



## Avaya Solution & Interoperability Test Lab

# **Application Notes for Voice4net ePBX and EBS with Avaya Communication Server 1000 and Avaya Aura® Session Manager - Issue 1.0**

## **Abstract**

These Application Notes describe the configuration steps necessary for provisioning Voice4net ePBX and EBS to successfully interoperate with Avaya Communication Server 1000 Release 7.6 and Avaya Aura® Session Manager R6.3.

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 describe the configuration steps required to integrate the Voice4net ePBX and EBS solutions with Avaya Communication Server 1000 (CS 1000) and Avaya Aura® Session Manager. Voice4net ePBX is an interactive voice response (IVR) system that can run custom applications. Voice4net EBS (Event Broadcasting System) provides call centre and public agencies the capability to broadcast messages via the telephone. These Voice4net solutions interface to Avaya Aura® Session Manager using SIP trunks.

The Voice4net ePBX IVR Platform and EBS Automated Dialer are flexible, fully programmable telephony solutions which allow the delivery of custom applications. For the compliance test, a custom IVR application that performed blind transfers was used. The EBS Automated Dialer is used to make outbound calls for purposes such as broadcast, notifications, reminders, telemarketing campaigns, appointments, etc. EBS is a software module that may be configured with the standard ePBX platform to give the system this functionality.

## **2. General Test Approach and Test Results**

The feature test cases were performed manually. For the ePBX testing, blind transfers to the PSTN and local stations were exercised. For the EBS testing, a broadcast message was sent to PSTN and local stations. The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cable to the EBS/ePBX server and by rebooting the server. The test results and observations are listed in **Section 2.2**.

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 Voice4net ePBX/EBS:

- Inbound calls to ePBX from the PSTN and local extensions. ePBX ran a customer application that performed blind transfers.
- Blind transfers from ePBX to the PSTN and to local extensions.
- Call transfers from ePBX to call center agents (i.e. ACD queue).
- Call transfers from eBPX to busy station.
- Outbound call from EBS to the PSTN and local extensions. EBS called out to the specified number and delivered a broadcast message.
- Outbound calls using the Element Dashboard to PSTN and local extensions.
- Verification of ANI/DNIS.

- Verification of ePBX call logs.
- G.711 mu-law codec support.
- DTMF using RFC 2833.

Failover/Serviceability – Tests the behaviour of Voice4net ePBX/EBS when there are certain failed conditions.

## 2.2. Test Results

All test cases passed. Below are listed observations following the compliance test of this solution.

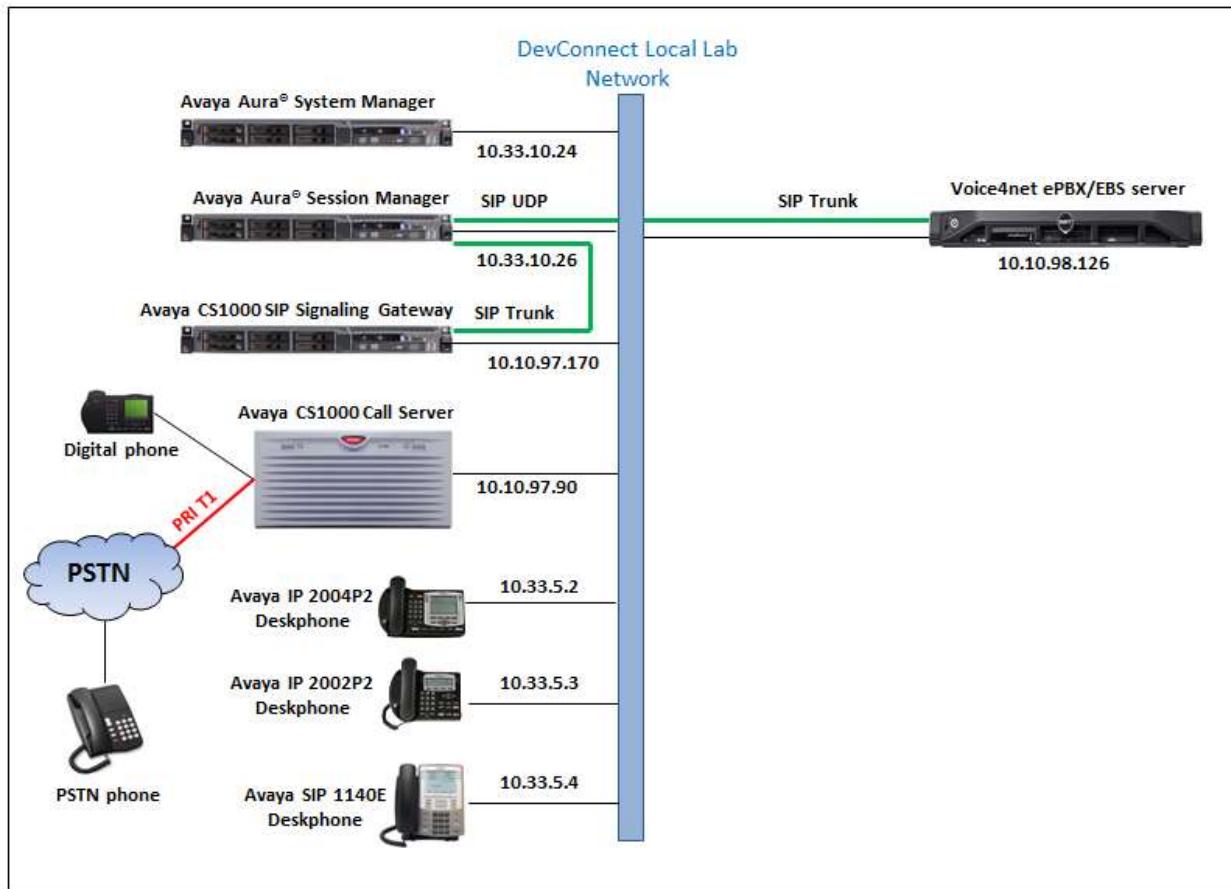
- A call transfer to a busy extension resulted in call disconnected without the caller hearing busy tone. ePBX assumes that there will be a forwarding path on any blind transfer so that the call would either go another extension, voicemail, or an available call center agent.
- No ring back tone heard on SIP phone when ePBX transfers the inbound call of SIP phone to another local extension. This issue only happens on the SIP phone and on this specific scenario; if ePBX transfers the call to PSTN number the SIP phone still got the ring back tone.
- The multipart (MIME) in SIP INVITE message of the CS 1000 should be removed. To remove MIME, an adaptation was created in **Section 6.3** and applied in the Voice4net SIP entity in the **Section 6.4.3**.

## 2.3. Support

For Contact Voice4net at (214) 237-7600 (option 2) for ePBX/EBS technical support or submit a support request through the Voice4net website at <http://www.voice4net.com/voice4net-support.html>

### 3. Reference Configuration

**Figure 1** illustrates the setup used to verify the Voice4net ePBX/EBS solutions with Avaya Aura® Session Manager and Avaya Communication Server 1000. Voice4net IVR is deployed on a dedicated server running Windows 2008 R2 Enterprise server. Session Manager interfaces to Communication Server 1000 using SIP trunks, and Voice4net IVR interfaces to Session Manager via SIP Trunks. To access the Voice4net IVR application, a call is simply routed from Communication Server 1000 to the Voice4net server through Session Manager. Simulated PSTN was connected to Avaya Communication Server 1000 via ISDN/T1 trunk. Avaya Aura® System Manager was used to configure Session Manager.



**Figure 1: Voice4net ePBX/EBS with Avaya Communication Server 1000 and Avaya Aura® Session Manager using SIP Trunks**

## 4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Session Manager running on S8800 Server	6.3.10 Build No. 6.3.0.0.630002-6.3.7.637004
Avaya Aura® System Manager running on S8800 Server	6.3.10 Build No. 6.3.0.8.5682 - 6.3.8.4514 Software Update Revision: 6.3.10.7.2656
Avaya Communication Server 1000 running on CPPM card	R7.6 Service Pack 6 DepList1 Created 2014-12-09
Avaya Media Gateway Controller CSP Version Boot Version	MGCC DC03+ MGCB BA18
Avaya 2004P IP Phone	0604DC0
Avaya SIP 1140 IP Phone	4.3
Avaya Digital 3904	N/A
Voice4net ePBX/EBS System	2.0
Voice4net SIP Stack	2.2.9.0

## 5. Configure Avaya Communication Server 1000

The document assumes that route, trunk and dialing plan of the Avaya CS 1000 have been configured. This section only describes the details on how to configure the Avaya CS 1000 Signaling gateway to connect to the Session Manager via SIP trunk using the Element Manager.

Prerequisites: An Avaya CS1000 server which has been:

- Installed with CS 1000 Release 7.6 Linux Base.
- Joined CS 1000 Release 7.6 Security Domain.
- Deployed with SIP Trunk Application.

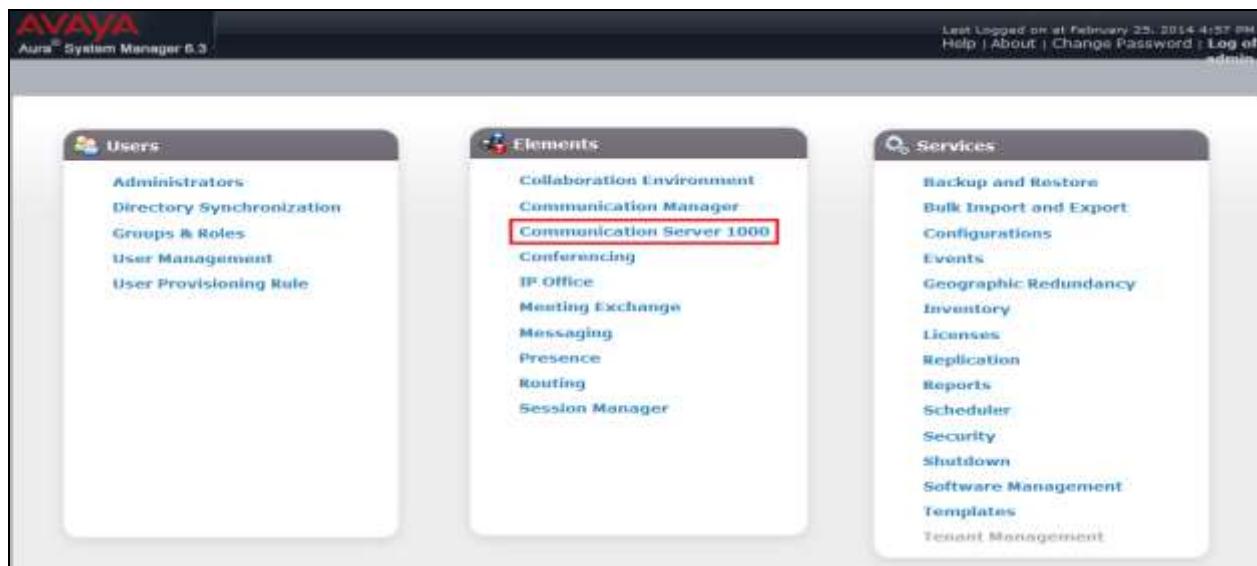
For more information on CS 1000 installation, maintenance, and upgrades, see **Section 10**. The following software packages are enabled in the key code. If any of these features have not been enabled, please contact your Avaya account team or Avaya technical support at

<http://www.avaya.com>.

Package Mnemonic	Package Number	Package Description	Package Type (New or Existing or Dependency)	Applicable Market
SIP	406	SIP Service package	New package	Global
FFC	139	Flexible Feature Codes	Existing package	Global
SIPL_Nortel	415	Avaya SIP Line	Existing package	-
SIPL_3ThirdParty	416	Third Party SIP Line	Existing package	-

## 5.1. Log in to Avaya Communication Server 1000 System

Since release 7.6 Avaya CS 1000 Elements is integrated to System Manager, to access the Element Manager of CS 1000 first log in the System Manager. The screen below shows the System Manager home page with **Communication Server 1000** entry in the Elements table. Click on the **Communication Server 1000** to access to CS 1000 Elements, the Elements webpage will be opened in the new window.



The **Elements** page is shown in the following screenshot. Click Element Name of the CS 1000 that needs to be accessed as highlighted in the red box.

This screenshot shows the "Communication Server 1000" page within the Avaya System Manager. The left sidebar contains a navigation tree with categories like Network, CS 1000 Services, User Services, and Security. The main content area displays the "Elements" table. At the top of the table, there are buttons for Add, Edit, and Delete. Below the table, there is a search bar and a help link. The table has columns for Element Name, Element Type, Release, Address, and Description. Three rows are listed:

	Element Name	Element Type	Release	Address	Description
1	smgr.hwdv.com (primary)	Base OS	7.6	10.33.10.24	Base OS element
2	EM.on.car1-sip1	CS1000	7.6	10.10.97.80	New element
3	EM.on.car2-mas	CS1000	7.6	10.10.97.90	New element

## 5.2. Administer an IP Telephony Node

These application notes assume that the basic CS 1000 configuration has already been administered and that IP Telephony Node has already been created. This section describes the steps for configuring a Node (Node ID 2001) in CS 1000 IP network to work with Voice4net. Select **System → IP Network → Nodes: Servers, Media Cards** and then click on the **Node ID 2001** as shown below.

The screenshot shows the CS1000 Element Manager interface. The left sidebar navigation menu includes: UCM Network Services, Home, Links, Virtual Terminals, System (Alarms, Maintenance, Core Equipment, Peripheral Equipment), IP Network (Nodes: Servers, Media Cards, Maintenance and Reports, Media Gateways, Zones, Host and Route Tables, Network Address Translation, QoS Thresholds, Personal Directories, Unicode Name Directory, Interfaces, Engineered Values, Emergency Services, Geographic Redundancy, Software). The main content area is titled "IP Telephony Nodes" and displays a table of nodes. The table columns are: Node ID, Components, Enabled Applications, ELAN IP, Node/TLAN IPv4, Node/TLAN IPv6, and Status. The table rows show nodes 2000 through 2005. Node 2001 is highlighted with a red border. The status for all nodes is "Synchronized". The bottom of the table has checkboxes for "Nodes", "Component servers and cards", and "IPv6 address".

The **Node Details** page will appear. Scroll down under the **Applications**, click on the **Gateway (SIPGw)** link, the **Virtual Trunk Gateway Configuration Details** page will appear in the next two screenshots

The screenshot shows the "Node Details (ID: 2001 - LTPS, Gateway ( SIPGw ))" page. The left sidebar navigation menu is identical to the previous screenshot. The main content area shows node details for Node ID 2001. It includes fields for Call server IP address (10.10.97.90), TLAN address type (radio buttons for IPv4 only and IPv4 and IPv6), and Embedded LAN (ELAN) settings (Gateway IP address 10.10.97.65, Subnet mask 255.255.255.192). The Telephony LAN (TLAN) section shows Node IPv4 address (10.10.97.170) and Subnet mask (255.255.255.192). Below these are sections for IP Telephony Node Properties (Voice Gateway (VGW) and Codecs, Quality of Service (QoS), LAN, SNTP, Numbering Zones, MCDN Alternative Routing Treatment (MALT) Causes) and Applications (click to edit configuration) (SIP Line, Terminal Proxy Server (TPS), Gateway (SIPGw), Personal Directories (PD), Presence Publisher, IP Media Services). The "Gateway (SIPGw)" link in the Applications section is highlighted with a red border.

In the **Node ID: 2001- Virtual Trunk Gateway Configuration Details**, enter the information highlighted in the red-box for the **General** and **SIP Gateway Settings**. All other fields are kept at default. Click **Save**. Note: SIP domain name **avayalab.com** should be matched with SIP domain was created in **Section 6.1**.

**AVAYA CS1000 Element Manager**

System > IP Network > IP Telephony Nodes > Node Details > Virtual Trunk Gateway Configuration

**Node ID: 2001 - Virtual Trunk Gateway Configuration Details**

**General | SIP-Gateway Settings | SIP-Gateway Services**

VTrk gateway application:  Enable gateway service on this node

**General**

VTrk gateway application: SIP Gateway (SIPGw)

SIP domain name: **avayalab.com**

Local SIP port: 5060 (1 - 65535)

Gateway endpoint name: car2-cores

Gateway password:

Application node ID: 2001 (0-3999)

Enable failsafe NRS:

Note: FailSafe NRS will be enabled only on those servers in the node where NRS application is not deployed.

**Virtual Trunk Network Health Monitor**

Monitor IP addresses (listed below)  
Information will be captured for the IP addresses listed below.

Monitor IP:

Monitor addresses:

The **Primary TLAN IP address** is the IP address used in **Section 6.4.1** which is the Session Manager IP address **10.33.10.26**.

**AVAYA CS1000 Element Manager**

System > IP Network > IP Telephony Nodes > Node Details > Virtual Trunk Gateway Configuration

**Node ID: 2001 - Virtual Trunk Gateway Configuration Details**

**General | SIP-Gateway Settings | SIP-Gateway Services**

Proxy Or Redirect Server:

Proxy Server Route 1:

Primary TLAN IP address: **10.33.10.26** The IP address can have either IPv4 or IPv6 format based on the value of "TLAN address type"

Port: **5060** (1 - 65535)

Transport protocol: **UDP**

Options:  Support registration  
 Primary CDS proxy

Secondary TLAN IP address: **0.0.0.0** The IP address can have either IPv4 or IPv6 format based on the value of "TLAN address type"

Port: **5060** (1 - 65535)

Transport protocol: **TCP**

On the same page, scroll-down the parameters box to the **SIP URI Map** section. Under the **Public E.164 domain names** and **Private domain names** subsections, leave all fields as blank, which remove the phone context in Invite message sent from CS 1000.

Afterwards, click **Save**, the system will bring back the **Node ID** page (not shown). Then click **Save** button on the **Node ID** page and that will take the user to the **Node Saved** page (not shown). Click on the **Transfer Now** button, when finished it will bring the user to the **Synchronize Configuration Files** page. Then click **Start Sync** button (not shown) to complete the configuration saved process.

Hostname	Type	Applications	Synchronization Status
car2-cores	Signaling_Server	SIP Line, LTPS, Gateway (SIP/H323), PD, Presence Publisher, IP Media Services	Sync required

\* Application restart is only required for initial system configuration or if changes have been made to general LAN configurations, SNTP settings, SIP and H323 Gateway settings, network connectivity related parameters like ports and IP address, enabling or disabling services, or adding or removing application servers.

### 5.3. Administer D-Channel for SIP Trunk

From the homepage of Element Manager, expand the menu **Routes and Trunks → D-Channels** and select the **D-Channels** tab. The **D-Channel 101** as shown below was used for the compliance test.

The screenshot shows the CS1000 Element Manager interface. The left sidebar contains a navigation tree with various system settings like Host and Route Tables, Customers, and Phones. The 'D-Channels' option under 'Routes and Trunks' is selected and highlighted with a red box. The main content area has two sections: 'Maintenance' and 'Configuration'. Under 'Maintenance', there are links to D-Channel Diagnostics, Network and Peripheral Equipment, MSDL Diagnostics, TMDI Diagnostics, and D-Channel Expansion Diagnostics. Under 'Configuration', there is a table where users can choose a D-Channel number (0) and type (DCH) to add. Three D-channels are listed: Channel 10 (Type: DCH, Card Type: TMDI, Description: TMDI), Channel 100 (Type: DCH, Card Type: DCIP, Description: CenturyLink), and Channel 101 (Type: DCH, Card Type: DCIP, Description: SIPTrk). The Channel 101 row is also highlighted with a red box.

Click **Edit** button on the **D-channel 101**. The screen below shows the **Basic Configuration** section of this D-channel. Select **D-Channel is over IP (DCIP)** in the **D-Channel Card Type**, enter a description in the **Designator** box and keep all other values at their defaults.

The screenshot shows the 'D-Channels 101 Property Configuration' page. The left sidebar is identical to the previous screenshot. The main area is titled 'Basic Configuration' and contains several input fields. The 'D channel Card Type' dropdown is set to 'DCIP', and the 'Designator' field contains 'SIPTrk'. Other fields include 'Action Device And Number (ADAN)', 'Recovery to Primary', 'User' (set to 'Integrated Services Signaling Link Dedicated (ISLD)'), 'Interface type for D-channel' (set to 'Meridian Meridian1 (SL1)'), 'Country' (set to 'ETSI 300 =102 basic protocol (ETSI)'), 'D-Channel PRI loop number', 'Primary Rate Interface', 'Secondary PRI2 loops', 'Meridian 1 node type' (set to 'Slave to the controller (USR)'), 'Release ID of the switch at the far end' (set to '25'), 'Central Office switch type' (set to '100% compatible with Bellcore standard (STD)'), 'Integrated Services Signaling Link Maximum' (set to '4000'), and 'Signalling server resource capacity' (set to '3700'). At the bottom of the configuration table, there is a note in yellow text: '+Basic options (BSCOPT)'.

Continue to expand the **Basic options (BSCOPT)** section. Keep all fields at default and click on **Edit** button in the **Remote Capabilities** field.

- Basic options (BSCOPT)

- Primary D-channel for a backup DCH:  Range: 0 - 254
- PINX customer number:
- Progress signal:
- Calling Line Identification:
- Output request Buffers: 32
- D-channel transmission Rate: 56 kb/s when LCMT is AMI (56K)
- Channel Negotiation option: No alternative acceptable, exclusive. (1)
- Remote Capabilities:

+ - Change protocol timer value (TMR)

The **Remote Capabilities Configuration** page is displayed. Make sure that **Message waiting interworking with DMS-100 (MWI)** and **Network name display method 2 (ND2)** check boxes checked. Click on **Return – Remote Capabilities** button to return to the D-Channel page.

<b>Message waiting interworking with DMS-100 (MWI)</b>	<input checked="" type="checkbox"/>
<b>Network access data (NAC)</b>	<input type="checkbox"/>
<b>Network call trace supported (NCT)</b>	<input type="checkbox"/>
<b>Network name display method 1 (ND1)</b>	<input type="checkbox"/>
<b>Network name display method 2 (ND2)</b>	<input checked="" type="checkbox"/>
<b>Network name display method 3 (ND3)</b>	<input type="checkbox"/>
<b>Name display - integer ID coding (NDI)</b>	<input type="checkbox"/>
<b>Name display - object ID coding (NDO)</b>	<input type="checkbox"/>
<b>Path replacement uses integer values (PRI)</b>	<input type="checkbox"/>
<b>Path replacement uses object identifier (PRO)</b>	<input type="checkbox"/>
<b>Release Link Trunks over IP (RLTI)</b>	<input type="checkbox"/>
<b>Remote virtual queuing (RVQ)</b>	<input type="checkbox"/>
<b>Trunk anti-tromboning operation (TAT)</b>	<input type="checkbox"/>
<b>User to user service 1 (UUS1)</b>	<input type="checkbox"/>
<b>NI-2 name display option. (NDS)</b>	<input type="checkbox"/>
<b>Message waiting indication using integer values (QMWI)</b>	<input type="checkbox"/>
<b>Message waiting indication using object identifier (QMWO)</b>	<input type="checkbox"/>
<b>User to user signalling (UUI)</b>	<input type="checkbox"/>

**Return - Remote Capabilities**

Keep all values at default for the **Change protocol time value (time)** and **Advanced options (ADVOPT)** sections. Click on the **Submit** button in the bottom of the D-channel configuration page to save and complete.

## 5.4. Administer Zone Bandwidth

To configure a Zone, from the homepage of Element Manager expand the menu **System → IP Network → Zones** and select the **Zones** tab. The **Zones** page is displayed in the right-hand side as shown below.

The screenshot shows the CS1000 Element Manager interface. The top bar includes the AVAYA logo, the title 'CS1000 Element Manager', and links for 'Help' and 'Logout'. The left sidebar has a tree view with 'Zones' expanded, showing options like Host and Route Tables, Network Address Translation, QoS Thresholds, Personal Directories, Unicode Name Directory, Interfaces, Engineered Values, Emergency Services, Geographic Redundancy, Software, and Customers. The main content area shows 'Managing: 10.97.90 Username: admin System » IP Network » Zones'. Below this is a 'Zones' section with a note: 'Zones are used to group related information for either bandwidth or dial plan numbering purposes.' Two sub-sections are listed: 'Bandwidth Zones' and 'Numbering Zones'. The 'Bandwidth Zones' section is highlighted with a red box and contains the text: 'Bandwidth zones are used for alternate routing of calls between IP stations and also for bandwidth management.' Below it is the 'Numbering Zones' section with the text: 'Numbering zones are used to route calls through a centralized call server.'

Click on the **Bandwidth Zones** link. The **Bandwidth Zones** page is displayed (screen not shown) and clicks on the **Add** button to add a new zone. The **Zone Basic Property and Bandwidth Management** page is displayed. Enter number **255** in the **Zone Number**, select **Zone Intent (ZBRN)** as **VTRK** (this zone is intended to use for virtual trunks) and keep other fields at their defaults. Click on **Save** button to save changes and complete to add the new zone.

The screenshot shows the 'Zone Basic Property and Bandwidth Management' configuration page. It has a table with two columns: 'Input Description' and 'Input Value'. The rows are:

Input Description	Input Value
Zone Number (ZONE):	255 * (1 - 8000)
Intrazone Bandwidth (INTRA_BW):	1000000 (0 - 10000000)
Intrazone Strategy (INTRA_STGY):	Best Quality (BQ)
Interzone Bandwidth (INTER_BW):	1000000 (0 - 10000000)
Interzone Strategy (INTER_STGY):	Best Quality (BQ)
Resource Type (RES_TYPE):	Shared (SHARED)
Zone Intent (ZBRN):	VTRK (VTRK)
Description (ZDES):	[empty]

\* Required value.

Save Cancel

## 5.5. Administer SIP Route

To configure a SIP Route, from the homepage of Element Manager, navigate to **Routes and Trunks** → **Routes and Trunks**. The **Routes and Trunks** page is displayed in the right-hand side. In the compliance test, the route and trunks were created in the **Customer 1**. Expand the **Customer: 1** there is SIP route **101** already created and used for the compliance test as shown in the screen below.

The screenshot shows the CS1000 Element Manager interface. The left sidebar menu includes: Emergency Services, Geographic Redundancy, Software, Customers (selected), Routes and Trunks (selected), Dialing and Numbering Plans, and Phones. The main content area is titled "Routes and Trunks" and shows two customers: Customer: 0 and Customer: 1. Customer: 0 has 2 routes and 32 trunks. Customer: 1 has 4 routes and 89 trunks. Customer: 1 is expanded, showing four routes: Route: 10 (DID, TMDI), Route: 51 (MUS, MUS), Route: 101 (TIE, SIPTRK), and Route: 111 (TIE, SIPL). Route: 101 is highlighted with a red border. Each route row has "Edit" and "Add trunk" buttons.

Customer	Total routes	Total trunks	Action
Customer: 0	2	32	Add route
Customer: 1	4	89	Add route

Route	Type	Description	Edit	Add trunk
Route: 10	DID	TMDI	Edit	Add trunk
Route: 51	MUS	MUS	Edit	Add trunk
Route: 101	TIE	SIPTRK	Edit	Add trunk
Route: 111	TIE	SIPL	Edit	Add trunk

Click on **Edit** button on the route **101** to show the configuration of this route. All necessary parameters of the **Basic Configuration** section are shown in the screenshot below.

**AVAYA**      **CS1000 Element Manager**      Help | Logout

**-UCM Network Services**

- Home
- Links
  - Virtual Terminals
- **System**
  - + Alarms
  - Maintenance
  - + Core Equipment
  - Peripheral Equipment
  - IP Network
    - Nodes: Servers, Media Cards
    - Maintenance and Reports
    - Media Gateways
    - Zones
    - Host and Route Tables
    - Network Address Translation (NAT)
    - QoS Thresholds
    - Personal Directories
    - Unicode Name Directory
  - + Interfaces
  - Engineered Values
  - + Emergency Services
  - + Geographic Redundancy
  - + Software
- **Customers**
- **Routes and Trunks**
  - **Routes and Trunks**
  - D-Channels
  - Digital Trunk Interface
- **Dialing and Numbering Plans**
  - Electronic Switched Network
  - Flexible Code Restriction
  - Incoming Digit Translation
- **Phones**
  - Templates
  - Reports
  - Views
  - Lists
  - Properties
  - Migration
- **Tools**
  - + Backup and Restore
  - Date and Time
  - + Logs and reports
- **Security**
  - + Passwords
  - + Policies
  - + Login Options

**Customer 1, Route 101 Property Configuration**

**- Basic Configuration**

Route data block (RDB) (TYPE) :	<input type="text" value="RDB"/>
Customer number (CUST) :	<input type="text" value="01"/>
Route number (ROUT) :	<input type="text" value="101"/>
Designator field for trunk (DES) :	<input type="text" value="SIPTRK"/>
Trunk type (TKTP) :	<input type="text" value="TIE"/>
Incoming and outgoing trunk (ICOG) :	<input type="text" value="Incoming and Outgoing (IAO)"/>
Access code for the trunk route (ACOD) :	<input type="text" value="8101"/>
Trunk type M911P (M911P) :	<input type="checkbox"/>
The route is for a virtual trunk route (VTRK) :	<input checked="" type="checkbox"/>
- Zone for codec selection and bandwidth management (ZONE) :	<input type="text" value="00255"/> (0 - 8000)
- Node ID of signaling server of this route (NODE) :	<input type="text" value="2001"/> (0 - 9999)
- Protocol ID for the route (PCID) :	<input type="text" value="SIP (SIP)"/>
- Print correlation ID in CDR for the route (CRID) :	<input type="checkbox"/>
- Enable Shared Bandwidth Management for the route (SBWM) :	<input type="checkbox"/>
Integrated services digital network option (ISDN) :	<input checked="" type="checkbox"/>
- Mode of operation (MODE) :	<input type="text" value="Route uses ISDN Signaling Link (ISLD)"/>
- D channel number (DCH) :	<input type="text" value="101"/> (0 - 254)
- Interface type for route (IFC) :	<input type="text" value="Meridian M1 (SL1)"/>
- Private network identifier (PNI) :	<input type="text" value="00101"/> (0 - 32700)
- Network calling name allowed (NCNA) :	<input checked="" type="checkbox"/>
- Network call redirection (NCRD) :	<input checked="" type="checkbox"/>
- Trunk route optimization (TRO) :	<input type="checkbox"/>
- Recognition of DTI2 ABCD FALT signal for ISL (FALT) :	<input type="checkbox"/>
- Channel type (CHTY) :	<input type="text" value="B-channel (BCH)"/>
- Call type for outgoing direct dialed TIE route (CTYP) :	<input type="text" value="Unknown Call type (UKWN)"/>
- Insert ESN access code (INAC) :	<input checked="" type="checkbox"/>
- Integrated service access route (ISAR) :	<input type="checkbox"/>
- Display of access prefix on CLID (DAPC) :	<input type="checkbox"/>
- Mobile extension route (MBXR) :	<input type="checkbox"/>
- Mobile extension outgoing type (MBXOT) :	<input type="text" value="National number (NPA)"/>
- Mobile extension timer (MBXT) :	<input type="text" value="0"/> (0 - 8000 milliseconds)
Calling number dialing plan (CNDP) :	<input type="text" value="Unknown (UKWN)"/>

Keep all values at default for the **Basic Route Options**, **Network Options**, **General Options**, and **Advanced Configurations** sections as shown in the screenshots below.

**Customer 1, Route 101 Property Configuration**

**- Basic Configuration**

**- Basic Route Options**

- Attendant announcement (ATAN) : No Attendant Announcement. (NO)
- Billing number required (BILN) :
- Call detail recording (CDR) :
- North American toll scheme (NATL) :
- Controls or timers (CNTL) :
- Conventional (Tie trunk only) (CNVT) :
- Incoming DID digit conversion on this route (IDC) :
- Multifrequency compelled or MFC signaling (MFC) : No MFC (NO)
- Process notification networked calls (PNNC) :

**- Network Options**

- Electronic switched network pad control (ESN) :
- Signaling arrangement (SIGO) : Standard (STD)
- Route class (RCLS) : Route Class marked as external (EXT)
- Off-hook queuing (OHQ) :
- Off-hook queue threshold (OHQT) : 0
- Call back queuing (CBQ) :
- Number of digits (NDIG) : 2
- Authcode (AUTH) :

**- General Options**

- M1 is the only controlling party on incoming calls (CPDC) :
- Dial tone on originating calls (DLTN) :
- Hold failure threshold (HOLD) : 02 02 40
- Trunk access restriction group (TARG) : 01
- Alternate trunk route for outgoing trunks (STEP) : (0 - 511)
- Actual outgoing toll digits to be ignored for code restriction (OABS) :
- Display IDC name (DNAM) :
- Enable equal access restrictions (EQAR) :
- ACD DNIS route (DNIS) :
- Include DNIS number in CDR records (DCDR) :

**+ Advanced Configurations**

The screen below shows the parameters of the **Advanced Configurations** section of the route **101**.

The screenshot displays the CS1000 Element Manager interface with the title "CS1000 Element Manager". The left sidebar contains a navigation menu with categories like UCM Network Services, System, Customers, Routes and Trunks, Dialing and Numbering Plans, Phones, Tools, and Security. The "Advanced Configurations" section is highlighted with a red border. This section contains numerous configuration parameters, many of which have checkboxes or dropdown menus. Some parameters include:

- Malicious call trace alarm is allowed for external calls (ALRM) :
- Allow last re-directing number (ARDN) : ARDN (NO)
- ANI identifier number (ANTK) :
- AC15 timed reminder recall (ATRR) :
- Auto terminate (AUTO) :
- Collect call blocking allowed (CCBA) :
- Call forward restriction (CFWR) :
- Maximum number of CNI digits (CLEN) : 10
- Time (in seconds) that an extension is allowed to ring or be On-hold or Call Park before the trunk is disconnected (DCTI) : 0  (0 - 511)
- North American distinctive ringing for incoming calls (DRNG) :
- Home local number (HLCL) :
- Home national number (HNTN) :
- In-band automatic number identification route (IANI) :
- Incoming identifier send (ICIS) :
- Internal/external definition (IDEF) : Use network info (NET)
- Identify originating party (IDOP) :
- Insert (INST) :
- Manual outgoing trunk route (MANO) :
- Manual route (MNL) :
- Music on-hold (MUS) :
- Music route number (MRT) : 51  (0 - 511)
- Outgoing identifier send (OGIS) :
- Off-hook timer delay (OHTD) :
- Output pulsing route (OPR) :
- Pseudo answer (PANS) :
- Periodic clearing signal (PECL) :
- Privacy indicator ignored (PII) :
- Auxiliary application (AUXP) :
- Priority level (PLEV) : 2
- Protocol selection (PSEL) : DM-DM Protocol Selection (DMDM)
- Preference trunk usage threshold (PTUT) : 0  (0 - 510)
- Port type at far end (PTYP) : Analog TIE trunks (ATT)
- Route traffic information in ACD Reports (RACD) :
- Radio paging route (RPA) :

## 5.6. Administer SIP Trunks

To configure SIP trunks, from the homepage of Element Manager, navigate to **Routes and Trunks** → **Routes and Trunks**. The **Routes and Trunks** page is displayed in the right-hand side. In the compliance test, the route and trunks were created in the **Customer 1**. Expand the **Customer: 1** and the SIP route **101** there are 32 SIP trunks already created as shown below.

The screenshot shows the CS1000 Element Manager interface. The left sidebar has a tree view with nodes like UCM Network Services, Home, Links, System, Customers, Routes and Trunks (which is expanded), Dialing and Numbering Plans, Phones, Tools, Security, and others. The main content area is titled "Routes and Trunks". It shows a table with two rows: "Customer: 0" (Total routes: 2, Total trunks: 32) and "Customer: 1" (Total routes: 4, Total trunks: 89). Under "Customer: 1", there are three rows for SIP routes: Route 10 (DID, TMDI), Route 51 (MUS, MUS), and Route 101 (TIE, SIPTRK). Below these is a section for "Trunk: 1 - 32" (Total trunks: 32), which is also expanded to show individual trunks numbered 1 through 6, each with TN and Description fields and Edit buttons. A red box highlights the "Trunk: 1 - 32" section.

Click on **Edit** button on **Trunk: 1** to show configuration of this SIP trunk. The configuration of the trunk 1 is the same for the rest of SIP trunks. The screen below shows the **Basic Configuration** of the SIP trunk. Keep all values at default for the **Advance Trunk Configurations** section.

The screenshot shows the "Customer 1, Route 101, Trunk 1 Property Configuration" page. The left sidebar is identical to the previous screenshot. The main content area is titled "Customer 1, Route 101, Trunk 1 Property Configuration". It contains a section titled "- Basic Configuration" with various input fields: Auto increment member number (checkbox checked), Trunk data block (IPTI), Terminal number (100 0 01 00), Designator field for trunk (XO), Extended trunk (VTRK), Member number (1), Level 3 Signaling (dropdown menu), Card density (8D), Start arrangement Incoming (Immediate (IMM)), Start arrangement Outgoing (Immediate (IMM)), Trunk group access restriction (1), Channel ID for this trunk (1), and Class of Service (Edit button). A red box highlights the "- Basic Configuration" section.

## 5.7. Administer CDP Dialing Plan

This section provides the steps on how to create a new Route List Index (RLI) and a new Distant Steering Code (DSC) for the Coordinated Dialing Plan (CDP) dialing plan.

### 5.7.1. Configure Route List Index (RLI)

To configure Route List Index, from the home page of Element Manager, navigate to **Dialing and Numbering Plan → Electronic Switched Network**. The **Electronic Switched Network (ESN)** page is displayed; expand the **Customer 01** which the RLI will be created.

The screenshot shows the CS1000 Element Manager interface. The left sidebar contains a navigation menu with the following items:

- UCM Network Services
- Home
- Links
  - Virtual Terminals
- +System
- Customers
- Routes and Trunks
  - Routes and Trunks
  - D-Channels
  - Digital Trunk Interface
- Dialing and Numbering Plans
  - [Electronic Switched Network](#)
    - Flexible Code Restriction
    - Incoming Digit Translation
  - [Phones](#)
  - [Tools](#)
    - + Backup and Restore
    - Date and Time
    - + Logs and reports
  - [Security](#)
    - + Passwords
    - + Policies
    - + Login Options

- Managing: 10.97.90 Username: admin  
Dialing and Numbering Plans » Electronic Switched Network (ESN)
- ### Electronic Switched Network (ESN)
- + Customer 00
  - Customer 01
- **Network Control & Services**
    - Network Control Parameters (NCTL)
    - ESN Access Codes and Parameters (ESN)
    - Digit Manipulation Block (DGT)
    - Home Area Code (HNPA)
    - Flexible CLID Manipulation Block (CMDB)
    - Free Calling Area Screening (FCAS)
    - Free Special Number Screening (FSNS)
    - Route List Block (RLB)
    - Incoming Trunk Group Exclusion (ITGE)
    - Network Attendant Services (NAS)
  - **Coordinated Dialing Plan (CDP)**
    - Local Steering Code (LSC)
    - Distant Steering Code (DSC)
    - Trunk Steering Code (TSC)
  - **Numbering Plan (NET)**
    - **Access Code 1**
      - Home Location Code (HLOC)
      - Location Code (LOC)
      - Numbering Plan Area Code (NPA)
      - Exchange (Central Office) Code (NXX)
      - Special Number (SPN)
      - Network Speed Call Access Code (NSCL)
    - **Access Code 2**
      - Home Location Code (HLOC)
      - Location Code (LOC)
      - Numbering Plan Area Code (NPA)
      - Exchange (Central Office) Code (NXX)
      - Special Number (SPN)
      - Network Speed Call Access Code (NSCL)

Click on the **Route List Block (RLB)** link, the **Route List Blocks** page is displayed as the screen below. In the testing, the Route Link Block Index **101** was created and used the route **101** as configured in **Section 5.5**.

**AVAYA** **CS1000 Element Manager** Help | Logout

Managing: **10.97.90** Username: admin  
Dialing and Numbering Plans > Electronic Switched Network (ESN) > Customer 01 > Network Control & Services > Route List Blocks

### Route List Blocks

Please enter a route list index  (0 - 1999) **to Add**

- + **Route List Block Index -- 1** [Edit](#)
- + **Route List Block Index -- 10** [Edit](#)
- + **Route List Block Index -- 11** [Edit](#)
- + **Route List Block Index -- 12** [Edit](#)
- **Route List Block Index -- 101** [Edit](#)

Initial Set: 0  
Number of Alternate Routing Attempts: 5  
Set Minimum Facility Restriction Level : 0

- **Data Entry Index -- 0** [Edit](#)

Route Number: 101  
Expensive Route: N  
Facility Restriction Level: 0  
Digit Manipulation Index: 0  
ISL D-Channel Down Digit Manipulation Index: 0  
Free Calling Area Screening Index: 0  
Free Special Number Screening Index: 0  
Business Network Extension Route: NO

- + **Route List Block Index -- 102** [Edit](#)

## 5.7.2. Create a Distant Steering Code (DSC)

In the **Customer 01** of the Electronic Switch Network (ESN) page, select **Distant Steering Code (DSC)** under **Coordinated Dialing Plan (CDP)**.

The screenshot shows the CS1000 Element Manager interface. The left sidebar contains a navigation tree with the following structure:

- UCM Network Services
  - Home
  - Links
    - Virtual Terminals
  - + System
  - Customers
  - Routes and Trunks
    - Routes and Trunks
    - D-Channels
    - Digital Trunk Interface
  - Dialing and Numbering Plans
    - Electronic Switched Network
      - Flexible Code Restriction
      - Incoming Digit Translation
  - + Phones
  - Tools
    - + Backup and Restore
    - Date and Time
    - + Logs and reports
  - Security
    - + Passwords
    - + Policies
    - + Login Options

### Electronic Switched Network (ESN)

#### + Customer 00

#### - Customer 01

##### - Network Control & Services

- Network Control Parameters (NCTL)
- ESN Access Codes and Parameters (ESN)
- Digit Manipulation Block (DGT)
- Home Area Code (HNPA)
- Flexible CLID Manipulation Block (CMDB)
- Free Calling Area Screening (FCAS)
- Free Special Number Screening (FSNS)
- Route List Block (RLB)
- Incoming Trunk Group Exclusion (ITGE)
- Network Attendant Services (NAS)

##### - Coordinated Dialing Plan (CDP)

- Local Steering Code (LSC)
- **Distant Steering Code (DSC)**
- Trunk Steering Code (TSC)

##### - Numbering Plan (NET)

###### - Access Code 1

- Home Location Code (HLOC)
- Location Code (LOC)
- Numbering Plan Area Code (NPA)
- Exchange (Central Office) Code (NXX)
- Special Number (SPN)
- Network Speed Call Access Code (NSCL)

###### - Access Code 2

- Home Location Code (HLOC)
- Location Code (LOC)
- Numbering Plan Area Code (NPA)
- Exchange (Central Office) Code (NXX)
- Special Number (SPN)
- Network Speed Call Access Code (NSCL)

The **Distant Steering Code List** page is displayed. In the testing, the distant steering code **700** was configured for routing call from CS 1000 to Voice4net IVR the distant steering code contains **5** digits and used the route list index **101** as configured in **Section 5.7.1** above.

The screenshot shows the CS1000 Element Manager interface. The left sidebar contains a navigation menu with sections like UCM Network Services, System, Customers, Routes and Trunks, Dialing and Numbering Plans, Phones, Tools, and Security. The main content area is titled "Distant Steering Code List". It shows a table with one row selected, highlighted by a red box. The selected row contains the following information:

- Distant Steering Code List -- 700	<input type="button" value="Edit"/>
Flexible Length number of digits: 5	
Display: LSC	
Remote Radio Paging Access: N	
Route List to be accessed for trunk steering code: 101	
Collect Call Blocking: N	
Maximum 7 digit NPA code allowed:	
Maximum 7 digit NXX code allowed:	

At the top of the main content area, there are buttons for "Display" (with a dropdown arrow), "Starting Distant Steering Code" (set to 70), "Number of Steering Codes to display" (set to 1), and "View".

## 6. Configure Avaya Aura® Session Manager

This section provides the procedures for configuring Session Manager. The procedures include adding the following items:

- SIP domain.
- Logical/physical Locations that can be occupied by SIP Entities.
- SIP Entities corresponding to Session Manager and Communication Server 1000.
- Entity Links, which define the SIP trunk parameters used by Session Manager when routing calls to/from SIP Entities.
- Routing Policies, which control call routing between the SIP Entities.
- Dial Patterns, which govern to which SIP Entity a call is routed.

Configuration is accomplished by accessing the browser-based GUI of System Manager using the URL “<https://<ip-address>>”, where <ip-address> is the IP address of System Manager. Log in with the appropriate credentials (not shown).

### 6.1. Specify SIP Domain

Add the SIP domain for which the communications infrastructure will be authoritative. From the home page of System Manager, navigate to **Elements → Routing**, the Routing page will be displayed, select **Domains** on the left and click the **New** button on the right (not shown). The following screen will then be shown. Fill in the following:

- **Name:** The authoritative domain name (e.g., **avayalab.com**).
- **Type:** Select **sip** in the dropdown menu.
- **Notes:** Descriptive text (optional).

Click **Commit**.

Since the sample configuration does not deal with any other domains, no additional domains need to be added.

The screenshot shows the Avaya System Manager 6.3 interface. The title bar reads "AVAYA" and "Aura® System Manager 6.3". The main window has a tab bar with "Home" and "Routing" selected. On the left, there is a navigation tree under "Routing" with options like "Domains", "Locations", "Adaptations", etc. The main content area is titled "Domain Management" and shows a table with four items. The table has columns for "Name", "Type", and "Notes". The first item, "avayalab.com", is highlighted with a red border. The second item, "bwvlab.com", is also present. At the bottom of the table, there is a "Select" dropdown set to "All, None".

## 6.2. Add Locations

Locations can be used to identify logical and/or physical locations where SIP Entities reside for purposes of bandwidth management. To add a location, select **Locations** on the left and then click the **New** button on the right (not shown). The following screen will then be shown. Fill in the following:

- Under **General**:
  - **Name**: A descriptive name.
  - **Notes**: Descriptive text (optional).

The screenshot shows the 'Location Details' page in the Avaya Aura System Manager. The 'Name' field is populated with 'Belleville' and has a red border around it. The 'Notes' field is empty. Below the general section, there's a 'Dial Plan Transparency in Survivable Mode' section with an 'Enabled' checkbox and two dropdowns for 'Listed Directory Number' and 'Associated CM SIP Entity'. At the bottom, there's an 'Overall Managed Bandwidth' section with dropdowns for 'Managed Bandwidth Units' (set to 'Kbit/sec'), 'Total Bandwidth', and 'Multimedia Bandwidth'. A note at the bottom states 'Audio Calls Can Take Multimedia'.

- Under **Location Pattern**:
  - **IP Address Pattern**: A pattern used to logically identify the location.
  - **Notes**: Descriptive text (optional).

The screen below shows addition of a location which includes the CS 1000, Voice4net and Session Manager. Click **Commit** to save the Location definition.

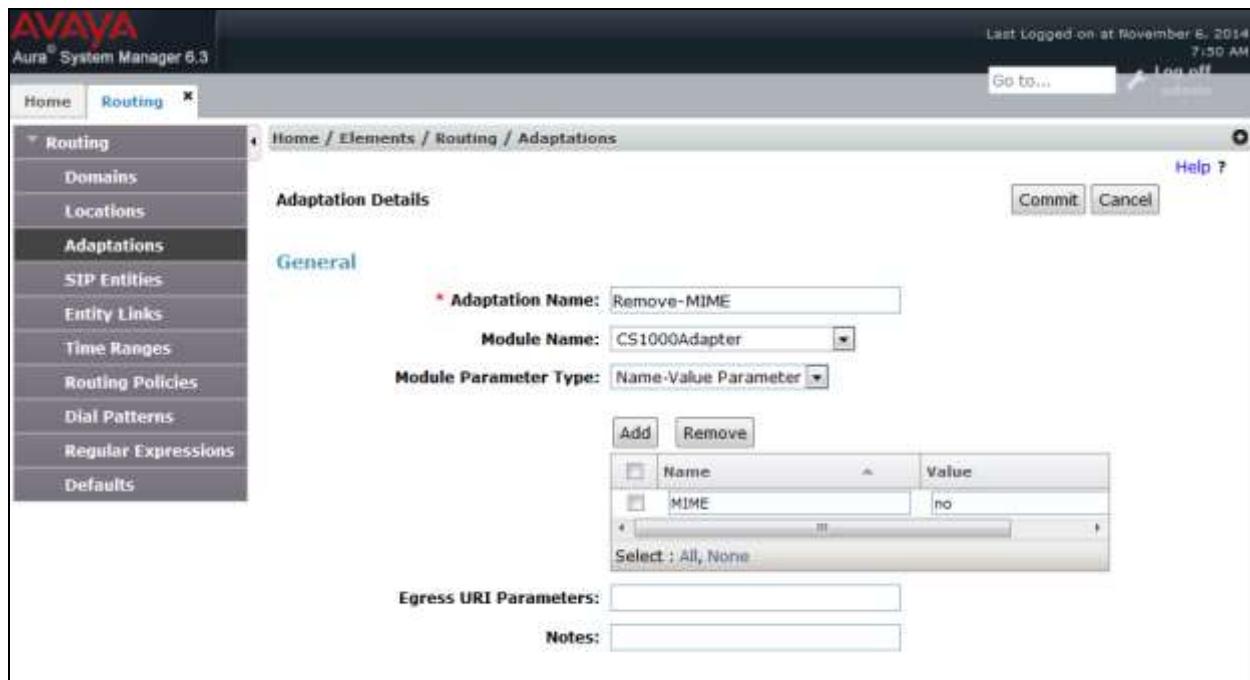
Location Pattern	
<a href="#">Add</a> <a href="#">Remove</a>	
4 Items <a href="#">Edit</a>	
<input type="checkbox"/>	IP Address Pattern
<input type="checkbox"/>	* 10.33.10.0
<input type="checkbox"/>	* 10.33.5.0
<input type="checkbox"/>	* 10.10.97.0
<input type="checkbox"/>	* 10.10.98.0
<a href="#">Select : All, None</a>	

## 6.3. Configure Adaptations

To configure a new Adaptation select **Adaptations** from the left window and click on **New** (now shown) from the main window.

Enter a descriptive name in the **Adaptation Name** and select **CS1000Adapter** for the **Module Name**. Select **Name-Value Parameter** in the **Module Parameter Type**. Add the following Parameters: **MIME = no**.

Click on **Commit** once completed.



## 6.4. Add SIP Entities

In the sample configuration, a SIP Entity is added for Session Manager, CS 1000, and Voice4net systems.

### 6.4.1. Session Manager SIP Entity

A SIP Entity must be added for Session Manager. To add a SIP Entity, select **SIP Entities** on the left and click on the **New** button on the right (not shown). The following screen is displayed.

Fill in the following:

- Under **General**:
  - **Name**: A descriptive name.
  - **FQDN or IP Address**: IP address of the signaling interface on Session Manager.
  - **Type**: Select **Session Manager**.
  - **Location**: Select the location defined previously.
  - **Time Zone**: Time zone for this location.

The screenshot shows the 'SIP Entity Details' page under the 'Routing' tab in the Avaya System Manager. The 'General' section is the active tab. The 'Name' field is set to 'SM63', the 'FQDN or IP Address' field is set to '10.33.10.26', the 'Type' dropdown is set to 'Session Manager', and the 'Location' dropdown is set to 'Belleville'. The 'Outbound Proxy', 'Time Zone', and 'Credential name' fields are also present but not highlighted.

Scroll down **Port** section, click on **Add** button to add a new port and protocol for this port and select the domain respectively for the port as shown in the figure below. In the compliance test, port 5060 UDP was used. Defaults can be used for the remaining fields. Click **Commit** to save each SIP Entity definition.

The screenshot shows the 'Port' configuration screen. At the top, there are fields for 'TCP Failover port' and 'TLS Failover port', both currently empty. Below these are 'Add' and 'Remove' buttons. The main area displays a table titled '5 Items' with columns for Port, Protocol, Default Domain, and Notes. The table contains three rows with the following data:

	Port	Protocol	Default Domain	Notes
1	5060	TCP	avayalab.com	
2	5060	UDP	avayalab.com	
3	5061	TLS	avayalab.com	

At the bottom left, there is a 'Select : All, None' button.

## 6.4.2. Communication Server 1000 SIP Entity

A SIP Entity must be added for the CS 1000. To add a SIP Entity, select SIP Entities on the left and click on the New button on the right (not shown). The following screen is displayed. Fill in the following:

- Under **General**:
  - **Name**: A descriptive name.
  - **FQDN or IP Address**: Enter the IP address of the SIP gateway node IP.
  - **Type**: Select **SIP Trunk**.
  - **Location**: Select the location defined previously.
  - **Time Zone**: Time zone for this location.

Defaults can be used for the remaining fields. Click Commit to save each SIP Entity definition.

The screenshot shows the 'SIP Entity Details' configuration page. The 'General' section is active. Key entries include:

- Name: car2-cores
- FQDN or IP Address: 10.10.97.170
- Type: SIP Trunk
- Location: Belleville
- Time Zone: America/Toronto
- SIP Timer B/F (in seconds): 4
- Credential name: (empty)
- Call Detail Recording: egress

Other sections like Loop Detection and SIP Link Monitoring are partially visible at the bottom.

### 6.4.3. Voice4net IVR SIP Entity

A SIP Entity must be added for Voice4net IVR. To add a SIP Entity, select SIP Entities on the left and click on the **New** button on the right (not shown). The following screen is displayed. Fill in the following:

- Under **General**:
  - **Name**: A descriptive name.
  - **FQDN or IP Address**: Enter Voice4net IP address.
  - **Type**: Select **Other**.
  - **Adaptation**: Select the adaption **Remove-MIME** in **Section 6.3**.
  - **Location**: Select the location defined previously.
  - **Time Zone**: Time zone for this location.

Defaults may be used for the remaining fields. Click **Commit** to save each SIP Entity definition.

The screenshot shows the 'SIP Entity Details' configuration page under the 'Routing' tab. The 'General' section is the active tab, indicated by a red box around its content. The 'Name' field is set to 'Voice4net'. The 'FQDN or IP Address' field is set to '10.10.98.126'. The 'Type' dropdown is set to 'Other'. The 'Adaptation' dropdown is set to 'Remove-MIME'. The 'Location' dropdown is set to 'Belleville'. The 'Time Zone' dropdown is set to 'America/Toronto'. Other sections like 'Loop Detection' and 'SIP Link Monitoring' are also visible.

## 6.5. Add Entity Links

The SIP trunk from Session Manager to CS 1000 and Voice4net are described by Entity Links. To add an Entity Link, select Entity Links on the left and click on the New button on the right (not shown). Fill in the following fields in the new row that is displayed:

- **Name:** A descriptive name.
- **SIP Entity 1:** Select the Session Manager.
- **Protocol:** Select the appropriate protocol.
- **Port:** Port number to which the other system sends SIP requests.
- **SIP Entity 2:** Select the name of CS 1000 or Voice4net.
- **Port:** Port number on which the other system receives SIP requests.
- **Trusted:** Select Trusted.

The following screens display the two Entity Links. The first entity link is for Session Manager and CS 1000. The second entity link is for Session Manager and Voice4net.

Name	SIP Entity 1	Protocol	Port	SIP Entity 2	DNS Override	Port
SM63_car2-cores_5050	SM63	UDP	5050	car2-cores		5060

The entity link is below between Session Manager and Voice4net.

Name	SIP Entity 1	Protocol	Port	SIP Entity 2	DNS Override	Port
SM63_Voice4net_5060	SM63	UDP	5060	Voice4net		5060

## 6.6. Add Routing Policy

Routing policies describe the conditions under which calls will be routed to the SIP Entities. Two routing policies were added – one for Communication Server 1000 and one for Voice4net. To add a routing policy, select **Routing Policies** on the left and click on the New button on the right (not shown). The following screen is displayed. Fill in the following:

- Under **General**: Enter a descriptive name in Name.
- Under SIP Entity as Destination: Click **Select**, and then select the appropriate SIP entity to which this routing policy applies.

Defaults can be used for the remaining fields. Click **Commit** to save each Routing Policy definition. The following screen shows the Routing Policy for CS 1000.

The screenshot shows the 'Routing Policy Details' configuration page. The left sidebar lists various routing-related options. The main form has sections for 'General' and 'SIP Entity as Destination'. In the 'General' section, the 'Name' field is set to 'To-car2-cores'. The 'SIP Entity as Destination' section shows a table with one entry: 'car2-cores' and '10.10.97.170'. Below this is a 'Time of Day' section with a table showing a single item named '24/7' spanning from 00:00 to 23:59.

Name	FQDN or IP Address	Type	Notes
car2-cores	10.10.97.170	SIP Trunk	

Ranking	Name	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Start Time	End Time	Notes
0	24/7	<input checked="" type="checkbox"/>	00:00	23:59	Time Range 24/7						

The following screen shows the Routing Policy for Voice4net.

This screenshot shows the 'Routing Policy Details' page for a policy named 'To-Voice4net'. The left sidebar lists various routing-related configurations. The main panel shows the policy's name ('To-Voice4net') highlighted with a red box, along with fields for retries (0) and notes. Below this, the 'SIP Entity as Destination' section lists 'Voice4net' with IP '10.10.98.125' also highlighted with a red box. The 'Time of Day' section shows a single entry for '24/7' from 00:00 to 23:59.

Name	FQDN or IP Address	Type	Notes
Voice4net	10.10.98.125	Other	

Ranking	Name	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Start Time	End Time	Notes
0	24/7	0	0	0	0	0	0	0	00:00	23:59	Time Range 24/7

## 6.7. Add Dial Pattern

Dial patterns must be defined that will direct calls to the appropriate SIP Entity. In the sample configuration, 4-digit extensions beginning with “4” reside on CS 1000, dial pattern 700xx is assigned to Voice4net and this number is also DNIS configured in Voice4net system. To add a dial pattern, select Dial Patterns on the left and click on the New button on the right (not shown). Fill in the following:

Under General:

- **Pattern:** Dialed number or prefix.
- **Min:** Minimum length of dialed number.
- **Max:** Maximum length of dialed number.
- **SIP Domain:** Select **avayalab.com** SIP domain as defined in **Section 6.1**.
- Under **Originating Locations and Routing Policies:** Click **Add**, and then select the appropriate location and routing policy from the list.

Click **Commit** to save this dial pattern. The following screen shows the dial pattern definition for Communication Server 1000 extensions beginning with “46”.

The screenshot shows the 'Dial Pattern Details' screen in the Avaya Communication Manager interface. The 'General' tab is selected. The 'Pattern' field is set to '46'. The 'Min' and 'Max' fields are both set to '4'. The 'SIP Domain' field is set to 'avayalab.com'. The 'Originating Locations and Routing Policies' section shows one item added, originating from 'Belleville' to 'car2-cores' via 'To-car2-cores' routing policy.

Originating Location Name	Originating Location Notes	Routing Policy Name	Rank	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes
Belleville		To-car2-cores	0		car2-cores	

Do the similar step above to add dial pattern for Voice4net. The following screen shows the dial pattern created for Voice4net.

The screenshot shows the 'Dial Pattern Details' configuration page under the 'Routing' section. The left sidebar lists various routing-related entities. The main form is titled 'Dial Pattern Details' with tabs for 'General', 'Originating Locations and Routing Policies', and 'Advanced'. The 'General' tab is active, showing fields for 'Pattern' (700), 'Min' (5), and 'Max' (5). Other fields include 'Emergency Call', 'Emergency Priority' (1), 'Emergency Type', 'SIP Domain' (avayalab.com), and 'Notes'. The 'Originating Locations and Routing Policies' tab shows a table with one item: 'Belleville' as the originating location, 'To-Voice4net' as the routing policy, and 'Voice4net' as the destination. The 'Advanced' tab is partially visible at the bottom.

Originating Location Name	Originating Location Notes	Routing Policy Name	Rank	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes
Belleville		To-Voice4net	0		Voice4net	

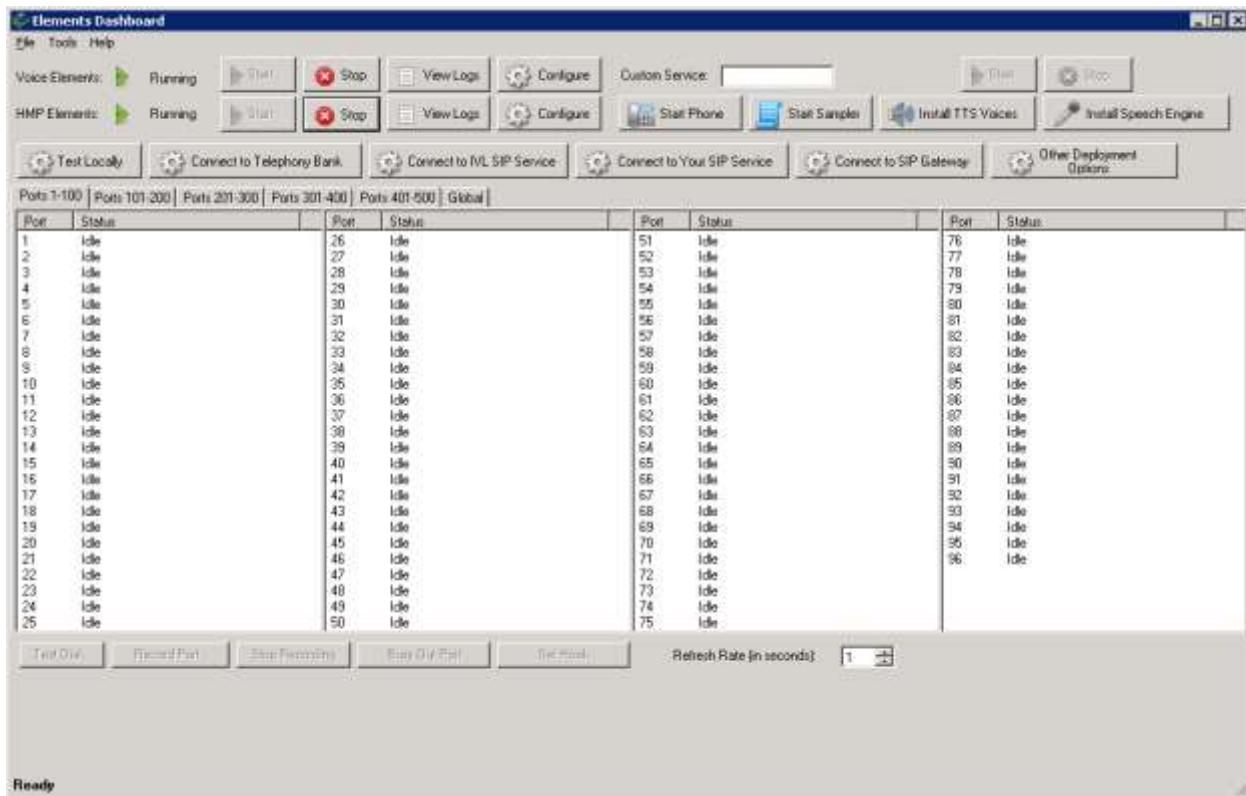
## 7. Configure Voice4net ePBX and EBS

This section provides the procedures for configuring Voice4net ePBX and EBS. The procedures include the following areas:

- Administer Site Configuration
- Administer SIP parameters
- Restart the ePBX for the SIP settings to take effect
- Specify the Voice4net ePBX custom application
- Configure Voice4net EBS broadcast event

### 7.1. Administer Site Configuration

To configure Voice4net ePBX, launch the **Elements Dashboard**, which is shown below.



The site configuration settings are configured in the C:\Program Files\Inventive Labs\Voice Elements Platform\Voice Elements Server\VoiceElementsServer.exe.config file. To access the file, click on the **Configure** button by **Voice Elements**. In the **applicationSettings** section, that the parameters in **bold** are set to either the Voice4net server IP address (e.g., 10.10.98.126), the Session Manager Signaling IP address (e.g., 10.10.33.26), the port (e.g., 5060), the name assigned to Voice4net ePBX (e.g., Voice4net), and the extension assigned to Voice4net ePBX (e.g., 70000). Voice4net

uses UDP as the transport protocol. No additional configuration is required to set the transport protocol.

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <configSections>
    <sectionGroup name="applicationSettings"
      type="System.Configuration.ApplicationSettingsGroup, System, Version=2.0.0.0,
      Culture=neutral, PublicKeyToken=b77a5c561934e089">
      <section name="VoiceElements.Properties.Settings"
        type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
        PublicKeyToken=b77a5c561934e089" requirePermission="false" />
      <section name="HmpElements.Properties.Settings"
        type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
        PublicKeyToken=b77a5c561934e089" requirePermission="false" />
      <section name="CTI32NetLib.Properties.Settings"
        type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
        PublicKeyToken=b77a5c561934e089" requirePermission="false" />
    </sectionGroup>
  </configSections>
  <applicationSettings>
    <VoiceElements.Properties.Settings>
      <setting name="PerfectCall" serializeAs="String">
        <value>17</value>
      </setting>
      <setting name="ServerConnectionString" serializeAs="String">
        <value>gtcp://10.10.98.126:54331</value>
      </setting>
      <setting name="ServerListeningPort" serializeAs="String">
        <value>54331</value>
      </setting>
      <setting name="ServerListeningIp" serializeAs="String">
        <value>10.10.98.126</value>
      </setting>
      <setting name="GlobalCall" serializeAs="String">
        <value>True</value>
      </setting>
      <setting name="IgnoreResources" serializeAs="String">
        <value />
      </setting>
      <setting name="ISDN" serializeAs="String">
        <value>True</value>
      </setting>
      <setting name="ExplicitBoards" serializeAs="String">
        <value />
      </setting>
    </VoiceElements.Properties.Settings>
  </applicationSettings>

```

```

    </setting>
<setting name="T1DnisAniMask" serializeAs="String">
    <value />
</setting>
<setting name="CustomAuthenticationDll" serializeAs="String">
    <value />
</setting>
<setting name="CustomAuthenticationType" serializeAs="String">
    <value />
</setting>
<setting name="IpMediaServers" serializeAs="String">
    <value>
    </value>
</setting>
<setting name="Robodog" serializeAs="String">
    <value>False</value>
</setting>
<setting name="CallDetailConnectionString" serializeAs="String">
    <value />
</setting>
<setting name="GlobalCallProtocol" serializeAs="String">
    <value>DM3</value>
</setting>
<setting name="SetChannelState" serializeAs="String">
    <value>False</value>
</setting>
<setting name="HmpElements" serializeAs="String">
    <value>True</value>
</setting>
<setting name="StaticVoiceResourceAssignment" serializeAs="String">
    <value>False</value>
</setting>
<setting name="HmpElementsPortCount" serializeAs="String">
    <value>0</value>
</setting>
</VoiceElements.Properties.Settings>
<HmpElements.Properties.Settings>
    <setting name="HmpElementsUrl" serializeAs="String">
        <value>gtcp://10.10.98.126:55245</value>
    </setting>
</HmpElements.Properties.Settings>
<CTI32NetLib.Properties.Settings>
    <setting name="HmpDefaultDestinationHost" serializeAs="String">
        <value>10.33.10.26</value>
    </setting>

```

```
<setting name="HmpDefaultSourceDisplayName" serializeAs="String">
<value>Your Name</value>
</setting>
<setting name="HmpDefaultSourceUser" serializeAs="String">
<value>70000</value>
</setting>
<setting name="HmpDefaultSourceHost" serializeAs="String">
<value>10.10.98.126</value>
</setting>
<setting name="HmpDefaultDestinationPort" serializeAs="String">
<value>5060</value>
</setting>
<setting name="HmpDefaultSourcePort" serializeAs="String">
<value>5060</value>
</setting>
<setting name="HmpDestinationHostOverrides" serializeAs="String">
<value>
</value>
</setting>
<setting name="TtsDefaultVoice" serializeAs="String">
<value>
</value>
</setting>
</CTI32NetLib.Properties.Settings>
</applicationSettings>
<startup useLegacyV2RuntimeActivationPolicy="true"><supportedRuntime version="v4.0"
sku=".NETFramework,Version=v4.0"/></startup>
</configuration>
```

## 7.2. Administer SIP Settings

The SIP settings are configured in the C:\Program Files\Inventive Labs\Voice Elements Platform\HMP Elements Server\HMPElementsServer.exe.config file. To access the file, click on the **Configure** button by **HMP Elements** in the **Elements Dashboard**. In the **applicationSettings** section, the parameters in bold are set to either the Voice4net server IP address (e.g., 10.10.98.126), the Session Manager Signaling IP address (e.g., 10.10.33.26), and the port (e.g., 5060). Note that Voice4net uses UDP as the transport protocol. No additional configuration is required to set the transport protocol. Note that the **CodecOrder** parameter is set “0”, which specifies G.711mu-law.

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <configSections>
    <sectionGroup name="applicationSettings"
      type="System.Configuration.ApplicationSettingsGroup, System, Version=2.0.0.0,
      Culture=neutral, PublicKeyToken=b77a5c561934e089">
      <section name="HmpElements.Properties.Settings"
        type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
        PublicKeyToken=b77a5c561934e089" requirePermission="false" />
    </sectionGroup>
  </configSections>
  <applicationSettings>
    <HmpElements.Properties.Settings>
      <setting name="LoggingFileHistoryCount" serializeAs="String">
        <value>2</value>
      </setting>
      <setting name="LoggingFileSizeMB" serializeAs="String">
        <value>10</value>
      </setting>
      <setting name="MappedDrives" serializeAs="String">
        <value />
      </setting>
      <setting name="HmpElementsUrl" serializeAs="String">
        <value>gtcp://10.10.98.126:55245</value>
      </setting>
      <setting name="Robodog" serializeAs="String">
        <value>False</value>
      </setting>
      <setting name="RtpMediaIp" serializeAs="String">
        <value>10.10.98.126</value>
      </setting>
      <setting name="RtpMediaPortBase" serializeAs="String">
```

```

<value>49152</value>
</setting>
<setting name="ExternalIp" serializeAs="String">
  <value>10.10.98.126</value>
</setting>
<setting name="AdditionalTranslations" serializeAs="String">
  <value />
</setting>
<setting name="AdditionalLocalTraffic" serializeAs="String">
  <value>192.168.1.</value>
</setting>
<setting name="HmpIp" serializeAs="String">
  <value>10.10.98.126</value>
</setting>
<setting name="HmpPort" serializeAs="String">
  <value>5060</value>
</setting>
<setting name="RtpMediaPortCount" serializeAs="String">
  <value>0</value>
</setting>
<setting name="AuthUsername" serializeAs="String">
  <value>
  </value>
</setting>
<setting name="AuthPassword" serializeAs="String">
  <value>
  </value>
</setting>
<setting name="AuthUri" serializeAs="String">
  <value>
  </value>
</setting>
<setting name="InbandDtmf" serializeAs="String">
  <value>False</value>
</setting>
<setting name="AnalyzeCallLogLevel" serializeAs="String">
  <value>0</value>
</setting>
<setting name="AnalyzeCallRecordingPath" serializeAs="String">
  <value />
</setting>
<setting name="CodecOrder" serializeAs="String">
  <value>0</value>
</setting>
<setting name="PacketCaptureMode" serializeAs="String">

```

```

<value>Legacy</value>
</setting>
<setting name="SpeechRecognitionDll" serializeAs="String">
<value>
</value>
</setting>
<setting name="SpeechRecognitionType" serializeAs="String">
<value>HmpElements.Server.MicrosoftSpeech</value>
</setting>
<setting name="SpeechRecognitionNumberOfPorts" serializeAs="String">
<value>0</value>
</setting>
<setting name="SpeechRecognitionLicenseType" serializeAs="String">
<value>en-US</value>
</setting>
<setting name="SpeechEngineIpAddress" serializeAs="String">
<value>127.0.0.1</value>
</setting>
<setting name="RFC2833StartBitRequired" serializeAs="String">
<value>False</value>
</setting>
<setting name="WebSocketIp" serializeAs="String">
<value>10.10.98.126</value>
</setting>
<setting name="WebSocketPort" serializeAs="String">
<value>1337</value>
</setting>
<setting name="DtlsCertificates" serializeAs="Xml">
<value>
<DtlsCertificates>
<DtlsCertificate>
<Id>Default</Id>
<CACertificates>certificate.crt</CACertificates>
<CertificateFile>CertAndPrivate.pem</CertificateFile>
<Password>inventiveDTLS</Password>
<Encrypted>0</Encrypted>
</DtlsCertificate>
</DtlsCertificates>
</value>
</setting>
<setting name="WebRtcSockets" serializeAs="Xml">
<value>
<WebRtcSockets>
<WebRtcSocket>
<Id>Unsecure</Id>

```

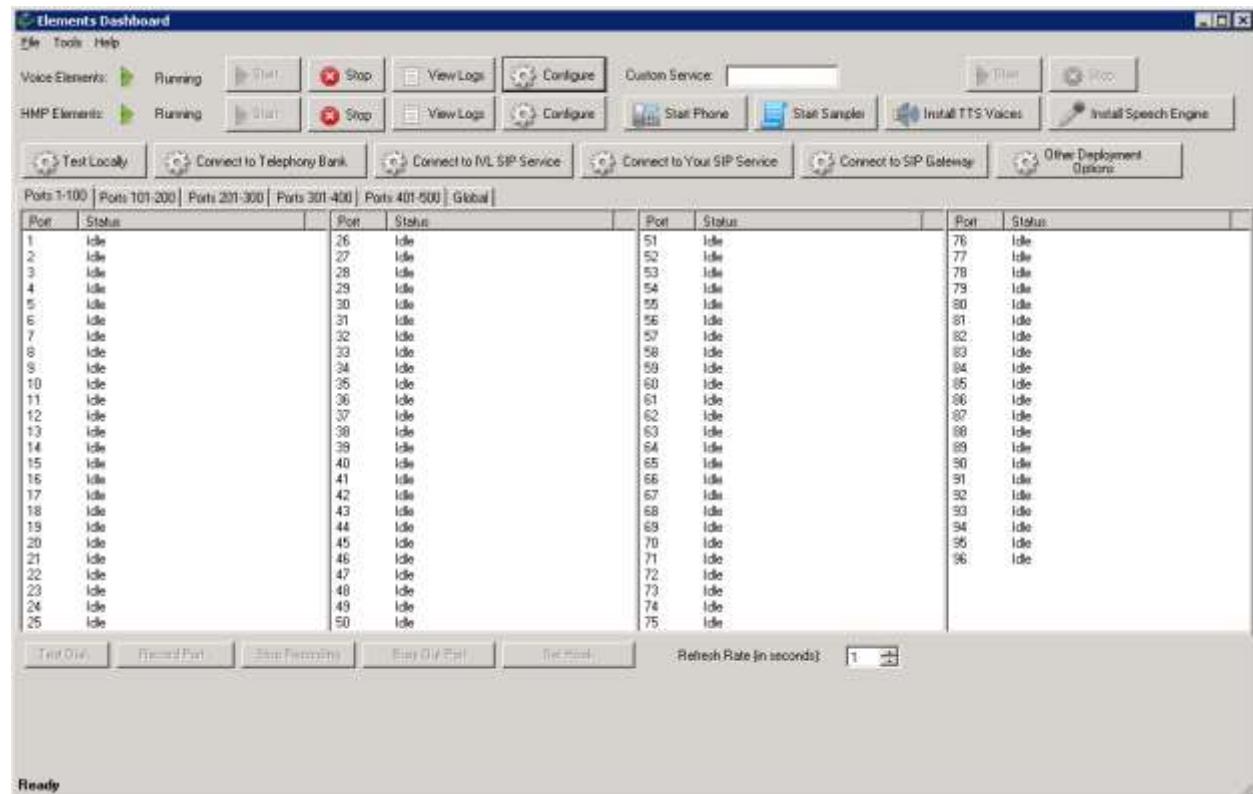
```

<SocketIp>10.10.98.126</SocketIp>
<SocketPort>1337</SocketPort>
<CertificateFile></CertificateFile>
<Password></Password>
<Encrypted>0</Encrypted>
<MaxConnections>100</MaxConnections>
</WebRtcSocket>
</WebRtcSockets>
</value>
</setting>
</HmpElements.Properties.Settings>
</applicationSettings>
</configuration>

```

### 7.3. Restart Voice4net ePBX

After the SIP settings have been configured, restart ePBX for the SIP settings to take effect. Close the **Elements Dashboard** and then re-launch it. To restart ePBX, click the **Start** buttons by **Voice Elements** and **HMP Elements**. When ePBX has been started, the **Elements Dashboard** will appear as shown below along with the available ports. The number of ports is determined by the installed license. In this example, 96 SIP trunks are supported.



## 7.4. Specify the Voice4net ePBX Custom Application

To specify the custom application that ePBX will run based on the DNIS, launch the **SPPS Admin** application and login with the appropriate credentials as shown below.

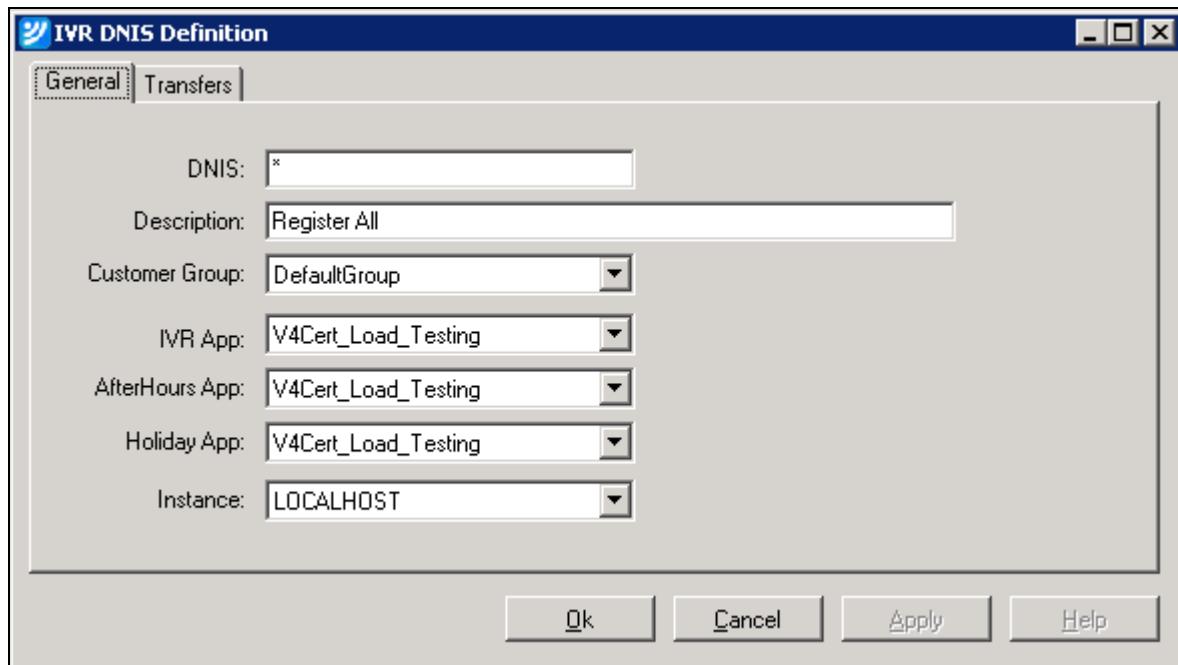


Once logged in, the **SPPS Admin** window will be displayed as shown below. Expand **IVR Setup** in the left pane, and then click on **INBOUND DNIS**. Next, click on the **New Item** icon to map a DNIS to a custom application.

A screenshot of the SPPS Admin application window titled "SPPS Admin : LOCALHOST". The left sidebar shows a tree view under "IVR Setup" with "INBOUND DNIS" selected. The main area is titled "SelectionList" and contains a table with two rows. The columns are "DNIS", "DNIS\_Description", "APP\_Name", "ENTRY\_METHOD", and "INSTANCE".

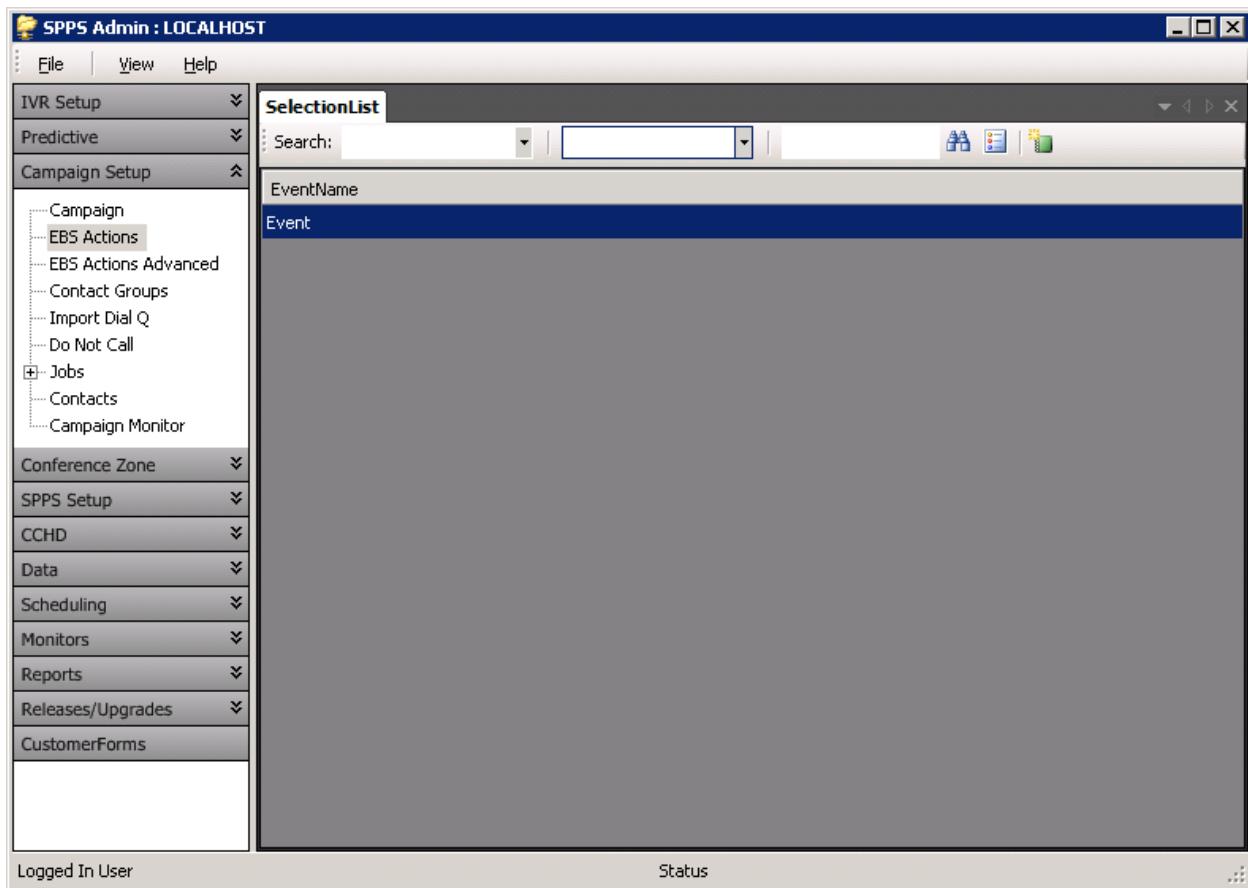
DNIS	DNIS_Description	APP_Name	ENTRY_METHOD	INSTANCE
*	Register All	V4Cert_Load_Testing		LOCALHOST
70000	Testing DNIS (613-771-7527)	V4Cert_Load_Testing		LOCALHOST

In the **IVR DNIS Definition** window, specify the **DNIS** and the appropriate custom application in the **IVR App**, **AfterHours App**, and **Holiday App** fields. In this example, the **DNIS** field is set to the wildcard “\*”, which maps to any DNIS, and the customer application is called *Avaya Cert App*. The custom application provides the user with the ability to transfer to the specified number.

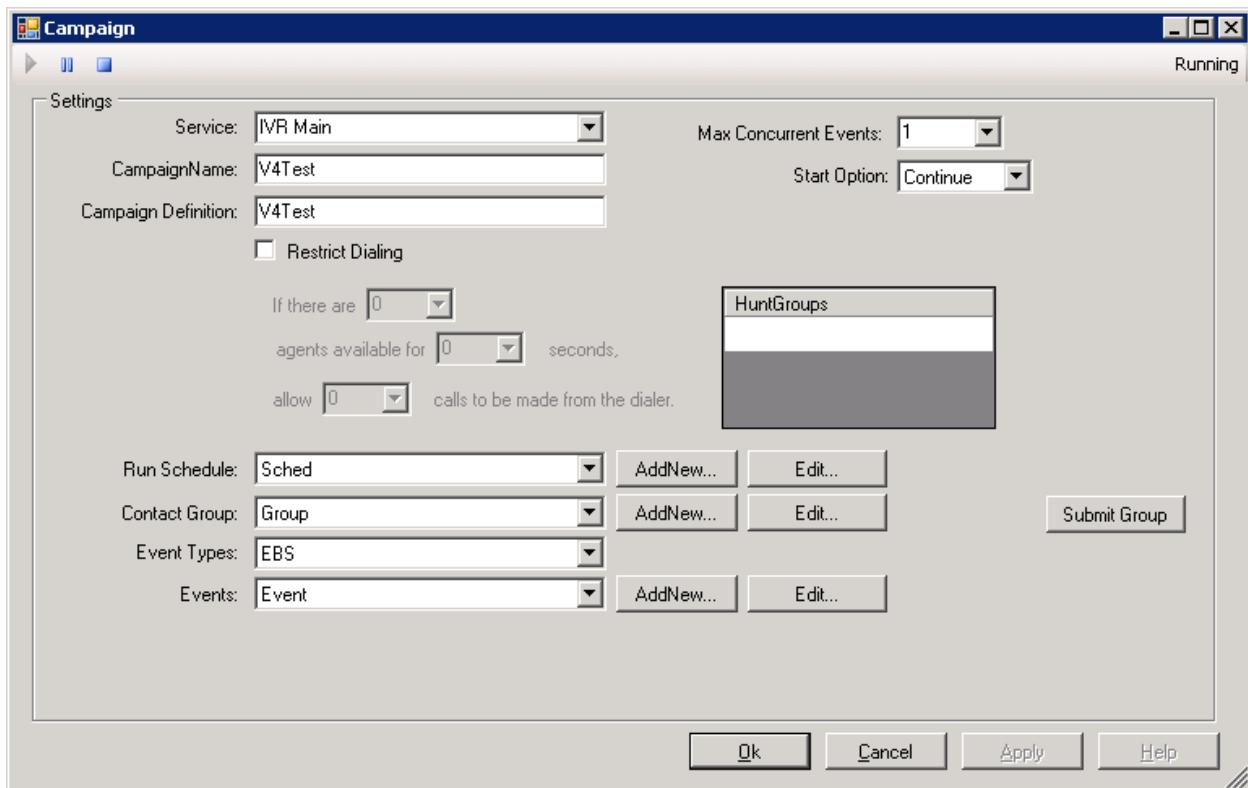


## 7.5. Launch a Voice4net EBS Broadcast Event

Voice4net EBS can send a broadcast message to specified users. This configuration is performed via the **SPPS Admin** application under the **Campaign Setup** option in the left pane as shown below. This requires configuration of Contact Groups, EBS Events to schedule the events, and an EBS Campaign.



The detailed configuration of EBS events is outside the scope of these Application Notes, but the EBS Campaign used for the compliance test is shown below. The **Campaign** window shown below brings together the EBS contacts, event, and schedule. For example, in the sample campaign below, the **Service** field was set to *IVR Main* and a descriptive name was provided for the **CampaignName** and **Campaign Definition** fields. The remaining campaign fields specify the schedule to run the campaign, the contact group, and the event type. The EBS event can also be launched immediately by clicking on the **Submit Group** button.



## 8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Server 1000, Avaya Aura® Session Manager, and Voice4net ePBX/EBS.

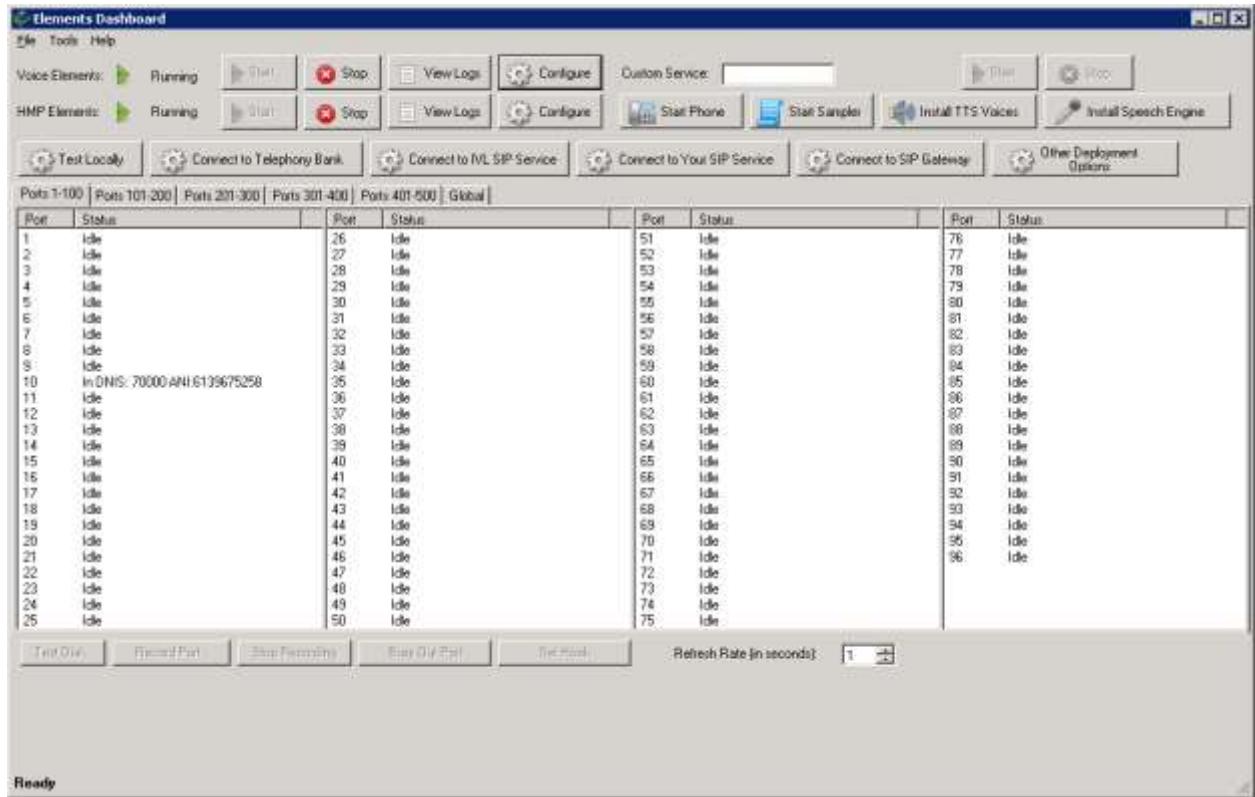
- Verify Voice4net SIP Entity is up. From System Manager, navigate to **Elements** → **Session Manager** → **System Status** → **SIP Entity Monitoring**. Next, click on the Voice4net SIP entity under the All Monitored SIP Entities section to display the page below. Verify that the Conn. Status and Link Status fields are UP.

The screenshot shows the 'SIP Entity, Entity Link Connection Status' page. The left sidebar is titled 'Session Manager' and includes 'Dashboard', 'Session Manager', 'Administration', 'Communication', 'Profile Editor', 'Network Configuration', 'Device and Location Configuration', 'Application Configuration', and 'System Status'. The 'SIP Entity Monitoring' option is selected. The main content area has a breadcrumb path: Home / Elements / Session Manager / System Status / SIP Entity Monitoring. The title is 'SIP Entity, Entity Link Connection Status'. A sub-header says 'All Entity Links to SIP Entity: Voice4net'. Below it is a 'Summary View' button and a table titled 'Status Details for the selected Session Manager'. The table has columns: Session Manager Name, SIP Entity Resolved IP, Port, Proto., Deny, Conn. Status, Reason Code, and Link Status. One row is shown for 'SM63' with values: 10.10.98.126, 5060, UDP, FALSE, UP, 200 OK, and UP.

- Verify the CS 1000 SIP Entity: repeat the steps above and verify that the link status of CS 1000 and Session Manager is UP as shown in the figure below.

The screenshot shows the 'SIP Entity, Entity Link Connection Status' page. The left sidebar is identical to the previous one. The main content area has a breadcrumb path: Home / Elements / Session Manager / System Status / SIP Entity Monitoring. The title is 'SIP Entity, Entity Link Connection Status'. A sub-header says 'All Entity Links to SIP Entity: car2-cores'. Below it is a 'Summary View' button and a table titled 'Status Details for the selected Session Manager'. The table has columns: Session Manager Name, SIP Entity Resolved IP, Port, Proto., Deny, Conn. Status, Reason Code, and Link Status. One row is shown for 'SM63' with values: 10.10.97.170, 5060, UDP, FALSE, UP, 200 OK, and UP.

- Place a call to Voice4net ePBX by dialing the IVR DNIS number and verify that the system greeting is heard and correct DNIS and ANI number shown in the Element Dashboard.



- From the **Campaign** window shown above, click on the **Submit Group** button to initiate the broadcast event. Verify that the specified contacts received the broadcast event. Alternatively, an outbound call can also be initiated directly from the **Elements Dashboard** by selecting a channel, clicking on **Test Dial** button, and then specifying the number to dial. The station associated with the dialed number should be called and ePBX should run the specified custom application.

## 9. Conclusion

These Application Notes describe the configuration steps required to integrate Voice4net ePBX/EBS with Avaya Communication Server 1000 and Avaya Aura® Session Manager using SIP trunks. The Voice4net ePBX IVR platform and the EBS broadcasting module were verified. All feature and serviceability test cases were completed and passed. There are some observations outlined in **Section 2.2**.

## **10. Additional References**

This section references product documentation relevant to these Application Notes.

Documentation for Avaya products can be found at <http://support.avaya.com>.

- [1] *Administering Avaya Aura® Session Manager*, Release 6.3,  
Document Number 03-300509, Issue 9, October 2013
- [2] *IP Peer Networking Installation and Commissioning, Avaya Communication Server 1000*,  
Release 7.6, Document Number NN43001-313, Revision: 05.02, Jun 2013.
- [3] *Communication Server 1000E Overview, Avaya Communication Server 1000*, Release 7.6,  
Document Number NN43041-110, Revision: 05.02, Jun 2013.

## Appendix A

### Avaya Communication Server 1000 Release 7.6 - Linux Patches

Product Release: 7.65.16.00						
In system patches: 6						
PATCH#	NAME	IN_SERVICE	DATE	SPECINS	TYPE	RPM
0	p30224_1	Yes	16/10/13	NO	FRU	cs1000-pi-control-1.00.00.00-00.noarch
28	p31484_1	Yes	26/09/13	NO	FRU	cs1000-shared-general-7.65.16-00.i386
44	p33054_2	Yes	01/08/14	NO	FRU	cs1000-cs-7.65.P.100-02.i386
45	p33125_1	Yes	01/08/14	NO	FRU	cs1000-OS-1.00.00.00-00.noarch
46	p33274_1	Yes	01/08/14	YES	FRU	initscripts-8.45.25-1.e15.i386
47	p33275_1	Yes	01/08/14	NO	FRU	cs1000-cs-7.65.P.100-02.i386
In System service updates: 29						
PATCH#	IN SERVICE	DATE	SPECINS	REMOVABLE	NAME	
1	Yes	01/08/14	YES	YES	cs1000-linuxbase-7.65.16.23-1.i386.000	
2	Yes	01/08/14	NO	YES	cs1000-Jboss-Quantum-7.65.16.22-8.i386.000	
3	Yes	27/12/13	YES	yes	tzdata-2013c-2.e15.i386.001	
4	Yes	01/08/14	YES	YES	cs1000-csoneksvrmgr-7.65.16.22-5.i386.000	
5	Yes	15/09/13	NO	YES	cs1000-pd-7.65.16.21-00.i386.000	
6	Yes	15/09/13	NO	YES	cs1000-shared-carrdtct-7.65.16.21-	
01.i386.000						
7	Yes	15/09/13	NO	YES	cs1000-shared-tpselect-7.65.16.21-	
01.i386.000						
8	Yes	15/09/13	NO	yes	cs1000-dbcam-7.65.16.21-00.i386.000	
9	Yes	01/08/14	YES	YES	cs1000-patchWeb-7.65.16.22-4.i386.000	
11	Yes	01/08/14	YES	YES	cs1000-dmWeb-7.65.16.22-6.i386.000	
12	Yes	01/08/14	YES	YES	cs1000-baseWeb-7.65.16.22-4.i386.000	
18	Yes	27/12/13	YES	YES	cs1000-cs-7.65.P.100-02.i386.000	
19	Yes	01/08/14	YES	YES	cs1000-oam-logging-7.65.16.22-4.i386.000	
23	Yes	26/09/13	NO	YES	cs1000-snmp-7.65.16.21-00.i686.000	
24	Yes	01/08/14	YES	YES	cs1000-csv-7.65.16.22-2.i386.000	
25	Yes	01/08/14	YES	YES	cs1000-tps-7.65.16.22-8.i386.000	
26	Yes	01/08/14	YES	YES	cs1000-mscTone-7.65.16.22-2.i386.000	
27	Yes	01/08/14	YES	YES	cs1000-mscMusc-7.65.16.22-4.i386.000	
29	Yes	27/12/13	NO	YES	cs1000-shared-omm-7.65.16.21-2.i386.000	
32	Yes	27/12/13	YES	YES	cs1000-ipsec-7.65.16.22-1.i386.000	
34	Yes	27/12/13	NO	YES	cs1000-cppmUtil-7.65.16.22-1.i686.000	
36	Yes	01/08/14	YES	YES	cs1000-mscConf-7.65.16.22-2.i386.000	
37	Yes	01/08/14	YES	YES	cs1000-mscAnn-7.65.16.22-2.i386.000	
38	Yes	01/08/14	YES	YES	cs1000-mscAttn-7.65.16.22-2.i386.000	
39	Yes	01/08/14	NO	YES	cs1000-gk-7.65.16.22-1.i386.000	
40	Yes	01/08/14	NO	YES	cs1000-sps-7.65.16.22-3.i386.000	
41	Yes	01/08/14	YES	YES	cs1000-shared-pbx-7.65.16.22-3.i386.000	
42	Yes	01/08/14	YES	YES	cs1000-shared-xmsg-7.65.16.22-1.i386.000	
43	Yes	01/08/14	YES	YES	cs1000-vtrk-7.65.16.22-50.i386.000	

## Avaya Communication Server 1000 Release 7.6 – Call Server Deplist and Patches

IN-SERVICE PEPS						
PAT#	CR #	PATCH REF #	NAME	DATE	FILENAME	SPECINS
0000	wi01109251	ISS1:1OF1	p32827_1	04/02/2015	p32827_1.cpl	NO
0001	wi01132215	ISS1:1OF1	p33084_1	04/02/2015	p33084_1.cpl	NO
0002	wi01118928	ISS1:1OF1	p32922_1	04/02/2015	p32922_1.cpl	NO
0003	wi01146705	ISS1:1OF1	p33129_1	04/02/2015	p33129_1.cpl	NO
0004	wi01177690	ISS1:1OF1	p33320_1	04/02/2015	p33320_1.cpl	YES
0005	wi01065922	ISS1:1OF1	p32516_1	04/02/2015	p32516_1.cpl	NO
0006	wi01059388	iss1:1of1	p32628_1	04/02/2015	p32628_1.cpl	NO
0007	wi01187059	ISS1:1OF1	p33346_1	04/02/2015	p33346_1.cpl	NO
0008	wi01057403	ISS1:1OF1	p32591_1	04/02/2015	p32591_1.cpl	NO
0009	wi01163521	ISS1:1OF1	p33226_1	04/02/2015	p33226_1.cpl	NO
0010	wi01190506	ISS1:1OF1	p33361_1	04/02/2015	p33361_1.cpl	NO
0011	wi01124477	ISS1:1OF1	p32963_1	04/02/2015	p32963_1.cpl	NO
0012	wi01119100	ISS1:1OF1	p32925_1	04/02/2015	p32925_1.cpl	NO
0013	wi01127527	ISS1:1OF1	p32988_1	04/02/2015	p32988_1.cpl	YES
0014	wi01135146	ISS1:1OF1	p33033_1	04/02/2015	p33033_1.cpl	NO
0015	wi01150846	ISS1:1OF1	p33157_1	04/02/2015	p33157_1.cpl	NO
0016	wi01101969	ISS1:1OF1	p32726_1	04/02/2015	p32726_1.cpl	NO
0017	wi01089807	ISS1:1OF1	p32957_1	04/02/2015	p32957_1.cpl	NO
0018	wi01146804	ISS1:1OF1	p33132_1	04/02/2015	p33132_1.cpl	NO
0019	wi01149017	ISS1:1OF1	p33145_1	04/02/2015	p33145_1.cpl	NO
0020	wi01115894	ISS1:1OF1	p32910_1	04/02/2015	p32910_1.cpl	NO
0021	wi01104473	ISS1:1OF1	p32818_1	04/02/2015	p32818_1.cpl	NO
0022	wi01167427	ISS1:1OF1	p33264_1	04/02/2015	p33264_1.cpl	NO
0023	wi01053195	ISS1:1OF1	p32297_1	04/02/2015	p32297_1.cpl	NO
0024	wi01127874	ISS1:1OF1	p25747_1	04/02/2015	p25747_1.cpl	NO
0025	wi01132902	ISS1:1OF1	p33028_1	04/02/2015	p33028_1.cpl	NO
0026	wi01185642	ISS1:1OF1	p33342_1	04/02/2015	p33342_1.cpl	NO
0027	wi01136640	ISS1:1OF1	p33052_1	04/02/2015	p33052_1.cpl	NO
0028	wi01101385	ISS1:1OF1	p32773_1	04/02/2015	p32773_1.cpl	YES
0029	wi01096718	ISS1:1OF1	p33138_1	04/02/2015	p33138_1.cpl	YES
0030	wi01068669	ISS1:1OF1	p32333_1	04/02/2015	p32333_1.cpl	NO
0031	wi01071659	ISS1:1OF1	p32589_1	04/02/2015	p32589_1.cpl	NO
0032	wi01123389	ISS1:1OF1	p33045_1	04/02/2015	p33045_1.cpl	NO
0033	wi01068922	ISS1:1OF1	p32454_1	04/02/2015	p32454_1.cpl	NO
0034	wi01138136	ISS1:1OF1	p33191_1	04/02/2015	p33191_1.cpl	NO
0035	wi01098905	ISS1:1OF1	p32556_1	04/02/2015	p32556_1.cpl	NO
0036	wi01181578	ISS1:1OF1	p33321_1	04/02/2015	p33321_1.cpl	NO
0037	wi01092300	ISS1:1OF1	p32692_1	04/02/2015	p32692_1.cpl	NO
0038	wi01134354	ISS1:1OF1	p33031_1	04/02/2015	p33031_1.cpl	NO
0039	wi01189516	ISS1:1OF1	p33373_1	04/02/2015	p33373_1.cpl	NO
0040	wi01081510	ISS1:1OF1	p32582_1	04/02/2015	p32582_1.cpl	NO
0041	WI11032038	ISS1:1OF1	p33022_1	04/02/2015	p33022_1.cpl	NO
0042	wi01093071	ISS1:1OF1	p32701_1	04/02/2015	p32701_1.cpl	NO
0043	wi01094305	ISS1:1OF1	p32640_1	04/02/2015	p32640_1.cpl	NO
0044	wi01071996	ISS1:1OF1	p32461_1	04/02/2015	p32461_1.cpl	NO
0045	wi01075353	ISS1:1OF1	p32613_1	04/02/2015	p32613_1.cpl	NO
0046	wi01188722	ISS1:1OF1	p33365_1	04/02/2015	p33365_1.cpl	NO
0047	wi01088797	ISS1:1OF1	p32844_1	04/02/2015	p32844_1.cpl	NO
0048	wi01132222	ISS1:1OF1	p33023_1	04/02/2015	p33023_1.cpl	NO
0049	wi01146543	ISS1:1OF1	p33097_1	04/02/2015	p33097_1.cpl	NO
0050	wi01127138	ISS1:1OF1	p33304_1	04/02/2015	p33304_1.cpl	NO

0051	wi01182050	ISS1:1OF1	p33322_1	04/02/2015	p33322_1.cpl	NO
0052	wi01089355	ISS1:1OF1	p32674_1	04/02/2015	p32674_1.cpl	YES
0053	wi01068751	ISS1:1OF1	p32445_1	04/02/2015	p32445_1.cpl	NO
0054	wi01072062	ISS1:1OF1	p32776_1	04/02/2015	p32776_1.cpl	NO
0055	wi01062607	ISS1:1OF1	p32503_1	04/02/2015	p32503_1.cpl	NO
0056	wi01147091	ISS1:1OF1	p33137_1	04/02/2015	p33137_1.cpl	NO
0057	WI01169289	ISS1:1OF1	p33257_1	04/02/2015	p33257_1.cpl	NO
0058	WI0110261	ISS1:1OF1	p32758_1	04/02/2015	p32758_1.cpl	NO
0059	wi01070756	ISS1:1OF1	p32444_1	04/02/2015	p32444_1.cpl	NO
0060	wi01098433	ISS1:1OF1	p32736_1	04/02/2015	p32736_1.cpl	NO
0061	wi01159931	ISS1:1OF1	p33231_1	04/02/2015	p33231_1.cpl	YES
0062	wi01122174	ISS1:1OF1	p32936_1	04/02/2015	p32936_1.cpl	NO
0063	wi01039280	ISS1:1OF1	p32423_1	04/02/2015	p32423_1.cpl	NO
0064	WI01121737	ISS1:1OF1	p32939_1	04/02/2015	p32939_1.cpl	NO
0065	wi01065118	ISS1:1OF1	p32397_1	04/02/2015	p32397_1.cpl	NO
0066	wi01163362	ISS1:1OF1	p33224_1	04/02/2015	p33224_1.cpl	YES
0067	wi01090535	ISS1:1OF1	p32519_1	04/02/2015	p32519_1.cpl	NO
0068	wi01157590	ISS1:1OF1	p33252_1	04/02/2015	p33252_1.cpl	NO
0069	wi01154253	ISS1:1OF1	p33206_1	04/02/2015	p33206_1.cpl	NO
0070	wi01142792	ISS1:1OF1	p33099_1	04/02/2015	p33099_1.cpl	NO
0071	wi01065125	ISS1:1OF1	p32416_1	04/02/2015	p32416_1.cpl	NO
0072	wi00937672	ISS1:1OF1	p31276_1	04/02/2015	p31276_1.cpl	NO
0073	wi01075540	ISS1:1OF1	p32492_1	04/02/2015	p32492_1.cpl	NO
0074	wi01053920	ISS1:1OF1	p32303_1	04/02/2015	p32303_1.cpl	NO
0075	wi01174622	ISS1:1OF1	p33293_1	04/02/2015	p33293_1.cpl	YES
0076	wi01177328	ISS1:1OF1	p33306_1	04/02/2015	p33306_1.cpl	NO
0077	wi01181174	ISS1:1OF1	p33316_1	04/02/2015	p33316_1.cpl	NO
0078	wi01130836	ISS1:1OF1	p33008_1	04/02/2015	p33008_1.cpl	YES
0079	wi01034961	ISS1:1OF1	p32144_1	04/02/2015	p32144_1.cpl	NO
0080	wi01187443	ISS1:1OF1	p33359_1	04/02/2015	p33359_1.cpl	NO
0081	wi01137737	ISS1:1OF1	p33055_1	04/02/2015	p33055_1.cpl	NO
0082	wi01151870	ISS1:1OF1	p33162_1	04/02/2015	p33162_1.cpl	YES
0083	wi01034307	ISS1:1OF1	p32615_1	04/02/2015	p32615_1.cpl	NO
0084	wi01185441	ISS1:1OF1	p33341_1	04/02/2015	p33341_1.cpl	NO
0085	wi01133985	ISS1:1OF1	p33049_1	04/02/2015	p33049_1.cpl	NO
0086	wi01119086	ISS1:1OF1	p32917_1	04/02/2015	p32917_1.cpl	NO
0087	wi01070473	ISS1:1OF1	p32413_1	04/02/2015	p32413_1.cpl	NO
0088	wi01082456	ISS1:1OF1	p32596_1	04/02/2015	p32596_1.cpl	NO
0089	wi01156999	ISS1:1OF1	p33180_1	04/02/2015	p33180_1.cpl	NO
0090	wi01099292	ISS1:1OF1	p32886_1	04/02/2015	p32886_1.cpl	NO
0091	wi01102296	ISS1:1OF1	p32780_1	04/02/2015	p32780_1.cpl	NO
0092	wi01166065	ISS1:1OF1	p33241_1	04/02/2015	p33241_1.cpl	NO
0093	wi01109345	ISS1:1OF1	p32830_1	04/02/2015	p32830_1.cpl	NO
0094	wi01111194	ISS1:1OF1	p32821_1	04/02/2015	p32821_1.cpl	NO
0095	wi01069441	ISS1:1OF1	p32097_1	04/02/2015	p32097_1.cpl	NO
0096	wi01088055	ISS1:1OF1	p32607_1	04/02/2015	p32607_1.cpl	NO
0097	wi01184272	ISS1:1OF1	p33336_1	04/02/2015	p33336_1.cpl	NO
0098	wi01075359	ISS1:1OF1	p32671_1	04/02/2015	p32671_1.cpl	NO
0099	wi01165881	ISS1:1OF1	p33239_1	04/02/2015	p33239_1.cpl	NO
0100	wi01137003	ISS1:1OF1	p33053_1	04/02/2015	p33053_1.cpl	NO
0101	wi01153104	ISS1:1OF1	p33174_1	04/02/2015	p33174_1.cpl	NO
0102	wi01146254	ISS1:1OF1	p33127_1	04/02/2015	p33127_1.cpl	NO
0103	wi01105888	ISS1:1OF1	p32794_1	04/02/2015	p32794_1.cpl	NO
0104	wi01058621	ISS1:1OF1	p32339_1	04/02/2015	p32339_1.cpl	NO
0105	wi01149384	ISS1:1OF1	p33147_1	04/02/2015	p33147_1.cpl	NO
0106	wi01043367	ISS1:1OF1	p32232_1	04/02/2015	p32232_1.cpl	NO
0107	wi00959458	ISS1:1OF1	p31551_1	04/02/2015	p31551_1.cpl	NO
0108	wi01146766	ISS1:1OF1	p33131_1	04/02/2015	p33131_1.cpl	NO
0109	wi01102093	ISS1:1OF1	p32760_1	04/02/2015	p32760_1.cpl	NO
0110	wi01132244	ISS1:1OF1	p33041_1	04/02/2015	p33041_1.cpl	NO
0111	wi01152195	ISS1:1OF1	p33163_1	04/02/2015	p33163_1.cpl	YES

0112	wi01114038	ISS1:1OF1	p32869_1	04/02/2015	p32869_1.cpl	NO
0113	wi01077639	ISS1:1OF1	p32883_1	04/02/2015	p32883_1.cpl	NO
0114	wi01188972	ISS1:1OF1	p33352_1	04/02/2015	p33352_1.cpl	NO
0115	wi01092443	ISS1:1OF1	p32676_1	04/02/2015	p32676_1.cpl	NO
0116	wi01075149	ISS1:1OF1	p32475_1	04/02/2015	p32475_1.cpl	NO
0117	wi01132883	ISS1:1OF1	p33030_1	04/02/2015	p33030_1.cpl	NO
0118	wi01181197	ISS1:1OF1	p33317_1	04/02/2015	p33317_1.cpl	NO
0119	wi01061481	ISS1:1OF1	p32382_1	04/02/2015	p32382_1.cpl	NO
0120	wi01045144	ISS1:1OF1	p33202_1	04/02/2015	p33202_1.cpl	NO
0121	WI01077073	ISS1:1OF1	p32534_1	04/02/2015	p32534_1.cpl	NO
0122	wi01035976	ISS1:1OF1	p32173_1	04/02/2015	p32173_1.cpl	NO
0123	wi01119736	ISS1:1OF1	p33094_1	04/02/2015	p33094_1.cpl	NO
0124	wi01075538	ISS1:1OF1	p32469_1	04/02/2015	p32469_1.cpl	NO
0125	wi01175294	ISS1:1OF1	p33290_1	04/02/2015	p33290_1.cpl	NO
0126	wi01145002	ISS1:1OF1	p33186_1	04/02/2015	p33186_1.cpl	NO
0127	wi01184588	ISS1:1OF1	p33338_1	04/02/2015	p33338_1.cpl	NO
0128	wi01075355	ISS1:1OF1	p32594_1	04/02/2015	p32594_1.cpl	NO
0129	wi01128596	ISS1:1OF1	p33000_1	04/02/2015	p33000_1.cpl	NO
0130	wi01060382	iss1:1of1	p32623_1	04/02/2015	p32623_1.cpl	YES
0131	wi01160967	ISS1:1OF1	p33213_1	04/02/2015	p33213_1.cpl	NO
0132	wi01096712	ISS1:1OF1	p32708_1	04/02/2015	p32708_1.cpl	NO
0133	wi01166011	ISS1:1OF1	p33235_1	04/02/2015	p33235_1.cpl	NO
0134	wi01087543	ISS1:1OF1	p32662_1	04/02/2015	p32662_1.cpl	NO
0135	wi01008182	ISS1:1OF1	p33277_1	04/02/2015	p33277_1.cpl	NO
0136	wi01104867	ISS1:1OF1	p32828_1	04/02/2015	p32828_1.cpl	NO
0137	wi01153039	ISS1:1OF1	p17588_1	04/02/2015	p17588_1.cpl	NO
0138	wi01063263	ISS1:1OF1	p32573_1	04/02/2015	p32573_1.cpl	NO
0139	wi01126454	ISS1:1OF1	p32973_1	04/02/2015	p32973_1.cpl	NO
0140	wi01139981	ISS1:1OF1	p33083_1	04/02/2015	p33083_1.cpl	NO
0141	wi01170583	ISS1:1OF1	p33261_1	04/02/2015	p33261_1.cpl	NO
0142	wi01088775	ISS1:1OF1	p32659_1	04/02/2015	p32659_1.cpl	NO
0143	wi01181854	ISS1:1OF1	p33323_1	04/02/2015	p33323_1.cpl	NO
0144	wi01181423	ISS1:1OF1	p33318_1	04/02/2015	p33318_1.cpl	NO
0145	wi01191767	ISS1:1OF1	p33368_1	04/02/2015	p33368_1.cpl	NO
0146	wi01000087	ISS1:1OF1	p32014_1	04/02/2015	p32014_1.cpl	NO
0147	wi01091447	ISS1:1OF1	p32675_1	04/02/2015	p32675_1.cpl	NO
0148	wi01134952	ISS1:1OF1	p33039_1	04/02/2015	p33039_1.cpl	NO
0149	wi01129028	ISS1:1OF1	p33016_1	04/02/2015	p33016_1.cpl	NO
0150	wi01186846	ISS1:1OF1	p33332_1	04/02/2015	p33332_1.cpl	NO
0151	wi01070465	iss1:1of1	p32562_1	04/02/2015	p32562_1.cpl	NO
0152	wi01134799	ISS1:1OF1	p33069_1	04/02/2015	p33069_1.cpl	NO
0153	wi01102475	ISS1:1OF1	p32782_1	04/02/2015	p32782_1.cpl	YES
0154	wi01051200	ISS1:1OF1	p32290_1	04/02/2015	p32290_1.cpl	NO
0155	wi01153844	ISS1:1OF1	p33172_1	04/02/2015	p33172_1.cpl	NO
0156	wi01183783	ISS1:1OF1	p33333_1	04/02/2015	p33333_1.cpl	NO
0157	wi01064599	iss1:1of1	p32580_1	04/02/2015	p32580_1.cpl	NO
0158	wi01053597	ISS1:1OF1	p32304_1	04/02/2015	p32304_1.cpl	NO
0159	wi01070468	iss1:1of1	p32418_1	04/02/2015	p32418_1.cpl	NO
0160	wi01124074	ISS1:1OF1	p32989_1	04/02/2015	p32989_1.cpl	NO
0161	wi01154485	ISS1:1OF1	p33194_1	04/02/2015	p33194_1.cpl	NO
0162	wi01060241	ISS1:1OF1	p32381_1	04/02/2015	p32381_1.cpl	NO
0163	wi01101876	ISS1:1OF1	p32858_1	04/02/2015	p32858_1.cpl	NO
0164	wi01099810	ISS1:1OF1	p32796_1	04/02/2015	p32796_1.cpl	NO
0165	wi01134602	ISS1:1OF1	p32398_1	04/02/2015	p32398_1.cpl	NO
0166	wi01104627	ISS1:1OF1	p32819_1	04/02/2015	p32819_1.cpl	NO
0167	wi01147983	ISS1:1OF1	p33141_1	04/02/2015	p33141_1.cpl	NO
0168	wi01120458	ISS1:1OF1	p32929_1	04/02/2015	p32929_1.cpl	NO
0169	wi01126552	ISS1:1OF1	p32975_1	04/02/2015	p32975_1.cpl	NO
0170	wi01070580	ISS1:1OF1	p32380_1	04/02/2015	p32380_1.cpl	NO
0171	wi01097598	ISS1:1OF1	p32797_1	04/02/2015	p32797_1.cpl	NO
0172	wi01141625	ISS1:1OF1	p33324_1	04/02/2015	p33324_1.cpl	NO

0173	wi01163048	ISS1:1OF1	p33223_1	04/02/2015	p33223_1.cpl	YES
0174	wi01133960	ISS1:1OF1	p33034_1	04/02/2015	p33034_1.cpl	NO
0175	wi01189703	ISS1:1OF1	p33357_1	04/02/2015	p33357_1.cpl	NO
0176	wi01156086	ISS1:1OF1	p33269_1	04/02/2015	p33269_1.cpl	NO
0177	wi01070279	ISS1:1OF1	p32262_1	04/02/2015	p32262_1.cpl	NO
0178	wi01189247	ISS1:1OF1	p33382_1	04/02/2015	p33382_1.cpl	YES
0179	wi01112655	ISS1:1OF1	p32870_1	04/02/2015	p32870_1.cpl	NO
0180	wi01095255	ISS1:1OF1	p33027_1	04/02/2015	p33027_1.cpl	NO
0181	wi01099724	ISS1:1OF1	p32742_1	04/02/2015	p32742_1.cpl	YES
0182	wi01083896	ISS1:1OF1	p32937_1	04/02/2015	p32937_1.cpl	NO
0183	wi01193201	ISS1:1OF1	p33381_1	04/02/2015	p33381_1.cpl	YES
0184	wi00897254	ISS1:1OF1	p31127_1	04/02/2015	p31127_1.cpl	NO
0185	wi01130815	ISS1:1OF1	p33017_1	04/02/2015	p33017_1.cpl	NO
0186	wi01150083	ISS1:1OF1	p33152_1	04/02/2015	p33152_1.cpl	NO
0187	wi01104410	ISS1:1OF1	p32801_1	04/02/2015	p32801_1.cpl	NO
0188	wi01096967	ISS1:1OF1	p32735_1	04/02/2015	p32735_1.cpl	NO
0189	wi01136194	ISS1:1OF1	p33051_1	04/02/2015	p33051_1.cpl	NO
0190	wi01096907	ISS1:1OF1	p32733_1	04/02/2015	p32733_1.cpl	NO
0191	wi01089519	ISS1:1OF1	p32665_1	04/02/2015	p32665_1.cpl	NO
0192	wi01181456	ISS1:1OF1	p33319_1	04/02/2015	p33319_1.cpl	NO
0193	wi01144609	ISS1:1OF1	p33119_1	04/02/2015	p33119_1.cpl	NO
0194	wi01094727	ISS1:1OF1	p32848_1	04/02/2015	p32848_1.cpl	NO
0195	wi01106658	ISS1:1OF1	p32812_1	04/02/2015	p32812_1.cpl	NO
0196	wi01164281	ISS1:1OF1	p33232_1	04/02/2015	p33232_1.cpl	NO
0197	wi01058378	ISS1:1OF1	p32344_1	04/02/2015	p32344_1.cpl	NO
0198	wi01120705	ISS1:1OF1	p32930_1	04/02/2015	p32930_1.cpl	NO
0199	wi01021522	ISS1:1OF1	p32863_1	04/02/2015	p32863_1.cpl	NO
0200	wi01127640	ISS1:1OF1	p32992_1	04/02/2015	p32992_1.cpl	NO
0201	wi01083036	ISS1:1OF1	p32571_1	04/02/2015	p32571_1.cpl	NO
0202	wi01144354	ISS1:1OF1	p33117_1	04/02/2015	p33117_1.cpl	NO
0203	wi01118320	ISS1:1OF1	p32753_1	04/02/2015	p32753_1.cpl	NO
0204	wi01118714	ISS2:1OF1	p32952_2	04/02/2015	p32952_2.cpl	NO
0205	wi01060611	ISS1:1OF1	p32809_1	04/02/2015	p32809_1.cpl	NO
0206	wi01025156	ISS1:1OF1	p32136_1	04/02/2015	p32136_1.cpl	NO
0207	wi01073725	ISS1:1OF1	p32552_1	04/02/2015	p32552_1.cpl	NO
0208	wi01113374	ISS1:1OF1	p32874_1	04/02/2015	p32874_1.cpl	NO
0209	wi01088915	ISS1:1OF1	p32638_1	04/02/2015	p32638_1.cpl	NO
0210	wi01071379	ISS1:1OF1	p32522_1	04/02/2015	p32522_1.cpl	NO
0211	wi01186244	ISS1:1OF1	p33345_1	04/02/2015	p33345_1.cpl	NO
0212	wi01079444	ISS1:1OF1	p32564_1	04/02/2015	p32564_1.cpl	NO
0213	wi01150771	ISS1:1OF1	p33210_1	04/02/2015	p33210_1.cpl	NO
0214	wi01096842	ISS1:1OF1	p32731_1	04/02/2015	p32731_1.cpl	NO
0215	wi01178476	ISS1:1OF1	p33305_1	04/02/2015	p33305_1.cpl	NO
0216	wi01110593	ISS1:1OF1	p32849_1	04/02/2015	p32849_1.cpl	NO
0217	wi01053950	ISS1:1OF1	p32654_1	04/02/2015	p32654_1.cpl	YES
0218	wi01137694	ISS1:1OF1	p33081_1	04/02/2015	p33081_1.cpl	NO
0219	wi01169714	ISS1:1OF1	p33335_1	04/02/2015	p33335_1.cpl	NO
0220	wi01121374	ISS1:1OF1	p31107_1	04/02/2015	p31107_1.cpl	NO
0221	wi01080753	ISS1:1OF1	p32518_1	04/02/2015	p32518_1.cpl	NO
0222	wi01070585	ISS1:1OF1	p32383_1	04/02/2015	p32383_1.cpl	NO
0223	wi01052428	ISS1:1OF1	p32606_1	04/02/2015	p32606_1.cpl	NO
0224	wi01143987	ISS1:1OF1	p33134_1	04/02/2015	p33134_1.cpl	NO
0225	wi01096910	ISS1:1OF1	p32734_1	04/02/2015	p32734_1.cpl	NO
0226	wi01129098	ISS1:1OF1	p32951_1	04/02/2015	p32951_1.cpl	NO
0227	wi01071296	ISS1:1OF1	p32836_1	04/02/2015	p32836_1.cpl	NO
0228	wi01165461	ISS1:1OF1	p33237_1	04/02/2015	p33237_1.cpl	NO
0229	wi01066991	ISS1:1OF1	p32449_1	04/02/2015	p32449_1.cpl	NO
0230	wi01085855	ISS1:1OF1	p32658_1	04/02/2015	p32658_1.cpl	NO
0231	wi01177614	ISS1:1OF1	p33303_1	04/02/2015	p33303_1.cpl	NO
0232	wi01095462	ISS1:1OF1	p32723_1	04/02/2015	p32723_1.cpl	NO
0233	wi01151898	ISS1:1OF1	p33175_1	04/02/2015	p33175_1.cpl	NO

0234	wi01098783	ISS1:1OF1	p32748_1	04/02/2015	p32748_1.cpl	NO
0235	wi01060826	ISS1:1OF1	p32379_1	04/02/2015	p32379_1.cpl	NO
0236	wi01146289	ISS1:1OF1	p33146_1	04/02/2015	p33146_1.cpl	NO
0237	wi01136429	ISS1:1OF1	p33037_1	04/02/2015	p33037_1.cpl	NO
0238	wi01102091	ISS1:1OF1	p32744_1	04/02/2015	p32744_1.cpl	YES
0239	wi01163826	ISS1:1OF1	p33229_1	04/02/2015	p33229_1.cpl	NO
0240	wi01118819	ISS1:1OF1	p32954_1	04/02/2015	p32954_1.cpl	NO
0241	wi01087528	ISS1:1OF1	p32700_1	04/02/2015	p32700_1.cpl	NO
0242	wi01114695	ISS1:1OF1	p32885_1	04/02/2015	p32885_1.cpl	NO
0243	wi01072027	ISS1:1OF1	p32689_1	04/02/2015	p32689_1.cpl	NO
0244	wi01041453	ISS1:1OF1	p32587_1	04/02/2015	p32587_1.cpl	NO
0245	wi01094832	iss1:1of1	p32718_1	04/02/2015	p32718_1.cpl	NO
0246	wi01045058	ISS1:1OF1	p32214_1	04/02/2015	p32214_1.cpl	NO
0247	wi01093118	ISS1:1OF1	p32496_1	04/02/2015	p32496_1.cpl	NO
0248	wi01099300	iss1:1of1	p32704_1	04/02/2015	p32704_1.cpl	NO
0249	wi01125238	ISS1:1OF1	p32971_1	04/02/2015	p32971_1.cpl	NO
0250	wi01120406	ISS1:1OF1	p32956_1	04/02/2015	p32956_1.cpl	NO
0251	wi01148697	ISS1:1OF1	p33187_1	04/02/2015	p33187_1.cpl	NO
0252	wi01053314	ISS1:1OF1	p32555_1	04/02/2015	p32555_1.cpl	NO
0253	wi01119312	ISS1:1OF1	p32919_1	04/02/2015	p32919_1.cpl	NO
0254	wi01052968	ISS1:1OF1	p32540_1	04/02/2015	p32540_1.cpl	NO
0255	wi01100508	ISS1:1OF1	p32761_1	04/02/2015	p32761_1.cpl	NO
0256	wi01099606	iss1:1of1	p32713_1	04/02/2015	p32713_1.cpl	NO
0257	wi01182880	ISS1:1OF1	p33328_1	04/02/2015	p33328_1.cpl	NO
0258	wi01153896	ISS1:1OF1	p33185_1	04/02/2015	p33185_1.cpl	NO
0259	wi01132204	ISS1:1OF1	p32501_1	04/02/2015	p32501_1.cpl	NO
0260	wi01063864	ISS1:1OF1	p32410_1	04/02/2015	p32410_1.cpl	YES
0261	wi01171418	ISS1:1OF1	p33278_1	04/02/2015	p33278_1.cpl	NO
0262	wi01068011	ISS1:1OF1	p33182_1	04/02/2015	p33182_1.cpl	NO
0263	wi01181171	ISS1:1OF1	p33315_1	04/02/2015	p33315_1.cpl	NO
0264	wi01068851	ISS1:1OF1	p32439_1	04/02/2015	p32439_1.cpl	NO
0265	wi01133106	ISS1:1OF1	p33032_1	04/02/2015	p33032_1.cpl	NO
0266	wi01078721	ISS1:1OF1	p32553_1	04/02/2015	p32553_1.cpl	NO
0267	wi01173768	ISS1:1OF1	p33288_1	04/02/2015	p33288_1.cpl	NO
0268	wi01076948	ISS1:1OF1	p32526_1	04/02/2015	p32526_1.cpl	YES
0269	wi01182523	ISS1:1OF1	p33327_1	04/02/2015	p33327_1.cpl	NO
0270	wi01035980	ISS1:1OF1	p32558_1	04/02/2015	p32558_1.cpl	NO
0271	wi01165870	ISS1:1OF1	p33238_1	04/02/2015	p33238_1.cpl	NO
0272	wi01180594	ISS1:1OF1	p33312_1	04/02/2015	p33312_1.cpl	NO
0273	WI01108562	ISS1:1OF1	p32832_1	04/02/2015	p32832_1.cpl	NO
0274	wi01107601	ISS1:1OF1	p32970_1	04/02/2015	p32970_1.cpl	NO
0275	wi01108828	ISS1:1OF1	p32831_1	04/02/2015	p32831_1.cpl	NO
0276	wi01171467	ISS1:1OF1	p33270_1	04/02/2015	p33270_1.cpl	NO
0277	wi01115369	ISS1:1OF1	p32889_1	04/02/2015	p32889_1.cpl	NO
0278	wi01056633	ISS1:1OF1	p32322_1	04/02/2015	p32322_1.cpl	NO
0279	wi01022598	ISS1:1OF1	p32066_1	04/02/2015	p32066_1.cpl	NO
0280	wi01108262	ISS1:1OF1	p32865_1	04/02/2015	p32865_1.cpl	YES
0281	wi01065248	ISS1:1OF1	p32412_1	04/02/2015	p32412_1.cpl	NO
0282	wi01130348	ISS1:1OF1	p33014_1	04/02/2015	p33014_1.cpl	NO
0283	wi01128512	ISS1:1OF1	p32997_1	04/02/2015	p32997_1.cpl	NO
0284	wi01173798	ISS1:1OF1	p33285_1	04/02/2015	p33285_1.cpl	NO
0285	wi01127447	ISS1:1OF1	p32990_1	04/02/2015	p32990_1.cpl	NO
0286	wi01184446	ISS1:1OF1	p33337_1	04/02/2015	p33337_1.cpl	YES
0287	wi01174116	ISS1:1OF1	p33287_1	04/02/2015	p33287_1.cpl	NO
0288	wi01142100	ISS1:1OF1	p33090_1	04/02/2015	p33090_1.cpl	NO
0289	wi01132599	ISS1:1OF1	p33025_1	04/02/2015	p33025_1.cpl	NO

MDP>LAST SUCCESSFUL MDP REFRESH : 2015-02-04 16:26:42 (Local Time)  
MDP>USING DEPLIST ZIP FILE DOWNLOADED : 2014-12-18 15:26:27 (est)

## D-Channel for SIP Trunks

```
> ld 22
REQ  prt
TYPE adan dch 101

ADAN      DCH 101
CTYP DCIP
DES  XO
USR  ISLD
ISLM 4000
SSRC 3700
OTBF 32
NASA YES
IFC  SL1
CNEG 1
RLS  ID 25
RCAP ND2 MWI
MBGA NO
H323
OVLR NO
OVLS NO
```

## Route Data Block for SIP calls

```
>ld 21
REQ: prt
TYPE: rdb
CUST 1
ROUT 101

TYPE RDB
CUST 01
ROUT 101
DES SIptrk
TKTP TIE
M911P NO
ESN NO
RPA NO
CNVT NO
SAT NO
RCLS EXT
VTRK YES
ZONE 00255
PCID SIP
CRID NO
SBWM NO
NODE 2001
DTRK NO
ISDN YES
    MODE ISLD
    DCH 101
    IFC SL1
    PNI 00101
    NCNA YES
    NCRD YES
    TRO NO
    FALT NO
    CTYP UKWN
```

```
INAC YES
ISAR NO
DAPC NO
MBXR NO
MBXOT NPA
MBXT 0
PTYP ATT
CNDP UKWN
AUTO NO
DNIS NO
DCDR NO
ICOG IAO
SRCH LIN
TRMB YES
STEP
ACOD 8101
TCPP NO
PII NO
AUXP NO
TARG 01
CLEN 10
BILN NO
OABS
INST
IDC YES
DCNO 0
NDNO 0 *
DEXT NO
DNAM NO
ANTK
SIGO STD
STYP SDAT
MFC NO
ICIS YES
OGIS YES
```

PAGE 002

```
PTUT 0
TIMR ICF 512
OGF 512
EOD 13952
DSI 34944
NRD 10112
DDL 70
ODT 4096
RGV 640
GTO 896
GTI 896
SFB 3
NBS 2048
NBL 4096

IENB 5
TFD 0
VSS 0
VGD 6
EESD 1024
SST 5 0
DTD NO
```

```
SCDT NO
2 DT NO
NEDC ORG
FEDC ORG
CPDC NO
DLTN NO
HOLD 02 02 40
SEIZ 02 02
SVFL 02 02
DRNG NO
CDR NO
NATL YES
SSL
CFWR NO
IDOP NO
VRAT NO
MUS YES
MRT 51
PANS YES
MANO NO
FRL 0 0
FRL 1 0
FRL 2 0
FRL 3 0
FRL 4 0
FRL 5 0
FRL 6 0
FRL 7 0
OHQ NO
OHQT 00
CBQ NO
AUTH NO
TDET NO
TTBL 0
ATAN NO
OHTD NO
PLEV 2
OPR NO
ALRM NO
ART 0
PAGE 003
PECL NO
DCTI 0
TIDY 8101 101
ATTR NO
TRRL NO
SGRP 0
CCBA NO
ARDN NO
CTBL 0
AACR NO
```

## Trunk channels for SIP Route.

```
>ld 20
REQ: prt
TYPE: tn
TYPE TNB
TN 100 0 1 0

DES IP_Trk
TN 100 0 01 00 VIRTUAL
TYPE IPTI
CDEN 8D
CUST 1
XTRK VTRK
ZONE 00255
LDOP BOP
TIMP 600
BIMP 600
AUTO_BIMP NO
NMUS NO
TRK ANLG
NCOS 0
RTMB 101 1
CHID 1
TGAR 1
STRI/STRO IMM IMM
SUPN YES
AST NO
IAPG 0
CLS UNR DTN CND ECD WTA LPR APN THFD XREP SPCD MSNV
          P10 NTC MID
TKID
AACR NO
DATE NO DATE
```

---

**©2015 Avaya Inc. All Rights Reserved.**

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

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](mailto:devconnect@avaya.com).