

System Conversion for 5.04C to 7.0 With RSD1 or Later

DOCUMENT HISTORY

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**8777 E. Via De Ventura Suite #340
Scottsdale, Arizona 85258**

Main: (480) 998-9500

Fax: (480) 718-7355

<http://www.legacyvoicemail.com>

Support: support@legacyvoicemail.com

Sales: sales@legacyvoicemail.com

General: info@legacyvoicemail.com

This guide describes how to convert a system running Release 5.04C to a system running Release 7.0 with RSD 1 or later. The Conversion Utility transfers configuration and speech data from the 5.04C, 486 (Source) system to the Release 7.0 (Target) system through a Q-Net connection between the systems. To avoid errors, please read through and understand this document before starting the conversion procedure.

This guide is intended for use by field service engineers and field service personnel who install new systems and convert older systems. A procedure to convert two or more networked Source systems to a single Target system follows the main discussion of and procedure for the conversion.

The Conversion Process

The process for transferring and converting mailbox and speech data from the Source system to Target system is essentially the same, regardless of hardware configuration. The process consists of preparation, then hardware setup, and then data conversion.

Preparation consists of:

- Installing, configuring, and testing the Target system
- Verifying Source system integrity
- Running a system audit on the Source system
- Backing up the Source system to floppy
- Verifying that the contents of the conversion kit are correct
- Installing the Conversion Utility software on both systems

Hardware setup consists of:

- Installing Q-Net cards, if necessary
- Connecting the two systems together
- Verifying the connection

Data conversion is carried out in two phases:

Note: The software includes a menu option for Phase 1, but it is not used during this conversion process.

Phase 2: All subscriber (mailbox) configuration data, including recorded names and greetings. Subscriber configuration data may optionally be transferred in mailbox groupings rather than all at one time.

Phase 3: Phone lines are moved from the Source system to the Target system, then all the dynamic data (speech) is transferred from the off-line Source system to the on-line Target system. Optionally, you can transfer urgent and unplayed messages before you transfer played and stored messages.

The information on the Source system does not change during the conversion. Information is read and transferred from the Source to the Target system, and converted to the Release 7.0 format in the process. If data for all mailboxes is transferred in one pass, the conversion can be stopped at any time before the start of Phase 3 without risking the Source system's normal on-line operation. You may do this, for example, if you perform the first part of the conversion during a busy calling period, and wait until a later hour to take the system down.

System Requirements

Software Requirements

The Source system must be at Software Release 5.04C.

The Target system must be at Software Release 7.0. with RSD 1 or later.

Hardware Requirements

The utility can convert any of these 5.04C system platforms to any Release 7.0 platform:

- 486 VMII RackMount
- 486 VM100 Tower
- 486 VMVS Tower
- 486 VMII Tower
- AIP 120

Note: An AIP 70 platform cannot be converted.

However, to ensure a successful conversion, the Source system must use at least 10 fewer speech hours than are available on the Target system.

Place the Source and Target systems so that you can connect them by a single coaxial cable up to 1968 feet (600 meters) long, if you use an active hub, or 50 feet (15 meters), if you use a direct connection. The coaxial cable supplied with the conversion kits is 6 feet (1.8 meters) long. If you place the systems further than 6 feet apart, purchase longer coaxial cable (RG-62 only) and BNC connectors separately.

Software Configuration Options

The VM Conversion menu includes options for the conversion phases and a configuration menu.

VM Conversion Menu

```
-----  
(1) Phase 1 - Global configuration  
(2) Phase 2 - Subscriber configuration  
(3) Phase 3 - Dynamic messages and events  
(C) Configuration  
(Q) Exit without terminating vmc_6  
(X) Terminate vmc_6 and exit
```

The configuration menu allows you to customize the conversion process to accommodate special requirements:

- Transfer urgent and unplayed messages before played messages
- Transfer mailbox data in groups rather than all in one session

- Restrict mailbox transfer based on mailbox FCOS (intended primarily for merging systems)

If you will use any of the options in the configuration menu, select the option(s) and set the parameter(s) before starting the conversion:

- To restrict mailbox transfer based on mailbox FCOS, set before starting Phase 2.
- To transfer mailbox data in groups rather than all in one session, set before starting Phase 2 and Phase 3.
- To transfer urgent and unplayed messages before played messages, set before starting Phase 3.

Note: Configuration parameters are *not* retained when the Conversion Utility is stopped.

When you select (C) Configuration, the Configuration menu appears:

```
Configuration Menu
-----
(S) Set Message Transfer Order
(R) Set Range of Mailboxes to Transfer
(F) FCOS Filters menu
(X) Return to the Main Menu
```

(S) Set Message Transfer Order

Gives you the option to transfer urgent and unplayed messages before played messages during Phase 3. If you transfer urgent and unplayed messages first, a system user can access those messages sooner; however, the complete transfer of speech data then requires two passes, slowing down the process overall.

The default is OFF—all messages are transferred in a single pass.

(R) Set Range of Mailboxes to Transfer

Gives you the option to transfer mailbox configuration data for a specified range of mailboxes during conversion Phases 2 and 3 rather than for all mailboxes. If you transfer mailbox data in groups, the interruption in service is reduced; however, you must make multiple passes through Phases 2 and 3 to transfer all the data, and the voice mail system operation is split between the Source and Target systems until the mailbox data transfer is complete.

If you transfer mailbox data by ranges, keep a careful record of your progress. If you skip or duplicate numbers in the ranges, the result could be mailboxes not transferred, mailboxes transferred twice, or messages transferred twice

CAUTION: If you transfer mailbox data by range, speech data may be lost if you stop the conversion and resume on-line operation on the Source system any time after running Phase 3 for the first mailbox range.

If you select (R) Set Range of Mailboxes to Transfer, a message about the mailbox range transfer appears, then the menu:

```
Mailbox Range Menu
```

```
-----
(E) Enable Mailbox Range Transfer
(D) Disable Mailbox Range Transfer
(F) Set First Mailbox
(L) Set Last Mailbox
(X) Return to the Configuration Menu
```

To enter information, follow the prompts in the menu options.

(F) FCOS Filter menu

Applies primarily to merging systems, when two Source system nodes are merged into a single Target system. It prevents transferring configuration information for shadow mailboxes; however, you can also use it to remove any FCOS during data transfer. If you select (F) `FCOS Filter` menu, this menu appears:

```
FCOS Filter Menu
-----
(V) View current filters
(A) Add new filters
(D) Delete filters
(C) Clear all existing filters
(X) Return to the Configuration Menu
```

If you select (V) `View current filters`, a message appears about the number of FCOS filters with a list of the which FCOSs have filters. If no FCOSs have been selected for filtering, "none" appears.

The other menu selections lead you through prompts to enter information.

Preparation

Before starting the conversion, both systems must be tested, verified, and backed up.

1. Install, configure, test, verify, and back up the Target system according to the *Installation and Service Manual* and pertinent release and field notes.

Note: Verify that the Target system is at Release 7.0 with RSD 1 or later.

2. For reference, print the system configuration report.
3. Obtain two terminals. The conversion process requires a terminal on each system.
4. Define line groups on the Target system.
5. On the Source system, run an on-line system verify to assure system integrity.
6. Run the Gather utility to generate accounting reports, which zeroes the current-account records because only current billing-statistics information is transferred to the new system. Consequently, any statistics information recorded between the gather and the actual conversion is minimized and merged with the data collected when the Target system becomes active. In addition, the customer can run the pre-update reports at a convenient time.
7. Back up the Source system to floppy.
8. On a single-module Source system, check that a backplane slot is available for the Q-Net card. If there is not a free slot, deconfigure and remove a line card.

9. Verify the conversion kit against the packing list to be sure it contains the software and hardware for the conversion. In particular, check these items:
 - SCSI or IDE software as appropriate for the Source system
 - For a single-module system, 2 Q-Net cards
 - For a multimodule system, an active hub and Q-Net terminator
10. Install the Conversion diskette on the Source system through the System Menu–Additional Options–Add Optional Features option. For details, see the *Installation and Service Manual*.

Note: Do not reboot the Source system now. It will be rebooted by a power-up following hardware setup.

The conversion software was installed on the Target system as part of Release 7.0 with RSD 1 or later.

Hardware Setup

Hardware setup consists of connecting the two systems via Q-Net. You must install a Q-Net card, which is provided with the conversion kit, in any single-module system. Use the information in this section to plan for, then set up the hardware after you install the conversion software.

In a one- or two-module system, connect the Q-Net cards directly. In a three- or four-module Target system, terminate any unused passive hub connections. Figure 1 shows existing Q-Net connections for a multimodule system.

Figure 1 Existing and Installed Systems

For any single-module conversion, install Q-Net cards in both the Source and Target systems. See Figure 2. The card used in the Source system depends on whether the system has an IDE bus (use p/n 2410-0096-21 or 2410-0285-21) or a SCSI bus (use p/n 2490-0096-01). The Q-Net card used in the Target system is designed to avoid network address conflicts (p/n 2410-0096-29 or 2410-0285-09).

Figure 3 shows how two four-node systems are connected via Q-Net to effect the data transfer.

The general connection scheme is the same for systems with fewer than four modules. The steps to connect various system configurations are summarized in the Table 1.

Figure 2 Connection for Single-Module to Single-Module Conversion

Figure 3 Connections for General Multi-Module Conversion

Table 1 Multimodule System Conversion Procedures			
Number of Target Modules			
1	2	3-4	

Number of Source Modules	1	Install Q-Net cards in both systems. Connect Q-Net cards directly.	Install Q-Net card in Source. Unplug the cable from Target module 2 redundant Q-Net card. Connect Target module 1 redundant Q-Net card directly to Source Q-Net card.	Install Q-Net card in Source. Unplug Target module 1 redundant Q-Net card from redundant hub. Terminate all unused redundant hub connections. Plug Target module 1 redundant Q-Net card into active hub.
2	Install Q-Net card in Target. Install active hub in Source. Plug Target Q-Net card into active hub.	Install active hub in Source. Unplug the cable from Target module 2 redundant Q-Net card. Plug Target module 1 redundant Q-Net card into active hub.	Install active hub in Source. Disconnect Target module 1 redundant Q-Net card from redundant hub. Terminate all unused redundant hub connections. Plug Target module 1 redundant Q-Net card into active hub.	
3-4	Install Q-Net card in Target. Replace passive hub in Source with active hub. Plug Target Q-Net card into active hub.	Replace passive hub in Source with active hub. Unplug the cable from Target module 2 redundant Q-Net card. Plug Target module 1 redundant Q-Net card into active hub.	Replace passive hub in Source with active hub. Unplug Target module 1 redundant Q-Net card from redundant hub. Terminate all unused redundant hub connections. Plug Target module 1 redundant Q-Net card into active hub.	

Connect the Systems

Start with the Source system in order to minimize the interruption to service.

1. Turn off both systems.
2. In the Source system, install the Q-Net card or active hub according to Table 1. You may have to remove a line card to create space for the Q-Net card.
3. In the Target system, install the Q-Net card or unplug the module 1 redundant Q-Net card from the redundant hub and terminate the unused hub connection.
4. In a single-module Target system, connect the systems with the coaxial cable provided in the conversion kit.

In a multi-module Target system, connect the systems with the cable unplugged from the passive hub.

5. Return the Source system to service.
6. Turn the Target system on.

QNX Prompt

The QNX command line allows you to enter commands not available in the menus. When this document refers to “the QNX prompt,” go to the QNX command line. To reach the QNX command line from the Main menu:

- On the Source system, enter **QNX** (all caps)
- On the Target system, enter **q**, then **y** when prompted
- To exit QNX, type **exit**

Test the Connection

1. Start the Conversion Utility on the Target. At the QNX prompt, type **vmc_6 -v** and press **Enter**.
When the utility starts on the Target, a message appears and the utility waits for the Source system to complete the connection.
2. Start the Conversion Utility on the Source system. At the QNX prompt, type **vmc_5 +v** and press **Enter**.

Note: The **+v** switch turns on verbose mode, which reports the actions of the conversion utility to the screen. This mode allows more efficient troubleshooting.
To turn off “verbose” mode on the Source system, and stop messages and updates scrolling to the screen, select (Q) Exit without terminating **vmc_6**, then, to restart the Conversion Utility on the Source system, type **vmc_5** and press Enter.

When the utility starts on the Source system, messages on both systems acknowledge the connection. If the messages do not appear, check the Q-Net cards, cables, and connections.

When the connection is complete, the VM Conversion menu appears. The hardware and the software are now ready to start the conversion.

Carry Out the Conversion

Although the software includes a menu option for Phase 1, it is not used during this conversion process.

CAUTION: If you stop the process with a <Control-C> during a conversion phase, do not try to resume the process at the break point. Some data can be lost. Always restart the conversion phase.

Run Phase 2—Subscriber Configuration

1. If the Target system includes ESMDI, configure and activate the Unified Integration before

you start Phase 2. For details, see the *Enhanced SMDI Manual*.

2. If you will transfer mailbox data in groups rather than all in one session, select (C) Configuration, then (R) Set Range of Mailboxes to Transfer.
3. If you will restrict mailbox transfer on the basis of FCOS, select (C) Configuration, then (F) FCOS Filter menu.
4. On the Target system, at the QNX prompt, type `vmc_6 -v` and press **Enter** to start the conversion utility.
5. On the Source system, at the QNX prompt, type `vmc_5 +v` and press **Enter** to start the conversion utility.
6. When the systems are connected, from the VM Conversion Menu, select (2) Phase 2 - Subscriber configuration.
7. At the prompt to proceed with Phase 2, enter `y`.

When the data transfer is complete, a message and the VM Conversion menu appear.

Verify the Mailbox Configuration Data

1. On the Source system, from the Conversion Menu, select (X) Terminate vmc_6 and exit.
2. To start checking the data transfer to the Target system, make test calls to a random selection of mailboxes and review the transferred configuration data from the console.
3. In the Mailbox maintenance menu, run the mailbox inquiry. Recorded names and greetings are in the speech-file system on the Target and the mailboxes are empty and ready to receive messages.
4. Go to Phase 3.

Run Phase 3—Dynamic Messages and Events

The Target system goes on line during Phase 3. If you transfer all data in one pass, at the end of Phase 3 the Target system takes all calls and the Source system can be shut down. If you transfer the mailbox and speech data in several groups rather than in one pass, both systems are on line after Phase 3.

If you choose to move mailbox and speech data in two or more groups, select the option(s) from the Configuration menu before starting Phase 3.

1. If you transfer all mailbox data in one pass, move all phone lines (voice, data, and fax), the LAN/OneView cables, serial cables for the integration, and any modem cables from the Source to the Target system.
If you transfer data by mailbox range, move only the phone lines for the group being transferred.
Check that all line groups are connected correctly.
2. On the Target system, at the QNX prompt type `vmc_6 -v` and press **Enter** to start the conversion utility.
3. On the Source system, at the QNX prompt, type `vmc_5 +v` and press **Enter** to start the conversion utility.
4. When the systems are connected, from the VM Conversion Menu, select (3) Phase 3 - Dynamic messages and events.

- At the prompt to proceed with Phase 3, enter `x`.

When the data transfer is complete, a message and the VM Conversion menu appear.

Verify the Dynamic Speech Data

- On the Source system, from the VM Conversion Menu, select (X) Terminate `vmc_6` and `exit`.
- Review a sample of mailbox data on the Target system.
- Run the utilities listed in Table 2.

Record Type	Utility Name	Comments
Wakeup Events	wakeup	Use hidden selection 'P', daily type 0-3, 6
Receipts	use VAC	Run before and after transfer!
Future Delivery Messages	wakeup	Use hidden selection 'P', daily type 4.
Network Delivery Messages	netqdump	
Mbox Voice Messages	ad	ainquire, playback
Mbox Fax Messages	ad	Look for 'X' in flags, number of pages
Mbox Message Queues (played, unplayed)	ad, ainquire+!	Lists all mailboxes, look at totals at end
NP View Text Subject Headers	ad -t74 list 98, mb#	

- When all data has been successfully transferred, unplug the coaxial cable from the Source system or active hub.
- Restore the Target system redundant Q-Net connection or shut down the Target system and remove the Q-Net card, as applicable.
- Check that all phone lines (voice, data, and fax), the LAN/NP View cables, serial cables for the integration, and any modem cables are connected properly to the Target system.
- Pack the Source system hardware and software for return to Mitel Networks according to the trade-in terms of the customer's purchase agreement.
- If the system includes the NuPoint™ Agent optional feature, configure the Callbox line group. For details, see the *NuPoint Agent Reference and Configuration Manual*.

Merge Two Systems

WARNING: This procedure has not been tested and is not supported by Mitel Networks. To ensure system integrity, it is recommended that you convert the system from 5.04C to Series 6, then update it to Release 7.0.

This section describes how to merge (combine) two 5.04C systems at the same site into one system at Release 7.0. The 5.04C systems may use MESA-Net links as shown in Figure 4 (5.04C Source nodes A and B and 7.0 Target node A'). After merging, the Source nodes A and B will be replaced by Target node A'. If the site is linked to other sites, you must update the network node tables at all sites to reflect the merge.

Figure 4 Typical Configuration to Merge Systems

To merge two systems, first get information about the old and new systems and set up the hardware.

Checklist for Merging Systems

Consider these system characteristics when planning to merge networked 5.04C Source nodes into a single Target node. This information will help prevent problems that might occur because of incomplete or conflicting configuration information.

MESA-Net Questions

1. What is the node A number? Node: _____
2. What is the node B number? Node: _____
3. Is there a third local node (C)? Yes__ No__
4. What is the node C number? Node: _____
5. Are there other off-site nodes? Yes__ No__

Note: Plan to remove all references to node B from node tables at remote sites. The digit translation for node B numbers becomes the same as for node A numbers.

Systems networked with MESA-Net typically use master and duplicate broadcast (shadow) mailboxes to allow any node to receive messages and confirm names for any system mailbox. Delete the shadow mailboxes after the Source systems are merged into the Target system.

1. Do the networked 5.04C systems appear to users as a single system (a user receives hears the mailbox user's name when making a message to a mailbox)? Yes__ No__
2. Do the systems use shadow mailboxes? Yes__ No__
3. What FCOS is assigned to shadow mailboxes (includes feature bits 122 and 179)? FCOS: _____
(Delete this FCOS after the conversion.)

Other FCOSs: _____

4. Do the systems use master mailboxes? Yes__ No__
5. What FCOS is assigned to the master mailboxes (includes feature bit 179)? FCOS: _____
(Delete this FCOS after the conversion.)

Other FCOSs: _____

6. Can distribution list 9 be deleted from all mailboxes? Yes__ No__
(Removes all broadcast name or greeting directions.)
7. What is the MESA-Net entry for distribution list 9 for the shadow mailbox? P__ N__
Is it Pxx or Nxx, where xx is a number from 1 to

999?

8. Do you have sequential number ranges for the Yes__ No__
master mailboxes?

What are the ranges?:

- From _____ To _____
- From _____ To _____,
- From _____ To _____
- From _____ To _____
- From _____ To _____
- From _____ To _____
- From _____ To _____

9. What is the originate-link number from node A to CTI No.____
node B?

Remove this number from the MESA-Net table.

10. What is the answer-link number from node A to CTI No.____
node B?

Remove this number from the MESA-Net table.

Centrex and ESMDI Questions

CAUTION: If the systems contain more than eight links, you cannot move all links over when you merge the systems. Plan to merge two PBX groups and message desk numbers into one group and set the new group to message desk "00."

11. Is ESMDI (Enhanced Centrex) installed on Yes__ No__
node A?

List numbers:_____

CTI Link	PBX Group Number	Message Desk Number	LTN Range
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

16			
----	--	--	--

12. Is ESMDI (Enhanced Centrex) installed on Yes__ No__
 node B?
 List numbers: _____

CTI Link	PBX Group Number	Message Desk Number	LTN Range
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Mailbox Mapping Questions

13. Will you convert the PBX group number(s) from Yes__ No__
 node B to different number(s) on node A?

Node B PBX Group Number	Node A New Number
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

15	
16	

14. Do you map multiple extensions to the same Yes__ No__ mailbox?

Preparation

Perform the same preparation steps on each system, Source and Target, as for a single system conversion, then follow these additional steps:

1. Check that there are no duplicate mailboxes, such as attendant and administrator mailboxes with the same number, on the source systems.
2. Print out all FCOS, MESA-Net, and database configuration for nodes A and B.

Hardware Setup

Set up the hardware on each system, Source nodes A and B and Target node A', as for a single system conversion.

Convert the Systems

Run the conversion process twice, first for node A to A', then for node B to A'.

CAUTION: You must be familiar with the conversion process before starting to merge systems.

Convert Source Node A

1. Run conversion Phase 2 on nodes A and A' as for a single system conversion.
2. Move the MESA-Net connection from Source node A to the Target.
3. Run conversion Phase 3 on Source node A to Target Node A'.
4. If the systems use ESMDI integration, follow these steps:
 - (a) On the Target system, check that uimap is running. At the QNX prompt, type `sin - Puimap`. If uimap is not running, contact your support representative.
 - (b) Restore UI mapping from oaa to memory. At the QNX prompt, type `ui_reinit`.
 - (c) Write the UI mapping in memory to a file. At the QNX prompt, type `ui_dump`.
 - (d) Confirm that the file has been written to disk. At the QNX prompt, type `cd /usr/vm/log`, then type `ls`. Look for an entry named `uimap.dumpx`, where `x` is the node number of the Target system.
 - (e) Save a copy of the uimap file. At the QNX prompt, type `cp uimap.dumpx <filename>`, where `<filename>` is a name unique to each Source system, such as "uimap.nodea."
5. Turn off Source node A.

Convert Source Node B

1. Remove the active hub from the Source node A.

2. Turn off Source node B.
 3. Unplug the passive hub on node B and plug in the active hub.
 4. Return node B to service.
 5. Plug the redundant Q-Net card in the Target, module 1, into the node B active hub.
 6. If Source nodes A and B are connected by MESA-Net to remote nodes, follow these steps on node B:
 - (a) Copy the FCOS for shadow mailboxes to a new FCOS.
 - (b) Reach the QNX prompt, then use `asetpass` to assign the new FCOS to the shadow mailboxes for remote nodes.
 - (c) Start `vmc_5`.
 7. Run conversion Phase 2 on Source node B to Target node A'.
 8. If the systems use ESMDI integration, follow these steps:
 - (a) On the Target system, merge the UI maps. At the QNX prompt, type `ui_batch <filename>`, where `<filename>` is the file you saved in step 4e above.
 - (b) Verify the merged mapping from nodes A and B. First, restore the UI mapping from oaa to memory. At the QNX prompt, type `ui_reinit`.
 - (c) Write the merged UI mapping to a file. At the QNX prompt, type `ui_dump`. The UI maps for both systems are stored in `/usr/vm/log/uimap.dumpx`, where `x` is the node number of the Target system.
 - (d) Verify the UI mailbox mapping stored in `uimap.dumpx`. At the QNX prompt, type `cd /usr/vm/log`, then type `uimapchk`.
- The console shows the number of mailbox mappings, the number of duplicate entries, and the number of entries with a mailbox number equal to zero. The number of mailbox mappings should be equal to or less than the sum of mappings from both Source systems.
9. Run conversion Phase 3 on Source node B to Target node A'.
 10. On the Target, reach the QNX prompt, then run `dinquire` for distribution list 9 to remove all references to nodes A and B. Be sure to retain references to remote sites.
 11. On the Target, reach the NP Net tables and remove references to node B.
 12. Unplug the coaxial cable from the Target module 1 redundant Q-Net card to the active hub on Node B; plug in the cable from the redundant Q-Net card in Target module 1 to the passive hub.
 13. Turn off node B.
 14. Pack the 5.04C system hardware and software for return to Mitel Networks according to the terms of the customer's purchase agreement.