

MiCollab Advanced Messaging Fujitsu 9600 with SMDI Integration Technical Note

For version 6.1 and above

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Preface

This Integration Technical Note (ITN) is written for dealers who are experienced with MiCollab Advanced Messaging (MiCollab AM) software and who are familiar with MiCollab AM procedures and terminology. It also assumes that you are familiar with the features and programming of the Fujitsu 9600 telephone system.

This document describes how to integrate MiCollab AM with the Fujitsu 9600 telephone system, using the Simplified Message Desk Interface (SMDI). The SMDI integration is an outband data link integration.

Originally used with Centrex, SMDI is now an industry-standard protocol that supplies calling and called-party identification, as well as message-waiting indicator (MWI) set and clear functions through an RS-232 data link. The RS-232 interface sends calling and called-party information to MiCollab AM.

Analog single-line stations carry voice and DTMF signaling between the caller and MiCollab AM. When a call is sent to MiCollab AM, the Fujitsu sends an accompanying data packet with call-type information over the RS-232 serial connection to MiCollab AM.

The data packet is matched with the associated ringing voice mail port and MiCollab AM answers the call with the appropriate dialog.

For specific information about SMDI, please refer to the *Simplified Message Desk Interface* technical reference produced by Telcordia® Technologies, formerly known as Bell Communications Research (Telcordia part numbers GR-283 and TR-NWT-000283-SUP01).

Use this document in conjunction with *System Installation Guide* and *System Administration Guide* and the MiCollab AM online help system.

References

A catalog of technical documentation is included on the MiCollab AM Installation Media. If you are installing any advanced applications, such as Networking and Fax Server applications, you should refer to the appropriate technical documentation for application and installation information.

Documentation

The technical documentation is produced in the PDF format and requires the PDF reader to view it. The documentation set for this MiCollab AM includes the following documents and resources:

- **Developer Resources.** Contains programming guides and API references for developers for integrating the server clients and web applications with MiCollab AM.
- **Integration Technical Notes (ITN).** Contains a set of guides that describe the integration methods and instructions for a variety of phone systems to work with MiCollab AM. The ITNs are generally used by resellers or administrators who are experienced with MiCollab AM and familiar with the integration procedures and terminology.

- **Quick Reference Card (QRC).** Contains shortcuts and quick instructions telling subscribers how to access and use the messaging system.
- **Server Documentation.** Available as a PDF only. Contains administrative guides for administrators about installing, configuring, and administering the messaging system, and user guides for subscribers about accessing the messaging system and checking and sending messages.
- **Spare Parts Documentation.** Contains a set of guides that describe the instructions for installing and configuring hardware parts to work with MiCollab AM. These documents are written for Mitel certified MiCollab AM technicians who are experienced with MiCollab AM and familiar with the procedures and terminology.
- **Software Release Notice (SRN).** This notice introduces the new features, capabilities, and hardware/software requirements for the corresponding MiCollab AM version.

Documentation Updates

Documentation updates may be available from the following sources:

- Mitel certified technicians can view or download the latest/updated documents and program files from our partner web site: connect.mitel.com/connect

Help

The primary source of information about MiCollab AM is the online help available within any of its administrative utilities. You can access **Help** as follows:

- Click the **Help** button in the dialog box or window in which you are working
- Press the **F1** key at any time.

Document Conventions

The following conventions are used in this document:

- **Key Names.** Names of keys on the keyboard are shown in a box.

Example: **Enter**

When two keys must be pressed simultaneously, they are joined by a + sign.

Example: **Alt** + **Tab**

- **Reference to Document.** *Italics* fonts can also signify the titles of other documents.

Example: Refer to *System Installation Guide*.

- **UI Element Names.** Names of UI elements such as dialog windows, screens, menu items, tabs, buttons, icons, etc. are shown in bold.

Example: On the **Startup** screen, click the **Start** icon.

- **User Input.** Information required to be typed is shown in italics.
| **Example:** Type the password *voicemail*.
- **Warning, Caution, Important, and Notes.** Text for the contents that require attention are shown as follows:

WARNING A warning paragraph advises you of circumstances that can result in the loss of data, harm to the system server platform, or personal harm.

CAUTION Failure to follow these recommendations can result in unauthorized access to the system and consequent loss of data.

IMPORTANT An important paragraph gives decision-making information or informs you of the order in which tasks need to be completed.

NOTE A note gives additional information, provides an explanation, or indicates an exception to the information in the preceding text.

Features Supported by this Integration

The following tables list the features supported with a Fujitsu 9600 with SMDI telephone system integration.

Table 1. Call forward to personal greeting for these call types

Divert to MiCollab AM on	Supported
No Answer	Yes
Busy	Yes
Forward All	Yes
Do Not Disturb	Yes

Table 2. Integration Features Supported Fujitsu 9600 with SMDI

Feature	Supported	Notes
Automatic subscriber logon	Yes	
ANI/CLI	Yes	Note 1
Announce Busy greeting on forward busy calls	Yes	

Call screening	Yes	
Caller queuing	Yes	
DNIS	Yes	
End-to-end DTMF, attendant console	Yes	
End-to-end DTMF, proprietary telephones	Yes	
Fax ports	Yes	Note 2
Internal calling party ID for reply	Yes	
Live record, integrated	No	
Live reply to sender	Yes	
Message notification callouts	Yes	
MWI, set/clear	Yes	
MWI, inband/outband	Outband	
Networking, analog	Yes	
Overflow from MiCollab AM to attendant	Yes	
Overflow to MiCollab AM from attendant	No	
PBX-provided disconnect signaling	Yes	Reorder tone
Revert to operator	Yes	
Transfers, blind	Yes	
Transfers, confirmed	Yes	
Transfers, fully supervised	Yes	
Transfers, monitored	Yes	
Trunk ID for call routing	No	

NOTES

1. Requires PBX software version 11
2. Requires separate analog ports

Critical Application Considerations

Known limitations and conditions within the telephone system and MiCollab AM that affect the integration performance are listed here. General recommendations are provided when ways to avoid the limitations exist.

- Do not enter actual extension numbers of MiCollab AM ports on the Lines tab; instead, enter their associated Message Desk terminal numbers. The terminal numbers must be consecutive starting with port 1, terminal number 0001. The integration cannot function if these entries are not correct.
- If Subscriber mailboxes are configured to use the call queuing feature from the automated attendant, do not program stations to forward to voice mail on a busy signal.
- Fujitsu recommends using reorder tone for disconnect on voice mail ports. Do not use a combination of dial tone and reorder tone for disconnect as this can cause messages consisting of dial tone only in Subscriber mailboxes from callers who elect to hang up rather than leave a message.

Serial Integrations in a multi-box Call Server environment

In a multi-box environment, it is possible that a single serial link connection needs to service two or more Call Servers. The serial link can be terminated on any Call Server or System Server with Call Services within the system. The data is distributed to the correct Call Server or Call Servers through the network interface of the MiCollab AM system.

- Use the Link Integration mode parameter on the Integration Options dialog box of the server to configure each server in the system as:
 - Normal – the serial link is connected to this server's COM port, and is not passing serial data through the network to other Call Servers
 - Link Server – The serial link is connected to this server and is passing serial data through the network to other Call Servers
 - Link Client – The serial link is connected to another server in the system and is receiving integration data through the network
 - MWI Only – The server is only sending/receiving MWI data to the switch
 - If you are terminating the serial link at the System Server, the System Server must have Call Services enabled. It is not required to have lines enabled on the System Server.
 - If you use the System Server to perform only MWI operation for the integration, the System Server must have Call Services enabled. It is not required to have lines enabled on the System Server.

- To send serial data independently to multiple Call Servers in the system, use the Perle IOLAN DS1™ and TruePort™ software to configure each participating server in the system. Refer to the *Installing the Perle IOLAN DS1 Serial to Ethernet Converter* spare parts document for information on the DS1 device and installation instructions.

Installation Requirements

Review the following information before performing any of the procedures in this document. To install this integration successfully, you must meet the installation requirements listed below both for the telephone system and for MiCollab AM.

Telephone System Requirements

- The 9600 software must be version 3 and
 - Must have VMSBS (normally included with every system)
 - Centralized Systems must have the TLCVMS feature in the PBX that is connected to the MiCollab AM system.
- One single-line analog port for each line to be integrated. Use one of the following interface cards:
 - B8SLA (8-port loop start card)
 - B16SLB (16-port loop start card)
 - BDTKBA (24 channel T1 OPS card). Configure the board for D4, AMI protocol.
- A DCC card with an available port for the SMDI/RS232 interface (The DCC card type and cable used depends on the F9600 model.)

Table 3. Telephone System Requirements

Version	DCC card type	Cable used
EST	PSIOUA/PSIOUB	T-185
ES	PSDCC	P3500
All Others	PSDCC	P3500

MiCollab AM Requirements

- Properly configured system server platform running Windows Server 2008 R2 with Service Pack 1 or Windows Server 2012 R2.
- MiCollab AM version 6.1 – consult the Mitel Connect web site for the current software patches and service pack information (see [References](#) earlier in this document).
- Mitel software key diskette or feature file with Fujitsu 9600 SMDI serial port integration enabled.
- One Dialogic port or T1 channel for each MiCollab AM voice port to be integrated.

- One available serial COM port.

NOTE If you are using the Perle IOLAN DS1 device, you must install and configure the Perle Trueport virtual COM port on each server participating in the integration.

- Uninterruptible power supply (UPS) and surge protection device (recommended)

Programming the Telephone System

Follow the recommendations and programming examples in this section to program the Fujitsu 9600 for integration with MiCollab AM. Programming examples show commands and parameters that are necessary for integration; they do not represent PBX programming in its entirety.

The installing technician should be familiar with programming the telephone system. For detailed programming information on the Fujitsu 9600, refer to the appropriate F9600 Commands Manual.

IMPORTANT For all SMDI integrations, it is essential to document the station numbers and terminal numbers of all ports connected to MiCollab AM accurately. This information is used later to ensure that the ports are connected in the correct order.

Use the information provided in Table 3 to program the Fujitsu 9600 for integration with MiCollab AM.

Table 4. Fujitsu 9600 programming for MiCollab AM integration

Operation	EMML Menu	Command Syntax
1. Install Simplified Message Desk Interface (SMDI). a. Add DCC port to support SMDI b. Define Application	Applications & System I/O <ul style="list-style-type: none">DCC I/O PortsAdd AP I/O portVoice Messaging ServiceAdd VMS Interface	ASS DCCPT, DCUxy, AP, SMDI 1200 x=0, 1 (MPR#) y=1,2,3 (DCC port #) ASS AP VMSS DCUxy X=0, 1 (MPR#) y=1,2,3 (DCC port#)
2. Add single-line package(s) for VMS interface.	Shelves and Packages Package Configuration <ul style="list-style-type: none">- Install Package	INS PKG, PKGN, B16LB, SL, 16 PKGN = network #, highway #, slot #
3. Add single-line circuits for use as voice mail ports (install as OPS station without distinctive ring pattern)	Stations Single-line Stations <ul style="list-style-type: none">- Add station	ASS SLT (TNN:0) DN, EN, 1, 1, RSM, FRL, COS, 0, 0, 0, 0, 1 RSM = restriction mode, FRL = facility restriction mode COS = class of service (0 to 63)
4. Add a virtual line for a station hunt group pilot	Station <ul style="list-style-type: none">Digital StationsAdd virtual line	ASS VL, (TNN:0), DN DN = VMS pilot directory number

NOTE The virtual line created here is used as the pilot station of the VMS hunt group. This DN is used as the destination for call forwarding, as well as the destination for retrieving messages, and cannot appear on any telephone.

5. Install station ports into a circular hunt group.	Station Groups <ul style="list-style-type: none"> Hunt groups 	ASS STHG, (TNN:0), 3, PDN, MDN, ~, MDN PDN = VMS pilot DN, MDN are hunt group numbers If a hunt group larger than 10 members is required, repeat the command with the same pilot number and the additional members.
NOTE Use the virtual line directory number created in step 4 as PDN.		
6. Mark single-line circuits as VMS ports	Applications and System I/O <ul style="list-style-type: none"> Voice Messaging Service Add VMS directory number 	ASS VMSPT, (TNN:0), DN, PTN PTN = port # for VMS ports 1 to 128
NOTE The first port should start with the first member of the station hunt group (not the pilot)		
7. Assign message waiting buttons:	a. Stations - DT feature buttons - Modify DT button assignments b. Modify Single-line station	ASS MLPFB, (TNN:0), DNV, BNO, MW DNV = station DN BNO = button number CHA SLT, (TNN:0), DN,,,,,1 ASS,NPCNV,0,(TNN:0),D73,3,64,DN DN = VMS pilot station
a. To Digital Telephones (MLDT) b. To single-line set (assign MW lamp operation) c. Modify MW button to access VMS pilot		
8. Modify system flags and timers.	a. Customer Database & Software System Capacities and Service Change Service Parameter	a. CHA SVP, 1, 41, 1100 (default) b. CHA SVP, 1, 69, 128 c. CHA SVP, 1, 70, 128 d. CHA SVP, 1, 73, 16 e. CHA SVP, 2, 1, 01 f. CHA SVP,2,36,DATA DATA = 00: Not Provided DATA = 01: Provided (default) g. CHA SVP, 2, 41, 01 (CFAC) h. CHA SVP, 2, 64, 02, (dialtone) i. CHA SVP, 2, 65, 01, (given) j. CHA SVP, 2,71, 01 (released) k. CHA SVP,2,213,DATA DATA = 0: Not Provided (default) DATA = 1: 7 Digit Provided DATA = 2: 10 Digit Provided
a. Leave maximum hook flash time to 1100 ms (default) b. DTMF sending interval to 128 ms. c. DTMF sending duration to 128 ms. d. Call forward no answer jump timing e. Disable immediate ringing f. Arm auto disconnect at hands free		

- g. SMDI message type for transferred calls
- h. Tone sent to VMS on calling party disconnect
- i. Direct message to VMS for screened transfer
- j. Third-party hook flash release from 3-way conference
- k. ANI in SMDI packet

9. Place DCC port into service	Status & Diagnostics Port & Package Status Restore I/O Port to Service	RES IO, DCUxy x = MPR#, y = DCC port #
10. Set up system forwarding Box holders should be registered for Don't Answer forwarding to the VMS pilot VMS ports should be registered for Don't Answer forwarding to the system attendant	Dialing and Class of Service Destination and Forwarding Add Destination Number Add System Forwarding	Open two DSTNO table entries (one for the VMS pilot and one for the system attendant). ASS DSTNO, DSTNO, DIAL FOR BOXHOLDERS: ASS FWD, (TNN:0), DN, DA, DSTNO DN = Boxholder station directory number DA = Don't Answer DSTNO = VMS pilot destination number assigned above FOR VMS PORTS: ASS FWD, (TNN:0), DN, DA, DSTNO DN = VMS port directory number DA = Don't Answer DSTNO = System Attendant (0)

Configuring MiCollab AM

Once the telephone system is programmed, you must configure MiCollab AM for the integration. There are two ways you can configure MiCollab AM: (1) Configuring MiCollab AM for the telephone system integration when you are installing MiCollab AM for the first time, or (2) Configuring the existing MiCollab AM with the new telephone system integration.

Click the appropriate steps that your system requires from below and follow the steps:

- [Configuring MiCollab AM for the Integration During Initial Installation](#): Integrate the telephone system while you install MiCollab AM for the first time.
- [Configuring Existing MiCollab AM for the Integration](#): Integrate a new telephone system on your existing MiCollab AM system.

NOTE For general information on integrations, refer to the **Integrating MiCollab AM with the Telephone System** chapter in *System Installation Guide*, and the topic, **Integrate the Telephony Server with the Telephone System**, in the online help.

Configuring MiCollab AM for the Integration During Initial Installation

To configure MiCollab AM for the integration during the initial installation:

- 1 In the **Database Initialization Parameters** dialog box, configure the following options:
 - a In the **Mailbox Length** box, enter the mailbox length in digits.
 - b In the **First Extension** box, enter the first Message Desk terminal number of the first line.

NOTE SMDI requires a Message Desk terminal number, not the actual directory number. Typically, 0001 is the first terminal number.

- c From the **Manufacturer** dropdown list, select **Fujitsu**.
- d From the **Model** dropdown list, select **9600**.
- e From the **Integration Type** dropdown list, select **SMDI serial port**.

IMPORTANT As previously stated, the SMDI interface is used by many PBX manufacturers and third-party manufacturers. Be sure to select the manufacturer that best matches the telephone system you are integrating with MiCollab AM.

- 2 Click **Next**. The **Board Options** dialog box displays.

- 3 Depending on the type of Aculab card you have installed, configure the board options. Refer to the appropriate Spare Parts document for more information on the Aculab card you are installing.
- 4 Click **OK**. The **Switch Options** dialog box displays.
- 5 If necessary, make any changes to the default settings your site requires in the **Switch Options** dialog box.

NOTE The settings related to the telephone system in the **Switch Options** dialog box are filled in automatically when you select the correct telephone system during setup.

If you need to customize settings on the **Switch Options** dialog box to meet requirements specific to your site, refer to the documentation accompanying the telephone system, the online help, and the guide, *System Installation Guide*.

- 6 Click **OK**. The **Integration Options** dialog box displays.
- 7 In the **Integration Options** dialog box, verify that the following parameters correctly match the PBX settings.
 - a In the **Local Integration Settings** section, select the **Communication Settings** view and verify that the parameters match the system settings.
 - b Select the **Integration Specific Parameters** view and verify that **Message Desk number**, **Length of PBX Station Numbers**, and **Length of Extensions** are correct.

IMPORTANT If these values are not correct, the integrations will not function.

- 8 Click **OK**. The **Switch Section Options** dialog box displays.
- 9 In the **Switch Section Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Required Parameters** view.
 - b In the **Incoming Hunt Mode** field, enter the mode for this integration.
 - c In the **Hunt Group Access Code** field, enter the hunt group extension you configured previously in the section, [Programming the Telephone System](#). This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 10 Continue through and complete the configuration. At the end of the configuration, a confirmation dialog box displays. Click **OK**.
- 11 If **MiCollab AM Configuration** does not open automatically after the configuration completes, open **MiCollab AM Configuration**, and select the **Lines** tab.
- 12 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 13 Click **OK** to save all changes.

Configuring Existing MiCollab AM for the Integration

To configure exiting MiCollab AM for the telephone integration:

- 1 Open **MiCollab AM Configuration**, and go to the **Main** tab.
- 2 In the **Main** tab, click **Shutdown** to stop the system. Wait until the **Current Status** shows **Stopped**.

NOTE If you have not configured the virtual board with your MiCollab AM system yet, complete **Step 3**. If your MiCollab AM already has the virtual board configured, skip to **Step 4**.

- 3 **[Optional]** Select the **Board** tab, and then click the **Add** button. The **Board** dialog box displays.
 - a Depending on the type of Aculab card you have installed, configure the board options. Refer to the appropriate *Spare Parts document* for more information on the Aculab card you are installing.
 - b Click **OK**.
- 4 Select the **Switch** tab and click the **Add** button. The **Switch Integration Data Setup** dialog box displays.
 - a From the **Manufacturer** dropdown list, select **Fujitsu**.
 - b From the **Model** dropdown list, select **9600**.
 - c From the **Integration Type** dropdown list, select **SMDI serial port**.

IMPORTANT As previously stated, the SMDI interface is used by many PBX manufacturers and third-party manufacturers. Be sure to select the manufacturer that best matches the telephone system you are integrating with MiCollab AM.

- 5 Click **OK**. The **Switch Options** dialog box displays.
- 6 If necessary, make any changes to the default settings your site requires in the **Switch Options** dialog box.

NOTE The settings related to the telephone system in the **Switch Options** dialog box are filled in automatically when you select the correct telephone system during setup.
If you need to customize settings on the **Switch Options** dialog box to meet requirements specific to your site, refer to the documentation accompanying the telephone system, the online help, and the guide, *System Installation Guide*.

- 7 Click **OK**. The **Integration Options** dialog box displays.
- 8 In the **Integration Options** dialog box, verify that the following parameters correctly match the PBX settings.
 - a In the **Local Integration Settings** section, select the **Communication Settings** view and verify that the parameters match the system settings.
 - b Select the **Integration Specific Parameters** view and verify that **Message Desk number**, **Length of PBX Station Numbers**, and **Length of Extensions** are correct.

IMPORTANT If these values are not correct, the integrations will not function.

- 9 Click **OK**. The **Switch Section Options** dialog box displays.
- 10 In the **Switch Section Options** dialog box, configure the following options:
 - a In the **Local Integration Settings** section, select the **Required Parameters** view.
 - b In the **Incoming Hunt Mode** field, enter the mode for this integration.
 - c In the **Hunt Group Access Code** field, enter the hunt group extension you configured previously in the section, [Programming the Telephone System](#). This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 11 In **MiCollab AM Configuration**, verify that the telephone system is properly added and configured in the **Switches**, **Switch Sections**, and **Integrations** tabs.
- 12 Select the **Lines** tab.
- 13 In the table from the **Lines** tab, configure callouts for the application. For information on configuring callout settings, see the topic *Configuring Callout Settings*, in the online help system.
- 14 Click **OK** to save all changes.

Configuring Subscriber Mailboxes for SMDI

Configure the SMDI prefix for all of the Subscriber mailboxes that belong to the SMDI Switch Section. You can use the Template Edit feature of the MiCollab AM Admin utility to modify the SMDI prefix field in a range of Subscriber mailboxes. Use the Devices tab of the Subscriber mailbox to assign extension numbers and SMDI prefixes.

SMDI prefix

Apply the SMDI prefix to all extension devices assigned to Subscriber mailboxes that are within the SMDI Switch Section. Enter the SMDI prefix used to pad each device number in the extension category list to a valid packet length. This is necessary to form a standard SMDI data packet. For instance, if you are using a 7-digit SMDI packet and a 4-digit extension number, the SMDI prefix is 000 (where 0 is a prefix digit). For ANI, a 10-digit SMDI packet would require an SMDI prefix of 000000 for the same 4-digit extension number. All Subscriber mailboxes within the same Switch Section must have the same SMDI prefix length. This field cannot be blank unless the mailbox length matches the length of SMDI packet.

Extension Device number length

Apply the extension number length for all Device Types in the Extension category list of Subscriber mailboxes to all Subscriber mailboxes within the SMDI Switch Section. The Device Extension number field for each assigned extension must contain a number having the same length as the extension numbers of the telephone switch. This includes:

- Voice (All types)
- Operator (All types)
- Fax