

Integration Validation and Troubleshooting

5

Overview

Validating the switch integration requires use of the following procedures:

- [“Checking Keys Configured on the Digital Station Interface Circuit Card Ports” on page 5-2](#)
- [“Validating the Tip/Ring Mapping” on page 5-4](#)

Troubleshooting the integration ([Table 5-6](#)) involves determining the reasons why:

- Calls are not integrated.
- Outcalling fails.
- Fax outcalling fails.
- Disconnects are not recognized.
- Message waiting indicators (MWIs) are not updated.
- Transfers fail.

Integration validation and troubleshooting may both involve use of the following procedure:

- [“Viewing the Switch Integration Logs” on page 5-4](#)

Purpose

This chapter contains procedures for validating the switch integration and guidelines for troubleshooting problems with the integration.

Before You Begin

This chapter assumes that:

- The switch has been administered.
- The hardware and software necessary for integration has been installed.
- The Lucent INTUITY system has been administered for switch integration and has been stopped and restarted to activate the changes.

Some of the procedures in this chapter require the use of two customer-supplied model 2616 digital stations.

Integration Validation

Procedures to validate the integration require cooperation of the switch administrator.

Checking Keys Configured on the Digital Station Interface Circuit Card Ports

Use this procedure to check the administration of the ports used for call data on the digital station interface circuit card.

NOTE:

This procedure requires the use of two customer-supplied model 2616 digital stations.

Test 1 — Display Call Data

1. Connect a 2616 digital station (hereafter called the first station) to the termination to which a port of the digital station interface circuit card is to be connected. (The digital station is connected in place of a port.)
2. Using a second 2616 digital station, dial the extension number configured on key 0 of the port to which the first 2616 digital station is connected. (See [Table 2-7](#) in [Chapter 2, "Planning for Switch Integration with Digital Station Interface"](#) for the key mapping.)

The first digital station should ring, but the display should not show any call information, such as the calling party (CLI).

3. Do not establish the call, but press key 12 on the second station.

NOTE:

Keys 0 (zero) through 7 are on the right side of the station, Key 8 is at the lower left, and the remainder of the keys (9 through 15) are on the left.

4. Press key 0 on the second station.

The display should now show the CLI.

5. Do the following,

- For the port dedicated for MWI updates (if used), continue with [“Test 2 — MWI On”](#) below.
- For each other port that will be used on the system, repeat Steps [1](#) through [4](#) above.

Test 2 — MWI On



NOTE:

Use this procedure only for the port dedicated for MWI updates.

6. Press key 13 on the first station.
7. Dial a valid extension number on the switch.
8. Press key 13 on the first station.

The station corresponding to the extension dialed should have its MWI indicator (lamp or stutter tone) on.

9. Continue with [“Test 3 — MWI Off”](#) below.

Test 3 — MWI Off



NOTE:

Use this procedure only for the port dedicated for MWI updates.

10. Press key 14 on the first station.
11. Dial the same extension number you dialed in Step [7](#) of [“Test 2 — MWI On”](#) above.

The station corresponding to the extension dialed should turn its MWI indicator off.

12. Press key 14 on the first station.

Validating the Tip/Ring Mapping

Use this procedure to verify that the mapping of extensions is correct between the Tip/Ring lines on the Lucent INTUITY system and the ports on the digital station interface circuit card. Before you begin, ensure that all connectivity between the switch and the Lucent INTUITY system is completed.

1. Dial a Tip/Ring extension number.
2. Ensure that:
 - The correct voice port rings.
 - The Lucent Intuity system picks up the call and that you hear the "Welcome to AUDIX®" greeting.
3. Repeat these steps for each extension number in the system.

Viewing the Switch Integration Logs

Use this procedure to view the log entries generated by the various switch integration processes. You can select the entries by date and time or by process. Or, by selecting an event sequence number, you can view only those entries associated with a specified event. Usually, selecting an event by sequence number presupposes that you have first viewed the log to obtain the number of the event of interest. The log records the most recent 2000 events, and its contents are rolled over.

If calls are made to the system and the logs contain:

- The normally expected data, the calls are integrated
- No data, calls are not integrated
- Only part of the normally expected data, most likely the switch is administered incorrectly. Contact your remote support center for assistance, if necessary.

1. Start at the Lucent INTUITY Main Menu ([Figure 4-1](#)) and select

```
> Switch Interface Administration
```

```
> Call Data Interface
```

```
> Switch Integration Log
```

The system displays the Switch Integration Log window ([Figure 5-1](#)) with the current date and time displayed.

Switch Integration Log

MERIDIAN 1 Integration

MM/DD/YYYY HH:MM:SS

Start Date : 8/28/1997 Time : 13:53:44

Source : [REDACTED]

Sequence Number : [REDACTED]

System Time : 13:53:44

Figure 5-1. Switch Integration Log Window

2. Do you want to view log entries by sequence number?
 - If yes, enter the sequence number in the `Sequence Number:` field (see [Table 5-1](#)) and go to Step [6](#).
 - If no, go to Step [3](#).
3. Enter the date for the first log entry you want to view in the `Start Date:` field (see [Table 5-1](#)).
4. Enter the time for the first log entry you want to view in the `Time:` field (see [Table 5-1](#)).



NOTE:

The time must be earlier than the time displayed in the `System Time:` field.

5. Do you want to select entries by process type?
 - If yes, enter the name of process for which you want to view entries in the `Source` field (see [Table 5-1](#)).
 - If no, enter **ALL** in the `Source` field.
6. Press **F3** (Display).

The system displays the log data you selected, up to a maximum of 2000 entries (see the examples following [Table 5-1](#)).
7. Press **F6** (Cancel) three times to return to the Lucent INTUITY Main Menu ([Table 5-1](#)).

Table 5-1. Switch Integration Log Window — Field Descriptions

Field	Description	Values
<switch> Integrati on	Displays the switch selected on the Switch Selection window (Figure 4-2).	Display only
Start Date:	Selects events logged in the specified interval up to a maximum of 2000 events. If you use the <code>Sequence Number:</code> field, the system ignores data in these fields and the <code>Source:</code> field.	Format <i>MM DD YYYY</i> , where: <ul style="list-style-type: none">■ <i>MM</i> is the month (range 1-12)■ <i>DD</i> is the day (range 1-31)■ <i>YYYY</i> is the year
Time:		Format <i>HH MM SS</i> , where: <ul style="list-style-type: none">■ <i>HH</i> is the hour in the 24-hour system (range 0-23)■ <i>MM</i> is the minute (range 0-59)■ <i>SS</i> is the second (range 0-59)
Source:	Selects the name of a switch integration process to display. The display includes all events logged by this process from the 2000 events currently contained in the log. If you use the <code>Sequence Number:</code> field, the system ignores data in this field, the <code>Start Date:</code> field, and the <code>Time:</code> field.	<ul style="list-style-type: none">■ VBPC_RDR <<i>n</i>>, where <<i>n</i>> is the port number on the digital station interface circuit card■ VBPC_WTR■ ALL
Sequence Number:	Specifies a number corresponding to a logged event. If you use this field, the system ignores the other fields. The display includes all data logged with the specified sequence number from the 2000 events currently contained in the log.	A 5-digit number.
System Time:	Displays the system time as a convenience to you when selecting entries.	Display only. The format is the same as in the <code>Time:</code> field.

Switch Integration Log Entries

Log entries for integrations with the digital station interface circuit card are generated by the VBPC_RDR and VBPC_WTR processes ([Figure 5-2](#)).

- Each VBPC_RDR entry logs the raw data sent from the switch for one call or for one MWI update request. Each entry is numbered VBPC_RDR<n>, where <n> is the port number on the digital station interface circuit card that carries the data.
- VBPC_WTR entries log the parsed and translated data corresponding to a VPPC_RDR raw call data entry. No port number is indicated.
- Data fields in the entries are separated by a forward slash (/).

7373	VBPC_RDR1	Thu May 8 12:42:04 1997
Raw: /2018 5000 "CFB"	/	
7373	VBPC_WTR	Thu May 8 12:42:04 1997
Parsed: /DIR_INT/ CHANNEL 4/CHANEXT /CLI 2018/CP 5000/		
7373	VBPC_WTR	Thu May 8 12:42:04 1997
Translated:/DIR_INT/CHANNEL 4/CHANEXT /CLI 2018/CP 5000/		
1642	VBPC_RDR2	Thu May 8 12:42:06 1997
MWI_OFF/AUDIX EXTN 7055/XLAT EXTN 7055		
7374	VBPC_RDR1	Thu May 8 12:42:09 1997
Raw: /2012	/	
7374	VBPC_WTR	Thu May 8 12:42:09 1997
Parsed: /DIR_INT/ CHANNEL 0/CHANEXT /CLI 2012/CP 5000/		
7374	VBPC_WTR	Thu May 8 12:42:09 1997
Translated:/DIR_INT/CHANNEL 0/CHANEXT /CLI 2012/CP 5000/		
7390	VBPC_RDR1	Thu May 8 14:47:30 1997
Raw: /410-1 5002 "CFNA"	/	
7390	VBPC_WTR	Thu May 8 14:47:30 1997
Parsed: /NA_EXT/ CHANNEL 0/CHANEXT /CLI 410-1/CP 5002/		
7390	VBPC_WTR	Thu May 8 14:47:30 1997
Translated:/NA_EXT/CHANNEL 0/CHANEXT /CLI/CP 5002/		

Figure 5-2. Examples of Switch Integration Log

Each type of log entry contains two lines. The first line for all types identifies the entry as follows ([Table 5-2](#)):

Table 5-2. Switch Integration Log — All Entries — Event ID

Field	Description
<sequence number>	Identifies the event. For call data information, the same sequence number refers to a VBPC_RDR entry and its corresponding VBPC_WTR entries. Each VBPC_RDR MWI entry is separately numbered.
<process name>	VBPC_RDR<n> or VBPC_WTR.
<date and time>	The time and date stamp of the event.

VBPC_RDR — Raw Data

VBPC_RDR entries for call data contain the following information ([Table 5-3](#)):

Table 5-3. VBPC_RDR (Raw) — Field Description

Field	Description
Raw	Indicates the unparsed, untranslated data stream from the switch.
<data string>	<p>The data stream sent by the switch.</p> <p>For internal calls, the data contains the extension of the calling party (CLI), the extension of the called party (CP), and the reason for call redirection in quotation marks. The reason for call redirection is represented by string of characters known as the call redirection display string. The strings normally used in integrations are:</p> <ul style="list-style-type: none">■ CFW — call forward all calls■ CFB — call forward busy■ CFNA — call forward no answer <p>For external calls, the CLI is not passed. Instead, the data stream indicates the switch route number and trunk member number. For example, in the following entry the route number is 401 and the trunk member number is 1.</p> <pre>Raw: /410-1 5002 "CFNA" /</pre> <p>NOTE: The call redirection display strings can be set uniquely on the switch for the integration. See “Configuring the Call Redirection Display Strings” in Chapter 3, “Requirements and Administration for Nortel Meridian 1”. The strings set on the Lucent INTUITY system must agree with those set on the switch. See “Setting the Call Redirection Display Strings” in Chapter 4, “Lucent INTUITY Administration for Switch Integration with Digital Station Interface”.</p>

VBPC_WTR — Parsed and Translated Data

VBPC_WTR entries contain the following data ([Table 5-4](#)):

Table 5-4. VBPC_WTR (Parsed and Translated) — Field Descriptions

Field	Description	
Parsed and Translated	Indicates the data sent from the switch after parsing or translation, respectively.	
<call type>	<p>Identifies the type of call as:</p> <ul style="list-style-type: none">■ DIR_INT (direct internal)■ DIR_EXT (direct external)■ NA_INT (no answer internal) (This category includes call forward all calls.)■ NA_EXT (no answer external)■ BUSY_INT (busy internal)■ BUSY_EXT (busy external) <p>For DIR_INT, NA_INT, and BUSY_INT calls, both the CLI and CP are shown. For DIR_EXT, NA_EXT, and BUSY_EXT calls, only the CP is shown.</p>	
CHANNEL <number>	The Lucent INTUITY channel number used for the call.	NOTE: Channel-to-extension mapping is done on the Voice Equipment window as part of voice system administration.
CHANEXT	This field is not used for integrations with a digital station interface.	
CLI	<p>The extension of the calling party, if available (see <call type> above).</p> <p>The number of digits in the parsed and translated CLI may differ depending on how the dial plan is administered on the Dial Plan Translation window. See “Setting the Dial Plan Translations” in Chapter 4, “Lucent INTUITY Administration for Switch Integration with Digital Station Interface”.</p>	
CP	The extension of the called party, if available (see <call type> above).	

VBPC_RDR — MWI Updates

VBPC_RDR entries for MWI updates contain the following information ([Table 5-5](#)):

Table 5-5. VBPC_RDR (MWI) — Field Descriptions

Field	Description
MWI_ON or MWI_OFF	Indicates whether an MWI was turned on or off.
AUDIX_EXTN	The INTUITY AUDIX extension number
XLAT_EXTN	<p>The translated extension number</p> <p>The number of digits may differ from that in the AUDIX_EXTN depending on how the dial plan is administered on the Dial Plan Translation window. See “Setting the Dial Plan Translations” in Chapter 4, “Lucent INTUITY Administration for Switch Integration with Digital Station Interface”.</p>

Integration Troubleshooting

Use [Table 5-6](#) to troubleshoot problems with the integration.

Table 5-6. Troubleshooting Scenarios

Trouble	Possible Reason	Possible Solutions
<p>Calls are not integrated.</p> <p>(No call data is displayed in the switch integration logs)</p>	<p>An integration port is busied out at the switch due to conflict with a Nortel maintenance routine or audit.</p>	<ul style="list-style-type: none"> ■ Contact the switch administrator to check the port administration and status on the switch. ■ To determine the status of a port on the digital station interface circuit card (link up or link down), see information on the VB-PC Link Status window in “Digital Station Interface Circuit Card Diagnostics” in Chapter 2, “Diagnostics,” in the maintenance book for your platform. The link status displayed on the window is not updated in real time if the status changes.
	<p>Switch settings are incorrect for translations, class or service, or subscriber setup.</p>	<p>Work with the switch administrator to correct the switch settings.</p>
	<ul style="list-style-type: none"> ■ Firmware for the digital station interface circuit card is not downloaded. ■ There is a bad cable connection. 	<ul style="list-style-type: none"> ■ Shut down and reboot the Lucent INTUITY system so that the firmware downloads. See “Shutting Down and Rebooting the Lucent INTUITY System” in Chapter 3, Common System Procedures”, in the maintenance book for your platform. ■ Check the connections to the digital station interface circuit card. See “Making a Connection from the Lucent INTUITY Digital Station Interface Circuit Card to customer Equipment “in Chapter 3, “Cable connectivity” in the maintenance book for your platform.
	<p>An incorrect serial number administered for the digital station interface circuit card.</p>	<p>Check administration of the serial number on the VB-PC Port Assignment window. See “Setting the VB-PC Switch and Port Assignments” in Chapter 4, “Lucent INTUITY Administration for Switch Integration with Digital Station Interface”.</p>
	<p>A mismatch exists between the call redirection display strings expected by the Lucent INTUITY system and the string the switch actually sends.</p>	<p>Work with the switch administrator or your remote support center to adjust the call redirection display strings. See “Configuring the Call Redirection Display Strings” in Chapter 3, “Requirements and Administration for Nortel Meridian 1” for more information on these strings. Also see “Viewing the Switch Integration Logs” above.</p>

Table 5-6. Troubleshooting Scenarios — *Continued*

Trouble	Possible Reason	Possible Solutions
Transfers fail.	Transfers are incorrectly administered on the Lucent INTUITY system.	Verify the transfer restrictions administered for the system.
	Inappropriate transfer restrictions are set on the switch.	Work with the switch administrator to: <ul style="list-style-type: none"> ■ Ensure that all Tip/Ring lines are configured to have the XFA class of service. ■ Check any transfer restrictions set on the switch.
	Switchhook flash duration mismatch.	Ensure that the value for the hook flash duration set on the Lucent INTUITY system and the value set on the switch match. <ul style="list-style-type: none"> ■ For the Lucent INTUITY system setting, see information on the <code>Hook Flash Duration</code> field in the Interface Parameters window in Appendix C, "Troubleshooting Procedures", in the system installation book for your platform. ■ For the switch setting, consult with the switch administrator. <p>If the value set on the switch cannot be changed, change the value on the Interface Parameters window in the Lucent INTUITY system, as appropriate.</p>
Fax outcalling fails.	<ul style="list-style-type: none"> ■ The fax cng tone level is too low to be detected. ■ The default fax transmit and receive gains may not be appropriate. 	Contact your remote support center for assistance.

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Table 5-6. Troubleshooting Scenarios — *Continued*

Trouble	Possible Reason	Possible Solutions
Outcalling fails.	Dial tone is not detected.	Work with the switch administrator to check the tone parameters on the switch, or use the Tone Capture and Analysis window to check the switch tones. Verify that matching parameters are set on the Lucent INTUITY system. See information on the Dial Tone window and the Tone Capture and Analysis window in Appendix C, "Troubleshooting Procedures", in the system installation book for your platform.
Disconnects are not recognized.		
MWI updates do not occur.	The switch setup is inappropriate.	<p>Work with the switch administrator to ensure that:</p> <ul style="list-style-type: none"> ■ The port dedicated for MWI is in service. ■ The MIK and MCK keys for the dedicated MWI port are configured properly (on key 13 and key 14). ■ A system subscriber for whom MWI updates have failed has the MWA class of service administered.
	Incorrect parameters are set or there is a parameter mismatch between the settings on the switch and the Lucent INTUITY system.	<ul style="list-style-type: none"> ■ Ensure that the MWI update flag is set to y (yes) <p>See "Setting MWI Parameters" in Chapter 4, "Lucent INTUITY Administration for Switch Integration with Digital Station Interface". If necessary, contact your remote support center to set the flag correctly.</p> <ul style="list-style-type: none"> ■ Ensure that the dial plan translation parameters are set correctly on the Lucent INTUITY system and on the switch. For information on the Lucent <i>Intuity</i> settings, see "Setting the Dial Plan Translations" in Chapter 4, "Lucent INTUITY Administration for Switch Integration with Digital Station Interface". For information on the switch settings, check with the switch administrator.

Post-Installation Testing

Post-installation testing of systems integrated with Meridian 1 or Meridian SL-1 switches should include the following scenarios for all system subscribers administered:

- Call forward no answer to the INTUITY AUDIX system
- Call forward busy scenario to the INTUITY AUDIX system
- Call forward all calls scenario to the INTUITY AUDIX system
- Transfers
- Fax
- MWI updates (by leaving a message and retrieving it)
- Outcalling

See the system installation book for your platform for information about post-installation testing.