process all messages.

   The prefix comprises the digits that normally precede the mailbox IDs when someone calls the mailbox from outside of the switch location. The prefix could actually replace digits in the mailbox IDs, as will be defined as a part of Dial Plan Mapping. Usually, prefixes are associated with Direct Inward Dial (DID) trunks that direct calls to the mailboxes. That is, the prefix combined with the mailbox ID is usually the phone number of a subscriber.

   For example, mailboxes in the range **20000** to **29999** might normally be preceded by **303-55**. Therefore, if an outside caller wanted to leave a message for mailbox **20001**, that caller would actually dial **303-552-0001**. This example assumes the local area requires 10-digit dialing.

   It is possible, however, in a 10-digit dialing area, that mailboxes on the new system could be preceded by *different* prefixes. Therefore, although some mailboxes are preceded by **303-55,** the extension range **50000** to **59999** might be preceded by **720-48**. In this case, an outside caller would dial **720-485-5460** to call mailbox **55460**.

2. Determine the **End Node Test Mailbox** on the new system. You use this mailbox to send and receive test messages through Interchange. Ask the administrator of the new system for a mailbox number. Enter it in your Planning Worksheet (see Page 4).

Task 2: Determine How to Map the New System's Dial Plan

NOTE:
Avaya Professional Services normally determines how to map the dial plan for you and sends you a Dial Plan Mapping Worksheet. In this case, you can skip this task.

The Interchange network dial plan can use a uniform address length that consists of from 3 to 10 digits. However, it is strongly recommended that Interchange use a 7-digit or 10-digit dial plan. The new system, on the other hand, will likely have a different dial plan, one that usually uses 4 or 5 digits. In most cases, therefore, you will have to map the dial plan of the new system to the Interchange network address length.

NOTE:
If the mailbox IDs on the new system have exactly the same number of digits as the address length used in the Interchange network dial plan, then you might not need to perform dial plan mapping. For example, if the Interchange dial plan calls for 10-digit addresses, and the mailbox IDs on the new system always use 10 digits, you do not need to map the dial plans. As another example, if the Interchange dial plan uses the 5-digit uniform dial plan of a private network, and the new system's mailbox IDs also use the same 5-digit uniform dial plan within the same private network, you do not need to map the dial plans.

CAUTION:
Since every Interchange address must be unique, there might be circumstances in which the new system's mailbox ID length matches the Interchange dial plan, but because the new system is not part of the same switch private network, the mailbox IDs might not be unique within the Interchange network. This situation is quite common, which is why it is normally recommended to use a 10-digit Interchange dial plan and dial plan mapping.

Use the following instructions and the Dial Plan Mapping Worksheet (see Page 17), to determine how to map the new system's dial plan. This worksheet is normally provided to you by Avaya Professional Services.

1. Note these two critical rules:
   - The digit or digits you enter in the Map From column for each Mailbox ID range must be *unique*.
   - If you have only one prefix that you are mapping to and you do not have to replace the initial digit or digits of the mailbox IDs[1], you can set the Map From Length to **0**.

     CAUTION:
     If you change your dial plan later (for example, if you add more extensions that have a different DID prefix) and need to add Mailbox ID ranges for this system, you will have to remove the system from the Interchange network and add it again to the network with the new dial plan. This task could entail a significant amount of work.

     Therefore, if you anticipate the need to change the dial plan for this endpoint in the future, you might want to use a Map From

1. If the new system's mailbox IDs must conform to a Uniform Dial Plan, the initial digit or digits of the mailbox IDs can overlap, **and differ from**, the ending digit or digits of the local exchange prefix. See Sample Dial Plan Mapping (When Prefixes Replace Initial Mailbox Digits) (see Page 15).

*Length of **1** or more. See Figure 7 on Page 13, which illustrates the alternative to Map From Length **0** in anticipation of future changes.*

2. Check your Planning Worksheet (see Page 4) for the mailbox ID (extension) ranges of the new system. Review the examples that follow and fill out the Dial Plan Mapping Worksheet (see Page 17), according to whether you have:
   - A broken or unbroken range of extensions
   - Ranges of extensions that have different prefixes and the first digit or digits in the **Start** field are unique.
   - Ranges of extensions that have different prefixes and the first digit or digits in the **Start** field are shared.
   - Initial digits in mailbox IDs that must be replaced with different digits.

Sample Dial Plan Mapping (Single Unbroken Range of Mailbox IDs)

In Figure 4, since there is a single unbroken MAILBOX ID range (**2000** to **5999**), you enter **0** in the **Map From Length** field on the Dial Mapping Worksheet. In this case, you leave the **Map From** field for the range blank. Then, the **Map To** digits specify the area code and local exchange 3-digit prefix. You can get these numbers from your Planning Worksheet (see Page 4).

When these digits are added to the 4-digit mailbox IDs, Interchange has the necessary 10 digits.

Remote Machine Name: Englewood — Mailbox ID Length: 4
Map From Length: **0**

MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	5999		303555

Figure 4. Sample Dial Plan Map with a Single Range (0 Map From Length)

Keep in mind that Interchange allows you to use a **Map From Length** of up to **9**. In some circumstances with the previous example, you might choose to use a **Map From Length** of **1**, **2**, **3**, or even **4** with the range **2000** to **5999**.

In a likely scenario with range **2000** to **5999,** you might anticipate the need to change the Dial Plan Mapping later, so you choose **1** for the **Map From Length**, *not* **0**. In this case, the map would appear as follows (Figure 5).

Remote Machine Name: Englew

Mailbox ID Length: 4

Map From Length: **1**

MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	5999	2	3035552
		3	3035553
		4	3035554
		5	3035555

Figure 5. Sample Dial Plan Map with a Single Range (1 Map From Length)

Sample Dial Plan Mapping (Broken Ranges of Mailbox IDs with Map From 0)

In Figure 6, there are broken MAILBOX ID ranges. In this case, ranges 4000 to 4999 and 5500 to 5799 can be omitted for one of two reasons:

- The range contains auto-attendant mailboxes and other extensions for which mailboxes have not been assigned.
- Another messaging system, which uses the same prefix as this system, will use the mailbox ranges 4000 to 4999 and 5500 to 5799.

In this example, you can still enter **0** in the **Map From Length** field on the Dial Mapping Worksheet. In this case, you leave the **Map From** field for the range blank. Then, for the **Map To** digits for the first range, specify the area code and local exchange 3-digit prefix. Then, leave the remaining Map From and Map To fields blank. Interchange will automatically apply the prefix to the remaining ranges.

When the prefix digits are added to the 4-digit mailbox IDs, Interchange has the necessary 10 digits.

CAUTION:

*If it is possible that this system will add mailbox ranges at a later time, do **not** use Map From Length **0**. Instead, use Map From Length **1**, as in Figure 7. If you use Map From Length 0, and then later must change the dial plan so that you must use a different Map From Length, you will have to remove the system from the Interchange network and then add it again.*

Remote Machine Name: Englewood

Mailbox ID Length: 4

Map From Length: **0**

MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	2999		303555
3000	3999		
5000	5499		
5800	5999		

Figure 6. Sample Dial Plan Map with Multiple Ranges (0 Map From Length)

Sample Dial Plan Mapping (Broken Ranges of Mailbox IDs with Map From 1)

In Figure 7, as in the previous example, there are also broken MAILBOX ID ranges.

However, say that in this example, you anticipate that you will need to change the dial plan for this system in the future, so you avoid entering a **0** Map From Length. If you were to enter **0**, you would have to remove the system and add it again to change its dial plan. So, instead, you can enter **1** in the **Map From Length** field on the Dial Mapping Worksheet. In this case, enter the first digit of the first Mailbox ID range in the **Map From** field. Then, for the **Map To** digits for the first range, specify the area code, local exchange 3-digit prefix, and the first digit of that same Mailbox ID range. Then, enter the first digit of the next range with a unique start digit, and so on.

When the prefix digits are added to the 4-digit mailbox IDs, Interchange has the necessary 10 digits.

NOTE:

Notice that the last Mailbox ID range, **5800** to **5899** does not have **Map From** and **Map To** digits entered next to it. This is because the

`Map From` 5 and **`Map To` 3035555** digits apply to any range that starts with **5**.

Remote Machine Name: Englewood — Mailbox ID Length: 4
Map From Length: **1**

MAILBOX ID: Start	MAILBOX ID: End	NETWORK ADDRESS DIAL PLAN MAPPING: Map From	NETWORK ADDRESS DIAL PLAN MAPPING: Map To
2000	2999	2	3035552
3000	3999	3	3035553
5000	5499	5	3035555
5800	5999		

Figure 7. Sample Dial Plan Map with Multiple Ranges (1 Map From Length)

Sample Dial Plan Mapping (Ranges That Require Different Prefixes)

In Figure 8, there are broken MAILBOX ID ranges, and one range has a different **`Map To`** prefix. This situation requires a **`Map From Length`** of **1** or greater.

In this example, the range with a different prefix, 5000 to 5999 begins with a unique Start digit. Therefore, you can enter **1** in the **`Map From Length`** field on the Dial Mapping Worksheet. In this case, then, the **`Map To`** digits for the ranges consist of the first digit of each range, and the **`Map From`** digits specify the area codes and local exchange 3-digit prefixes for their respective Mailbox ID ranges.

Remote Machine Name: Englewood — Mailbox ID Length: 4
Map From Length: **1**

MAILBOX ID: Start	MAILBOX ID: End	NETWORK ADDRESS DIAL PLAN MAPPING: Map From	NETWORK ADDRESS DIAL PLAN MAPPING: Map To
2000	2999	2	3035552
3000	3999	3	3035553
5000	5999	5	7205515

Figure 8. Sample Dial Plan Map with Multiple Prefixes (1 Map From Length)

Sample Dial Plan Mapping (Ranges with Different Prefixes and Shared Start Digits)

In the following example, the new system had two MAILBOX ID ranges with the same initial digit **5** (**5000** to **5499** and **5500** to **5999**), but their DID prefixes were different and, therefore, must be differentiated in the Dial Plan Map. Also, because entries in the **Map From** column for each range must be unique, there must be **2** Map From digits. That is, you ***cannot*** set up dial plan mapping with one Map From digit as follows:

Remote Machine Name: Englewood

Mailbox ID Length: 4

Map From Length: **1**

You can't do this!! See Figure 9 instead.

MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	2999	2	3035552
3000	3999	3	3035553
5000	5499	**5**	3035555
5500	5999	**5**	7205515

Instead, you must break out every MAILBOX ID range so that the first two digits in each range are unique (see Figure 9). This requirement includes ranges that have unique initial digits (**2000** to **2999** and **3000** to **3999** in the example). The **Map To** digits include 8 digits that specify area code, the local exchange 3-digit prefix, and two additional digits that match the **Map From** digits. When the Map To digits are added to the remaining 2 digits of the mailbox IDs, Interchange has the 10 digits required for the mailboxes.

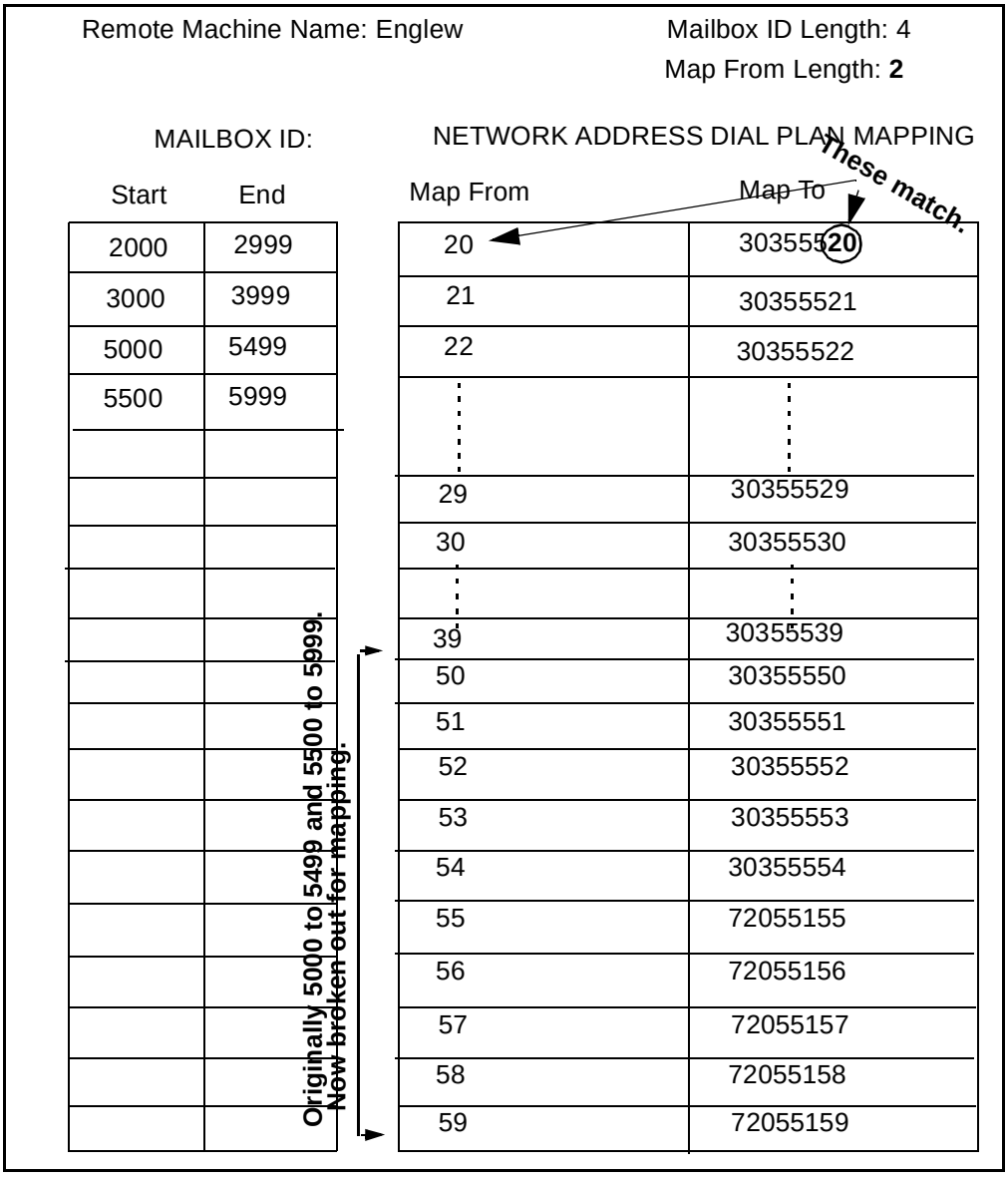


Figure 9. Dial Plan with Multiple Prefixes (2 Map From Length)

Sample Dial Plan Mapping (When Prefixes Replace Initial Mailbox Digits)

In Figure 10, there are broken MAILBOX ID ranges, and the two ranges have different **`Map To`** prefixes. *Additionally*, the mailbox IDs are part of a 5-digit Uniform Dial Plan across two switches so that the initial digits of the mailbox IDs overlap the final digits of the phone number prefixes. In this case, the Dial Plan

Map will replace the initial digit of the MAILBOX ID ranges with a different digit. This situation also requires a **`Map From Length`** of **1** or greater.

In this example, a mailbox in the first range might be **21333**, but its external phone number would be **303-555-1333**. In the Dial Plan Mapping screen, the initial mailbox digit **2** is replaced with the final digit of the prefix, in this case, **5**. A mailbox in the second range might be **54444**, but its external phone number would be **720-551-4444**. In the Dial Plan Mapping screen, the initial mailbox digit **5** is replaced with the final digit of the prefix, in this case, **1**.

Remote Machine Name: Englewood — Mailbox ID Length: **5**
Map From Length: **1**

MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
20000	29999	2	303555
50000	59999	5	720551

Figure 10. Sample Dial Plan Map When Prefixes Replace Initial Mailbox Digits (1 Map From Length)

Dial Plan Mapping Worksheet

Remote Machine Name: _____ Mailbox ID Length: ___
Map From Length: ___

MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To

3. In the **`Mailbox ID Length`** field, enter the number of digits in each mailbox ID. Normally, this number is **4** or **5**, but it can be from 3 to 10. Check your Planning Worksheet (see Page 4).

4. In the **Map From Length** field, enter the number of digits that Interchange will replace with mapping digits to convert the current mailbox IDs to Interchange network address length and to ensure unique addresses across the Interchange network.

   The **Map From Length** can be **0** to **9** digits, and how many digits you map can vary greatly depending on how readily the new system's mailbox ranges fit into the existing Interchange network. However, as in the preceding samples, this number will often be based on considerations such as the following:

   - One range (for example, **0000** to **9999** — in this case, you might type **0**) (but see the Caution that follows).
   - Broken ranges, each with unique prefixes (for example, **2000** to **2999** with prefix 303-555 and **4000** to **4999** with prefix 720-551 — in this case, you might type **1**).
   - Multiple ranges that share start digits but have different prefixes (for example, **5000** to **5499** with prefix 303-555 and **5500** to **5999** with prefix 720-551, where **5** is a shared start digit — in this case, you might type **2**).
   - Ranges whose initial digits must be replaced with different digits (for example, a uniform dial plan range of **50000** to **59999**, but a local exchange prefix that ends in **1** — in this case, you might type **1**).

   CAUTION:
   *If you use Map From Length **0**, you **cannot** change this value later. Instead, you must remove the remote system from the Interchange network and add it again.*

5. In the **Mailbox ID Start** and **End** fields, list the mailbox ID ranges of the new system. You get the ranges from your Dial Plan Mapping Worksheet (see Page 17).
6. In the first **Map From** field, type the digit(s) that match the first digit(s) of the first **MAILBOX ID Start** and **End** range. This field can be blank if Interchange will add the same Map To digits for all ranges and no digits in the mailbox IDs must be replaced with different digits. However, the number of digits you enter must match the number of digits specified in the **Map From Length** field.

   In the example in Figure 9, the first field contains **20**, because the mailbox ID range starts with 20, and these first two digits will be replaced with the last two digits of the **Map To** digit string.
7. In the first **Map To** field, type the area code and DID prefix of the mailbox IDs. For these numbers, check your Planning Worksheet. The last digits in this field must match the digits in the **Map From** field.

In the example in Figure 9, the first field contains **30355520**, with the last two digits, **20**, as substitutes for the first two digits **20** of the mailbox range, thereby creating mailbox IDs of 10 digits. For example, the first mailbox would have a network address of **303-555-2000**, and the last mailbox in this range would have an address of **303-555-2099**.

NOTE:
If the **`Map From`** field is blank, the **`Map To`** digits will simply be added to the mailbox IDs to total 10 digits.

Task 3: Determine the Type of Subscriber Update for the New System

To keep the remote subscriber list for the new system up to date with subscribers within the Interchange network, you must select one of four options for the new system:

Full updates Full updates include, in the new system's remote subscriber list, every subscriber on every system in the Interchange network. This option ensures that subscribers on the new system can address by name every subscriber in the network. However, this option can require a large amount of disk space on the new system, and remote subscribers who do not send or receive messages will be stored unnecessarily.

If you select this option, Interchange performs a full update when you first administer the new system. Subsequent updates include changes to subscriber lists of remote systems, where subscribers have been added or removed. Subsequent updates occur in either of the following:

- When you perform a Demand Remote Update from the Intuity AUDIX system.
- When Interchange receives a subscriber change from a remote system. If the new Intuity AUDIX system has Automatic Full Updates turned on, these updates occur automatically according to the message delivery schedule of Interchange and the Intuity AUDIX.

CAUTION:
If you begin with full updates and later change to dynamic subscriber updates, Interchange will remove all subscribers from the remote subscriber directory and begin to repopulate the directory with dynamic updates.

Dynamic updates

With this option, each time a subscriber on the new system sends a message to a remote subscriber, that remote subscriber is added to the Dynamic Directory List for the new system. Likewise, each time a remote subscriber sends a message to a subscriber on the new system, that remote subscriber is added to the list.

If, typically within the next 90 days (see Dynamic Sub Expiration Days on the Remote Machine Profile screen), no other messages are sent from the new system to that remote subscriber, or vice-versa, that remote subscriber is removed from the list. This removal helps save storage space on the new system.

Directory View updates only

With this option, the new system's remote subscriber list will include subscribers within ranges of extensions on systems you specify. A Directory View list for a system is static, and as with full updates, this option can use a lot of disk space. Additionally, with this option, subscribers who fall outside the ranges and systems you specify will not be addressable by name from the new system.

If you select this option, Interchange performs a directory view update when you first administer the new system. Subsequent updates include changes to subscriber lists of remote systems, where subscribers have been added or removed. Subsequent updates occur in either of the following:

- When you perform a Demand Remote Update from this system
- When Interchange receives a subscriber change from a remote system. These kinds of updates occur automatically according to the schedule of the if the new Intuity AUDIX system has Automatic Full Updates turned on.

Combination of Dynamic and Directory View updates

You can use Dynamic Subscriber Updates and Directory Views in combination. In this case, dynamic updates occur as described above, but the Directory Views option also identifies specific ranges of extensions on specific remote systems to ensure that remote subscribers on those systems can be addressed by name on the new system.

This type of setup is useful when you are converting high-traffic point-to-point systems to the Interchange network and/or when it is important that all or a subset of remote subscribers on a specific system is addressable by name for subscribers on the new system.

None With this option, Interchange will not update the subscriber names list for the new system. This might be a useful option during testing or early during the addition of the new system to discourage subscribers on the system from sending messages through Interchange.

Task 4: Create an Interchange Profile on the New System

To add an Intuity AUDIX system to your Interchange network, you must identify the Interchange system to the Intuity AUDIX networking software. To do this, you do the following *on the Intuity AUDIX system*:

1. Complete the Digital Network Machine Administration Window.
2. Complete the Machine Profile Screen for the Remote Machine.

Complete the Digital Network Machine Administration Window

Use the Digital Network Machine Administration window of the Intuity AUDIX system to enter information for connecting to the remote machine.

1. Starting from the Intuity AUDIX main menu, select

```
> Networking Administration
    > Remote Machine Administration
        > Digital Network Machine Administration
```

The system displays the Digital Network Machine Administration window (Figure 11 on Page 22).

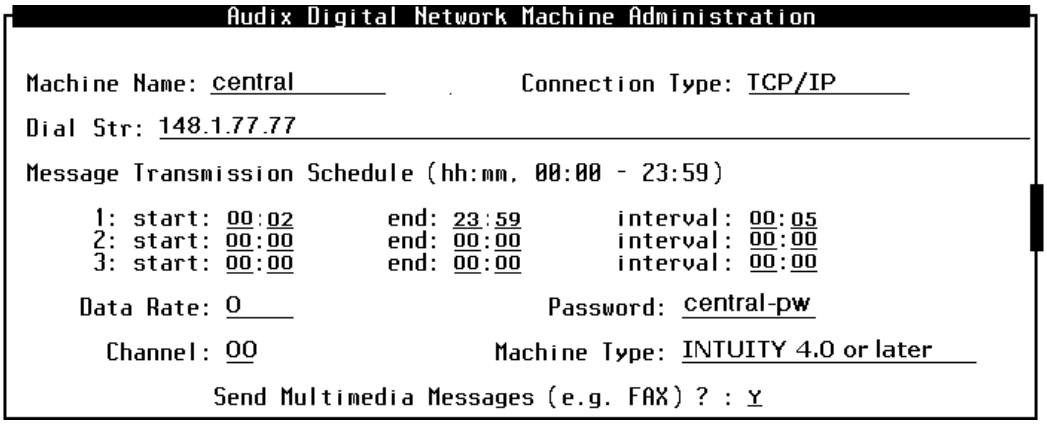


Figure 11. Digital Network Machine Administration Window

2. In the **Machine Name** field, type the name of the Interchange system and press ENTER. In the example, the name would be **central**. The name must be unique to any other system names that Intuity AUDIX communicates with.

   To make sure the name is unique, press F2 (Choices) to display a list of valid remote machines.

3. In the **Connection** field, type **TCP/IP**.
4. In the **Dial Str** field, type the IP address of the Interchange. In the example, it is **148.1.77.77**.
5. In the **Message Transmission Schedule Start**, **End**, and **Interval** fields, you normally leave the defaults. It is recommended that the first row be **00:02**, **23:59**, and **00:05** respectively. This schedule means that between 12:02 a.m. and 11:59 p.m., the Intuity AUDIX system sends any queued messages every 5 minutes. However, if there are many Intuity AUDIX systems in the Interchange network, you might want to stagger the start times on each system to prevent overloading Interchange.

   In the second and third rows, leave the defaults as well. You don't use these schedules.

6. In the **Data Rate** field, type **0**. This item is irrelevant since the connection uses TCP/IP.
7. In the **Password** field, type the password required to log in to Interchange. If you do not remember the password, check the Local Machine Administration screen for Interchange.
8. In the **Channel** field, type **00**. With **00**, Intuity AUDIX uses whatever channel is available at the moment.

9. In the **Machine Type** field, type **Intuity 4.0 or later**. Interchange is treated as a networked Intuity AUDIX R4.0 by Intuity AUDIX systems.
10. In the **Send Multimedia Messages** field, type **y**. Generally, it is best to allow AUDIX to send all components of multimedia messages to Interchange. Then, if the target system cannot accept all components, a recorded message tells the receiver about the part that failed.
11. Press F6 (Cancel) to return to the Remote Machine List menu
12. When you finish entering information for a remote machine, press F2 (Add). (If you do not see ADD on your screen, press F8 (CHG-KEYS) to access the alternate set of function keys.)

    The system adds the information and returns you to the **Machine Name** field.
13. Press F6 (Cancel) repeatedly to return to the main menu.

Complete the Machine Profile Screen for the Remote Machine

Use the Machine Profile screen to enter additional networking information about Interchange, such as address ranges and remote update information.

1. Starting from the Intuity AUDIX main menu, select

   ```
   > AUDIX Administration
   ```

   The system displays a blank administration screen.
2. At the command line, type **change machine *interchange_name***, and press ENTER. ***interchange_name*** is the name you entered in Task 4: Create an Interchange Profile on the New System (see Page 21)

   The system displays page 1 of the Machine Profile screen (Figure 12).

   NOTE:
   If you do not know the names of the remote machines, enter **list machines** at the enter command prompt. The system displays a list of all machines administered on the system.

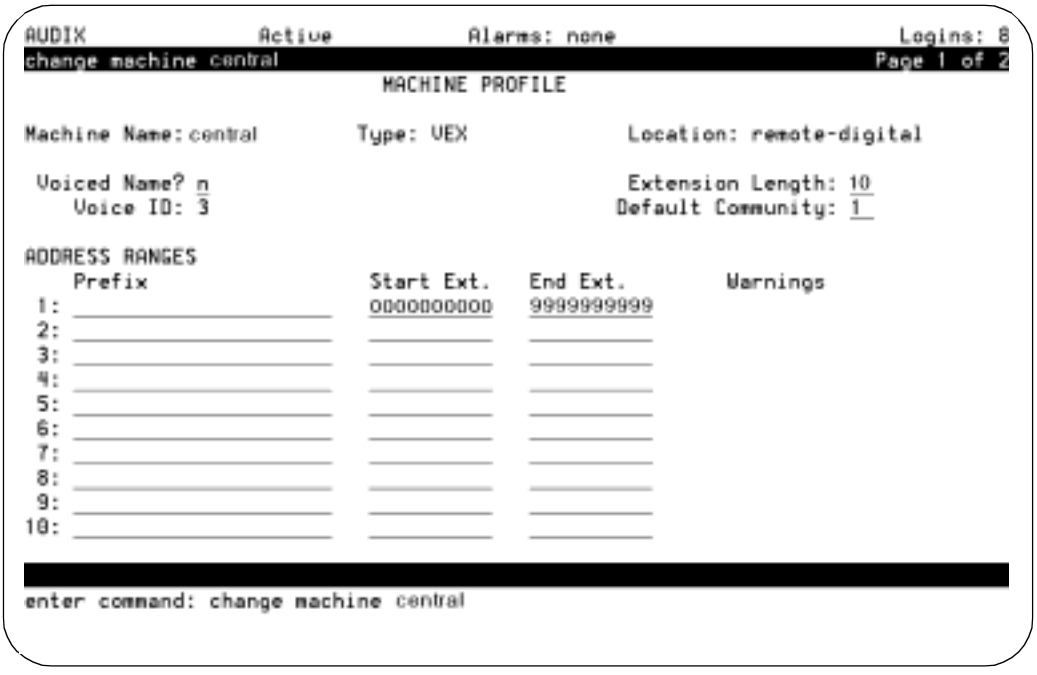


Figure 12. Machine Profile Screen for a Remote Machine — Page 1

NOTE:
The **Machine Name**, **Type**, **Location**, and **Voice ID** fields are display only and cannot be changed. The **Voiced Name?** field is display only and changes from **n** to **y** after you have recorded a name for Interchange.

3. In the **Extension Length** field, type the extension length of the Interchange network dial plan, usually 7 or 10 digits. In the example, the Interchange network dial plan is **10** digits.
4. In the **Default Community ID** field, type **1**.
5. In the **Prefix** column for **ADDRESS RANGES**, leave the fields blank.

   Normally the prefix is used for point-to-point Intuity AUDIX networked systems, such that, to address a message, a subscriber enters the system's prefix to identify the system (for example, **22**) and then the mailbox ID of the recipient (for example, **1234**).

   The prefix is, therefore, not necessarily an area code or local exchange prefix. It is simply a code to identify the remote system for messaging.

   Since Interchange is not for point-to-point networking, and because the network address is normally a 7-digit or 10-digit address, you do not normally use a prefix to identify Interchange.

6. In the first fields in the **Start Ext.** and **End Ext.** columns, type the start and end points of the extension ranges on the Interchange network.

   In the example, **0000000000** to **9999999999** is the range because Interchange has a 10-digit dial plan, and it is anticipated that all networked messaging will be sent through Interchange

7. Press F7 (NextPage). The system displays page 2 of the Machine Profile screen (Figure 13).

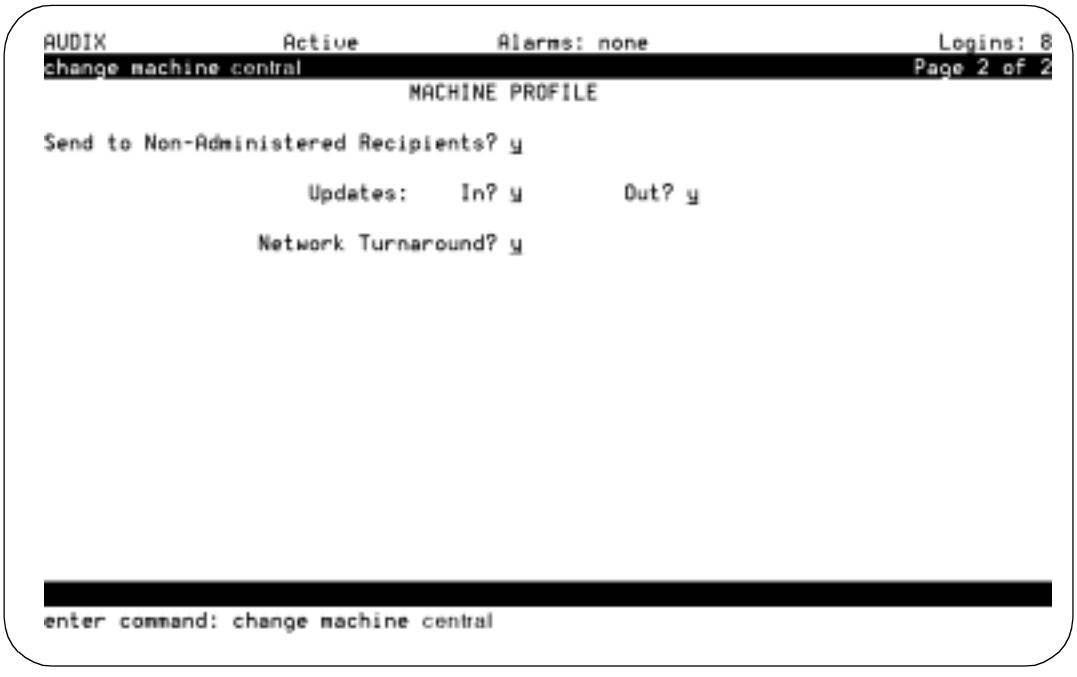


Figure 13. Machine Profile Screen for a Remote Machine — Page 2

8. In the **Send to Non-Administered Recipients?** field, type **y**.

   y allows the Intuity AUDIX system to send messages to addresses for which no subscriber name is known.

9. In the **UPDATES: In?** field, type **y** to allow Intuity AUDIX to accept updates from Interchange.

10. In the **UPDATES: Out?** field, type **y** to allow Intuity AUDIX to send updates to Interchange.

11. In the **Network Turnaround?** field, type **y** to allow the Intuity AUDIX system to send messages and subscriber updates to Interchange by using connections that Interchange has already established to send messages and updates to Intuity AUDIX. This turnaround helps reduce total time on, and cost of, network communications between systems.

12. Press F3 (Save) to save the information.

The system displays the message **Command Successfully Completed**.

13. Press F6 (Cancel) to return to the command line.
14. Enter **exit** to leave AUDIX Administration.

Task 5: Identify the New System to the Interchange System

1. Start at the Interchange main menu and select

```
> Networking Administration
    > Remote Machine Administration
        > AUDIX Digital Network Machine Administration
```

The system displays the AUDIX Digital Network Machine Administration screen (Figure 14).

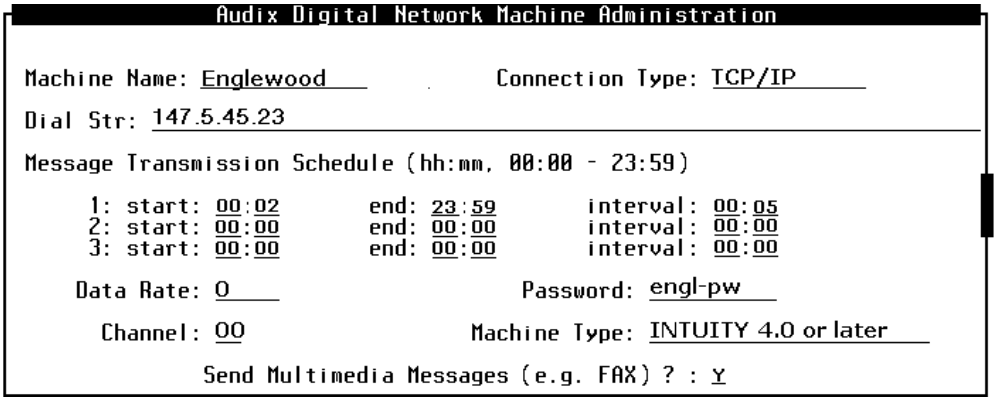


Figure 14. AUDIX Digital Network Machine Administration Screen

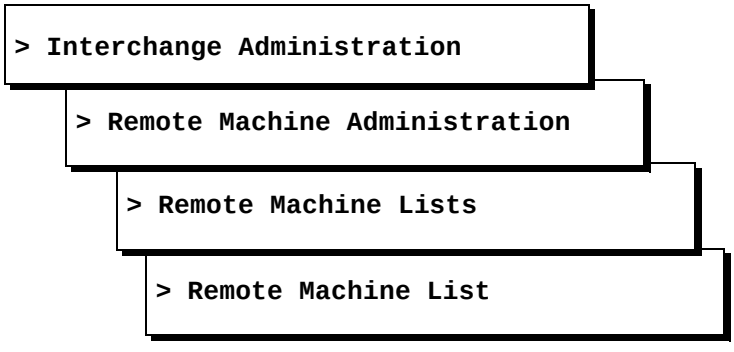
2. In the **Machine Name** field, enter a name for the new system. Check with the administrator of the new system for the exact name. In the example, the name is **Englewood**, which is the location of the system.

The name must be unique within your Interchange network and must match exactly the name entered in to the AUDIX system.

Use F2 (Choices) to view the existing AUDIX digital system names to make sure that you enter a unique name.

CAUTION:

The name must be unique on both the local Interchange and any other Interchange systems, if you have them, in your network. To make sure that you are using a unique name, you can check the Remote Machine List on all Interchange systems in your network. This screen lists all machine names, including AMIS systems and those systems that use Serenade Digital, Aria Digital, and Octel Analog Networking protocols. The path to access this screen is as follows:



3. In the **Connection Type** field, enter **TCP/IP**.
4. In the **Dial Str** field, enter the IP address of the new system. Check with the administrator of the new system for the exact address. In the example, the address is **147.5.45.23**.
5. In the **Message Transmission Schedule Start**, **End**, and **Interval** fields, you normally leave the defaults. It is recommended that the first row be **00:02**, **23:59**, and **00:05** respectively. This schedule means that between 12:02 a.m. and 11:59 p.m., Interchange will send any queued messages every 5 minutes. However, if there are many Intuity AUDIX systems in the Interchange network, you might want to stagger the start times on each system to prevent overloading Interchange.

   In the second and third rows, leave the defaults as well. You do not use these schedules.
6. In the **Data Rate** field, type **0**. This item is irrelevant since the connection uses TCP/IP.

7. In the **Password** field, type the password required to log in to the new system. Get this password from Get the Name and Password of the New System (see Page 5).
8. In the **Channel** field, type **00**. With **00**, Interchange will use whatever channel is available at the moment.
9. In the **Machine Type** field, type **Intuity 3.0**, **Intuity 4.0 or later**, or **AUDIX LX**.
10. In the **Send Multimedia Messages** field, type **y**. Generally, it is best to allow Interchange to send all components of multimedia messages. Then, if the target system cannot accept all components, a recorded message tells the receiver about the part that failed.
11. When you finish entering information for the new system, press F8 (Chg-Keys).
12. Press F3 (Add).

    After you press this key, the system adds the information and returns you to the Machine Name field. You see the following message on your screen:

    ```
    Machine Added, Enter Machine Name, use <CHOICES> for
    list
    ```

Task 6: Administer Remote Machine Parameters

Perform this task to define other characteristics of the new system, most importantly, the dial plan of the mailboxes on the new system. Use the Dial Plan Mapping Worksheet from Avaya Professional Services or your Dial Plan Mapping Worksheet (see Page 17) to complete this task.

To set remote machine parameters, do the following:

1. Start at the Interchange main menu and select

```
> Interchange Administration
    > Remote Machine Administration
        > Remote Machine Parameters
```

The system displays the Remote Machine Parameters screen (Figure 15).

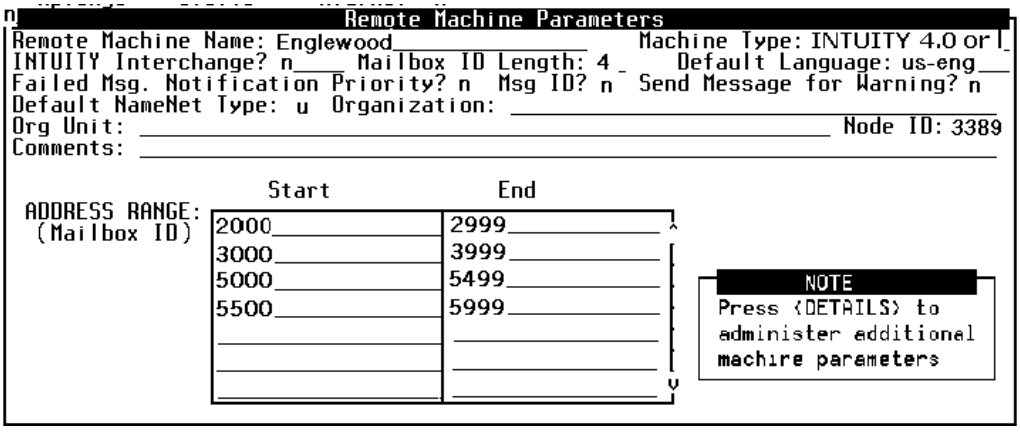


Figure 15. Remote Machine Parameters Screen

2. In the **Remote Machine Name** field, type the name of the new system you added in Task 5: Identify the New System to the Interchange System (see Page 26), and press ENTER. If you do not remember the exact name, press F2 (Choices) to display a list of valid remote machines. In the example, you would type **Englewood**.

   The system automatically fills in the **Machine Type** field with **INTUITY 3.0, INTUITY 4.0,** or **AUDIX LX**.

3. In the **Avaya** or **Intuity Interchange?** field, leave the default **n** (no). The new remote system is not an Interchange.

4. In the **Mailbox ID Length** field, type the length of the mailbox IDs of the new system. If a sample mailbox ID (or extension) is **2345**, the length is ***4***.

   In most cases, this number will be **4** or **5**, but the number can be up to 10 digits if, for example, mailboxes have their own incoming trunk group. In the example, the mailbox IDs will be **4** digits long.

5. Leave the defaults in the following fields:

   - **Default Language: us-eng**

     There are no other languages currently supported.

   - **Failed Msg. Notification Priority? n**

     y means that a subscriber on this system who sends a message to a subscriber on another system will receive a priority notification if the message is not delivered to that subscriber.

   - **Msg ID? n**

     y means that failed message notification, if turned on, will include the original message ID.

- **Send Message for Warning? y** or **n**

  y indicates that the **original** message is sent back to a subscriber after he or she has sent a message from the AUDIX system to a subscriber on a remote system that has the Extended Absence Greeting (EAG) warning activated. The return of this message is in addition to the message indicating the actual EAG warning condition. This capability is convenient for users who resend messages to someone else who is available.

- **Default NameNet Type: U**

  U means ‘‘usage-based’’ and indicates that directory entries are temporarily available based on the network traffic of a particular remote system. This field is used when subscribers associated with this new system are stored on a legacy Octel system as NameNet entries.

- **Organization:** Leave blank.

  This field is for your information. It can be a record of the name of the organization this system supports, the name of the organization that maintains the system, or any other name you choose.

- **Org Unit:** Leave blank.

  This field is for your information. It can be a record of the department number this system supports, the department number that maintains the system, or any other name or number you choose.

- **Node ID:** Display only, created by Interchange.

- **Comments:** Leave **none.**

  This field is for your information. You might want to enter the name and phone number of the contact person for the new system.

6. In the **ADDRESS RANGE (Mailbox ID)** fields, type the address ranges (up to 10) of the new system. While the screen allows you to enter more than 10 ranges, Interchange recognizes only the first 10 ranges you enter. Check your Dial Plan Mapping Worksheet for these ranges.

   CAUTION:
   *Do **not** simply use the ranges from your Planning Worksheet or the ranges given to you by the switch administrator for the new system. Also use the Dial Plan Mapping Worksheet that you received from Professional Services or the worksheet you completed yourself. The ranges you enter here will reappear on the Dial Plan Mapping screen, which you will complete in* *Task 7: Map the New System’s Dial Plan for Interchange (see Page 33)**.*

   *In the example (Figure 15), the mailbox ranges reflect the ranges entered on the Planning Worksheet as **2000** to **2999**, **3000** to **3999**,*

***5000** to **5499**, and **5500** to **5999**. The 5000 to 5999 range was broken out into two ranges to simply illustrate and emphasize the fact that the latter half of the range, **5500** to **5999**, has a different area code and local exchange prefix from that of **5000** to **5499**. You could actually enter the 5000 to 5999 range as a single range on the Remote Parameters screen and then later break down the range on the Dial Plan Mapping screen to deal with the differing prefixes within the range.*

CAUTION:

*Be sure that ranges do **not** include the extensions of automated attendants, bulletin boards, and other special mailboxes that are not intended to accept messages. If these mailboxes are included, then messages sent to Enterprise Lists defined by remote machine will fail and will show up in your delivery status reports. More importantly, messages might actually be sent to mailboxes that are not intended to receive E-list messages.*

7. Press ENTER or TAB if you need to add more ranges than those that are available on the initial screen.
8. After you have entered all appropriate address ranges, press F5 (Details).

   The system displays the Machine Profile screen (Figure 16). It contains a display-only name for the **Remote Machine Name** field.

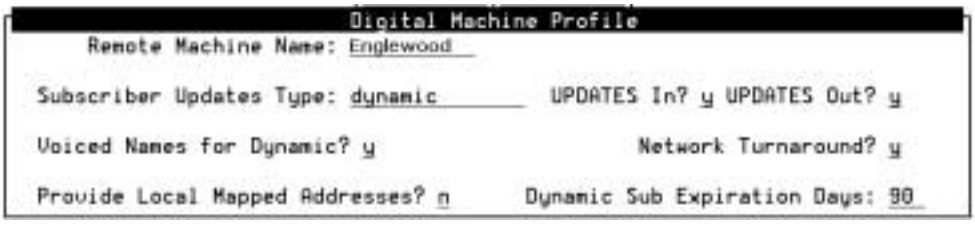


Figure 16. AUDIX Digital Machine Profile Screen

9. In the **Subscriber Updates Type** field, type the type of update you want for the new system:

dynamic This is the *recommended* ongoing setting because this setting helps save storage space on the AUDIX system.

For the dynamic updates type, each time a subscriber on this system sends a message to a remote subscriber, that remote subscriber is added to the Dynamic Directory List for the AUDIX system. Likewise, each time a remote subscriber sends a message to a subscriber on the AUDIX system, that remote subscriber is added to the list.

If, typically within the next 90 days (see Dynamic Sub Expiration Days), no other messages are sent from the AUDIX system to that remote subscriber, or vice versa, that remote subscriber is removed from the list.

NOTE:
If you choose **dynamic**, you can still use the Directory Views screen to create directory views of specific systems and mailbox ranges on those systems.

full Type **full** if you want to perform an initial demand pull of all subscribers for this new system. A full demand pull uploads all subscribers from the new system to Interchange. A full demand update on the Intuity AUDIX to pull remote subscribers from Interchange downloads all registered Interchange subscribers from all networked systems.

By selecting this option, you automatically create, for the new system, a directory view (see definition that follows) for all subscribers on every node in the Interchange network. When you access the Directory View screen (Figure 18), you will see every system in your Interchange network listed.

CAUTION:
Be sure the new system has enough storage space before using this option.

directory view Use this setting to point to the Directory View screen to update the subscriber directory for specific systems and ranges. Since this selection is a static list, the subscriber directory includes only those subscribers included in the Directory view.

none With this option, Interchange will not update the subscriber names list for the new system.

10. In the **UPDATES: In?** field, type **y** to allow Interchange to accept updates from the new system.
11. In the **UPDATES: Out?** field, type **y** to allow Interchange to send updates to the new system.

12. In the **Voiced Names for Dynamic?** field, type **y** to allow Interchange to send recorded voice names to the new system during dynamic updates, if any. Type **n** if the subscriber update type is *not* dynamic.
13. In the **Network Turnaround?** field, type **y** to allow Interchange to send messages and subscriber updates to the new system by using connections that the new system has already established when it sends messages and updates to Interchange. This turnaround helps reduce total time on, and cost of, network communications between systems.
14. In the **Provide Local Mapped Addresses?** field, type **n.**

    This field applies only if the subscriber update type for the new system is **full**. If you type **y**, Interchange sends the new system updates of the new system's own subscribers during a full update. Setting the value to **y** ensures that the Interchange subscriber list is always in sync with the list on the new system. However, it also can result in subscribers on the new system appearing in the local subscriber lists twice, once with a local address and once with a full Interchange address.
15. In the **Dynamic Sub Expiration Days** field, leave the default **90**.

    This value is the number of days a dynamically-added remote subscriber stays in the new system's Dynamic Directory List without anyone sending messages from the new system to that remote subscriber or that remote subscriber sending messages to the new system.
16. Press F3 (Save).

Task 7: Map the New System's Dial Plan for Interchange

Interchange uses a single-length dial plan for its network. You will have to map the dial plan of the new system to the Interchange network address length.

To do this mapping, you need the Dial Plan Mapping Worksheet from Professional Services or a worksheet that you completed on your own. These worksheets list the area codes and central office prefixes that can be used in conjunction with the new system's dial plan to create Interchange network addresses, usually addresses that match external direct dialing of the new system's mailboxes.

To administer the remote machine dial plan, do the following:

1. Start at the Interchange main menu and select

> **Interchange Administration**
>
> > **Remote Machine Administration**
> >
> > > **Dial Plan Mapping**

The system displays the Dial Plan Mapping screen (Figure 17).

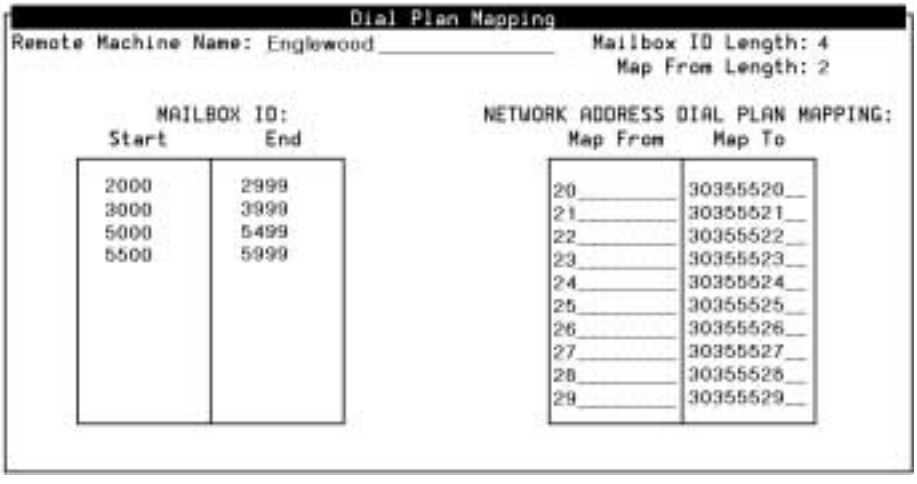


Figure 17. Dial Plan Mapping Screen

2. In the **Remote Machine Name** field, type the name of the new system, and press ENTER. If you do not remember the exact name, press F2 (Choices) to display a list of valid remote machines. In the example, you would type **Englewood**.

   After you press ENTER, the system displays information in the **Mailbox ID Length** and **MAILBOX ID Start** and **End** fields. You had entered this information previously in the Remote Machine Parameters screen.

3. In the **Map From Length** field, type the number of digits, within each mailbox ID, for which Interchange will substitute digits. Check the list of **MAILBOX ID**s. If you have a single range (for example, **30000** to **60000**) or multiple ranges that use the same prefix, enter **0** in the **Map From Length** field. In this case, you can leave the **Map From** column for the range blank.

If you have more than one range (usually to accommodate different area codes or DID prefixes), and the first digit of the **Start** and **End** fields for each range are unique, enter **1** in the **Map From Length** field. Also enter **1** if the last digit of the **Map From** prefix has to replace the first digit of the **MAILBOX IDS**.

If any ranges share first digits but have different prefixes, then you might need to enter **2** or higher in the **Map From Length** field.

CAUTION:
*Be careful about using **0** in the **Map From Length** field. If you change your dial plan later (for example, if you add more extensions that have a different DID prefix) and need to add Mailbox ID ranges for this system, you will have to remove the system from the Interchange network and add it again with the new dial plan. This task could entail a significant amount of work.*

*Therefore, if you anticipate the need to change the dial plan for this endpoint in the future, you might want to use a Map From Length of **1** or more. See Figure 7 on Page 13, which illustrates the alternative to Map From Length **0** in anticipation of future changes.*

4. In the first **Map From** field, type the digit (or digits) that match the first digit (or digits) of the first **MAILBOX ID Start** and **End** range. This field must be blank if the **Map From Length** field is **0**. Otherwise, the number of digits you enter must match the number of digits specified in the **Map From Length** field.

   In the example, the first field contains **20**, because the mailbox ID range starts with 20, and these first two digits will be replaced with the last two digits of the **Map To** digit string.

5. In the first **Map To** field, type the area code and DID prefix of the mailbox IDs. Check your Planning Worksheet for these numbers. The last digits in this field must match the digits in the **Map From** field.

   In the example, the field contains **30355520**, with the last two digits, **20,** as substitutes for the first two digits **20** of the mailbox range, thereby creating mailbox IDs of 10 digits. For example, the first mailbox would have an Interchange network address of **303-555-2000**, and the last mailbox in this range would have an address of **303-555-2099**.

   NOTE:
   If the **Map From** field is blank, the **Map To** digits will simply be added to the mailbox IDs to total 10 digits.

6. Repeat Step 4 and Step 5 for each MAILBOX ID range.

NOTE:
There can be more than one DID prefix for the new system. Again, check your Planning Worksheet or consult with your switch administrator for the new system.

In the example (see Figure 9 on Page 15 for a full illustration), the range **5500** to **5999** has the area code **720** and the local exchange prefix of **551**, which is different than the prefix for the range **5000** to **5499**.

7. Press F3 (Save).

Task 8: Administer Directory Views

The Directory View screen allows you to define, for the new system, the other remote systems for which Interchange will provide updates to the new system. You can specify a range of mailbox IDs from which to accept update information.

NOTE:
If you selected **full** as the Subscriber Update Type on the Machine Profile screen (Figure 13 on Page 25), you do not need to administer Directory Views. Interchange will automatically include *all* remote systems in the Interchange network in the new system's Directory Views.

To administer directory views, do the following:

1. Start at the Avaya Interchange main menu and select

```
> Interchange Administration
    > Remote Machine Administration
        > Directory Views
```

The system displays the Directory View screen (Figure 18).

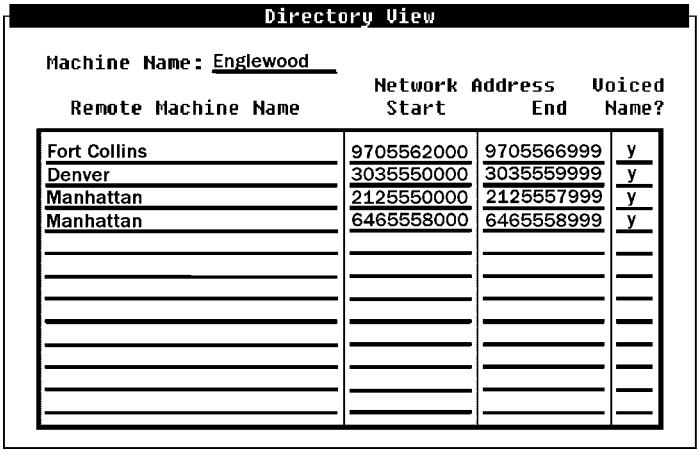


Figure 18. Directory View Screen

2. In the **Machine Name** field, type the name of the new system and then press ENTER**.**

   The system displays the current directory view information, if information exists, for this machine. If you selected **full** as the Subscriber Update Type for this system on the Machine Profile screen (Figure 13 on Page 25), Interchange will display all remote systems in the Interchange network.

3. Press F3 (Continue).

4. In the **Remote Machine Name** column, type the name of another system in the Interchange network. Interchange updates the subscriber list for the new system with subscribers from this remote system.

   In the example, **Fort Collins**, **Denver**, and **Manhattan** are systems whose subscribers Interchange will dynamically include in, or remove from, the new system's remote subscriber directory.

5. In the **Network Address: Start** and **End** fields, type the first and last subscriber addresses to form a range of addresses on the remote system. These addresses must match addresses as defined in the Dial Plan Mapping screen for this remote system.

   In the example, the Manhattan system, as defined in its Dial Plan Mapping screen, has two mailbox ranges, one of **0000** to **7999**, with **Map To** entries of **2125550** through **2125557.** The other mailbox range for Manhattan is **8000** to **8999**, with a **Map To** entry of **6465558**. (This second range is the result of adding a different set of extensions in Manhattan, for which a different DID prefix had to be used.) As a result, the ranges of addresses for the Directory View are **2125552000** to **2125557999** and **6465558000** to **6465558999**.

6. In the **Voiced Name?** field, leave the default **y** to have each subscriber's voiced name stored in the remote subscriber directory.
7. Press F3 (Save).
8. Press F4 (Reselect) to enter another remote machine and repeat this procedure, or press F6 (Cancel) to exit the screen and return to the Remote Machine Administration menu.

Adding All Machines

If you have many systems in the Interchange network, and you want to add most or almost all remote systems to the new system's directory view, you can add all machines and then delete those that should not be included.

NOTE:
Adding all machines to Directory Views is the equivalent of defining a full subscriber update type for the new system.

To add all machines listed in a directory view, do the following:

1. From the Directory View screen, press F7 (Options).

   The system displays the Options menu (Figure 19).

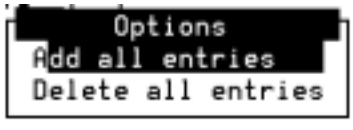


Figure 19. Options Menu

2. Select **Add all entries**.

   The system displays the Confirm window (Figure 20).

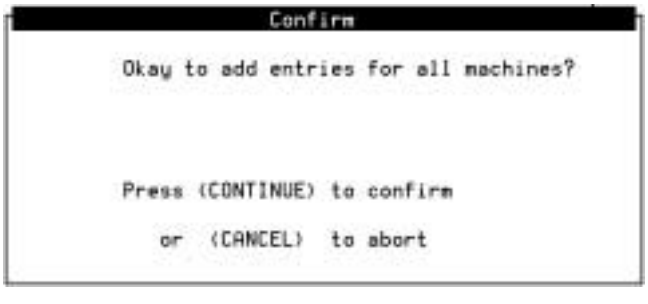


Figure 20. Confirm Window

3. Press F3 (Continue) to add all machines or F6 (Cancel) to return to the Directory View screen.

4. Press F6 (Cancel) until you return to the Avaya Interchange main menu.

Task 9: Verify That the Endpoint Has Been Administered

Use the Remote Machine List and Remote Machine Dial Plan List to verify that you have appropriately added the new messaging system.

To access the Remote Machine List, do the following:

1. Start at the Interchange Administration menu and select

```
> Interchange Administration
    > Remote Machine Administration
        > Remote Machine Lists
            > Remote Machine List
```

The system displays the Remote Machines List (Figure 21).

```
                    Remote Machine List

      Machine Name            Connection     Rate  Chan Subscribers
 -------------------------    ----------    ------ ---- -----------
 A1                           AMIS                          1
 A10                          AMIS                          1
 A11                          AMIS                          1
 A12                          AMIS                          1
 A13                          AMIS                          1
 A14                          AMIS                          1
 A2                           AMIS                          1
 A3                           AMIS                          1
 A4                           OCTEL ANALOG                  1
 A5                           AMIS                          1
 A6                           AMIS                          1
 A7                           AMIS                          1
 Englewood                    TCP/IP                        1
 A8                           AMIS                          1
```

Figure 21. Remote Machine List

2. In the **Machine Name** column, look for the name of the new system. The name would be **Englewood** in the example.
3. Verify that the **Connection** column for your new system says **TCP/IP**.
4. Press F6 (Cancel) to return to the Remote Machine List menu.

5. From the Remote Machine List menu, select

```
> Remote Machine Dial Plan List
```

The system displays the Remote Machine Dial Plan List (Figure 22).

Remote Machine Dial Plan List

Machine Name	Type	Mailbox ID Start	Mailbox ID End	Extension Mapping From	Extension Mapping To
A1	AMIS	6148682778	6148682778		
A10	AMIS	6148682787	6148682787		
A11	AMIS	6148682788	6148682788		
A12	AMIS	6148682789	6148682789		
A13	AMIS	6148682790	6148682790		
Englewood	TCP/IP	2000	2999	20	30355520
Englewood	TCP/IP	3000	3999	21	30355521

Figure 22. Remote Machine Dial Plan List Screen

6. In the **Machine Name** column, locate the name of the new system.
7. Verify that the data in every column is correct.
8. Press F6 (Cancel) to exit the Remote Machine Dial Plan List.

Task 10: Test LAN Connectivity

1. Starting at the Interchange main menu, select

```
> Customer/Services Administration
    > Diagnostics
        > Networking Diagnostics
```

The system displays the Networking Diagnostics window (Figure 23).

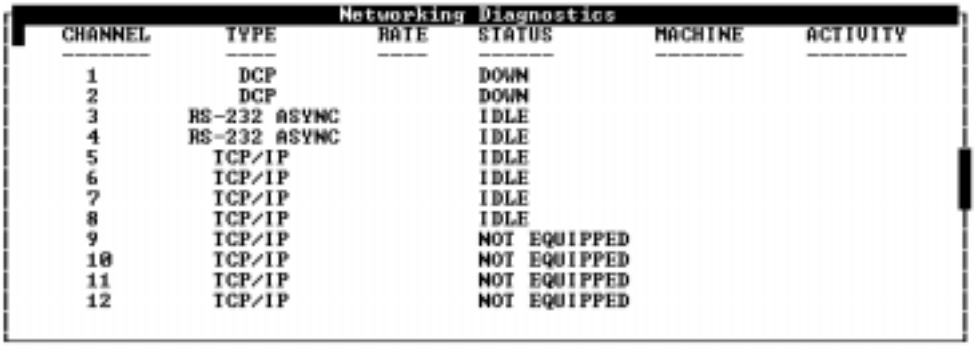


Figure 23. Networking Diagnostics Window

2. Press F8 (Chg-Keys).
3. Press F4 (Diagnose).

   The system displays the Networking Diagnostics menu (Figure 24).

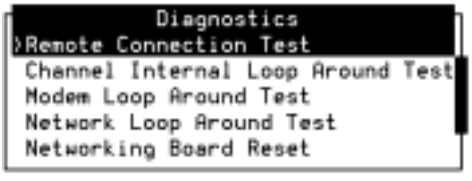


Figure 24. Networking Diagnostics Menu

4. Select

   > Remote Connection Test

   The system displays the Remote Connection Test window (Figure 25).

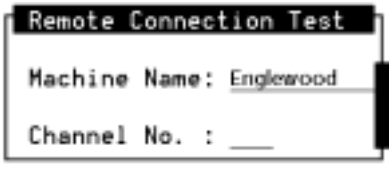


Figure 25. Remote Connection Test Window

5. In the **Machine Name** field, enter the name of the new system.
6. Press ENTER. Leave the **Channel No.** field blank. This field is used only for RS232 Intuity AUDIX connections.

   The system displays the message **working...** and attempts to connect with the remote machine.

   When the process is complete, the system displays the Test Results window (Figure 26).

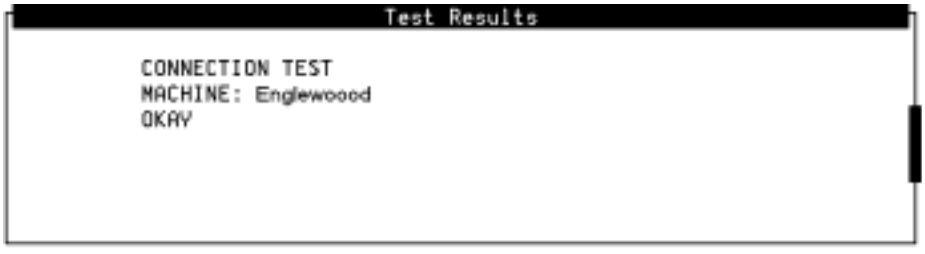


Figure 26. Test Results Screen for a Remote Connection Test

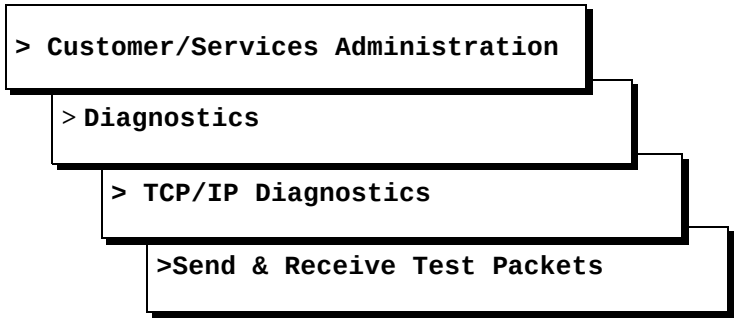
7. If the screen contains a message that states that the test was completed successfully, continue with Step 8.

   If the screen contains a message that states that the test failed, press F6 (Cancel) to exit the screen and return to the Networking Diagnostics menu (Figure 24).
8. Press F6 (Cancel) to exit the screen and return to the Networking Diagnostics window (Figure 23).

Testing the TCP/IP Software

To test the TCP/IP connection between Interchange and the new system, do the following:

1. Starting at the Interchange main menu, select



   The system displays the Send & Receive Test Packets From window (Figure 27).

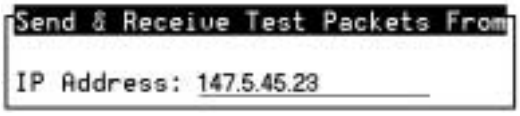


Figure 27. Send & Receive Test Packets Window

2. Enter the Internet Protocol (IP) address of the new system.

   In the example, the new system's address is **147.5.45.23**.

3. Press F3 (Save).

   The system displays the message **`working...`** in the upper right corner of the screen. While the cursor flashes, the system is performing the test.

   When finished, the system displays theTest Packets Results window (Figure 28). This screen shows the results of sending 10 test packets from the Interchange system to the new system.

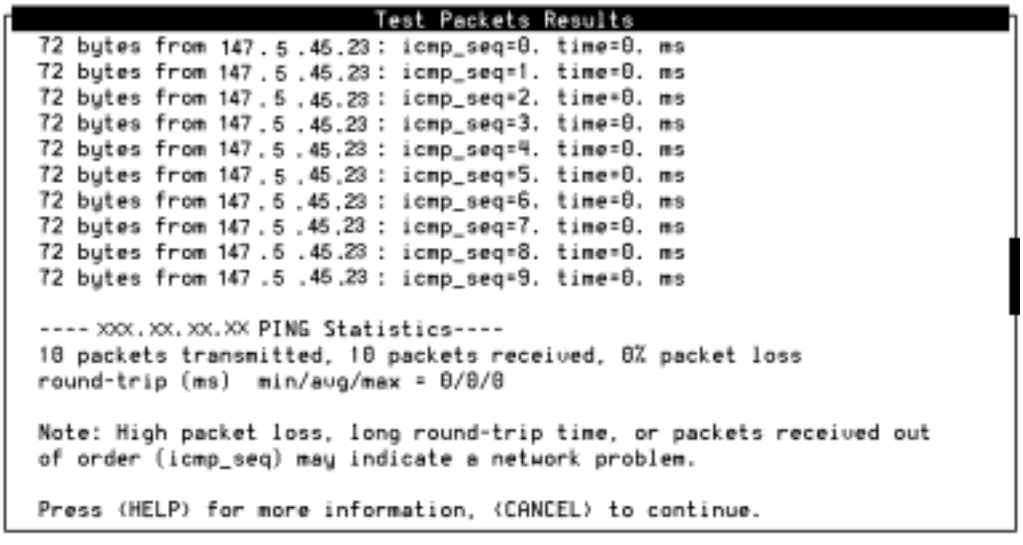


Figure 28. Sample Test Packets Results Window

Results

Examine the packet loss field in the PING Statistics displayed on the Test Packets Results screen. The value for this field will be either 0% or 100%, as describedin the following list:

- If a 0% packet loss is reported, the test is successful.

- If a 100% packet loss is reported, the test failed. Check with your LAN administrator to ensure that you used the correct IP address for the system. Reboot the system and repeat this test. If the test still fails, contact your remote services center.
- If a 30-90% packet loss is reported, there might be a problem with network congestion or improper routing. Check with your LAN administrator.

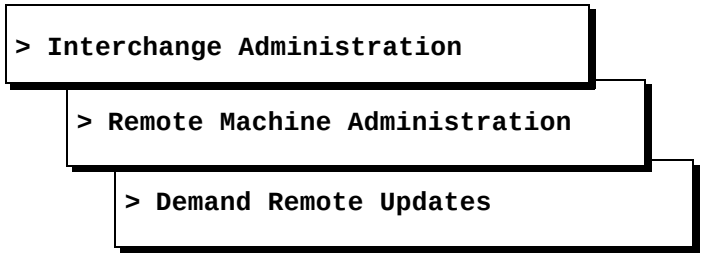
Examine the **icmp_seq** order. Packets normally appear in the order 0 to 9. If they are out of order, there might be a problem with network congestion or improper routing.

Task 11: Add Remote Subscribers to Interchange

Add remote subscribers to Interchange so that Interchange can pass on messages to those subscribers.

To run a demand remote update, do the following:

1. Start at the Interchange main menu and select



The system displays the Demand Remote Updates screen (Figure 29).

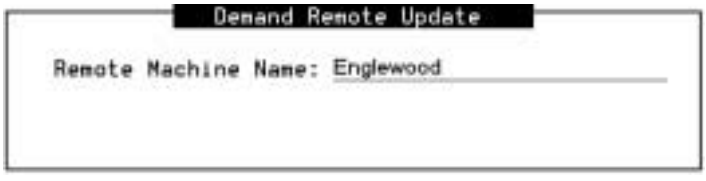


Figure 29. Demand Remote Update Screen

2. Type the name of the new system.
3. Press F3 (Continue).

   The system displays the Demand Remote Pull window (Figure 30) or a similar reponse, depending your version of Interchange.

Figure 30. Demand Remote Pull Screen

The system will now update the Interchange with any ASCII or voiced names that have been added, deleted, or changed for the range of extensions on the new system.

NOTE:
You can press F5 (Abort) to stop the demand remote update or F6 (Cancel) to return to the previous and re-enter an extension range.

4. Press F6 (Cancel) until you return to the Interchange Administration menu.

Task 12: Verify the Subscriber Update

To check that Interchange captured the list of subscribers on the new system, do the following:

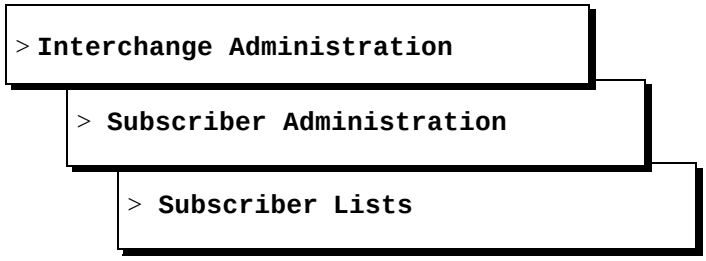
1. Run, or have the Intuity AUDIX administrator run, the Feature Daily Traffic Report on the Intuity AUDIX system. Do the following:
   a. Starting from the Intuity AUDIX main menu, select

   ```
   > AUDIX Administration
   ```

   The system displays a blank administration screen.
   b. At the command line, type **list measurements feature day**, and press ENTER.

   The system displays the Feature Daily Traffic report for today.
   c. Check the number of local subscribers and write it down.
2. Press F6 (Cancel).

3. From the Interchange main menu, select



The system displays the Subscriber Lists menu (Figure 31).

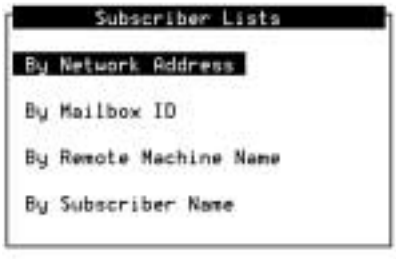


Figure 31. Subscriber Lists Menu

4. Select **By Remote Machine Name**.

   The system displays the Subscriber List By Remote Machine Name.

5. Check the number of subscribers to see if the number matches the number of subscribers administered on the Intuity AUDIX system. If you ran a demand remote pull, also check to see that voiced names appear for subscribers.

6. Press F6 (Cancel) to return to the Interchange Administration menu.

Task 13 (Optional): Manually Update the Intuity AUDIX System

NOTE:
You perform this task on the Intuity AUDIX endpoint itself, not on Interchange.

If you want to have all Interchange remote subscribers (if full updates are specified) or the subscribers you defined in Directory Views (if any), immediately

available on the new system for addressing by name, perform a get remote update on the Intuity AUDIX system by using the following steps.

1. Starting from the Intuity AUDIX main menu, select

   ```
   >AUDIX Administration
   ```

   The system displays a blank AUDIX screen.

2. Enter **list measurements feature day** at the **enter command:** prompt.

   The system displays the Feature Daily Traffic screen.

3. Write down the current number of remote users.

4. Press F6 (Cancel).

   The cursor returns to the command line.

5. Enter **get remote_updates *remote_machine_name*** at the **enter command:** prompt, where ***remote_machine_name*** is the name of Interchange.

   In the example, the name of Interchange is **central**.

   The system displays the Remote Update Request screen (Figure 32).

```
fort collins          Active          Alarms:  mwA                    Logins: 4
get remote_updates central                                          Page 1 of 1
                          REMOTE UPDATE REQUEST


Request Full Update from Machine:  central

           Status of Last Update:  completed

           Last Completed Update:  01/10/01 19:54

    Press [Enter]  for Full Update Request
          [Cancel] to Abort









enter command: get remote_updates central
```

Figure 32. Intuity AUDIX Remote Update Request Screen

6. Press ENTER to begin the remote update or press F6 (Cancel).

The system begins the remote update.

NOTE:
The update might take some time, possibly hours, depending on the number of users on the remote system.

7. When the remote update is complete, enter **list remote extensions *remote_machine_name*** at the **`enter command:`** prompt, where ***remote_machine_name*** is the name of Interchange.

   The system displays the List Remote Extensions screen.

8. Check that the remote users of Interchange's new system are listed.
9. Enter **list measurements feature day** at the **`enter command:`** prompt.

   The system displays the Feature Daily Traffic screen.

10. Verify the new number of remote users.
11. Enter **display administration-log** at the **`enter command:`** prompt.

    The system displays the Administration Log screen.

12. Verify that no conflicts or problems occurred with the remote update.
13. Press F1 (Cancel).

    The cursor returns to the command line, and the system displays the message `Command Successfully Completed.`

14. Enter **exit** at the **`enter command:`** prompt to leave AUDIX Administration.

Task 14: Test the Connection

To test the connection between Interchange and the new messaging system, do the following:

1. Log in to a voice mailbox on a *different* messaging system in the Interchange network.
2. Create a test message (for example, "This is a test message from Bob. Please message me back.")
3. Address and send the message to the test mailbox on the new messaging system. The address normally includes the whole Interchange network address, which includes the **`Map To`** digits, as defined in Task 7: Map the New System's Dial Plan for Interchange (see Page 33), and the remaining digits of the specific mailbox.
4. Log in to the test voice mailbox of the new messaging system. Either you or the system administrator of the new messaging system can do this. For the test mailbox, check the **End Node Test Mailboxes** identified in your Planning Worksheet (see Page 4).

5. In the test mailbox on the new system, listen to the test message sent in Step 3. Also in the test mailbox, send a reply to the test message back to the mailbox on the other system.
6. Listen to the reply in the mailbox you logged into in Step 1.

Task 15: Update Remote Systems for Subscribers on the New System

Once you have added the new system to the Interchange network, the other remote systems in the network need to recognize the subscribers on the new system for name addressing. The method you use to update a remote system for the new system's subscribers depends on what type of system the remote system is and how you have administered the Subscriber Update Type for that system (see Table 1).

NOTE:
If, over a short period of time, you are adding more than one system to your Interchange network, you might want to wait until all systems have been added before manually updating the existing systems in your network.

Table 1. Remote Node Update Options

Update Type	Remote System Type	Steps to Update a Remote System
Full	Intuity AUDIX TCP/IP, DCP, RS-232	If you have the **full** Subscriber Update Type turned on for an Intuity AUDIX remote system, perform for that remote system the same steps as in Task 13 (Optional): Manually Update the Intuity AUDIX System (see Page 46) (do this during off hours for RS-232 systems).
	Aria, Serenade, and Octel 100	If you have the **full** Subscriber Update Type turned on for an Aria, Serenade, or Octel 100 remote system, perform Manually Update an Aria, Serenade, or Octel 100 (see Page 50) for the remote system. If the remote system uses Octel Analog Networking, complete this task during off hours.
	VPIM/AMIS	Full updates are not supported.

Table 1. Remote Node Update Options

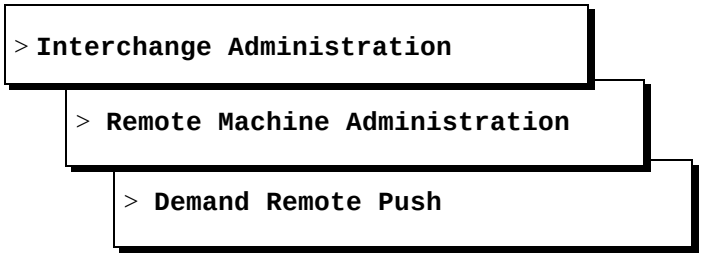
Dynamic	All systems	No action is required if the remote system already uses dynamic updates. Subscribers on the new system become known to subscribers on the existing remote system as subscribers from the new system send messages to subscribers on the remote system or vice-versa. This method, of course, means that subscribers on the remote system cannot address a subscriber by name on the new system until a message has been sent to or from that subscriber.
Directory Views	Intuity AUDIX TCP/IP, DCP, RS-232	If you have directory views turned on for an Intuity AUDIX remote system, add the new system to the Directory Views screen for the Intuity AUDIX. Then, perform for that remote system the same steps as in Task 13 (Optional): Manually Update the Intuity AUDIX System (see Page 46) (do this during off-hours for RS-232 systems).
	Aria, Serenade, and Octel 100	If you have directory views turned on for an Aria, Serenade, or Octel 100 remote system, add the new system to the Directory Views screen for the remote system. Then, perform the steps in Manually Update an Aria, Serenade, or Octel 100 (see Page 50) for the remote system. These steps are identical for all Aria, Serenade, and Octel 100 systems. If the remote system uses Octel Analog Networking, complete this task during off hours.
	VPIM/AMIS	Directory Views are not supported.

Manually Update an Aria, Serenade, or Octel 100

NOTE:
The following procedure can require a great deal of time to complete since the communication is over an analog connection. As a result, full and Directory View updates are generally not recommended for systems using Octel Analog Networking.

To update Aria, Serenade, and Octel 100 systems with the subscribers in the system you just added, perform a demand remote push on Interchange. To perform a demand remote push, do the following:

1. Start at the Interchange main menu and select



The system displays the Demand Remote Push screen (Figure 2).

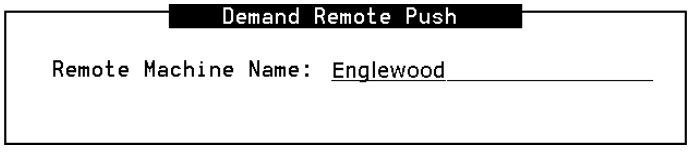


Figure 2. Demand Remote Push Screen

2. Enter a remote machine name, or press F2 (Choices) to display a list of valid remote machines.
3. Press F3 (Continue).
4. The system displays the following Demand Remote Push screen (Figure 3).

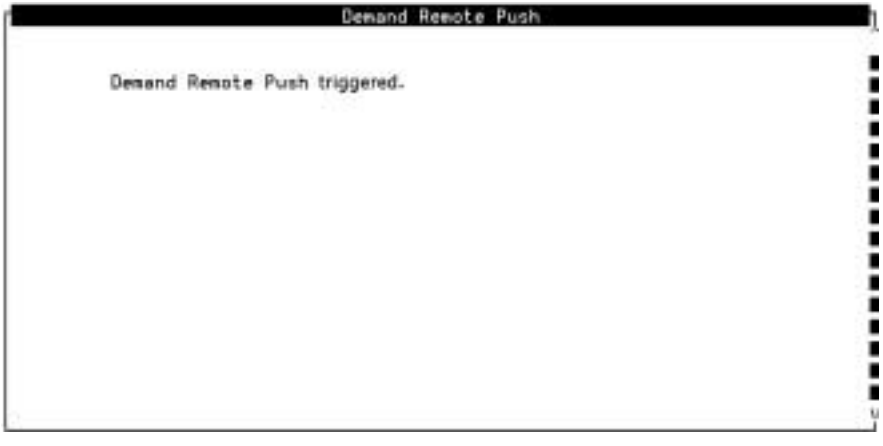


Figure 3. Demand Remote Push Screen

The system will now update the Aria, Serenade, or Octel 100 remote system with any ASCII or voiced names which have been added on Interchange from the new system.

NOTE:
You can press F5 (Abort) to stop the demand remote push or F6 (Cancel) to return to the previous and re-enter an extension range.

5. Press F6 (Cancel) until you return to the Interchange Administration menu.