# AVAYA

**Avaya Solution & Interoperability Test Lab**

# Application Notes for Imagine Soft Meteor SE with Avaya Communication Manager– Issue 1.0

## Abstract

These Application Notes describe the compliance testing of Imagine Soft Meteor SE with Avaya Communication Manager. Meteor SE is used in hospitality industries to assist with check in/out and telephone usage authorization.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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## Illustrations

# 1. Introduction

The Imagine Soft Meteor SE Server provides various telephony capabilities which help meet the needs of the hospitality industries. Meteor SE has the following capabilities which interact with Avaya Communication Manager:

- Meteor SE provides a check-in/check-out facility which changes telephone access privileges, providing telephone access to guests immediately upon check-in, and preventing unauthorized use after check-out.
- Meteor SE can assign a name to the telephone upon check-in, so that hotel or hospital staff can immediately recognize guests or patients from whom they receive telephone calls.
- Meteor SE can allocate Direct Inward Dialing (DID) numbers to guests who require direct access from the Public Switched Telephone Network (PSTN).
- Meteor SE allows hotel personnel to update the status of rooms during housekeeping operations directly from room telephones.
- Meteor SE provides a voicemail account to each guest in 6 languages (English, French, German, Spanish, Italian, and Japanese), which can be accessed from the guest's local room telephone, or externally.
- Meteor SE provides voice wakeup calls in 6 languages with the possibility to follow wakeup events.
- Meteor SE calculates each guest's telephone charges for inclusion with the room bill.
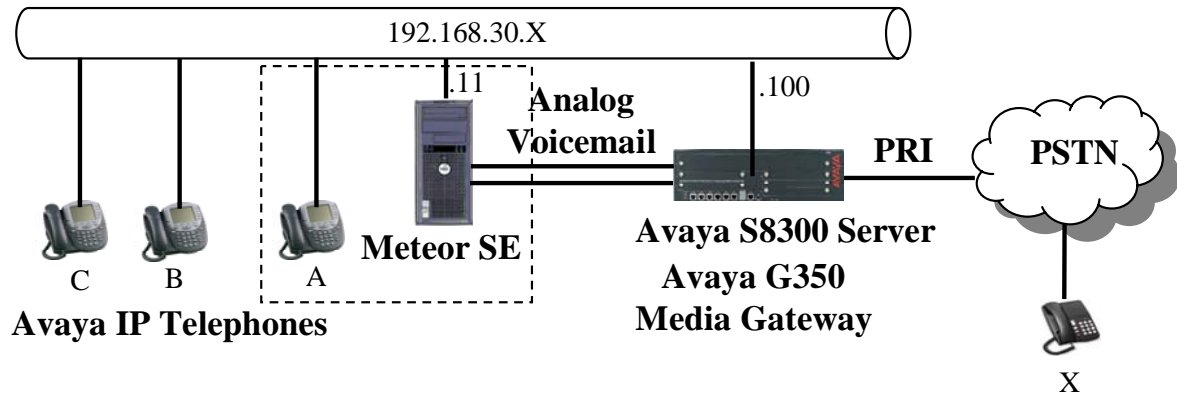
**Figure 1: Imagine Soft Meteor SE Configuration**

The following table contains additional information about each of the telephones contained in the above diagram:

| Endpoint | Type | Ext | PSTN Number | Endpoint |
|----------|------|-----|-------------|----------|
| A | Admin | 3113 | +49 69 xxxxxxx 3113 | Avaya 4610 |
| B | Room | 3112 | +49 69 xxxxxxx 3112 | Avaya 4610 |
| C | Room | 3126 | +49 69 xxxxxxx 3126 | Avaya 4620 |
| VM 1 | Analog | 3211 | | |
| VM 2 | Analog | 3212 | | |
| VM HG 4 | Hunt Group | 3304 | | |
| XDIDVIP | DID | 3201 | | |
| PHANTOM | | 3301 | | ISDN |
| X | PSTN | | +49 69 xxxx 6630 | ISDN |

**Table 1: Extensions Used for Testing**

## 2. Equipment and Software Validated

| Software Component | Version |
|---|---|
| Avaya Communication Manager | 5.1.0 (R015x.01.1.415.0) |
| Avaya G350 Media Gateway | 28.17.0 |
| MM710AP DS1 | HW05 FW019 |
| Avaya G350 Analog Interface | HW38 FW089 |
| Avaya 4610SW IP Telephone | 2.884 |
| Meteor SE | 3.0.1 |

**Table 2: Version Numbers of Equipment and Software**

## 3. Configuration

### 3.1. Configure Communication Manager

The configuration and verification operations illustrated in this section were performed using the Avaya Communication Manager System Administration Terminal (SAT).

Note that the configuration of the interface to the PSTN is out of the scope of these application notes.

### 3.1.1. Verify System-Parameters Customer-Options

Use the **display system-parameters customer-options** command to verify that Avaya Communication Manager is configured to meet the minimum requirements to support the configuration used for these tests, as shown by the parameter values in **Table 3**. If these are not met in the configuration, please contact an Avaya representative for further assistance.

| Parameter | Usage |
|---|---|
| Maximum Stations (p.1) | The value must be sufficient to allow the number of room stations, admin stations, analog voicemail connections, DID stations, and Phantom stations shown in **Table 1**. |
| Maximum Concurrently Registered IP Stations (p.2) | The value must be sufficient to allow the number of room stations, admin stations, and Phantom stations shown in **Table 1**. |
| Mode Code for Centralized Voice Mail? (p.4) | This value must be set to "y". |
| Hospitality (Basic)? (p.4) | This value must be set to "y". |
| Hospitality (G3V3 Enhancements)? (p.4) | This value must be set to "y". |

**Table 3: Configuration Values for System-Parameters Customer-Options**

MRR; Reviewed:
SPOC 9/22/2008
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Meteor-CM

```
display system-parameters customer-options                      Page   1 of  11
                             OPTIONAL FEATURES

      G3 Version: V15                            Software Package: Standard
       Location: 2                             RFA System ID (SID): 1
       Platform: 13                            RFA Module ID (MID): 1


                                                           USED
                             Platform Maximum Ports: 900   91
                                   Maximum Stations: 450   12
                           Maximum XMOBILE Stations: 0     0
                Maximum Off-PBX Telephones - EC500: 0      0
                Maximum Off-PBX Telephones -   OPS: 100    2
                Maximum Off-PBX Telephones - PBFMC: 0      0
                Maximum Off-PBX Telephones - PVFMC: 0      0
                Maximum Off-PBX Telephones - SCCAN: 0      0
```

**Figure 1: System-Parameters Customer-Options Form, p.1**

```
display system-parameters customer-options                      Page   2 of  11
                             OPTIONAL FEATURES

IP PORT CAPACITIES                                              USED
                      Maximum Administered H.323 Trunks: 100    11
           Maximum Concurrently Registered IP Stations: 450    5
              Maximum Administered Remote Office Trunks: 0      0
 Maximum Concurrently Registered Remote Office Stations: 0      0
                Maximum Concurrently Registered IP eCons: 0     0
   Max Concur Registered Unauthenticated H.323 Stations: 0     0
                  Maximum Video Capable H.323 Stations: 0      0
                  Maximum Video Capable IP Softphones: 0       0
                        Maximum Administered SIP Trunks: 100    5
   Maximum Administered Ad-hoc Video Conferencing Ports: 0      0
    Maximum Number of DS1 Boards with Echo Cancellation: 0      0
                            Maximum TN2501 VAL Boards: 0        0
                     Maximum Media Gateway VAL Sources: 10      1
         Maximum TN2602 Boards with 80 VoIP Channels: 0        0
        Maximum TN2602 Boards with 320 VoIP Channels: 0        0
 Maximum Number of Expanded Meet-me Conference Ports: 0         0
```

**Figure 2: System-Parameters Customer-Options Form, p.2**

```
display system-parameters customer-options                      Page   4 of  11
                             OPTIONAL FEATURES

     Emergency Access to Attendant? y                          IP Stations? y
           Enable 'dadmin' Login? y
           Enhanced Conferencing? y                   ISDN Feature Plus? n
                 Enhanced EC500? y      ISDN/SIP Network Call Redirection? n
     Enterprise Survivable Server? n                    ISDN-BRI Trunks? y
      Enterprise Wide Licensing? n                            ISDN-PRI? y
             ESS Administration? n         Local Survivable Processor? n
         Extended Cvg/Fwd Admin? y                   Malicious Call Trace? n
      External Device Alarm Admin? n          Media Encryption Over IP? n
 Five Port Networks Max Per MCC? n     Mode Code for Centralized Voice Mail? y
             Flexible Billing? n
 Forced Entry of Account Codes? n                Multifrequency Signaling? y
     Global Call Classification? n     Multimedia Call Handling (Basic)? n
             Hospitality (Basic)? y    Multimedia Call Handling (Enhanced)? n
 Hospitality (G3V3 Enhancements)? y         Multimedia IP SIP Trunking? n
                    IP Trunks? y


           IP Attendant Consoles? N
```

**Figure 3: System-Parameters Customer-Options Form, p.4**

## 3.1.2. Configure System-Parameters Features

Use the **change system-parameters features** command to configure the features required by Meteor SE, as shown by the parameter values in **Table 4**.

| Parameter | Usage |
|---|---|
| Controlled Termination Restriction (p.4) | Set this value to "coverage". |
| Mode Code Interface? (p.6) | Set this value to "y". |
| Station Tone Forward Disconnect (p.10) | Set this value to "busy". |

**Table 4: Configuration Values for System-Parameters Features**

```
change system-parameters features                          Page   4 of  17
                     FEATURE-RELATED SYSTEM PARAMETERS
        Reserved Slots for Attendant Priority Queue: 5
                          Time before Off-hook Alert: 10
              Emergency Access Redirection Extension:
 Number of Emergency Calls Allowed in Attendant Queue: 5
 Maximum Number of Digits for Directed Group Call Pickup:4
            Call Pickup on Intercom Calls? y        Call Pickup Alerting? n
 Temporary Bridged Appearance on Call Pickup? y       Directed Call Pickup? y
               Extended Group Call Pickup: none


 Deluxe Paging and Call Park Timeout to Originator? n
 Controlled Outward Restriction Intercept Treatment: tone
 Controlled Termination Restriction (Do Not Disturb): coverage
        Controlled Station to Station Restriction: tone
AUTHORIZATION CODE PARAMETERS        Authorization Codes Enabled? n




             Controlled Toll Restriction Replaces: none
```

**Figure 4: System-Parameters Features Form, p. 4**

```
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? n
                    Allow ANI Restriction on AAR/ARS? n
         Use Trunk COR for Outgoing Trunk Disconnect? ?
                   7405ND Numeric Terminal Display? n                 7434ND? n
DISTINCTIVE AUDIBLE ALERTING
             Internal: 1   External: 2   Priority: 3
                       Attendant Originated Calls: external
```

**Figure 5: System-Parameters Features Form, p. 6**

```
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
                                 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




ITALIAN DCS PROTOCOL
   Italian Protocol Enabled? n
```

**Figure 6: System-Parameters Features Form, p. 10**

### 3.1.3. Configure System-Parameters Hospitality

Use the **change system-parameters hospitality** command to configure the features required by Meteor SE, as shown by the parameter values in the following table.

| Parameter | Usage |
|---|---|
| Message Waiting Configuration (p.1) | Set this parameter to "act-pms". |
| Controlled Restrictions Configuration (p.1) | Set this parameter to "act-pms". |
| Housekeeper Information Configuration (p.1) | Set this parameter to "act-pms". |
| Client Room Coverage Path Configuration (p.1) | Set this parameter to "act-pms". |
| Default Coverage Path for Client Rooms (p.1) | Set this parameter to "1". |
| PMS Endpoint (p.1) | Set this parameter to "PMS". |
| PMS Protocol Mode: transparent ASCII mode? (p.1) | Set this parameter to "y". |
| Display Room Information in Call Display? (p.2) | Set this parameter to "y". |
| Automatic Selection of DID Numbers? (p.2) | Set this parameter to "y". |
| Custom Selection of VIP DID Numbers? (p.2) | Set this parameter to "y". |
| Number of Digits from PMS (p.2) | Set this parameter to "4". |
| Definition for Rooms in State 1 (p.3) | Set this parameter to "Uncleaned". |
| Definition for Rooms in State 2 (p.3) | Set this parameter to "Cleaned". |
| Definition for Rooms in State 3 (p.3) | Set this parameter to "Mini bar empty". |

**Table 5: Configuration Values for System-Parameters Hospitality**

```
change system-parameters hospitality                          Page   1 of   3
                         HOSPITALITY

                   Message Waiting Configuration: act-pms
            Controlled Restrictions Configuration: act-pms
            Housekeeper Information Configuration: act-pms
                  Number of Housekeeper ID Digits: 0
                                PMS Log Endpoint:
                       Journal/Schedule Endpoint:
          Client Room Coverage Path Configuration: act-pms
           Default Coverage Path for Client Rooms: 1
          Forward PMS Messages to Intuity Lodging? n


                         PMS LINK PARAMETERS
                                 PMS Endpoint: PMS
                              PMS Protocol Mode: transparent ASCII mode? y
              Seconds before PMS Link Idle Timeout: 20
Milliseconds before PMS Link Acknowledgement Timeout: 1500
                PMS Link Maximum Retransmissions: 5
        PMS Link Maximum Retransmission Requests: 5
               Take Down Link for Lost Messages? y
```

**Figure 7: System-Parameters Hospitality Form, p. 1**

```
change system-parameters hospitality                      Page   2 of   3
                              HOSPITALITY

              Dual Wakeups? n    Daily Wakeup? n    VIP Wakeup? n

                              Room Activated Wakeup With Tones? n
               Time of Scheduled Wakeup Activity Report:
                Time of Scheduled Wakeup Summary Report:
       Time of Scheduled Emergency Access Summary Report:
                                      Announcement Type: silence


      Length of Time to Remain Connected to Announcement: 30
          Extension to Receive Failed Wakeup LWC Messages:
          Routing Extension on Unavailable Voice Synthesis:
                    Display Room Information in Call Display? y
                           Automatic Selection of DID Numbers? y
                        Custom Selection of VIP DID Numbers? y
                                 Number of Digits from PMS: 4
                                          PMS Sends Prefix? n
                    Number of Digits in PMS Coverage Path: 3
                                    Digit to Insert/Delete:
```

**Figure 8: System-Parameters Hospitality Form, p. 2**

```
change system-parameters hospitality                      Page   3 of   3
      ROOM STATES              HOSPITALITY


         Definition for Rooms in State 1: Uncleaned
         Definition for Rooms in State 2: Cleaned
         Definition for Rooms in State 3: Mini bar empty
         Definition for Rooms in State 4: Rooms in state 4
         Definition for Rooms in State 5: Rooms in state 5
         Definition for Rooms in State 6: Rooms in state 6



      HOSPITALITY FEATURES
                                  Suite Check-in? n
         Cancel Do-Not-Disturb for Wakeup Calls? Y
```

**Figure 9: System-Parameters Hospitality Form, p. 3**

## 3.1.4. Configure Dial Plan

Use the **change dialplan analysis** command to specify which strings are to be included in the dial plan, using the parameter values described in **Table 6**.

| Dialed String Parameter | Usage |
|---|---|
| 0 | Include a "0" in the dial plan to use as a Facility Access Code (Call Type: fac), as shown in **Figure 11**, which serves as a prefix for PSTN numbers.  The Total Length of this Facility Access Code is 1. |
| 3 | Include a "3" in the dial plan for local extensions (Call Type "ext") shown in **Table 1**, each of which have a Total Length of "4" digits. |
| *3 | Include a "*3" in the dial plan to form Hospitality Feature Access Codes, as shown in **Figure 13**. |
| *7 | Include a "*7" in the dial plan to form Feature Access Codes, shown in **Figure 12**. |

**Table 6: Configuration Values for Dialplan Analysis**

```
change dialplan analysis                                    Page   1 of  12
                            DIAL PLAN ANALYSIS TABLE
                              Location:  all        Percent Full:    0

    Dialed    Total  Call    Dialed   Total  Call    Dialed    Total  Call
    String    Length Type    String   Length Type    String    Length Type
    0            1   fac
    3            4   ext
    *09          3   dac
    *3           3   fac
    *7           3   fac
```

**Figure 10: Dialplan Analysis Form**

Use the **change feature-access-codes** specify that "0" is to be used as the Auto Route Selection (ARS) access code.

```
change feature-access-codes                                 Page   1 of   6
                          FEATURE ACCESS CODE (FAC)
         Abbreviated Dialing List1 Access Code:
         Abbreviated Dialing List2 Access Code:
         Abbreviated Dialing List3 Access Code:
Abbreviated Dial - Prgm Group List Access Code:
                  Announcement Access Code:
                  Answer Back Access Code:
                  Attendant Access Code:
      Auto Alternate Routing (AAR) Access Code:
   Auto Route Selection (ARS) - Access Code 1: 0     Access Code 2:
            Automatic Callback Activation:         Deactivation:
Call Forwarding Activation Busy/DA:       All:      Deactivation:
  Call Forwarding Enhanced Status:        Act:      Deactivation:
                  Call Park Access Code:
                  Call Pickup Access Code:
CAS Remote Hold/Answer Hold-Unhold Access Code:
             CDR Account Code Access Code:
                 Change COR Access Code:
             Change Coverage Access Code:
             Contact Closure   Open Code:          Close Code:
```

**Figure 11: Feature-Access-Codes Form, p. 1**

```
change feature-access-codes                                 Page   3 of   6
                          FEATURE ACCESS CODE (FAC)
          Leave Word Calling Send A Message: *77
          Leave Word Calling Cancel A Message: *78
 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:
```

**Figure 12: Feature-Access-Codes Form, p. 3**

```
change feature-access-codes                                 Page   5 of   6
                           FEATURE ACCESS CODE (FAC)
                            Hospitality Features


              Automatic Wakeup Call Access Code:
    Housekeeping Status (Client Room) Access Code: *30
    Housekeeping Status (Client Room) Access Code: *31
    Housekeeping Status (Client Room) Access Code: *32
    Housekeeping Status (Client Room) Access Code: *33
    Housekeeping Status (Client Room) Access Code: *34
    Housekeeping Status (Client Room) Access Code: *35
        Housekeeping Status (Station) Access Code: *36
        Housekeeping Status (Station) Access Code: *37
        Housekeeping Status (Station) Access Code: *38
        Housekeeping Status (Station) Access Code: *39
          Verify Wakeup Announcement Access Code:
                Voice Do Not Disturb Access Code:
```

**Figure 13: Feature-Access-Codes Form, p. 6**


## 3.1.5. Configure Stations

### 3.1.5.1  Admin Station

Use the **add station <x>** command to allocate a station for endpoint "A" shown in **Table 1**.
Note that this station is assigned the default Class of Restriction (COR) value of "1", allowing
the administrator to make external calls.

| Parameter | Usage |
|---|---|
| Type | Enter the station type of the phone to be used as shown in **Table 1.** |
| Name | Enter the name of the user which is to be associated with the phone. |
| Security Code | Enter an appropriate security code to be assigned to the extension. |

**Table 7: Configuration Parameters Admin Station**

```
add station 3113                                            Page   1 of   5
                                STATION

Extension: 3113                      Lock Messages? n              BCC: 0
    Type: 4610                        Security Code: 3113          TN: 1
    Port: IP                         Coverage Path 1:             COR: 1
    Name: ext 3113                   Coverage Path 2:             COS: 1
                                     Hunt-to Station:

STATION OPTIONS
                                     Time of Day Lock Table:
            Loss Group: 19           Personalized Ringing Pattern: 1
                                            Message Lamp Ext: 3113
          Speakerphone: 2-way           Mute Button Enabled? y
      Display Language: english          Expansion Module? n
 Survivable GK Node Name:
        Survivable COR: internal        Media Complex Ext:
  Survivable Trunk Dest? y                     IP SoftPhone? n




                                     Customizable Labels? y
```

**Figure 14: Administration Station Form**

### 3.1.5.2 Configure Room Stations

Use the **add station <x>** command to allocate a station for endpoints "B" and "C" shown in **Table 1**.

| Parameter | Usage |
|---|---|
| Type | Enter the station type of the phone to be used as shown in **Table 1.** |
| Name | Enter the name of the user which is to be associated with the phone. |
| Security Code | Enter the security code assigned to the extension. |
| Coverage Path 1 | Assign coverage path 1 to voicemail coverage path which is allocated in **Figure 25**. |
| COR | Enter a Class of Restriction value of "2", which does not have privileges to make external calls. |
| COS | Enter a Class of Service value of "2", which designates the phone as being assigned to a room. |

**Table 8: Configuration Parameters Room Station**

```
add station 3112                                        Page   1 of   5
                                 STATION

Extension: 3112                      Lock Messages? n            BCC: 0
    Type: 4610                       Security Code: 2113          TN: 1
    Port: S00015                  Coverage Path 1: 1            COR: 2
    Name:                            Coverage Path 2:           COS: 2
                                     Hunt-to Station:
STATION OPTIONS
                                       Time of Day Lock Table:
             Loss Group: 19      Personalized Ringing Pattern: 1
                                             Message Lamp Ext: 3112
           Speakerphone: 2-way          Mute Button Enabled? y
       Display Language: english
 Survivable GK Node Name:
         Survivable COR: internal         Media Complex Ext:
   Survivable Trunk Dest? y                    IP SoftPhone? n



                                       Customizable Labels? y
```

**Figure 15: Room Station Form**

### 3.1.5.3  Configure Voicemail Stations

Use the **add station <x>** command to allocate stations for VM 1 and VM 2 shown in **Table 1**. These stations are allocated to analog voicemail interface (VMI) ports which are connected to the Meteor SE Server, which allow Meteor SE to provide voicemail functionality by receiving and processing analog mode codes from Avaya Communication Manager.

| Parameter | Usage |
|---|---|
| Type | Enter the station type of the phone to be used as shown in **Table 1.** |
| Port | Enter the port number for the analog interface to be used for voicemail. |
| Name | Enter the name of the user which is to be associated with the phone. |

**Table 9: Configuration Parameters Voicemail Station**

```
change station 3211                                      Page   1 of   4
                               STATION

Extension: 3211                        Lock Messages? n          BCC: 0
      Type: VMI                        Security Code:             TN: 1
      Port: 001V702                                              COR: 1
      Name: VMI 1                                                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
```

**Figure 16: Voicemail Station Form**

### 3.1.5.4 Configure DID Stations

Use the **add station <x>** command to allocate a stations which can be assigned to guests who require Direct Inward Dialing. Stations of type XDIDVIP are virtual stations to which the administrator can subsequently assign a DID number which can be mapped to a physical room telephone. Thus, a hotel which has fewer DIDs than rooms can allocate DIDs to rooms based on guests' changing needs to receive calls directly to their rooms. A separate DID station must be allocated for each DID which has been assigned to the hotel by the telephone service provider. Each DID station must also be configured by Meteor SE, as shown in **Figure 48**.

| Parameter | Usage |
|-----------|-------|
| Type | Enter the station type of the phone to be used as shown in **Table 1.** |
| Name | Enter the name of the user which is to be associated with the phone. |

**Table 10: Configuration Parameters DID Station**

```
change station 3201                                        Page   1 of   1
                               STATION

Extension: 3201                                             BCC: 0
    Type: XDIDVIP                                            TN: 1
                              Coverage Path 1:               COR: 1
    Name: xdidvip station      Coverage Path 2:              COS: 2
                              Hunt-to Station:

                                 Time of Day Lock Table:




        Survivable COR: internal
  Survivable Trunk Dest? y
```

**Figure 17: DID Station Form**

### 3.1.5.5 Configure Phantom Station

Use the **add station <x>** command to allocate a station that can be called by hotel personnel to change room status. This station is not associated with a physical telephone, and is configured to permanently forward all calls to the voicemail hunt group. When this station is called by hotel personnel from one of the hotel rooms, the call is diverted to the voicemail hunt group. When Meteor SE receives the call, it parses keypad input into room status update commands, such as "Clean Room". The extension for this station must be configured in **Figure 50**.

| Parameter | Usage |
|-----------|-------|
| Type | Enter the station type of the phone to be used as shown in **Table 1.** |
| Name | Enter an appropriate name to identify the phantom extension. |

**Table 11: Configuration Parameters Phantom Station**

```
change station 3301                                           Page   1 of   5
                                 STATION

Extension: 3301                    Lock Messages? n              BCC: 0
     Type: 4621                     Security Code:                TN: 1
     Port: S00004                 Coverage Path 1:               COR: 1
     Name: PHANTOM                 Coverage Path 2:               COS: 1
                                  Hunt-to Station:
STATION OPTIONS
                                      Time of Day Lock Table:
              Loss Group: 19      Personalized Ringing Pattern: 1
                                          Message Lamp Ext: 3301
            Speakerphone: 2-way         Mute Button Enabled? y
        Display Language: english         Expansion Module? n
 Survivable GK Node Name:
          Survivable COR: internal       Media Complex Ext:
   Survivable Trunk Dest? y                    IP SoftPhone? n




                                      Customizable Labels? y
```

**Figure 18: Phantom Station Form, p. 1**

```
change station 3301                                              Page   3 of   5
                                 STATION

          Conf/Trans on Primary Appearance? n
 Bridged Appearance Origination Restriction? n


      Call Appearance Display Format: disp-param-default
 IP Phone Group ID:

                          ENHANCED CALL FORWARDING
                                Forwarded Destination        Active
 Unconditional For Internal Calls To: 3304                      y
                 External Calls To:                             n
        Busy For Internal Calls To:                             n
                 External Calls To:                             n
    No Reply For Internal Calls To:                             n
                 External Calls To:                             n

           SAC/CF Override: No
```

**Figure 19: Phantom Station Form, p. 3**

## 3.1.6. Configure Class of Restriction

Use the **change cor** command to configure a Class of Restriction (COR) for telephones which
have PSTN access, and one for those which do not.  COR 1 (**Figure 20**) has no "Calling Party
Restriction", thus allowing calls to be made via the PSTN.  COR 2 (**Figure 21**) has an "outward"
"Calling Party Restriction", which does not allow calls to be made via the PSTN.

```
change cor 1                                                    Page   1 of  22
                          CLASS OF RESTRICTION

             COR Number: 1
        COR Description:

                      FRL: 1                            APLT? y
 Can Be Service Observed? n         Calling Party Restriction: none
Can Be A Service Observer? n         Called Party Restriction: none
 Partitioned Group Number: 1     Forced Entry of Account Codes? n
        Priority Queuing? n             Direct Agent Calling? n
     Restriction Override: none     Facility Access Trunk Test? y
     Restricted Call List? n              Can Change Coverage? n

           Access to MCT? y          Fully Restricted Service? n
Group II Category For MFC: 7
        Send ANI for MFE? n
           MF ANI Prefix:              Automatic Charge Display? n
Hear System Music on Hold? y   PASTE (Display PBX Data on Phone)? n
                    Can Be Picked Up By Directed Call Pickup? n
                              Can Use Directed Call Pickup? n
                              Group Controlled Restriction: inactive
```

**Figure 20: COR 1 Form**

```
change cor 2                                                      Page   1 of  22
                              CLASS OF RESTRICTION

              COR Number: 2
          COR Description:

                     FRL: 0                                       APLT? y
   Can Be Service Observed? n          Calling Party Restriction: outward
 Can Be A Service Observer? n           Called Party Restriction: none
   Partitioned Group Number: 1      Forced Entry of Account Codes? n
          Priority Queuing? n               Direct Agent Calling? n
      Restriction Override: none     Facility Access Trunk Test? n
       Restricted Call List? n              Can Change Coverage? n

            Access to MCT? y           Fully Restricted Service? n
 Group II Category For MFC: 7
          Send ANI for MFE? n
             MF ANI Prefix:             Automatic Charge Display? n
 Hear System Music on Hold? y  PASTE (Display PBX Data on Phone)? n
                      Can Be Picked Up By Directed Call Pickup? n
                             Can Use Directed Call Pickup? n
                             Group Controlled Restriction: inactive
```

**Figure 21: COR 2 Form**

## 3.1.7. Configure Class of Service

Use the **change cos** command to configure Class of Service (COS) 2 to be used for hotel room
extensions.  The "Client Room" parameter must be set to "y".

```
change cos                                                       Page   1 of   2
CLASS OF SERVICE

                               0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15
 Auto Callback                 n  y  y  n  y  n  y  n  y  n  y  n  y  n  y  n
 Call Fwd-All Calls            n  y  n  y  y  n  y  n  y  n  y  y  n  y  n  y
 Data Privacy                  n  y  n  n  n  y  y  y  y  n  n  n  n  y  y  y
 Priority Calling              n  y  n  n  n  n  n  n  n  y  y  y  y  y  y  y
 Console Permissions           n  y  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Off-hook Alert                n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Client Room                   n  n  y  n  n  n  n  n  n  n  n  n  n  n  n  n
 Restrict Call Fwd-Off Net     y  y  y  y  y  y  y  y  y  y  y  y  y  y  y  y
 Call Forwarding Busy/DA       n  y  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Personal Station Access (PSA) n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Extended Forwarding All       n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Extended Forwarding B/DA      n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Trk-to-Trk Transfer Override  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 QSIG Call Offer Originations  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
 Contact Closure Activation    n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
```

**Figure 22: COS Form**

## 3.1.8. Configure Voicemail Interface

Use the **add hunt-group** command to allocate a hunt group to serve as an interface to the Meteor SE voicemail server using the parameters shown in the table below.

| Parameter | Usage |
|---|---|
| Group Name | Enter an appropriate name to identify this hunt group. |
| Group Extension | Enter an otherwise unused extension which lies within the dial plan for this hunt group. This extension is assigned to voicemail coverage in **Figure 25**. |
| Group Type | Enter "ucd-mia". |
| GROUP MEMBER ASSIGNMENTS | Add the voice mail extensions (VM 1 and VM 2) shown in **Table 1**. |

**Table 12: Configuration Parameters Hunt Group**

```
add hunt-group 4                                              Page   1 of  60
                              HUNT GROUP

         Group Number: 4                              ACD? n
          Group Name: VMS                            Queue? n
      Group Extension: 3304                          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:
```

**Figure 23: Hunt Group Form, p. 1**

```
change hunt-group 4                                           Page   3 of  60
                              HUNT GROUP
         Group Number: 4    Group Extension: 3304       Group Type: ucd-mia
 Member Range Allowed: 1 - 1500      Administered Members (min/max): 1   /2
                                       Total Administered Members: 2
GROUP MEMBER ASSIGNMENTS
     Ext           Name(19 characters)      Ext           Name(19 characters)
  1: 3211          VMI 1                 14:
  2: 3212          VMI 2                 15:
  3:                                     16:
  4:                                     17:
  5:                                     18:
  6:                                     19:
  7:                                     20:
  8:                                     21:
  9:                                     22:
 10:                                     23:
 11:                                     24:
 12:                                     25:
 13:                                     26:

  At End of Member List
```

**Figure 24: Hunt Group Form, p. 3**

Use the **change coverage path** command to configure a coverage path to be used to forward calls to Meteor SE voicemail. Set the "Don't Answer" parameters for both "Inside Call" and "Outside Call" to "y", and set "COVERAGE POINT" "Point1" to the hunt group which was allocated for Meteor SE voicemail in **Figure 23**.

```
change coverage path 1                                        Page   1 of   1
                              COVERAGE PATH

                  Coverage Path Number: 1
                                                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: h4              Rng: 4  Point2:
  Point3:                         Point4:
  Point5:                         Point6:
```

**Figure 25: Meteor SE Voicemail Coverage Path Form**


## 3.1.9. Configure Meteor SE Interface

### 3.1.9.1  Configure Meteor SE IP Address
Use the **change node-names ip** command to assign the name "meteor" to the Meteor SE Server.

```
change node-names ip                                         Page   1 of   2
                              IP NODE NAMES
    Name              IP Address
default           0.0.0.0
meteor            192.168.30.11
procr             192.168.30.100
rdt               192.168.150.8
```

**Figure 26: Node-Names IP Form**

### 3.1.9.2 Configure Services for Meteor SE

Use the **change ip-services** command to configure the interfaces to the Meteor SE Server, using the parameter values shown in the following table.

| Service Type | Parameter | Usage |
|---|---|---|
| CDR1 | Remote Node (p.1) | Enter "meteor", the name assigned to the Meteor SE Server in **Figure 26**. |
| | Remote Port (p.1) | Enter "5011". This must be the same as the CDR port allocated to Meteor SE in **Figure 38**. |
| | Reliable Protocol (p.3) | Enter "y". |
| PMS | Remote Node (p.1) | Enter "meteor", the name assigned to the Meteor SE Server in **Figure 26**. |
| | Remote Port (p.1) | Enter "5003".This must be the same as the CDR port allocated to Meteor SE in **Figure 36**. |

**Table 13: IP-Services Parameters**

```
change ip-services                                          Page   1 of   3

                              IP SERVICES
 Service      Enabled      Local       Local         Remote       Remote
  Type                     Node        Port          Node         Port
CDR1                       procr       0             meteor       5011
PMS                        procr       0             meteor       5003
CDR2                       procr       0             rdt          9000
```

**Figure 27: IP-Services Form, p. 1**

```
change ip-services                                          Page   3 of   3

                           SESSION LAYER TIMERS
   Service      Reliable  Packet Resp  Session Connect  SPDU  Connectivity
    Type        Protocol     Timer      Message Cntr    Cntr     Timer

   CDR1            y          30             3            3         60
   CDR2            y          30             3            3         60
```

**Figure 28: IP-Services Form, p. 3**

### 3.1.9.3 Configure CDR Interface to Meteor SE

Use the **change system-parameters cdr** command to configure the Avaya S8300 Server to send CDR records using the format required by Meteor SE. Set the parameters on page 1 of this form as show in the following table. Note that the configuration values for the "Secondary Output" were included to cause CDR records to be written to a test tool, and are not required for normal operation.

| Parameter | Usage |
|---|---|
| Primary Output Format | Set this field to "customized" so that CDR records can be generated using the format required by Meteor SE. |
| Primary Output Endpoint | Set this field to "CDR1" to use the CDR IP output device which is configured in **Figure 30**. |

**Table 14: Values Used for System-Parameters CDR, Page 1**

```
change system-parameters cdr                                   Page   1 of   2
                          CDR SYSTEM PARAMETERS

 Node Number (Local PBX ID):                     CDR Date Format: day/month
      Primary Output Format: customized    Primary Output Endpoint: CDR1
    Secondary Output Format: customized  Secondary Output Endpoint: CDR2
             Use ISDN Layouts? n                 Enable CDR Storage on Disk? n
       Use Enhanced Formats? n      Condition Code 'T' For Redirected Calls? n
       Use Legacy CDR Formats? y             Remove # From Called Number? y
Modified Circuit ID Display? n                         Intra-switch CDR? y
                Record Outgoing Calls Only? n     Outg Trk Call Splitting? y
  Suppress CDR for Ineffective Call Attempts? n       Outg Attd Call Record? y
      Disconnect Information in Place of FRL? n      Interworking Feat-flag? n
 Force Entry of Acct Code for Calls Marked on Toll Analysis Form? n
                                 Calls to Hunt Group - Record: group-ext
Record Called Vector Directory Number Instead of Group or Member? n
Record Agent ID on Incoming? n        Record Agent ID on Outgoing? y
      Inc Trk Call Splitting? n
  Record Non-Call-Assoc TSC? n          Call Record Handling Option: warning
      Record Call-Assoc TSC? n   Digits to Record for Outgoing Calls: dialed
   Privacy - Digits to Hide: 0               CDR Account Code Length: 15
```

**Figure 29: System-Parameters CDR Form, Page 1**

The parameters on page 2 of the **system-parameters cdr** form define the format of the CDR record which is sent to Meteor SE. Set the parameters on this form as shown in the following table (formatting characters are not shown in the table). Additional information on this subject is contained in [2].

| Parameter | Len | Usage | Parameter | Len | Usage |
|-----------|-----|-------|-----------|-----|-------|
| date | 6 | Call date | isdn-cc | 11 | ISDN condition code. |
| time | 4 | Call time | cond-code | 1 | Condition code. |
| out-crt-id | 3 | Trunk number within trunk group used for outgoing call | auth-code | 7 | User authorization code |
| code-used | 4 | Used for outgoing calls when trunk group differs from access code dialed by user | acct-code | 15 | The account code for the call |
| code-dial | 4 | Access code that the user dials to place an outgoing call | attd-console | 2 | attendant console number, if call participant |
| calling-num | 10 | The calling number | in-crt-id | 3 | Trunk number within trunk group used for incoming call |
| dialed-num | 18 | The called number | frl | 1 | Facility Restriction Level |
| sec-dur | 5 | Call duration in 1/10 of minute units | node-num | 1 | DCS node number of a switch within a DCS arrangement |

**Table 15: Values Used for System-Parameters CDR, Page 2**

```
change system-parameters cdr                                    Page   2 of   2
                         CDR SYSTEM PARAMETERS


    Data Item - Length         Data Item - Length         Data Item - Length
 1: date            - 6   17: isdn-cc         - 11   33: line-feed       - 1
 2: space           - 1   18: space           - 1    34:                 -
 3: time            - 4   19: cond-code       - 1    35:                 -
 4: space           - 1   20: space           - 1    36:                 -
 5: out-crt-id      - 3   21: auth-code       - 7    37:                 -
 6: space           - 1   22: space           - 1    38:                 -
 7: code-used       - 4   23: acct-code       - 15   39:                 -
 8: space           - 1   24: space           - 1    40:                 -
 9: code-dial       - 4   25: attd-console    - 2    41:                 -
10: space           - 1   26: space           - 1    42:                 -
11: calling-num     - 10  27: in-crt-id       - 3    43:                 -
12: space           - 1   28: space           - 3    44:                 -
13: dialed-num      - 18  29: frl             - 1    45:                 -
14: space           - 1   30: space           - 1    46:                 -
15: sec-dur         - 5   31: node-num        - 1    47:                 -
16: space           - 1   32: return          - 1    48:                 -

                       Record length = 114
```

**Figure 30: System-Parameters CDR Form, Page 2**

## 3.2. Configure Meteor SE

Enter the IP address of the Meteor SE Server PC into the browser URL field, enter an appropriate user name and password, and click "OK".
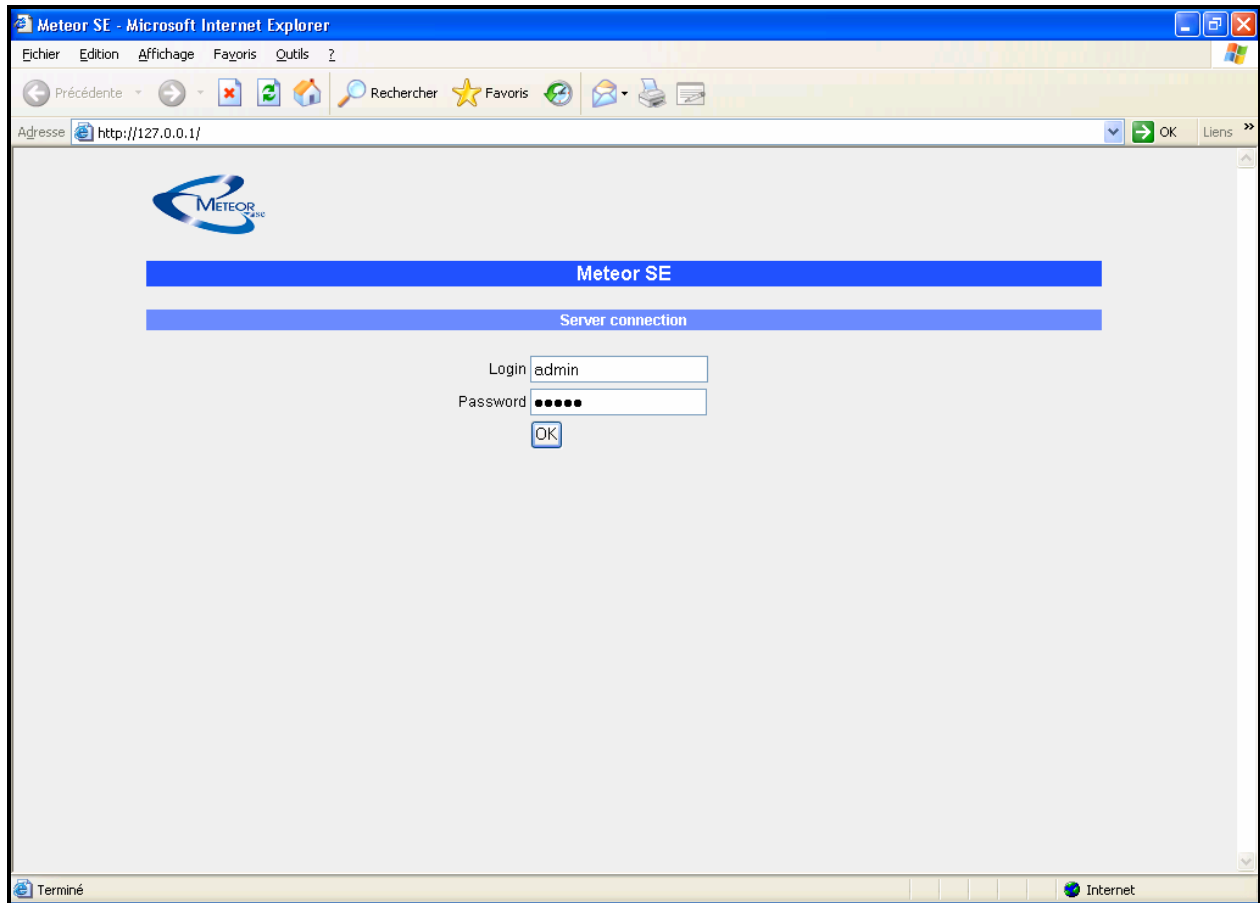


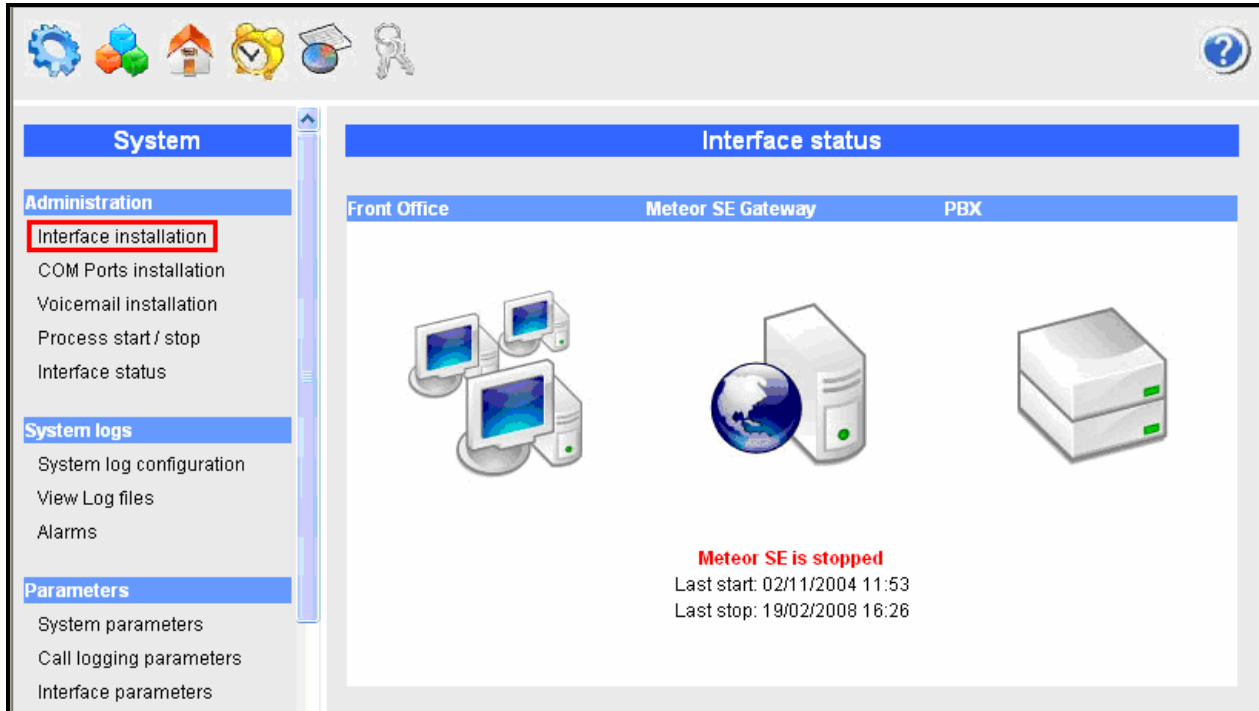**Figure 31: Meteor SE Login Screen**

Click "Interface Installation".



**Figure 32: Meteor SE Interface Status Screen**

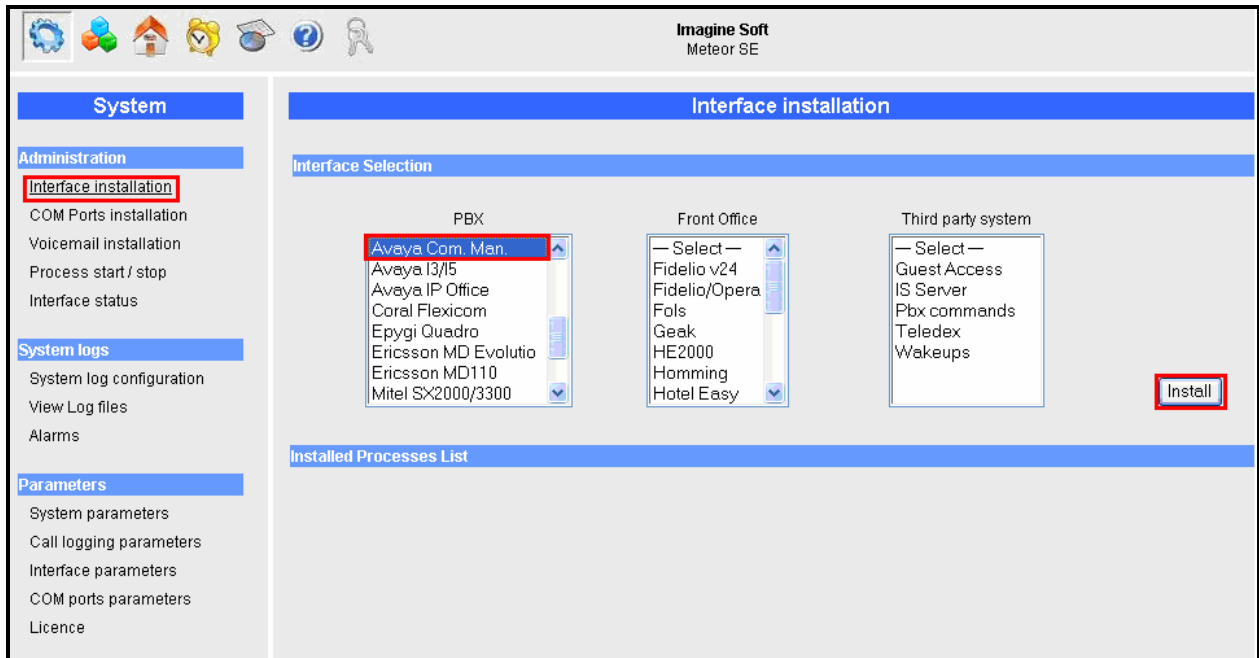Select "Interface Installation", and then "Avaya Com Man" from the PBX box and click "Install".



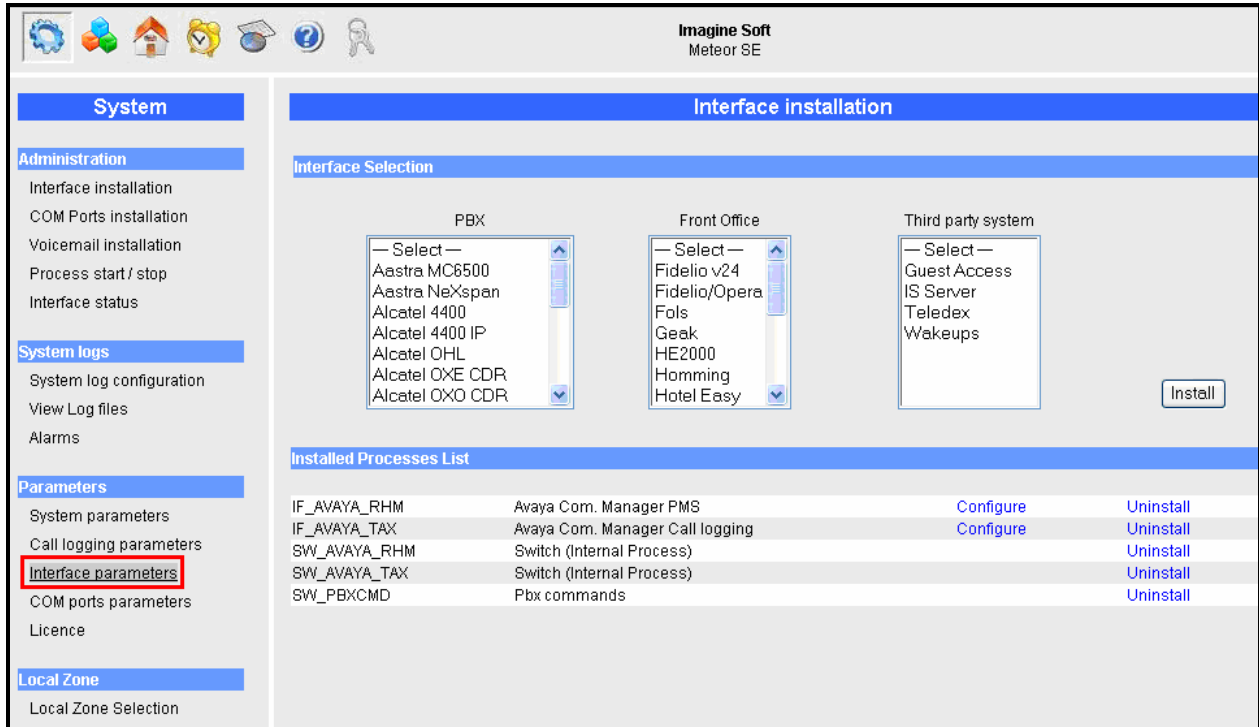**Figure 33: Meteor SE Interface Installation Screen**

Select "Interface Parameters" from the left frame.



**Figure 34: Meteor SE Interface Parameters Screen**

MRR; Reviewed:
RRR m/d/y

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Select "Avaya Com Manager PMS" from the interface box, and click "Update" on the "Port" entry.
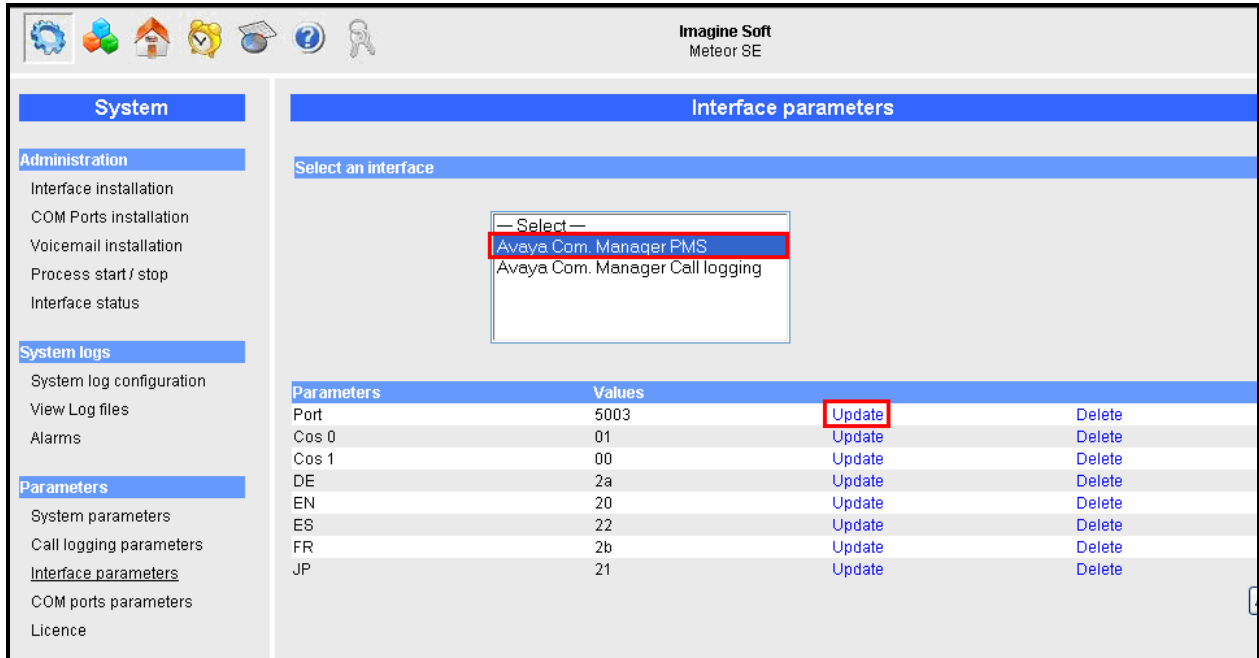


**Figure 35: Meteor SE PMS Interface Parameters Installation Screen**

Enter the Avaya Communication Manager port allocated in **Figure 27**.
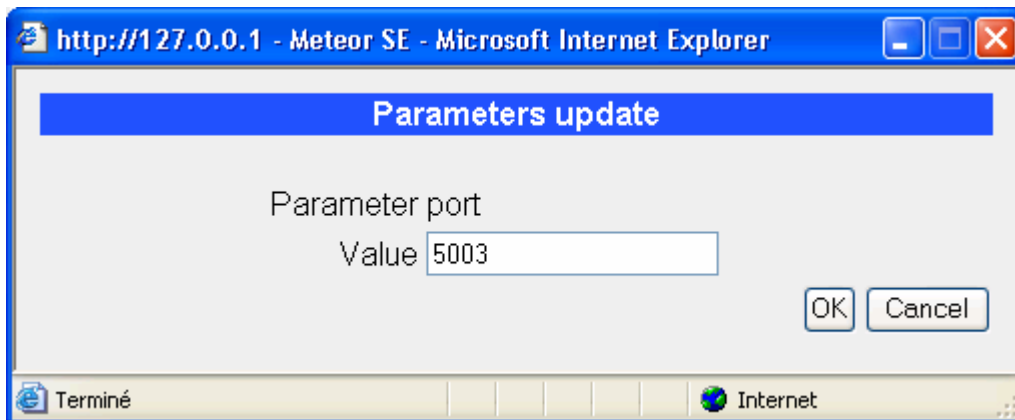


**Figure 36: Meteor SE PMS Port Configuration Screen**

Select "Avaya Com Manager Call logging" from the interface box, and click on "Update" for the "Port" entry.
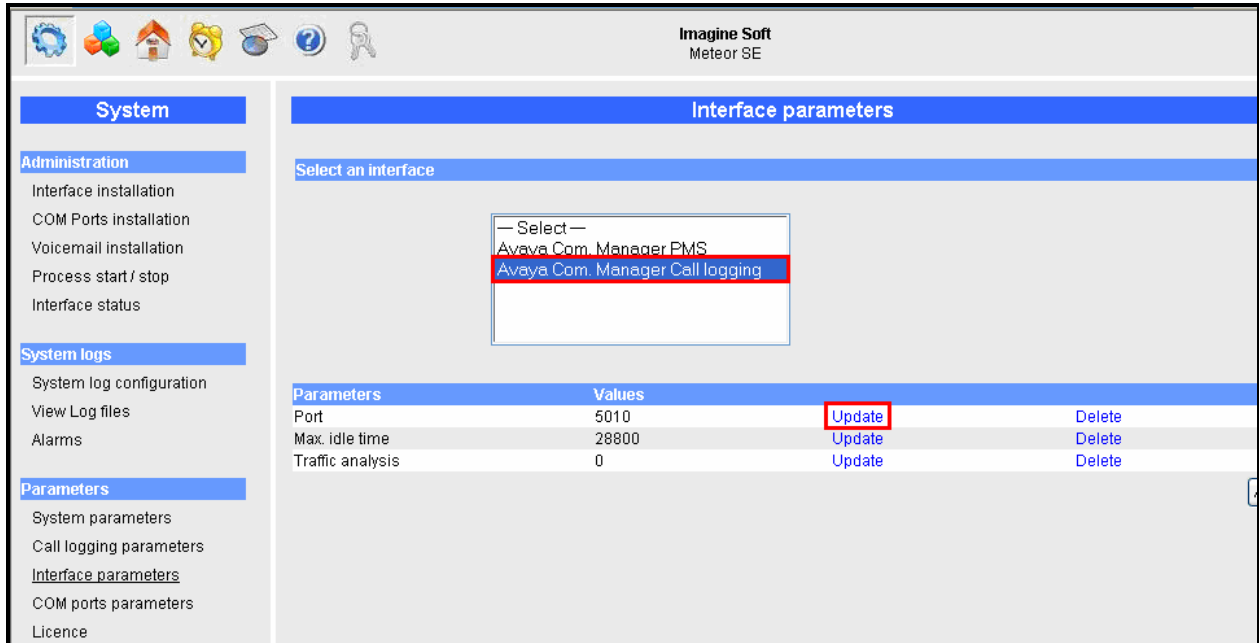


**Figure 37: Meteor SE Call Logging Interface Parameters Installation Screen**

Enter the port number to which Avaya Communication Manager should send CDR records. This must be the same port which is allocated in **Figure 27**.
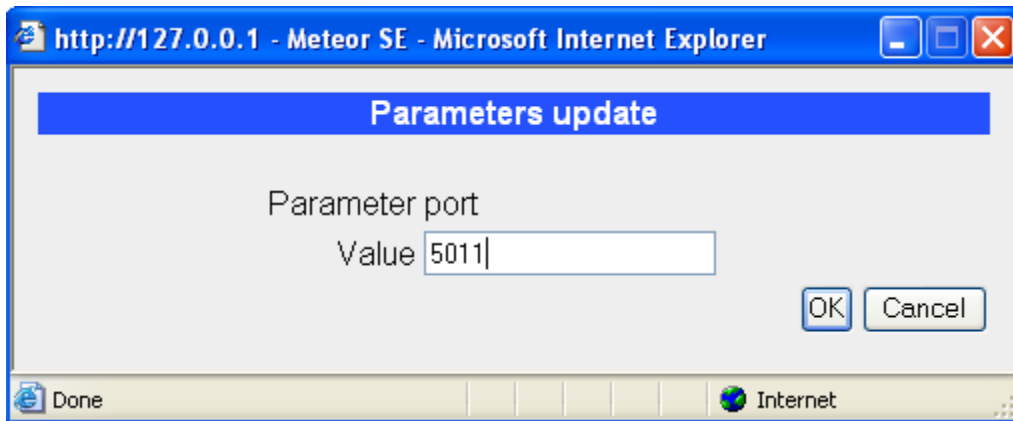


**Figure 38: Meteor SE Call Logging Port Configuration Screen**

Upon completion of this entry, click "Update" from the "Traffic analysis" entry, as shown in **Figure 37**, and enter a value of "1".
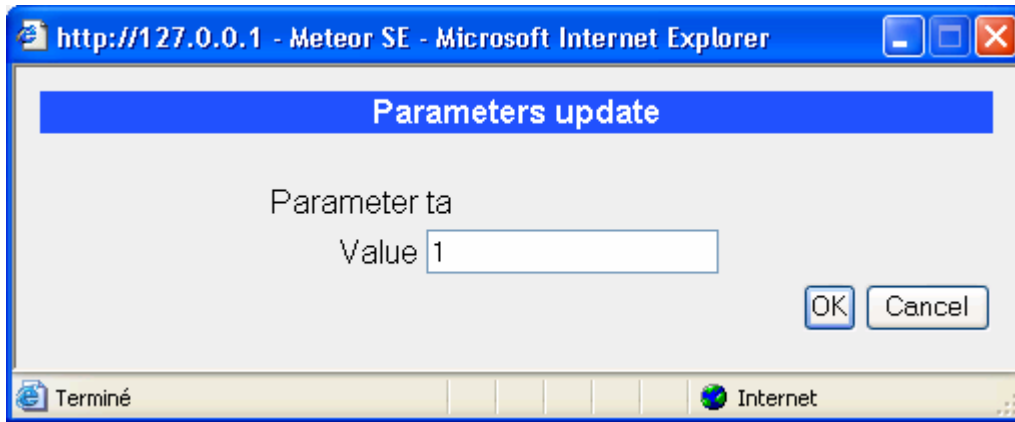


**Figure 39: Meteor SE Call Logging Traffic Analysis Parameter Screen**

Select license from left frame, enter the License key, and plug in the license dongle.
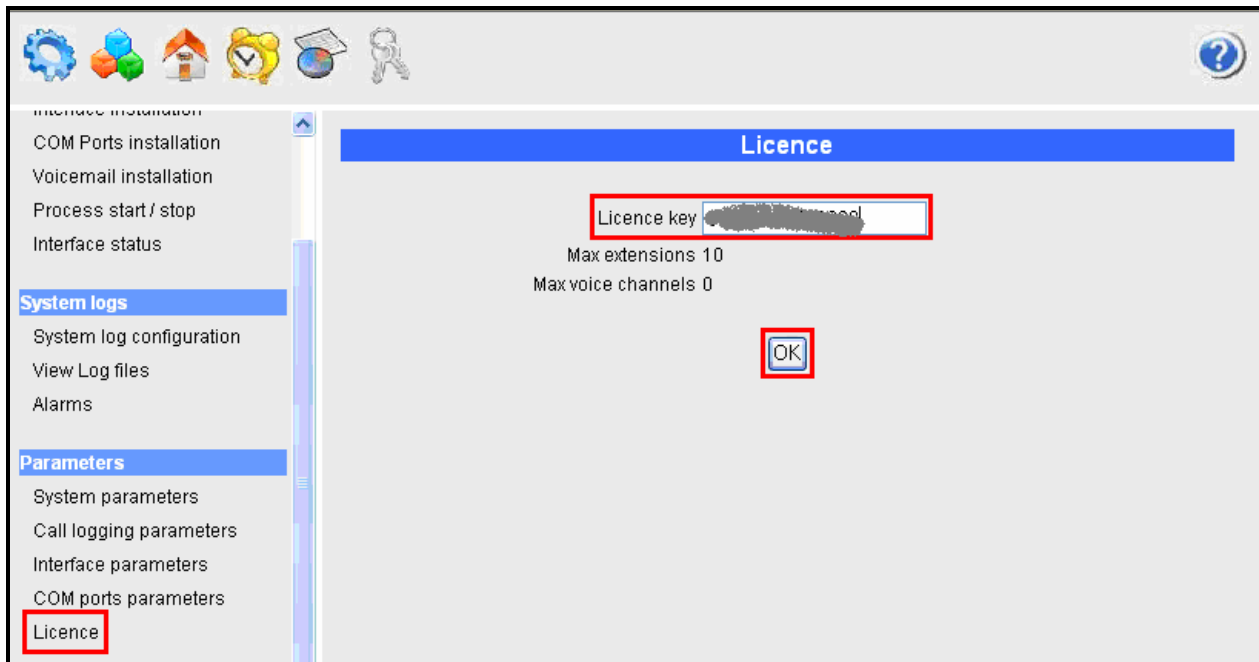


**Figure 40: Meteor SE License Screen**

When the license key has been validated, the "Max extensions" and "Max voice channels" allowed by the license are displayed.  These quantities must be sufficient to accommodate the room extensions and analog voicemail channels shown in **Table 1**.
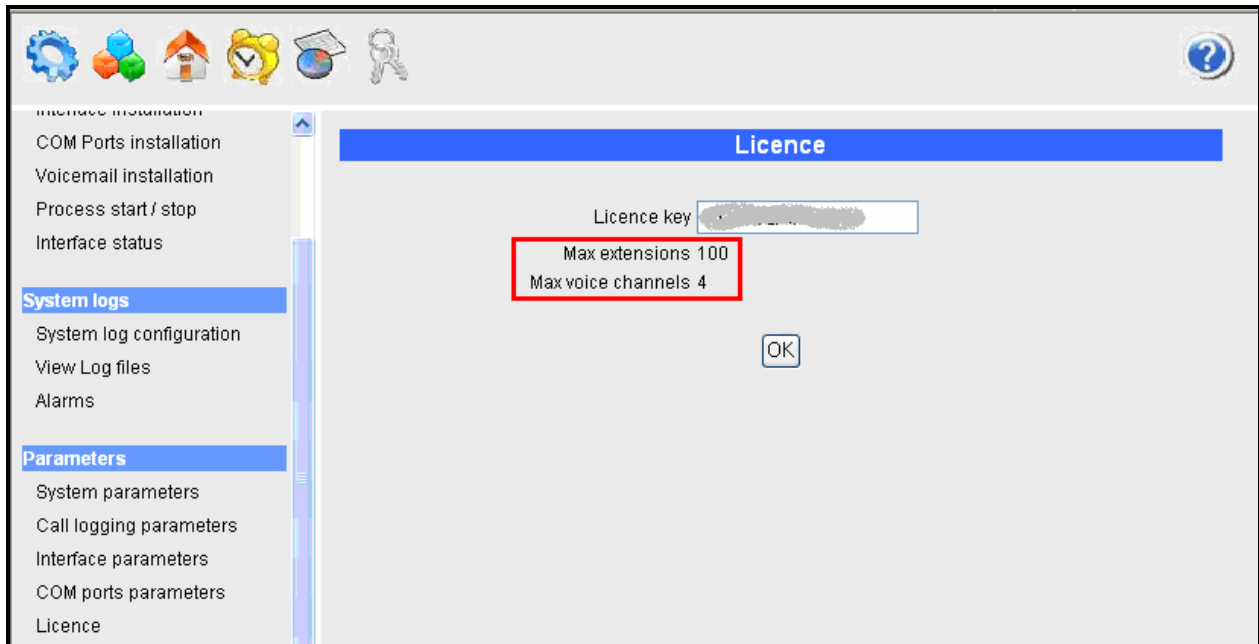


**Figure 41: Meteor SE License Resources Screen**

MRR; Reviewed:
RRR m/d/y

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Click "Voicemail Installation" and select the number of channels which are used to connect to Avaya Communication Manager. For this installation, select "4" channels and click "Install". Click "Uninstall" for the last two channels, as these are not used for this configuration.
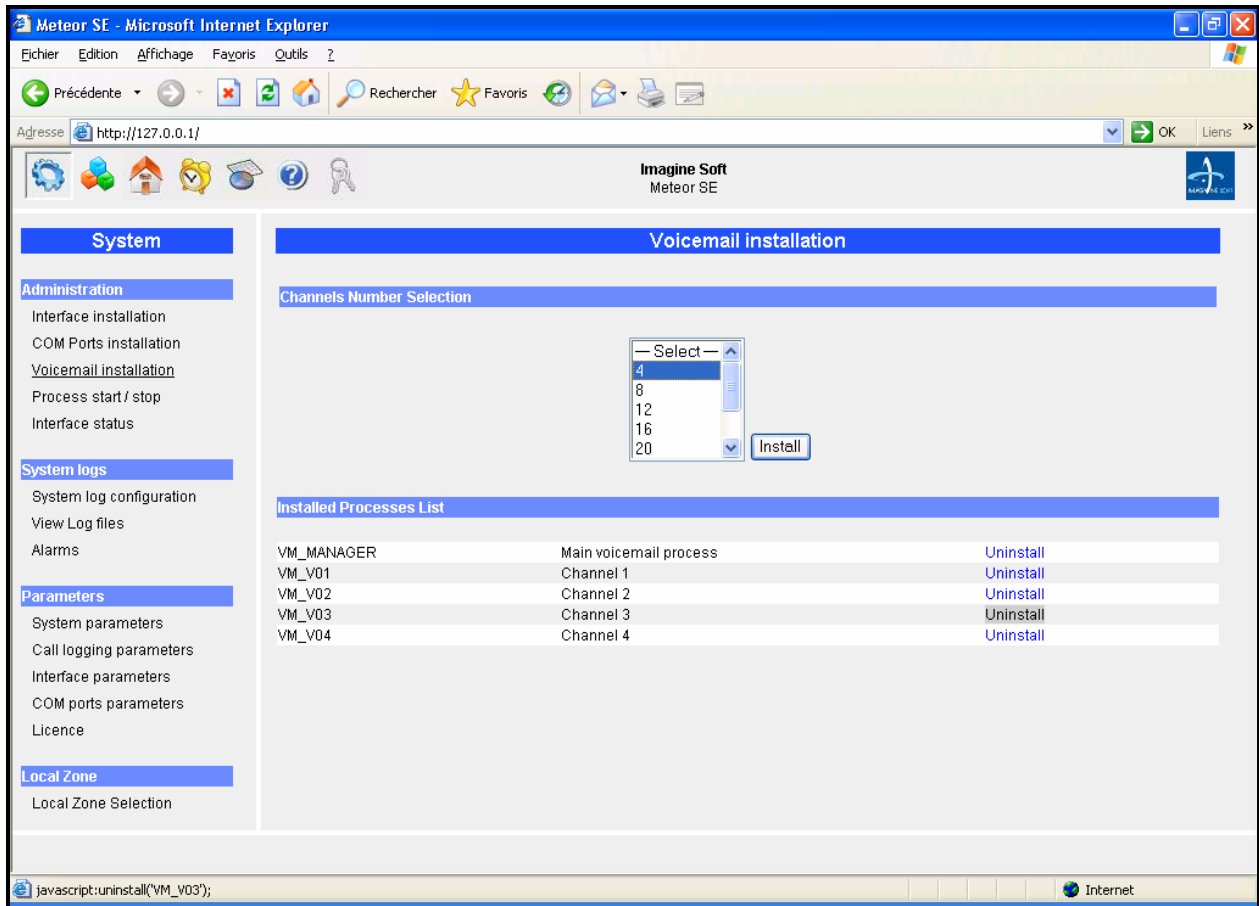


**Figure 42: Meteor SE Voicemail Installation Screen**

Select "Call logging parameters" and click on "Update" for "Call logging duration".
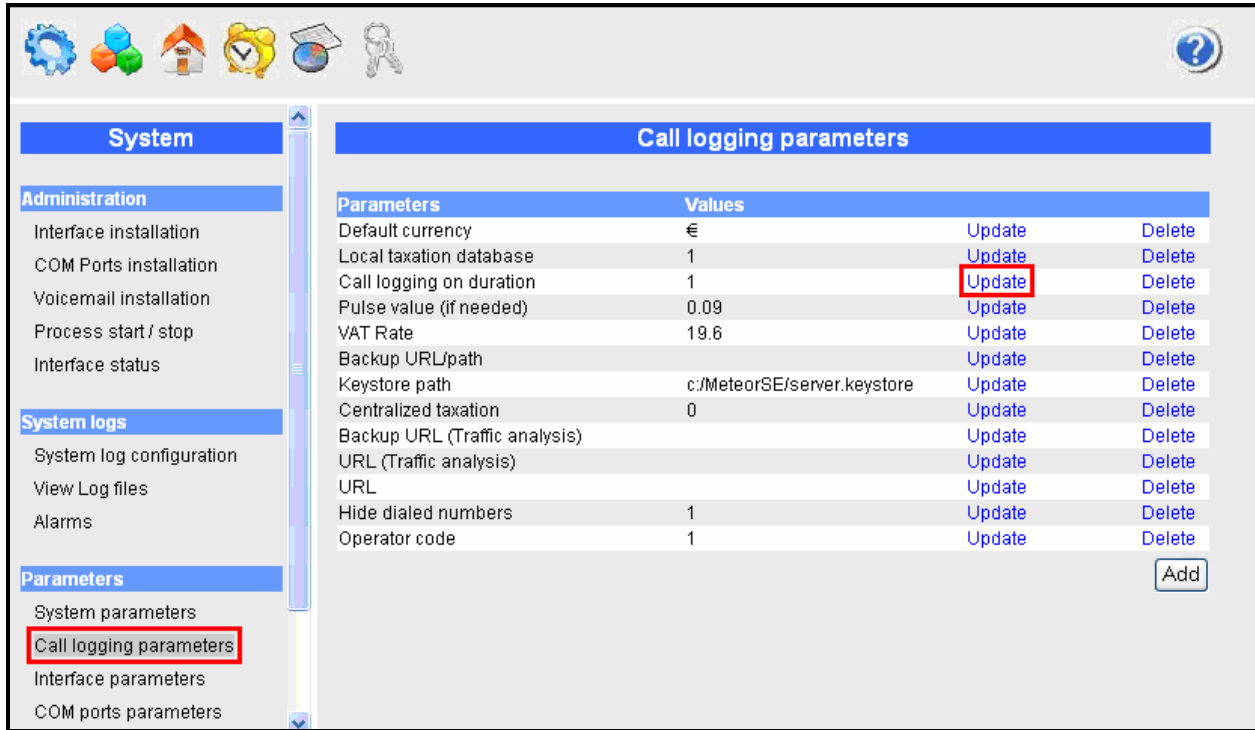


**Figure 43: Meteor SE Call Logging Parameters Screen**

Set "Call logging on duration" to "0" to use the PSTN charging pulse.
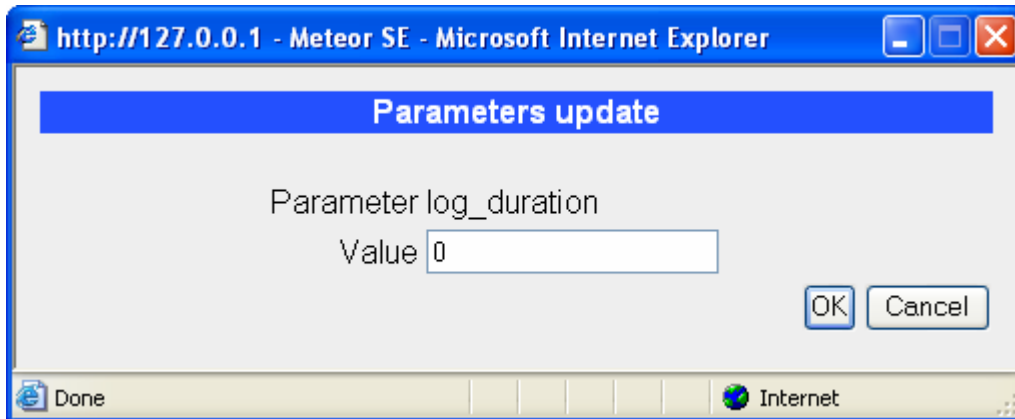


**Figure 44: Meteor SE Call Logging Duration Screen**

Select the "blocks" icon from the top menu bar, click "Add Extensions", and enter the phone and room numbers for room "B", as shown in **Table 1**. Click OK. Repeat this operation as required to configure the remaining room shown in **Table 1**.

| Parameter | Usage |
| --- | --- |
| Extension Number | Enter the extension number as shown in **Table 1**. |
| Code | Enter the room number to be assigned to the extension. |
| Extension Type | Select "Room" from the drop-down list. |
| Description | Enter an appropriate description for the room/extension. |

**Table 16: Meteor SE Room Extension Configuration Parameters**



**Figure 45: Meteor SE Room Extension Configuration Screen**

Click "Add Extensions", and configure the Admin extension as shown in the following table.

| Parameter | Usage |
|---|---|
| Extension Number | Enter the "Admin" extension number, as shown in **Table 1**. |
| Code | Enter an appropriate code for the Admin extension. |
| Extension Type | Select "Administration" from the drop-down list. |
| Description | Enter an appropriate description for the admin extension. |

**Table 17: Meteor SE Admin Extension Configuration Parameters**



**Figure 46: Meteor SE Admin Extension Configuration Screen**

Click "Extension List" to verify the previous operations.



**Figure 47: Meteor SE Extension List Screen**

MRR; Reviewed:
RRR m/d/y
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The Direct Inward Dialing (DID) extensions allocated by Avaya Communication Manager in section 3.1.5.4 must be configured for Meteor SE, which refers to them as DDI extensions. Click "Add DDI/s", enter the DDIs which have been allocated to the hotel, and click "OK".
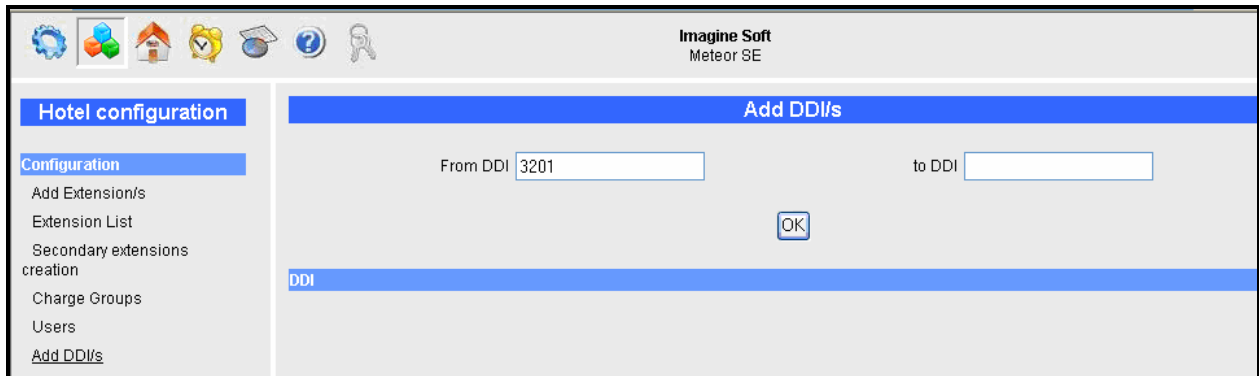


**Figure 48: Meteor SE Add DDI Screen**

Edit the "vocal.ini" file which was created when Meteor SE was installed, which is located as shown below.
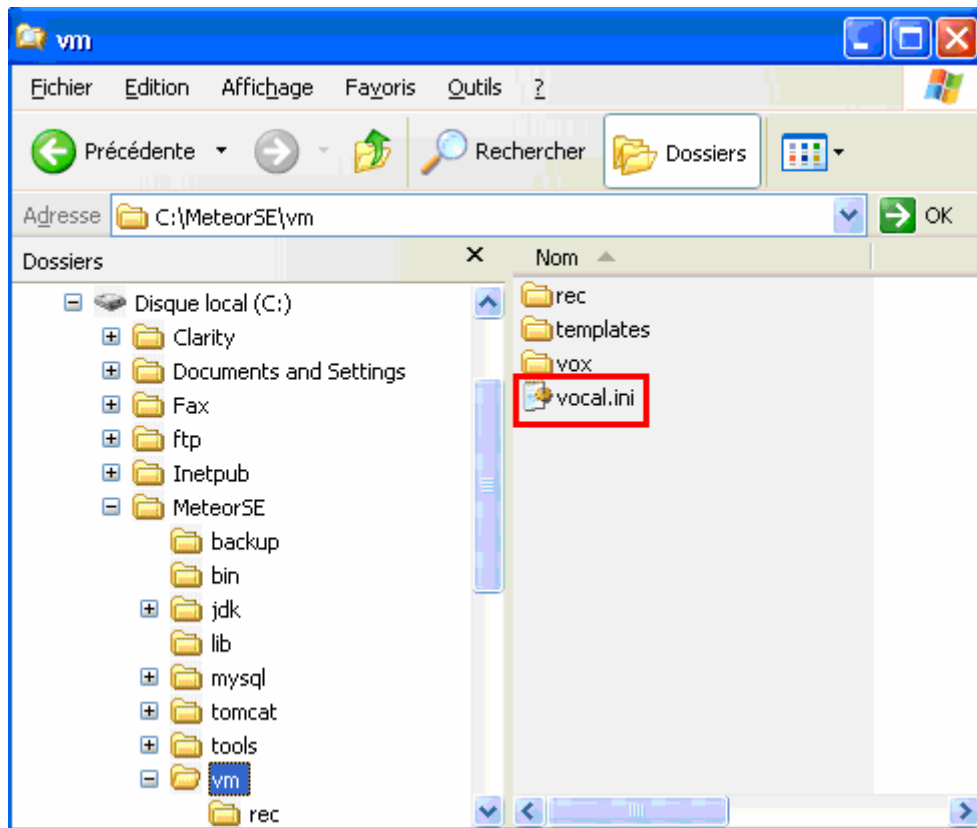


**Figure 49: Meteor SE vocal.ini File Location**

The vocal.ini file is a "flat" ASCII file which can be edited with a text editor. Change the file entries contained in the following table.

| Parameter | Usage |
|---|---|
| FLASHING | Enter the number of the Administrator extension. |
| ACK_WAKEUP | Enter the number of the Administrator extension. |
| ROOM_STATUS / RE | Enter the extension of the Phantom station, which was allocated in **Figure 14**. |

**Table 18: Configuration Values for vocal.ini File**

```
# Voice Messenger Initialization file
# Last modified 2005/05/18
# All durations must be set in milliseconds

[DTMF]

[DEFAULTS]
CALL_TIMEOUT=16000
MAX_DIGITS=20
READ_BUFFER_TIMEOUT=100
READ_DIGITS_TIMEOUT=3000
RECORD_TIMEOUT=60000
FLASHING=&,3113,
LAMP_ON=*77@@
LAMP_OFF=*78@@
ACK_WAKEUP=3113
DIAL_PREFIX=,
PBX=0

[ANALYSIS]
TIMEOUT=4000
MAX_DIGITS=30
STOP_DIGIT=b

[DEPOSIT]
RE=#0[23]#([0-9]*)#([0-9]+)#
PS=2

[MESSENGER]
RE=#00#([0-9]+)##
PS=1

[ROOM_STATUS]
RE=#0[23]#([0-9]+)#3301#
PS=1
```

**Figure 50: Meteor SE vocal.ini File Settings**

# 4. Interoperability Compliance Testing

## 4.1. General Test Approach

The following tests steps were performed during compliance testing:

- Verify that room extensions have external access after a guest is checked in.
- Verify that room extensions are denied external access after a guest is checked out.
- Verify that guests are billed correctly for local and external calls when they check out.
- Verify that a guest's messages and wakeup calls are purged when a guest is checked out.
- Verify that a guest's messages and wakeup calls are reassigned when a guest is moved to a new room.
- Verify that the message waiting light for a room extension can be turned on or off by the administrator.
- Verify that calls are transferred to voicemail if a guest does not answer, and that the guest's message waiting light is turned on.
- Verify that guests can retrieve voice mail messages from their room extension, and that the message waiting light is extinguished.
- Verify that guests can retrieve voicemail message from external (PSTN) telephones after authorization with their PIN code.
- Verify that guests can manually transfer calls to voice mail via keypad input.
- Verify that guests can enter, change, and erase wakeup message entries from their room extension.
- Verify that wakeup calls are signaled at the correct time.
- Verify that unacknowledged wakeup calls are signaled to the administrator extension.
- Verify that the administrator can manually block external access for room extensions.
- Verify that housekeeping personnel can change guest room status via keypad input.
- Verify that DID extensions can be assigned to guest rooms, and that this extension can be reached from PSTN telephones.
- Verify the ability of the Meteor SE Server to recover from interface and power interruptions.
- Verify that the Meteor SE Server recovers from interruption to its LAN connection.
- Verify that the Meteor SE Server restarts automatically after a power failure.

## 4.2. Test Results

All tests were performed without error.

# 5. Verification Steps

Use the following steps to verify that Meteor SE and Avaya Communication Manager are each configured correctly.

Verify that the PMS and "Call Logging" controls are both green.



**Figure 51: Meteor SE Interface Status Screen**

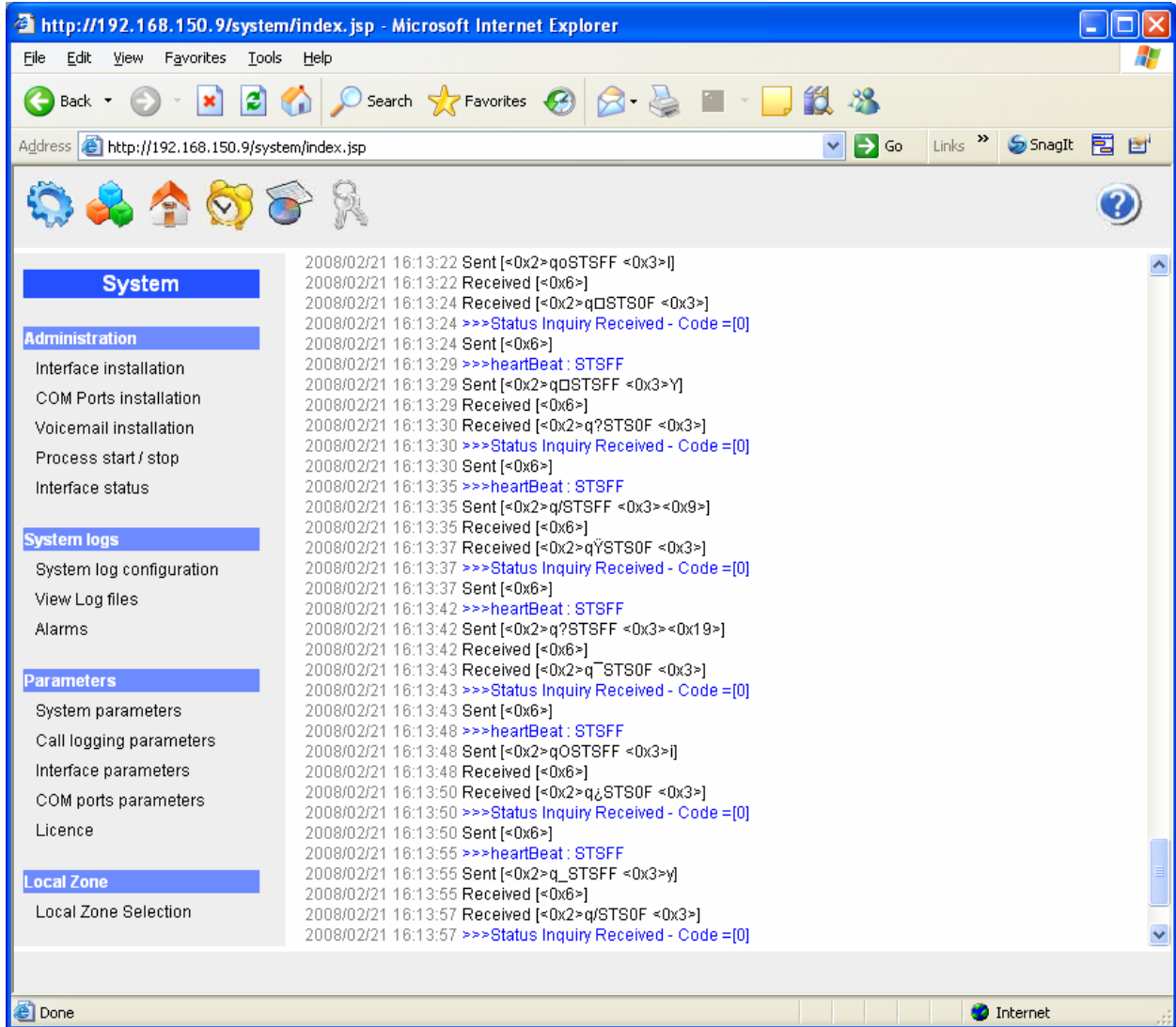Click on the "PMS" icon and verify that "heartbeat" messages are exchanged.



**Figure 52: Meteor SE PMS Heartbeat Message Screen**

Return to the previous screen and click on the "Call Logging" control and verify that the Avaya Communication Manager has logged on.
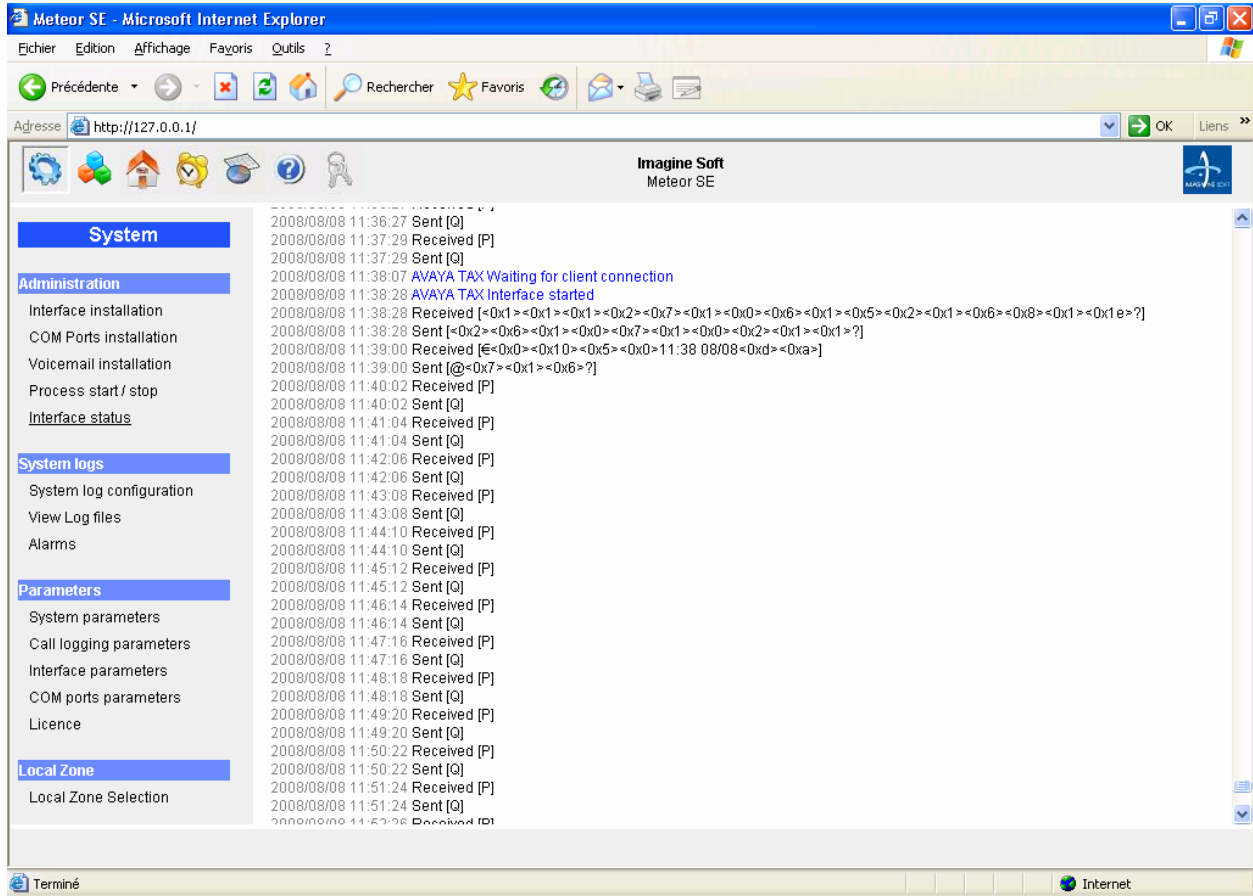


**Figure 53: Meteor SE Call Logging Messages Screen**

# 6. Conclusion

These Application Notes describe the compliance testing of the Imagine Soft Meteor SE server with Avaya Communication Manager. The various features of the Meteor SE server which involve interaction with telephony were tested. A detailed description of the configuration required for both the Avaya and the Imagine Soft equipment is documented within these Application Notes.

# 7. Additional References

The Meteor SE documentation is contained in the following directory after the product has been installed: C:\Meteor SE\tomcat\webapps\ROOT\docs.  This documentation is also available on the installation medium prior to installation or via the following icon from the Meteor SE console:

[1] *Administrator Guide for Avaya Communication Manager*, January 2008, Issue 4, Document Number 03-300509
[2] *Feature Description and Implementation for Avaya Communication Manager*, January 2008, Issue 6, Document Number 555-245-205
[3] *Technical Service Description Meteor SE 2*