Avaya Solution & Interoperability Test Lab

Application Notes for Whitefeld XTAPI Server with Avaya Computer Telephony and Avaya Communication Manager – Issue 1.0

Abstract

The Whitefeld XTAPI Server was compliance tested with Avaya Computer Telephony 1.3 and Avaya Communication Manager 2.2. The objective of the test was to evaluate interoperability of these products in an inbound call center environment. All test cases were completed successfully. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the compliance test configuration used to test the Whitefeld XTAPI Server 5.0, herein referred to as Whitefeld XTAPI Server, with Avaya Computer Telephony, an Avaya S8700 Media Server and an Avaya MCC1 Media Gateway. Integration with Avaya Communication Manager Version 2.2 is achieved using the ASAI protocol. On the Avaya S8700 Media Server with Avaya MCC1 Media Gateway, the physical interface can be provided using a TN799DP C-LAN board. The Co-RES Definity LAN Gateway feature was enabled within Avaya Communication Manager. On Avaya Communication Manager, ASAI Core and ASAI Plus software features were enabled.

The Whitefeld XTAPI Server communicates with Avaya Communication Manager via a Computer Telephony Integration (CTI) link. Calls coming in from the public network are routed to Avaya Communication Manager. Calls may also be routed to Avaya Interactive Response (not shown in **Figure 1**) to gather information on the customer's needs. When appropriate data has been collected from the customer, Avaya Communication Manager requests a proper route destination from the XTAPI Server. The XTAPI Server uses call data to interface with Customer Databases to determine the appropriate destination for the call. The call data includes ANI, DNIS, UUI and caller input. The XTAPI Server sends the route destination to Avaya Communication Manager. Avaya Communication Manager receives the route destination, and then directs the call to a specific vector for agent selection.

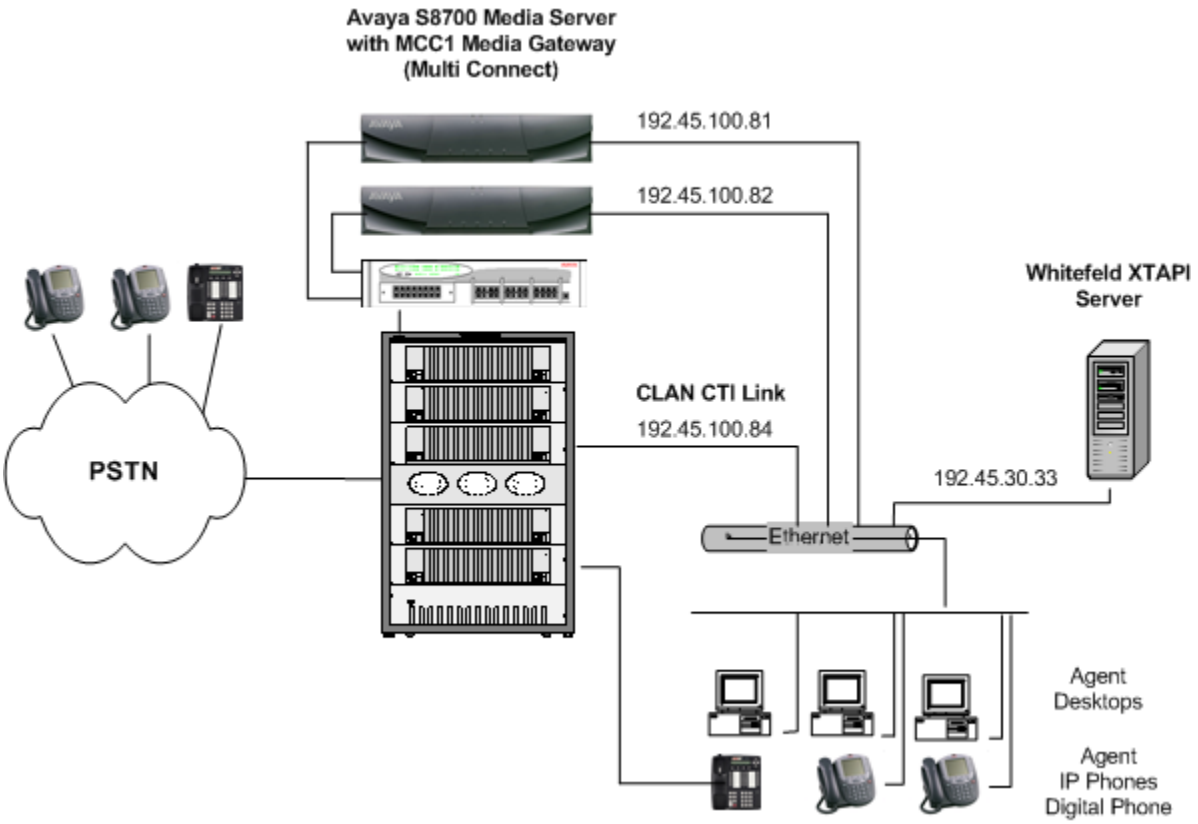


Figure 1: Avaya Developer*Connection* Compliance Test Configuration

2. Equipment and Software Validated

The following equipment and software were used for the test configuration.

Equipment	Software
Avaya S8700 Media Server with an Avaya MCC1 Media Gateway	Avaya Communication Manager 2.2 (R012x.02.0.111.4)
Avaya TN799DP C-LAN Interface	HW01 FW012
Avaya 4600 Series IP Telephones	1.8.3 (4624) 2.1.3 (4610)
Avaya 8400 Series Digital Telephone	-
Avaya Computer Telephony running TSAPI	Version 1.3
Whitefeld XTAPI Server	5.0.0.1 (xtapisvr.exe) 5.0.0.1 (avayasys.dll) 5.0.1.1 (avdsk01.dll) 5.0.1.1 (avsvr01.dll) 5.0.0.1 (workflow.dll)

3. Configure the Avaya S8700 Media Server

3.1. Computer Telephony Integration (CTI) Link

It is assumed that the Avaya Media Server is enabled with feature licenses for Vectoring, ASAI Link Core Capabilities, and Expert Agent Selection. Although the Expert Agent Selection feature was enabled for the testing, the feature is not required. Implementation of the required CTI link type on Avaya Communication Manager can be achieved using the following series of steps. These steps are performed through the System Access Terminal (SAT) interface. The Avaya Site Administration program can be used to access the SAT interface via a Telnet session.

Step	Description
1.	Verify that **ASAI Link Core Capabilities, ASAI Link Plus Capabilities**, and **Co-Res DEFINITY LAN Gateway** are set to "y" on the "display system-parameters customer-options" form. If they are not set to "y", contact your Avaya sales team or business partner. A system license file controls the settings on the customer-options form. 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 Backup Cluster Automatic Takeover? n A/D Grp/Sys List Dialing Start at 01? y CAS Branch? n Answer Supervision by Call Classifier? y CAS Main? n ARS? y Change COR by FAC? n ARS/AAR Partitioning? y Computer Telephony Adjunct Links? y ARS/AAR Dialing without FAC? y **Co-Res DEFINITY LAN Gateway? y** **ASAI Link Core Capabilities? y** Cvg Of Calls Redirected Off-net? y **ASAI Link Plus Capabilities? y** DCS (Basic)? y Async. Transfer Mode (ATM) PNC? n DCS Call Coverage? y Async. Transfer Mode (ATM) Trunking? y DCS with Rerouting? y ATM WAN Spare Processor? n ATMS? y Digital Loss Plan Modification? n Attendant Vectoring? n DS1 MSP? n DS1 Echo Cancellation? n (NOTE: You must logoff & login to effect the permission changes.)
2.	Add a CTI link and set the values as shown below. Enter a valid extension number in the **Extension** field. Enter "ADJ-IP" in the **Type** field. The CTI link number and extension number may vary. Enter a descriptive name in the **Name** field. The rest of the values may be left at their defaults add cti-link 1 Page 1 of 2 CTI LINK CTI Link: 1 **Extension: 24199** **Type: ADJ-IP** COR: 1 **Name: Whitefeld CT Link**

3. Go to Page 2 of the **cti-link** form. Set the **Event Minimization** field to "n". The rest of the values may be left at their defaults. Submit these changes.

```
add cti-link 1                                          Page   2 of   2
                                CTI LINK
FEATURE OPTIONS

      Event Minimization? n        Special Character for Restricted Number? n
```

4. Add an entry for the C-LAN card and the Whitefeld XTAPI Server in the **node-names** form. In this case, "clan-1b04" and "192.45.100.84" were entered as the node name and IP address of the C-LAN card. Also, "WhitefeldSrv" and "192.45.30.33" were entered as the node name and IP address of the Whitefeld XTAPI Server. The node names and IP addresses will vary. Submit these changes.

```
change node-names ip                                      Page   1 of   1
                                IP NODE NAMES
    Name              IP Address          Name              IP Address
clan-1b04           192.45 .100.84                           .   .   .
clanP2-1a04         192.168.61 .21                           .   .   .
clanP27-2a03        172.16 .252.200                          .   .   .
clanP7-3a04         192.168.1  .10                           .   .   .
default             0  .0  .0  .0                           .   .   .
devcon32-1a03       192.45 .100.36                           .   .   .
devcon33-1a03       192.45 .100.16                           .   .   .
WhitefeldSrv        192.45 .30 .33                           .   .   .
medpro-1b05         192.45 .100.85                           .   .   .
procr               192.45 .100.81                           .   .   .
prowlerP2-1a05      192.168.61 .22                           .   .   .
prowlerP27-2b04     172.16 .252.201                          .   .   .
prowlerP7-3b04      192.168.1  .20                           .   .   .
testroom3           192.45 .30 .240                          .   .   .
tr3cvlanr9          192.45 .30 .100                          .   .   .
```

5. Add the C-LAN card to the system configuration using the "add ip-interface 1b04" command. Note that the slot number will vary. Enter the node name assigned in Step 4 for the C-LAN card in the **Node Name** field. The values to be entered in the **Subnet Mask**, **Gateway Address, Network Region, VLAN, Auto** and **Number of CLAN Sockets Before Warning** fields will be determined by the network administrator. Set the **Enable Ethernet Port** field to "n". The C-LAN interface will be enabled later. Submit these changes.

```
change ip-interface 1b04                                      Page   1 of   1

                                  IP INTERFACES



                   Type: C-LAN                          ETHERNET OPTIONS
                   Slot: 01B04                                 Auto? y
            Code/Suffix: TN799  D
              Node Name: clan-1b04
             IP Address: 192.45 .100.84
            Subnet Mask: 255.255.255.0
        Gateway Address: 192.45 .100.1
  Enable Ethernet Port? n
         Network Region: 2
                   VLAN: n

Number of CLAN Sockets Before Warning: 400
```

6. Add a new data module using the "**add data-module 20032**" command. Note that the extension number will vary. Enter a descriptive name in the **Name** field. Enter "ethernet" in the **Type** field. Ethernet connections must be assigned to port 17 on the C-LAN circuit pack. Therefore, enter the slot location and port 17 in the **Port** field as shown. Note that the slot location will vary. Enter a link number not previously assigned on this switch in the **Link** field. Submit these changes.

```
add data-module 20032                                          Page   1 of   1
                               DATA MODULE

  Data Extension: 20032           Name: data module for clan
            Type: ethernet
            Port: 1b0417
            Link: 6




Network uses 1's for Broadcast Addresses? y
```

7. Enter the "**change ip-interface 1b04**" command. Set the **Enable Ethernet Port** field to "y". Submit this change.

```
change ip-interface 1b04                                      Page   1 of   1

                                IP INTERFACES



                  Type: C-LAN                          ETHERNET OPTIONS
                  Slot: 01B04                                 Auto? y
           Code/Suffix: TN799  D
             Node Name: clan-1b04
            IP Address: 192.45 .100.84
           Subnet Mask: 255.255.255.0
       Gateway Address: 192.45 .100.1
  Enable Ethernet Port? y
        Network Region: 2
                  VLAN: n
```

8. Add a new IP service using the "**change ip-services**" command. Enter "DLG" in the **Service Type** field and "y" in the **Enabled** field. Enter the node name added in Step 4 above for the C-LAN card in the **Local Node** field.

```
change ip-services                                            Page   1 of   3

                                  IP SERVICES
 Service     Enabled     Local       Local       Remote      Remote
  Type                   Node        Port        Node        Port
SAT           y      clanP27-2a03    5023    any             0
SAT           y      clan-1b04       5023    any             0
DLG           y      clan-1b04       5678
```

9. Go to Page 3 of the **ip-services** form. Enter "1" in the **CTI Link** field, "y" in the **Enabled** field, the node name assigned in Step 4 for the Whitefeld XTAPI Server in the **Client Name** field and "1" in the **Client Link** field. Note that the CTI Link number should be the same link number as in step 2. The Client Name and the Client Link number may vary. Submit these changes.

```
change ip-services                                            Page   3 of   3
                               DLG Administration

   CTI Link   Enabled     Client Name      Client Link   Client Status

      1          y      WhitefeldSrv           1           idle
      15         y      testroom3              3           in use
      16         n      tr3cvlanr9             2           idle
```

10. Enter the "**change system-parameters features**" command. On Page 5, set the **Create Universal Call ID (UCID)** field to "y" and enter "27" into the **UCID Network Node ID** field. Note that the UCID Network Node ID will vary based on site configuration.

```
change system-parameters features                               Page   5 of  14
                        FEATURE-RELATED SYSTEM PARAMETERS

SYSTEM PRINTER PARAMETERS
              System Printer Endpoint: 55898              Lines Per Page: 60


 Emergency Extension Forwarding (min): 10

SYSTEM-WIDE PARAMETERS
                           Switch Name: SIL-pbx27



MALICIOUS CALL TRACE PARAMETERS
               Apply MCT Warning Tone? n   MCT Voice Recorder Trunk Group:
      Delay Sending RELease (seconds)? 0
SEND ALL CALLS OPTIONS
     Send All Calls Applies to: station    Auto Inspect on Send All Calls? n

UNIVERSAL CALL ID
     Create Universal Call ID (UCID)? y    UCID Network Node ID: 27
```

11. Navigate to Page 12. Set the **Send UCID to ASAI** field to "y". Submit these changes.

```
change system-parameters features                               Page  12 of  14
                        FEATURE-RELATED SYSTEM PARAMETERS

  AGENT AND CALL SELECTION
                          MIA Across Splits or Skills? y
                           ACW Agents Considered Idle? y
                           Call Selection Measurement: current-wait-time
    Service Level Supervisor Call Selection Override? y
                                 Auto Reserve Agents: none
  ASAI
            Copy ASAI UUI During Conference/Transfer? n
       Call Classification After Answer Supervision? n
                                   Send UCID to ASAI? y
  CALL MANAGEMENT SYSTEM
                                 Adjunct CMS Release:

                               BCMS/VuStats LoginIDs? y
                    BCMS/VuStats Measurement Interval: half-hour
           BCMS/VuStats Abandon Call Timer (seconds):
                     Validate BCMS/VuStats Login IDs? n
                           Clear VuStats Shift Data: on-login
                  Remove Inactive BCMS/VuStats Agents? n
```

3.2. Expert Agent Selection and Call Vectoring

While the Expert Agent Selection (EAS) feature is not required to interoperate with Whitefeld XTAPI Server, EAS was used in the test configuration. The screens below demonstrate how to configure basic call center functionality with EAS enabled.

3.2.1. Call Vectoring for Inbound Calls and Adjunct Routing

User input digits are collected by the Adjunct Vector 70 and sent to the XTAPI Server. In the test configuration, if the input digit is 1 and there is an agent available on Skill 111 then the XTAPI Server routes the call to skill 111 via the Vector Directory Number 20072. Otherwise, the XTAPI Server routes the call to skill 110 via the Vector Directory Number 20071.

Step	Description
1.	Use the "**Add hunt-group 110**" command to create a hunt-group and set the **ACD, Queue** and **Vector** fields to "y". Enter a descriptive group name in the **Group Name** field and a valid extension in the **Group Extension** field. Other field values can be set based on customer requirements.

```
add hunt-group 110                                          Page   1 of   3
                                HUNT GROUP

            Group Number: 110                             ACD? y
              Group Name: whitefeld                     Queue? y
         Group Extension: 25100                        Vector? y
              Group Type: ead-mia
                      TN: 1
                     COR: 1                    MM Early Answer? n
           Security Code:
     ISDN Caller Display:

             Queue Limit: unlimited
 Calls Warning Threshold:      Port:
  Time Warning Threshold:      Port:
```

2. Navigate to Page 2 of the **hunt-group** form and set the **Skill** field to "y". Other field values can be set based on customer requirements. Submit changes.

```
add hunt-group 110                                          Page   2 of   3
                                  HUNT GROUP

                    Skill? y      Expected Call Handling Time (sec): 180
                      AAS? n        Service Level Target (% in sec): 80 in 20
                 Measured: internal
     Supervisor Extension:


      Controlling Adjunct: none


        VuStats Objective:
 Timed ACW Interval (sec):
   Multiple Call Handling: none

                                       Redirect on No Answer (rings):
                                                   Redirect to VDN:
                  Forced Entry of Stroke Counts or Call Work Codes? n
```

3. Repeat steps 1 and 2 to add hunt group 111 with Group Extension 25101.

4. Use the "**add agent-loginID**" command to create an agent ID to be used by the XTAPI Server. Enter a descriptive name in the **Name** field and enter an appropriate password in the **Password** and **Password (enter again)** fields.

```
add agent-loginID 25471                                      Page   1 of   2
                                  AGENT LOGINID

                Login ID: 25471                                  AAS? n
                    Name: whitefeld1                            AUDIX? n
                      TN: 1                               LWC Reception: spe
                     COR: 1                     LWC Log External Calls? n
           Coverage Path:                     AUDIX Name for Messaging:
           Security Code:
                                              LoginID for ISDN Display? n
                                                          Password: 1234
                                            Password (enter again): 1234
                                                       Auto Answer: station









     WARNING:  Agent must log in again before skill changes take effect
```

5.	Navigate to Page 2 of the **agent-loginID** form. Set the Skill Number (**SN**) field to the hunt group number 110. The Skill Level (**SL**) field can be set to 1 or other values based on customer requirements.

```
add agent-loginID 25471                                    Page   2 of   2
                                AGENT LOGINID
      Direct Agent Skill:
Call Handling Preference: skill-level

    SN      SL          SN      SL          SN      SL          SN      SL
 1: 110      1      16:                 31:                 46:
 2:                 17:                 32:                 47:
 3:                 18:                 33:                 48:
 4:                 19:                 34:                 49:
 5:                 20:                 35:                 50:
 6:                 21:                 36:                 51:
 7:                 22:                 37:                 52:
 8:                 23:                 38:                 53:
 9:                 24:                 39:                 54:
10:                 25:                 40:                 55:
11:                 26:                 41:                 56:
12:                 27:                 42:                 57:
13:                 28:                 43:                 58:
14:                 29:                 44:                 59:
15:                 30:                 45:                 60:
```

6.	Repeat Steps 4 and 5 to add agent-loginID 25472 – 25474.
7.	Use the "**change agent-loginID** 25474" command and enter 111 in the **SN** field and 1 in the **SL** field.

```
change agent-loginID 25474                                 Page   2 of   2
                                AGENT LOGINID
      Direct Agent Skill:
Call Handling Preference: skill-level

    SN      SL          SN      SL          SN      SL          SN      SL
 1: 110      1      16:                 31:                 46:
 2: 111      1      17:                 32:                 47:
 3:                 18:                 33:                 48:
 4:                 19:                 34:                 49:
 5:                 20:                 35:                 50:
 6:                 21:                 36:                 51:
 7:                 22:                 37:                 52:
 8:                 23:                 38:                 53:
 9:                 24:                 39:                 54:
10:                 25:                 40:                 55:
11:                 26:                 41:                 56:
12:                 27:                 42:                 57:
13:                 28:                 43:                 58:
14:                 29:                 44:                 59:
15:                 30:                 45:                 60:
```

8.	Use the "**add vdn** 20070" command to add a Vector Directory Number (VDN) 20070. Enter 70 in the **Vector Number** field. add vdn 20070 Page 1 of 2 VECTOR DIRECTORY NUMBER Extension: 20070 Name: whitefeld1 **Vector Number: 70** Meet-me Conferencing? n Allow VDN Override? n COR: 1 TN: 1 Measured: internal Acceptable Service Level (sec): 100 VDN of Origin Annc. Extension: 1st Skill: 2nd Skill: 3rd Skill:
9.	Repeat Step 8 to create additional Vector Directory Numbers. Vector Directory Number 20071 and 20072 with vector numbers 71 and 72 were created in this configuration.
10.	Configure the call vector 70, specified in Step 8, to send all incoming customer calls to the Whitefeld XTAPI Server CTI Link with user input digit. change vector 70 Page 1 of 3 CALL VECTOR Number: 70 Name: whitefeld adjun Multimedia? n Meet-me Conf? n Lock? n Basic? y EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y Prompting? y LAI? y G3V4 Adv Route? y CINFO? y BSR? n Holidays? n Variables? n 01 collect 1 digits after announcement none **02 adjunct routing link 1** 03 wait-time 999 secs hearing ringback 04 busy 05 06 07 08 09 10 11

11. Modify call vector 71 to deliver calls to the skill number 110.

```
change vector 71                                          Page   1 of   3
                                CALL VECTOR

    Number: 71              Name: whitefeld1
Multimedia? n                              Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? n   Holidays? n
 Variables? n
01 wait-time    6   secs hearing ringback
02 queue-to     skill 110   pri m
03
04
05
06
07
08
09
10
11
```

12. Modify call vector 72 to deliver calls to the skill number 111.

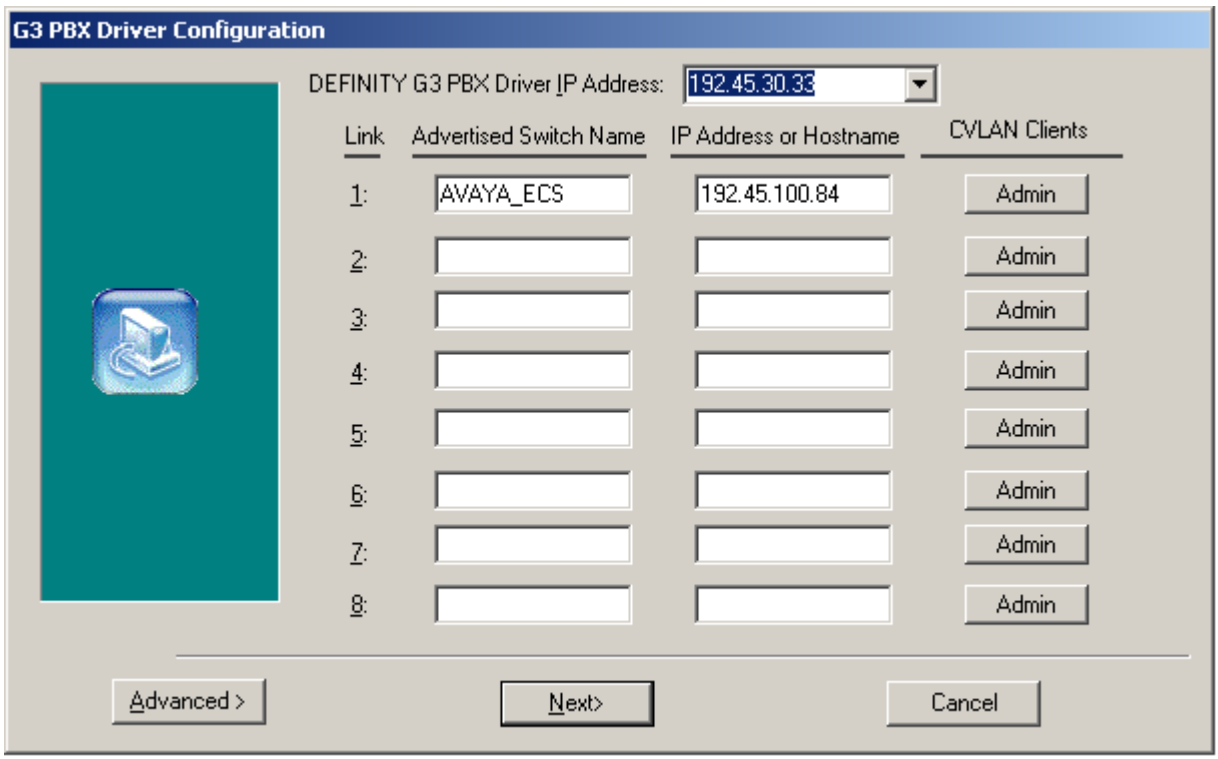
```
change vector 72                                          Page   1 of   3
                                CALL VECTOR

    Number: 72              Name: whitefeld12
Multimedia? n                              Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? n   Holidays? n
 Variables? n
01 wait-time    6   secs hearing ringback
02 queue-to     skill 111   pri m
03
04
05
06
07
08
09
10
11
```

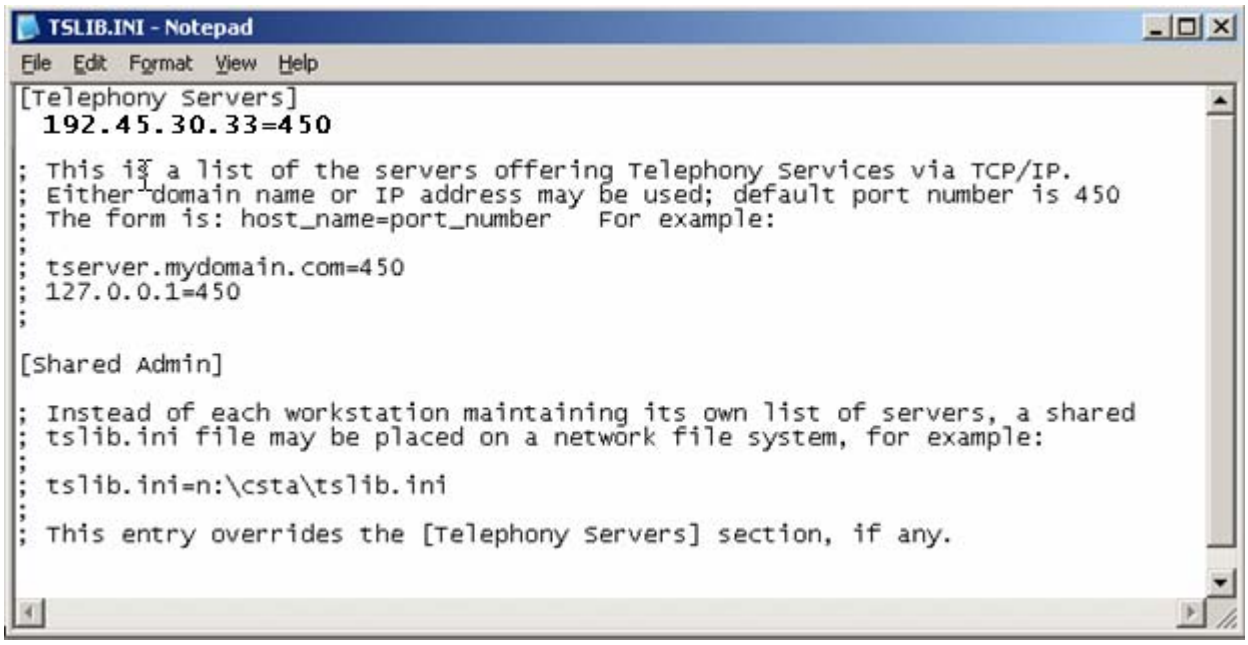
4. Configure the Whitefeld XTAPI Server

Initial provisioning of the Whitefeld XTAPI Server is done by Whitefeld on behalf of their customers. The following steps provide an overview of the configuration steps necessary for the CTI link, Devices and Router Workflow. Basic configuration is accomplished by the install package.

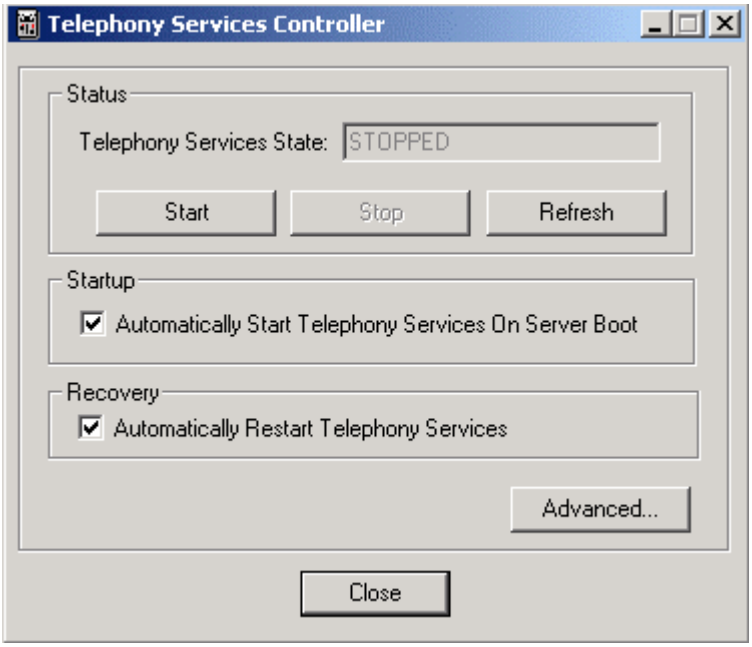
4.1. Configure the XTAPI Server CTI Link

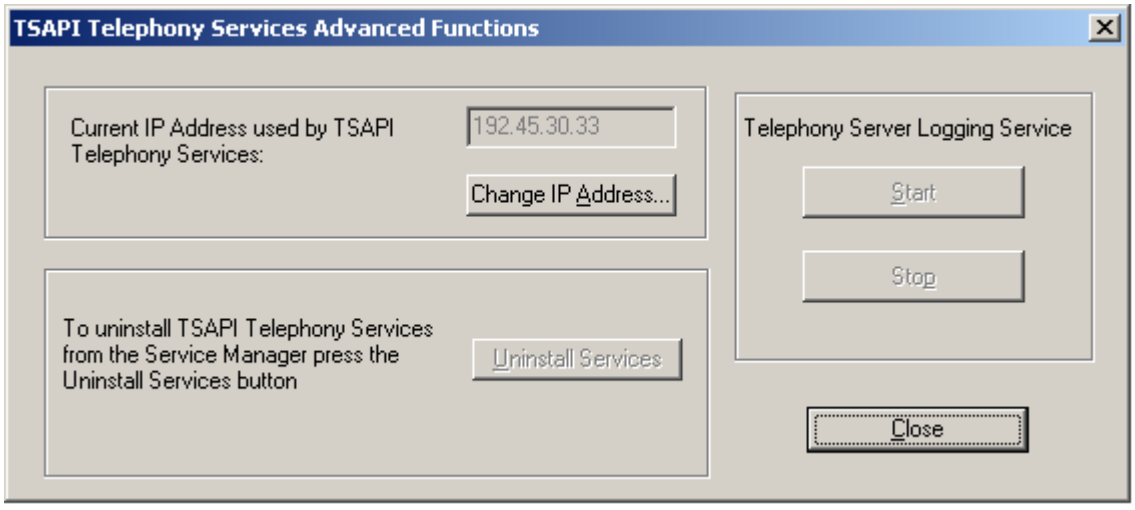
The Avaya Computer Telephony Server was installed by Whitefeld. The user login "xtapi" was created and administered with Unrestricted Access Rights. Log in as "xtapi".

Step	Description
1.	Configure the Avaya CT Server. Navigate to **Start → Programs → Avaya Computer Telephony → Definity G3 PBX Driver → G3 PBX Driver Configuration** and select "192.45.30.33" from the "**DEFINITY G3 PBX Driver IP Address"** drop down list. Enter AVAYA_ECS in the **Advertised Switch Name** field and "192.45.100.84" in the **IP Address or Hostname** field. Click **Next**. 

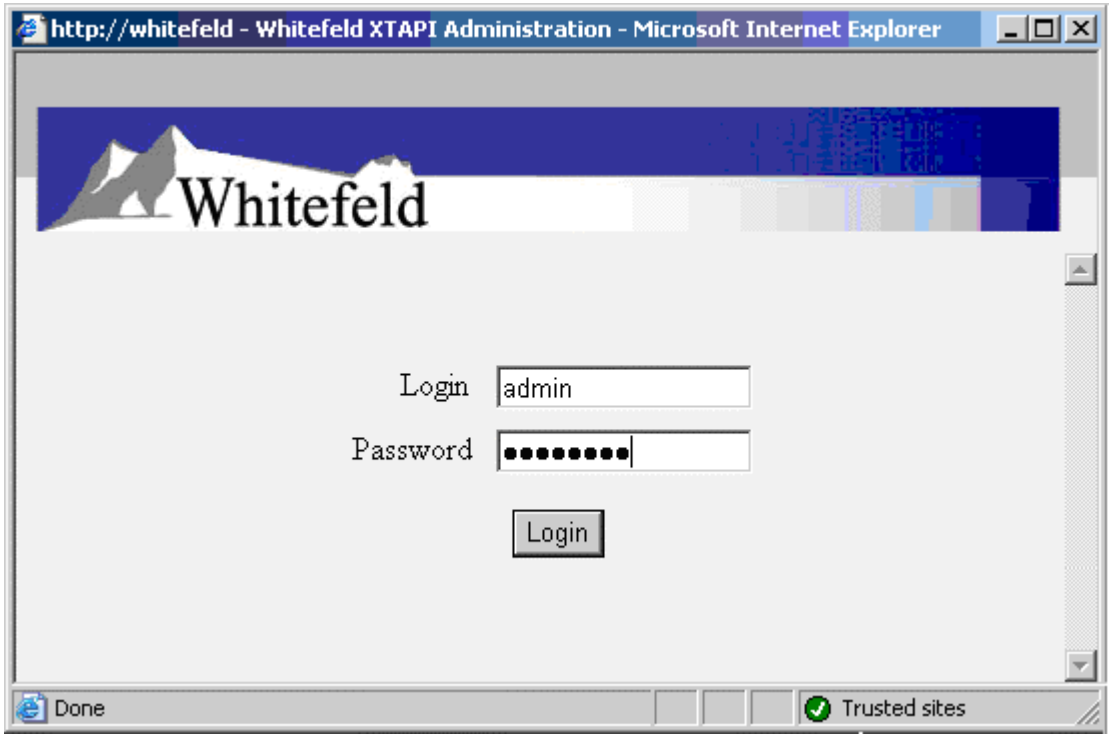
2.	Navigate to **Start → Programs → Avaya Computer Telephony →TS Win32 Client →** Edit TSLIB.INI to change the **Telephony Servers** IP address to "192.45.33.30=450". 

3.	To change the IP address used by TSAPI Telephony Services, click **Start → Programs → Avaya Computer Telephony → TS Controller**. From the **Telephony Services Controller** dialog box, click "**Advanced**" button. On the **TSAPI Telephony Services Advanced Functions** dialog box, click **Change IP Address** button and enter "192.45.30.33". Click **Close** to return to the TS Controller menu. To start the Avaya CT server, click **Start** from the TS Controller dialog box.



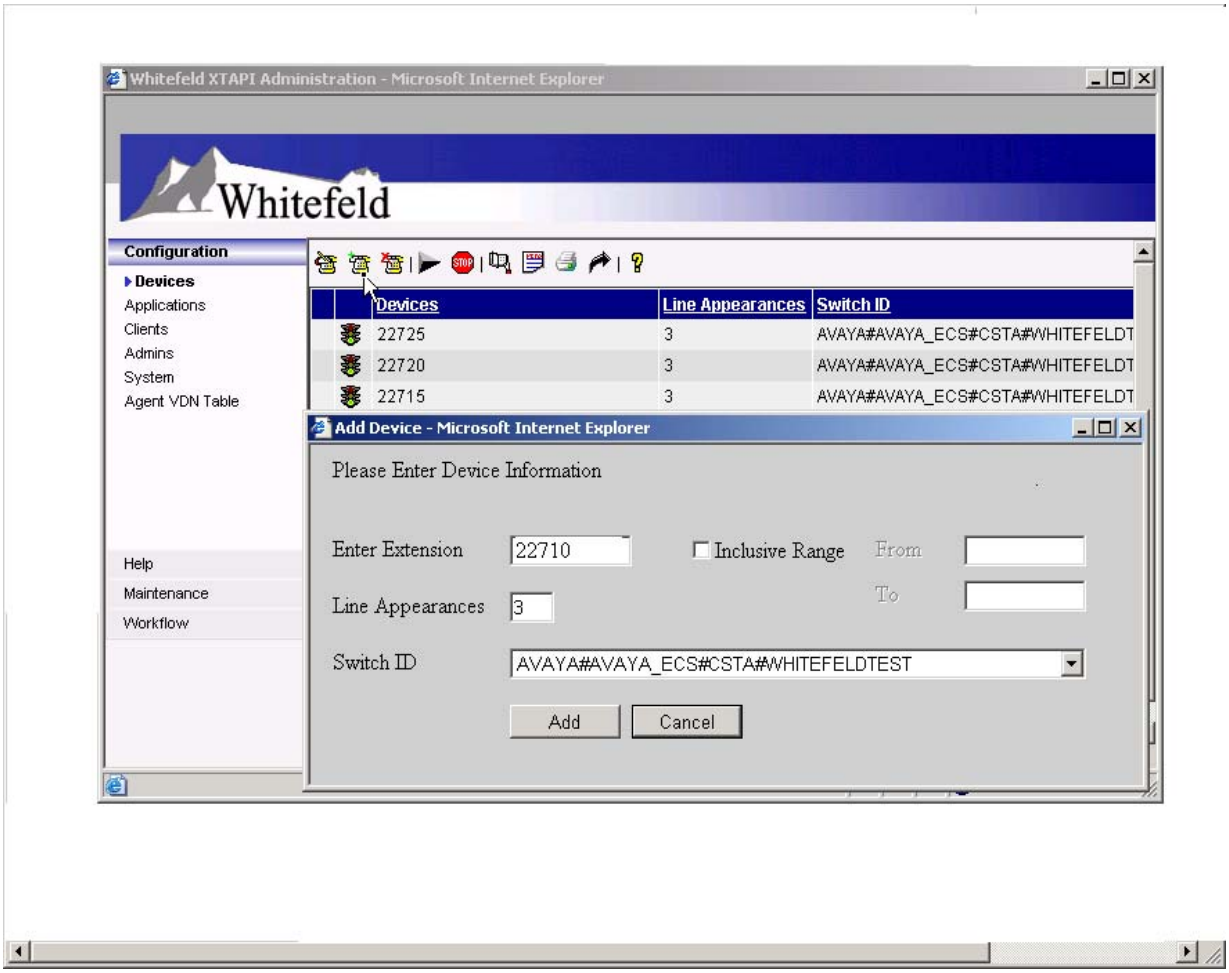


4.2. XTAPI Server Administrator Login

Step	Description
1.	From the browser on the PC, enter the Whitefeld Server URL address **http://whitefeld/xtapiadmin.** Log in as "admin". 

4.3. Configure the XTAPI Server Devices

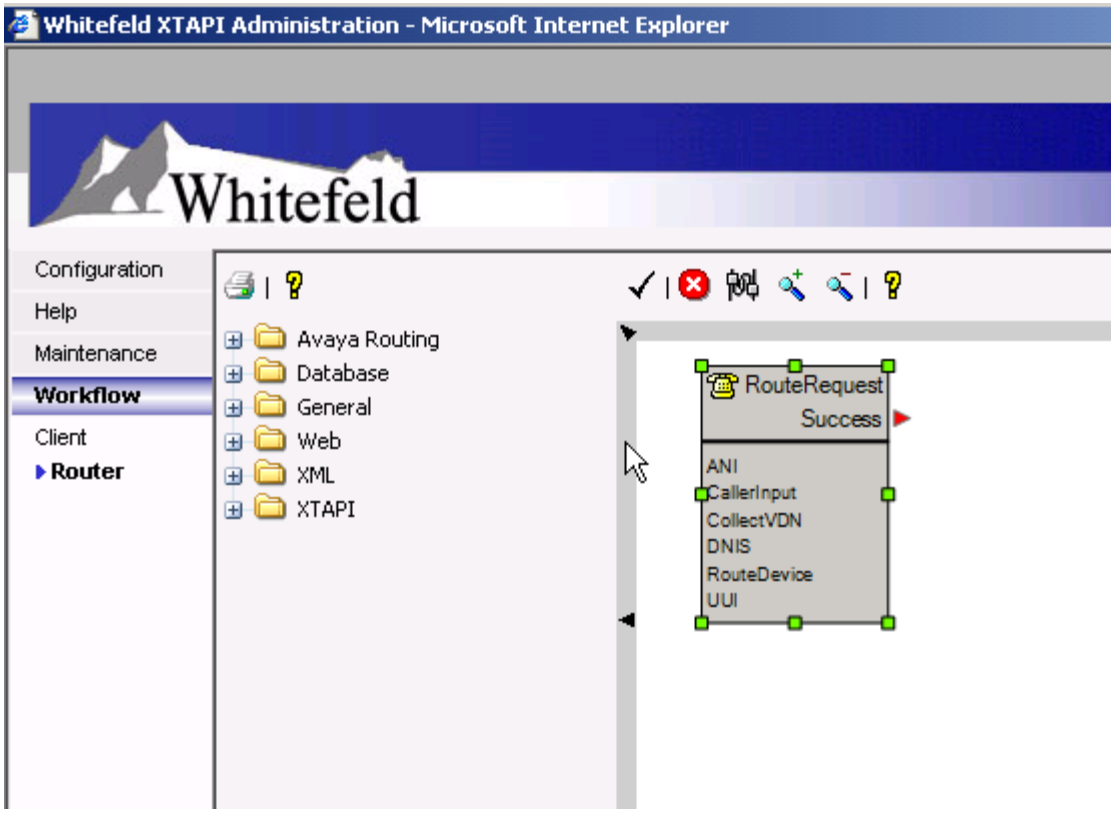
The following steps describe the configuration of the devices that are associated with the agents. The physical phone in the Whitewheld XTAPI Server is called device. Each device is described by the extension, switch ID and quantity of line appearances.

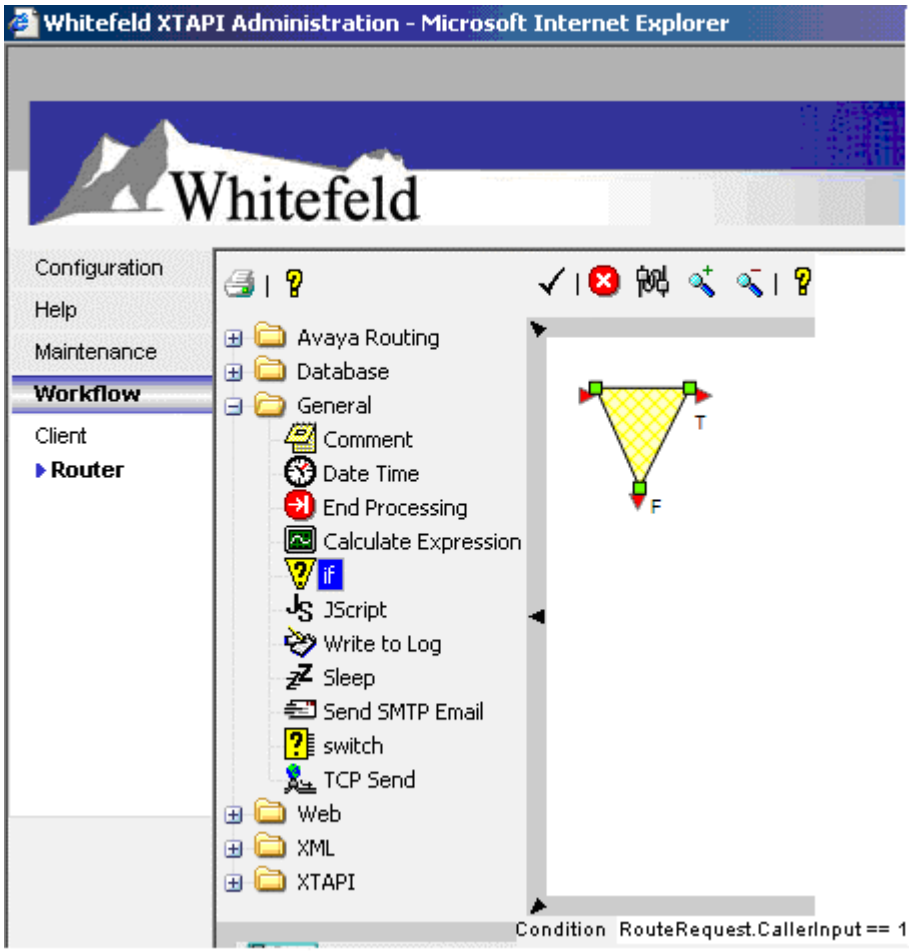
Step	Description
1.	From the Whitefeld XTAPI Administration, click **Devices**, and then click the **add devices** icon. The **Add Device** dialog box appears. Enter agent extension number "22710" in the **Enter Extension** field. Enter "3" in the **Line Appearances** field. Select "AVAYA#AVAYA_ECS#CSTA#WHITEFELDTEST" from the **Switch ID** drop down list. Click **Add**. 
2.	Repeat Step 1 to add devices 22715, 22720, and 22725.

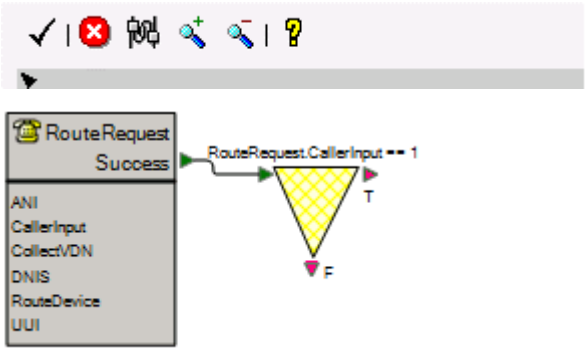
4.4. Create the XTAPI Server Router Workflow

A workflow is comprised of multiple nodes connected together. Each node performs a specific operation in the workflow. Nodes are inserted, configured and connected onto the Workflow panel, which represents a graphical representation of the call route. The graphical nodal diagram from the Workflow panel is transcribed to create the workflow that is used by the XTAPI Server Router. Calls originate from the first node and traverse through the workflow. The first node of the Server Workflow is always the **RouteRequest** node which receives calls from Avaya Communication Manager through the Avaya Computer Telephony interface.

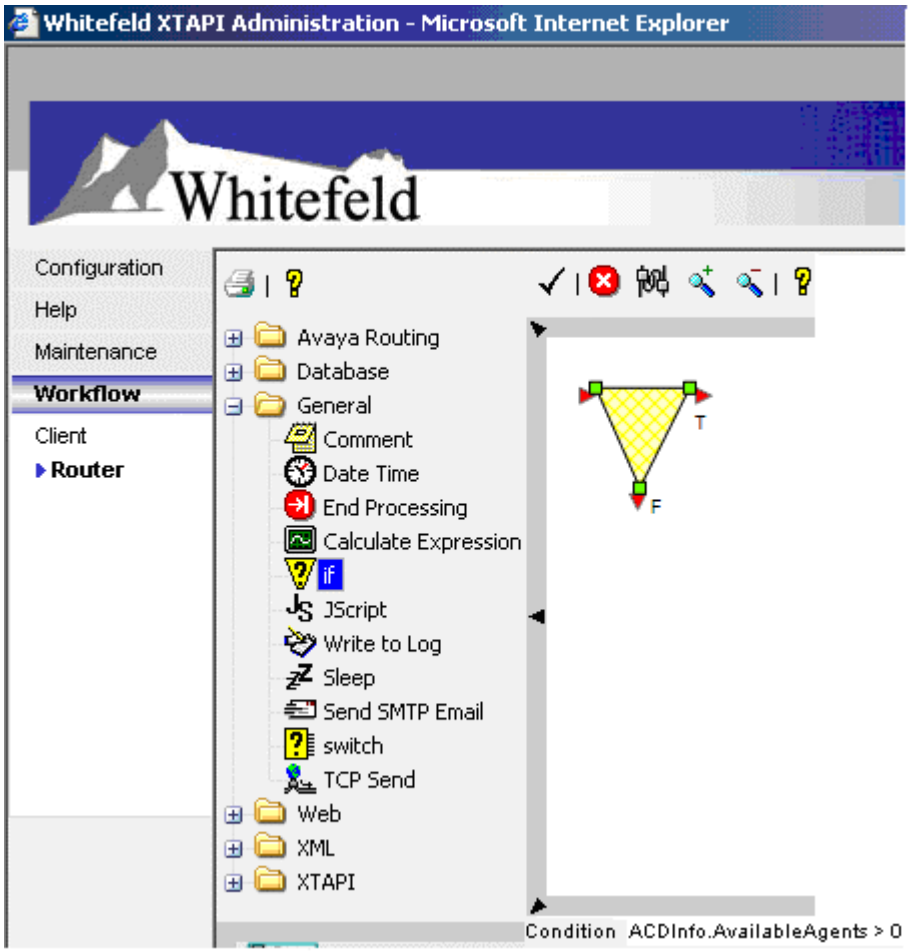
Based on the user input digits, the workflow created in the following steps, routes the inbound call to a specific skill. If the user input digit is 1 and there is an agent available on skill 111 then the workflow routes the call to skill 111 via the Vector Directory Number 20072. Otherwise, the workflow routes the call to skill 110 via the Vector Directory Number 20071. The following steps show how to add, configure and connect nodes that are needed to create the workflow.

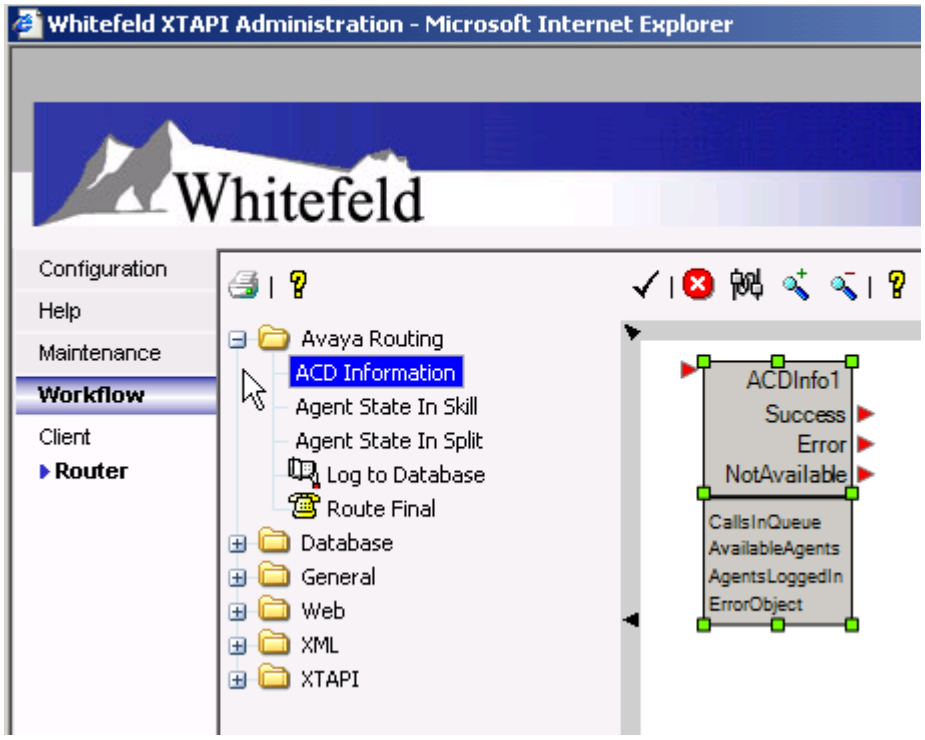
Step	Description
1.	Click **Workflow → Router,** the default node **RouteRequest** is shown. 

2.	Click on **General → if**. Left double click on the **Workflow** panel. The highlighted node **if** appears on the **Workflow** panel. The available configurations are displayed below the **Workflow** panel. Enter "RouteRequest.CallerInput == 1" in the **Condition** field. 

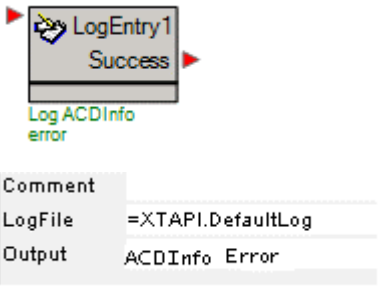
3.	Right click on the output of the **RouteRequest** node. Hold down the "Shift" key and left click on the **if** node. Click on the toolbar button with an icon of wires and connects (). The two nodes are now connected. 

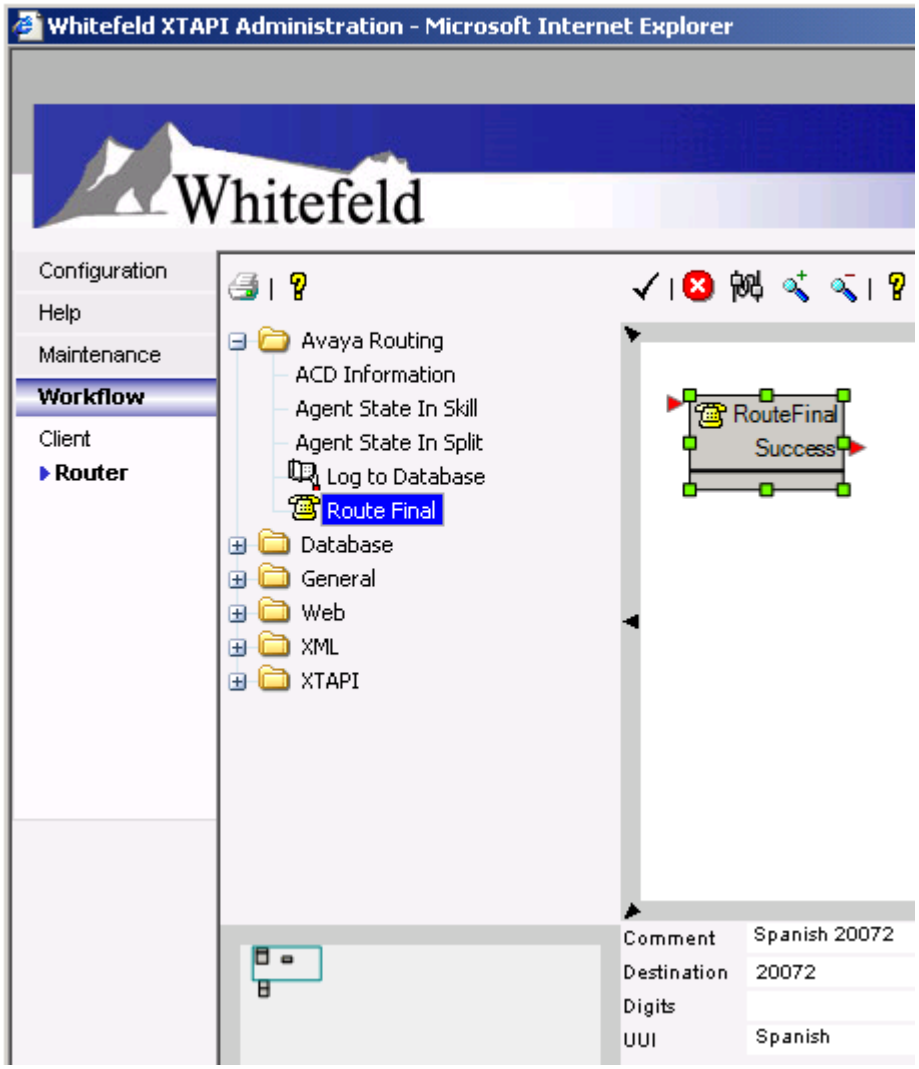
4.	Click on the **if** node. Left double click on the **Workflow** panel. The **if** node appears on the **Workflow** panel. Enter "ACDInfo.AvailableAgents > 0" in the **Condition** field.



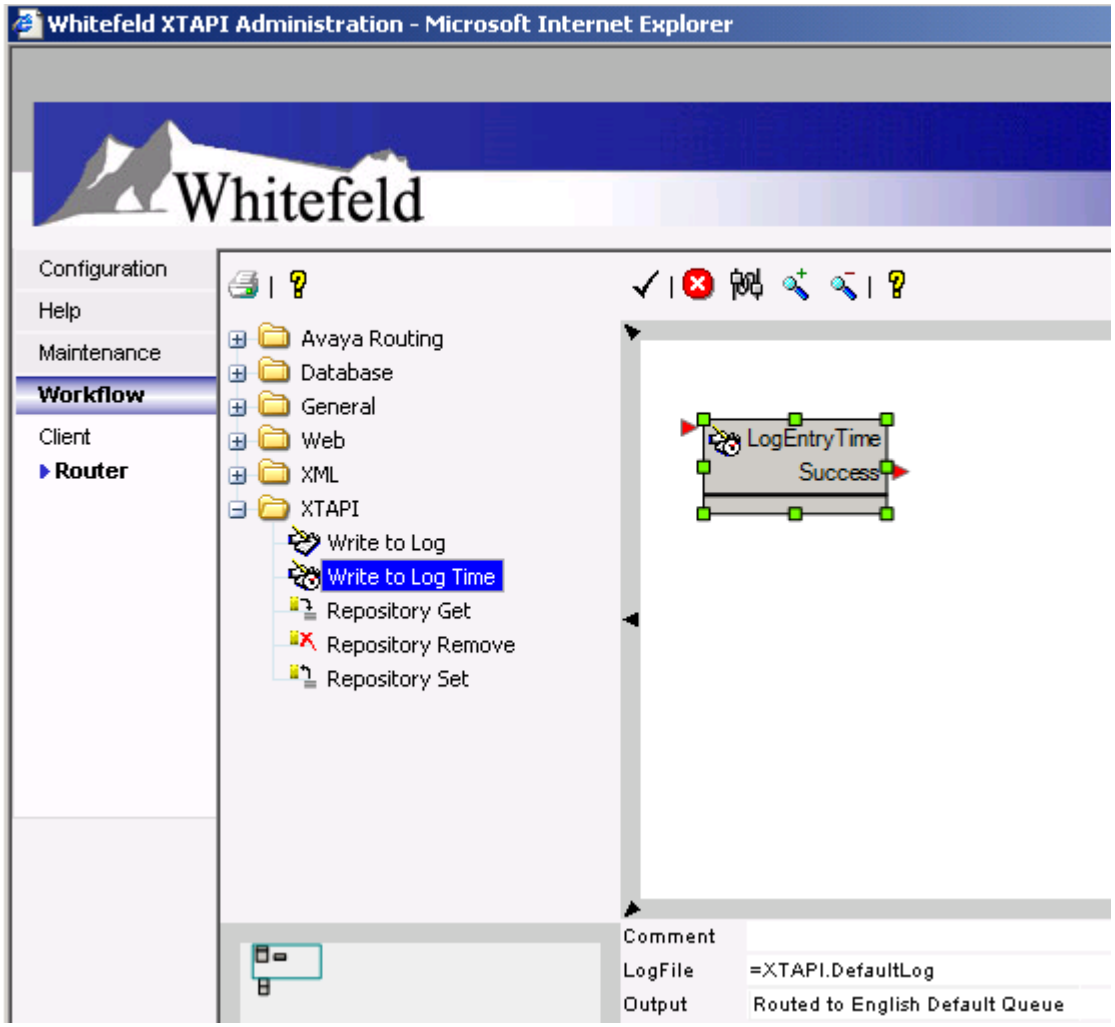
5.	Click on **Avaya Routing**, and then the **ACD Information** node. Left double click on the **Workflow** panel. The **ACD Information** node appears on the **Workflow** panel. No configuration is required. 

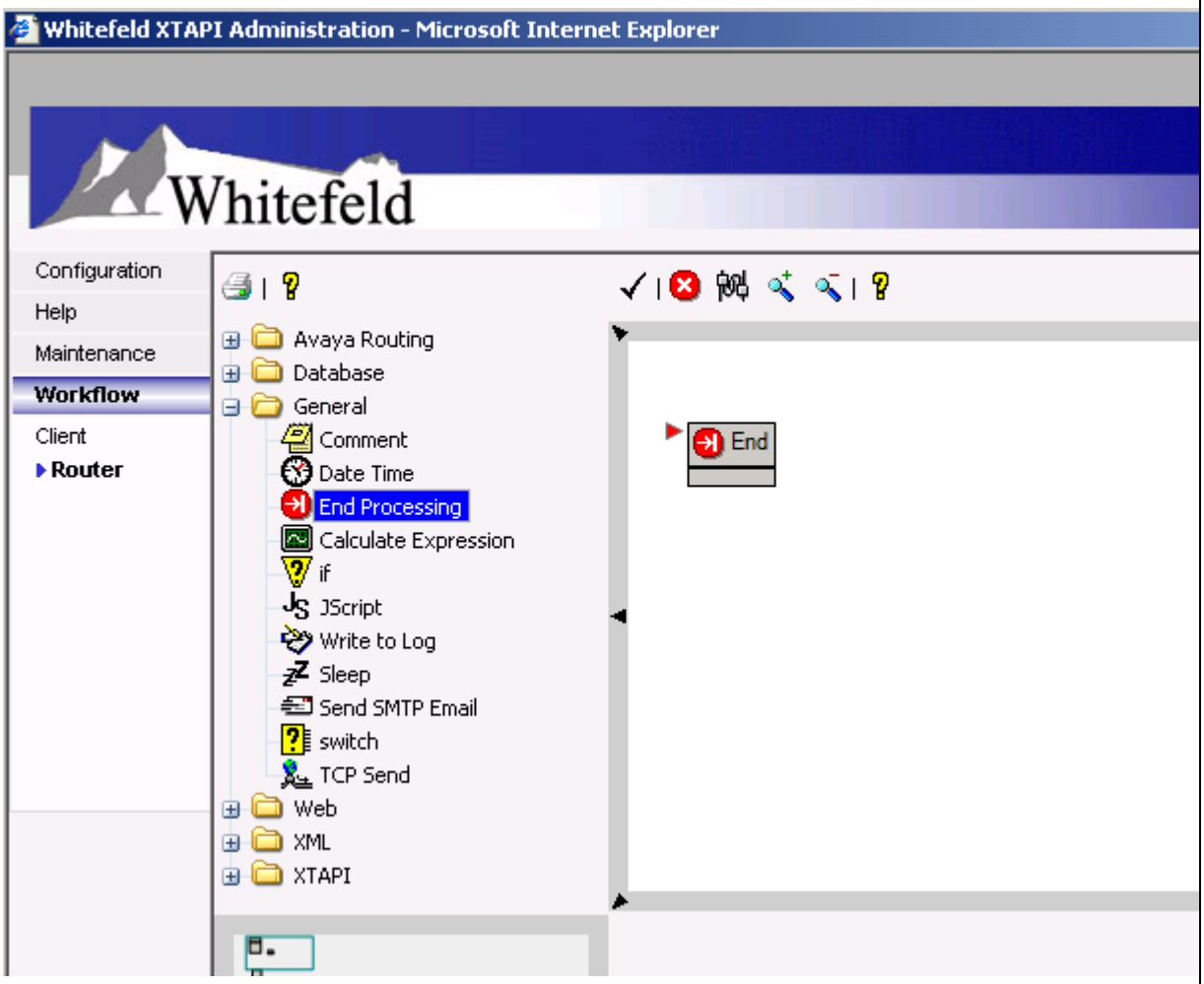
6.	Click **General → Write to Log** node. Left double click on the **Workflow** panel. The **LogEntry** node appears on the **Workflow** panel. Enter "=XTAPI.DefaultLog" in the **LogFile** field and "Route to Spanish Queue" in the **Output** field.

7.	Repeat Step 6 to add another **LogEntry** node. The node name is shown as “LogEntry1”. Enter “=XTAPI.DefaultLog” in **LogFile** field and “ACDInfo Error” in **Output** field. 

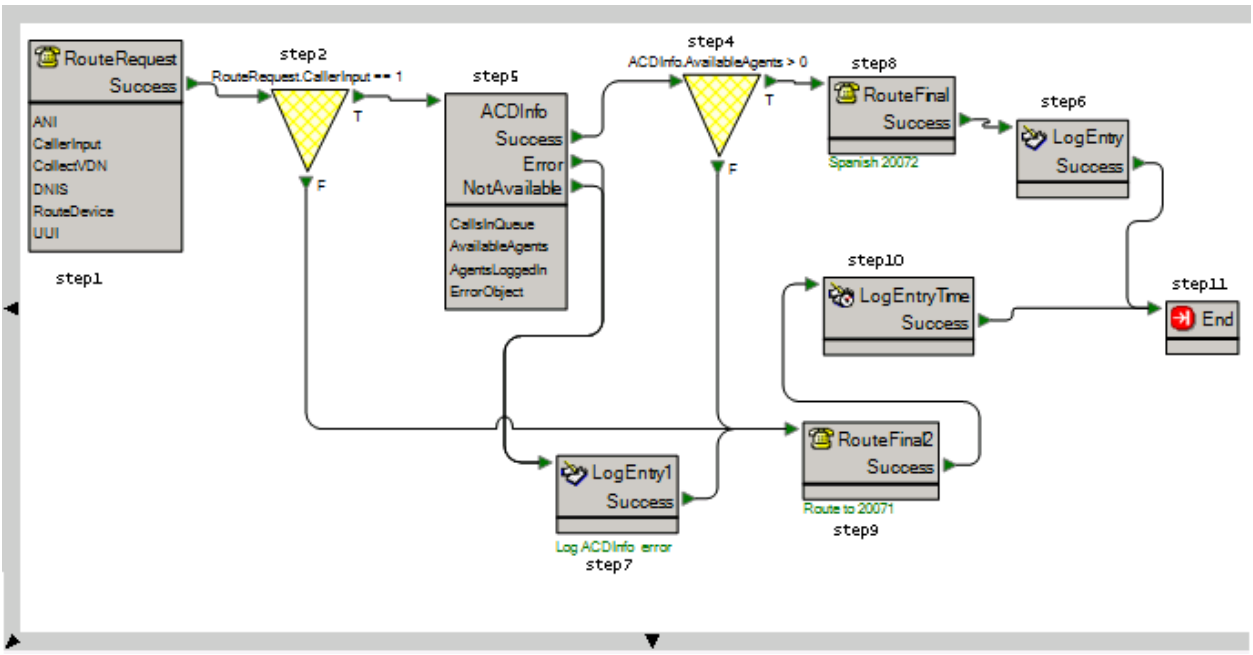
8.	Expand **Avaya Routing**, and click on **Route Final** node. Left double click on the **Workflow** panel. The **RouteFinal** node appears on the Workflow panel. Enter “Spanish 20072” in the **Comment** field, “20072” in the **Destination** field, and “Spanish” in the **UUI** field. 
9.	Repeat Step 8 to add **RouteFinal2** node. Enter “Route to 20071” in the **Comment** field and “20071” in the **Destination** field. 

10.	Expand **XTAPI**, and click on the **Write to Log Time** node. Left double click on the **Workflow** panel. The **LogEntryTime** node appears on the Workflow panel. Enter "=XTAPI.DefaultLog" in the **LogFile** field and "Routed to English Default Queue" in the **Output** field.



11.	Expand **General**, and click on the **End Processing** node. Left double click on the **Workflow** panel. The "**End**" node appears on the Workflow Panel. 

12.	Repeat Step 3 to connect the nodes added in the Router Workflow panel. The complete view of the workflow is shown in the figure below.



4.5. Interoperability Compliance Testing

Interoperability compliance testing covered feature functionality and serviceability testing. Feature functionality testing focused on call routing and call handling. Serviceability testing verified that XTAPI Server recovered from adverse conditions, such as disconnecting the Ethernet cable to the XTAPI Server. Testing data was collected from the Avaya S8700 Media Server and the Whitefeld XTAPI Server system.

4.6. General Test Approach

Feature functionality and serviceability test cases were performed manually. During the manual tests, routing of calls to the agent workstation using inbound calls to the pilot VDNs was verified. Call control capabilities using the Whitefeld XTAPI Server application with caller information were verified. After the Ethernet cable was reconnected to the XTAPI Server, inbound calls delivered to agents and calls transferred from agent to agent were verified.

4.7. Test Results

All test cases passed successfully. No errors were detected.

5. Verification Steps

5.1. CTI Link via Avaya Communication Manager

The CTI link status can be verified on Avaya Communication Manager through the System Access Terminal (SAT) interface. The Avaya Site Administration program can be used to access the SAT interface via a Telnet session.

Step	Description
1.	Enter the "status dlg cti-link" command. Verify that the **Service State** column for the CTI Link assigned in Step 2 of Section 3.1 shows **established**.

```
status dlg cti-link

                              DLG CTI LINK STATUS

CTI  Client            Vers Mnt  Local Node       Service       Msgs    Msgs
Lnk  Name/Link              Busy                   State         Sent    Rcvd

1    WhitefeldSrv/1     4   no   clan-1b04        established   1299    476
15   testroom3/3        4   no   clan-1b04        established   15      15
16   tr3cvlanr9/2           no                    disabled      0       0
```

6. Support

For technical support on the Whitefeld XTAPI Server, contact Whitefeld Support at (866) 292-9526 or via e-mail at support@whitefeld.com.

7. Conclusion

The Whitefeld XTAPI Server was compliance tested with Avaya Computer Telephony 1.3 and Avaya Communication Manager 2.2. All feature functionality and serviceability test cases completed successfully.

8. Additional References

The following documents can be found at http://support.avaya.com:

1. Administrator's Guide for Avaya Communication Manager, Issue 9, January 2005; Doc ID: 555-233-506
2. Feature Description and Implementation for Avaya Communication Manager, Issue 2, January 2005; Doc ID: 555-245-205
3. Administration for Network Connectivity for Avaya Communication Manager, Issue 9.1, January 2005; Doc ID: 555-233-504
4. Avaya Communication Manager Call Center Software Call Vectoring and Expert Agent Selection (EAS) Guide, Issue 1, June 2004; Doc ID: 07-300186

The following documents can be found on the Whitefeld XTAPI Server 5.0 installation CD:

1. System Administration Guide, March, 2005
2. Installation Guide, March 2005

8.1. Glossary

Technical Term	Definition as it pertains to this document.
ACD	Automatic Call Distribution
ANI	Automatic Number Identification
ASAI	Adjunct Switch Application Interface
CTI	Computer Telephony Integration
DNIS	Dialed Number Identification Service
EAS	Expert Agent Selection
PSTN	Public Switched Telephone Network
UUI	User-to-User Information
VDN	Vector Directory Number

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 Developer*Connection* Program at devconnect@avaya.com.