



NetVanta Unified Communications Technical Note

Integrating the Merlin Magix PBX

Overview

The UC server works with Microsoft® Exchange and other Internet Message Access Protocol (IMAP) compliant email systems to provide users with a single storage and access point for voicemail, fax, and email messages. Users can retrieve and manage messages either over the telephone or directly from the desktop. The product allows users to have personal voicemail or personal auto attendant mode. Clients will be able to route specific callers to one-time messages and to filter calls to their extensions by activating call transfer, active message delivery, and pager notification based on Caller ID, Outlook, Contact or Contact Group, and/or Time of Day.

The product interacts with the Merlin Magix PBX via in-band dual tone multi-frequency (DTMF) (mode codes) and uses Caller ID information collected from a telephony server application programming interface (TSAPI) computer telephone integration (CTI) link.

Merlin Magix PBX In-band DTMF (Mode Code) Integration

With in-band DTMF integration, one pathway between the Merlin Magix PBX and the UC server transmits both call information and voice communications. The 2-wire analog single-line circuits are connected to Dialogic D/120JCT-LS, D/41JCT-LS, or VFX/PCI cards in the UC server. Each Dialogic port simulates 2-wire analog lines. Calls to the product ports are preceded by the called party information from the private branch exchange (PBX) in DTMF format. The UC server then answers and plays the appropriate greeting. Message-waiting indication is set and canceled using DTMF commands over the same connection.

Merlin Magix PBX TSAPI CTI Link Overview

An Eicon integrated services digital network (ISDN) interface card is installed in the UC server providing the TSAPI CTI link to a multi-line extension (MLX) port (configured as a CTI port) on the Merlin Magix system. Only one CTI link can be configured.

Caller ID information and other messages are sent and received across the CTI Link that physically connects the product server to the Merlin Magix system.

System Requirements

Product Server Hardware Requirements

- An Intel Dialogic D/41JCT-LS, VFX/PCI or D/120JCT-LS card (4 and 12 port cards)
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- An Eicon Diva 2.02 ISDN PCI S/T interface card with interface cable
- 10/100 Mbit network interface card

NetVanta UC Server Software Requirements

- NetVanta Unified Communications Server version 1.5 or higher
- Dialogic System Release 5.1.1 or higher
- CentreVu Computer-Telephony software, Release 9.1 or later, with Telephony Services license diskette.
- Merlin Magix PBX Driver (MMPD) software, Release 2.1 and higher with authorization diskette.
- EICON DIVA update patch

Merlin Magix PBX Hardware Requirements

- Station appearances (extensions), one per product port
 - One tip and ring pair for each product port must be extended from the PBX to the UC server.
- Analog interface card (012 or 016 card port).
- A ring generator unit (Pec Code 61388A) is required to provide ring voltage to the product ports if using 012 SLT cards, model 517 A13 through 517 F13.
- CPU at release 5 or higher
- An MLX card 008, 016 or 408. - Firmware version 28 or 30 and higher – version 29 is not supported)

Merlin Magix PBX Software Requirements

- Merlin Magix version 2.1 or higher
- Merlin Legend MUST be upgraded to Merlin Magix 2.1 for caller line ID support

PBX Limitations and Considerations

- For 008 MLX or 408 GS/LS-ID-MLX Cards - Firmware Version 29 or Firmware Version 42 with Application Version 24 does not support CTI Link. Card should be replaced with an appropriate version, or sent for a flash card update. Call the Avaya Customer Care Center at: 1 800 628-2888.
- The MLX port on the card that is used for the CTI Link cannot be a potential operator port or a console programming port. Valid ports on 008 MLX and 408 GS/LS-ID MLX cards for the CTI link are ports 2-4 and 6-8.
- Valid ports on 016 MLX cards for the CTI link are ports 2-4, 6-8, 10-12, and 14-16.

- The Merlin Magix switch must be configured in Hybrid/PBX mode (Key System mode does not support the CTI Link).
- The customer must provide the necessary hardware. Also, verify that the system has enough DTMF registers for in-band applications.

Supported Features

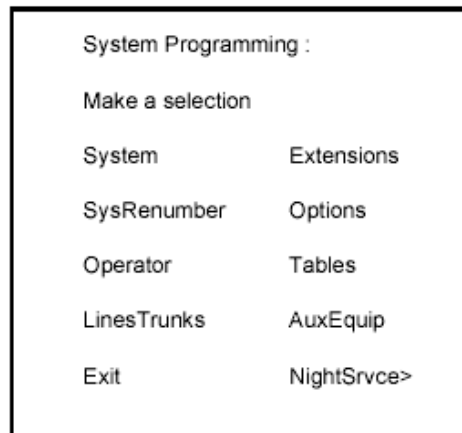
- Call coverage to personal greeting
 - busy
 - ring-no-answer
 - all calls
- Automated Attendant
- Return-to-operator
- Personal greeting of original-called party on double-call forward using call coverage
- Direct Call
- Message Waiting
- Caller ID

Configuring the Merlin Magix to Integrate with the Product

Programming on the Merlin Magix can be done using a system programming console or a personal computer with System Programming and Maintenance software. With both methods, the screens seen while programming are identical.

For more details, refer to the [Avaya Merlin Magix Communications System Programming Manual](#).

Once you are logged into the Merlin Magix system, the System Programming menu appears as follows:



System Programming Menu

The Merlin Magix system must be configured as a Hybrid/PBX. This programming must be done when the system is idle. In addition, this programming will cause the system to restart when you are finished. Therefore, choose an appropriate time for this procedure.

1. From the System Programming menu, select **System**.
2. From the System menu, select **Mode**.
3. Within the Mode menu, select **Hybrid/PBX**.
4. To save your selection, press **enter**.
5. At this point, the system will restart as noted above. To continue programming, re-enter system programming.

Programming Voice Mail System/Automated Attendant Options

1. From the System Programming menu, select **AuxEquip**, to reach the Auxiliary Equipment menu.
2. From the Auxiliary Equipment menu, select **VMS/AA**.
3. From the VMS/AA screen, select **TransferRtn**. This parameter, Transfer Return, represents the number of rings before calls transferred by the product server are sent to a designated backup position. Set it to "0" to disable this feature. If supervised transfer applications are used, this parameter should be disabled.
4. From the VMS/AA screen, select **TT Duration**. This parameter should be set to 75 (milliseconds). If it is not, erase the current setting (using the Drop key) and enter 75. Press enter to save your entry.
5. From the VMS/AA screen, select **TT Interval**. This parameter should be set to 50 (milliseconds). If it is not, erase the current setting (using the Drop key) and enter 50. Press enter to save your entry.
6. Press exit and return to the System Programming menu.

Creating a calling group for the product ports

1. From the System Programming menu, select **Extensions**.
2. Display the second page of the Extensions menu using the **More** key on the console (on a PC use the PgUp key).
3. From the Extensions menu select **Group Calling**.
4. From the Group Calling menu, select **Hunt Type**.
5. Enter an extension number to be assigned to the calling group. Then press enter to save your entry. This number will be the product System Access Number.
6. The next screen asks you to select the hunt type. Choose **Linear**.
7. Press exit to return to the Group Calling menu.

Assigning the product ports as members of the calling group

1. From the Group Calling menu, select **Members**.

2. Next, enter the extension number just assigned to the product calling group.
Press enter to save your entry.
3. At the “Enter group members” prompt, specify the first product port with *one* of the following:
 - Extension number nnnn (will be 2, 3, 4 digits, etc.)
 - Slot and port number *sspp
 - Logical ID number #nnn
4. If the product ports are in sequential number, press the **Next** key to add the next product port. If the product ports are not sequential, press **Enter** to add the next product port. Repeat until all product ports have been added to the calling group.
5. When all product ports have been added, verify your entries by using the **Inspect** key on the console. (If you are using a PC to program the Merlin Magix, press PgDn and then the F5 key.) This will list all members of the calling group.
6. Press exit to return to the Group Calling menu.

Assign the Group Type for the product calling group

This parameter tells the Merlin Magix to send mailbox ID information on calls to the product system. In addition, it will automatically log in the product ports after a power failure.

1. At the Group Calling menu, select **More** to see the second page of the menu.
2. From the Group Calling menu, select **Group Type**.
3. Enter the extension number of the product calling group. Press **enter** to save your entry.
4. At the next screen, select **Integ VMI**. Press **enter** to save your selection.
5. To return to the Extensions menu, press exit twice.

Programming the product hunt group as the call coverage target

1. Use the **More** key to reach the second page of the Extensions menu. Then, select **Grp Calling > GrpCoverage**.
2. Enter the **Group Calling number** of the Product hunt group. Press **enter**.
3. Enter **all** coverage paths from 1 to 30 that the Product system will answer. Press **enter** after each coverage path.
4. When prompted for extension numbers, enter only the extension number assigned to the product calling group. Press **enter**.
5. To return to the System Programming menu, press exit twice.

Assigning call coverage to the product subscribers

1. From the System Programming menu, select **Extensions**.
2. Use the **More** key to reach the second page of the menu. At this screen, choose **Group Cover**.

3. Enter the Group Coverage number (1 to 30) previously created, containing the product Calling Group extension number.
4. Next, enter the subscribers' extension numbers.

Assigning trunks to be answered directly by the product system

1. From the System Programming menu, select **Extensions**.
2. Use the **More** key to reach the second page of the menu. At this screen, choose **Group Calling**.
3. At the Group Calling menu, select **Line/Pool**.
4. Next, enter the product calling group extension number. Press enter.
5. At the "Enter line/pool numbers" prompt, identify the trunk or trunk pool that you want the product system to answer. This can be done in one of three ways:
 - Line or trunk number nnn
 - Slot and port number *sspp
 - Logical ID number #nnn

Unrestricting the product ports to allow them to make external calls

Out calling from the product ports are not available if restrictions are not removed from the product Extensions.

The following settings should be made on ALL Product Extensions:

Enable Trunk to Trunk transfer:

1. From the System Programming menu, select **Extensions**
2. Use the **More key twice** to reach the third page of the menu. At this screen choose **Trunk Transfer**
3. When prompted for extension numbers, enter only the extension number assigned to the product port. Press **enter**.
4. Make sure to change all product ports
5. To return to the System Programming menu, press **back twice**.

Set ARS level to 3:

1. From the System Programming menu, select **Extensions**
2. Use the **More key once** to reach the second page of the menu. At this screen choose **ARS Restriction**
3. Then prompted for extension numbers, enter only the extension number assigned to the product port. Press **enter**.
4. Set ARS level to 3
5. Make sure to change all product ports

6. When finish return to the System Programming menu, press back twice.

Unrestrict all the product ports extensions:

1. From the System Programming menu, select **Extensions**
2. Select Restriction
3. When prompted for extension numbers, enter only the extension number assigned to the product port. Press **enter**.
4. Select unrestricted
5. Make sure to change all product ports
6. When finish press **exit**.

To return to the System Programming menu, press exit three times.

Message waiting indicators are set and canceled by dialing a feature access code followed by the extension number.

Message Waiting Parameters

Permit Message Waiting Lights

Message Waiting Light Prefix ON **#53**

Message Waiting Light Prefix OFF **##53**

To save this added System Programming, select **System**, and then select **Back/Restore**.

CTI Link Installation and Configuration

Configuring the MLX port for CTI Link Integration

When an ISDN interface board is used in the server PC to provide a communications path to a MERLIN MAGIX PBX, the connecting four-pair wire must be plugged into an MLX port on the MERLIN MAGIX PBX.

Before the link is operational, the MLX port must be configured correctly via the MERLINMAGIX System Administration.

To configure the MLX port for CTI Link Operation

1. Select an eligible MLX port to become a CTI link port. There are certain restrictions on which port can be selected for the CTI link:
 - It must not be a port that is eligible to be a MERLIN MAGIX attendant port.
 - No other device can be plugged into the port while it is being administered.
 - The MLX port board must NOT have Firmware Version 29 or Firmware Version 42 with Application Version 24. If it is, you will need to replace the board with an appropriate version, or have the Flash updated by Avaya Customer Care Center.

- The switch must be in Hybrid/PBX operating mode.
 - The port cannot be a potential operator port or a console programming port. Valid ports on 008 MLX and 408 GS/LS-ID MLX boards for the CTI link are ports 2-4 and 6-8. Valid ports on 016 MLX boards for the CTI link are ports 2-4, 6-8, 10-12, and 14-16
2. Go into **System Maintenance** and “busy out” the slot containing the board with the new CTI link port. System Administration cannot set up the CTI link unless the slot is “busied out.”
 3. Go into **System Programming**, select **Auxiliary Equipment**, and then the **CTI Link option**. This option allows you to add and/or delete CTI link ports.
 4. Enter the extension number of the port selected and select **Enter**. If any of the restrictions have been violated, the system will not let you proceed.
 5. If the addition is successful, go back to the CTI Link screen and select the **INSPECT** option. The system will display a list of all the CTI Link ports. If this list is correct, you can continue putting the slot back into service.

Go into System Maintenance and restore the slot containing the CTI Link port.

Check the status of the slot to make sure it has become active.

The CTI Link port is ready for use.