Avaya Solution & Interoperability Test Lab

# Application Notes for IntraNext iGuard with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services R6.3 using DMCC Multiple Registration – Issue 1.0

## Abstract

These Application Notes contain instructions for IntraNext iGuard with Avaya Aura® Application Enablement Services and Avaya Aura® Communication Manager to successfully interoperate.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the 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 contain instructions for IntraNext iGuard with Avaya Aura® Application Enablement Services and Avaya Aura® Communication Manager to successfully interoperate.

The iGuard solution offers an innovative way to protect customers' personally identifiable information (PII) during calls with contact center agents. When customers input data such as credit card or social security numbers during a call, iGuard prevents the customer service representative (CSR) from seeing or hearing the data.

iGuard is a Dual Tone Multi Frequency (DTMF) capturing solution. In the compliance testing, iGuard used the Telephony Services Application Programming interface (TSAPI) and Device, Media, and Call Control (DMCC) interface from Avaya Aura® Application Enablement Services to monitor agent stations on Avaya Aura® Communication Manager and to capture the media associated with the monitored stations for DTMF collection.

# 2. General Test Approach and Test Results

The feature test cases were performed manually. Each test call was handled manually on the agent station with generation of unique media (DTMF) content for the recordings. Necessary user actions such as hold and reconnect were performed from the agent telephones to test the different call scenarios.

The serviceability test cases were performed manually by disconnecting/reconnecting the ethernet cable to iGuard.

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

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on iGuard:

- Handling of TSAPI messages in the areas of event notification and value queries.

- Proper capture of DTMF of calls for scenarios involving inbound, outbound, internal, external, ACD, non-ACD, hold, reconnect, conference, and transfer.

The serviceability testing focused on verifying the ability of iGuard to recover from adverse conditions, such as disconnecting/reconnecting the ethernet cable to iGuard.

## 2.2. Test Results

All planned test cases passed successfully.

## 2.3. Support

Technical support on IntraNext iGuard can be obtained through the following:

- **Phone:** US 1-800-928-6398
- **Email:** support@intranext.com
- **Web:** http://www.intranext.com

# 3. Reference Configuration

**Figure 1** illustrates a sample configuration that consists of Avaya Products and IntraNext iGuard.

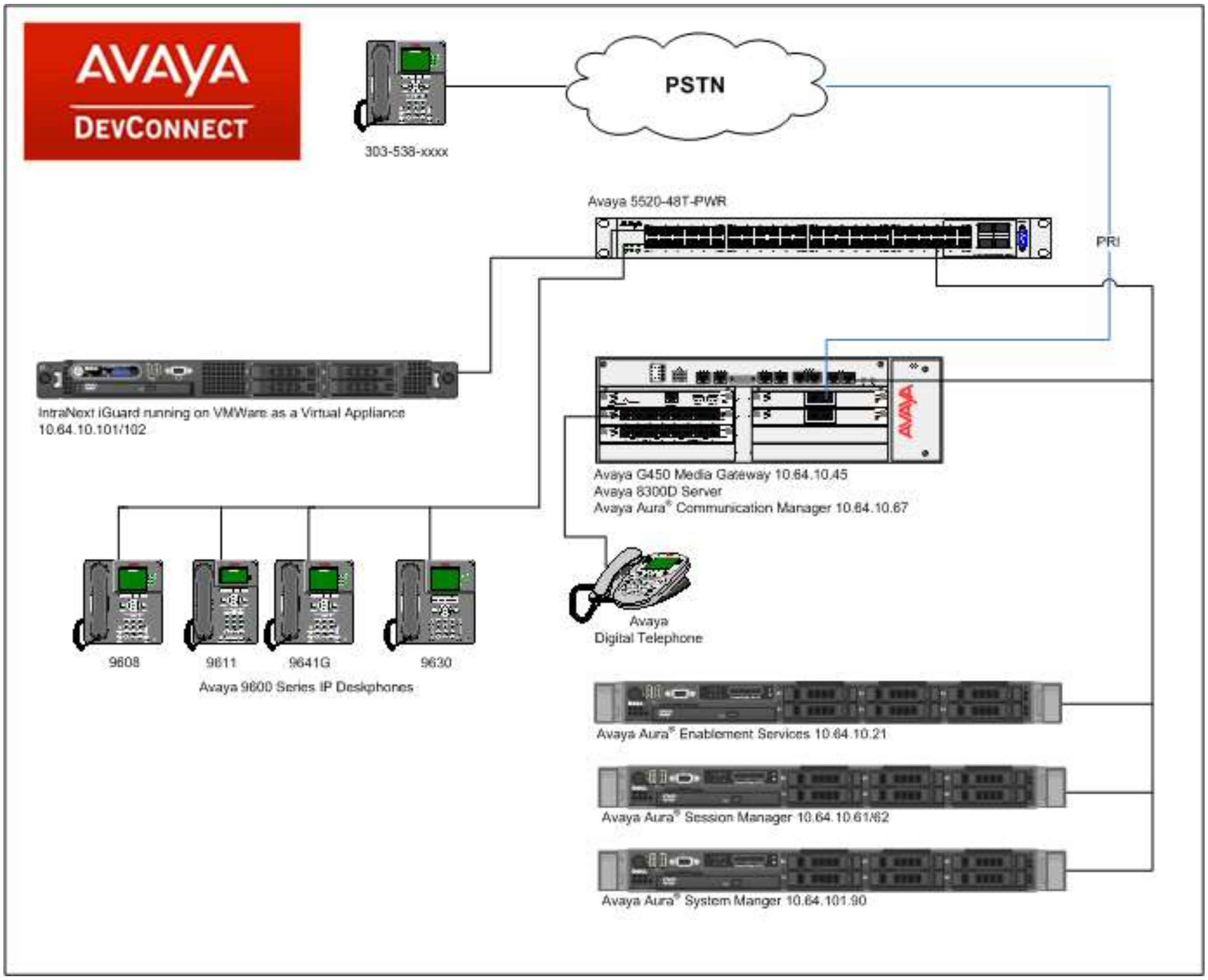

AVAYA
DEVCONNECT
303-538-xxxx
PSTN
Avaya 5520-48T-PWR
PRI
IntraNext iGuard running on VMWare as a Virtual Appliance
10.64.10.101/102
Avaya G450 Media Gateway 10.64.10.45
Avaya 8300D Server
Avaya Aura® Communication Manager 10.64.10.67
9608
9611
9641G
9630
Avaya 9600 Series IP Deskphones
Avaya
Digital Telephone
Avaya Aura® Enablement Services 10.64.10.21
Avaya Aura® Session Manager 10.64.10.61/62
Avaya Aura® System Manger 10.64.101.90

**Figure 1:** Test Configuration for IntraNext iGuard

## 4. Equipment and Software Validated

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

| Equipment/Software | Release/Version |
|---|---|
| Avaya S8300D Server<br>Avaya Aura® Communication Manager running on Avaya S8300D Server | 6.3 SP8 |
| Avaya Aura® Session Manager running on HP Proliant DL360 server | 6.3 SP6 |
| Avaya Aura® System Manager running on a hypervisor as a virtual appliance | 6.3 SP6 |
| Avaya G450 Media Gateway | 31.20.0 |
| Avaya Aura® Application Enablement Services running on Dell PowerEdge R610 server | 6.3.3 |
| Avaya TSAPI Client | 6.3 |
| IntraNext iGuard | 10.1 |

# 5. Configure Avaya Aura® Communication Manager

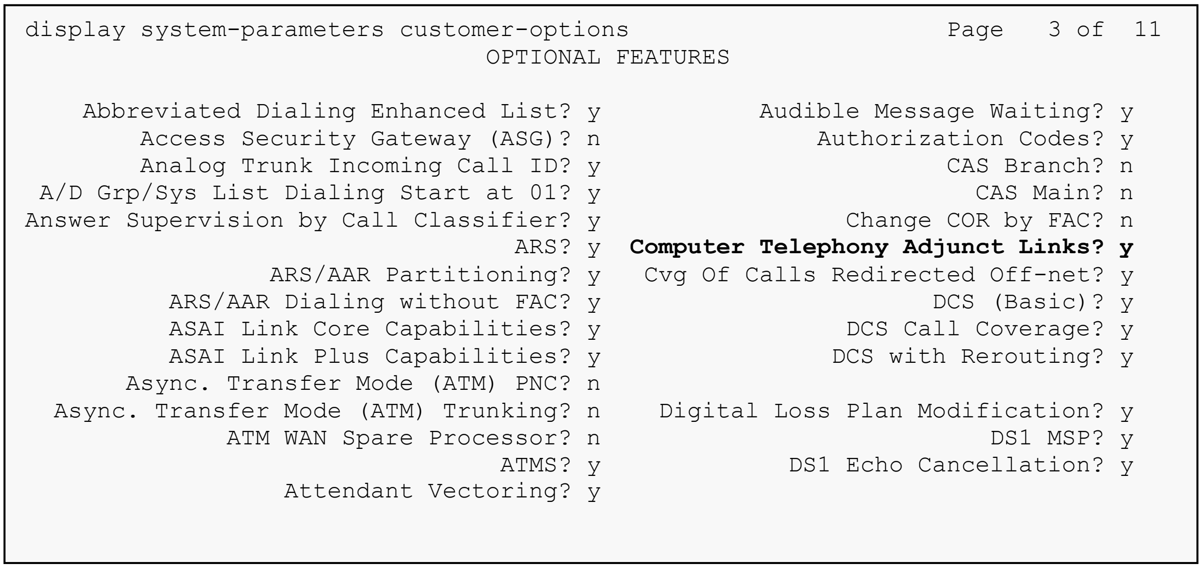
This section contains steps necessary to configure iGuard successfully with Communication Manager.

All configurations in Communication Manager were performed via the SAT terminal.

## 5.1. Verify Feature and License

Enter the **display system-parameters customer-options** command and ensure that the following features are enabled.

One Page 3, verify **Computer Telephone Adjunct Links** is set to **y.**



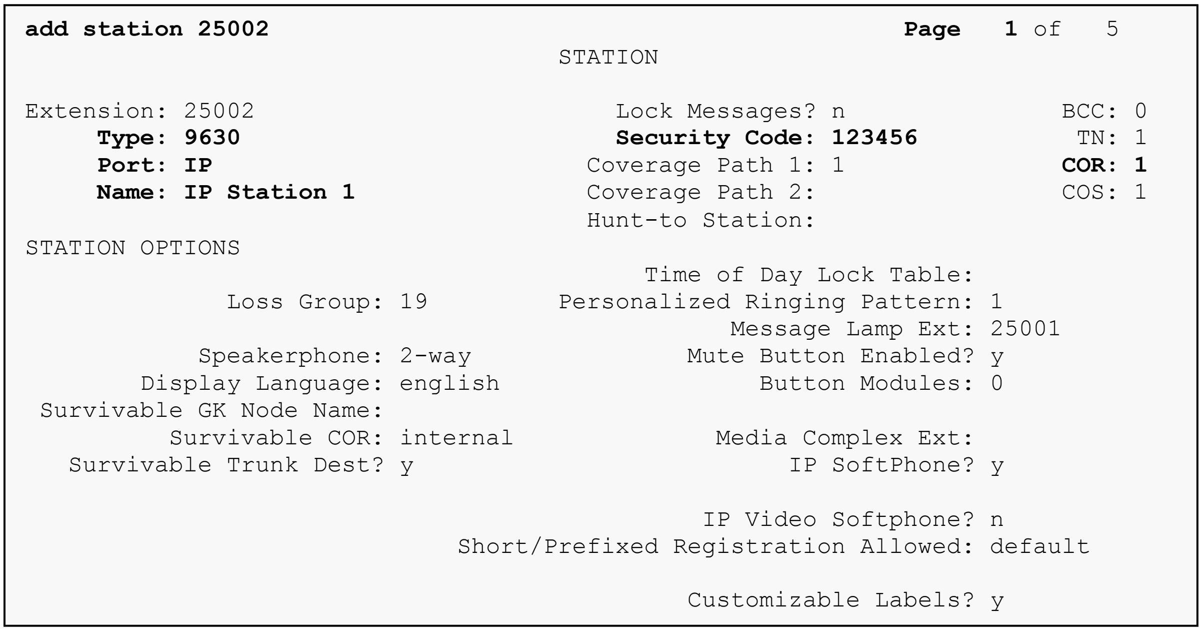
```
display system-parameters customer-options                      Page   3 of  11
                                OPTIONAL FEATURES

    Abbreviated Dialing Enhanced List? y           Audible Message Waiting? y
        Access Security Gateway (ASG)? n               Authorization Codes? y
        Analog Trunk Incoming Call ID? y                        CAS Branch? n
 A/D Grp/Sys List Dialing Start at 01? y                          CAS Main? n
Answer Supervision by Call Classifier? y                 Change COR by FAC? n
                                  ARS? y  Computer Telephony Adjunct Links? y
                 ARS/AAR Partitioning? y   Cvg Of Calls Redirected Off-net? y
          ARS/AAR Dialing without FAC? y                       DCS (Basic)? y
          ASAI Link Core Capabilities? y                 DCS Call Coverage? y
          ASAI Link Plus Capabilities? y                DCS with Rerouting? y
       Async. Transfer Mode (ATM) PNC? n
  Async. Transfer Mode (ATM) Trunking? n    Digital Loss Plan Modification? y
              ATM WAN Spare Processor? n                          DS1 MSP? y
                                 ATMS? y             DS1 Echo Cancellation? y
                  Attendant Vectoring? y
```

## 5.2. Configure Stations

Use the **add station *n*** command to add a station, where ***n*** is an available station extension. This station will be monitored by iGuard. Configure the station as follows, on Page 1:

- In **Name** field, enter a descriptive name
- Set **Type** to the type of the telephones
- Enter a **Security Code**



```
add station 25002                                            Page   1 of   5
                                     STATION

Extension: 25002                         Lock Messages? n               BCC: 0
     Type: 9630                          Security Code: 123456           TN: 1
     Port: IP                          Coverage Path 1: 1               COR: 1
     Name: IP Station 1                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: 25001
            Speakerphone: 2-way                Mute Button Enabled? y
        Display Language: english                   Button Modules: 0
 Survivable GK Node Name:
          Survivable COR: internal                Media Complex Ext:
   Survivable Trunk Dest? y                            IP SoftPhone? y

                                               IP Video Softphone? n
                              Short/Prefixed Registration Allowed: default

                                              Customizable Labels? y
```

## 5.3. Configure IP Services

Add an IP-Services entry, using the **change ip-services** command, for Application Enablement Services as described below. On Page 1:

- In the **Service Type** field, type **AESVCS**.
- In the **Enabled** field, type **y**.
- In the **Local Node** field, type the Node name **procr** for the Processor Ethernet Interface.
- In the **Local Port** field, use the default port **8765**.

```
change ip-services                                              Page   1 of   4

                                   IP SERVICES
 Service     Enabled     Local        Local       Remote      Remote
  Type                   Node         Port        Node        Port
AESVCS         y      procr           8765
CDR1                  procr           0
CDR2                  procr           0
PMS                   procr           0
```

On Page 4 of the IP Services form, enter the following values:

- In the **AE Services Server** field, type the host name of the Application Enablement Services server.
- In the **Password** field, type the same password to be administered on the Application Enablement Services server in **Section 6**, **Step 1**.
- In the **Enabled** field, type **y**.

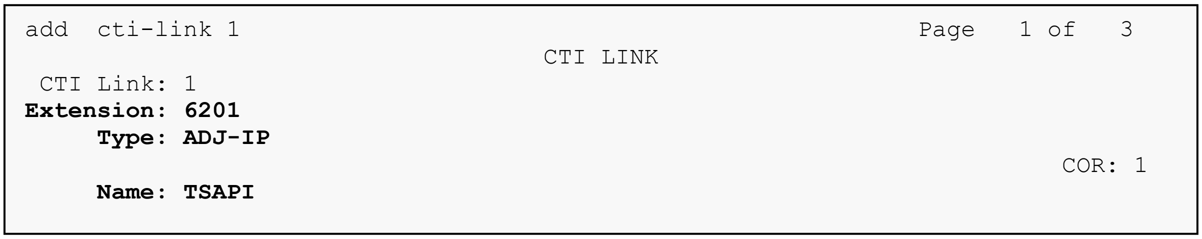
```
change ip-services                                              Page   4 of   4
                            AE Services Administration

   Server ID    AE Services        Password          Enabled    Status
                   Server
      1:      aes6_tr1          devconnect123          y        in use
      2:      AES2146           devconnect123          y        in use
```

## 5.4. Configure CTI Link

Enter the **add cti-link <link number>** command, where **<link number>** is an available CTI link number.

- In the **Extension** field, type a valid station extension.
- In the **Type** field, type **ADJ-IP**.
- In the **Name** field, type a descriptive name.



```
add  cti-link 1                                               Page   1 of   3
                                    CTI LINK
 CTI Link: 1
Extension: 6201
     Type: ADJ-IP
                                                                        COR: 1
     Name: TSAPI
```

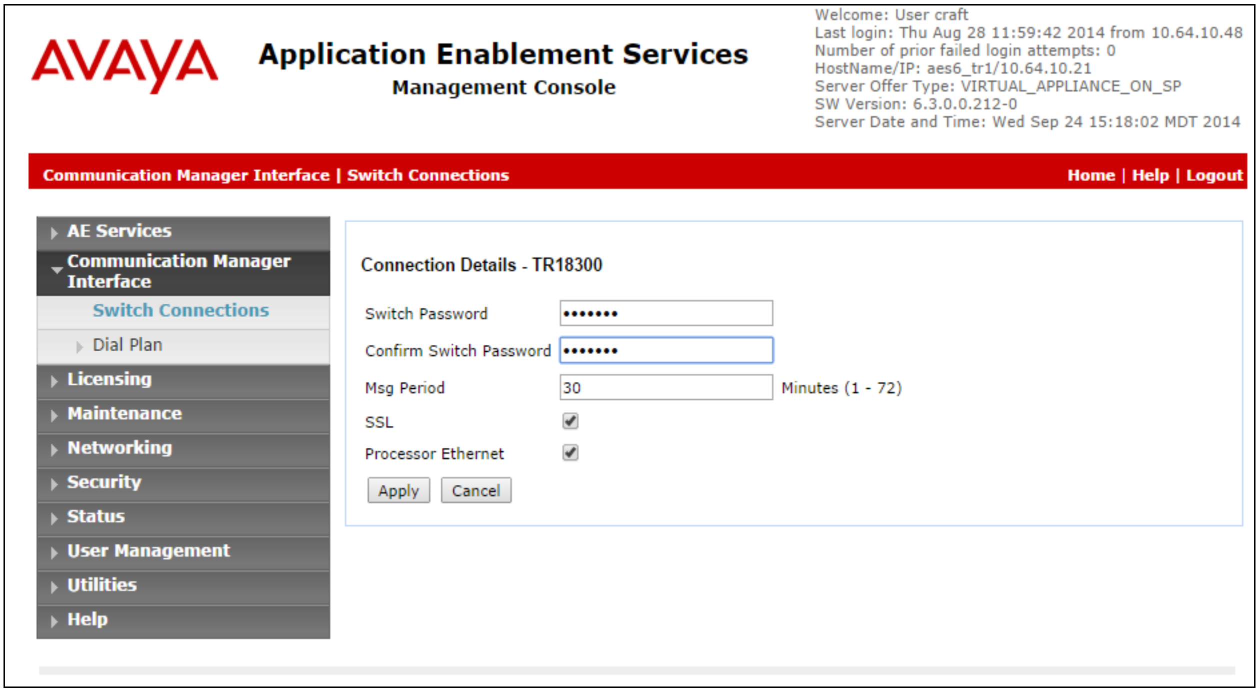
# 6. Configure Avaya Aura® Application Enablement Services

Configuration of Application Enablement Services requires a user account to be configured for iGuard and a CTI/TSAPI configuration for Communication Manager.

All administration is performed by the AES web browser, https://<aes-ip-address>/

## 6.1. Configure Avaya Aura® Communication Manager Switch Connections

To add links to Communication Manager, navigate to the **Communication Manager Interface → Switch Connections** page on the AES web browser and enter a name for the new switch connection (e.g. **TR18300**) and click the **Add Connection** button (not shown). The **Connection Details** screen is shown. Enter the **Switch Password** configured in **Section 5.3** and check the **Processor Ethernet** box if using the **procr** interface. Click **Apply**.

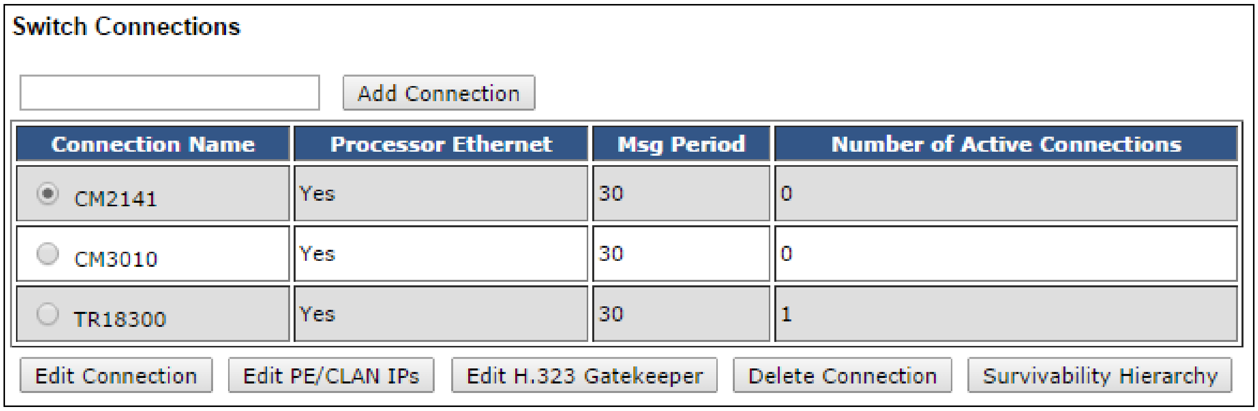


Welcome: User craft
Last login: Thu Aug 28 11:59:42 2014 from 10.64.10.48
Number of prior failed login attempts: 0
HostName/IP: aes6_tr1/10.64.10.21
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.0.0.212-0
Server Date and Time: Wed Sep 24 15:18:02 MDT 2014

Connection Details - TR18300

Switch Password: •••••••
Confirm Switch Password: •••••••
Msg Period: 30 Minutes (1 - 72)
SSL: ☑
Processor Ethernet: ☑

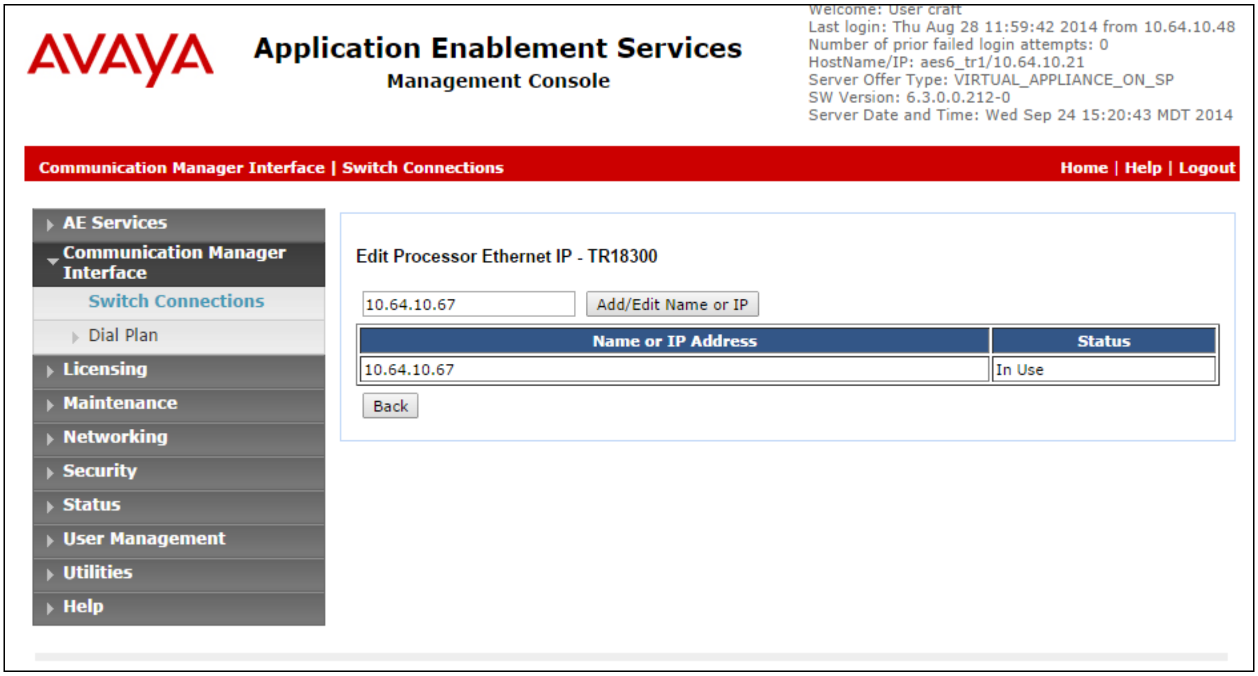
The display returns to the **Switch Connections** screen which shows that the **TR18300** switch connection has been added.



Switch Connections

| Connection Name | Processor Ethernet | Msg Period | Number of Active Connections |
|---|---|---|---|
| ● CM2141 | Yes | 30 | 0 |
| ○ CM3010 | Yes | 30 | 0 |
| ○ TR18300 | Yes | 30 | 1 |

Select the recently added Switch Connection, **TR18300**, and click the **Edit PE/CLAN IPs** button to configure the **procr** or **CLAN** IP Address(es) for TSAPI message traffic. The **Edit Processor Ethernet IP** screen is displayed. Enter the IP address of the **procr** interface and click the **Add/Edit Name or IP** button.



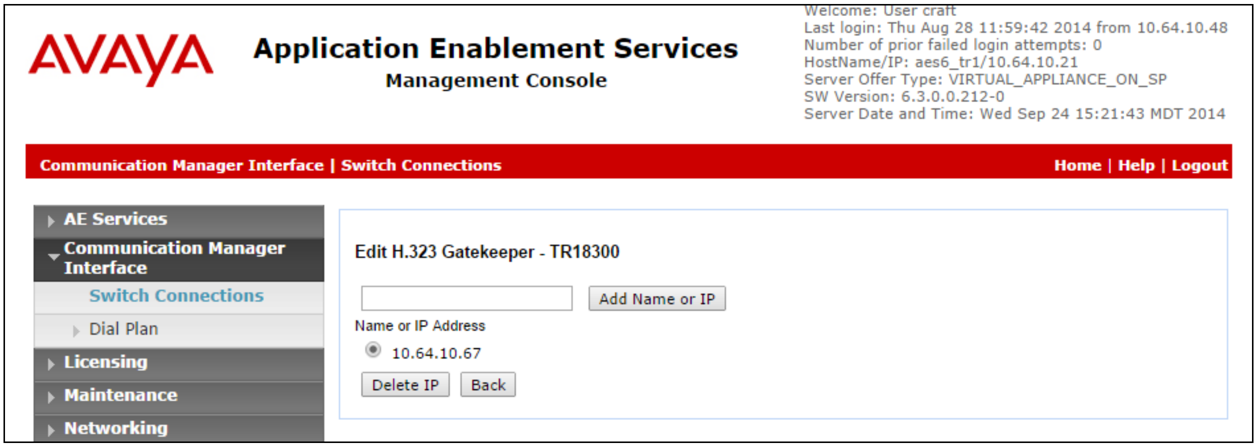
Welcome: User craft
Last login: Thu Aug 28 11:59:42 2014 from 10.64.10.48
Number of prior failed login attempts: 0
HostName/IP: aes6_tr1/10.64.10.21
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.0.0.212-0
Server Date and Time: Wed Sep 24 15:20:43 MDT 2014

Edit Processor Ethernet IP - TR18300

10.64.10.67

| Name or IP Address | Status |
|---|---|
| 10.64.10.67 | In Use |

Click the **Edit H.323 Gatekeeper** button on the **Switch Connections** screen to configure the **procr** or **CLAN** IP Address(es) for DMCC registrations. The **Edit H.323 Gatekeeper** screen is displayed. Enter the IP address of the **procr** interface and click the **Add Name or IP** button.



Welcome: User craft
Last login: Thu Aug 28 11:59:42 2014 from 10.64.10.48
Number of prior failed login attempts: 0
HostName/IP: aes6_tr1/10.64.10.21
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.0.0.212-0
Server Date and Time: Wed Sep 24 15:21:43 MDT 2014

Edit H.323 Gatekeeper - TR18300

Name or IP Address

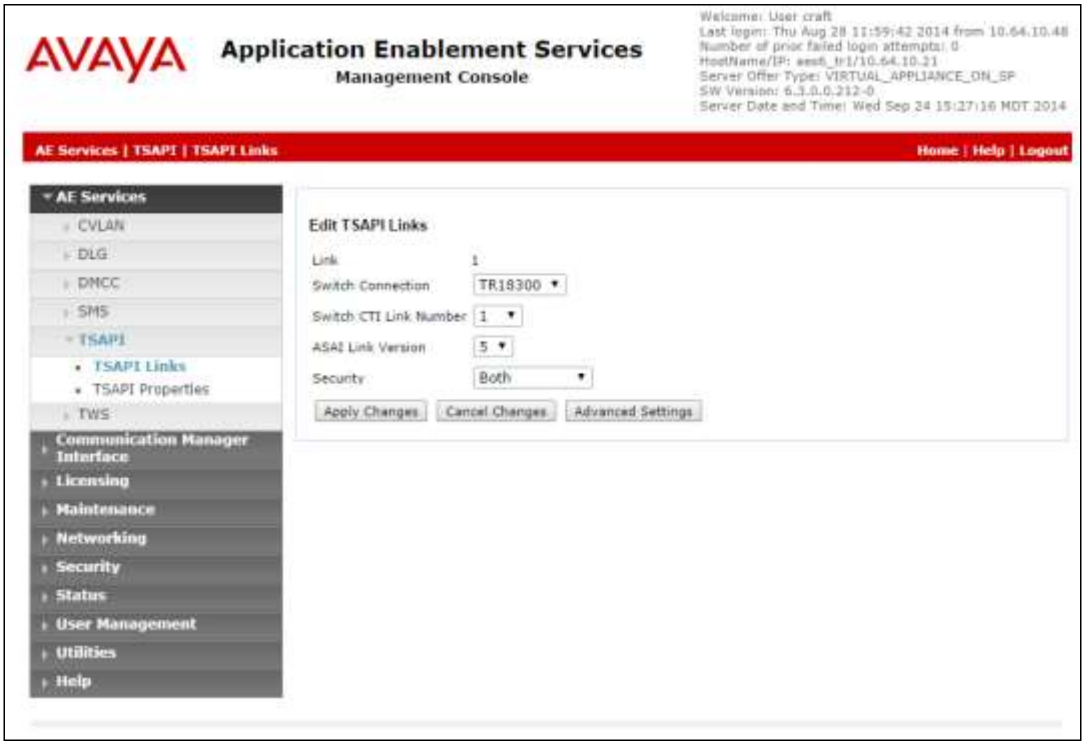
● 10.64.10.67

## 6.2. Add TSAPI Link

Navigate to the **AE Services →TSAPI → TSAPI Links** page to add a TSAPI CTI Link. Click **Add Link** (not shown).

Select the appropriate **Switch Connection** using the drop down menu. Select the **Switch CTI Link Number** using the drop down menu. The **Switch CTI Link Number** must match the number configured in the **cti-link** form in **Section 5.4**. Select **Both** in the **Security** field.

Click **Apply Changes**.

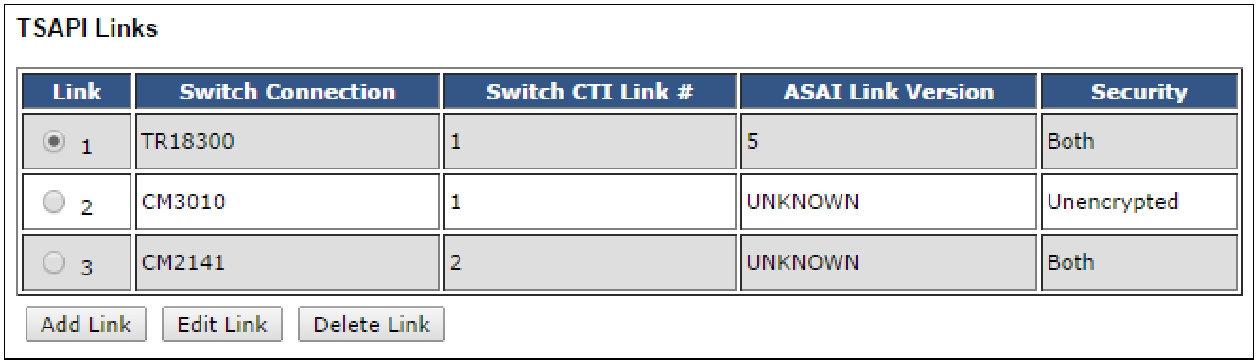


Welcome: User craft
Last login: Thu Aug 28 11:59:42 2014 from 10.64.10.48
Number of prior failed login attempts: 0
HostName/IP: aes6_tr1/10.64.10.21
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.0.0.212-0
Server Date and Time: Wed Sep 24 15:27:16 MDT 2014

Edit TSAPI Links

| | |
|---|---|
| Link | 1 |
| Switch Connection | TR18300 |
| Switch CTI Link Number | 1 |
| ASAI Link Version | 5 |
| Security | Both |

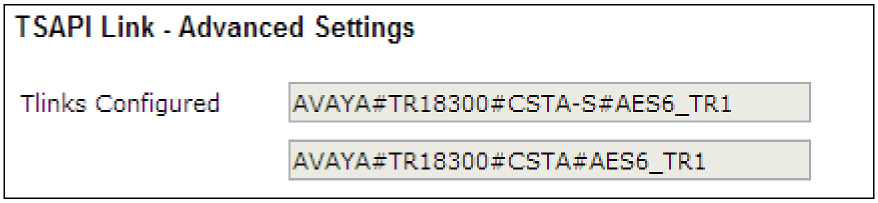
The page returns to the **TSAPI Links** screen which shows that the **TR18300** link has been added.



TSAPI Links

| Link | Switch Connection | Switch CTI Link # | ASAI Link Version | Security |
|---|---|---|---|---|
| ● 1 | TR18300 | 1 | 5 | Both |
| ○ 2 | CM3010 | 1 | UNKNOWN | Unencrypted |
| ○ 3 | CM2141 | 2 | UNKNOWN | Both |

Select the TR18300 switch connection and click **Edit Link →Advanced Setting** to obtain the TSAPI Link that will be used by iGuard.



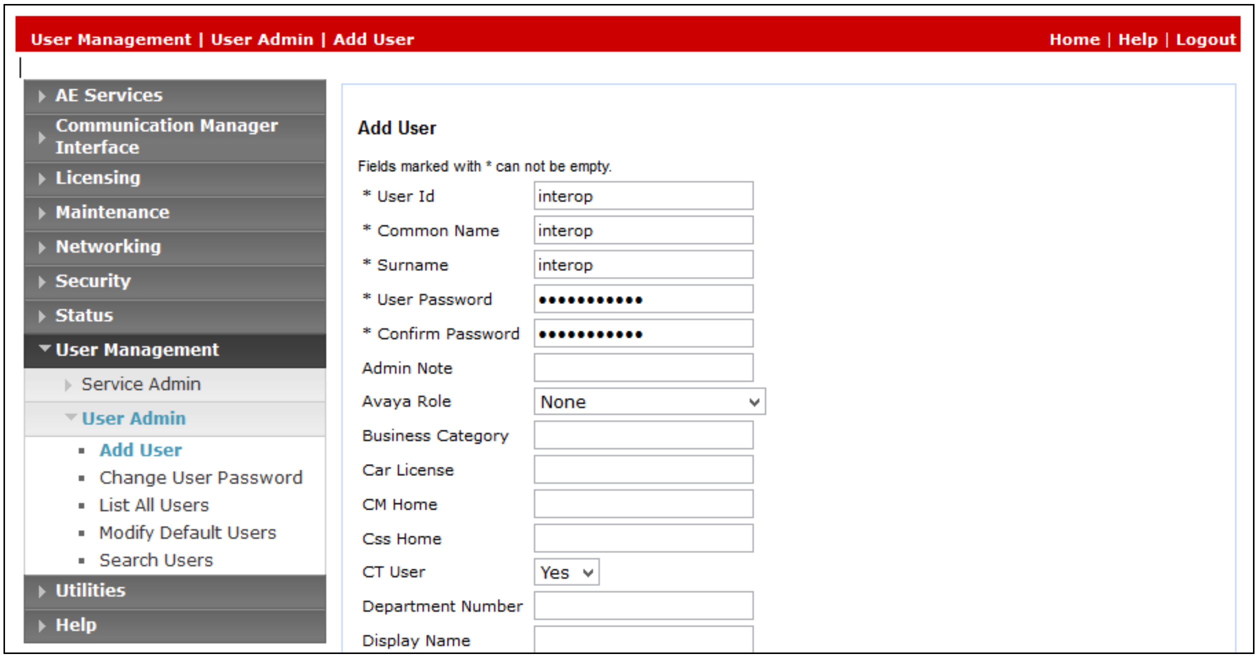
TSAPI Link - Advanced Settings

Tlinks Configured: AVAYA#TR18300#CSTA-S#AES6_TR1
AVAYA#TR18300#CSTA#AES6_TR1

## 6.3. Configure CTI User

A user needs to be created for iGuard to communicate with AES. Navigate to **User Management → User Admin → Add User**.

Fill in the following fields - **User Id, Common Name, Surname, User Password** and **Confirm Password**. Set the **CT User** to **Yes,** and **Apply**.

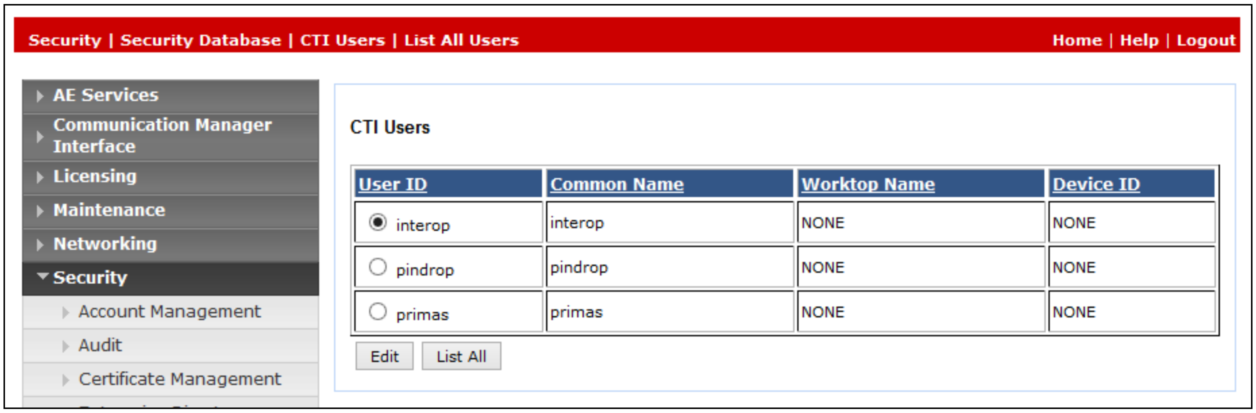


Add User

Fields marked with * can not be empty.

|  |  |
|---|---|
| * User Id | interop |
| * Common Name | interop |
| * Surname | interop |
| * User Password | ••••••••••• |
| * Confirm Password | ••••••••••• |
| Admin Note |  |
| Avaya Role | None |
| Business Category |  |
| Car License |  |
| CM Home |  |
| Css Home |  |
| CT User | Yes |
| Department Number |  |
| Display Name |  |

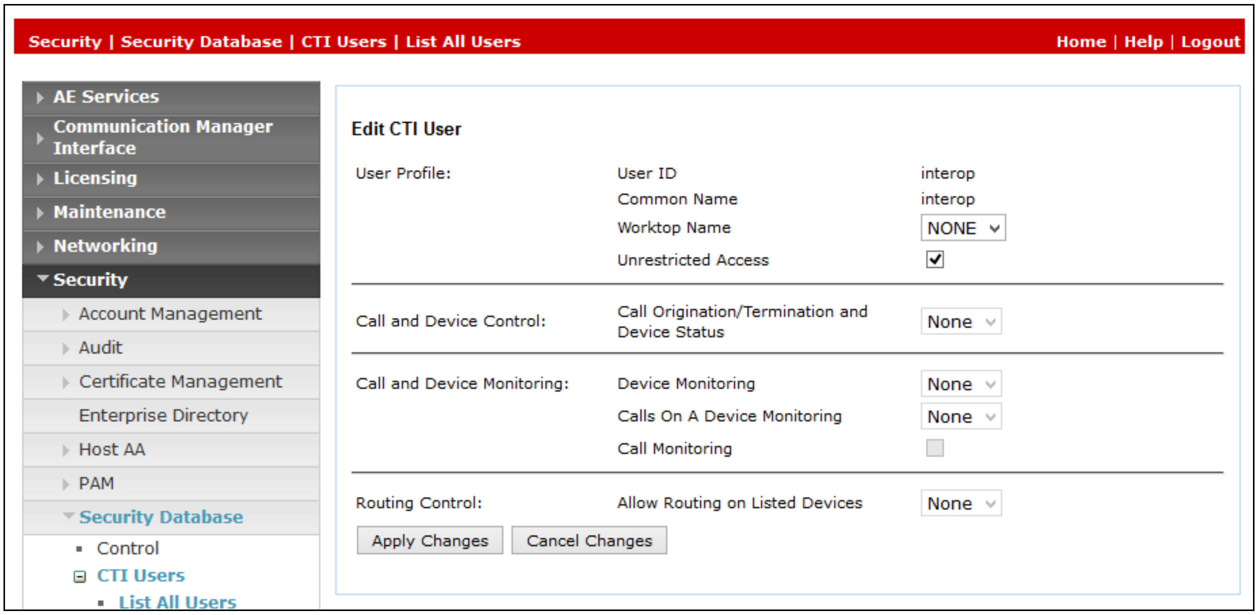
Navigate to **Security → Security Database → CTI Users → List All Users**. Select the recently added user i.e., **interop** and click **Edit.**



CTI Users

| User ID | Common Name | Worktop Name | Device ID |
|---|---|---|---|
| ● interop | interop | NONE | NONE |
| ○ pindrop | pindrop | NONE | NONE |
| ○ primas | primas | NONE | NONE |

Check the box for **Unrestricted Access** and click **Apply Changes**.



Edit CTI User

| | | |
|---|---|---|
| User Profile: | User ID | interop |
| | Common Name | interop |
| | Worktop Name | NONE |
| | Unrestricted Access | ☑ |
| Call and Device Control: | Call Origination/Termination and Device Status | None |
| Call and Device Monitoring: | Device Monitoring | None |
| | Calls On A Device Monitoring | None |
| | Call Monitoring | □ |
| Routing Control: | Allow Routing on Listed Devices | None |

# 7. Configure IntraNext iGuard

All configuration related to iGuard is performed by IntraNext engineers and, thus, is not documented.

# 8. Verification Steps

To verify the status of the CTI Links to AES , via SAT, use the **status aesvcs cti-link**. The **Service State** of **established** indicates that the trunk is in an operational state.

```
status aesvcs cti-link

                          AE SERVICES CTI LINK STATUS

CTI   Version  Mnt   AE Services      Service       Msgs     Msgs
Link           Busy  Server           State         Sent     Rcvd

1     5        no    aes6_tr1         established   15       15
2              no                     down          0        0
3     4        no    AES2146          established   15       15
```

To verify iGuard is able to monitor the stations correctly, use the **list monitored-station** command. All the stations that are being monitored by iGuard are as shown below:

```
list monitored-station

                            MONITORED STATION

  Station     Association 1    Association 2    Association 3    Association 4
  Ext         CTI Link  CRV    CTI Link  CRV    CTI Link  CRV    CTI Link  CRV
  -------     -------------    -------------    -------------    -------------
25001          1          27
25002          1          25
```

## 9. Conclusion

IntraNext iGuard was able to successfully interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services R6.3.

## 10. Additional References

Documentation related to Avaya can be obtained from https://support.avaya.com.

[1] *Administering Avaya Aura® Communication Manager, Release 6.3, Issue 3, October 2013*

[2] *Avaya Aura® Application Enablement Service Administration and Maintenance Guide, Issue 2, Release 6.3, October 2013*

[3] *IntraNext iGuard Version 10.1 Implementation Guide (PA-DSS), Avaya version 5.4*

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.