



Avaya Solution & Interoperability Test Lab

How to Configure Avaya Modular Messaging Caller Applications – Issue 1.0

Abstract

These Application Notes describe how to configure, deploy and invoke a Caller Applications for Avaya Modular Messaging. The Caller Applications enhances the Telephone User Interface of the Avaya Modular Messaging to create menus and prompts. These menus can be associated with the auto attendant, or with a separate Direct Inward Dialing (DID) number. Caller Applications provides multiple automated attendants, menus of greater depth, dynamic updates, flexibility in call handing and routing and is portable to other Voice Mail Domains. Caller Applications is an add-on to Avaya Modular Messaging software and is stored on each Messaging Application Server.

1. Introduction

These Application Notes describe how to configure, deploy and invoke a Caller Applications for Avaya Modular Messaging. The Caller Applications enhances the Telephone User Interface of the Avaya Modular Messaging to create menus and prompts. These menus can be associated with the auto attendant, or with a separate Direct Inward Dialing (DID) number. Avaya Modular Messaging Application Server has a built-in Automated Attendant which provides limited functionality, single-digit menu depth, static configuration and is not portable. Caller Applications is an add-on to the Avaya Modular Messaging software which addresses the shortcomings of Modular Messaging built-in Automated Attendant. Caller Applications provides multiple automated attendants, menus of greater depth, dynamic updates, flexibility in call handing and routing and is portable to other Voice Mail Domains.

The Caller Applications are configured, deployed and invoked by Caller Applications Editor. The Caller Applications Editor can be installed on the Messaging Application Server (MAS). It can also run on any Microsoft Windows based computer. The caller application configured by the Caller Applications Editor is saved as Unified Message Application (UMA) file on the local machine where the Caller Applications Editor is running. Using the Caller Applications Editor, the application is then deployed to all the MASs in the Voice Mail Domains (VMD). The VMD is the logical entity that allows for multiple MASs to share properties and handle calls in the same way. After deployment, the Caller Application Editor is used to create conditions or associations that determine when the MAS will run the application for callers.

1.1. Test Configuration

The Avaya IP Telephony reference configuration used to verify these Application Notes is shown in **Figure 1**. Avaya S8710 Media Servers are at the core in a Multi-Connect High Reliability Configuration with dual IPSI and dual Media Processor boards. The Avaya Modular Messaging S3500 servers consist of the Message Application Server (MAS), and the Message Storage Server (MSS). For these Application Notes, connectivity between Avaya Modular Messaging and Avaya Communication Manager was accomplished via a SIP trunk, provided by an Avaya SES Server. The Caller Applications Editor is installed on the MAS.

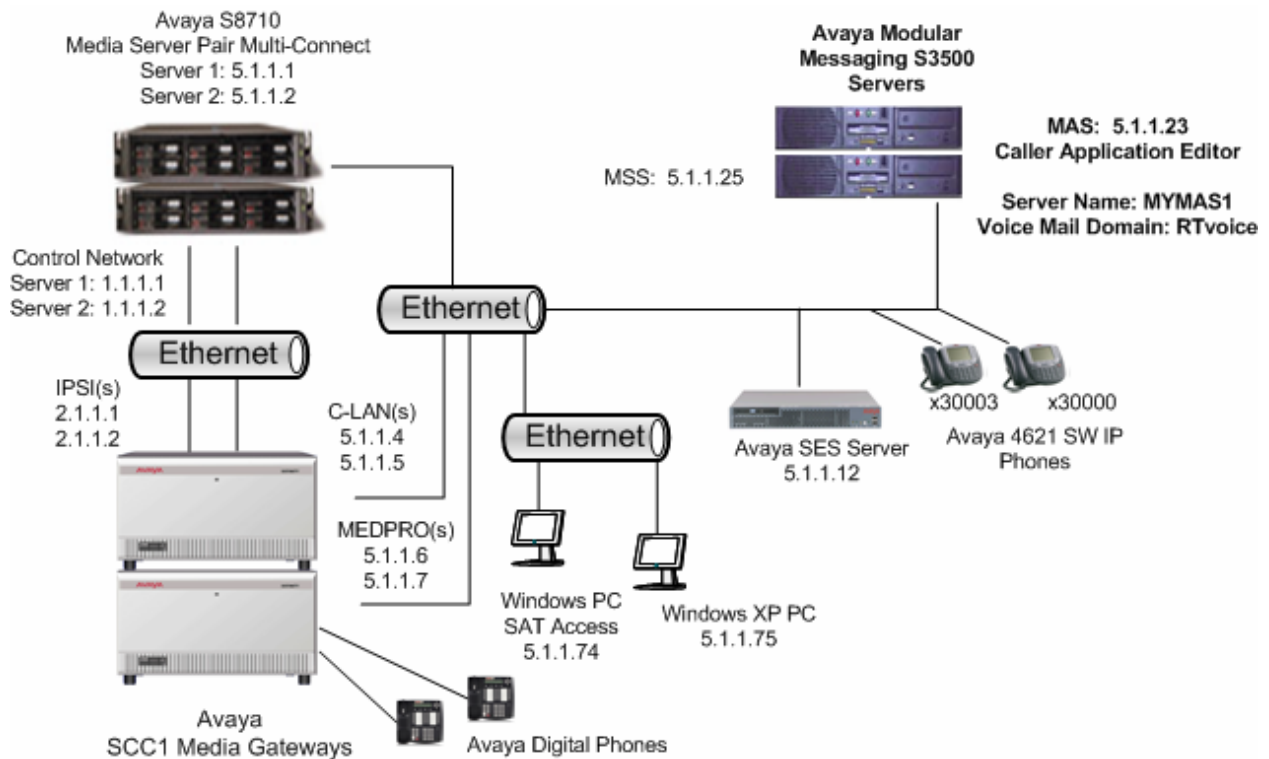


Figure 1

NOTE: These Application Notes assume that the reference configuration depicted in **Figure 1** is already in place, including Avaya Communication Manager and Avaya Modular Messaging System. Please consult the appropriate documentation listed in Section 8 for more information on how to configure these components.

Figure 2 illustrates the caller application menu flow used in these Application Notes.

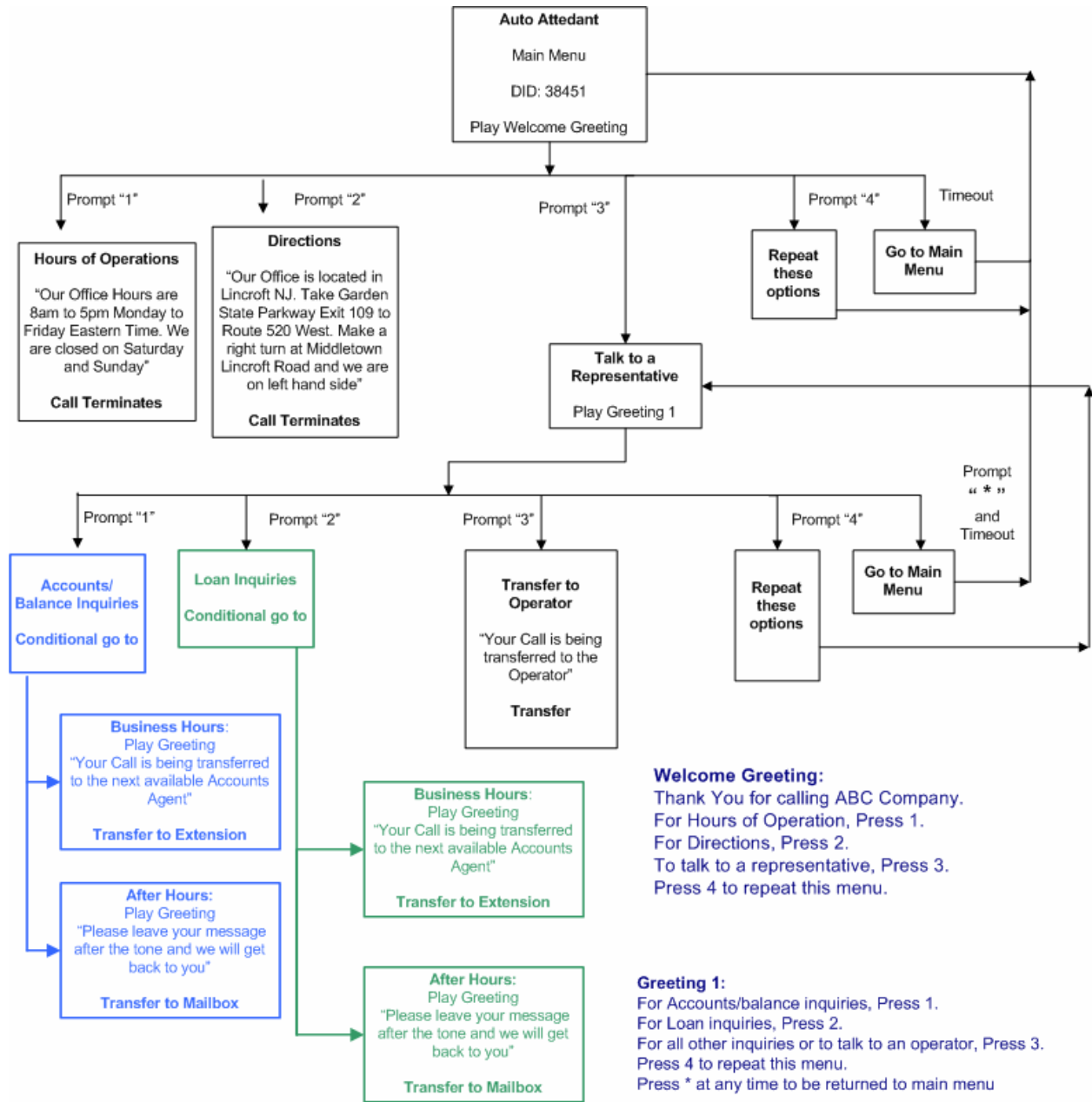


Figure 2

2. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment & Software	Version
Avaya Communication Manager Avaya S8710 Media Server	3.1.2 (R013x.01.0.632.1)
Avaya G650 Media Gateway IPSI (TN2312BP) C-LAN (TN799DP) MEDPRO (TN2302AP)	HW 12 FW 030 HW 01 FW 017 HW 20 FW 110
Avaya G350 Media Gateway	25.28.0
Avaya SIP Enablement Services	3.1 (3.1.0.0-018.0)
Avaya 4620SW IP Phone	2.3
Avaya 4621SW IP Phone	2.3
Avaya Modular Messaging Message Application Server (DPMAS) Message Storage Server (DPMSS)	3.0.495.0 3.0.495.0

Table 1

3. Configure Messaging Application Server

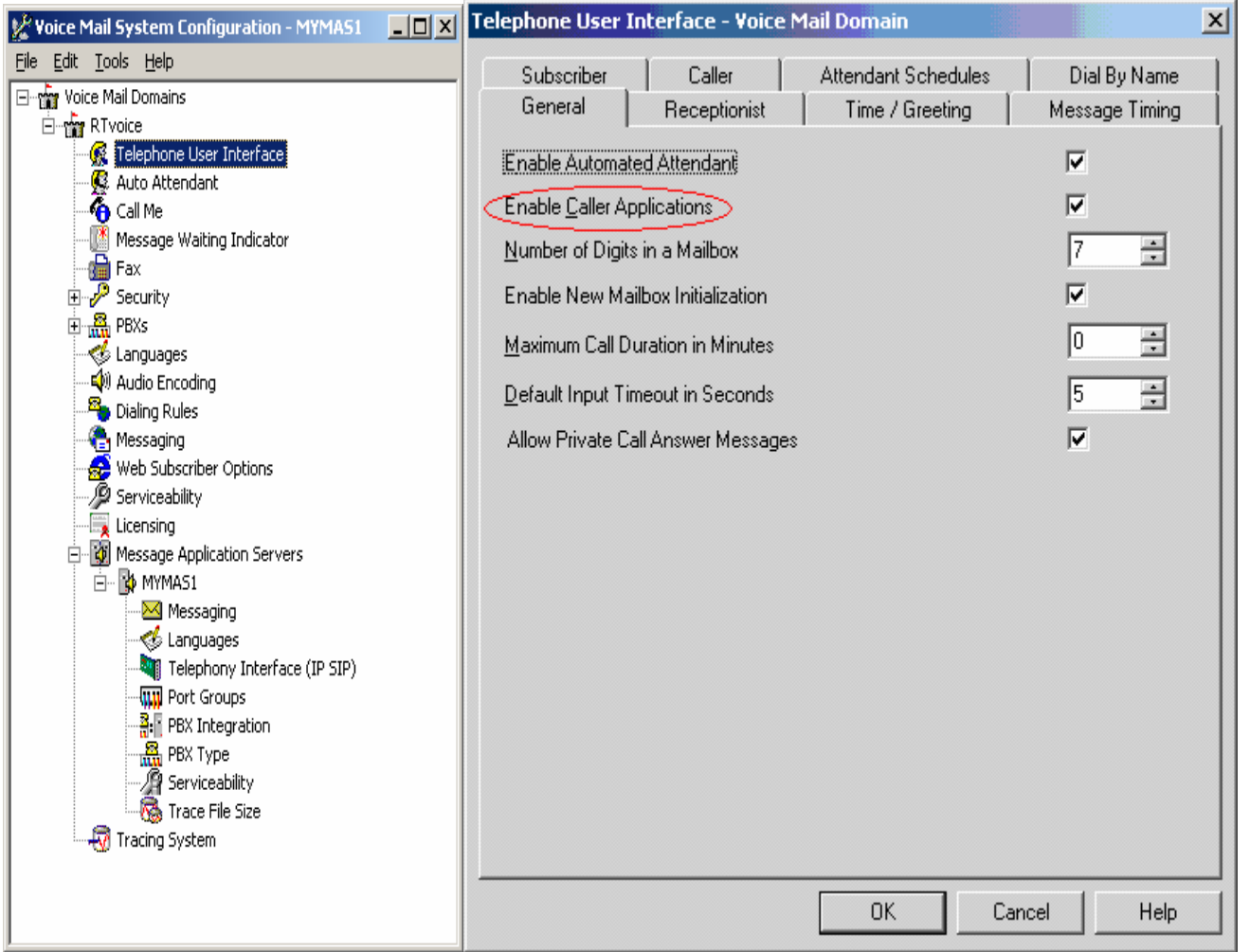
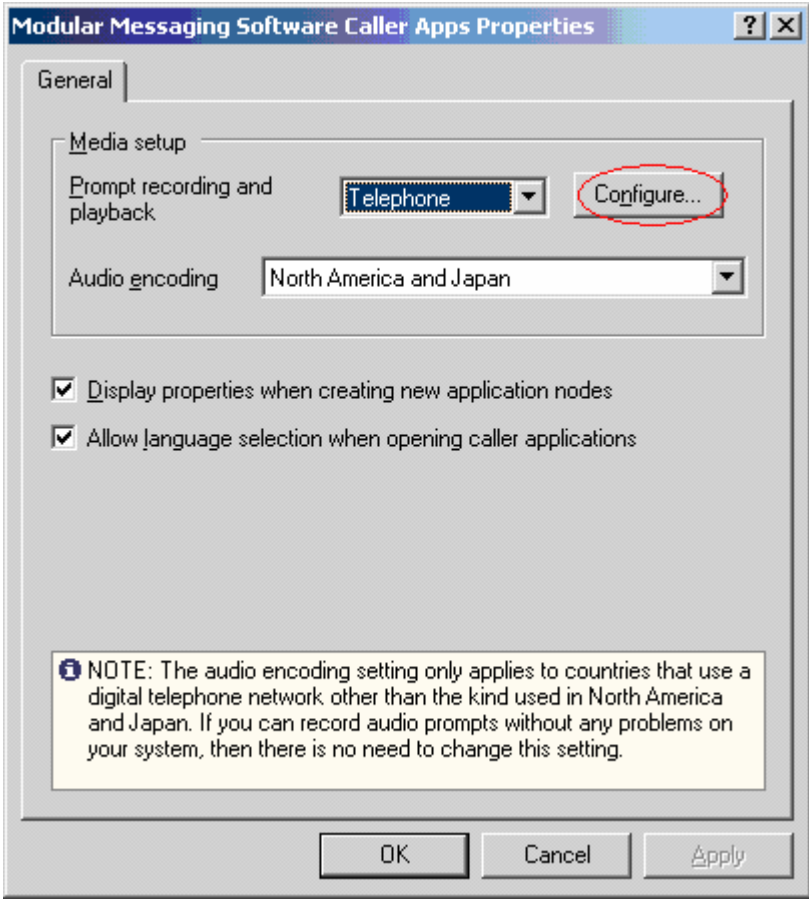
Step	Description
1.	<p>Login to the MAS as a user with administrative privileges.</p> <p>Start the Voice Mail System Configuration: Start → Programs → Avaya Modular Messaging → Voice Mail System Configuration.</p> <p>Double-click Telephone User Interface.</p> <p>On the General tab, check Enable Caller Applications.</p> <p>Click OK.</p> 

Figure 3

4. Configure Caller Applications

Step	Description
1.	<p>Start the Caller Applications Editor: Start → Programs → Avaya Modular Messaging → Caller Applications.</p> <p>For the initial setup, the General tab is displayed. Select the following:</p> <ul style="list-style-type: none">• Prompt recording and playback: This option determines how prompts will be recorded. Select Telephone from the drop down menu.• Audio encoding: North America and Japan from the drop down menu. This will set G.711 PCM mu-law encoding.• Check Display properties when creating new application nodes.• Check Allow language selection when opening caller applications. <p>Click on Configure.</p>  <p>Figure 4</p>

Step	Description
2.	<p>On the Telephone Properties screen, enter the phone extension which will be used to record prompts in the Extension number field.</p> <p>Select the Messaging Application Server name from the drop down menu.</p> <p>Click OK.</p>

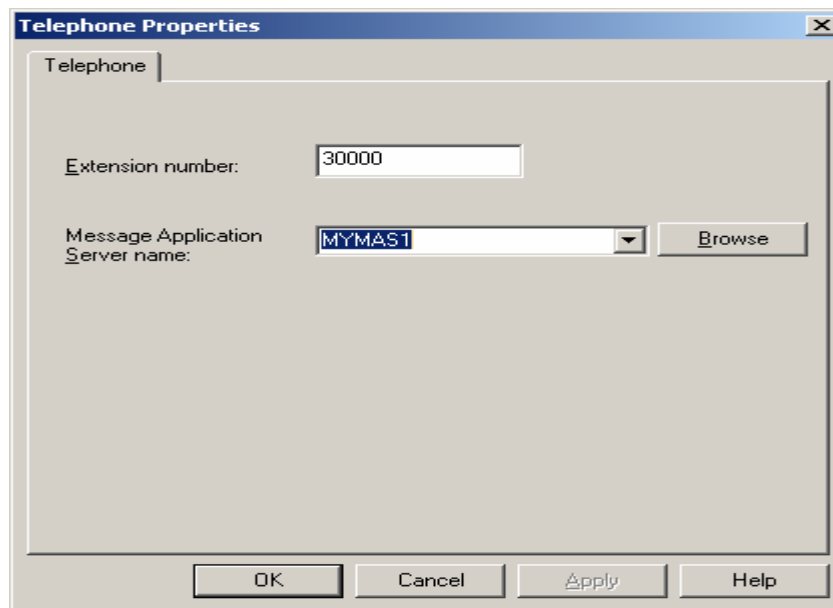


Figure 5

Caller Applications main window will appear after the initial setup is completed as shown below in **Figure 6**.

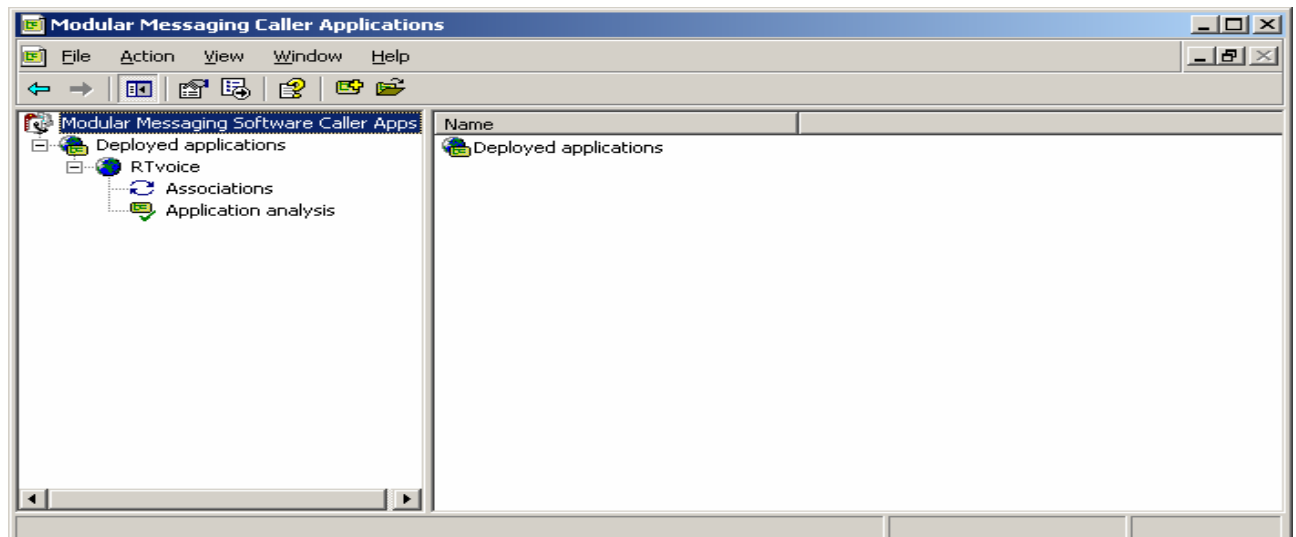


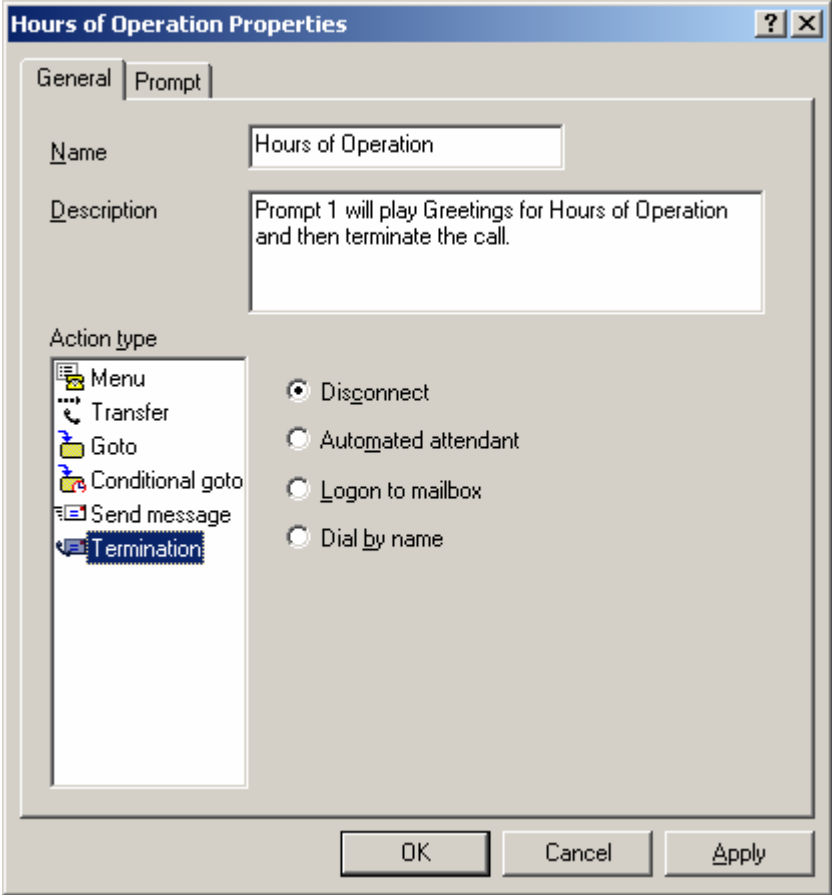
Figure 6

Step	Description
3.	<p>To create a new application, right-click Modular Messaging Software Caller Apps and choose New → Caller Application....</p> <p>New Caller Application dialog box will appear as shown in Figure 7. Enter:</p> <ul style="list-style-type: none"> • Application name: Enter a descriptive name. • Application description: Enter a brief summary. • Language: Select English from the drop down menu. • Check Design for VMD and select the appropriate Voice Mail Domain associated with the MAS server. <div data-bbox="534 674 1295 1234" data-label="Image"> </div> <p style="text-align: center;">Figure 7</p>

Step	Description
	<p data-bbox="277 268 415 300">Click OK.</p> <p data-bbox="277 327 1479 401">Caller Application main window will display the Auto-Attendant Application in the menu as shown in Figure 8.</p> <div data-bbox="277 474 1555 1245" style="border: 1px solid gray; padding: 5px;"> </div> <p data-bbox="857 1283 979 1318" style="text-align: center;">Figure 8</p> <p data-bbox="277 1356 1544 1503">NOTE: The icon to the left of the “Auto Attendant” is red. This indicates that this menu has no choices (sub-nodes) associated with it. Also, there is a small yellow warning sign (triangle shape) which indicates that no prompt has been associated with the node. The green right pointer indicates that this is a start node and application timeout will loop back to this node.</p>

Step	Description
4.	<p>Menu items within a caller application are called application nodes. A node needs to be created for each menu choice presented. Each node can be accessed when a caller presses a key that is associated with the node.</p> <p>To create a node, right-click the caller application to which the sub-menu has to be added and select New → Application node...</p> <p>Add Node dialog box will appear as shown in Figure 9. Enter:</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node. • Action Type: Select a type of actions that should be executed when the application node is selected. The choices are: <ul style="list-style-type: none"> ○ Menu: Allows the caller to branch to one of up to eleven nodes, depending on the Dual-Tone Multi-Frequency (DTMF) key pressed (0-9 keys and the # key). Menus are the only node types that allow sub-nodes. ○ Transfer: Transfers the call. This is specified in the application and can be an operator, mailbox, or an extension. ○ GoTo: This action will take the caller to another node in the caller application or to another caller application. ○ Conditional goto: This action will take the caller to one of two nodes, depending on a set schedule. For e.g. during business hours it transfers to one node, and for after hours or holidays, it transfers to a different node. ○ Send message: Allows the caller to record a voice message which can be sent to a mailbox number or e-mail address. ○ Termination: This will end the interaction of a caller within the caller application. • Key press: This is the key that the caller needs to press to invoke the node's actions. The # key, the numbers 0-9, as well as a keyless node can be selected. • Description: A summary of the action to occur when the node is invoked. <div data-bbox="534 1320 1292 1787" style="text-align: center;"> </div> <p style="text-align: center;">Figure 9</p>

Step	Description
5.	<p>To create the Caller Application as shown in Figure 2, right-click on Auto-Attendant and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Hours of Operation. • Action Type: Select Termination from the drop down menu. • Key press: Select 1 Key from the drop down menu. • Description: Enter a summary of the action. <div data-bbox="537 627 1300 1136" data-label="Image"> </div> <p style="text-align: center;">Figure 10</p> <p>Click OK.</p>

Step	Description
	<p>The Hours of Operation Properties window will appear as shown in Figure 11. There are several options available for Termination. These are:</p> <ul style="list-style-type: none"> • Disconnect: The system will announce “good-bye” to the caller and then disconnect the caller from the system. • Automated attendant: The caller will return to the beginning of the default Attendant. • Logon to the mailbox: Routes the caller to the Automated Attendant and prompts the user for a mailbox number for subscriber login. • Dial by Name: Routes caller to “Dial by Name” functionality of the Automated Attendant. <p>For Caller Application as shown in Figure 2, select Disconnect and click OK.</p>  <p style="text-align: center;">Figure 11</p>

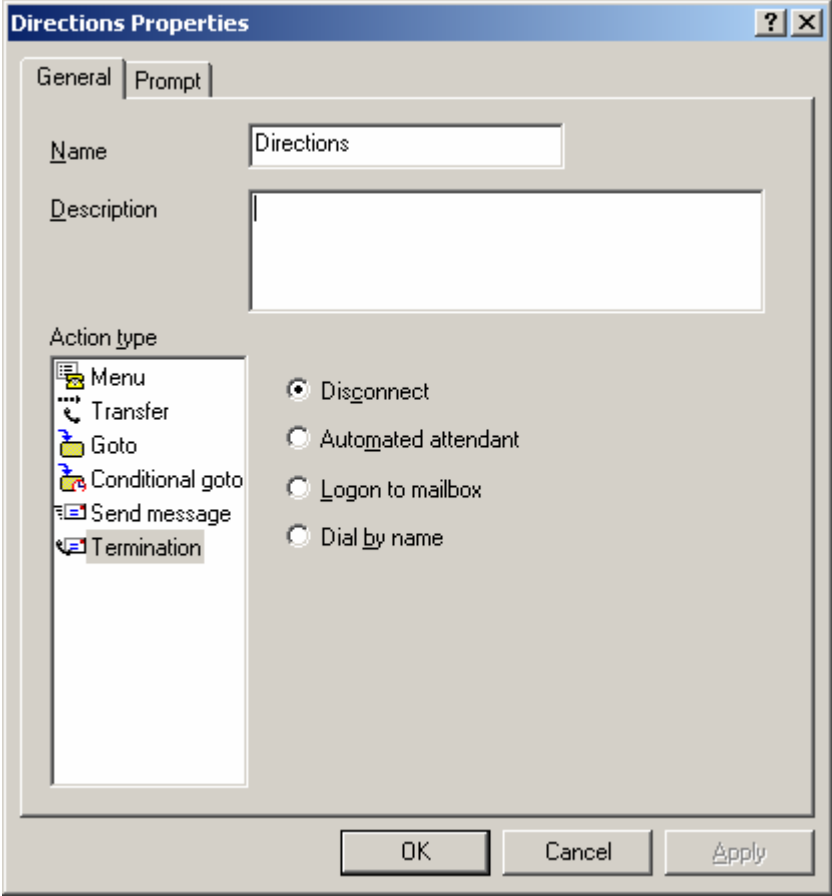
Step	Description
6.	<p>To create the Directions node, as shown in Figure 2, right-click on Auto-Attendant and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Directions. • Description: Enter a summary of the action. • Action Type: Select Termination from the drop down menu. • Key press: Select 2 Key from the drop down menu. • Click OK. • Select Disconnect on the Properties screen and click OK. <p>Figure 12, below shows the Directions Properties screen.</p> 

Figure 12

Step	Description
7.	<p>To create the Talk to a Representative node, as shown in Figure 2, right-click on Auto-Attendant and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Talk to a Representative. • Description: Enter a summary of the action. • Action Type: Select Menu from the drop down menu. • Key press: Select 3 Key from the drop down menu. • Click OK. • Select Menu only on the Properties screen. This will provide a single-digit menu interface. • Select the default value of <Parent node> for Cancel destination node. • Click OK.

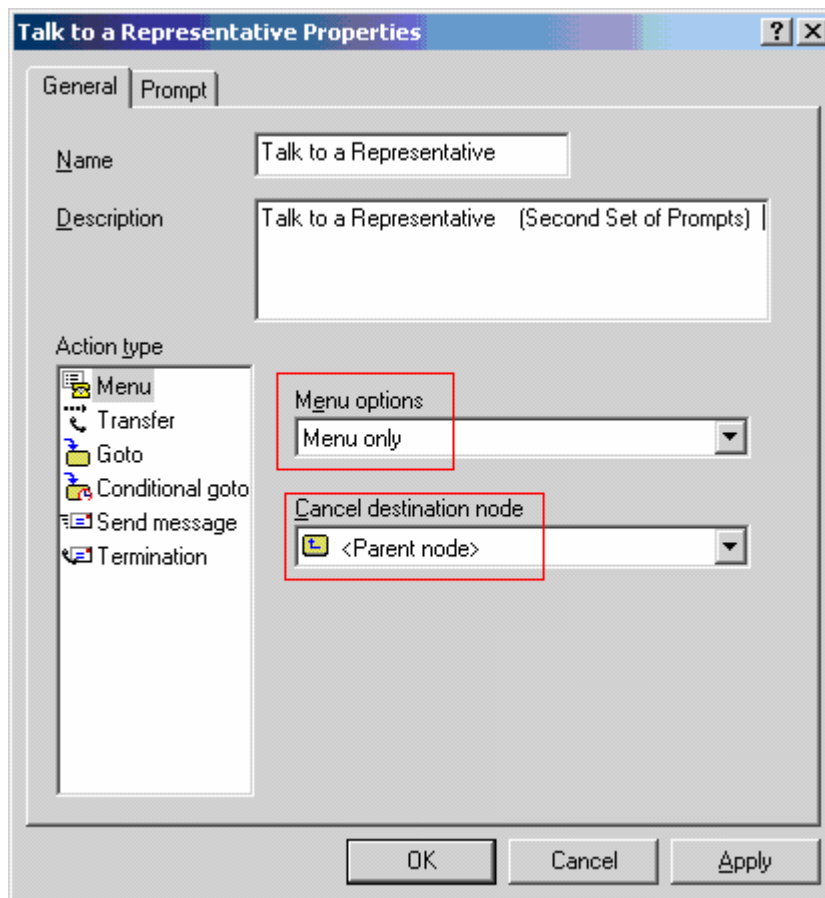


Figure 13

Step	Description
8.	<p>To create the Repeat node, as shown in Figure 2, right-click on Auto-Attendant and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Repeat. • Action Type: Select Goto from the drop down menu. • Key press: Select 4 Key from the drop down menu. • Description: Enter a summary of the action. • Click OK. • Check Node on the Properties screen and select the Auto Attendant from the drop down menu. This will route the call to the Auto Attendant main menu. • Click OK. <div data-bbox="505 816 1330 1707" style="text-align: center;"> </div> <p style="text-align: center;">Figure 14</p>

Step	Description															
9.	<p>Caller Application main window will display the Auto-Attendant Application in the menu as shown in Figure 15.</p> <table border="1" data-bbox="280 453 1555 804"> <thead> <tr> <th>Name</th> <th>Action</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Hours of Operation</td> <td>Termination</td> <td>Prompt 1 will play Greetings for Hours of Operation and then terminate the call.</td> </tr> <tr> <td>Directions</td> <td>Termination</td> <td>Prompt 2 will play Directions Greeting and disconnect the call.</td> </tr> <tr> <td>Talk to a Representative</td> <td>Menu</td> <td>Talk to a Representative (Second Set of Prompts)</td> </tr> <tr> <td>Repeat</td> <td>Goto</td> <td>Repeats the Menu (Loops back to main node which is Auto Attendant)</td> </tr> </tbody> </table>	Name	Action	Description	Hours of Operation	Termination	Prompt 1 will play Greetings for Hours of Operation and then terminate the call.	Directions	Termination	Prompt 2 will play Directions Greeting and disconnect the call.	Talk to a Representative	Menu	Talk to a Representative (Second Set of Prompts)	Repeat	Goto	Repeats the Menu (Loops back to main node which is Auto Attendant)
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Talk to a Representative	Menu	Talk to a Representative (Second Set of Prompts)														
Repeat	Goto	Repeats the Menu (Loops back to main node which is Auto Attendant)														

Figure 15

Step	Description
10.	<p>To create the Timeout Condition, right-click on Auto-Attendant and select Application tab.</p> <ul style="list-style-type: none"> • Check Default operator • Default cancel: Select Parent node from the drop down menu. • Default cancel Key: Select the Prompt Key from the drop down menu. • Accept the defaults for “No input conditions” • Click OK. <div data-bbox="505 653 1333 1545" style="text-align: center;"> </div> <p style="text-align: center;">Figure 16</p>

Step	Description
11.	<p>To create the sub-menus under Talk to a Representative node, right-click on Talk to a Representative and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Accounts. • Action Type: Select Menu from the drop down menu. • Key press: Select 1 Key from the drop down menu. • Description: Enter a summary of the action. <div data-bbox="534 590 1295 1077" style="text-align: center;"> </div> <p style="text-align: center;">Figure 17</p> <ul style="list-style-type: none"> • Click OK.

Step	Description
<p>12.</p>	<p>To create the Caller Application as shown in Figure 2, Accounts requires a conditional goto action.</p> <p>To create the conditional goto steps, additional nodes and schedule need to be created. These will be described in Steps 13 and 14. For now select the default values on the Accounts Properties screen.</p> <ul style="list-style-type: none"> • Select the default Menu only on the Properties screen. This will be changed once additional nodes are created as described in Step 15. • Select the default value of <Parent node> for Cancel destination node. • Click OK. <div data-bbox="505 648 1330 1417" data-label="Image"> </div> <p style="text-align: center;">Figure 18</p>
<p>13.</p>	<p>Right-click on Talk to a Representative and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Accounts – Business Hours. • Action Type: Select Transfer from the drop down menu. • Key press: Select Key from the drop down menu. This is a key less entry. • Description: Enter a summary of the action.

Step	Description
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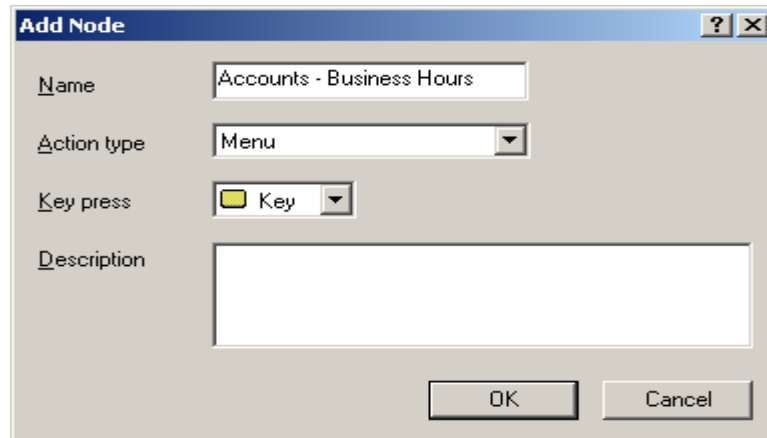


Figure 19

- Click **OK**.
- Select **Extension** and enter the **extension number**. The system will perform a blind transfer to the extension which does not need to correspond to a subscriber and hangs up.
- Click **OK**.

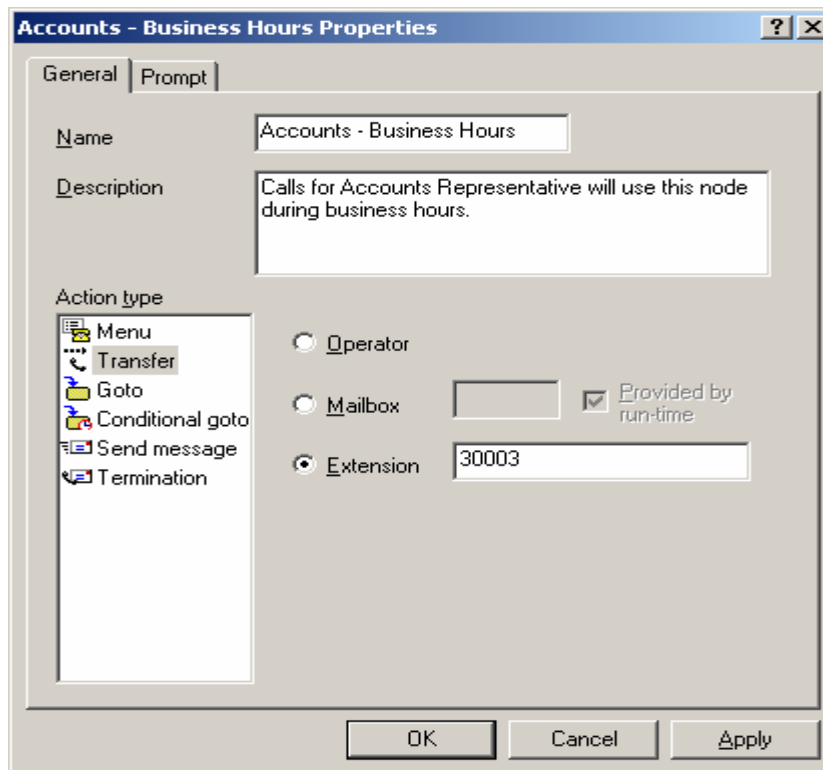
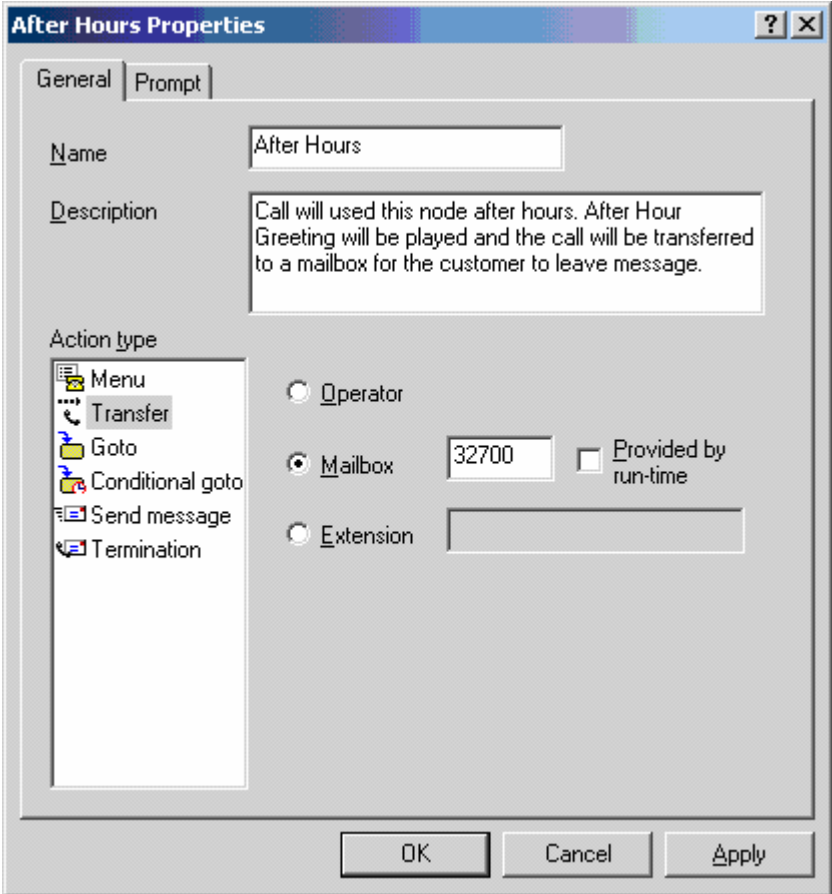


Figure 20

Step	Description
14.	<p>Right-click on Talk to a Representative and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example After Hours. • Action Type: Select Transfer from the drop down menu. • Key press: Select Key from the drop down menu. This is a keyless entry. • Description: Enter a summary of the action. • Click OK. • Select Mailbox and enter a specified mailbox number. • Click OK.  <p style="text-align: center;">Figure 21</p>


Step	Description
15.	<p>Right-click on Accounts and select Properties.</p> <ul style="list-style-type: none"> • Change Action Type from Menu to Conditional goto. • During hours node: Select Accounts – Business Hours from the drop down menu. • After hours node: Select After Hours from the drop down menu. <div data-bbox="505 491 1330 1381" data-label="Image"> </div> <p style="text-align: center;">Figure 22</p> <ul style="list-style-type: none"> • Click on Weekly schedule...

Step	Description
	<ul style="list-style-type: none"> • Highlight the appropriate boxes which represent the Business Hours. • Select Observe system holidays as after hours box. • Click OK to close the Schedule. • Click OK to close the Accounts Properties. <div data-bbox="532 495 1308 1100" style="text-align: center;"> </div> <p data-bbox="854 1104 987 1140" style="text-align: center;">Figure 23</p>
16.	Repeat Steps 12 to 15 for Loan Inquiries node.

Step	Description
17.	<p>Right-click on Talk to a Representative and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Transfer to Operator. • Action Type: Select Transfer from the drop down menu. • Key press: Select 3 Key from the drop down menu. • Description: Enter a summary of the action. • Click OK. • Select Operator. The call will be transferred to the system configured operator. The default operator is the number configured in the Voice Mail System Configuration. • Click OK. <div data-bbox="506 821 1333 1709" data-label="Image"> </div>

Figure 24

Step	Description
18.	<p>To create the Repeat node, as shown in Figure 2, right-click on Talk to a Representative and select New → Application node...</p> <ul style="list-style-type: none"> • Name: Enter a descriptive name or title for the application node, for example Repeat. • Action Type: Select Goto from the drop down menu. • Key press: Select 4 Key from the drop down menu. • Description: Enter a summary of the action. • Click OK. • Check Node on the Properties screen and select the Talk to a Representative from the drop down menu. • Click OK. <div data-bbox="505 816 1333 1709" data-label="Image"> </div> <p style="text-align: center;">Figure 25</p>

Step	Description
19.	<p>Next step is to configure and record the audio prompts associated with the caller application shown in Figure 2.</p> <p>Caller Applications Editor is used to configure these audio prompts which are played when a caller accesses an application node that is configured to use a prompt.</p> <p>To record an application prompt:</p> <ul style="list-style-type: none"> • Highlight the Caller Application or Application Node, for example Hours of Operation. • Right-click on the node and select Properties. • Click on Prompt tab. • Select Play entry prompt checkbox. • Click on  icon to create a new prompt. The prompt number will be generated automatically. NOTE: The prompt number is not same as the access key choices that a caller makes from the menu. The prompts are assigned to the menu separately from the access keys. • Enter a name in the Comments field for the Prompt and press Enter as shown in Figure 26.

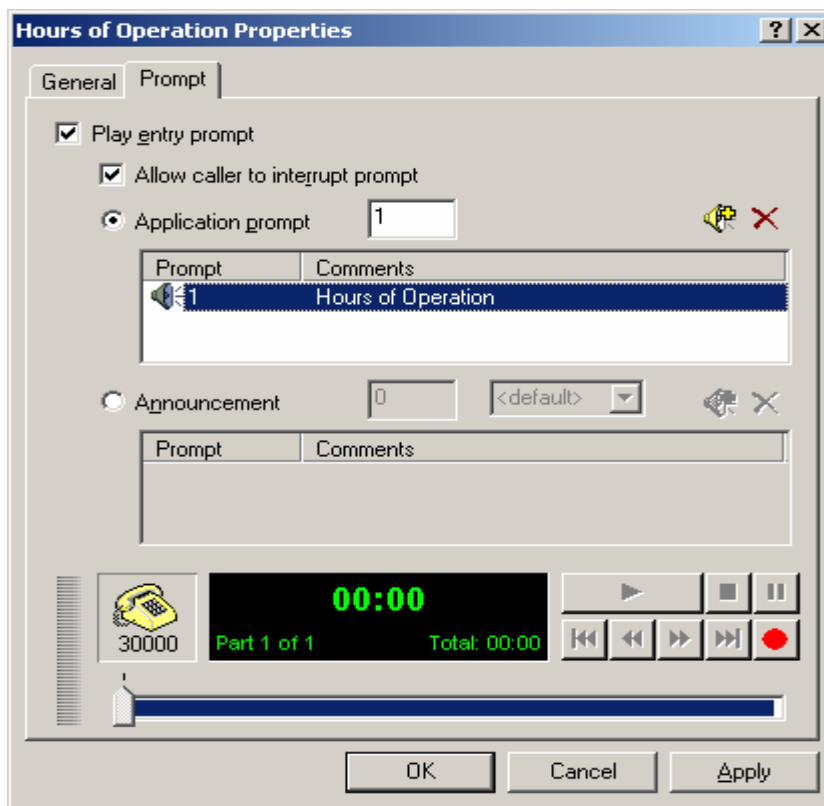

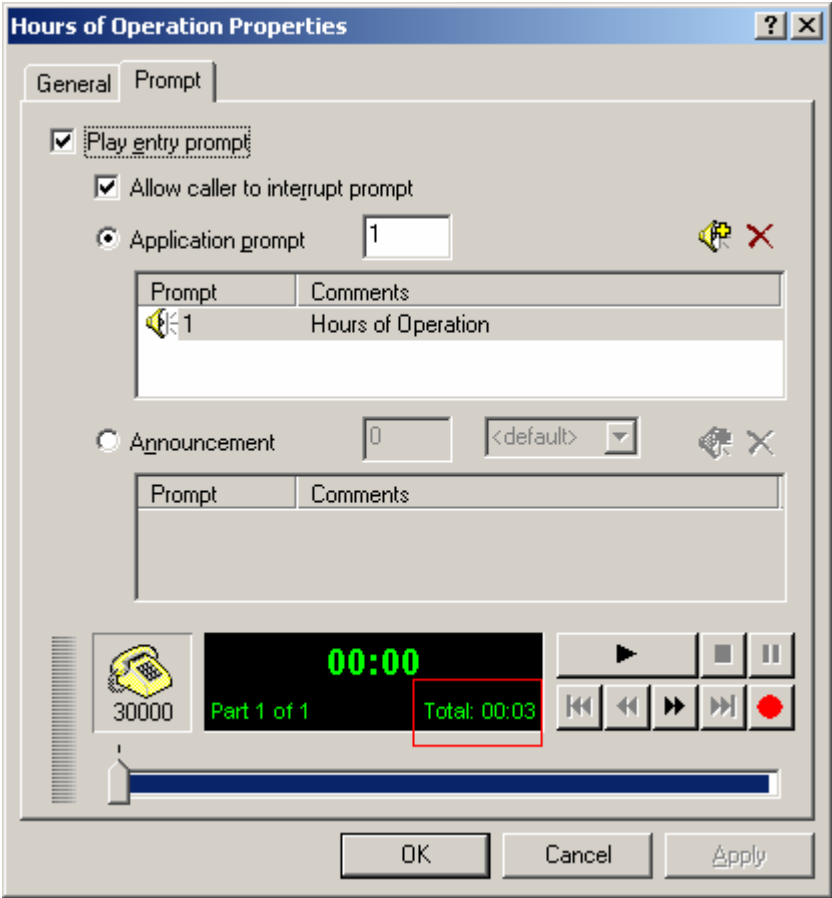


Figure 26

Step	Description
	<ul style="list-style-type: none"> • Record the prompt by clicking the  button. The Caller Application Editor is configured to use Telephone as shown in Figure 4. The phone extension entered in Figure 5 will ring and will be used to record the prompt. • Click OK. <p>Once the prompt is recorded, the properties screen will appear as shown below in Figure 27.</p>  <p style="text-align: center;">Figure 27</p>
20.	Repeat Step 19 and record the other prompts needed for the Caller Application.

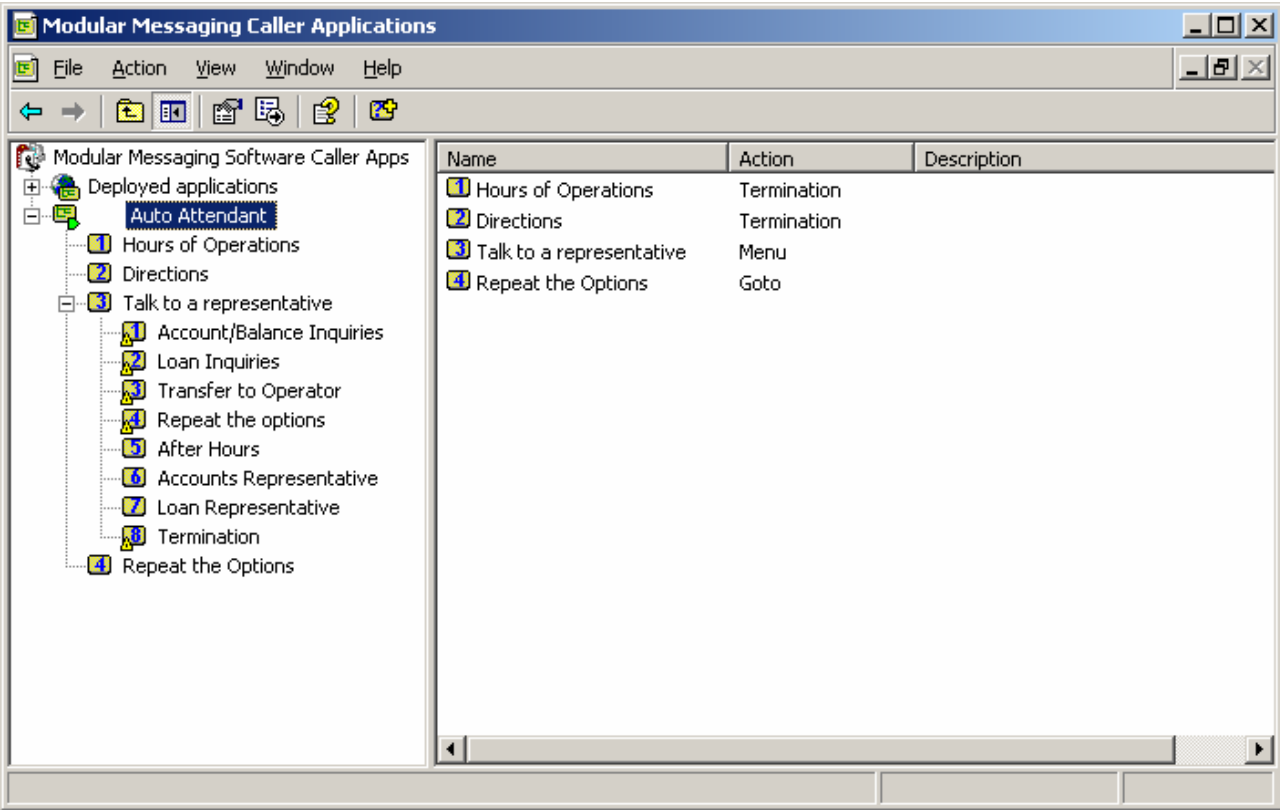
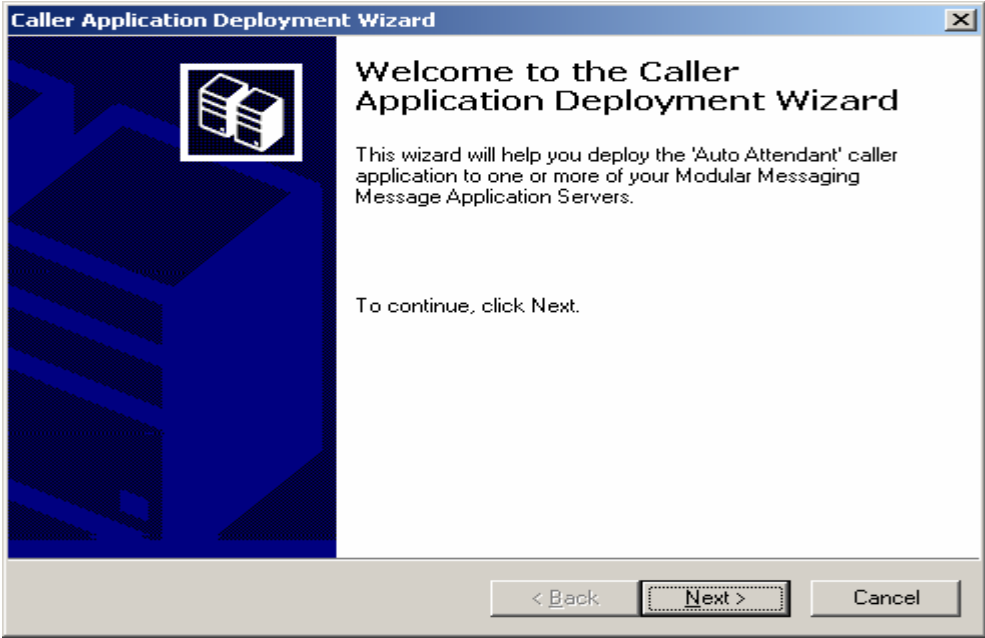
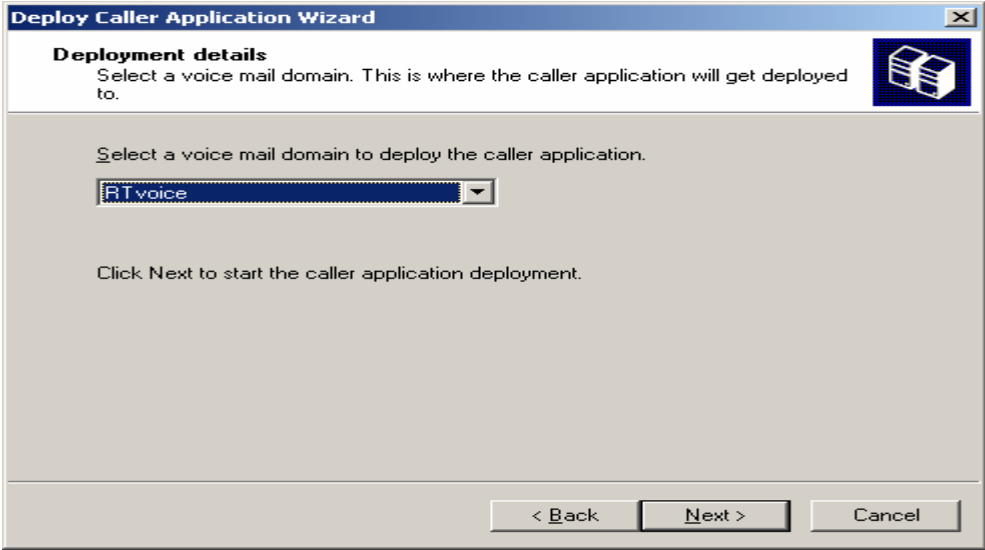
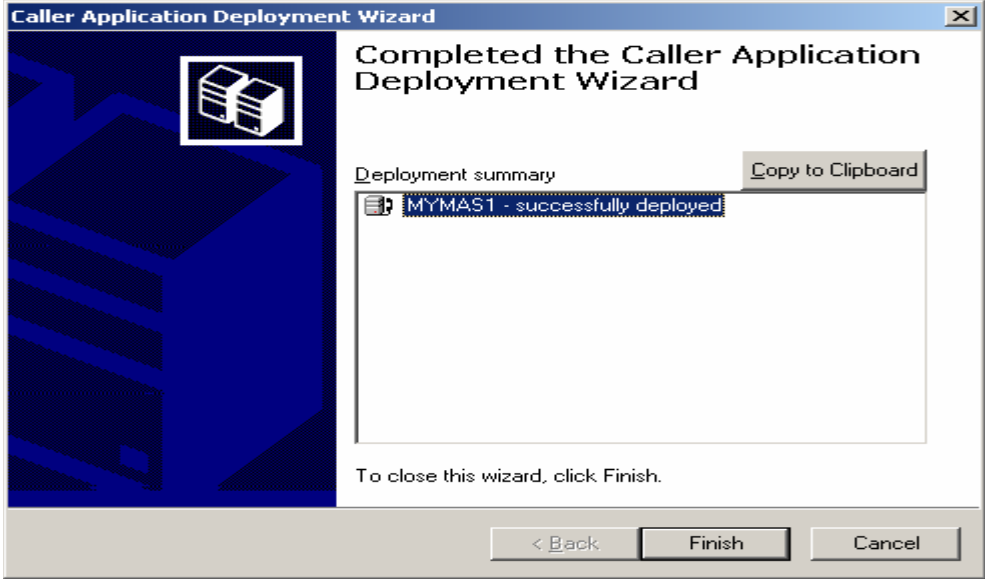

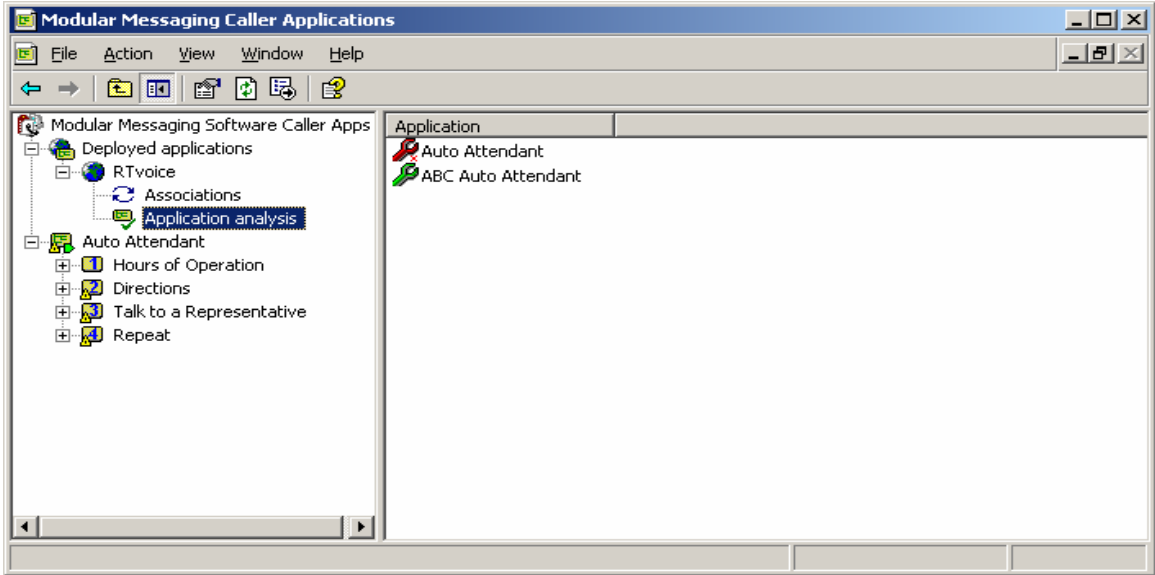

Step	Description															
21.	<p>Caller Application main window will display the Auto-Attendant Application in the menu as shown in Figure 28.</p>  <table border="1" data-bbox="716 478 1555 1100"> <thead> <tr> <th>Name</th> <th>Action</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1 Hours of Operations</td> <td>Termination</td> <td></td> </tr> <tr> <td>2 Directions</td> <td>Termination</td> <td></td> </tr> <tr> <td>3 Talk to a representative</td> <td>Menu</td> <td></td> </tr> <tr> <td>4 Repeat the Options</td> <td>Goto</td> <td></td> </tr> </tbody> </table>	Name	Action	Description	1 Hours of Operations	Termination		2 Directions	Termination		3 Talk to a representative	Menu		4 Repeat the Options	Goto	
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3 Talk to a representative	Menu															
4 Repeat the Options	Goto															
22.	<p>Right-click the Auto-Attendant and select Save Application.</p>															


Figure 28

5. Deploy a Caller Application

Step	Description
1.	<p>Right-click the Auto-Attendant caller application and select All Tasks → Deploy Caller Application.</p> <p>The Caller Application Deployment Wizard window will appear as shown in Figure 29.</p> <div data-bbox="407 537 1386 1171"></div> <p>Click Next.</p>

Step	Description
2.	<p>In the Deployment details, select the Voice Mail Domain (VMD) from the drop-down menu where the caller application is to be deployed and click Next.</p>  <p style="text-align: center;">Figure 30</p>
3.	<p>A progress window will appear briefly displaying the status of deployment for each MAS in the VMD.</p> <p>The following window will appear when the deployment is completed.</p>  <p style="text-align: center;">Figure 31</p> <p>Click Finish to exit the Caller Application Deployment Wizard.</p>

Step	Description
4.	<p>Once the Caller Application is deployed on the MAS system in the VMD, it will appear as an  icon under the Deployed Applications as shown in Figure 32.</p>  <p style="text-align: center;">Figure 32</p> <p>NOTE: The Auto Attendant Application has a red  icon with a small “x” in the bottom-right corner. This indicates that the application is deployed, however no association has been defined.</p>

Step	Description
5.	<p>Next step is to define an association. Caller Application is invoked when certain conditions are met which are assigned by an association.</p> <p>Select Deployed applications → Associations.</p> <p>Right-click Auto Attendant and Add Association window will appear.</p> <ul style="list-style-type: none"> • Association name: Enter a descriptive name. • Caller application: Select the appropriate caller application from the drop down menu to which the Association will belong to, for example Auto Attendant. • Association ID: Enter a numerical number which will identify the association within the VMD. Avaya recommends that Association ID be same as the Called Number or the Mailbox number. <p>The Caller Application will be triggered when either one of the condition is met:</p> <ul style="list-style-type: none"> • Called number: Enter the called number which will trigger the application. This could be the DID number that the caller dials. • Mailbox number: Enter the mailbox number which will trigger the application. • Click OK. <div data-bbox="516 1144 1279 1675" data-label="Image"> </div> <p style="text-align: center;">Figure 33</p> <ul style="list-style-type: none"> • Once the association has been defined, the  icon in Figure 29 will change to green color.

6. Verification Steps

Verify the correct operations of the caller application by calling 38451 and pressing all defined (and undefined) keys as per the flow chart in **Figure 2**. Check that the correct audio prompts are played, that the call is transferred to the appropriate extension and that a message can be left in the mailboxes.

7. Conclusion

These Application Notes demonstrate how to configure Modular Messaging Caller Applications Editor to build, deploy and invoke a caller application.

8. Additional References

Product documentation for Avaya products may be found at <http://support.avaya.com>.

1. *Modular Messaging for the Avaya Message Storage Server (MSS) Configurations*, Release 3.0, Installation and Upgrades – Issue 1.0, July 2006.
2. *Modular Messaging for the Avaya Message Application Server (MAS) Configurations*, Release 3.0, Installation and Upgrades – Issue 1.0, July 2006.
3. *SIP Support in Release 3.1 of Avaya Communication Manager Running on the Avaya S8300, S8500, S8500B, S8700 and S8710 Media Server* – Issue 6.

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