



Avaya Solution & Interoperability Test Lab

Application Notes for FCS Unicorn with Avaya Aura® Communication Manager R7.0 - Issue 1.0

Abstract

These Application Notes describe the procedures for configuring the FCS Unicorn application to interoperate with Avaya Aura® Communication Manager R7.0. FCS Unicorn is a Windows-based integrated billing and interface solution that supports all major Property Management System (PMS) and PABX systems. This system is unlike its predecessor FCS WinSuite, which is limited to a single property and PABX system.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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.

1. Introduction

These Application Notes describe the procedures for configuring FCS Unicorn to interoperate with Avaya Aura® Communication Manager. FCS Unicorn is a Windows-based integrated billing and interface solution that supports all major PMS and PABX systems. This system is unlike its predecessor FCS WinSuite, which is limited to a single property and PABX system. FCS Unicorn provides a real-time multitasking interface between Avaya Aura® Communication Manager and a hotel's 3rd party Property Management System (PMS). In addition to functioning as a call charge and billing system that manages the costs of telephony and service usage, FCS Unicorn supports standard Hospitality feature requests to/from a PMS (guest room check-in/check-out/moves, Do Not Disturb (DND), Automatic Wakeup (AWU) through FCS Phoenix, Message Waiting Lamp (MWL) control, Housekeeping/Room Status changes. The call charge and billing functionality is facilitated by a Call Detail Recording (CDR) interface to Avaya Aura® Communication Manager, while the Hospitality features are enabled by a PMS data link to Avaya Aura® Communication Manager.

When notified of a guest room check-in, FCS Unicorn 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 Unicorn restricts outbound calls on the guest room extension and sets its Hospitality Status to "Vacant".

2. General Test Approach and Test Results

Feature functionality testing was performed manually. Inbound calls were made to the Avaya IP Telephones (i.e., the guest telephones) over simulated PSTN trunks, as well as from other local extensions (analog, digital, and IP Telephone). A simulated PMS application was used to launch changes to telephone message waiting lamps and phone privileges during room check in / check out / move requests, receive room status updates, and activate/deactivate DND.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability compliance testing

Interoperability compliance testing focused on the ability of FCS Unicorn to work with Avaya Aura® Communication Manager. FCS Unicorn features and capabilities that were verified included the following: receipt and processing of Call Detail Records, check-in/check-out/room change for guest extensions, receipt of Housekeeping/Room Status changes initiated at guest or non-guest telephones and forwarding to a simulated Property Management System, MWL activation for incoming voicemail, and DND activation/deactivation.

2.2. Test Results

All executed test cases were completed successfully.

2.3. Support

For technical support on FCS Unicorn, contact FCS Computer Systems Support Hotline at +632-857-4000.

3. Reference Configuration

The configuration used in performing compliance testing of FCS Unicorn is shown in **Figure 1**. It shows a network consisting primarily of an Avaya Aura® Communication Manager in Duplex mode with an Avaya G430 Media Gateway, Avaya Aura® Media Server, a FCS server with Unicorn installed with PMS Simulator, and a pair of phones for each guest room, which are either analog or digital with an Avaya IP Telephone. Additional utility phones are setup to function as Operator, Admin and Front Desk. The CDR and PMS data links from FCS Unicorn are carried over the IP network and terminated in Avaya Aura® Communication Manager as IP services.

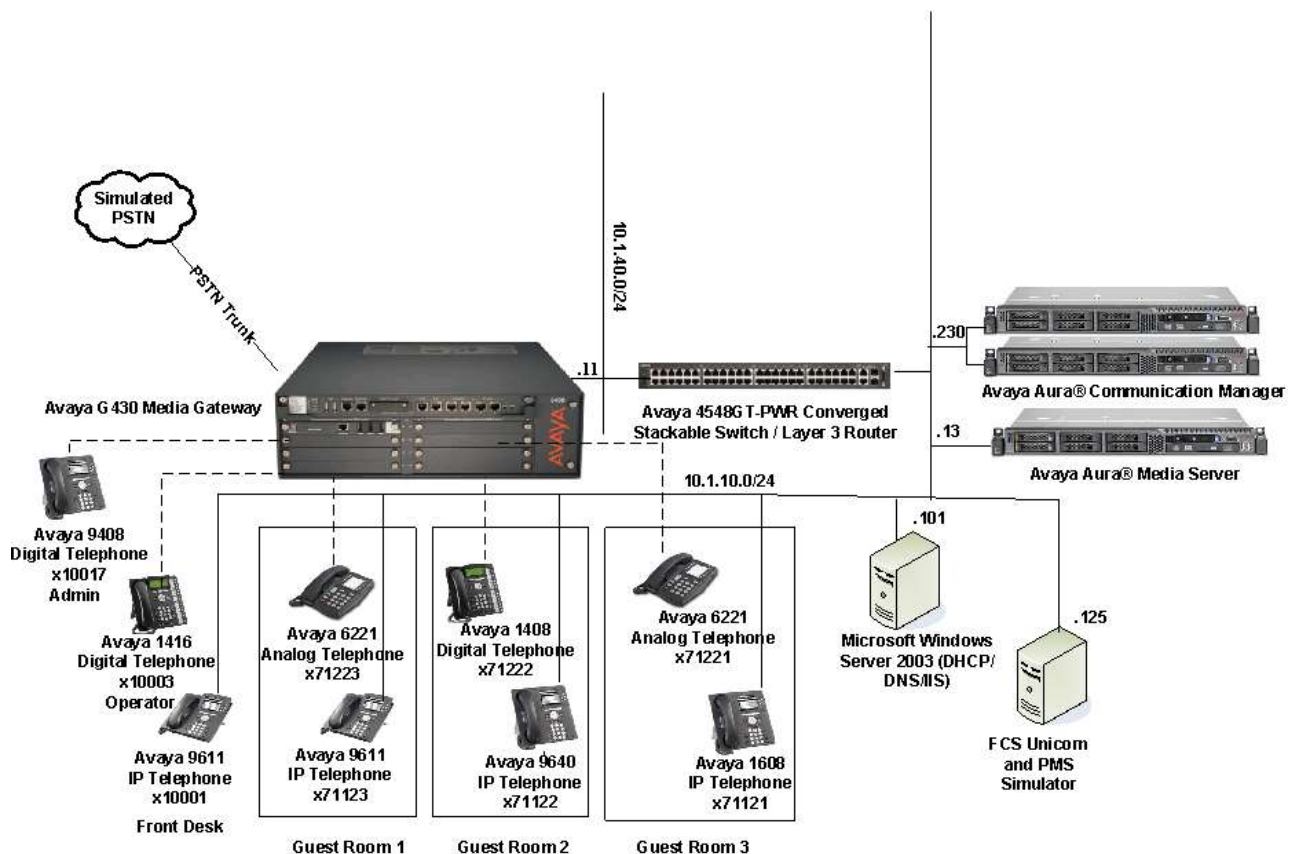


Figure 1: Sample Test Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release Version
Avaya Aura® Communication Manager	R7.0.1.0.0-FP1
Avaya G430 Media Gateway <ul style="list-style-type: none">MGP	37.38.0
Avaya Aura® Media Server	7.7.0.19
Avaya 96x1 IP Telephone (H.323)	6.6029
Avaya 16xx IP Telephone (H.323)	1.38B
Avaya 14xx Digital Telephone	R4 SP7
Avaya 94xx Digital Telephone	2.0 SP4 (R15)
Analog Telephone	-
FCS Unicorn Server on Windows Server 2012 R2 SP1	1.2

Note: The Avaya Aura® servers including FCS Unicorn server used in the test configuration and shown on the table were deployed on a virtualized environment. These Avaya components ran as virtual machines over VMware® (ESXi 5.X) platforms.

5. Configure Avaya Aura® Communication Manager

This section details the steps required to configure Avaya Aura® Communication Manager to interoperate with FCS Unicorn. These Application Notes assume the Avaya Media Gateway (including circuit packs) has already been administered. Please refer to [0] 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.

5.1. Turn On Special Applications

Special-applications feature is required for this compliance testing in order to expand the numbering and character names for PMS from 5-digit extensions and 15 character names to 7-digit extensions and 27 character names. Enter **change system-parameters special-applications** and in page 5, set the parameter **(SA8662) – Expanded PMS Name and Number** from **n**→**y**.

```
change system-parameters special-applications                               Page 5 of 10
                                SPECIAL APPLICATIONS

                                (SA8652) - No Hold Consult? n
(SA8654) - Crisis Alert Call Monitoring and Recording? n
                                (SA8661) - Increased Automatic Wakeup Calls? n
                                (SA8662) - Expanded PMS Name & Number? y
                                (SA8684) - PMS Wakeup Message? n
(SA8693) - Connectivity Check for Direct IP Shuffling? n

                                (SA8697) - 3rd Party H.323 Endpoint Support? n
(SA8701) - Net Region Support H.323 Endpoints Behind ALG? n
                                (SA8702) - CDR Enhancements for Network? n
(SA8731) - Block Outgoing Bridged Call Display? n
                                (SA8734) - Enhanced Extension Display? n
(SA8741) - CDR Identifier for IP Station Calls? n
                                (SA8744) - Block Name for Room to Room Calls? n
(SA8747) - Softphone Indication on DCP Terminals? n
```

5.2. Set Hospitality Parameters

Enter **change system-parameters hospitality**. On **Page 1**, set the following values:

- Message Waiting Configuration: **act-pms**.
- Controlled Restrictions Configuration: **act-pms**.
- Housekeeper Information Configuration: **act-pms**.
- Client Room Coverage Path Configuration: **act-pms**.
- Number of Housekeeper ID Digits: **0** (if Housekeeper ID is required for status update, number of Digits can be set)
- Default Coverage Path for Client Rooms: Set to the number of a coverage path that provides the appropriate coverage treatment for an unoccupied guest room, e.g., coverage to the hotel operator (in this example, coverage path **100** is used).
- PMS Endpoint: **PMS**.
- Seconds before PMS Link Idle Timeout: Set the timeout to be greater than the FCS Unicorn keep alive for Communication Manager to determine if the link is still alive (in this example, **15** seconds is used)
- Milliseconds before PMS Link Acknowledgement Timeout: **1000** (to allow for longer PMS response time)

```
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: 100
                                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: 15
                                Milliseconds before PMS Link Acknowledgement Timeout: 1000
                                    PMS Link Maximum Retransmissions: 3
                                PMS Link Maximum Retransmission Requests: 3
                                    Take Down Link for Lost Messages? y
```

On **Page 2**, set the following values:

- Number of Digits from PMS: **Blank** for mixed numbering for guest rooms with extension of 5 and 6 digit length.
- Number of Digits in PMS Coverage Path: Set the number of digits for coverage path (in this example, **3** digits is used for coverage path)

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

      Dual Wakeups? y      Daily Wakeup? y      VIP Wakeup? y
                        VIP Wakeups Per 5 Minutes: 5
                        Room Activated Wakeup With Tones? y
      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:
                        PMS Sends Prefix? n
      Number of Digits in PMS Coverage Path: 3
      Digit to Insert/Delete:
```

5.3. Set Room Status Values

Advance to **Page 3** and enter the following values for the fields indicated:

- Definition for Rooms in State 1: **Vacant Dirty**
- Definition for Rooms in State 2: **Vacant Ready**
- Definition for Rooms in State 3: **Occupied Dirty**
- Definition for Rooms in State 4: **Occupied Clean**

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

      Definition for Rooms in State 1: Vacant Dirty
      Definition for Rooms in State 2: Vacant Ready
      Definition for Rooms in State 3: Occupied Dirty
      Definition for Rooms in State 4: Occupied Clean
      Definition for Rooms in State 5:
      Definition for Rooms in State 6:

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

5.4. Administer Feature Access Codes for Entering Housekeeping Status:

Enter **change feature-access-codes** (FACs) and advance to **Page 8**. Enter unique FACs for each of the six **Housekeeping Status (Client Room) Access Code** listed, each of which will correspond to the room status values administered in **Section 5.3** (in this example, ***78, *79, *80 and *81** were used, respectively). Also, enter unique FACs for each of the four **Housekeeping Status (Station) Access Code** listed, each of which will correspond to the first four room status values administered in **Section 5.3** (in this example, ***84, *85, *86 and *87** were used, respectively). This is for the housekeeper or hotel staff using phones not in the guest rooms to update housekeeping status. The corresponding room number needs to be entered after the feature code. If Housekeeper ID is required, the number of digits is set in **Section 5.1** will need to be entered after the access code (guest room) or after the room number (non-guest room). The Housekeeper ID will be captured by Unicorn via the PMS link.

<code>change feature-access-codes</code>	Page 8 of 9
FEATURE ACCESS CODE (FAC)	
Hospitality Features	
Automatic Wakeup Call Access Code:	*77
Housekeeping Status (Client Room) Access Code:	*78
Housekeeping Status (Client Room) Access Code:	*79
Housekeeping Status (Client Room) Access Code:	*80
Housekeeping Status (Client Room) Access Code:	*81
Housekeeping Status (Client Room) Access Code:	
Housekeeping Status (Client Room) Access Code:	
Housekeeping Status (Station) Access Code:	*84
Housekeeping Status (Station) Access Code:	*85
Housekeeping Status (Station) Access Code:	*86
Housekeeping Status (Station) Access Code:	*87
Verify Wakeup Announcement Access Code:	*88
Voice Do Not Disturb Access Code:	*89

5.5. Define the FCS Unicorn Server as an IP Node Name

Enter **change node-names ip** and add an entry for the FCS Unicorn server using an appropriately descriptive value for the **Name** (in this case, **FCSUni**) and the corresponding **IP Address** (in this example, **10.1.10.125**).

```
change node-names ip F                                     Page 1 of 2
                                     IP NODE NAMES
Name                                IP Address
FCSUni                            10.1.10.125
Gateway001                          10.1.10.1
Gateway002                          10.1.50.1
IPOffice                             10.1.10.121
Medpro2a07                           10.1.50.23
Medpro2a08                           10.1.50.24
PC1                                  10.1.10.151
PC2                                  10.1.10.152
RDTT                                 10.1.10.153
VAL2a11                              10.1.50.26
XFire2a09                            10.1.50.25
aams1                                10.1.10.13
cms1                                  10.1.10.85
default                              0.0.0.0
iptm                                  10.1.10.124
lsp-g430                             10.1.40.18
( 16 of 31 administered node-names were displayed )
Use 'list node-names' command to see all the administered node-names
Use 'change node-names ip xxx' to change a node-name 'xxx' or add a node-name
```

5.6. Define IP services in support of the PMS and CDR data links:

Enter **change ip-services** and add entries with a Service Type of **PMS** and **CDR1** (or, if a CDR1 service is already defined, **CDR2**), respectively. In each case, enter the following values in the remaining fields:

- **Local Node:** The IP Node Name of a C-LAN board or PROCR (in this example, **procr** is used for IP service definition).
- **Remote Node:** The IP Node Name of the FCS Unicorn server, as defined in **Section 5.5**.
- **Remote Port:** A valid unused port (in this example, the value needs to tally with the FCS Unicorn setup where **5053** is used for **PMS**, while **5052** is used for **CDR1**).

```
change ip-services                                     Page 1 of 4
                                     IP SERVICES
Service Type      Enabled   Local Node      Local Port      Remote Node      Remote Port
AESVCS           y        procr          8765
CDR1           y        procr         0             FCSUni         5052
PMS           y        procr         0             FCSUni         5053
```

5.7. Administer CDR Output Format

Enter **change system-parameters cdr** and choose one of the standard output formats for the **Primary Output Format** field (in this example, **customized** was entered). This selection will determine the expected call detail record format that will be administered in FCS Unicorn. For more information on CDR output formats in Avaya Aura® Communication Manager, please refer to [0].

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

Node Number (Local PBX ID): 1                            CDR Date Format: month/day
Primary Output Format: customized      Primary Output Endpoint: CDR1
Secondary Output Format:
  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? n                          Remove # From Called Number? n
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? y       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: member-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? y                            Inc Attd Call Record? y
  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
Remove '+' from SIP Numbers? Y
```

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

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

Record length = 120
```

5.8. Add Client Room Properties to a Class of Service

Enter **change cos x** (where **x** is Class of Service **5** as shown below), and for the Class of Service to be assigned to guest telephones, set the **Console Permissions** and **Client Room** field to **y**.

```

change cos-group 5                                     Page 1 of 2
CLASS OF SERVICE          COS Group: 5    COS Name: Guest

  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  y  n  y  y  n  n  y  y  n  n  y
Data Privacy              n  y  n  n  n  y  y  y  n  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  n  n  n  n  y  n  n  n  n  n  n  n  n  n
Restrict Call Fwd-Off Net  y  y  y  y  y  n  y  y  y  y  y  y  y  y  y  y
Call Forwarding Busy/DA   n  n  n  n  n  y  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
Automatic Exclusion        n  n  n  n  n  n  n  n  n  n  n  n  n  n  n  n
  
```

5.9. Create default Coverage Path

Enter **add coverage path x**, where **x** is the number of the default coverage path define in **Section 5.2**. In this example, the coverage is set to the operator at extension **Point1: 10003**.

```

add coverage path 100                                     Page 1 of 1
                                COVERAGE PATH

                                Coverage Path Number: 100
                                Cvg Enabled for VDN Route-To Party? n
                                Next Path Number:           Hunt after Coverage? n
                                Linkage

COVERAGE CRITERIA
  Station/Group Status   Inside Call   Outside Call
    Active?               n             n
    Busy?                 y             y
    Don't Answer?        y             y
    All?                  n             n
    DND/SAC/Goto Cover?  y             y
    Holiday Coverage?    n             n

                                Number of Rings: 2

COVERAGE POINTS
  Terminate to Coverage Pts. with Bridged Appearances? n
  Point1: 10003          Rng:         Point2:
  Point3:                Point4:
  Point5:                Point6:
  
```

5.10. Set Guest Room Calling Party Restrictions in a Class of Restriction (COR)

Enter **change cor *n***, where *n* is the number of the Class of Restriction to be assigned to guest telephones (in this example, COR 5 is used). In the **Calling Party Restriction** field, enter **all-toll**.

```
change cor 5                                     Page 1 of 23
                                     CLASS OF RESTRICTION
                                     COR Number: 5
                                     COR Description: Guest Room
                                     FRL: 0
                                     APLT? y
Can Be Service Observed? n                Calling Party Restriction: all-toll
Can Be A Service Observer? n              Called Party Restriction: none
Time of Day Chart: 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
Unrestricted Call List:
Access to MCT? y                          Fully Restricted Service? n
Group II Category For MFC: 7              Hear VDN of Origin Annc.? n
Send ANI for MFE? n                      Add/Remove Agent Skills? 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
```

5.11. Assign Class of Service and Class of Restriction Values to Guest Telephones

For each guest telephone extension *x*, enter **change station *x*** and enter in the **COR** and **COS** fields the values corresponding to the Class of Service and Class of Restriction administered in **Section 5.8 and 5.10**, respectively. The default coverage path will be **100** as shown below in **Coverage Path 1** when controlled by Unicorn via the PMS link.

```
change station 71121                                     Page 1 of 4
                                                         STATION
Extension: 71121                                         Lock Messages? n          BCC: 0
Type: 1608                                              Security Code: 111222     TN: 1
Port: S00012                                           Coverage Path 1: 100     COR: 5
Name:                                                  Coverage Path 2:         COS: 5
                                                         Hunt-to Station:        Tests? y
STATION OPTIONS
Loss Group: 19                                         Time of Day Lock Table:
Speakerphone: 2-way                                    Personalized Ringing Pattern: 1
Display Language: english                             Message Lamp Ext: 71121
Survivable GK Node Name:                               Mute Button Enabled? y
Survivable COR: internal                               Media Complex Ext:
Survivable Trunk Dest? y                              IP SoftPhone? n
                                                         IP Video? n
                                                         Short/Prefixed Registration Allowed: default
```

5.12. Do Not Disturb (DND) Termination Restriction

Enter **change system-parameters features** and in **Page 4**, at the Controlled Termination Restriction (Do Not Disturb) field, enter **coverage**. This selection will determine the type of intercept treatment the caller receives when the call is placed to a guest room when DND is activated by user controlled toll restriction. In this example, caller is placed to the default coverage path **100** of the guest room defined in **Section 5.2**.

```
change system-parameters features                               Page 4 of 19
      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
    Drop Parking User From the Call After Timeout? n
    Deluxe Paging and Call Park Timeout to Originator? y
    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? y
    Authorization Code Length: 7
    Authorization Code Cancellation Symbol: #
    Attendant Time Out Flag? n
    Display Authorization Code? n
    Controlled Toll Restriction Replaces: none
```

6. Configure FCS Unicorn

This section details the essential portion of the FCS Unicorn configuration to interoperate with Avaya Aura® Communication Manager. These Application Notes assume that the FCS Unicorn application has already been properly installed by FCS services personnel. Further details of the FCS Unicorn setup can be found in the Unicorn (Standard) v1.1 - Installation Manual v1.0 [4].

1. The Unicorn Avaya PMS interface module port and data configuration is defined in the AvayaAscii-PBX.xml located in the “C:\Program Files (x86)\FCS\Unicorn\Control\” directory. The host is set as Interface Type **2** (tcp.ip) listening to port **5053**. This corresponds with the setup of Communication Manager at **Section 5.6** for the **PMS** service type. The default coverage path is set to **100** which correspond to **Section 5.2**

```
<PBX ID="AvayaAscii">
  <!-- need to match with the XML filename -->
  <CommunicationSetting>
    <Name>Avaya Ascii</Name>
    <!--
    :
    :
  -->
  <!-->
  <InterfaceType>2</InterfaceType>
  <InterfaceSetting>H,127.0.0.1:5053</InterfaceSetting>
    <UDPSvrInterfaceSetting></UDPSvrInterfaceSetting>
  <!--
  = <!--
                                if tcp.ip, interfaceSetting could be
  "X,192.168.1.12:5600",
                                where X = H = host, C=client
  :
  :
  <!-- below Settings are PABX dependent. -->
  <DeviceDependentSetting>
    <CoveragePathMapPid1>MO5,100</CoveragePathMapPid1>
```

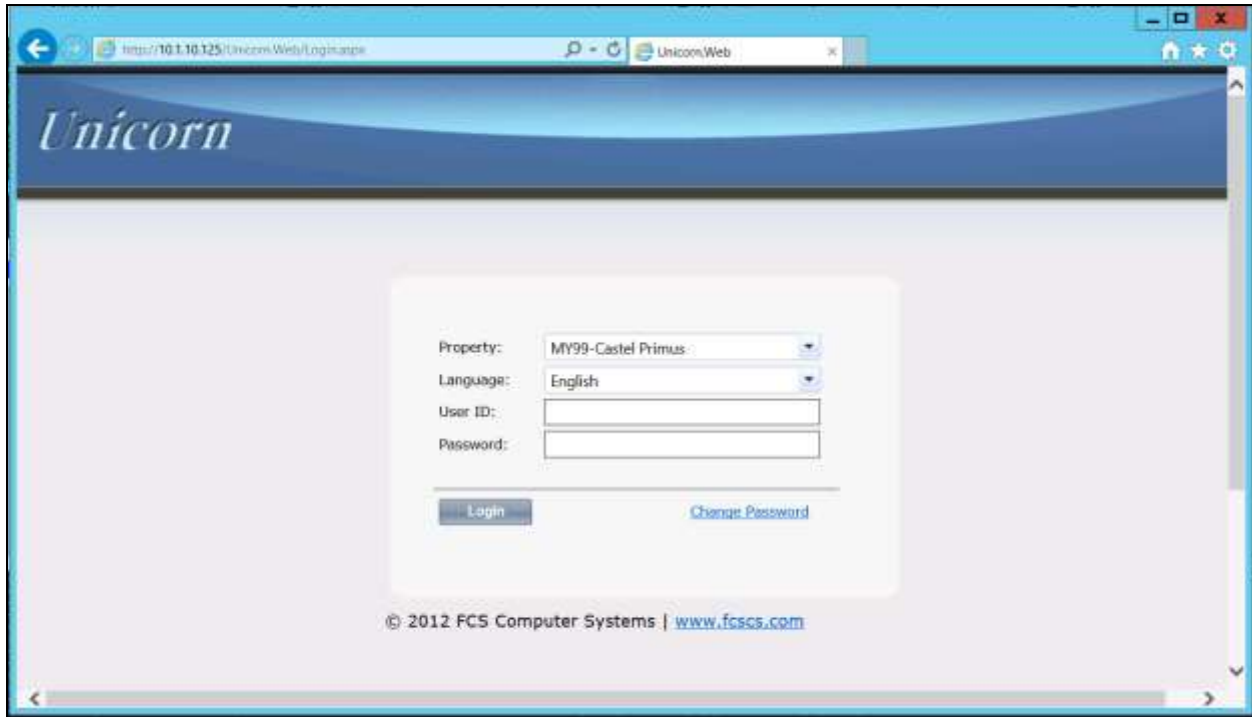
2. The Unicorn Avaya CDR interface module port & data configuration is defined in the Generic-CDR.xml located in the “C:\Program Files (x86)\FCS\Unicorn\Control\” directory. The host is set as type **2** (tcp.ip) listening to port **5052**. This corresponds with the setup of Communication Manager at **Section 5.6** for the **CDR1** service type.


```
<PBX ID="CDR1">
  <!-- need to match with the XML filename -->
  <CommunicationSetting>
    <Name>Avaya</Name>


    <ProtocolFormat>2</ProtocolFormat>
    <!--1 =[STX]xxxxx[ETX], 2=xxxxxxx[13][10] 3=[13][10]xxxxxxxx, 4=Fixed Lenght-->
    <InterfaceType>2</InterfaceType>
    <!--1 = RS232, 2=tcp.ip 3=udp, 4=telnet,5=bisync 6=file sharing-->
    <InterfaceSetting>H,127.0.0.1:5052</InterfaceSetting>
    <!-- if tcp.ip, interfaceSetting could be "X,192.168.1.12:5600" , where X = H = host,
    C=client-->
    <!-- 3,9600,n,8,1 - com. port 3, baud rate 9600,n,8,1 -->

    <UDPSvrInterfaceSetting></UDPSvrInterfaceSetting>
```

3. FCS Unicorn provides a web interface for posting and reporting. Administrator can log in with the appropriate credentials from “*http://<server name or ip address>/Unicorn.Web/Login.aspx*” as shown below by substituting the appropriate server ip address of the FCS Unicorn.



4. Click **Home** → **System** → **Interface Listing** to show the interface integrated and their status which should show up . Below are the **Device ID** list and their purpose. A Fidelio Open Interface Simulator was used as Front Office System to send PMS commands. FCS Phoenix was used as Voice Mail System which also initiates Wakeup calls to Communication Manager. Details can be found in Application Notes [3].
 - a. **FOS1** – Front Office System using Fidelio Open Interface Simulator
 - b. **VMS1**- Phoenix Voicemail
 - c. **PBX1** – Avaya Aura® Communication Manager PMS
 - d. **CDR1** – Avaya Aura® Communication Manager Call Detail Recording




Hi, Administrator Language: English sign out change password

This is a temporary license. It will expire in 25 days on 15 August 2016. Your system will be inoperable from the expiry date. Please obtain a valid license.

Home Posting Reporting Configuration Business Date: 16-Apr-2013 21-Jul-2016 03:29 Manual Buffer Release(FOS1)

Interface Listing

Refresh Last refreshed at 10:45:45 AM

DEVICE ID	DEVICE DESC	EXE NAME	VERSION	STATUS	POSTING
FOS1	Fidelio FIAS	FIAS.FOS.exe	1.2.3.74		ON
VMS1	Phoenix.VMS	Phoenix.VMS.exe	1.2.2.30		ON
PBX1	AvayaASCII	AvayaASCII.PBX.exe	1.2.17.61		ON
CDR1	Generic CDR Interface	Generic.CDR.exe	1.2.2.35		N/A

Occupancy 166.67%

7. Verification Steps

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

To verify that the PMS data link between Avaya Aura® Communication Manager and FCS Unicorn is operational, enter **status pms-link** at the SAT and look for a status of **up** in the **Physical Link State** and **Protocol State** fields.

```
status pms-link
                                PMS LINK STATUS

Physical Link State: up
Protocol State: up

Maintenance Busy? no
Data Base Swapping? no
```

To verify that the CDR data link between Avaya Aura® Communication Manager and FCS Unicorn is operational, enter **status cdr-link** at the SAT and look for a status of **up** in the **Link State** field of the CDR link to FCS Unicorn (in this example, the **Primary** link).

```
status cdr-link
                                CDR LINK STATUS

Primary                          Secondary

Link State: up                   CDR not administered

Date & Time: 2016/07/15 16:35:57    0000/00/00 00:00:00
Forward Seq. No: 0                   0
Backward Seq. No: 0                 0
CDR Buffer % Full: 0.00               0.00
Reason Code: OK
```

To verify the ability to check in guest extension *x*, initiate such a request from the associated Property Management System. At Avaya Aura® Communication Manager SAT, enter **status station *x*** and verify that **Room Status** is **occupied** and **User Cntrl Restr** is **none**.

```

status station 71122                                     Page 1 of 7
                                     GENERAL STATUS
Administered Type: 9641G                               Service State: in-service/on-hook
Connected Type: 9641                                   TCP Signal Status: connected
Extension: 71122                                       Network Region: 1
Port: S00022                                           Parameter Download: complete
Call Parked? no                                       SAC Activated? no
Ring Cut Off Act? no
Active Coverage Option: 1                               one-X Server Status: N/A

EC500 Status: N/A                                     Off-PBX Service State: N/A
Message Waiting:
Connected Ports:

Limit Incoming Calls? no

User Cntrl Restr: none                               HOSPITALITY STATUS
Group Cntrl Restr: none                               Awaken at:
                                                    User DND: not activated
                                                    Group DND: not activated
Room Status: occupied

```

Initiate a check out for the guest extension from the associated Property Management System. At Avaya Aura® Communication Manager SAT, enter **status station *x*** again and verify that **Room Status** is **vacant** and **User Cntrl Restr** is **outward** for DND. Make public call from the guest extension to verify that it is blocked.

```

status station 71121                                     Page 1 of 7
                                     GENERAL STATUS
Administered Type: 1608                               Service State: in-service/on-hook
Connected Type: 1608                                   TCP Signal Status: connected
Extension: 71121                                       Network Region: 1
Port: S00012                                           Parameter Download: complete
Call Parked? no                                       SAC Activated? no
Ring Cut Off Act? no
Active Coverage Option: 1                               one-X Server Status: N/A

EC500 Status: N/A                                     Off-PBX Service State: N/A
Message Waiting:
Connected Ports:

Limit Incoming Calls? no

User Cntrl Restr: outward                             HOSPITALITY STATUS
Group Cntrl Restr: none                               Awaken at:
                                                    User DND: not activated
                                                    Group DND: not activated
Room Status: vacant

```

8. Conclusion

These Application Notes describe the procedures for configuring FCS Unicorn to interoperate with Avaya Aura® Communication Manager R7.0. All interoperability compliance test cases executed against such a configuration were completed successfully.

9. Additional References

The following Avaya product documentation is available at <http://support.avaya.com>.

- [1] *Administering Network Connectivity on Avaya Aura® Communication Manager*, Release 7.0.1, May 2016, Document ID 555-233-504 Issue 2.0
- [2] *Administering Avaya Aura® Communication Manager*, Release 7.0.1, May 2016, Document ID 03-300509, Issue 2
- [3] *Application Notes for FCS Phoenix with Avaya Aura® Communication Manager R7.0 and Avaya Aura® Session Manager R7.0*

The following documents are provided by FCS Computer Systems Sdn Bhd upon request.

- [4] *Unicorn (Standard) v1.1 - Installation Manual v1.0*
- [5] *Unicorn (Standard) v1.1 - User Manual v1.0*

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