

Overview of Centrex Switch Integration

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Overview

Switch integration refers to the sharing of information between a voice messaging system and a switch to provide a seamless interface to callers and system users. A fully integrated voice messaging system answers each incoming telephone call with information taken directly from the switch.

This chapter provides background information necessary to understand how a Centrex switch is integrated with the Intuity AUDIX system.

Method of Integration

Integration of Centrex switches with the Intuity AUDIX system requires an RS-232 serial interface and auxiliary switch integration hardware. When the call is forwarded to the Intuity AUDIX system, a packet of information is sent via the serial interface that provides the integration data for the channel the call arrives on.

The Intuity AUDIX system exchanges analog voice information with the Centrex switches through analog telephone lines. Voice links connect callers from a compatible switch port to an Intuity AUDIX voice port. The switch directs internal or external callers to a hunt group of analog ports associated with the Intuity AUDIX system. These ports connect the callers to an appropriate mailbox on the Avaya system. An Intuity AUDIX system can have as many as 12 voice ports. These ports are connected to an equivalent number of analog ports on the switch.

Avaya 5ESS Switch Integration — Standard Configurations

To create an integrated environment between the Intuity AUDIX system and a Avaya 5ESS switch, Avaya supports the following options:

- 3A simplified message service interface (SMSI) translator
- 202T modem

NOTE:

For the 5ESS switch, a direct connection to the Intuity AUDIX system is not a supported option. Either the 3A translator or the modem must be used. Check with the local service company for the supported options.

Integration with the 3A Translator

An SMSI link provides digital call information, such as called party and calling party, to the Avaya INTUITY system. The 3A SMSI translator converts the 5ESS switch applications processor interface (API) format to SMSI format so that the Avaya INTUITY system can be used with the 5ESS switch. The 3A translator receives message service system (MSS) messages from the 5ESS switch through the D-channel of an integrated services digital network (ISDN) line and translates the message into SMSI format. The SMSI output port is RS-232-compatible (EIA-232), asynchronous, and supports baud rates up to 9600; however, Avaya recommends a baud rate setting of 1200.

The 3A translator can be connected (through an adapter) to a multi-port circuit card on any Avaya INTUITY multi-application (MAP) platform. See [Chapter 4, Hardware Installation for 5ESS Switch Integration with the 3A Translator](#), for details about the hardware for the interface.

Distance Requirements

The configuration for the integration with a 3A translator depends on the distance between the switch and the 3A translator. If the distance is greater than 1 km (0.62) miles, a NT1U-220, or NT1L-230 network terminator unit must be used with the 3A translator. In an upgrade of the Avaya INTUITY software with existing software, the NT1U-200 network terminator unit, which is an older version, can be used.

⇒ NOTE:

At distances of 9.7 km (6 mi) or more, the 3A translator *cannot* be used. A 202T modem must be used instead.

Integration with the 202T Modem

A 5ESS integration may also use a 202T modem for integration and connect into a 3002 data circuit. See [Nortel DMS-100 and SL-100 Switch Integration — Standard Configurations](#) below for information on the 202T modem.

Distance Requirements

At distances of 9.7 km (6 mi) or more, a modem *must* be used. This constraint is based on requirements for the 3002 data circuit.

Nortel DMS-100 and SL-100 Switch Integration — Standard Configurations

The INTUITY system interfaces with the DMS-100 or SL-100 switch using the simplified message desk interface (SMDI) over an RS-232 link. The SMDI interface is a Bellcore standard equivalent of the SMSI interface used for 5ESS integration. The SMDI link transfers call information, such as called party and calling party, to the Avaya INTUITY system.

⇒ NOTE:

Integration with the Avaya INTUITY system supports the SMDI interface as defined in Bellcore Technical Reference TR-TSY-000283, July 1995, and the later standard as defined in Bellcore Technical Reference TR-NWT-000283, May 1991.

Distance Requirements

The configuration for the integration depends on the distance between the switch and the Avaya INTUITY system.

202T Modem (or Customer-Supplied Modem)

At distances greater than 15.2 m (50 ft), a 202T modem is used to complete the SMSI link. The 202T modem can be connected to a multi-port circuit card on any MAP. See [Chapter 7, Hardware Installation for Centrex Switch Integration with the 202T Modem](#), for details about the hardware for the interface.

Direct Connection

Refer to the Configuration Note for your switch type.

Other Configurations

The 5ESS, DMS-100, and SL-100 switches can be integrated by the use of a customer-supplied modem other than the 202T modem. This book does not provide installation instructions for such configurations. However, guidelines for integrating with a nonstandard modem are provided in [Chapter 7, Hardware Installation for Centrex Switch Integration with the 202T Modem](#).

Demarcation Points

Service technicians dispatched for Avaya INTUITY system installation are not responsible for making any connections directly to switches not maintained by Avaya Inc.

The demarcation point for integration of Centrex switches not maintained by Avaya depends on the configuration.

- For integrations using an Avaya-supplied modem, the point of demarcation is the equalization device (829 loopback device or equivalent) on the immediate far side of the modem.
- For integrations using an Avaya-supplied 3A translator, the point of demarcation is the connecting block on the immediate far side of the translator.
- For direct-connect integrations, and for integrations using a modem not supplied by Avaya, the point of demarcation is the adapter at the end of the modular cable that is connected to the Avaya INTUITY system (or the RS-232 mini-tester, if it remains in line after testing).

Avaya services personnel may:

- Administer the translator or modem for operation with the switch
- Connect the translator or modem to the Avaya INTUITY system

For additional information concerning the extent of the installation, see the contract between the customer and Avaya.

Joint Acceptance Testing

Joint acceptance testing is to be executed by both the customer representative and the INTUITY AUDIX® on-site installer when the installation includes Avaya products and customer-provided equipment. Acceptance testing is performed at the end of an installation to demonstrate to the customer that the installation is

operational. The purpose of joint acceptance testing is to have knowledgeable people available to test and resolve issues before final completion of the service order. Joint acceptance testing is required for Centrex switch integrations.

Centrex Switch Integration Checklist

The following checklist ([Table 1-1](#)) outlines the process of integrating the Intuity AUDIX ystem with a Centrex switch. It is assumed that:

- The switch integration software package is already installed on your system.
- You are performing the integration as part of installation of the Intuity AUDIX system and completing the procedures as specified in the system installation book for your platform.



 **NOTE:**
When using this checklist, be sure to complete the tasks for the appropriate type of integration.

Table 1-1. Centrex Switch Integration Checklist

Task	Description	Reference
1.	Refer to the Configuration Note for instructions.	
2.	Administer the switch.	Chapter 3, Centrex Switch Requirements and Administration . (Information in Chapter 2, Planning for Centrex Switch Integration is also needed.
3.	Complete chapter in “Powering Up the System” in the system installation book.	Refer to the system installation book for your platform.

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Table 1-1. Centrex Switch Integration Checklist — Continued

Task	Description	Reference
4.	<p>Integration with 202T modem only:</p> <p>Set the switch options on the 202T modem.</p> <p> NOTE: For the Nortel DMS-100 and SL-100 switches, the 202T modem is required only if the distance between the Avaya INTUITY system and the switch is greater than 15.3 m (50 ft), per RS-232 standard. For the 5ESS switch the 202T modem is not required if the 3A translator is used, but is required in all other cases regardless of the separation distance.</p>	Chapter 6, Setting the 202T Modem.
5.	Install the integration hardware.	<p>■ Integration with 3A translator (5ESS switch only): Chapter 4, Hardware Installation for 5ESS Switch Integration with the 3A Translator.</p> <p>■ Integration with 202T modem only: Chapter 7, Hardware Installation for Centrex Switch Integration with the 202T Modem.</p>
6.	Complete the remainder of Chapter 4 in the system installation book.	Chapter 4, “Powering Up the System,” in the system installation book for your platform.
7.	Complete the appropriate procedures for your switch type in Chapters 5 and 6 of the system installation book up to the section in Chapter 6 titled “Administering Channels.”	Chapters 5 and 6 in the system installation book for your platform.
8.	<p>Integration with 3A translator (5ESS switch only):</p> <p>Program the 3A translator.</p>	Chapter 5, Programming the 3A Translator.

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Table 1-1. Centrex Switch Integration Checklist — Continued

Task	Description	Reference
9.	Verify that the correct switch integration package is installed.	See information on the Reports page to View Installed Software in the maintenance book for your platform.
10.	Administer the Intuity AUDIX Switch Selection page.	Chapter 8, Intuity AUDIX LX Administration for Centrex Switch Integration . Information in Chapter 2, Planning for Centrex Switch Integration , is also needed.
11.	Ensure that the switch has been administered by the CO (central office) to perform acceptance tests for the two test subscribers.	Chapter 3, Centrex Switch Requirements and Administration .
12.	Return to the “Administering Channels” section in Chapter 6 of the system installation book and complete all required tasks through Chapter 16.	Chapters 6 through 16 in the system installation book for your platform.
13.	Validate and, if necessary, troubleshoot the integration.	Chapter 9, Integration Validation and Troubleshooting .
14.	Cut to service by notifying the CO or your project manager to change the system subscribers’ call forwarding coverage path to the Avaya INTUITY system.	None.

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