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Release 5 Integration Using Inband and Serial Interfaces

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5 Switch Requirements and Administration for the NEC NEAX 2400 Switch
Overview

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Switch Requirements and Administration for the NEC NEAX 2400 Switch

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Overview

This chapter provides information on requirements for the following:

- The Lucent™ INTUITY™ features supported

- Switch software and software requirements

- Setup for integration of the NEC NEAX 2400 switch with the Lucent INTUITY system

Purpose

The purpose of this chapter is to help Lucent technicians administer the switch for successful integration with the Lucent INTUITY system.

⮕ NOTE:
The switch administrator is responsible for performing the switch administration. However, Lucent technicians and the switch administrator must cooperate to ensure that the appropriate administration is completed.

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Lucent INTUITY System Features supported by the NEC NEAX 2400 Switch

The Lucent INTUITY system features supported by the NEC NEAX 2400 switch can be seen in Table 5-1.

Table 5-1. Lucent INTUITY System Features Supported

Feature Name	Details
Call Coverage	■ The distinction between busy and no answer is supported. ■ Separate greetings can be activated for internal and external calls.
Transfers	■ Only blind analog transfers to valid extensions are supported. ■ Transfer time is in the range of 5–8 seconds. ■ To avoid a period of silence during the call transfer, turn on the music-on-hold switch.
Disconnect	■ The loop disconnect signal from the switch is supported by the Lucent INTUITY system. ■ The Lucent INTUITY system disconnects when it listens to the appropriate tone (busy). ■ The disconnect time is approximately 4–6 seconds.
Voice Mail Access	■ Direct voice mail access from dedicated sets is supported. ■ Subscribers are required to dial # before they enter the password.
Auto Attendant	■ Direct inward dialing (DID) calls require proper switch translation and routing set up. ■ The Automated Attendant table needs to be administered to transfer calls based on attendant identification.
Networking	■ Only TCP/IP, AMIS analog networking or low-speed digital networking are supported when the Lucent INTUITY system is connected to the NEC NEAX 2400 switch.
Leave Word Calling (LWC)	■ LWC is not supported by the Lucent INTUITY system for the NEC NEAX 2400 switch.
Message Waiting Indicator (MWI) updates	■ MWI update types can vary with the parameters programmed on the switch. check with your system administrator to determine what MWI updates are supported.

Hardware/Software Specifications

Table 5-2 displays the hardware and software specifications for the NEC NEAX 2400 switch.

Table 5-2.　Hardware and Software Specifications

Units	Details
Interface type	Serial
Integration type	Out-of-band
Lucent INTUITY system protocol	Message center interface (MCI)
Switch model/release	UMG or MMG with software level 4000 or greater.
	IMG or SIM software level 5200 or greater
Required switch packages	MCI link support
Required switch hardware	Analog ports (PA-16LCQ recommended, or equivalent with loop disconnect signaling) for connection to the Lucent INTUITY system.
Lucent INTUITY requirements	Lucent INTUITY system Release 4.3 or later platform software
	INTUITY AUDIX® application Release 4.3 or later
	Serial inband integration software

Setting the NEC NEAX 2400 Switch

To set the NEC NEAX 2400 switch for integration with the Lucent INTUITY system:

- Set Analog Voice Mail Ports
- Setting Voice Mail Extensions to a UCD Group
- Configure the MCI Link

Setting Analog Voice Mail Ports

Each voice mail port is connected to the switch through an analog line.

For the integration process to function, the voice mail port analog lines are configured in the same manner as the analog lines are configured for a 2500 telephone set.

⇒ NOTE:
The automated attendant feature may not work properly on the NEC NEAX 2400 with software version 4200 due to limitations in the switch.

To setup the analog lines for the voice mail ports:

⇒ NOTE:
Ensure that you have the NEC NEAX 2400 logon instructions from the system administrator before you begin this procedure.

1. Log on to the NEC NEAX 2400 Maintenance and Administration Terminal (MAT). The system displays the 2400 Maintenance Command menu.

2. Enter **6** to select the `Station Data` option.

   The system displays the Station Data Commands menu.

3. Enter **1** to select `Assignment of Station Data`.

   The system displays the Assignment of Station Data screen.

4. In the `TN` (Tenant Number) field, the system displays a default value of `1`.

   Tenant numbers are used to differentiate between the various subscriber communities. A unique tenant number can be assigned to a particular type of subscriber community. This allows the subscriber to assign different services to all communities with the same tenant number.

   To select the default value, press (ENTER).

   ### ⇒ NOTE:
   On the NEC NEAX 2400 switch message waiting for subscribers can be set for one tenant number only.

5. At the `STN` (station) field, enter the number that is to be used as an analog voice mail port extension.

   For example, if you want to assign extensions 500, 501, 502, and 503 to a four-port system, enter **500** as the first extension.

   In the `LENS` (Line Equipment Number) field, a default value of `00000` is displayed.

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6. Enter the correct LENS value.

   ⇒ **NOTE:**
   > Contact your switch system administrator for the correct line
   > equipment assignment.

   In the TEC (Telephone Class) field, the default value 1 is displayed.

7. Enter **3** to specify dial pulse and push button functionality.

   In the RSC (Route Restriction Class) field, the default value 0 is displayed.

8. Enter the correct RSC value.

   ⇒ **NOTE:**
   > Contact your switch system administrator to determine if the default
   > value is correct.

9. Enter the correct SFC.

   ⇒ **NOTE:**
   > Contact your switch system administrator for the correct SFC value.

10. After editing the final field, press ENTER to confirm the station setup.

    When the first station data command is assigned for a line package, the
    message PKG CHECK appears on the screen.

11. Ensure that the circuit card is inserted in the correct slot.

12. Press ENTER.

    The cursor returns to the first field.

    If station data commands are continuously assigned to the same lLine
    package, a WRT? message is displayed after the station information is
    entered.

13. Enter **y** to confirm the information.

14. Repeat 4 through 9 for each analog voice mail port that needs to be
    assigned.

    For example, if extension 500 has already been assigned, but extensions
    501, 502, and 503 need to be assigned, return to 5 and enter **501** as the
    second extension.

    Repeat the process until the extensions 502 and 503 have also been
    assigned.

15. When you finish entering the analog voice mail port numbers, press / to
    return to the Station Data Commands menu.

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Setting Voice Mail Extensions to a UCD Group

After the analog voice mail ports have been setup, the ports must be assigned to a Uniformed Call Distribution (UCD) group or *switch group*.

Forwarding Target Number

The first extension of a UCD group becomes the forwarding target number for the group.

Hunting Process

When a system subscriber calls the Lucent INTUITY system, the subscriber dials the target number of the UCD group.

If the target number is busy, the system *hunts* or moves through the other members of the Lucent INTUITY system UCD group. When the system finds an open channel, it completes the call.

UCD Groups Supported

The NEC NEAX 2400 supports up to seven UCD groups with 20 members in each group.

UCD Overflow

The UCD groups do not automatically transfer calls to each other.

Using the UCD overflow feature, calls can flow to the next UCD group if all the members of the first UCD group are busy. More than 24 ports can be supported on the Lucent INTUITY system with this feature.

Instructions to set up the UCD overflow groups are given in "Setting Up a UCD Overflow Group".

To assign voice mail port extensions to a UCD group:

1. In the Assignment of Station Hunting-UCD screen enter the Tenant Number assigned to the analog voice mail ports in the TN field.

   The system shows a default value of 1 in the field.

2. In the STN field, enter the number assigned as the first voice mail port extension.

   For example, in the previous section a group of analog voice mail ports was assigned extensions 500, 501, 502, and 503. Since 500 was the first extension assigned, enter the number **500**.

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3. In the CNT (count) field, enter the number of extensions to be included in the UCD group.

   For example, to set up a UCD group using extensions 500, 501, 502, and 503, enter **4**.

4. In the second STN field, enter the second voice mail port station to be assigned to the UCD group.

   Using the previous example of analog voice mail ports assigned to extensions 500, 501, 502, and 503, enter **501** as the second voice mail port station.

5. Repeat [4](#) until all the voice mail port extensions in the UCD group are entered.

   The system continues to ask for voice mail port extensions until the number of entries matches those of the CNT field.

   In the examples given above, CNT was set to 4. Extensions 500, 501, 502, and 503 were assigned to the UCD group. Extension 503 is the fourth and last extension.

   After the last extension for the UCD group is entered, a message WRT? is displayed on the screen.

6. Enter **y** to confirm and save the information you entered.

7. Press ⌹ to exit the screen and return to the Station Data Commands menu.

Setting Up a UCD Overflow Group

On the NEC NEAX 2400 switch, a maximum of seven UCD groups can be created.

Each UCD group can have a maximum of 20 station extensions.

If you plan to use the Lucent INTUITY system with more than 24 ports, you must use the UCD overflow feature.

➡ NOTE:
The NEC NEAX 2400 switch must have software version 4200 or greater to support UCD overflow.

To modify the UCD Overflow feature:

1. Use the instructions in the previous section ["Setting Voice Mail Extensions to a UCD Group"](#) to assign all voice mail ports to UCD groups.

   For example, if you are setting up the Lucent INTUITY system with 24 ports, four UCD groups with 6 ports can be set up in each group.

   Determine the best method for your application.

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2. After all the necessary UCD groups are created, return to the Station Data Commands menu.

3. Enter **15** to select the Assignment of UCD Overflow option.

   The system displays the Assignment of UCD Overflow Group screen.

4. In the TN-A field, enter the Tenant Number assigned to the first UCD group created.

5. In the STN-A field, enter the target number of the first UCD group created.

   For example, if two UCD groups are created with extensions 500 and 501 in the first group and extensions 502 and 503 in the second group, the target number for the first UCD group is 500.

6. In the TN-B field, enter the Tenant Number assigned to the UCD group that the system should transfer to when the first UCD group is busy.

7. In the STN-B field, enter the target number of the UCD group that the system should transfer to when the first UCD group is busy.

   In the Assignment of UCD Overflow Group Screen the extension 502 is used as the target number of the second group.

In the example, when all stations in UCD group 500 are busy, voice messaging traffic automatically *overflows* or transfers to the target number of the second UCD group that is extension 502.

Linking more than two UCD Groups

More than two UCD groups can be linked at a time.

When linking more than two UCD groups, assign the overflow for the target number of the second UCD group to the target number of the third UCD group.

Overflow can be assigned to as many as seven groups consisting of 20 stations in each group.

Configuring the MCI Link

The MCI link needs to be configured for it to operate as required.

To configure the MCI link:

1. Modify the message waiting lamp (MWL)

2. Assign a port for the MCI link

3. Define the MCI port as a terminal

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Modifying the MWL Control

The NEC NEAX 2400 switch needs to be modified to assign MWL control to the MCI link.

To assign MWL control to the MCI link.

NOTE:
Do not change any information on any screen until you contact your NEC NEAX 2400 switch administrator.

1. At the 2400 Maintenance Command menu, enter the number **13** to select the Installation option.

   The system displays the Installation Commands menu.

2. Enter **1** to select the `System Data` option.

   The system displays the Assignment of System Data screen.

3. Enter **1** in the `SYS` field.

   The system displays three types of switch system settings.

   Each type of switch system setting has a different effect on the switch.

   - Type 1 settings affect the entire system.

   - Type 2 settings affect specific system tenants.

   - Type 3 settings affect the system timing.

   Select one of the switch system settings.

   The MWL control effects the entire system.

4. Enter **28** in the `INDEX` field.

   System data (SYS) 1, which you specified in 3, uses 255 indexes to control a variety of system settings.

   Index 28 controls MWLs.

5. Enter **20** in the DATA field.

   The value of 20 works with the information you entered in the `SYS` field and `INDEX` field to set MWL control to the MCI link.

6. Press ⁄ to exit the screen and return to the Installation Commands menu.

   ### NOTE:
   For additional information about the screen fields or processes described in this section, contact your switch administrator or see the switch documentation.

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Assigning a Port for the Message Center Interface Link

A port is assigned so that the switch knows which port it should send the information to.

The following procedure explains how to assign a port for the MCI link:

1. At the Installation Commands menu, enter **1** to select the `System Data` option.

   The system displays the Assignment of System Data screen.

2. Enter **1** in the `SYS` field to inform the switch that the setting changes affect the entire system.

3. Enter **29** in the `INDEX` field.

   The system data (SYS) 1 uses 255 indexes to control a variety of system parameters.

   Index 29 controls the port assignment for the MCI link.

4. Enter the port assignment number in the `DATA` field.

5. Use Table 5-3 to determine the port assignment for the MCI link.

   To use the chart, find the port number to use under the Port heading. When you find the port number, find the Data value in the Data column.

   $\Longrightarrow$ **NOTE:**
   One port is reserved for the MAT.

Table 5-3.   Port Assignment Data Field Values

Port	Data	Bit
MAT Terminal		
1	02	1
2	04	2
3	08	3
4	20	4
5	40	5

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6. After entering the information, press ⬚ to exit the screen and return to the Installation Commands menu.

   ⇒ **NOTE:**
   > For additional information about the screen fields or processes used in this section, contact your switch administrator or consult the switch documentation.

Defining the Port as a Terminal

It is essential to determine if the port assigned to the MCI link is a terminal or two-way communication port. If this is not done, the switch uses the port as a printer or one-way communication port.

To define the MCI port type:

1. At the "Installation Commands Menu" above, enter **1** to select the System Data option.

   The system displays the 'Assignment of System Data Screen'.

2. Enter **1** in the SYS field to tell the switch that the parameter changes affect the entire system.

   Refer to the Table 5-4 to determine the index number for the port.

Table 5-4. Index numbers for ports

Port	Index	Data
MAT Terminal		
1	117	01
2	118	01
3	119	01
4	120	01
5	121	01

3. Enter the index number in the INDEX field that corresponds to the port number you entered in "Assigning a Port for the Message Center Interface Link" above.

4. Enter **1** in the DATA field.

   The number tells the switch that the port is a terminal and allows two-way communication.

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Assign the MCI Link to a UCD Group

To send instructions to the switch to associate the MCI link with the UCD group created in the previous section:

⟹ NOTE:

If this step is not performed, the switch does not communicate through the MCI link.

Use the following instructions to configure the UCD group with the MCI link.

1. At the Installation Commands menu, enter **1** to select the System Data option.

   The system displays the Assignment of System Data Screen.

2. Enter **2** in the SYS field to tell the switch to associate the MCI link with a UCD group on a tenant-by-tenant basis.

3. Enter **1** in the TN field.

   You must use the same tenant value that you used to create the analog stations and UCD groups in "Setting Up a UCD Overflow Group".

4. Enter **6** in the INDEX field.

   The value contains fields that allow the system to associate the MCI link with the UCD group or groups.

5. Write value in the DATA field on the following line

   Current DATA Value: _____

   ### ⟹ NOTE:

   Do not change the value in the DATA field until you consult with your switch administrator. This index contains other fields that control features not related to MCI.

6. Enter **01** in the DATA field.