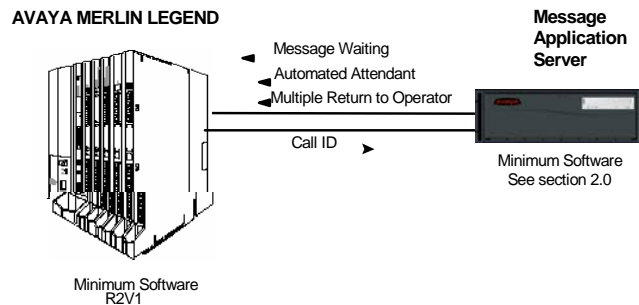


AVAYA Merlin Legend/Magix



With Inband integration, one pathway between the PBX and the Avaya Message Application Server transmits both call information and voice communications

MAS requirements

¹Release Note:

Should features of the integration not function optimally when integrated to a PBX or MM that may be operating on an unsupported software release as defined Section 2.0 and 3.1, customers will need to upgrade their PBX and/or MM to a supported software release.

PBX hardware requirements

1.0 METHOD OF INTEGRATION

With Inband integration, one pathway between the Avaya Merlin Legend™ and the Avaya Message Application Server (MAS) transmits both call information and voice communications. The pathway is provided by 2-wire analog single-line circuits that connect to Dialogic cards in the MAS. Each Dialogic port simulates 2-wire analog lines. Calls to the MAS ports are preceded by the called party information from the PBX in DTMF format. The MAS then answers and plays the appropriate greeting. Message-Waiting indication is set and canceled using DTMF commands over the same pathway.

2.0 AVAYA MESSAGE APPLICATION SERVER REQUIREMENTS

- Dialogic D/41JCT-LS or D/120JCT-LS cards (4 and 12 port/cards)
- Releases ¹: 1.1, 2.0, 3.x, 4.0, 5.x

3.0 PBX HARDWARE REQUIREMENTS

- Station appearances, one per MAS port
- Analog Interface Card (012 or 016 card port).
- A ring generator unit (Pec Code 61388A) is required to provide ring voltage to the MAS ports if using 012 SLT cards, model 517 A13 through 517 F13
- CPU at Release 2 or higher

NOTE: Depending upon the size of the MAS, additional Touch Tone (DTMF) Receivers might be necessary. Use Table 1 as a guideline for determining your requirements.

Table 1 - DTMF Receiver

Number of MAS ports	Number of 012 or 016 modules	Number of 400 or 400 GS/LS/TTR modules	Number of TTRs needed
1	1	0	1
2	1	0	1
3	1	0	2
4	1	0	2
6	2 or 1	0 or 1	3
8	2 or 1	0 or 1	4
12	3 or 2	0 or 1	6

- **Cables:**
 - RJ11 four-wire telephone cord, one per MAS port

NOTE: The customer must provide the necessary hardware.

PBX software requirements

3.1 PBX SOFTWARE REQUIREMENTS

- Minimum Software ^{1 (see pg 1)}: R2V1
- Hybrid/PBX configuration (*see section 8.2*)

Supported integration features

4.0 SUPPORTED INTEGRATION FEATURES

[✓] Items are supported

System Forward to Personal Greeting

- All Calls [✓]
- Ring/no answer [✓]
- Busy [✓]
- Busy/No Answer []

Station Forward to Personal Greeting

- All Calls []
- Ring/no answer []
- Busy []
- Busy/No Answer []

- Auto Attendant** [✓]
- Call Me** [✓]
- Direct Call** [✓]

External Call ID (ANI)	[]
Find Me	[]
Internal Call ID	[✓]
Message Waiting	[✓]
Multiple Return to Operator	[✓]
Multiple Call Forward	[✓]
N+1	[]
Outcalling	[✓]

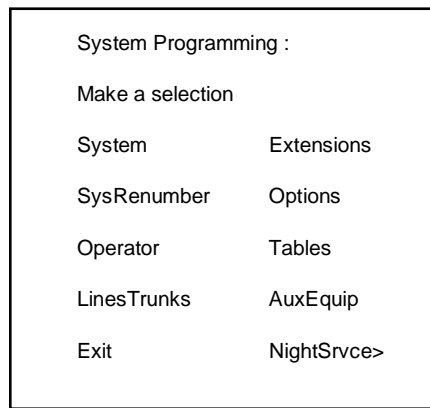
IMPORTANT: PBX options or features not described in this Configuration Note are not supported with this integration. To implement options/features not described in this document, please contact the Avaya Switch Integration product manager.

Configuring the Legend to integrate with the MAS

5.0 CONFIGURING THE LEGEND TO INTEGRATE

Programming on the Legend 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 details, refer to the Avaya Merlin Legend Communications System Programming Manual.

- Once you are logged into the Legend system, the System Programming menu will appear as follows:



System Programming Menu

- The Legend 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.
 - From the System Programming menu, select **System**.
 - From the System menu, select **Mode**.

The Legend system must be configured as a Hybrid/PBX

Program the Voice Mail System/Automated Attendant Options

- Within the Mode menu, select **Hybrid/PBX**.
 - To save your selection, press **enter**.
 - At this point, the system will restart as noted above. To continue programming, re-enter system programming.
- If necessary, install 012 or 016 analog ports for the MAS. One analog port is required for each MAS port.
- Program the Voice Mail System/Automated Attendant Options as follows:
- From the System Programming menu, select **AuxEquip**, to reach the Auxiliary Equipment menu.
 - From the Auxiliary Equipment menu, select **VMS/AA**.
 - From the VMS/AA screen, select **TransferRtn**. This parameter, Transfer Return, represents the number of rings before calls transferred by the MAS 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.
 - 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.
 - 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.
 - Press exit twice to return to the System Programming menu.
- Create a calling group for the MAS ports:
- From the System Programming menu, select **Extensions**.
 - Display the second page of the Extensions menu using the **More** key on the console (on a PC use the PgUp key).
 - From the Extensions menu select **Group Calling**.
 - From the Group Calling menu, select **Hunt Type**.
 - Enter an extension number to be assigned to the calling group. Then press enter to save your entry. This number will be the MAS System Access Number.

Create a calling group for the MAS ports

Assign the MAS ports as members of the calling group

- The next screen asks you to select the hunt type. Choose **Circular**.
- Press exit to return to the Group Calling menu.
- Assign the MAS ports as members of the calling group:
 - From the Group Calling menu, select **Members**.
 - Next, enter the extension number just assigned to the MAS calling group. Press enter to save your entry.
 - At the “Enter group members” prompt, specify the first MAS 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
 - If the MAS ports are in sequential number, press the **Next** key to add the next MAS port. If the MAS ports are not sequential, press **Enter** to add the next MAS port. Repeat until all MAS ports have been added to the calling group.
 - When all MAS ports have been added, verify your entries by using the **Inspect** key on the console. (If you are using a PC to program the Legend, press PgDn and then the F5 key.) This will list all members of the calling group.
 - Press exit to return to the Group Calling menu.

Assign the Group Type for the MAS calling group

- Assign the Group Type for the MAS calling group. This parameter tells the Legend to send mailbox ID information on calls to the MAS system. In addition, it will automatically log in the MAS ports after a power failure.
 - At the Group Calling menu, select **More** to see the second page of the menu.
 - From the Group Calling menu, select **Group Type**.
 - Enter the extension number of the MAS calling group. Press **enter** to save your entry.
 - At the next screen, select **Integ VMI**. Press **enter** to save your selection.
 - To return to the Extensions menu, press exit twice.

Program the MAS as the call coverage target

- Program the MAS as the call coverage target:
 - Use the **More** key to reach the second page of the Extensions menu. Then, select **Group Cover**.
 - Enter a number from 1 to 30 as the coverage group number for the MAS. Press **enter**.
 - When prompted for extension numbers, enter only the extension number assigned to the MAS calling group. Press **enter**.
 - To return to the System Programming menu, press exit twice.

- Program the Group Coverage Delay Interval. This is the number of rings after which the Legend will send calls to the MAS server.

Note: This setting is for Release 4.0 and earlier systems. This is not applicable to Release 4.1 or higher.

- From the System Programming menu, select **Options**.
- Use the **More** key to reach the second page of the Options menu. At this screen, choose **Group Coverage Delay Interval**.
- Erase the current entry using the **Drop** key. Now specify the number of desired rings, from 1 to 9. Press **enter**.
- To return to the System Programming menu, press exit.
- To assign the call coverage to the MAS subscribers, perform the following programming:
 - From the System Programming menu, select **Extensions**.
 - Use the **More** key to reach the second page of the menu. At this screen, choose **Group Cover**.
 - Enter the Group Coverage number (1 to 30) previously created, containing the MAS Calling Group extension number.
 - Next, enter the subscribers' extension numbers.
- To assign trunks to be answered directly by the MAS system, perform the following programming:
 - From the System Programming menu, select **Extensions**.
 - Use the **More** key to reach the second page of the menu. At this screen, choose **Group Calling**.
 - At the Group Calling menu, select **Line/Pool**.

To assign trunks to be answered directly by the MAS, perform the following programming

- Next, enter the MAS calling group extension number. Press enter.
- At the “Enter line/pool numbers” prompt, identify the trunk or trunk pool that you want the MAS 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

- 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**, then select **Back/Restore**.

6.0 CONFIGURING THE MESSAGE APPLICATION SERVER

Configuring the MAS

Configuring the MAS platform for proper PBX integration requires configuring several containers accessed within the **Voice Mail System Configuration** application, and a certified MM engineer.

- Access the **Voice Mail System Configuration** application from the MAS program group. Expand all fields so all-applicable options are visible.
 1. Select the **Voice Mail Domain**
 2. Expand **PBXs**
 3. Select the newly created **Dialogic Avaya G3 Inband**
 4. Access the **General (Dialogic analog) PBX Configuration** tab
 5. **Go Off Hook when Port Disabled** = Enable by checking the box
 6. **Pause before Digits (ms)** = 100
 7. **Pause Interval for Comma in Dial String (ms)** = 2000
 8. **DTMF Inter-Digit Delay during Dialing (ms)** = 80

9. **DTMF Length during Dialing (ms)** = 80
 10. **DTMF Length during Detection (ms)** = 50
- Next access the **Transfer/Outcall** tab
 1. **Transfer Mode** = Blind
 2. **Transfer Prefix Code** = &,XN
 3. **Transfer Completion Code** = Leave Blank
 4. **Transfer Release Code when Busy** = &
 5. **Transfer Release Code when No Answer** = &
 6. **Transfer Release Code when Reject** = &,&
 7. **Flash Time Interval (ms)** = 500
 8. **Enable Call Progress** = Enable by checking the box
 9. **Start Delay for Call Progress (ms)** = 1000
 - Next access the **Hangup Detection** tab
 1. **Maximum Continuous Tone before Hanging Up (ms)** = 6000
 2. **Hangup String** = Leave Blank
 3. **Hangup String Timeout (ms)** = 0
 4. **Minimum Duration For Drop in Loop Current (ms)** = 300
 5. **Maximum Silence before Hanging Up (ms)** = 6000
 6. Select **OK** to save changes
 - Select **Voice Server** and access **Telephony Interface (Dialogic Analog)**
 1. Select the **Analog** tab
 2. **Playback Volume** = 2
 3. **Number of Ports** = Enter the number of ports in your system
Note: The MAS service must be restarted to allow port enabling
 4. Enable each **Port** by checking the checkbox next to the **Port** field
 5. **Extension** = Enter the proper extension number assigned to each port
 6. **Incoming Ring Count** = 1
 7. **Primary ID** = Leave Blank
 8. **Secondary ID** = Leave Blank
 9. Select **OK** to save changes
 - Next access **PBX Integration**
 1. Select the General tab
 2. Click on **Inband** to set as the Integration Type
 3. Access the **Inband** tab
 4. **Maximum Inter-digit Gap (ms)** = 500
 5. **Pause before Inband Digits (ms)** = 2000

6. **DTMF On Time (ms)** = 80
7. **Search Entire String for Reason Code** = Leave blank
8. **Location of Inband reason code** = 1
9. **Log Inband Packets** = Leave blank
10. **Fixed Length Packets** = Leave blank
11. **Filler Character** = <None>
12. **Delimiter Character** = #
13. **Right Alignment of Digits in a Field** = Leave blank
14. **Request String Supported** = Leave blank

- Access the **Protocol Settings** button within the same tab

1. **Call Packet Type** = Direct Call
2. **Codes for Call Type:**
Code 1 = 00
3. **Field Type Settings:**
 - **Called Id** = Leave blank
 - **Calling Id** = 2 (Under the Sequence Number column)
 - **Trunk Id** = Leave blank
4. Next select **Call Packet Type** = Divert:
5. **Codes for Call Type:**
Code 1 = 02 (Internal call routing for All Call)
Code 2 = 03 (External call routing for All Call)
6. **Field Type Settings:**
Called Id = 3 (Within the Sequence Number column)
Calling Id = 2 (Within the Sequence Number column)
Trunk Id = Leave blank
7. Select **OK** to save changes

- Within the **Inband** tab, access the **MWI Settings** button

1. **Port Group Name** = Select the port group to be used for MWI
2. **Max. MWI Sessions** = Enter the maximum number of MWI sessions allowed at one time. The Default value is 1
3. **Indicator On/Off signals must use same port** = Click to turn on
4. **Indicator On:** **Prefix** = #53 **Suffix** = Leave blank
5. **Indicator Off:** **Prefix** = #*55 **Suffix** = Leave blank
6. Select **OK** to save changes

Note: The numeric values of #53 and #*53 for MWI on/off shown above are examples. Confirm what the MWI Feature Access Codes for these specific settings are on your PBX. The settings in the PBX for MWI on/off must match those for MWI on/off in the MM.

After making these changes, return to “Configuring the voicemail system” within the Message Application Server Installation Guide. Ensure you are prompted to restart the Message Application Server services to apply these changes.

**Important notes regarding
this integration**

8.0 CONSIDERATIONS/ALTERNATIVES

8.1 The Legend does not provide consistent disconnect signaling. As a result, it might be necessary for the MAS to rely upon silence detection to disconnect when callers hang up. Silence detection might take up to 30 seconds to disconnect. Caller prompting and subscriber training are recommended to encourage callers and subscribers to exit the MAS completely when finished.

8.2 The Legend must be programmed as a hybrid/PBX for integration. Integration is not currently supported for Legend systems configured as key systems.

8.3 With release 1 software, stations on the Legend cannot all-calls forward to the pilot number of a calling group (hunt group). The do-not-disturb feature on the Merlin Legend is suggested as an alternative. This feature when activated at a station will suppress the ringing of incoming external calls. External calls will then follow any call coverage programmed for that station. Internal callers will receive busy tone when dialing a station in do-not-disturb and will not follow call coverage programming. Release 2 software will allow all-calls forwarding to the voice-processing module.

CHANGE HISTORY		
Revision	Issue Date	Reason for Change
DRAFT 0.1	11/20/02	Initial release for review/validation
DRAFT 0.2	03/14/03	Brand name changes
Version A	03/28/03	GA
Version B	12/17/03	Updated to meet Release 1.1
Version C	07/13/04	Change the PBX Type from Dialogic Avaya Merlin Legend/Magix to Dialogic Avaya G3
Version D	09/16/04	Updated to meet MM 2.0
Version E	12/06/04	Updated Pause Before Digits from 2000 ms to 100 ms as per RTO findings.
Version F	04/11/06	Updated to meet release MM 3.0
Version G	06/01/07	Updated Inband Tab/MWI Settings at end of Section 6.0. Made note red.
Version H	05/05/08	Updated to support MM 4.0
Version I	05/16/08	Updated diagram page 1
Version J	2/02/09	Updated to support MM 5.0
Version K	07/09	Updated to support MM 5.1
Version L	01/19/10	Added note indicator to titles of Section 2.0 and 3.1; added corresponding note in sidebar; removed word "supported" in same sections for MAS releases and PBX Software releases.

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AVAYA Inc.
 1033 McCarthy Blvd
 Milpitas, CA 95035
 (408) 577- 7000
<http://www.avaya.com>