

MiCollab Advanced Messaging 9.4
NEC 2000IPS, NEAX 2400, and SV7000
Analog & T1 with MCI
Integration Technical Note

For version 9.4 and above

Notice

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Contents

Preface	5
References	5
Documentation	5
Documentation Updates	6
Help	6
Document Conventions	6
Features Supported by this Integration	8
Critical Application Considerations	10
Additional Considerations for LAN MCI	11
Additional Considerations for NEAX 2000 IVS	11
Additional Considerations for NEAX 2400 IMX/IPX	11
Additional Considerations for older NEAX 2400 IMX with 4200 Software	12
Serial Integrations in a Multi-Box Call Server Environment	12
Installation Requirements	13
Telephone System Requirements	13
MiCollab AM Requirements	14
Programming the NEC NEAX 2000 IVS/IPS	15
Configuring the AP00 Card for the Serial MCI Port	15
Programming the MiCollab AM Analog Ports	16
Programming the Class of Service Settings	17
Programming the MCI	18
Programming the Hunt Group (UDC – Unified Call Distribution)	20
Programming the Subscriber Stations	21
Completing the NEAX 2000 IVS/IPS Programming	21
Programming the NEC NEAX 2400	22
Configuring T1 Channels (Optional)	22
Programming the MiCollab AM Ports	22
Programming the UCD Group	23
Configuring the MCI for the NEAX 2400	23
Programming and Configuring the Serial MCI Link	25

Programming and Configuring the TCP/IP LAN MCI	26
Programming the Subscriber Stations	26
Completing the NEAX 2400 Programming	27
Programming the NEC SV7000	28
Configuring T1 Channels (Optional)	28
Programming the MiCollab AM Ports	28
Programming the UCD Group	29
Configuring the MCI for the NEC SV7000	29
Programming and Configuring the TCP/IP LAN MCI	31
Programming the Subscriber Stations	31
Completing the SV7000/SV7000MPS Programming	32
Configuring MiCollab AM	33
Configuring MiCollab AM for the Integration During Initial Installation	33
Configuring Existing MiCollab AM for the Integration	35
Changing the Network Binding Order on the MiCollab AM Platform	38
Windows Server 2012 R2	38
Windows Server 2016 / 2019	39

Preface

This Integration Technical Note (ITN) is written for dealers who are experienced with MiCollab Advanced Messaging (MiCollab AM) and are familiar with its procedures and terminology. It also assumes that you are familiar with the features and programming of the NEC SV7000, NEAX 2000 IVS/IPS or NEC NEAX 2400 IMX/IPX telephone system.

This document describes how to integrate MiCollab AM with a NEC SV7000, NEAX 2000 IVS/IPS or NEC NEAX 2400 IMX/IPX telephone system using the Feature 2 application of the NEC Message Center Interface (MCI). The NEAX MCI integration is an outband data link integration.

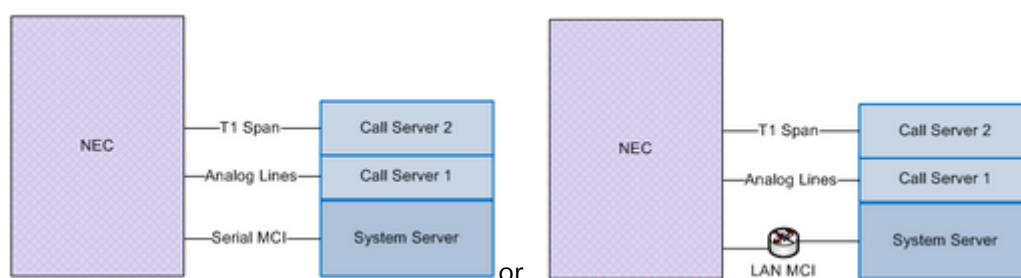


Figure 1. MCI Configuration Examples

The MCI link is an RS-232 serial data connection or TCP/IP LAN connection between the NEC telephone system and MiCollab AM. The MCI link provides transport for calling-party and called-party information to MiCollab AM. Incoming calls to MiCollab AM are directed to the UCD pilot number, the UCD reports the call information to the MCI software, and a data packet with call type information is sent over the MCI link, while ringing is sent to the associated T1 or analog port. MiCollab AM matches the data packet with the ringing port and answers the call with the appropriate dialog. Message-waiting indicator (MWI) operation is also performed through the MCI connection.

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 MiCollab AM Documentation Library includes the following documents and resources:

- **Administration Documentation.** Available as a PDF only. Contains the following:
 - **Administration Guides.** Available as a PDF only. Contains administrative guides for administrators about how to manage and configure the messaging system.

- **Quick Reference Cards (QRC).** Contains shortcuts and quick instructions telling subscribers how to access and use the messaging system.
- **User Guides.** Available as a PDF only. Contains user guides for subscribers about accessing the messaging system and checking and sending messages.
- **Server Documentation.** Available as a PDF only. Contains the following:
 - **Developer Resources.** Contains programming guides and API references for developers for integrating the server clients and web applications with MiCollab AM.
 - **Installation and Configuration.** Available as a PDF only. Contains installation and configuration guides for server administrators about how to install and configure the messaging system.
 - **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.
 - **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 documents and program files from our partner web site: www.mitel.com

Help

The primary source of information about MiCollab AM is the online help available within any of its administrative utilities. You can access **Help** by clicking the **Help** button in the dialog box or window in which you are working.

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** Titles of other documents are shown in italics.

Example: See the *System Installation and Configuration Guide*.

- **User Interface (UI) Element Names.** Names of UI elements such as dialog boxes, windows, screens, menu items, tabs, buttons, and icons 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 MiCollab AM 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.

For more detailed documents, refer to the following list of references:

Table 1. References

Document Type	Document Title
Administration Documentation	<i>System Administration Guide</i>
Server Documentation	<i>System Installation and Configuration Guide</i>
Spare Parts Documentation	<i>Dialogic PCI Express and Euro PCI Express Linecards Installation and Replacement</i>
Spare Parts Documentation	<i>Dialogic PCI and Euro PCI Linecards Installation and Replacement</i>
Spare Parts Documentation	<i>Perle IOLAN DS1 Serial to Ethernet Converter Installation</i>
Online help	MiCollab AM online help system

Features Supported by this Integration

The following tables list the features supported with the NEC NEAX MCI integration.

Table 2. 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 3. Integration features supported for NEAX MCI

Feature	Supported	Notes
Automatic subscriber logon	Yes	
ANI/CLI	Yes	Note 1
<i>Announce Busy</i> greeting on forward busy calls	Yes	
Call screening	Yes	Note 2
Caller queuing	Yes	Note 3
DNIS	Yes	Note 1
End-to-end DTMF, attendant console	Yes	
End-to-end DTMF, proprietary telephones	Yes	
Fax Tone Detection	Yes	
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	Note 4
Revert to operator	Yes	
Transfers, blind	Yes	
Transfers, confirmed	Yes	
Transfers, fully supervised	Yes	
Transfers, monitored	Yes	
Trunk ID for call routing	Yes	

NOTES

1. Using NEAX 2400 level 6200 version F or NEAX 2000 series 1700.
2. Available only when using supervised transfers.
3. Caller Queuing is specific to each local Call Server. Call Servers within the system are unaware of queued calls to the same subscriber on other Call Servers. For more information, refer to the [Critical Application Considerations](#) notes.
4. When using loop-current disconnect provided by the PBX analog linecard.

Critical Application Considerations

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

- The Call Queuing feature does not transcend the Call Server. Calls may be queued on multiple Call Servers for the same subscriber but Call Servers do not have knowledge of calls in the queue on other Call Servers within the system. Callers may be prompted with specific information about their place in the queue; however, the information pertains to the specific Call Server on which their call is queued.
- No error or alarm condition is generated on either the NEAX or the MiCollab AM system when the MCI data link is disrupted.
- Calls to stations in Do Not Disturb (DND) forward to MiCollab AM as busy forwarded calls. For this reason, subscribers should not use DND and the *Announce Busy* feature of MiCollab AM at the same time.
- Calls to any UCD group within the same tenant are reported to the MCI serial link and to MiCollab AM. Data packets from non-MiCollab AM UCD groups generate errors in MiCollab AM. To avoid invalid UCD data being sent to MiCollab AM, program the UCD hunt group for MiCollab AM into a separate tenant of the telephone system.
- Select Adaptive as the hunt mode in the Switch Section Options dialog box.
- Use only analog PBX linecards that support open loop disconnect signaling.
- MiCollab AM voice ports must be members of the UCD group to receive calling-party and called-party information from the MCI port.
- MiCollab AM subscribers without telephone extension devices must not have the MWI feature enabled in their mailboxes.
- Do not enable the Message Waiting Set capability for station users. Message Waiting and Message Reminder Set features must be disabled. If both MiCollab AM and end users are able to set and clear message waiting (MW), conflict and confusion is the result.
- Existing MW and Lamp type MWI must be cleared from PBX memory for MiCollab AM subscribers prior to MCI deployment.
- If you are using supervised transfers in MiCollab AM to provide the Call Screening or Call Queuing feature for subscribers, the Reject Transfer sequence must be the same for all calls (whether the transfer is made locally, over CCIS or over another trunk). Failure to provide the same reject transfer sequence on different types of calls can cause MiCollab AM to behave differently by closing the line or by the call being recalled (replays auto-attendant announcement), instead of playing the subscriber's personal greeting when the subscriber rejects the call.
- MiCollab AM supports both Fusion and/or CCIS network cluster environments providing that the switches are programmed properly. On Fusion, the ports used by MiCollab AM must be programmed on the NCN node. If subscribers reside over CCIS links, then PBXs must be

programmed properly in order for the MCI information to reach the Call Server. For more information, see the PBX programming manuals related to the Fusion and/or CCIS settings.

Additional Considerations for LAN MCI

- If your Call Server platform is a component of two or more local or wide area networks (LANs or WANs), and you are deploying the LAN MCI integration, you must make sure that this integration does not interfere with the normal network operation of the server. By default, MiCollab AM uses the primary (public) network interface card (NIC) in the platform, the first NIC in the network binding order. If you want MiCollab AM to use a NIC other than the first one, you must make several required configuration changes. It is much easier to configure the Integration to use another NIC by simply setting the integration parameter *Local IP Address to bind on* to the address of the NIC card connected to the PBX. For more information, refer to [Changing the Network Binding Order on the MiCollab AM Platform](#).
- The network interface card (NIC) supporting the MCI LAN integration must be a 100MB full duplex link or greater.

Additional Considerations for NEAX 2000 IVS

- The pilot number of the MiCollab AM UCD group may be a phantom number. However, if a phantom number is used, callers transferred from the attendant console to voice mail hears a prompt explaining that extension XXXX (the phantom pilot number) does not answer before playing the main greeting.

Additional Considerations for NEAX 2400 IMX/IPX

- Do not assign a phantom number as the pilot number of the UCD group. Instead, assign the first port of the UCD group as the pilot number. Use of a phantom pilot number prohibits data transmission to the MCI port.
- Direct calls from the attendant console to MiCollab AM are not reported to the MCI port.
- Program the MCI interface to use the Feature 2 Application format.
- No data packet is sent to the MCI port on direct calls from the attendant console to MiCollab AM.
- Reorder tone is sent to any extension attempting to transfer a caller to the attendant in Night Mode, unless a station has been programmed in the PBX as the Attendant Night Transfer Target using the ASID command.
- If the attendant does not answer an unsupervised transfer within the predetermined time set for Transfer Call Recall, the call returns to the originating port and the caller hears the system greeting.
- If logical numbers in Fusion (TELN) are used, it is recommended that they be the same as the local extension number of subscriber and MiCollab AM extensions.

Additional Considerations for older NEAX 2400 IMX with 4200 Software

- A maximum of 20 ports may be included in any UCD group. If the MiCollab AM system you are installing has more than 20 ports, it is possible to create additional UCD groups as overflow groups. These groups can be associated using the AUOG command.
- The MCI data link provides only one data packet per call. Program automated attendant ports and voice mail ports into separate UCD groups so that calls transferred from the automated attendant hunt group forward from stations to the UCD voicemail hunt group.
- Calls to MiCollab AM from a virtual extension appear to MiCollab AM as a call from the prime extension.
- Do not use blind transfers to the attendant console. Blind transfers to the operator are prohibited and are recalled immediately to the port attempting the transfer.

Serial Integrations in a Multi-Box Call Server Environment

In a multi-box environment, a single serial link connection may need to service two or more Call Servers. The serial link can terminate 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 Client – The serial link is connected to another server in the system and is receiving integration data through the network
 - Link Server – The serial link is connected to this server and is passing serial data through the network to other Call Servers
 - 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. See 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 for the telephone system and for MiCollab AM.

Telephone System Requirements

NEAX 2000 IVS/IPS telephone system requirements:

- NEC NEAX 2000 series 1600 or later
- NEAX Message Center Interface (MCI)
- An available serial I/O port on a PN-AP00 card with NEC cable NR559037-107 for RS-232C connection between the MCI port and MiCollab AM
- One analog port for each MiCollab AM port to be configured
- Use PN-4LCD-A cards, or their equivalent, because of their ability to provide open loop-current disconnect signaling

NEAX 2400 and SV7000 telephone system requirements:

One of the following PBX types:

- SV7000 with R19 or later
- NEAX 2400 UMG with release 4004 or later
- NEAX 2400 MMG with release 4003 or later
- NEAX 2400 IMG with release 5202 or later
- NEAX 2400 SIM with release 5201 or later

NOTE SIM and IMG RDS configurations do not support the MCI Feature 2 Application.

- NEAX 2400 IPX with release 19 or later
- The NEAX Message Center Interface (MCI) using the Feature 2 Application mode of operation
- For serial MCI: One available serial I/O port on a PA-IO02-A, PA-IO19, or PA-IO24 card for the MCI port
- Use the appropriate NEC RS-232C cable for the I/O port you are connecting to MiCollab AM; NEC cables CA-1 or 68PH-S-2PORTS CA-A.
- One loop-start station for each MiCollab AM port to be configured

- Use 16LCQ or 16LCBE cards, or their equivalent, because of their ability to provide open loop-current disconnect signaling. The LCQ card provides a fixed 128-194 millisecond open on disconnect and the LCBE card disconnect duration is programmable.

Or

- A PA-24DTR or comparable digital trunk interface configured as T1 loop-start stations

NOTE You can use a combination of analog and T1 ports.

MiCollab AM Requirements

- MiCollab AM software 9.4 or later
- Mitel software key diskette or feature file with NEC NEAX 2000 or NEC NEAX 2400 MCI serial integration enabled
- For serial MCI: An available serial COM port
- One Dialogic analog port or T1 channel for each MiCollab AM voice port to be integrated
- One or two 10 MB, 100 MB, or 1000 MB (gigabit) network interface cards with cables

Programming the NEC NEAX 2000 IVS/IPS

Follow the recommendations and programming examples in this section to program the NEAX 2000 IVS/IPS 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 NEAX 2000 IVS or IPS telephone systems, refer to the appropriate NEC system command, data specification, and feature manuals for the NEAX 2000 IVS/IPS you are installing.

The programming examples in this section assume that you are programming the telephone system from a CAT or MAT terminal. Refer to the appropriate NEC manual for specific information on hardware configuration, software commands, and system data specifications.

The following programming convention is used to display the programming done on the switch:

```
[ST] (missing) + CM (command) + [DE] (>) + FirstData + [DE] (>) + SecondData + [EXE]  
(missing)
```

In the case SecondData is different from the programming showed, it must be cleared (either by entering CCC as SecondData, and then redo the command or by just changing it when possible).

For example:

```
CM>FirstData>SecondData
```

Configuring the AP00 Card for the Serial MCI Port

NOTE If your NEAX 2000 is newer and the MCI ports are on the CPU card (there is no AP00 card), skip this step.

Initialize the PN-AP00 expansion card and assign data to provide the MCI for MiCollab AM. Refer to the *MCI System Manual* for complete details on configuring the MCI. Configure the switches on the PN-AP00 as follows.

To initialize the PN-AP00 card:

- 1 Set the Make Busy switch in the OFF (down) position to enable the card.
- 2 Set the Rotary Sense Switch to match the assigned slot location.
- 3 Set the SW-0 DIPs 1, 2, and 3 to OFF and DIPs 4, 5, 6, 7, and 8 to ON.
- 4 Set the SW-1 DIP 1 to ON and DIPs 2, 3, and 4 to OFF.
- 5 Command Code CM05: Assign the card slot in software.

[ST] + 05 + [DE] + SENSE WHEEL (slot no.) + [DE] + 04 (PN-AP00) + [EXE]

6 Command Code CMD101: Load initial data on the PN-AP00.

[ST] + D101 + [DE] + 0000 + [DE] + CCC + [EXE]

On the PN-AP00 card, set the SW-1 DIPs 1, 2, and 3 to ON and DIP 4 to OFF. After changing SW-1, MP reset is required.

Programming the MiCollab AM Analog Ports

Program extension numbers to the single-line ports used as MiCollab AM voice ports. Choose an easily remembered number for the pilot number of the UCD group that subscribers dial to reach MiCollab AM. Assign station numbers for the remaining ports in consecutive ascending order. Use the commands listed below to program and define the MiCollab AM station ports.

Table 4. MiCollab AM Analog Port commands

PBX Programming	Meaning of FirstData	Meaning of SecondData
10>xxzz/z>VMExtNo	xx-FP No (00 for example); zz/z – virtual LEN (0/00-0/63);	VMExtNo – is the voicemail extension number. EX: 10>00001>3000
1200>VMExtNo>3	VMExtNo – is the voicemail extension number.	Default 3- DP/DTMF
1201>VMExtNo>11	VMExtNo – is the voicemail extension number.	Unrestricted to trunks
1202>VMExtNo>XXYY	VMExtNo – is the voicemail extension number.	Assign Service Restriction Class A (XX) and B(YY) to the desired COS (1515 or 1414 for ex.)
1203>VMExtNo>15	VMExtNo – is the voicemail extension number.	15 – Ordinary Station
1204>VMExtNo>TT	VMExtNo – is the voicemail extension number.	Assign Tenant 01 for example
1205>VMExtNo>1	VMExtNo – is the voicemail extension number.	Not Dterm ML
1310> VMExtNo>0	VMExtNo – is the voicemail extension number.	Must be 0. For VMS appearance of the J record for MCI, set the Extension to send J data. The extensions must be in an UCD for that. For more information,

refer the section, [Programming the Hunt Group \(UDC – Unified Call Distribution\)](#).

Repeat the programming above for each voicemail extension.

Create a virtual voicemail pilot number, and then make it busy.

NOTE Alternatively, you can use a phantom number on a virtual LEN. Create phantom numbers in CM 10 programming. Refer to the NEAX IPS 2000 programming manuals for more information.

Table 5. Commands for using virtual voicemail pilot number

PBX Programming	Meaning of FirstData	Meaning of SecondData
11>X/XXX>VmPilotNo	X/XXX is a virtual LEN (range from 0/000-1/119)	VmPilotNo – is the voicemail pilot number EX: 11>0/000>3000
E50>VmPilotNo>0	VmPilotNo – The virtual pilot number	0 – to the virtual pilot number make busy.

Programming the Class of Service Settings

Program the Class of Service Settings

Table 6. Class of Service settings

PBX Programming	Meaning of FirstData	Meaning of SecondData
1509>COS>0	COS is the class of service used (14 for example)	Exec Override - restrict
1522>COS>0	COS is the class of service used (14 for example)	Trunk To Trunk Transfer- restrict
1524>COS>0	COS is the class of service used (14 for example)	MW reset for other station - restrict
1530>COS>0	COS is the class of service used (14 for example)	Account Code - restrict
1531>COS>0	COS is the class of service used (14 for example)	Authorization Code - restrict
1543>COS>0	COS is the class of service used (14 for example)	Call waiting on busy Denied (0) - Calling Side (Caller hears Busy)

1544> COS >0	COS is the class of service used (14 for example)	Call waiting on busy Denied (0) - Called Side (Caller hears Busy)
1572> COS >0	COS is the class of service used (14 for example)	0 - Allow Automatic Hold
1597>COS>0	COS is the class of service used (14 for example)	UCD Call Waiting - select
1598>COS>0	COS is the class of service used (14 for example)	Aut UCD Call Waiting - select
15103>COS>0	COS is the class of service used (14 for example)	Call Monitoring - restrict
15104>COS>0	COS is the class of service used (14 for example)	Call Monitored - restrict
Set the remaining COS settings to the default manufacturer's level.		

Programming the MCI

Configure the MCI with the following settings.

NOTE If you are using the older AP00 card for MCI, skip steps to programming in CM 08.

Table 7. MCI configuration settings

PBX Programming	Meaning of FirstData	Meaning of SecondData
D000>137>0		6 digits to MCI
D001>20>5	port 0 (24 is for port 1)	Baud 9600 (5)
D000>21>0	port 0 (25 is for port 1)	Stop Bit 1 (0)
D000>22>1	port 0 (26 is for port 1)	Data length 8
D000>23>0	port 0 (27 is for port 1)	Parity None
D000>36>1		With ANI
D000>80>24		MCI function
0401>01>0		RS0 on MP; Can also be RS1 on MP

0401>02>0		0 - Caller ID
0401>06>3		RS Port set
4000>0>10	RS1	Function is MCI (10)
4001>0>1	RS1	Data Length is 8 bit
4002>0>1	RS1	Parity Check – None (Ineffective)
4004>0>0	RS1	Stop bit is 1
4008>0>4	RS1	Data Speed is 9600 bps
If you are planning to use the other serial port (1) on the MP, do the above 5 settings (CM40yy) for RS2 (FirstData=1)		
08>706>0		MW across CCIS
08>708>0		MCI 0 Extension length is 6 digit; 1 is 8 digit;
08>709>0		0 with ANI; 1 is without ANI
08>443>0		Type of VMS integration set to MCI - CM1225 (0); 1 is for DTMF Only!
08>444>0		Allow MW lamp control from VMS with MCI to all stations.
08>376>0		Provide MW over CCIS if used
35138>TrRt>0	Trunk Route that can reach the voicemail	Sending ANI to MCI
Repeat the last programming step above for each trunk route that the system uses and that can get to the voicemail.		
1225>VMExtNo>3	VMExtNo – is the voicemail IP extension number.	VMS with MCI (default)
Repeat the last programming step above for each voicemail extension.		

Programming the Hunt Group (UDC – Unified Call Distribution)

Table 8. Programming the Hunt Group

PBX Programming	Meaning of FirstData	Meaning of SecondData
170>VmPilotNo>FirstExt	This is the virtual pilot number.	The first voicemail extension of the group
170>FirstExt>NextExt	This is the extension from SecondData in the previous programming step.	The next voicemail extension of the group
170>NextExt>NextExt	This is the extension from SecondData in the previous programming step.	The next voicemail extension from the group
Repeat the last programming step above for each following voicemail extension.		
170>LastExt>VmPilotNo	This is the last extension number in the group.	This is the virtual pilot number.
171>VmPilotNo>1	This is the virtual pilot number.	1 – Pilot Station of the UCD
171>VmExtNo>0	VMExtNo – is the voicemail extension number. Do not enter the virtual pilot number here.	0 – Member Station in the UCD
Repeat the last programming step above for each voicemail extension besides the pilot.		
172> VmExtNo >XX	VMExtNo – is the voicemail extension number. The virtual pilot number must be a member of this group as well.	XX is 00-15; (01 for example) 00 is usually used for OAI monitored numbers; 01-15 can be used as UCD
Repeat the last programming above step for each voicemail extension, including the virtual pilot.		

NOTE For NEAX 2000 IPS, a maximum of 60 extensions can be set in one UCD group. Up to 99 calls can be queued to a UCD when all extensions are busy. Separate programming is necessary (see CM 42). It is also possible to fall to a second or a third UCD group by creating a forward busy on the last port of the previous UCD. Refer to the *2000 IPS Programming Manual* for additional PBX programming details.

Programming the Subscriber Stations

Program the subscriber stations for use with MiCollab AM. Allow forwarding types relevant to your application and enable Message Waiting/Message Reminder capability for each subscriber. To prevent conflicts and confusion, only MiCollab AM should have the set and clear message-waiting capability. Disable message-waiting set and clear capabilities on all subscriber stations.

Completing the NEAX 2000 IVS/IPS Programming

Verify your work and that the programming is correct by listing or printing your programming changes. Test the MiCollab AM stations for ringing, dial tone, and disconnect supervision. Verify that the MCI link can successfully transmit and receive data packets with calls to the MiCollab AM UCD group.

Programming the NEC NEAX 2400

Follow the recommendations and programming examples in this section to program the NEAX 2400 IMX/IPX 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 NEAX 2400 IMX/IPX telephone system, refer to the appropriate NEC system command, data specification, and feature manuals for the telephone system you are installing.

The programming examples in this section assume that you are programming the NEAX 2400 from a MAT terminal or SV8500 PCPro Software application. Refer to the appropriate NEC manual for specific information on hardware configuration, software commands, and system data specifications.

Configuring T1 Channels (Optional)

If you are using a T1 span for the integration, configure the T1 card channels with the following settings:

NOTE On the recommended PA-24DTR T1 interface card, DIP switches SW10, SW11, SW12, SW13, SW14, and SW15 control these settings. If you are using a different T1 interface card, consult the card's documentation for additional information.

- Negative logic for Send Signal A and Receive Signal A
- Send RMT possible
- 12-Multiframe
- Signaling system B8ZS
- ARTD fixed
- 64K INV
- Signaling Control ABAB (send and receive)
- No alarms transmitted when N-OPE lamp is on
- All 1 ALM transmitted when N-OPE lamp is on
- Idle code not transmitted
- Layer 2 signaling logic positive
- Zero suppression disabled

Programming the MiCollab AM Ports

Install, or locate in the PBX, the analog station or T1 card used to service the MiCollab AM stations.

- Use the ASDT command to assign station numbers to the station card.
- Assign the Telephone Equipment Class (TEC) as 3 and assign a default Service Feature Class and Restriction Class to each port.
- Choose an easily remembered number for the first station number because it is the pilot number of the UCD group that subscribers dial to reach MiCollab AM.
- Assign station numbers for the remaining ports in consecutive ascending order. You must perform these steps for each MiCollab AM port.
- For Fusion support, program the extensions in Fusion using the ATSTN or ALGSN commands on the NCN node.
- Write down the extension numbers of the ports. These values are required later, when you configure the Lines tab on MiCollab AM.
- Specify a Service Feature Restriction Class (SFC) for the voice messaging ports with the ASFC command. (Use ASFCN in Fusion.) Place all of the voice messaging ports in their own SFC. The following Service Feature Indexes (SFIs) are needed in the SFC:

Table 9. Service Feature Indexes (SFIs)

SFI	Service Feature
10	Call Hold
103	Assignment of no answer timer for blind transfer to station or blind transfer to attendant
104	Blind transfer

Programming the UCD Group

Use the **ASHU/ASHUN** command to assign the MiCollab AM ports to a UCD station hunt group. If necessary, program the MiCollab AM UCD group into a tenant separate from all other non-MCI UCD groups to prevent MiCollab AM from receiving invalid MCI packets from other non-related UCD groups. The first MiCollab AM station number is the pilot number of the hunt group.

NOTE For 2400 IPX, an UCD can have a maximum number of 100 extensions, per PBX limitations. However, if all the ports are busy, program the PBX to either queue calls in a ring no answer mode until a port is free, or program them to fail over to a second UCD. Refer to the NEAX 2400 programming manuals for details.

Configuring the MCI for the NEAX 2400

The NEC NEAX 2400 switch supports both Serial (RS232) and LAN-MCI (TCP/IP) transport protocols. However, only one protocol can send MCI data to the MiCollab AM at the same time. The following settings are common for configuring both serial and LAN MCI:

Table 10. Common Settings for serial and LAN MCI

System Data	Index	Bits	Hex Value (sample)	Description
ASYD SYS 1	27	7=0		Immediate Ring Back Tone Sending
ASYD Sys 1	27	4=0	00	MCI is enabled
ASYD Sys 1	17	4=1	11	Blind Txfr to ATTCON Enabled
ASYD Sys 1	28	0-4=0	20	Guard Timer Not required
ASYD Sys 1	28	5=1	20	MWI controlled by MCI
ASYD Sys 1	60	3=0	10	UCD queuing not required
ASYD Sys 1	61	5=0/1		Call Waiting to UCD
ASYD Sys 1	63	0=1	C1	Blind transfer in service
ASYD Sys 1	68	0=0	10	Operating method for busy
ASYD Sys 1	69	0=1	C1	Execute CF on RNA
ASYD Sys 1	70	0=1	11	Call No display on FW
ASYD Sys 1	77	2=0	04	MWI refresh required
ASYD Sys 1	78	0-1=1	23	Display Caller ID
ASYD Sys 1	238	0-7=0	00	Lamp refresh rate
ASYD Sys 1	246	3=0	04	Normal MCI
ASYD Sys 1	400	2=1	14	Expanded MCI with ANI

ASYD Sys 2	6	0=1	11	MCI in service for UCD
ASYDL Sys 1	832	0-7=0/1	00-FD	Assign FPC node connected to the MC

NOTE For more information, refer to the NEAX 2400 programming manuals.

Programming and Configuring the Serial MCI Link

If you are planning to use Serial MCI instead of LAN MCI, make sure the NEAX 2400 has an IOC card installed and ready to use. Refer to the NEAX 2400 manuals for programming information on the card. Use the AIOC command for configuring ports.

The following is an AIOC command example:

```
IOC: IOC Port Number (0-7)
Terminal: 1 (MCI)
SYMSCAN: 1
SPEED: 6 (9600)
Parity bit: 0
Stop bit: 1
Character: 0 (8 bit)
```

Use the ASYD and ASYDL commands and the following recommendations to assign system data necessary for the MCI port.

Table 11. MCI port system data recommendations

System Data	Index	Bits	Hex Value (sample)	Description
ASYD SYS 1	29	0-5=1		Assign to the I/O Port associated with MCI
ASYD SYS1	34	1,2=0		Serial MCI in service/No Parity/Stop bit 0"
ASYD SYS 1	117-121	0=1		Assign MCI Data for Printer (see <i>Index 29</i>)
ASYD SYS 2	3	0=1		SMDR In Service

ASYD SYS 2	7	1=1		MCI Service when Terminating to ATT-CON
ASYDL SYS1	833	0=0	00	MCI sent to RS-232
ASYDL SYS1	833	1=0	00	MCI text format is ICS
ASYDL SYS1	833	3,4=0	00	Output messages

Programming and Configuring the TCP/IP LAN MCI

Use the ADTM command to configure the IP Address of the PBX. The LAN-MCI port (if using LAN-MCI per CMD ASYDL 833, b0-1) is 60020.

Table 12. Configuring the TCP/IP LAN MCI

System Data	Index	Bits	Hex Value (sample)	Description
ASYDL SYS 1	529	0,1=0	00 Odd (02) Even	LAN MCI Odd or (Even) Parity
NOTE Parity=none (hex=03) is not supported.				
ASYDL SYS 1	833	0=1	1F	LAN Interface
ASYDL SYS 1	833	1=1	1F	IMX Format
ASYDL SYS 1	833	3,4=1	1F	Output Messages
ASYDL SYS 1	834	0=1	03	MC0 for LAN Mounted
ASYDL SYS 1	834	1=0/1	03	MC1 for LAN Mounted/Not Mounted

Programming the Subscriber Stations

Program the system data as described in the NEAX 2400 manuals using ASYD/L/N command. Program the Service Restriction class for the subscriber extensions by using ASFC/N commands then create extensions based on that class of service by using the appropriate commands (ASDT/AISTL and AKYD; ATSTN/ALGSN if in Fusion).

Allow Call Forwarding-Don't Answer, Call Forwarding-Busy, and Call Forwarding-All for all MiCollab AM subscribers. Allow subscribers to receive MW from MiCollab AM and disallow subscribers the ability to send MW from their stations. Refer to the NEAX 2400 programming manuals for specific information on class of service features.

It may be necessary to adjust transfer recall timers and call forward timers in system data to meet the requirements of each individual application.

Completing the NEAX 2400 Programming

Verify your work and that the programming is correct by listing or printing your programming changes. Test the MiCollab AM stations for ringing, dial tone, and disconnect supervision. Verify that the MCI link can successfully transmit and receive data packets with calls to the MiCollab AM UCD group.

Programming the NEC SV7000

Follow the recommendations and programming examples in this section to program the NEC SV7000/SV7000MPS 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 SV7000/SV7000MPS telephone system, refer to the appropriate NEC system command, data specification, and feature manuals for the telephone system you are installing.

The programming examples in this section assume that you are programming the NEC SV7000/SV7000MPS using the SV8500 PCPro Software application. Refer to the appropriate NEC manual for specific information on hardware configuration, software commands, and system data specifications.

Configuring T1 Channels (Optional)

If you are using a T1 span for the integration, configure the T1 card channels with the following settings:

NOTE On the recommended PA-24DTR T1 interface card, DIP switches SW10, SW11, SW12, SW13, SW14, and SW15 control these settings. If you are using a different T1 interface card, consult the card's documentation for additional information.

- Negative logic for Send Signal A and Receive Signal A
- Send RMT possible
- 12-Multiframe
- Signaling system B8ZS
- ARTD fixed
- 64K INV
- Signaling Control ABAB (send and receive)
- No alarms transmitted when N-OPE lamp is on
- All 1 ALM transmitted when N-OPE lamp is on
- Idle code not transmitted
- Layer 2 signaling logic positive
- Zero suppression disabled

Programming the MiCollab AM Ports

Install, or locate in the PBX, the analog station or T1 card used to service the MiCollab AM stations.

- Use the ASDT command to assign station numbers to the station card.
- Assign the Telephone Equipment Class (TEC) as 3 and assign a default Service Feature Class and Restriction Class to each port.
- Choose an easily remembered number for the first station number because it is the pilot number of the UCD group that subscribers dial to reach MiCollab AM.
- Assign station numbers for the remaining ports in consecutive ascending order. You must perform these steps for each MiCollab AM port.
- For Fusion support, program the extensions in Fusion using the ATSTN or ALGSN commands on the NCN node.
- Write down the extension numbers of the ports. These values are required later, when you configure the Lines tab on MiCollab AM.
- Specify a Service Feature Restriction Class (SFC) for the voice messaging ports with the ASFC command. (Use ASFCN in Fusion.) Place all of the voice messaging ports in their own SFC. The following Service Feature Indexes (SFIs) are needed in the SFC:

Table 13. Service Feature Indexes (SFIs)

SFI	Service Feature
10	Call Hold
103	Assignment of no answer timer for blind transfer to station or blind transfer to attendant
104	Blind transfer

Programming the UCD Group

Use the **ASHU/ASHUN** command to assign the MiCollab AM ports to a UCD station hunt group. If necessary, program the MiCollab AM UCD group into a tenant separate from all other non-MCI UCD groups to prevent MiCollab AM from receiving invalid MCI packets from other non-related UCD groups. The first MiCollab AM station number is the pilot number of the hunt group.

NOTE A UCD can have a maximum number of 100 extensions, per PBX limitations. However, if all the ports are busy, program the PBX to either queue calls in a ring no answer mode until a port is free, or program them to fail over to a second UCD. Refer to the SV7000 programming manuals for details.

Configuring the MCI for the NEC SV7000

The NEC SV7000 switch supports the LAN MCI (TCP/IP) transport protocol.

Table 14. Configuring the MCI for the NEC SV7000

System Data	Index	Bits	Hex Value (sample)	Description
ASYD Sys 1	27	4=0	00	MCI is enabled
ASYD Sys 1	17	4=1	11	Blind Txfr to ATTCON Enabled
ASYD Sys 1	28	0-4=0	20	Guard Timer Not required
ASYD Sys 1	28	5=1	20	MWI controlled by MCI
ASYD Sys 1	60	3=0	10	UCD queuing not required
ASYD Sys 1	61	5=0/1		Call Waiting to UCD
ASYD Sys 1	63	0=1	C1	Blind transfer in service
ASYD Sys 1	68	0=0	10	Operating method for busy
ASYD Sys 1	69	0=1	C1	Execute CF on RNA
ASYD Sys 1	70	0=1	11	Call No display on FW
ASYD Sys 1	77	2=0	04	MWI refresh required
ASYD Sys 1	78	0-1=1	23	Display Caller ID
ASYD Sys 1	238	0-7=0	00	Lamp refresh rate
ASYD Sys 1	246	3=0	04	Normal MCI
ASYD Sys 1	400	2=1	14	Expanded MCI with ANI
ASYD Sys 2	6	0=1	11	MCI in service for UCD

ASYDL Sys 1	832	0-7=0/1	00-FD	Assign FPC node connected to the MC
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NOTE For more information, refer to the SV7000 programming manuals.

Programming and Configuring the TCP/IP LAN MCI

Use the ADTM command to configure the IP Address of the PBX. The default LAN-MCI port (if using LAN-MCI per CMD ASYDL 833, b0-1) is 60020.

Table 15. Configuring the TCP/IP LAN MCI

System Data	Index	Bits	Hex Value (sample)	Description
ASYDL SYS 1	529	0,1=0	00 Odd (02) Even	LAN MCI Odd or (Even) Parity
				NOTE Parity=none (hex=03) is not supported.
ASYDL SYS 1	833	0=1	1F	LAN Interface
ASYDL SYS 1	833	1=1	1F	IMX Format
ASYDL SYS 1	833	3,4=1	1F	Output Messages
ASYDL SYS 1	834	0=1	03	MC0 for LAN Mounted
ASYDL SYS 1	834	1=0/1	03	MC1 for LAN Mounted/Not Mounted

Programming the Subscriber Stations

Program the system data as described in the SV7000 manuals using ASYD/L/N command. Program the Service Restriction class for the subscriber extensions by using ASFC/N commands then create extensions based on that class of service by using the appropriate commands (ASDT/AISTL and AKYD; ATSTN/ALGSN if in Fusion).

Allow Call Forwarding-Don't Answer, Call Forwarding-Busy, and Call Forwarding-All for all MiCollab AM subscribers. Allow subscribers to receive MW from MiCollab AM and disallow subscribers the ability to send MW from their stations. Refer to the SV7000 programming manuals for specific information on class of service features.

It may be necessary to adjust transfer recall timers and call forward timers in system data to meet the requirements of each individual application.

Completing the SV7000/SV7000MPS Programming

Verify your work and that the programming is correct by listing or printing your programming changes. Test the MiCollab AM stations for ringing, dial tone, and disconnect supervision. Verify that the MCI link can successfully transmit and receive data packets with calls to the MiCollab AM UCD group.

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 the *System Installation and Configuration Guide*, and the topic, **Integrating 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 first extension number for the first line. You can also leave the **First Extension** box empty.
 - c From the **Manufacturer** dropdown list, select **NEC**.
 - d From the **Model** dropdown list, select **NEAX 2000** or **NEAX 2400** (includes **SV7000**).
 - e From the **Integration Type** dropdown list, select from the following options:
 - **MCI LAN (TCP/IP) (NEAX 2400/SV7000 only)** (if you are using an MCI LAN TCP/IP port)
 - **Analog MCI Serial Port** (if you are using an MCI Serial COM port)
- 2 Click **Next**. The **Board Options** dialog box appears.
- 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 appears.

- 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 *System Installation and Configuration Guide*.

- 6 Click **OK**. The **Integration Options** dialog box appears.
- 7 In the **Integration Options** dialog box, configure the options as follows:
- a In the **Local Integration Settings** section, select the **Required Parameters** view.

Table 16. NEC MCI Serial Port – Required Parameters for Integration Options

NEC MCI Serial Port	
Link Integration Mode	Normal (For more information, see the section Serial Integrations in a Multi-Box Call Server Environment .)
Serial Port	1
Baud Rate	9600
Word Length	8
Parity	None
Stop Bits	1

NOTE Set the COM port settings to match those of the MCI port configuration in the PBX.

Table 17. NEC MCI LAN – Required Parameters for Integration Options

NEC MCI LAN (TCP/IP)	
Link integration Module	Normal (For more information, see the section Serial Integrations in a Multi-Box Call Server Environment .)
PBX IP Address or Computer Name	Enter the IP Address or FQDN of the PBX. NOTE This is the IP Address of the PBX used for LAN-MCI connections.
TCP/IP Port number	Enter the TCP Port number used to communicate with the PBX. The default is 60020 .

Local IP Address to bind on	Select the local IP Address of the Call Server that communicates with the NEC from the list.
Device Number	Select MC0 or MC1 . The default is MC0 .

- 8 Click **OK**. The **Switch Section Options** dialog box appears.
- 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, select **Adaptive**.
 - c In the **Hunt Group Access Code** field, enter the UCD hunt group access code programmed with your 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 appears. 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.

NOTES

- If you are using **Serial MCI**, make sure the RS-232 cable from the switch to the MiCollab AM is connected to the correct serial port.
- If you are using **LAN-MCI**, make sure the network cable is connected to the correct LAN interface of the MiCollab AM. In addition, make sure that MiCollab AM and the PBX are on the same network/sub network.

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 Options** dialog box appears.

- 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 **Switches** tab and click the **Add** button. The **Switch Integration Data Setup** dialog box appears.
 - a From the **Manufacturer** dropdown list, select **NEC**.
 - b From the **Model** dropdown list, select **NEAX 2000** or **NEAX 2400** (includes **SV7000**).
 - c From the **Integration Type** dropdown list, select from the following options:
 - **MCI LAN (TCP/IP) (NEAX 2400/SV7000 only)** (if you are using an MCI LAN TCP/IP port)
 - **Analog MCI Serial Port** (if you are using an MCI Serial COM port)
- 5 Click **OK**. The **Switch Options** dialog box appears.
- 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 *System Installation and Configuration Guide*.

- 7 Click **OK**. The **Integration Options** dialog box appears.
- 8 In the **Integration Options** dialog box, configure the options as follows:
 - a In the **Local Integration Settings** section, select the **Required Parameters** view.

Table 18. NEC MCI Serial Port – Required Parameters for Integration Options

NEC MCI Serial Port	
Link Integration Mode	Normal (For more information, see the section Serial Integrations in a Multi-Box Call Server Environment .)
Serial Port	1
Baud Rate	9600
Word Length	8
Parity	None
Stop Bits	1

NOTE Set the COM port settings to match those of the MCI port configuration in the PBX.

Table 19. NEC MCI LAN – Required Parameters for Integration Options

NEC MCI LAN (TCP/IP)	
Link integration Module	Normal (For more information, see the section Serial Integrations in a Multi-Box Call Server Environment .)
PBX IP Address or Computer Name	Enter the IP Address or FQDN of the PBX.
	NOTE This is the IP Address of the PBX used for LAN-MCI connections.
TCP/IP Port number	Enter the TCP Port number used to communicate with the PBX. The default is 60020 .
Local IP Address to bind on	Select the local IP Address of the Call Server that communicates with the NEC from the list.
Device Number	Select MC0 or MC1 . The default is MC0 .

- 9 Click **OK**. The **Switch Section Options** dialog box appears.
- 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, select **Adaptive**.
 - c In the **Hunt Group Access Code** field, enter the UCD hunt group access code programmed with your telephone system. This is the pilot number that users dial to reach MiCollab AM.
 - d Click **OK**.
- 11 In **MiCollab AM Configuration**, verify that 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.

NOTES

- If you are using **Serial MCI**, make sure the RS-232 cable from the switch to the MiCollab AM is connected to the correct serial port.
- If you are using **LAN-MCI**, make sure the network cable is connected to the correct LAN interface of the MiCollab AM. In addition, make sure that MiCollab AM and the PBX are on the same network/sub network.

Changing the Network Binding Order on the MiCollab AM Platform

If your MiCollab AM server platform is a component of two or more local or wide area networks (LANs or WANs), you must make sure that this integration does not interfere with the normal network operation of the server. By default, MiCollab AM uses the primary (public) network interface card (NIC) in the platform, the first NIC in the network binding order. If you want MiCollab AM to use a NIC other than the first one, you must make several required configuration changes. It is much easier to configure the Integration to use another NIC by simply setting the integration parameter **Local IP Address to bind on** to the address of the NIC connected to the PBX.

NOTE The operating system gives precedence to the first network connection in the list followed by the remaining connections based on their position in the list.

The instructions in this document ensure that the binding order is correct when you set up the integration. However, if you replace a NIC on the MiCollab AM server platform later, the platform's operating system registers the new adapter at the bottom of its binding order. Restoring the original binding order should correct any problems caused by the change.

IMPORTANT The following procedure shifts the binding order of the network interface cards. To determine which NIC is associated with a specific network connection, right-click the connection in the **Network Connections** window, and then select **Properties**.

Windows Server 2012 R2

To change the binding order of multiple NICs:

- 1 From the taskbar, click **Start** > **Control Panel**.
- 2 In the **Control Panel**, click **Network and Internet** > **Network and Sharing Center**.
- 3 On the left pane, select **Change Adapter Settings**.
- 4 Press **Alt** to display the menu bar.
- 5 On the menu bar, select **Advanced**, and then click **Advanced Settings**.
- 6 On the **Adapters and Bindings** tab of **Advanced Settings**, click the network connection that serves MiCollab AM.
- 7 Click the up arrow button to the right of the **Connections** list as many times as needed to move the connection to the top of the list.
- 8 Click **OK**, and then close the **Network Connections** window and the **Control Panel**.

Windows Server 2016 / 2019

To change the binding order of multiple NICs:

- 1 From the taskbar, select **Start > Control Panel**.
- 2 In the **Control Panel**, click **Network and Internet > Network and Sharing Center**.
- 3 On the left pane, select **Change Adapter Settings**.
- 4 Right-click the network connection that serves MiCollab AM and then select **Properties**.
- 5 On the **Networking** tab of the **Local Area Connection Properties** dialog box, select **Internet Protocol Version 4 (TCP/IPv4)**, and then click **Properties**.
- 6 On the **General** tab of the **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog box, click the **Advanced** button.
- 7 On the **IP Settings** tab of the **Advanced TCP/IP Settings** dialog box, clear the **Automatic metric** check box and then type in a low value in the **Interface metric** field. The lower the value, the higher the priority.

NOTE For all Windows systems, the value 1 is reserved for the loopback adapter. It is recommended to use a value of 2 or higher for the network connection that serves MiCollab AM.

- 8 Click **OK** on all of the dialog boxes to save the settings, and then close the **Local Area Connection Properties** dialog box.
- 9 Repeat steps 4 through 8 to assign an Interface metric value to all other network adapters.