Avaya Solution & Interoperability Test Lab

Application Notes for FCS VoiceMail and Avaya Communication Manager – Issue 1.0

Abstract

These Application Notes describe the procedures for configuring FCS VoiceMail to interoperate with Avaya Communication Manager Release 5.0. FCS VoiceMail is a Windows-based Voice Messaging system designed specifically for Hospitality environments.

Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab at the request of the Solutions Marketing Team.

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1. Introduction

These Application Notes describe the procedures for configuring FCS VoiceMail to interoperate with Avaya Communication Manager. FCS VoiceMail is a Windows-based Voice Messaging system designed specifically for Hospitality environments. It works seamlessly with a hotel's Avaya Communication Manager and Property Management System. In addition to providing standard Voice Messaging functionality, FCS VoiceMail integrates with FCS WinSuite[1] (a Windows-based Hospitality system that provides a real-time multitasking interface between a PBX and a hotel's Property Management System) to support standard Hospitality feature requests as Automatic Wake-Up (AWU), Housekeeping/Room Status changes, and Minibar charge postings.

These Application Notes present a sample configuration for a hotel environment.

1.1. Interoperability Compliance Testing

Interoperability compliance testing focused on FCS VoiceMail ability to work with Avaya Communication Manager Release 5.0. FCS VoiceMail features and capabilities that were verified included the following: voice message delivery/retrieval/deletion and associated MWL activation/deactivation, recording of personal greetings for guest mailboxes, changing of guest mailbox's PIN/password, setting/cancelling AWU calls, Housekeeping/Room Status and Minibar updates initiated at guest telephones. In addition, FCS WinSuite[1] was used to exercise specific capabilities in FCS VoiceMail.

1.2. Support

For technical support on FCS WinSuite, contact FCS Computer Systems at http://www.fcscs.com/support.htm.

[1] Configuration details for this product can be found in [2].

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1.3. Hospitality Solution Overview

Hospitality solution is designed for hotel/hospitality environment and is comprised of the following **core components**:

- **Avaya Communication Manager and Avaya SES** to provide the IP-PBX functionality.

- **Avaya 4626 IP Telephones**.

- **Avaya one-X Deskphone SIP** for 9600 Telephones Hospitality Release (2.2.0.7).

- **FCS Voicemail** integration provides voicemail capabilities and other features applicable in a hospitality environment. FCS VoiceMail is a Windows based Voice Messaging System which is connected to the Avaya Communication Manager via analog phone lines. It utilizes DTMF signaling (specifically mode codes) to communicate Called Party Identification (CPI) and other information to Avaya Communication Manager, in addition to passing voice signaling and traffic. FCS VoiceMail with FCS WinSuite also provides PMS functionality such as check-in, check-out, room status, minibar and Automatic Wake-Up (AWU).

- **FCS WinSuite** is a Windows-based Hospitality system that provides real-time multitasking interface between Avaya Communication Manager and a hotel's Property Management System (PMS). FCS WinSuite supports standard Hospitality feature requests to/from a PMS (guest room check-in/check-out/moves, Do Not Disturb (DND), Automatic Wake-Up (AWU), Message Waiting Lamp (MWL) control, Housekeeping/Room Status changes. When notified of a guest room check-in, FCS WinSuite removes outbound call restrictions on the guest room extension and changes that extension's Hospitality Status to "occupied." Conversely, when notified of a guest room check-out, FCS WinSuite restricts outbound calls on the guest room extension and sets its Hospitality Status to "vacant." Please refer to [2] for additional details.

- **Teledex iPhone™ SIP LD4200 and ND2200 Series phones** are SIP endpoints. They integrate into a SIP environment, providing the cost control benefits of managing one network for both voice and data services to guest rooms. The integrated offer for Hospitality Solution consists of two types of Teledex iPhone™ - ND2210S and LD4210S. The ND2210S and LD4210S SIP phones utilize the same firmware and provide the same functionality. However, the LD4210S SIP phone consists of a 5.6-inch color touch screen display, while the ND2210S SIP phone does not have a display. Please refer to [3] for additional details.

- **Teledex iPhone™ HD6100/6200 Series phones** are hybrid endpoints designed for hotel environment. Teledex iPhone™ HD6100/6200 series phones combine a standard analog phone with an interactive color touch screen display. It is designed for hotel properties which have not upgraded their infrastructure and still have analog wiring to the rooms. Please refer to [4] for additional details.

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2. Network Topology

The network implemented for the reference configuration is shown in **Figure 1**. It shows a network consisting primarily of a pair of Avaya S8720 Servers running Avaya Communication Manager in a High Reliability configuration with two Avaya G650 Media Gateways, and FCS VoiceMail server. The terminals used in the testing which can be used for guest rooms or the hotel staff include Avaya 4626[2] IP Telephones, 96xx SIP Telephones and Teledex iPhones. In addition, FCS WinSuite was used to exercise specific capabilities in FCS VoiceMail. Analog ports on the Intel Dialogic card in the FCS VoiceMail server connects to analog circuit pack TN746B on one of the Avaya G650 Media Gateways. Avaya SoftConsole is a console attendant which can answer calls, conference, hold and transfer guest calls. The Softconsole can view the guest room status. When the PMS system is down, Avaya SoftConsole can check-in/check-out guests.

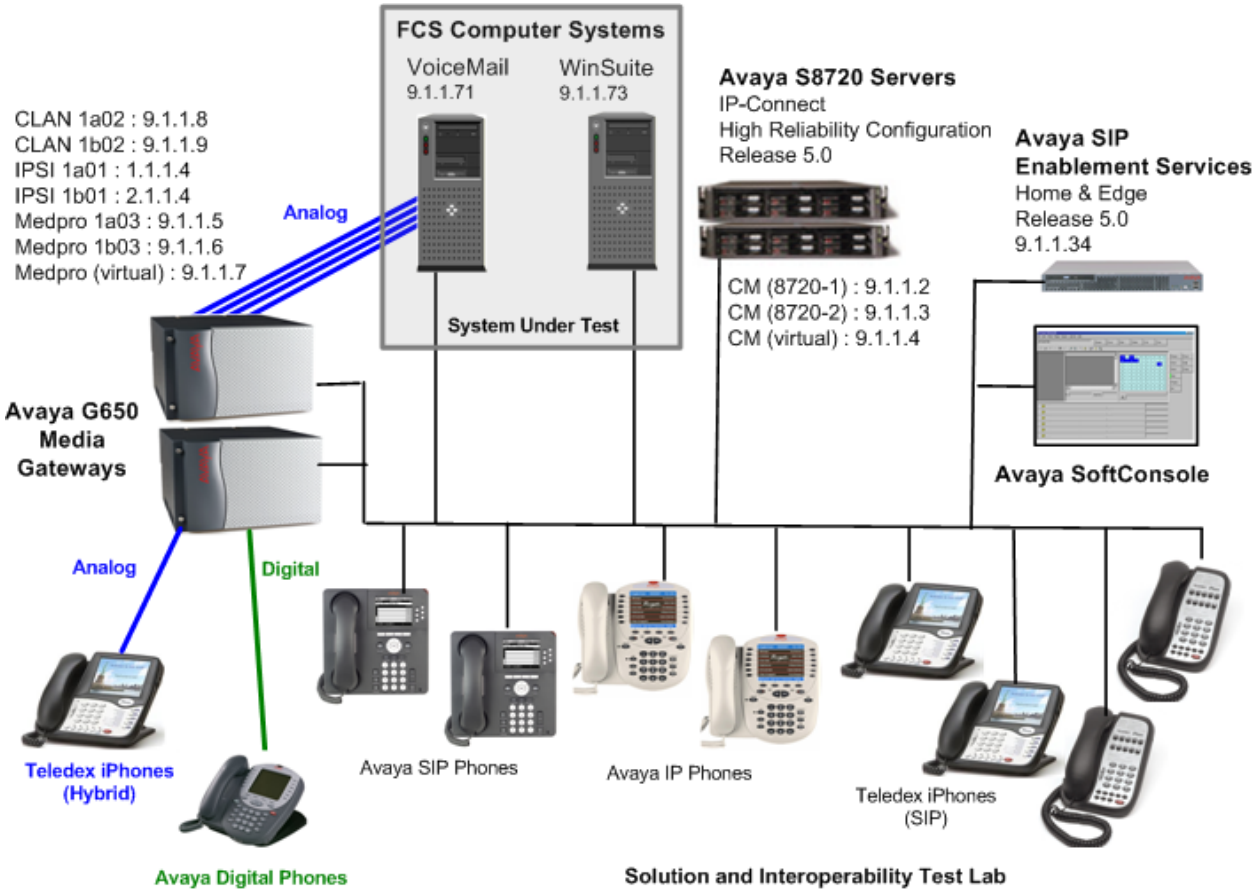

Figure 1: Test Configuration

[2] This telephone was designed and developed specifically for Hospitality environments.

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3. Equipment and Software Validated

The following equipment and software versions were used for the sample configuration.

Device Description	Versions Tested
Avaya Communication Manager - S8720 Servers	Release 5.0 (R015x.00.0.825.4)
Avaya G650 Media Gateway - IPSI (TN2312BP) - CLAN (TN799DP) - MedPro (TN2602AP) - Analog Line (TN746B)	 - HW15 FW044 - HW01 FW26 - HW02 FW044 - 000019
Avaya SES (Combined Home-Edge)	Release 5.0 (825.31)
Avaya 4626 IP Telephones	R2.4
Avaya 9600 Series SIP Telephones	R2.2.0.7
Avaya 6211 Analog Telephones	N/A
Avaya 2420 Digital Telephones	N/A
Avaya SoftConsole iClarity Master Directory Scapi 32.dll	1.58.02 4,1,3,15 4.4 0.0.0.16
Teledex iPhone™ SIP LD4100/4200 Series SIP ND2200 Series	Boot Version 2.0.2 (Build Date 7/22/08)
Teledex iPhone™ SIP HD6200 Series	Boot Version 8.09.53.42 (Build Date 3/28/08)
FCS WinSuite Server	WinSuite 99 Version 3.0.14 Microsoft Windows Server 2003 Enterprise Edition, SP1
FCS Voice Mail Server Dialogic 12-port Analog Line Card	3.1.2 Microsoft Windows Server 2003 Enterprise Edition, SP1

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4. Configure Avaya Communication Manager

This section details the steps required to configure Avaya Communication Manager to interoperate with FCS VoiceMail. These Application Notes assume the Avaya Media Gateways (including circuit packs) have already been administered. Please refer to [1] for additional details.

The commands listed in this section were issued at the Avaya System Access Terminal (SAT) screen. For all steps where data are modified, submit the completed administration form for the changes to take effect.

Step	Description
1.	*Enable Mode Code interface:* Since FCS VoiceMail sends signaling information to Avaya Communication Manager inband using DTMF tones that are interpreted as Mode Codes, this feature must be enabled in Avaya Communication Manager. Enter **change system-parameters features**, advance to **Page 6**, and set the **Mode Code Interface** parameter to y, as shown below:

```
change system-parameters features                                Page   6 of  17
                        FEATURE-RELATED SYSTEM PARAMETERS
         Public Network Trunks on Conference Call: 5              Auto Start? n
    Conference Parties with Public Network Trunks: 6               Auto Hold? n
 Conference Parties without Public Network Trunks: 6          Attendant Tone? y
         Night Service Disconnect Timer (seconds): 180         Bridging Tone? n
                 Short Interdigit Timer (seconds): 3         Conference Tone? n
              Unanswered DID Call Timer (seconds):            Intrusion Tone? n
              Line Intercept Tone Timer (seconds): 30    Mode Code Interface? y
                 Long Hold Recall Timer (seconds): 0
                      Reset Shift Timer (seconds): 0
     Station Call Transfer Recall Timer (seconds): 0         Recall from VDN? n
                               DID Busy Treatment: tone

               Allow AAR/ARS Access from DID/DIOD? y
                 Allow ANI Restriction on AAR/ARS? y
      Use Trunk COR for Outgoing Trunk Disconnect? n
                  7405ND Numeric Terminal Display? n                   7434ND? y
DISTINCTIVE AUDIBLE ALERTING
             Internal: 1   External: 2   Priority: 3
                        Attendant Originated Calls: external
    DTMF Tone Feedback Signal to VRU - Connection:          Disconnection:
```


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Step	Description
2.	*Set Mode Code parameters:* Enter **change system-parameters mode-codes** and ensure that values are entered in the following fields (these values will be passed to FCS Voicemail as appropriate): • Direct Inside Access. • Direct Dial Access – Trunk (only needed if DID service is provided to guest extensions). • Internal Coverage. • External Coverage (only needed if DID service is provided to guest extensions). In addition, enter the following values into the fields indicated to enable FCS VoiceMail to interpret incoming Mode Codes properly: • DTMF Duration – Off (msec): **100.** • Sending Delay (msec): **100.** **change system-parameters mode-code** Page 1 of 1 MODE CODE RELATED SYSTEM PARAMETERS MODE CODES (FROM SWITCH TO VMS) **Direct Inside Access: #00** **Direct Dial Access - Trunk: #01** **Internal Coverage: #02** **External Coverage: #03** Refresh MW Lamp: #06 System In Day Service: #11 System In Night Service: #12 OTHER RELATED PARAMETERS **DTMF Duration** - On (msec): 100 **Off (msec): 100** **Sending Delay (msec): 100** VMS Hunt Group Extension: Remote VMS Extensions - First: Second:

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Step	Description
3.	*Set feature access codes to allow Message Waiting Lamp (MWL) activation/deactivation:* Enter **change feature-access-codes** and advance to **Page 3**. Enter values for **Leave Word Calling Send A Message** and **Leave Word Calling Cancel A Message** that are consistent with the administered dial plan. These feature access codes (FACs) will be used by FCS VoiceMail to activate and deactivate the MWLs on users' stations, to be administered in FCS VoiceMail in **Section 5, Step 14**.

```
change feature-access-codes                                          Page   3 of   7
                                FEATURE ACCESS CODE (FAC)
            Leave Word Calling Send A Message: *66
           Leave Word Calling Cancel A Message: *67
   Limit Number of Concurrent Calls Activation:        Deactivation:
                Malicious Call Trace Activation:       Deactivation:
         Meet-me Conference Access Code Change:

 PASTE (Display PBX data on Phone) Access Code:
  Personal Station Access (PSA) Associate Code:        Dissociate Code:
        Per Call CPN Blocking Code Access Code:
      Per Call CPN Unblocking Code Access Code:

                   Priority Calling Access Code:
                            Program Access Code:

       Refresh Terminal Parameters Access Code:
              Remote Send All Calls Activation:        Deactivation:
               Self Station Display Activation:
                     Send All Calls Activation:        Deactivation:
         Station Firmware Download Access Code:
```


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Step	Description
4.	*Administer analog ports to FCS Voicemail as Voice Mail Interface (VMI) stations:* Enter **add station *x*** (where ***x*** is a valid unused extension) and specify the following values: • Type: **VMI**. • Port: A port on the analog line card that is connected to FCS Voicemail. • Name: A descriptive name (in this case, **FCS VoiceMail**). **add station 40075** Page 1 of 4 STATION Extension: 40075 Lock Messages? n BCC: 0 **Type: VMI** Security Code: TN: 1 **Port: 01B0601** COR: 1 **Name: FCS VoiceMail** COS: 1 Tests? y STATION OPTIONS Time of Day Lock Table: Loss Group: 1 Off Premises Station? n Survivable COR: internal Survivable Trunk Dest? Y
5.	Repeat **Step 4** to add additional VMI stations for each of the analog ports connected to FCS VoiceMail.

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Step	Description
6.	Following VMI stations were created for compliance testing. Four analog boards were used for compliance testing. This can vary in a customer deployment.

```
list station 40075 count 12                                          Page   1

                                  STATIONS

Ext/          Port/   Name/                        Room/         Cv1/ COR/ Cable/
 Hunt-to       Type      Surv GK NN        Move    Data Ext      Cv2  COS  Jack

40075         01B0601 Minibar                                        1
               VMI                          no                         1
40076         01B0604 FCS1 VM                                        1
               VMI                          no                         1
40077         01B0606 FCS1 VM                                        1
               VMI                          no                         1
40078         01B0609 FCS1 VM                                        1
               VMI                          no                         1
40079         01B0612 FCS1 VM                                        1
               VMI                          no                         1
40080         01B0506 FCS1 VM                                        1
               VMI                          no                         1
40081         01B1101 FCS1 VM                                        1
               VMI                          no                         1
40082         01B1104 FCS1 VM                                        1
               VMI                          no                         1
40083         01B1004 VM-AWU-40083                                   1
               VMI                          no                         1
40084         01B1106 VM-AWU-40084                                   1
               VMI                          no                         1
40085         01B1109 AWU-40085                                      1
               VMI                          no                         1
40086         01B0512 AWU-40086                                      1
               VMI                          no                         1
```

For the compliance testing:

- Station 40075 will be dedicated for Minibar posting and Room Status updates.
- Station 40076 to 40082 will be dedicated lines for Voice Mail. These stations will be administered in a hunt group in next step.
- Station 40083 and 40084 will be shared for both Voice Mail and Auto-Wake Up applications. These stations will be administered in a hunt group in next step.
- Station 40084 and 40085 will be dedicated lines for Auto-Wake Up only.

Additional configuration is required on the FCS applications to map the above stations to the appropriate functions and is described in **Section 5, Steps 3-9**.

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Step	Description
7.	*Administer Hunt Group:* Create a hunt group containing the desired set of stations created in **Steps 4-6** and add this hunt group extension as the primary coverage point in the coverage path that will be used by Avaya Communication Manager to direct coverage calls for guest extensions to FCS Voicemail. Enter **add hunt-group *x*** (where ***x*** is a valid unused hunt group number) and specify the following values on Page 1: • Group Name – Provide a descriptive name of the group. • Group Extension – Provide the hunt group extension. **add hunt-group 70** Page 1 of 60 HUNT GROUP Group Number: 70 ACD? n **Group Name: FCS1 VoiceMail** Queue? n **Group Extension: 47777** Vector? n Group Type: ucd-mia Coverage Path: TN: 1 Night Service Destination: COR: 1 MM Early Answer? n Security Code: Local Agent Preference? n ISDN/SIP Caller Display: Specify the following values on Page 3: • GROUP MEMBER ASSIGNMENTS – Enter the extension numbers of the Voice Mail stations created in **Steps 4-6**. add hunt-group 70 Page 3 of 60 HUNT GROUP Group Number: 70 Group Extension: 47777 Group Type: ucd-mia Member Range Allowed: 1 - 1500 Administered Members (min/max): 1 /10 Total Administered Members: 10 GROUP MEMBER ASSIGNMENTS Ext Name(19 characters) Ext Name(19 characters) 1: **40076** **FCS1 VM** 14: 2: **40077** **FCS1 VM** 15: 3: **40078** **FCS1 VM** 16: 4: **40079** **FCS1 VM** 17: 5: **40080** **FCS1 VM** 18: 6: **40081** **FCS1 VM** 19: 7: **40082** **FCS1 VM** 20: 8: **40083** **VM-AWU-40083** 21: 9: **40084** **VM-AWU-40084** 22: 10: 23: 11: 24: 12: 25: 13: 26:

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Step	Description
8.	*Administer Coverage Path:* Enter **add coverage path *x*** (where ***x*** is a valid unused path number) and specify the following values: • The default values can be used for the COVERAGE CRITERIA. • Enter voice messaging system hunt group id created in **Step 7** for the COVERAGE POINTS Point1.

```
add coverage path 70                                          Page   1 of   1
                                 COVERAGE PATH

                   Coverage Path Number: 70
                                                   Hunt after Coverage? n
                       Next Path Number:           Linkage

COVERAGE CRITERIA

    Station/Group Status    Inside Call     Outside Call
             Active?            n              n
               Busy?            y              y
       Don't Answer?            y              y         Number of Rings: 2
                All?            n              n
 DND/SAC/Goto Cover?            y              y
   Holiday Coverage?            n              n

COVERAGE POINTS
    Terminate to Coverage Pts. with Bridged Appearances? n
  Point1: h70            Rng: 1  Point2:
  Point3:                        Point4:
  Point5:                        Point6:
```


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Step	Description
9.	*Administer Priority Calling Access Code:* The Auto-Wake-Up calls from the FCS VoiceMail will be delivered to the guest room phones as priority calls. Enter **change feature-access-code** and specify the value for Priority Calling (on Page 3). **change feature-access-codes** **Page 3 of 9** FEATURE ACCESS CODE (FAC) Leave Word Calling Send A Message: *66 Leave Word Calling Cancel A Message: *67 Limit Number of Concurrent Calls Activation: Deactivation: Malicious Call Trace Activation: Deactivation: Meet-me Conference Access Code Change: PASTE (Display PBX data on Phone) Access Code: Personal Station Access (PSA) Associate Code: Dissociate Code: Per Call CPN Blocking Code Access Code: Per Call CPN Unblocking Code Access Code: **Priority Calling Access Code: *68** Program Access Code: Refresh Terminal Parameters Access Code: Remote Send All Calls Activation: Deactivation: Self Station Display Activation: Send All Calls Activation: *98 Deactivation: *97 Station Firmware Download Access Code: This feature access code will be administered in FCS VoiceMail (AWU.txt file) in **Section 5, Step 26**.

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Step	Description
10.	*Enable Station Tone Forward Disconnect:* Enter **change system-parameter features** and select "busy" for Station Tone Forward Disconnect (on Page 10). **change system-parameters features** **Page 10 of 17** FEATURE-RELATED SYSTEM PARAMETERS Pull Transfer: n Update Transferred Ring Pattern? n Outpulse Without Tone? y Wait Answer Supervision Timer? n Misoperation Alerting? n Repetitive Call Waiting Tone? n Allow Conference via Flash? y Vector Disconnect Timer (min): Network Feedback During Tone Detection? y Hear Zip Tone Following VOA? y System Updates Time On Station Displays? n **Station Tone Forward Disconnect: busy** Level Of Tone Detection: precise Charge Display Update Frequency (seconds): 30 Date Format on Terminals: mm/dd/yy Onhook Dialing on Terminals? n
11.	*Save Translations:* Enter **save translation** to save configuration on the Avaya Communication Manager.

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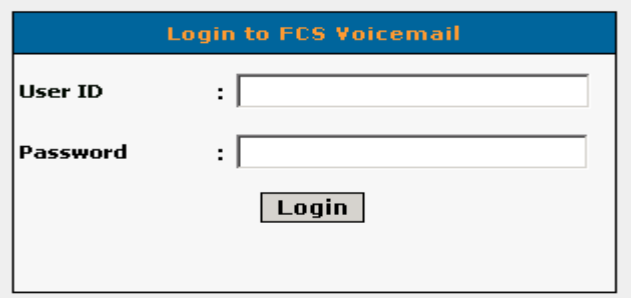
5. Configure FCS Voicemail

This section details the steps required to configure FCS VoiceMail to interoperate with Avaya Communication Manager. These Application Notes assume that the FCS Voicemail application has already been properly installed by FCS services personnel.

Step	Description
1.	Open the FCS VoiceMail administration web client. Launch a web browser, and enter http://<ip address of Voicemail Server>/voicemailwebui/password.aspx. Following screen will appear. Log in with the appropriate credentials. 
2.	At the subsequent administrative menu, select the link for **System Configuration**.

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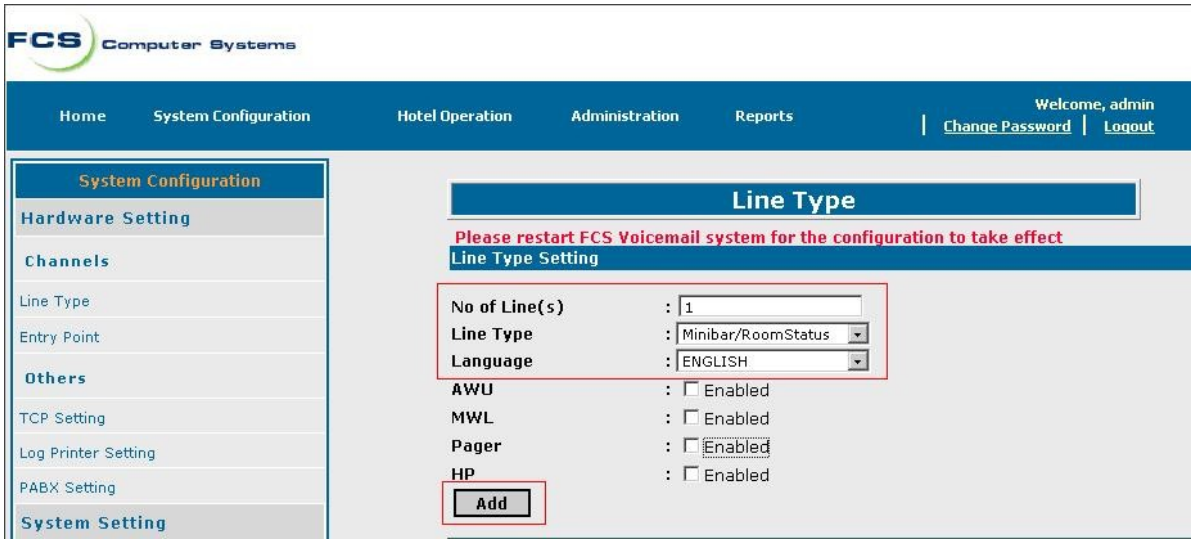
Step	Description
3.	*Configure channels by line type for Minibar and Room status posting:* In the **Line Type Setting** form, enter the following values: • **No. of Line(s)**: The number of lines to be configured as the desired Line Type (in this example, **1**). • **Line Type**: Select **Minibar/Room Status** from the drop-down. • **Language**: Select the language to be provided by FCS VoiceMail in prompts to the user (in this example, **ENGLISH**). Click **Add** to submit the form. 

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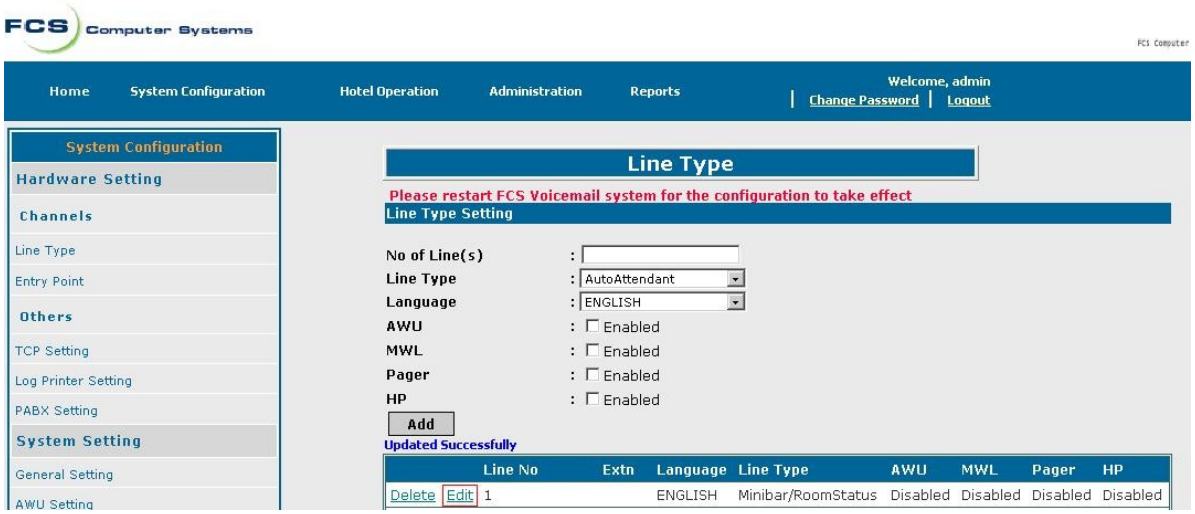
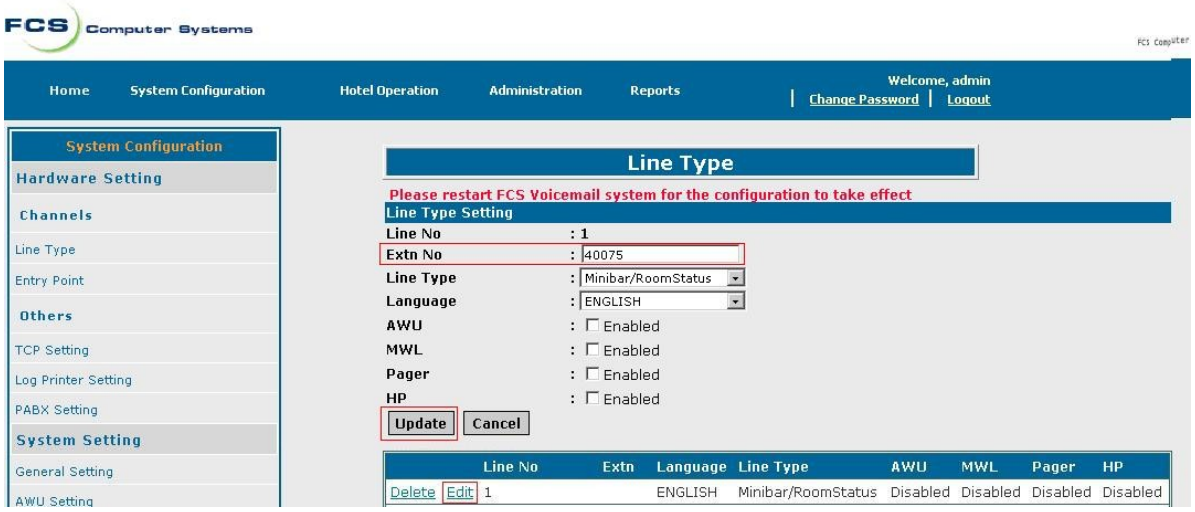
Step	Description
4.	*Add extension detail to lines:* The screen that follows includes a table listing of the lines. Select the **Edit** link next to the line.  In the **Extn No** field, enter the extension number corresponding to the port from Avaya Communication Manager connected to the Dialogic card in the FCS VoiceMail server (in the example shown below, **40075**). Click **Update** to submit the form. 

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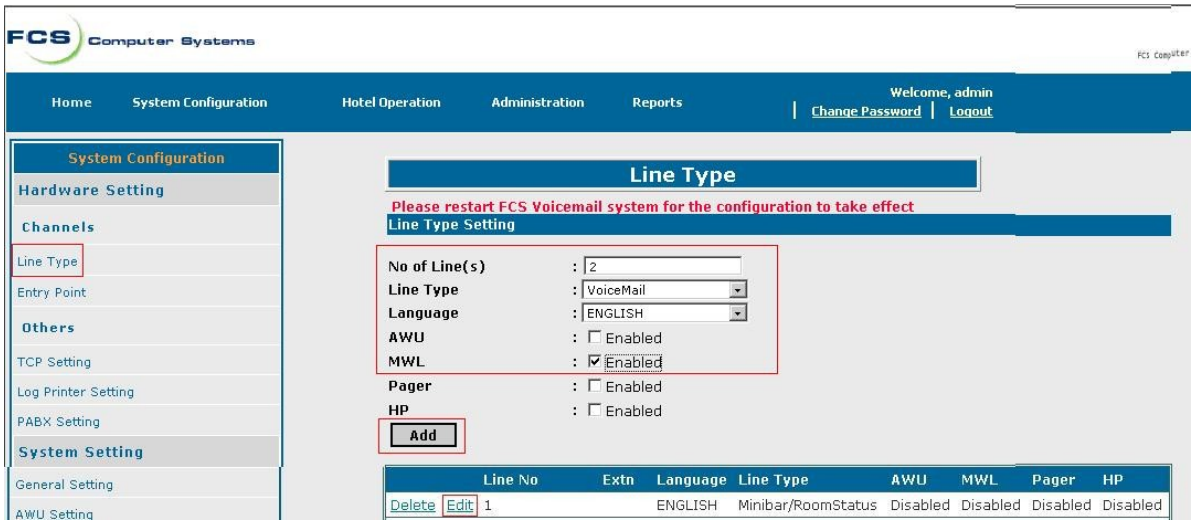
Step	Description
5.	*Configure channels by line type for VoiceMail:* In the **Line Type Setting** form, enter the following values: • **No. of Line(s)**: The number of lines to be configured as the desired Line Type (in this example, **2**). • **Line Type**: Select **VoiceMail** from the drop-down. • **Language**: Select the language to be provided by FCS VoiceMail in prompts to the user (in this example, **ENGLISH**). • Check appropriate box to enable MWL. Click **Add** to submit the form. 

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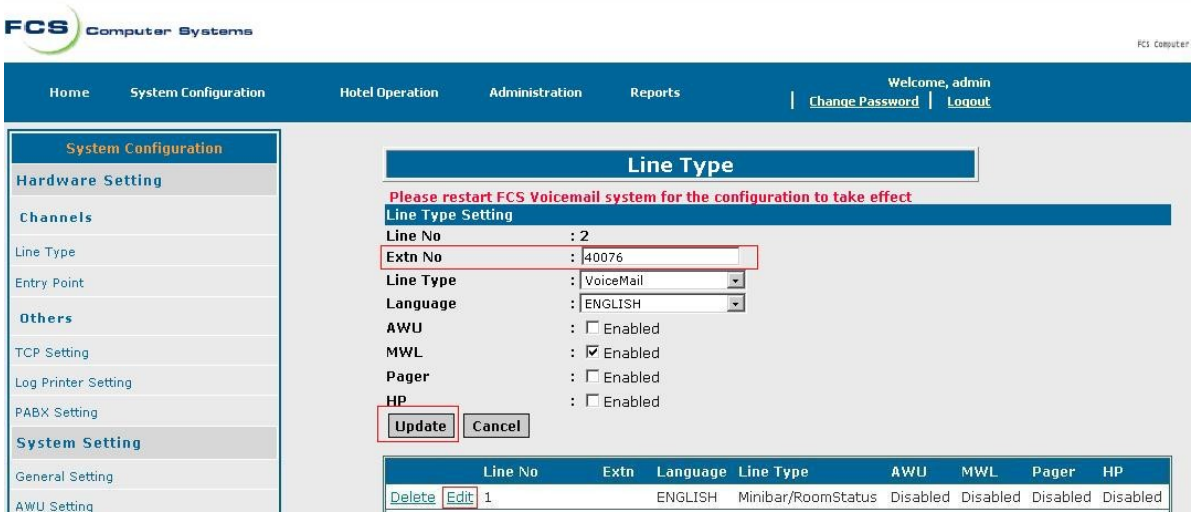
Step	Description
6.	*Add extension detail to lines:* The **System Configuration** screen that follows includes a table listing the lines that have been configured. Select the **Edit** link next to one of the lines; a modified version of the form from **Step 5** is presented (see below). In the **Extn No** field, enter the extension number corresponding to the port from Avaya Communication Manager connected to the Dialogic card in the FCS VoiceMail server (in the example shown below, **40076**). Click **Update** to submit the form. 
7.	Repeat **Steps 5 and 6** until all lines have been defined and configured for the Voice Mail. For the sample configuration, Line No 2 to Line No 8 (Extn No 40076 to 40082) are configured to support Line Type as VoiceMail and have MWL enabled. These will be dedicated lines for MWL.

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Step	Description
8.	*Configure channels by line type for VoiceMail and Auto-Wake Up:* In the **Line Type Setting** form, enter the following values: • **No. of Line(s)**: The number of lines to be configured as the desired Line Type (in this example, **2**). • **Line Type**: Select **VoiceMail** from the drop-down • **Language**: Select the language to be provided by FCS VoiceMail in prompts to the user (in this example, **ENGLISH**). • Check appropriate boxes to enable MWL and AWU. Click **Add** to submit the form. Select the **Edit** link next to the appropriate line number (in this example, select **9**) and in the **Extn No** field, enter the extension number corresponding to the port from Avaya Communication Manager connected to the Dialogic card in the FCS VoiceMail server (in the example select **40083**). Click **Update** to submit the form.
9.	*Configure channels by line type for Auto-Wake Up:* In the **Line Type Setting** form, enter the following values: • **No. of Line(s)**: The number of lines to be configured as the desired Line Type (in this example, **2**). • **Line Type**: Select **Auto Wakeup** from the drop-down. • **Language**: Select the language to be provided by FCS VoiceMail in prompts to the user (in this example, **ENGLISH**). • Check appropriate boxes to enable MWL and AWU. Click **Add** to submit the form. Select the **Edit** link next to the appropriate line number (in this example, select **11**) and in the **Extn No** field, enter the extension number corresponding to the port from Avaya Communication Manager connected to the Dialogic card in the FCS VoiceMail server (in the example select **40085**). Click **Update** to submit the form.

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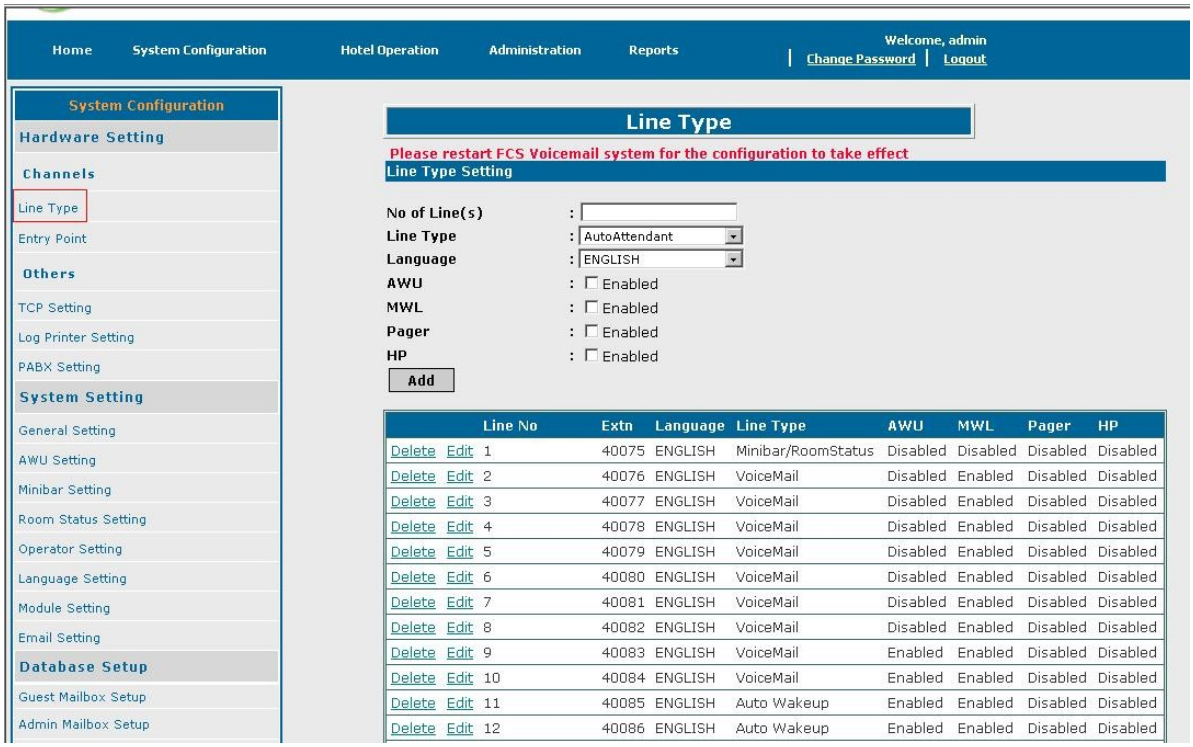
Step	Description
10.	The complete table of all lines and their configured values is presented below.



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Step	Description

11.	*Add entry points:*
	
	Entry points map the expected sequences of leading DTMF digits to actions to be taken by FCS VoiceMail. To define an entry point, select **Entry Point** from the **System Configuration** menu in the left pane. Enter values in the associated fields as follows:
	
	• **CPI Format**: Enter the sequence that will match this entry point (in this example, ***10**).
	• **Description**: Select the desired action to be associated with this entry point. In this example **LEAVE MAILBOX** (entered by the hotel operator after recording and sending a message to a guest mailbox) is selected. Other valid values include:
	  o **RETRIEVE COGMAILBOX** (to allow the hotel operator to retrieve a guest mailbox's messages from any phone).
	  o **RETRIEVE ROOM** (to allow the hotel operator to retrieve messages from a mailbox associated with a checked-out guest telephone).
	  o **DIDRETRIEVE** (specifying the sequence of DTMF digits signaling a retrieval of messages from a checked-in guest telephone).
	  o **NOANSWER** (specifying the sequence of DTMF digits signaling a coverage call redirected from an unanswered guest telephone).
	
	Click **Add** to submit the form.
	
	Entry Point
	Please restart FCS Voicemail system for the configuration to take effect
	Line Type Setting
	CPI Description : X = Ignore any character , M and N = For CPI
	CPI Format : *10
	Description : LEAVE MAILBOX
	Add

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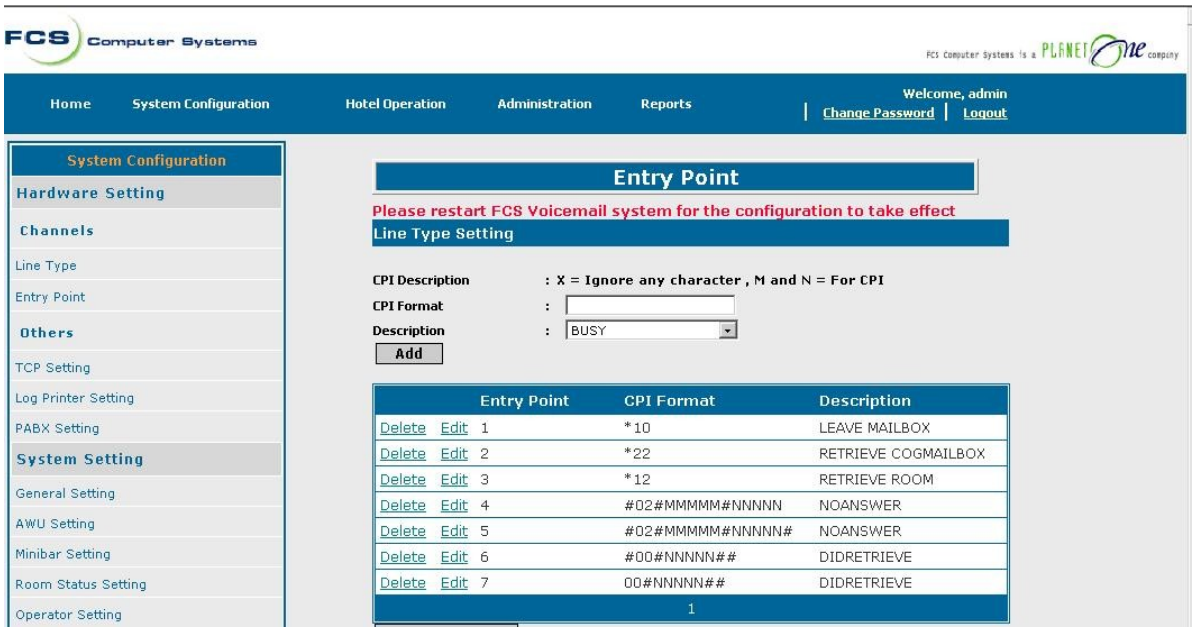
Step	Description
12.	Repeat **Step 11** to enter the entry points corresponding to all of the expected types of incoming calls. The resultant table of entry points is shown below.



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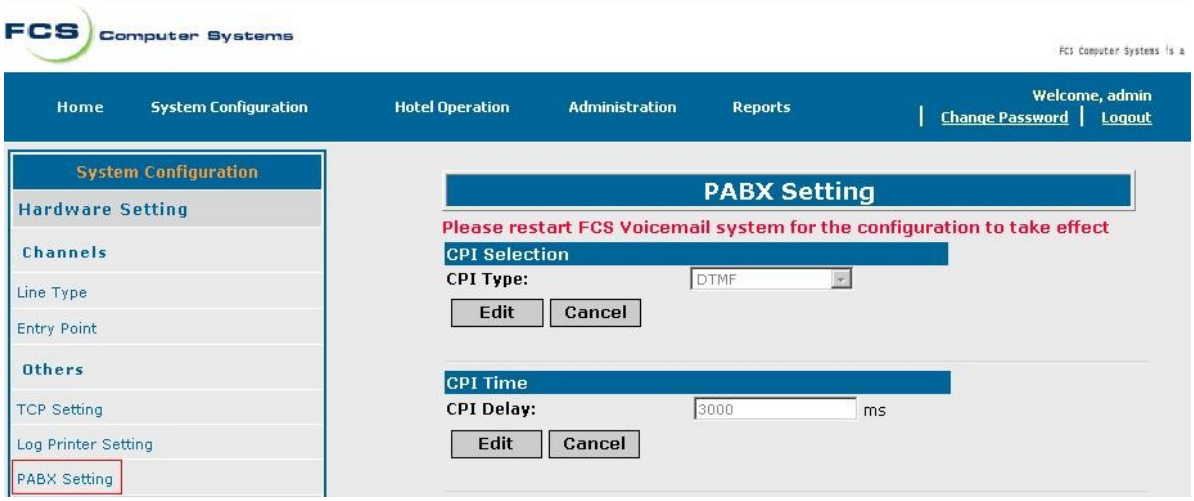
Step	Description
13.	*Set parameters for receiving Called Party ID (CPI) on incoming calls:* Select **PABX Setting** from the **System Configuration** menu in the left pane. For each of the fields shown, click **Edit** and enter the following values: • **CPI Type**: Select **DTMF** (indicating CPI is sent via in-band signaling) from the drop-down menu. • **CPI Delay**: Leave the default for this field (does not apply to in-band signaling of CPI). Click **Save** in each case to accept the new value. The resultant PABX Setting is shown below: 

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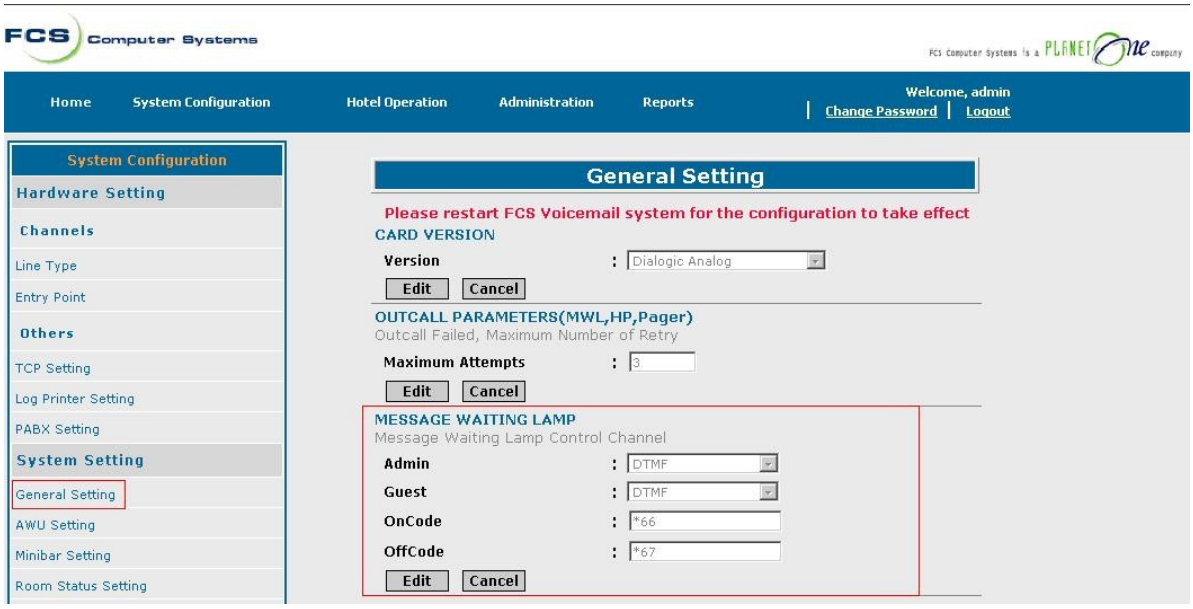
Step	Description
14.	*Set Message Waiting Lamp control parameters:* From the **System Configuration** menu in the left pane, select **General Setting**. Under the **MESSAGE WAITING LAMP** section, enter the following values in the fields indicated: • **Admin**: Select **DTMF** from the drop-down menu. The MWLs on administrator's telephones will be set using DTMF tones over the voice ports to Avaya Communication Manager. OnCode and OffCode are required when DTMF is selected. • **Guest**: Select **DTMF** from the drop-down menu. The MWLs on guest telephones will be set using DTMF tones. OnCode and OffCode are required when DTMF is selected. • **OnCode**: Enter the value for the **Leave Word Calling Send A Message** FAC administered in **Section 4, Step 3** (in this example, ***66**). • **OffCode**: Enter the value for the **Leave Word Calling Cancel A Message** FAC administered in **Section 4, Step 3** (in this example, ***67**). Click **Update** to submit the form. The completed screen is shown below. 

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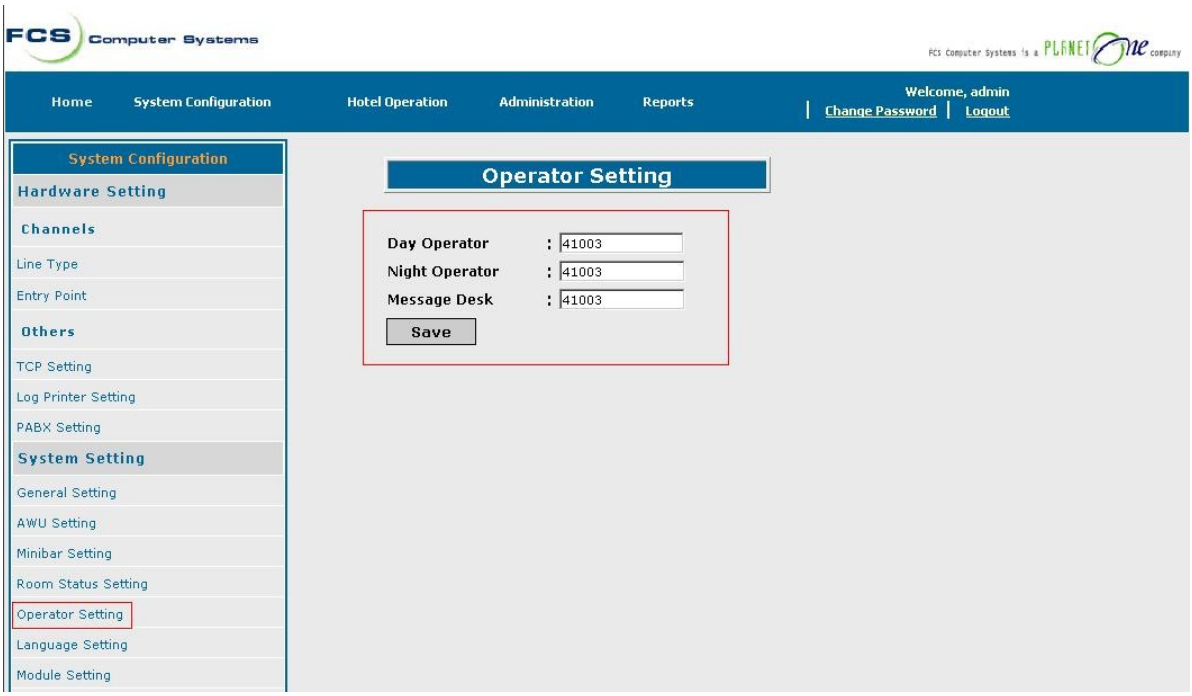
Step	Description
15.	*Define the hotel operator extensions:* From the **System Configuration** menu in the left pane, select **Operator Setting**. Enter the station extensions in Avaya Communication Manager that correspond to the **Day Operator**, **Night Operator** and **Message Desk**, respectively. FCS VoiceMail application will transfer the call the appropriate extension number configured in the Operator Settings. Click **Save** to submit the form. 

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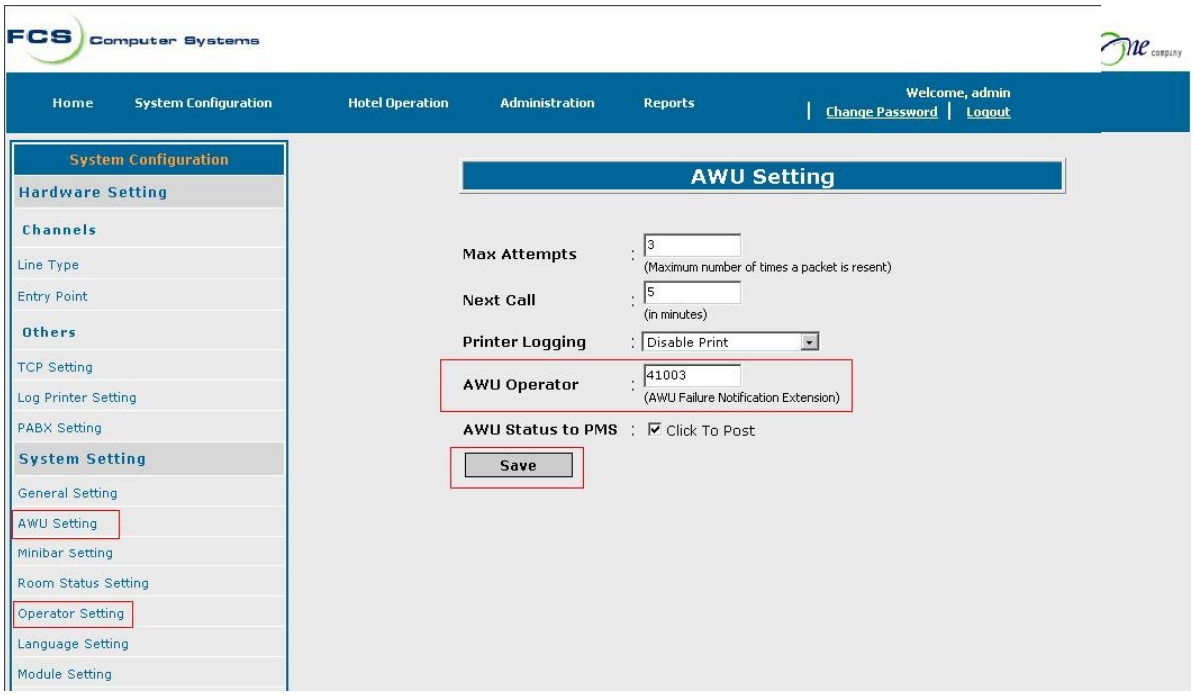
Step	Description
16.	*Define AWU Settings:* From the **System Configuration** menu in the left pane, select **AWU Setting**. Enter the station extensions in Avaya Communication Manager that correspond to the **AWU Operator**. Accept default values for other fields. Click **Save** to submit the form. 

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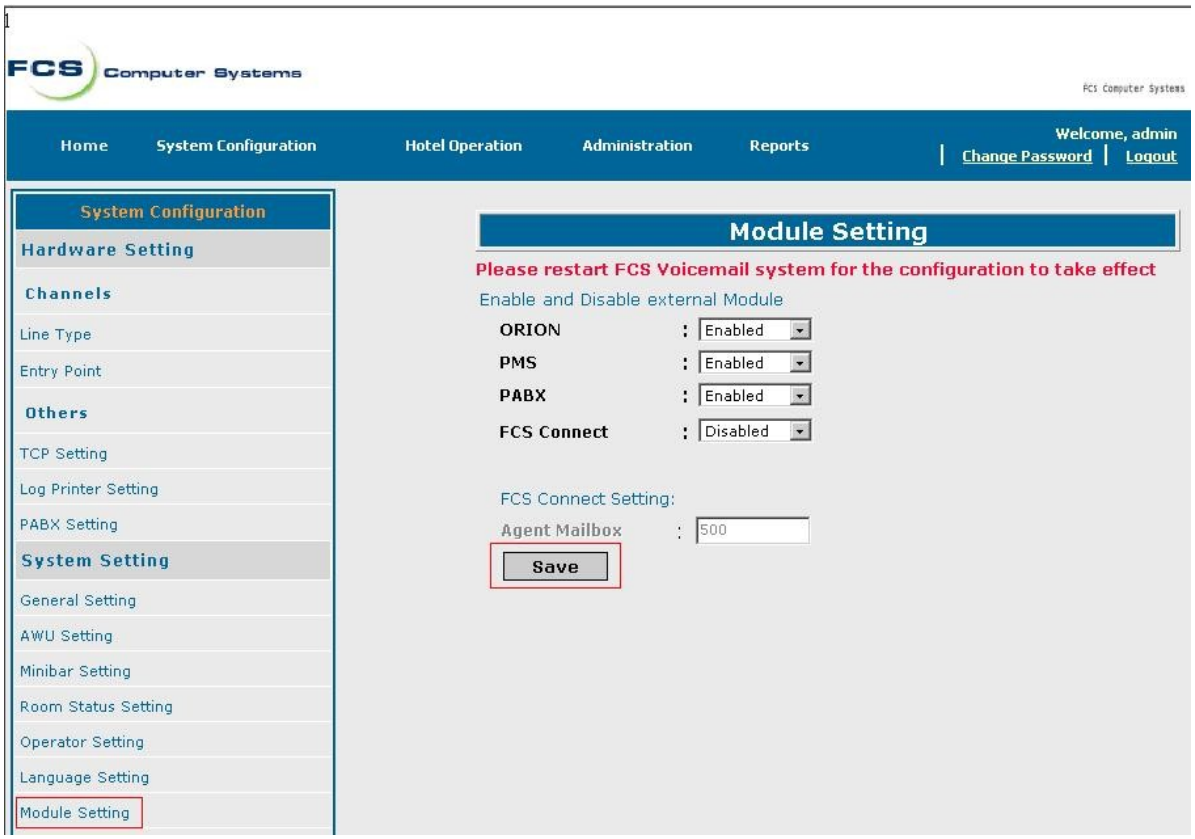
Step	Description
17.	*Define Module Settings:* From the **System Configuration** menu in the left pane, select **Module Setting**. Enable **ORION**, **PMS** and **PABX** interfaces. Click **Save** to submit the form. 

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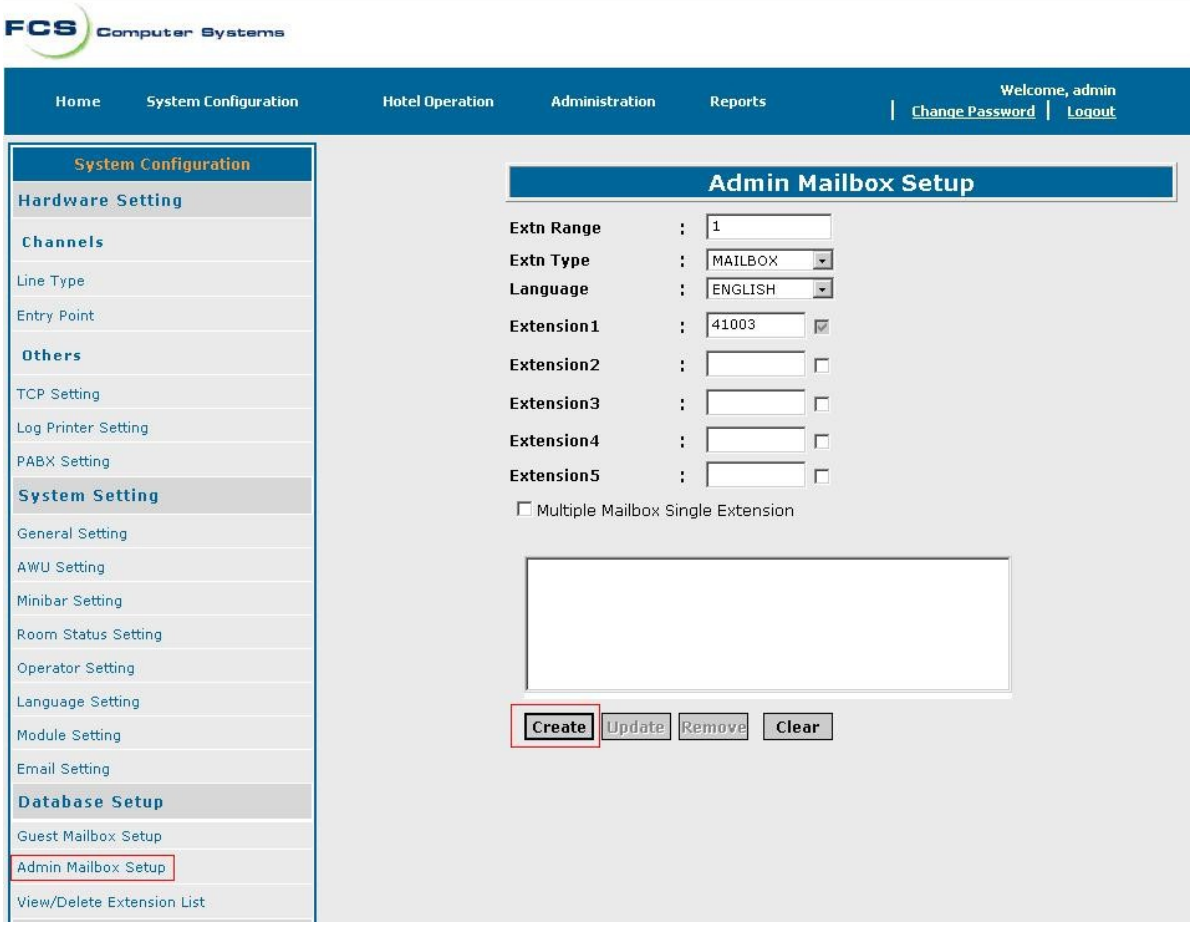
Step	Description
18.	*Create administrator mailboxes:* From the **System Configuration** menu in the left pane, select **Admin Mailbox Setup**. Populate the fields in the form as follows: • **Extn Range**: Enter a range indicating the number of mailbox extensions to be created by this instance of the form (in this case, **1**). • **Extn Type**: Select **MAILBOX** from the drop-down menu. • **Language**: Select the appropriate language to be used to provide user prompts (in this case, **ENGLISH**). • **Extension1-Extension5**: Enter up to 5 mailbox extensions. • **Multiple Mailbox Single Extension**: Check this box if a single administrator station will have multiple mailboxes associated with it. Click **Create** to submit the form. 

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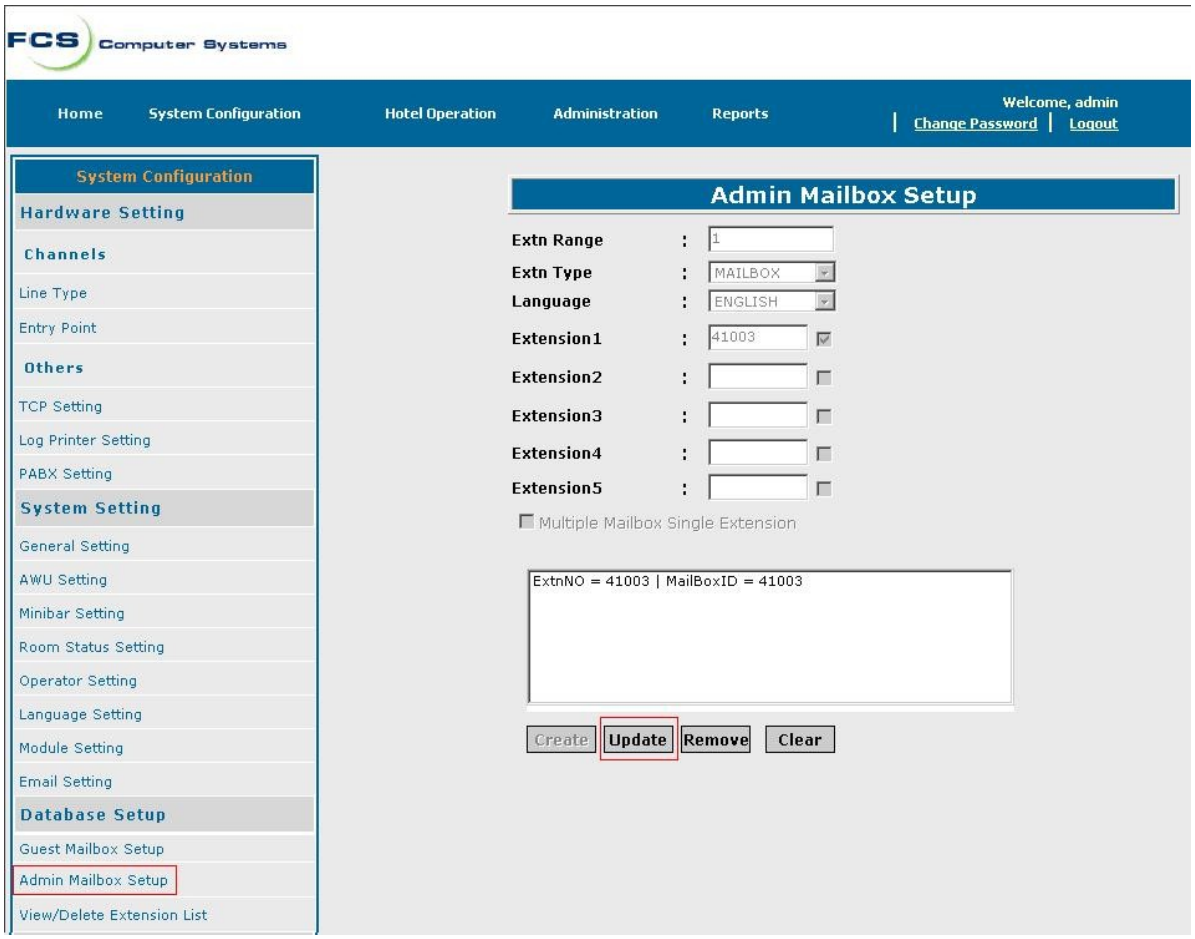
Step	Description
19.	Click the **Create** button will create the specified admin mailboxes. A list of **ExtnNO | MailBoxID** pairs corresponding to the created mailboxes is displayed in the text box. Click on **Update** button to complete the action. 
20.	Repeat **Step 18 and 19** until all administrator mailboxes have been created.

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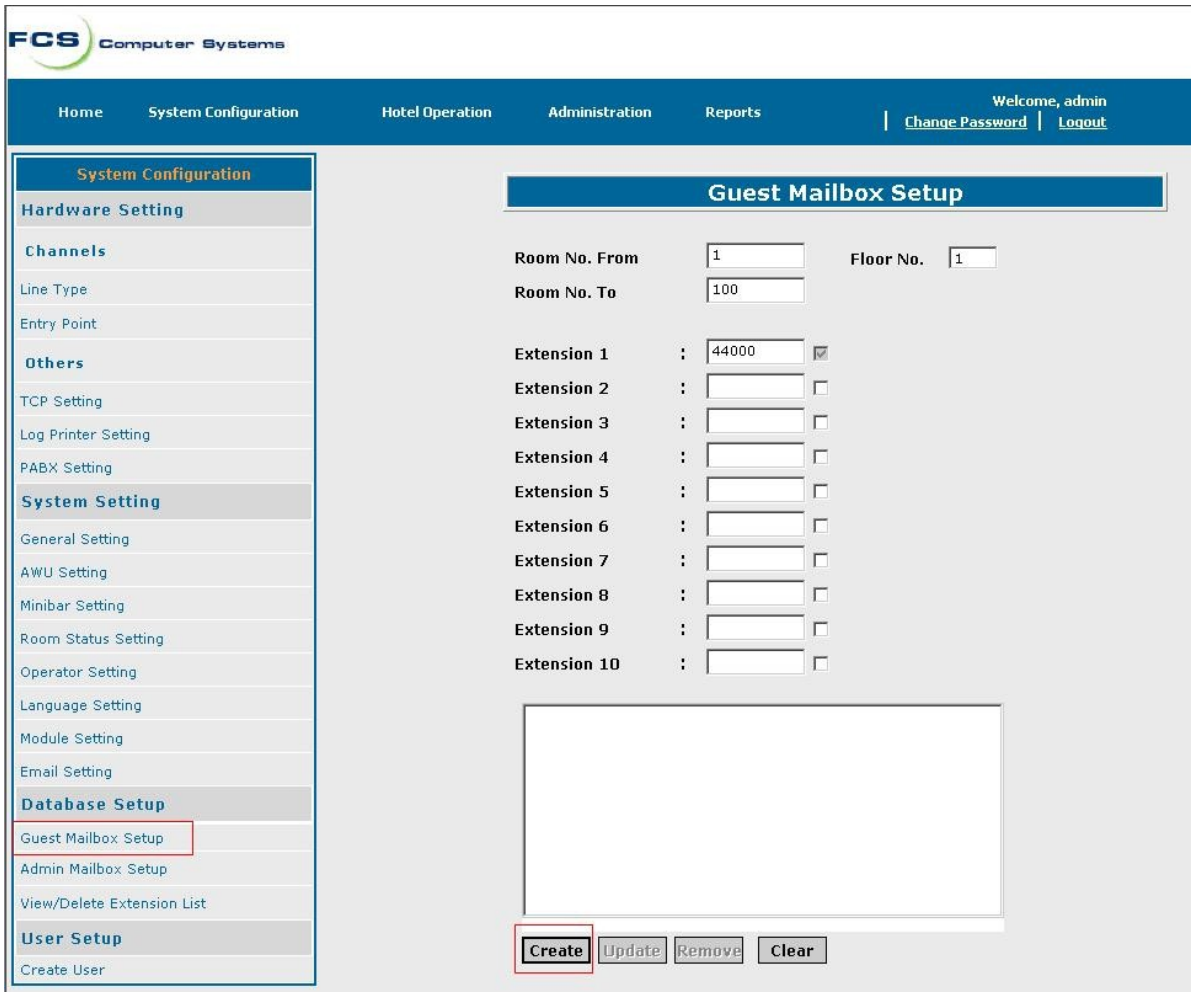
Step	Description
21.	*Add guest mailboxes:* From the **System Configuration** menu in the left pane, select **Guest Mailbox Setup**. Populate the fields in the form as follows: • **Room No. From, Room No. To**: Enter a range of room numbers to be matched in sequence with the extensions administered in the **Extension** fields below (up to 10 at a time). • **Floor No.**: Enter the floor in the hotel where the indicated range of rooms is located. • **Extension 1-Extension 10**: Enter the extension numbers of the guest telephones in the rooms falling in the range specified above. Click **Create** to submit the form. 

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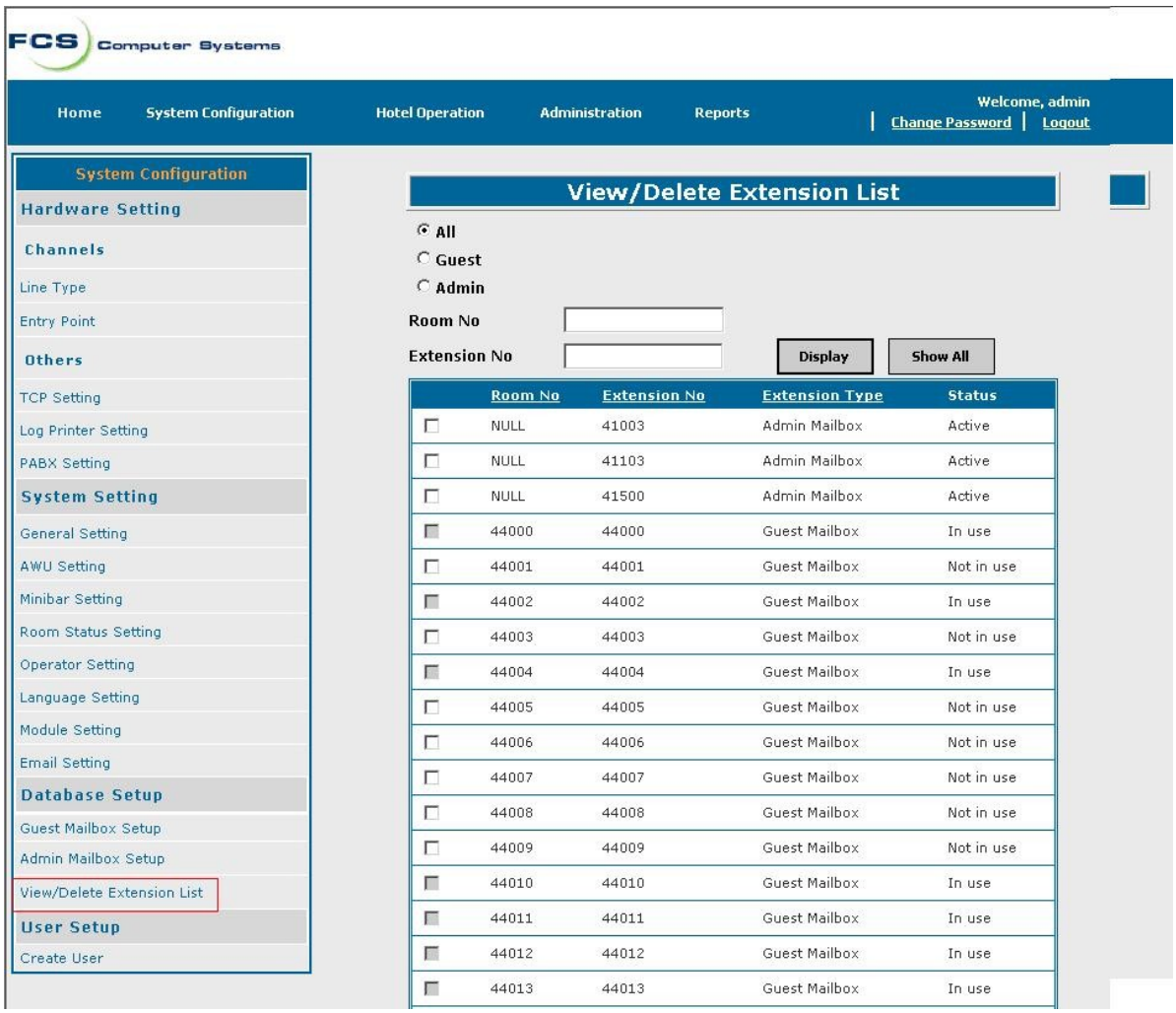
Step	Description
22.	Click on the **Create** button to create the specified guest mailboxes. A list of **RoomNO | ExtnNO** pairs corresponding to the created mailboxes is displayed in the text box. Click on **Update** button to complete the action.
23.	Repeat **Steps 21 and 22** until mailboxes have been created for all guest extensions.
24.	To view a list of all mailboxes that have been created, select **View/Delete Extension List** from the **System Configuration** menu in the left pane. An example from the test configuration is shown below.



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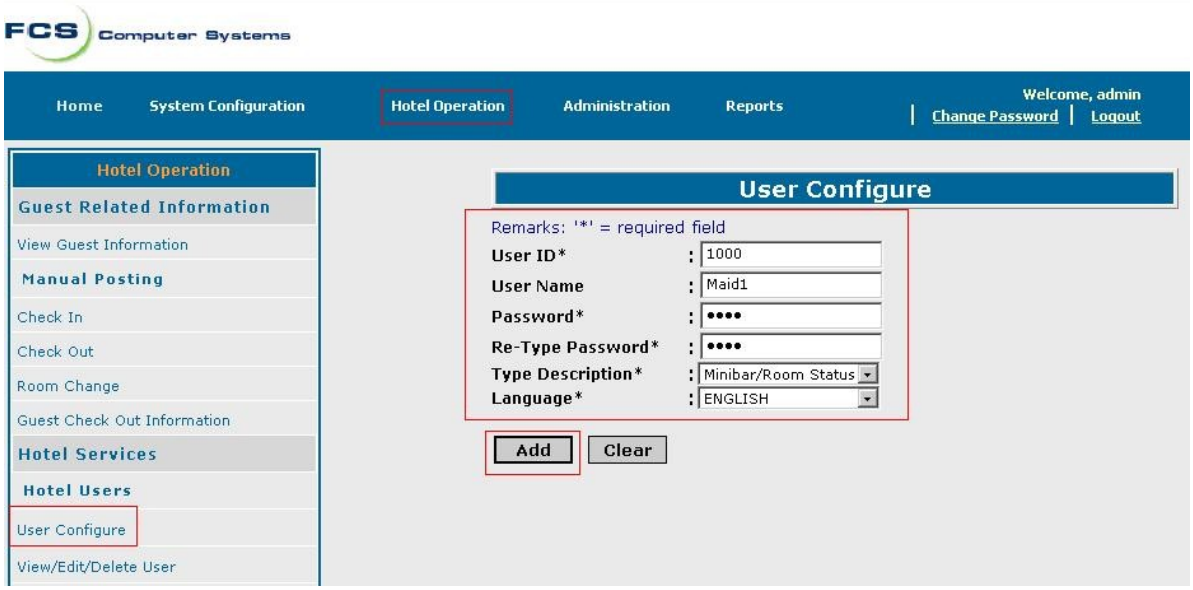
Step	Description
25.	*Configure Users:* In the **Hotel Operation**, select **User Configure** and enter the following values: • **User ID:** Enter a numeric user ID. • **User Name:** Enter a descriptive user name. • **Password:** Enter a numeric password. • **Re-Type Password:** Re-enter the same password from above. • **Type Description:** Select **Minibar/Room Status** from the drop-down. • **Language**: Select the language to be provided by FCS VoiceMail in prompts to the user (in this example, **ENGLISH**). Click **Add** to submit the form. 

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Step	Description

26.	*Administer Priority Calling Access Code in FCS VoiceMail AWU.txt file:*
	The Auto-Wake-Up calls from the FCS VoiceMail will be delivered to the guest room phones as priority calls.
	On the FCS VoiceMail server, open the **C:\FCS VoiceMail\FlowScript\AWU.txt** file.
	Enter the feature-access-code administered in Avaya Communication **Section 4, Step 9** as shown below for objChn.makeCall.
	`'###IF MAKECALL SUCCESS###`
	`If objChn.makeCall("*68" & extNum,15) = objChn.LINECALLSTATE_CONNECTED Then`
	`  objChn.insertAWUStatus extNum, AWUTime, MaxAttempt, Attempt, SetID, ANSWER`

6. General Test Approach and Test Results

Feature functionality testing was performed manually.

Few observations were made during testing which are noted below:

1. FCS VoiceMail requires board level parameters adjustments for Intel Dialogic card and "disconnect tones" configurations in the FCS PABX tool. Please contact FCS team to get these configurations. If the card is not tuned properly, the calls to the VoiceMail Server will disconnect. The incorrect disconnect tones will impact the MWL interactions.
2. An Admin user cannot send messages to multiple mailboxes by using the <extension no> # format.
3. Disconnecting the analog facilities from FCS Voice Mail, does not update the line status in Voice Mail system and continues to show "Ready" as the line status.

7. Verification Steps

This section describes steps that may be used to verify the configuration.

Step	Description
1.	Call the FCS VoiceMail hunt group extension from a checked-in guest telephone. Verify that an announcement summarizing the number of messages in the associated guest mailbox is played, without the need for entering a mailbox extension or password.

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Step	Description
2.	Call the FCS VoiceMail hunt group extension from a checked-out guest telephone. Verify that the caller is not able to leave a message for the guest and is transferred to the operator.
3.	From a checked-in guest telephone using the feature menu, setup an AWU call. Verify that the AWU call is launched to the guest telephone at the appropriate time.
4.	From a checked-in guest telephone, dial the extension of an FCS VoiceMail port that supports Minibar and Room Status updates. Follow the prompts to submit Minibar charges and Room Status changes. Verify using FCS WinSuite that the data are posted accurately.

8. Conclusion

These Application Notes describe the procedures for configuring FCS VoiceMail to interoperate with Avaya Communication Manager. All interoperability compliance test cases executed against such a configuration were completed successfully.

9. Terminology

AWU Auto Wake-UP
DND Do Not Disturb
FAC Feature Access Code
MWL Message Waiting Lamp
PMS Property Management System
SES SIP Enablement Services

10. Additional References

1. "Administration for Network Connectivity for Avaya Communication Manager," Document ID 555-233-504
2. "Application Notes for FCS WinSuite with Avaya Communication Manager"
3. "Application Notes for Teledex iPhone and Avaya Communication Manager and Avaya SIP Enablement Services"
4. "Application Notes for Teledex iPhone Hybrid HD6200 and Avaya Communication Manager".

Additional product documentation may be found at the following sites:

- Avaya: http://support.avaya.com
- FCS: http://www.fcscs.com

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