



Avaya Solution & Interoperability Test Lab

Application Notes for configuring Enghouse Interactive Communications Portal 9.0 with Avaya Aura® Session Manager R6.3 and Avaya Communication Server 1000E R7.6 - Issue 1.0

Abstract

These Application Notes describe the configuration steps for Enghouse Interactive Communications Portal 9.0 to successfully interoperate with Avaya Aura® Session Manager R6.3 and Avaya Communication Server 1000E R7.6. Communications Portal is an IVR application that connects to Session Manager as a SIP Entity.

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 for Enghouse Interactive Communications Portal 9.0 to successfully interoperate with Avaya Aura® Session Manager R6.3 and Avaya Communication Server 1000E R7.6 (CS1000E).

Enghouse Interactive Communications Portal (formerly Syntellect Communications Portal) is an open, standards-based platform with integrated application development and management components.

- Voice self-service solutions, such as interactive voice response (IVR), interactive voice and video response (IVVR), outbound dialing, and speech-enabled self-service systems.
- SMS, email, standards-based voice mail.
- Contact center solutions, including outbound dialing, intelligent routing applications and screen pop applications.
- Unified communications solutions, including standards-based voice-mail systems and applications that combine traditional voice, IP telephony, video messaging, SMS, email, and fax communication.

2. General Test Approach and Test Results

The IVR application telephony functionality of Communications Portal 9.0 (CP) was the only one tested. This IVR application (CP script) connects to Session Manager as a SIP Trunk entity and can be integrated with the CS1000E by passing SIP calls to and from the PBX. Session Manager directs the call over SIP trunks to the CP scripts which in turn handles the call depending on the digits dialed using SIP signaling. Communications Portal utilizes Dialogic HMP 3.0 driver to perform all telephony functions on the server. The Dialogic Host Media Processing (HMP) software 3.0 facilitates the Communications Portal connectivity to Session Manager.

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 both feature functionality and serviceability testing. The feature functionality testing focused on placing various calls to the Communications Portal IVR:

- **Basic Inbound/Outbound** – Tests inbound calls to Enghouse Interactive Communications Portal.
- **Call Hold** – Tests held calls to/from Enghouse Interactive Communications Portal.
- **Call Transfer** – Tests transferred calls to/from Enghouse Interactive Communications Portal.
- **IVR Functionality** – Tests of various IVR features like ANI/DNIS detection, leaving voice message/voice mail (Recording), DTMF collection, Barge-in and Trombone Referral on the Enghouse Interactive Communications Portal.
- **Failover/Service** – Tests the behaviour of Enghouse Interactive Communications Portal in certain failed conditions.

The serviceability testing focused on verifying the ability of Communications Portal to recover from disconnection and reconnection to the Avaya solution.

2.2. Test Results

All functionality and serviceability test cases were completed successfully.

2.3. Support

Technical support can be obtained for Enghouse Interactive as follows:

USA

- Email: scpsupport@enghouse.com
- Website: <http://enghouseinteractive.com/support.php>
- Phone: +1 800.788.9730 Self-Service
- Phone: +1 800.872.2272 Live-Service

EMEA

- Email: supportenvox@syntellect.com
- Website: http://enghouseinteractive.co.uk/support/contact_support/
- Phone: +44 203 357 3001

3. Reference Configuration

The configuration in **Figure 1** was used to compliance test Enghouse Interactive Communications Portal 9.0 with Session Manager and CS1000E using SIP signalling over SIP trunks to route calls from CS1000E to Communications Portal 9.0.

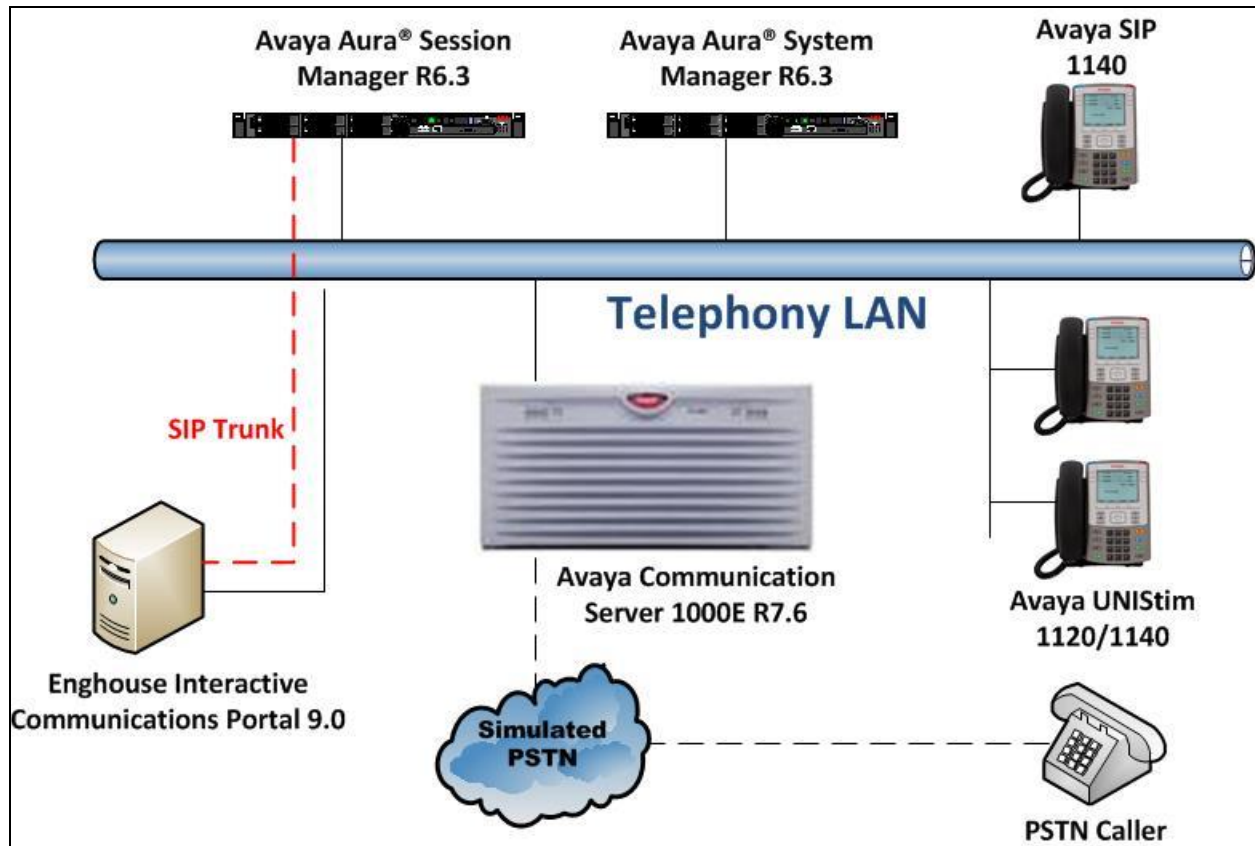


Figure 1: Connection of Enghouse Interactive Communications Portal 9.0 with Avaya Aura® Session Manager R6.3 and Avaya Communication Server 1000E R7.6

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® System Manager running on a Virtual Platform	R6.3 SP3 Build 6.3.0.8.5682-6.3.8.2651 Software Update Revision 6.3.4.4.1904
Avaya Aura® Session Manager running on a Virtual Platform	R6.3 SP4 6.3.4.0.634014
Avaya Communication Server 1000E running on an Avaya CPPM card	R7.6 (See appendix for list of Patches)
Avaya 1120E UNISTim Deskphone Avaya 1140E UNISTim Deskphone	0624C8Q 0625C8Q
Avaya 1140E SIP Deskphone	04.03.12.00
Enghouse Interactive Communications Portal running on Windows 2012 Server Dialogic HMP Driver	Communications Portal 9.0 PRC2 Dialogic HMP 3.0 SU347

5. Configuration of Avaya Communication Server 1000E

The configuration operations illustrated in this section were performed using terminal access to the CS1000E using PuTTY. It is assumed a fully working CS1000E is in place with the necessary licensing. For all other provisioning information, such as Administering Avaya CS1000E, refer to product documentation in **Section 11** of these Application Notes.

Note: The configuration of PSTN trunks and routes are outside the scope of these Application Notes.

Note: Not all prompts need an answer. The prompts outlined below are mandatory for a basic configuration. Accept the default responses for all other prompts by pressing the Return key.

Note: A full printout of the SIP D-Channel, Route and Trunk information used for the compliance testing is included in the **Appendix B** of these Application Notes.

5.1. Verify Licences

To ensure the CS1000E is licensed for SIP use **LD 22** and type **SLT** at the **REQ** prompt. Check for **SIP ACCESS PORTS** (in bold below).

Prompt	Response	Description
>	LD 22	Enter Overlay 22
REQ	SLT	
System type is - Communication Server 1000E/CPPM Linux		
CPPM - Pentium M 1.4 GHz		
IPMGs Registered:	1	
IPMGs Unregistered:	0	
IPMGs Configured/unregistered:	0	
TRADITIONAL TELEPHONES	2000	LEFT 1992 USED 8
DECT USERS	2000	LEFT 2000 USED 0
IP USERS	4000	LEFT 3978 USED 22
BASIC IP USERS	2000	LEFT 1998 USED 2
TEMPORARY IP USERS	2000	LEFT 2000 USED 0
DECT VISITOR USER	2000	LEFT 2000 USED 0
ACD AGENTS	2000	LEFT 1995 USED 5
MOBILE EXTENSIONS	2000	LEFT 2000 USED 0
TELEPHONY SERVICES	2000	LEFT 2000 USED 0
CONVERGED MOBILE USERS	2000	LEFT 2000 USED 0
AVAYA SIP LINES	2000	LEFT 1997 USED 3
THIRD PARTY SIP LINES	2000	LEFT 1998 USED 2
PCA	2000	LEFT 2000 USED 0
ITG ISDN TRUNKS	2000	LEFT 2000 USED 0
H.323 ACCESS PORTS	2000	LEFT 1990 USED 10
AST	2000	LEFT 1981 USED 19
SIP CONVERGED DESKTOPS	2000	LEFT 2000 USED 0
SIP CTI TR87	2000	LEFT 1992 USED 8
SIP ACCESS PORTS	2000	LEFT 1970 USED 30
RAN CON	2000	LEFT 2000 USED 0
MUS CON	2000	LEFT 2000 USED 0

5.2. Configuring SIP connection on Avaya Communication Server 1000E

To configure the SIP connection there are a number of steps.

- Create a D-channel for the SIP trunk
- Create Route Data Block
- Add TIE Trunks

5.2.1. Create D-Channel

Use the **CHG** command in **LD 17** to create a D-channel for the SIP connection. In the example below, D-Channel 66 (i.e. **DCH 66**) was created. At the **CTYP** prompt, enter **DCIP**. This signifies the SIP D-Channel.

LD 17

Prompt	Response	Description
>	LD 17	Enter Overlay 17
REQ	CHG	Change
TYPE	ADAN	Change the Action Device and Number
ADAN	NEW	Create New Action Device and Number
TYPE	DCH 1	Create new D-Channel 1
CTYP	DCIP	Card type is IP D-Channel
USR	ISDL	Integrated Services Digital Line
IFC	SL1	D-Channel interface type

5.2.2. Create Route Data Block

Use the **NEW** command in **LD 16** to create a Route Data Block. The route created is a **TIE** route which connects between the CS1000E and Session Manager. Ensure **VTRK** is set to **YES** and **PCID** is **SIP**. Ensure that the other values highlighted are configured correctly. A complete printout of all prompts can be found in **Appendix B** of these Application Notes.

LD 16

Prompt	Response	Description
>	LD 16	Enter Overlay 16
REQ	NEW	Create new
TYPE	RDB	Route Data block
CUST	0	Customer Number as defined in LD15
ROUT	22	Route Number
TKTP	TIE	Route Type
VTRK	YES	Virtual Route
PCID	SIP	Protocol ID for route
NODE	111	Node number of the CS1000E (as per Section 6)
DTRK	NO	Digital Trunk Route
ISDN	YES	Integrated Services Digital Network
MODE	ISDL	mode of operation
IFC	SL1	Interface type
ACOD	8022	Access Code for trunk route

5.2.3. Adding TIE Trunks

Use the **NEW** command in **LD 14** to add (**IPTI**) **TIE** trunks to the new route created in **Section 5.2.2**. If adding multiple trunks for each route, use **NEW XX**, where **XX** is the number of trunks. In the example below **10** trunks were added.

LD 14

Prompt	Response	Description
>	LD 14	Enter Overlay 14
REQ	NEW 10	Create 10 New Trunks
TYPE	IPTI	IP TIE trunk
TN	100 0 3 0	Loop Shelf Card Unit
CUST	0	Customer Number as defined in LD15
RTMB	22 1	Route number and Member number

5.3. Configure Coordinated Dialing Plan

A Coordinated Dialing Plan (CDP) is necessary to route the calls. During compliance testing 4300 was assigned to the Communication Portal and so when a caller dials 4300 that call will be routed according to the CDP. In order to setup a CDP both a route list index and a CDP are added.

5.3.1. Create Route List Index

Use the **NEW** command in **LD 86** to create a **RLI**. Enter the route (**ROUT**) that was created in **Section 5.2.2**.

LD 86

Prompt	Response	Description
> LD 86	Enter Overlay 86	
REQ	NEW	Create New
CUST	0	Customer Number as defined in LD15
FEAT	RLB	Route list Block
TYPE	RLI	Route list Index
RLI	22	Route list Index number
ENTR	0	First entry for the RLI
ROUT	22	Enter the route number

5.3.2. Create CDP

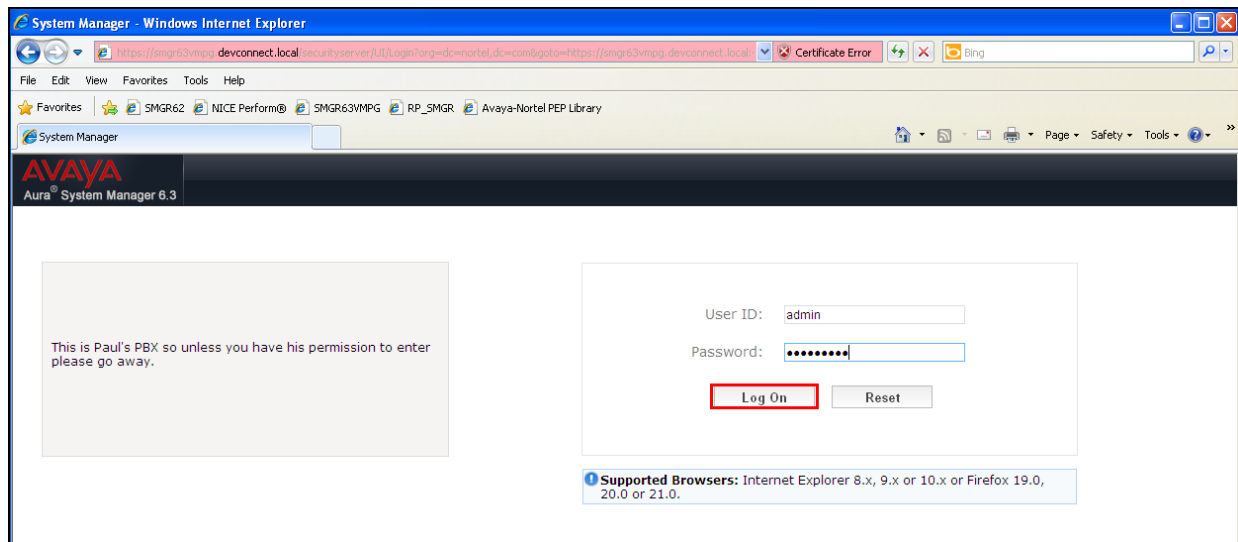
Use the **NEW** command in **LD 87** to create a **CDP** entry. For each extension, a CDP entry needs to be created. In the example below, the **DSC** is **4300**, **FLEN** is **4** and the **RLI** is **22**. The RLI number used is the one created in **Section 5.3.1**.

LD 87

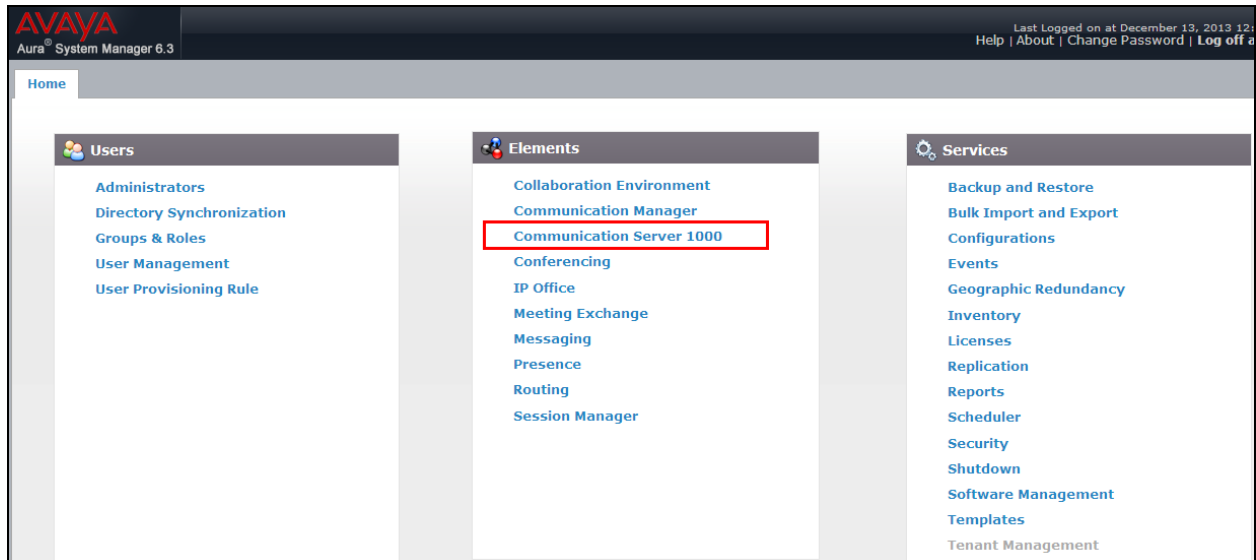
Prompt	Response	Description
>	LD 87	Enter Overlay 87
REQ	NEW	Create new
CUST	0	Customer Number as defined in LD15
FEAT	CDP	Coordinated dialing plan
TYPE	DSC	Distance Steering code
DSC	4300	Distant Steering code
FLEN	4	Flexible Length number of digits
RLI	22	Route list index Number

6. Configure Avaya Communication Server 1000E SIP Gateway

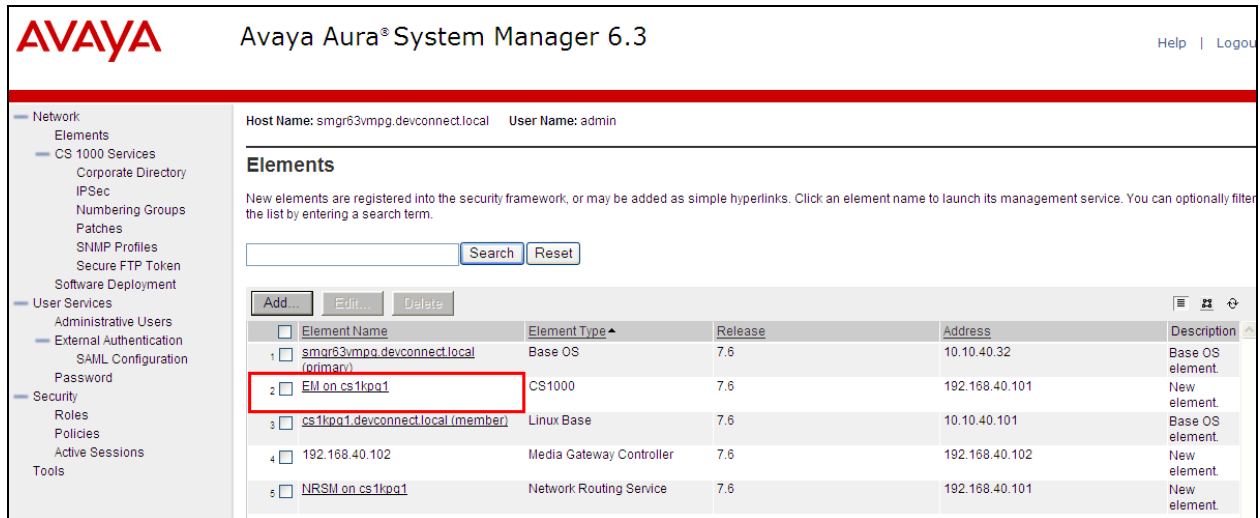
Access to the CS1000E SIP Gateway is achieved by logging into System Manager using a Web Browser by entering **http://<FQDN>/SMGR**, where <FQDN> is the fully qualified domain name of System Manager or **http://<IP Address>/SMGR**. Log in using appropriate credentials.



Once logged in, click on **Communication Server 1000** as highlighted



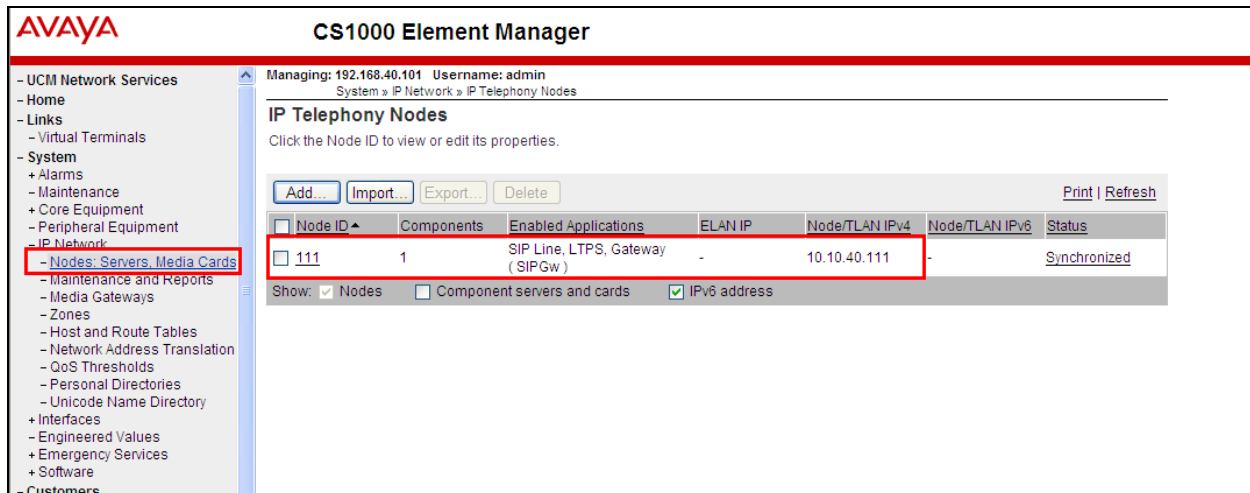
The following screen appears showing the various **Elements**, select **EM on cs1kpg** (note this name may appear different depending on the system for configuration).



The screenshot shows the Avaya Aura System Manager 6.3 interface. The left sidebar contains a navigation tree with categories like Network, User Services, Security, and Tools. The main panel displays the 'Elements' section, which lists various system components. A search bar is at the top of the list. The table below shows the following elements:

Element Name	Element Type	Release	Address	Description
smgr63vmpg.devconnect.local (primary)	Base OS	7.6	10.10.40.32	Base OS element.
EM on cs1kpg1	CS1000	7.6	192.168.40.101	New element.
cs1kpg1.devconnect.local (member)	Linux Base	7.6	10.10.40.101	Base OS element.
192.168.40.102	Media Gateway Controller	7.6	192.168.40.102	New element.
NRSM on cs1kpg1	Network Routing Service	7.6	192.168.40.101	New element.

Navigate to **IP Network** → **Nodes Servers and Media Cards** in the left panel and select the Node associated with the CS1000E. In the example below this **Node ID** is **111**. Open this node by clicking on **111** highlighted below.



The screenshot shows the CS1000 Element Manager interface. The left sidebar has a navigation tree with categories like UCM Network Services, Home, Links, System, and Customers. The main panel displays the 'IP Telephony Nodes' section, which lists nodes managed by the system. A search bar is at the top of the list. The table below shows the following nodes:

Node ID	Components	Enabled Applications	ELAN IP	Node/TLAN IPv4	Node/TLAN IPv6	Status
111	1	SIP Line, LTPS, Gateway (SIPGw)	-	10.10.40.111	-	Synchronized

Below the table, there are checkboxes for 'Nodes', 'Component servers and cards', and 'IPv6 address'.

Select **Gateway (SIPGw)** highlighted.

AVAYA CS1000 Element Manager

Managing: 192.168.40.101 Username: admin
System » IP Network » IP Telephony Nodes » Node Details

Node Details (ID: 111 - SIP Line, LTPS, Gateway (SIPGw))

Subnet mask: 255.255.255.0 * Subnet mask: 255.255.255.0 *
Node IPv6 address: []

IP Telephony Node Properties

- Voice Gateway (VGW) and Codecs
- Quality of Service (QoS)
- LAN
- SNTP
- Numbering Zones
- MCDN Alternative Routing Treatment (MALT) Causes

Applications (click to edit configuration)

- SIP Line
- Terminal Proxy Server (TPS)
- Gateway (SIPGw)**
- Personal Directories (PD)
- Presence Publisher
- IP Media Services

* Required Value. [Save] [Cancel]

Associated Signaling Servers & Cards

Select to add [v] [Add] [Remove] [Make Leader] [Print] [Refresh]

Hostname	Type	Deployed Applications	ELAN IP	TLAN IPv4	Role
cs1kpg1	Signaling_Server	SIP Line, LTPS, Gateway (SIP/H323), PD, Presence Publisher, IP Media Services	192.168.40.101	10.10.40.101	Leader

Show: [] IPv6 address

Enter the correct **SIP domain name**. Note this domain name will be referenced again in **Section 7.2**.

AVAYA CS1000 Element Manager

Managing: 192.168.40.101 Username: admin
System » IP Network » IP Telephony Nodes » Node Details » Virtual Trunk Gateway Configuration

Node ID: 111 - 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) [v]
SIP domain name: devconnect.local
 Local SIP port: 5060 * (1 - 65535)
 Gateway endpoint name: CS1KPG1 *
 Gateway password: [] *
 Application node ID: 111 * (0-9999)
 Enable failsafe NRS: ☐
 Note: FailSafe NRS cannot be enabled, if all servers in the node have NRS application deployed.

Virtual Trunk Network Health Monitor

☐ Monitor IP addresses (listed below)
 Information will be captured for the IP addresses listed below.
 Monitor IP: [] [Add]
 Monitor addresses: [] [Remove]

* Required Value. Note: Changes made on this page will NOT be transmitted until the Node is also saved. [Save] [Cancel]

Scroll down to **Proxy Or Redirect Server: Proxy Server Route 1** and enter the IP Address of Session Manager for the **Primary TLAN IP address**. Ensure the **Port** number is set to **5060** and the **Transport protocol** is set to **TCP**. Note this information will be referenced again in **Section 7.10**. Everything else can be left as default.

The screenshot shows the AVAYA CS1000 Element Manager interface. The left sidebar contains a navigation tree with categories like UCM Network Services, System, Customers, Routes and Trunks, and Dialing and Numbering Plans. The main content area is titled "Node ID: 111 - Virtual Trunk Gateway Configuration Details". It has tabs for "General", "SIP Gateway Settings", and "SIP Gateway Services". The "SIP Gateway Settings" tab is active, showing the "Proxy Or Redirect Server" section. Under "Proxy Server Route 1", the following fields are highlighted with red boxes: "Primary TLAN IP address" (10.10.40.34), "Port" (5060), and "Transport protocol" (TCP). Other fields include "Secondary TLAN IP address" (0.0.0.0) and "Port" (5060). There are checkboxes for "Support registration" and "Primary CDS proxy". A "Save" button is at the bottom right.

Ensure the same details are filled in for the **Proxy Server Route 2**. Click on **Save** at the bottom right of the screen.

The screenshot shows the same AVAYA CS1000 Element Manager interface, but now the "Proxy Server Route 2" section is highlighted with a red box. The fields for "Primary TLAN IP address" (10.10.40.34), "Port" (5060), and "Transport protocol" (TCP) are visible. Below this, there are checkboxes for "Support registration" and "Tertiary CDS proxy". The "CLID Presentation" section is also visible, with fields for "Country code (CCC)" and "Area code". A "Save" button is highlighted with a red box at the bottom right.

Click on **Save** again as highlighted below.

AVAYA CS1000 Element Manager

Managing: 192.168.40.101 Username: admin
System » IP Network » IP Telephony Nodes » Node Details

Node Details (ID: 111 - SIP Line, LTPS, Gateway (SIPGw))

Node ID: 111 * (0-9999)
Call server IP address: 192.168.40.101 * TLAN address type: ☒ IPv4 only
☐ IPv4 and IPv6

Embedded LAN (ELAN) **Telephony LAN (TLAN)**
Gateway IP address: 192.168.40.1 * Node IPv4 address: 10.10.40.111 *
Subnet mask: 255.255.255.0 * Subnet mask: 255.255.255.0 *
Node IPv6 address:

* Required Value. **Save** Cancel

Associated Signaling Servers & Cards

Select to add Add Remove Make Leader Print Refresh

Hostname	Type	Deployed Applications	ELAN IP	TLAN IPv4	Role
<input type="checkbox"/> cs1kpg1	Signaling_Server	SIP Line, LTPS, Gateway (SIP/H323), PD, Presence	192.168.40.101	10.10.40.101	Leader

Select **Transfer Now** as shown below.

AVAYA CS1000 Element Manager

Managing: 192.168.40.101 Username: admin
System » IP Network » IP Telephony Nodes » Node Saved

Node Saved

Node ID: 111 has been saved on the call server.
The new configuration must also be transferred to associated servers and media cards.

Transfer Now... You will be given an option to select individual servers, or transfer to all.

Show Nodes You may initiate a transfer manually at a later time.

The following screen is displayed requiring that synchronization is performed followed by a restart of the Applications. Ensure the **Hostname** is ticked and click on **Start Sync**.

AVAYA CS1000 Element Manager

Managing: 192.168.40.101 Username: admin
System » IP Network » IP Telephony Nodes » Synchronize Configuration Files

Synchronize Configuration Files (Node ID <111>)

Note: Select components to synchronize their configuration files with call server data. This process transfers server INI files to selected components, and requires a restart* of applications on affected server(s) when complete.

Start Sync Cancel Restart Applications [Print](#) [Refresh](#)

Hostname	Type	Applications	Synchronization Status
<input checked="" type="checkbox"/> cs1kpg1	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.

The following screen shows the **Sync in progress**.

AVAYA CS1000 Element Manager

Managing: 192.168.40.101 Username: admin
System » IP Network » IP Telephony Nodes » Synchronize Configuration Files

Synchronize Configuration Files (Node ID <111>)

Synchronization in progress. Status will be updated automatically.
(You may also navigate away from this page and return to the IP Telephony Nodes list to verify completion.)

Start Sync Cancel [Print](#) [Refresh](#)

Hostname	Type	Applications	Synchronization Status
cs1kpg1	Signaling_Server	SIP Line, LTPS, Gateway (SIP/H323), PD, Presence, Publisher, IP Media Services	Sync in progress

Once the Sync is completed select the **Hostname** again and click on **Restart Applications**. This will complete the Signalling Server configuration for Session Manager routing.

AVAYA CS1000 Element Manager

Managing: 192.168.40.101 Username: admin
System » IP Network » IP Telephony Nodes » Synchronize Configuration Files

Synchronize Configuration Files (Node ID <111>)

Note: Select components to synchronize their configuration files with call server data. This process transfers server INI files to selected components, and requires a restart* of applications on affected server(s) when complete.

Start Sync Cancel **Restart Applications** [Print](#) [Refresh](#)

Hostname	Type	Applications	Synchronization Status
<input checked="" type="checkbox"/> cs1kpg1	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.

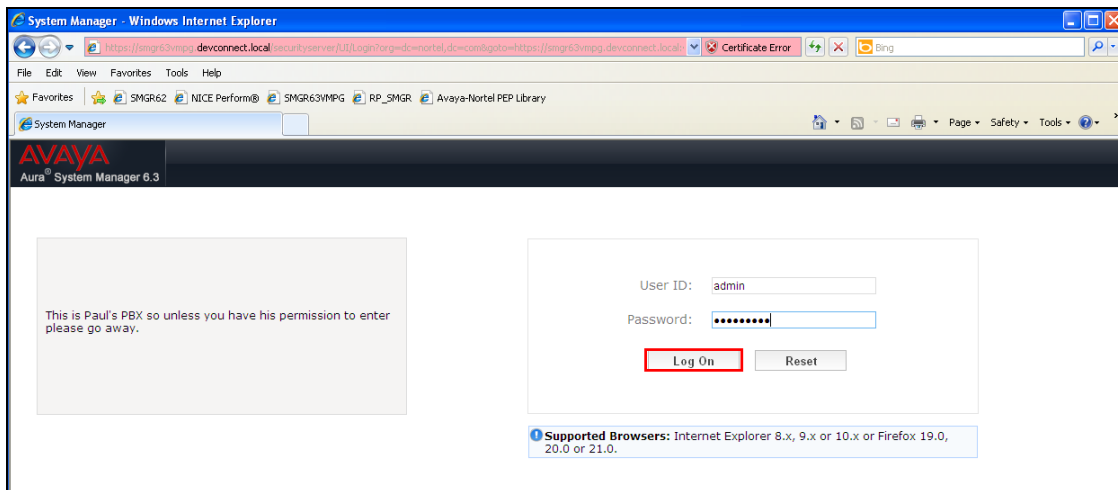
7. Configure Avaya Aura® Session Manager

This section provides the procedures for configuring Session Manager. Session Manager is configured via System Manager. The procedures include the following areas:

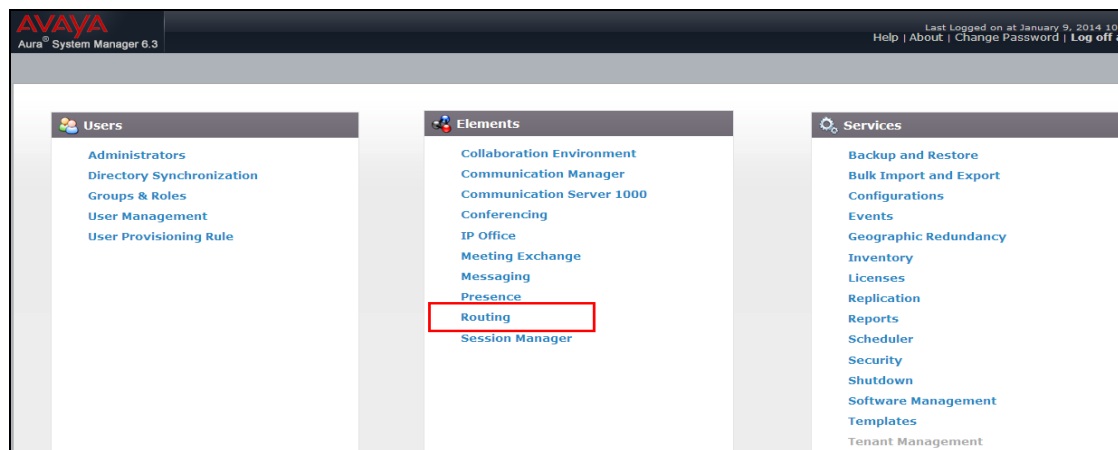
- Log in to System Manager
- Administer SIP Domain
- Administer Location
- Administer SIP Entities
- Administer Routing Policies
- Administer Dial Patterns

7.1. Log in to Avaya Aura® System Manager

Access System Manager using a Web Browser by entering **http://<FQDN>/SMGR**, where <FQDN> is the fully qualified domain name of System Manager or **http://<IP Address>/SMGR**. Log in using appropriate credentials.

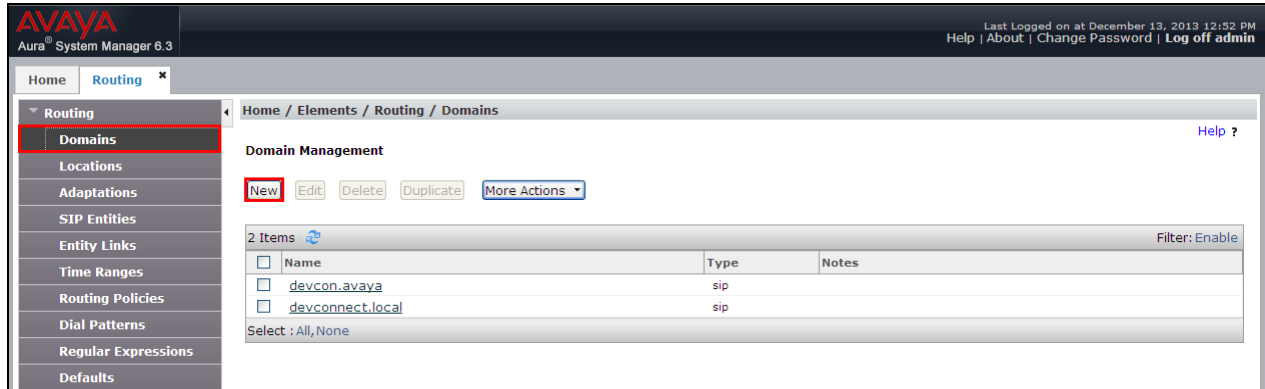


Once logged in click on **Routing** as highlighted.

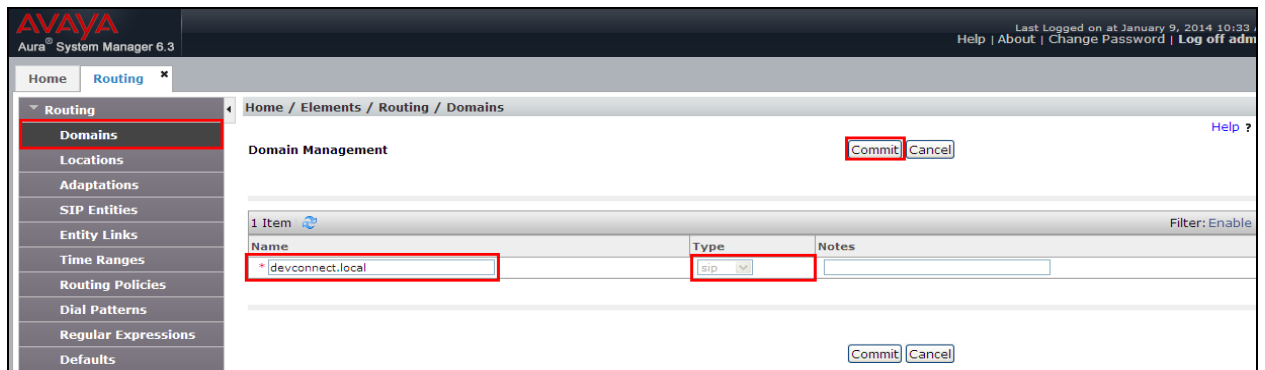


7.2. Administer SIP Domain

Click on **Domains** in the left panel. If there is not a domain already configured click on **New** highlighted below.

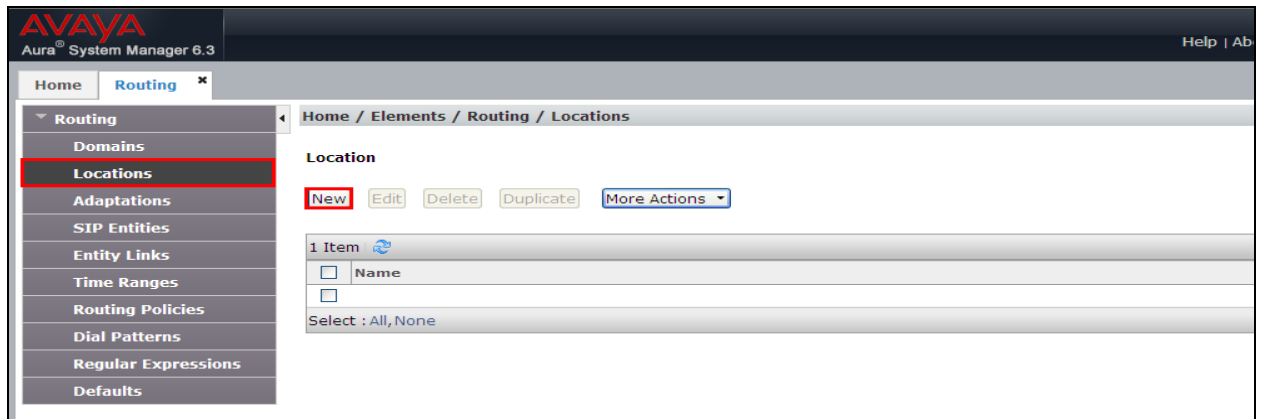


Enter the name of the domain note this was referenced in **Section 6**. The **Type** should be **sip**. Click on **Commit** once done.



7.3. Configure Location

Select **Locations** from the left panel and select **New** from the main window.



Enter a suitable name for the location and scroll down to the bottom of the page and enter the IP addresses associated with the location via the **Add** button. In the case below, there are two ranges **10.10.40.x** and **192.168.50.x** added for the location. Once completed, click on **Commit** to continue.

AVAYA
Aura® System Manager 6.3

Home Routing

Home / Elements / Routing / Locations

Locations

Location Details Commit Cancel

General

* Name: DevConnectPG63

Notes:

Dial Plan Transparency in Survivable Mode

Enabled: ☐

Listed Directory Number:

Associated CM SIP Entity:

* Minimum Multimedia Bandwidth: 64 Kbit/Sec

* Default Audio Bandwidth: 80 kbit/sec

Alarm Threshold

Overall Alarm Threshold: 80 %

Multimedia Alarm Threshold: 80 %

* Latency before Overall Alarm Trigger: 5 Minutes

* Latency before Multimedia Alarm Trigger: 5 Minutes

Location Pattern

Add Remove

2 Items

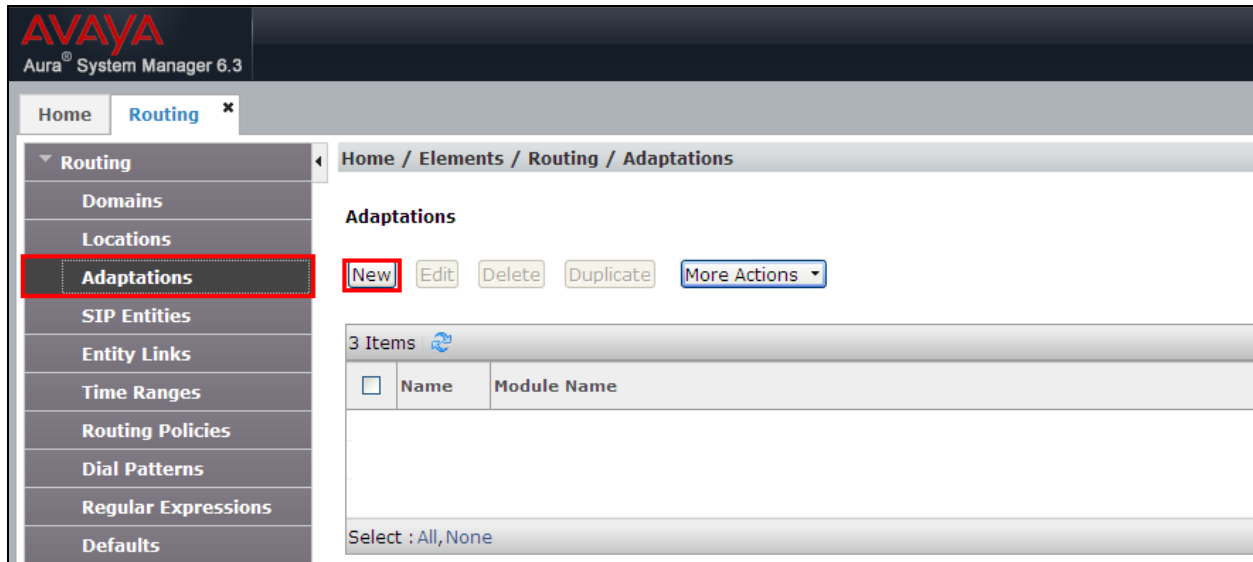
IP Address Pattern	Notes
* 10.10.40.*	
* 192.168.50.*	

Select : All, None

Commit Cancel

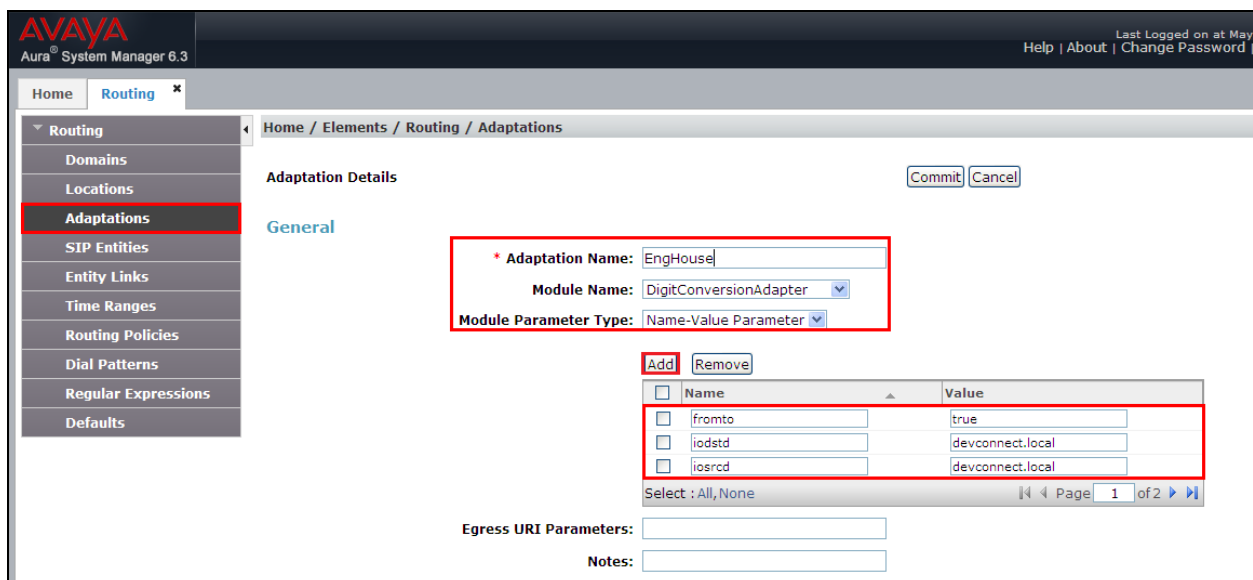
7.4. Configure Adaptation

To configure a new Adaptation select **Adaptations** from the left panel and click on **New** from the main window.



Enter a suitable **Name** and select **DigitConversionAdapter** for the **Module Name**. Select **Name-Value Parameter** as the **Module Parameter Type**. Add the following Parameters:

- | Name | Value |
|--------|---|
| fromto | true |
| iodstd | SIP domain name as configured in Section 7.2 |
| iosrcd | SIP domain name as configured in Section 7.2 |



Continue to add the following Parameters:

- | Name | Value |
|---------|----------------------------------|
| • odstd | Communications Portal IP Address |
| • osrcd | Session Manager IP Address |

Click on **Commit** once completed.

AVAYA
Aura® System Manager 6.3

Home / Elements / Routing / Adaptations

Adaptation Details

Commit Cancel

General

* Adaptation Name: EngHouse

Module Name: DigitConversionAdapter

Module Parameter Type: Name-Value Parameter

Add Remove

Name	Value
odstd	10.10.40.40
osrcd	10.10.40.34

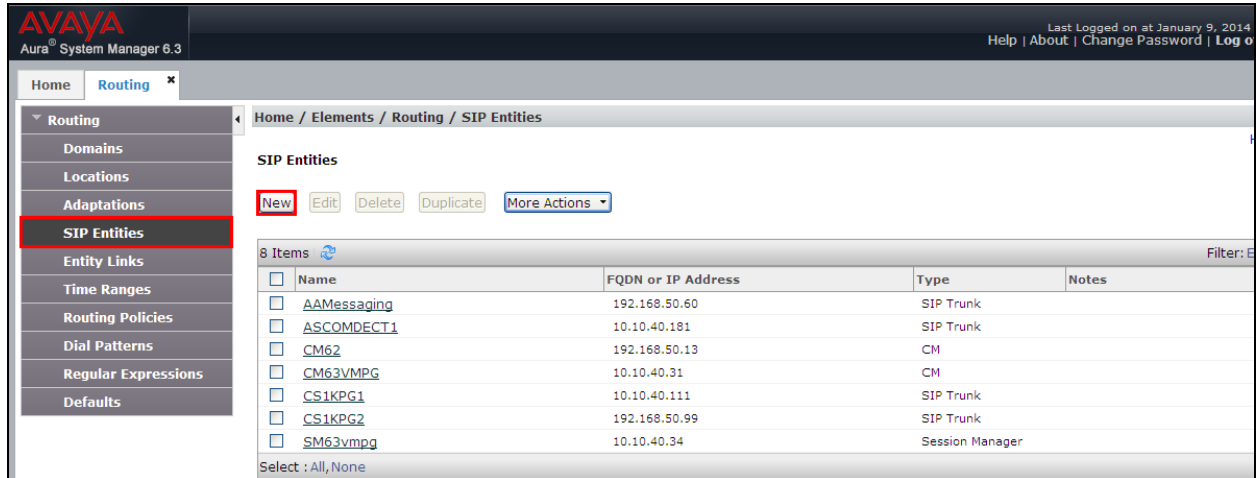
Select : All, None Page 2 of 2

Egress URI Parameters:

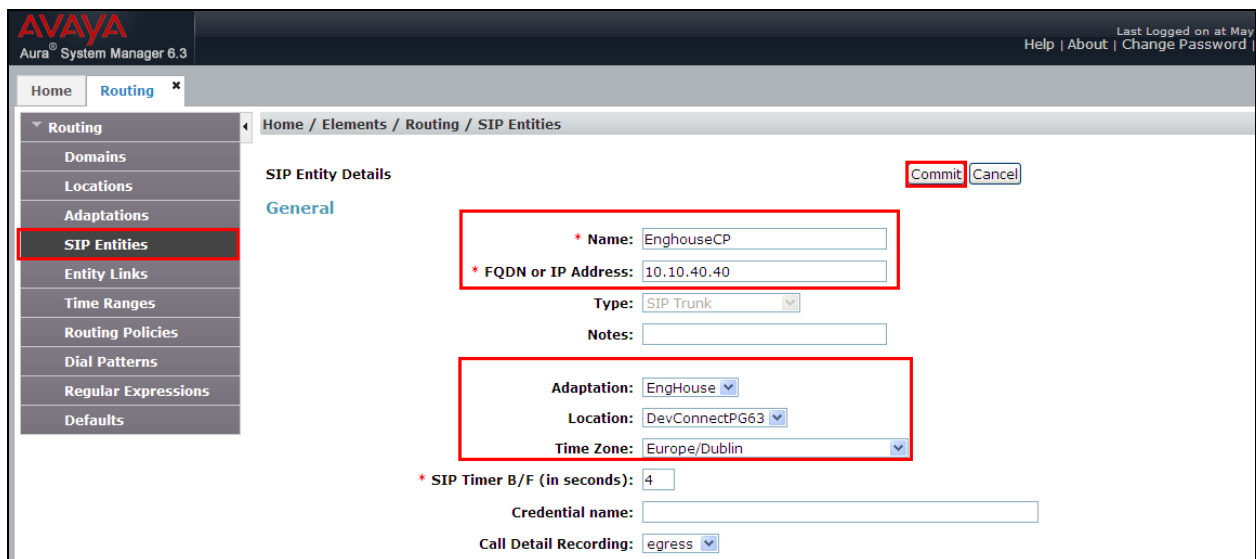
Notes:

7.5. Configure SIP Entity for Enghouse Interactive Communications Portal

Select **SIP Entities** from the left panel and click on **New** in the main window.

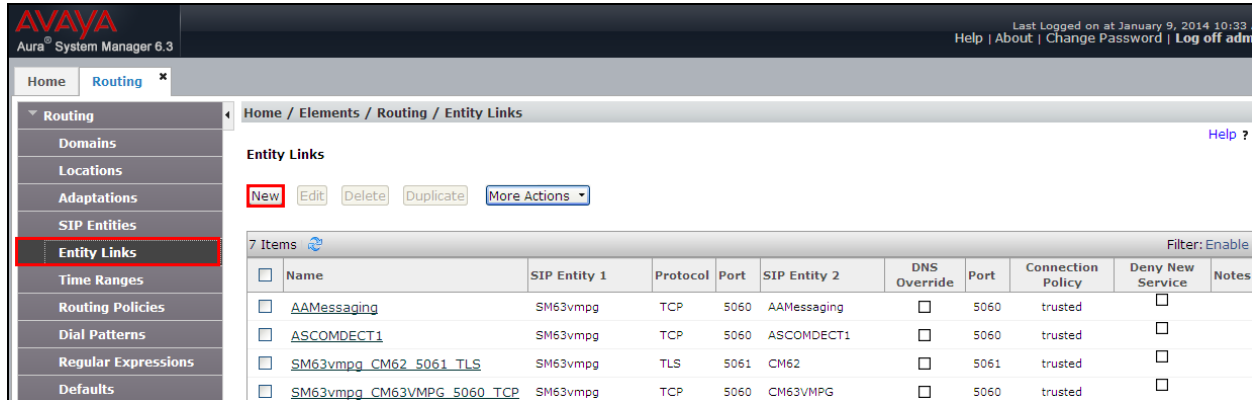


Enter a suitable **Name** and ensure that the **Adaptation** that was created in **Section 7.4** is used. Enter the **Location** that was configured in **Section 7.3** and the correct **Time Zone**.



7.6. Configure Entity Link for Enghouse Interactive Communications Portal

Select **Entity Link** from the left panel and click on **New** in the main window.



AVAYA
Aura® System Manager 6.3

Home / Elements / Routing / Entity Links

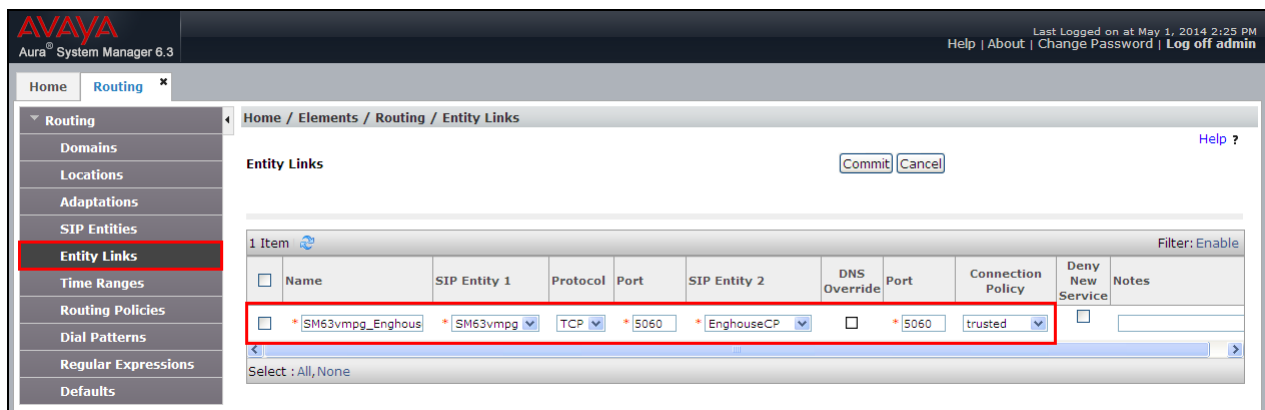
Entity Links

New Edit Delete Duplicate More Actions

7 Items Filter: Enable

<input type="checkbox"/>	Name	SIP Entity 1	Protocol	Port	SIP Entity 2	DNS Override	Port	Connection Policy	Deny New Service	Notes
<input type="checkbox"/>	AAMessaging	SM63vmpg	TCP	5060	AAMessaging	<input type="checkbox"/>	5060	trusted	<input type="checkbox"/>	
<input type="checkbox"/>	ASCOMDECT1	SM63vmpg	TCP	5060	ASCOMDECT1	<input type="checkbox"/>	5060	trusted	<input type="checkbox"/>	
<input type="checkbox"/>	SM63vmpg_CM62_5061_TLS	SM63vmpg	TLS	5061	CM62	<input type="checkbox"/>	5061	trusted	<input type="checkbox"/>	
<input type="checkbox"/>	SM63vmpg_CM63VMPG_5060_TCP	SM63vmpg	TCP	5060	CM63VMPG	<input type="checkbox"/>	5060	trusted	<input type="checkbox"/>	

Select the correct **SIP Entity** that was created in **Section 7.5** and ensure that **TCP** is used as the **Protocol**. Note the **Port** is set to **5060**.



AVAYA
Aura® System Manager 6.3

Home / Elements / Routing / Entity Links

Entity Links

Commit Cancel

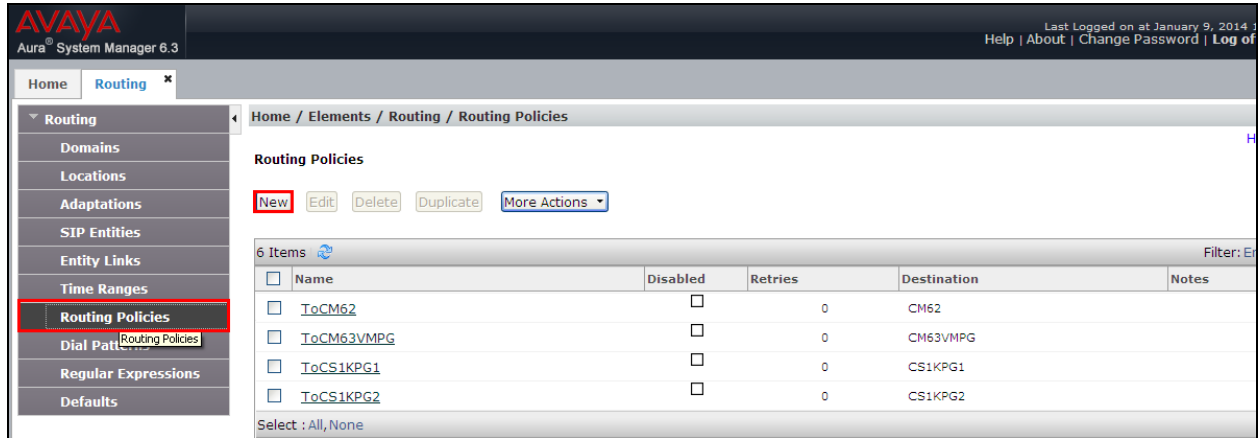
1 Item Filter: Enable

<input type="checkbox"/>	Name	SIP Entity 1	Protocol	Port	SIP Entity 2	DNS Override	Port	Connection Policy	Deny New Service	Notes
<input type="checkbox"/>	*SM63vmpg_Enghous	*SM63vmpg	TCP	*5060	*EnghouseCP	<input type="checkbox"/>	*5060	trusted	<input type="checkbox"/>	

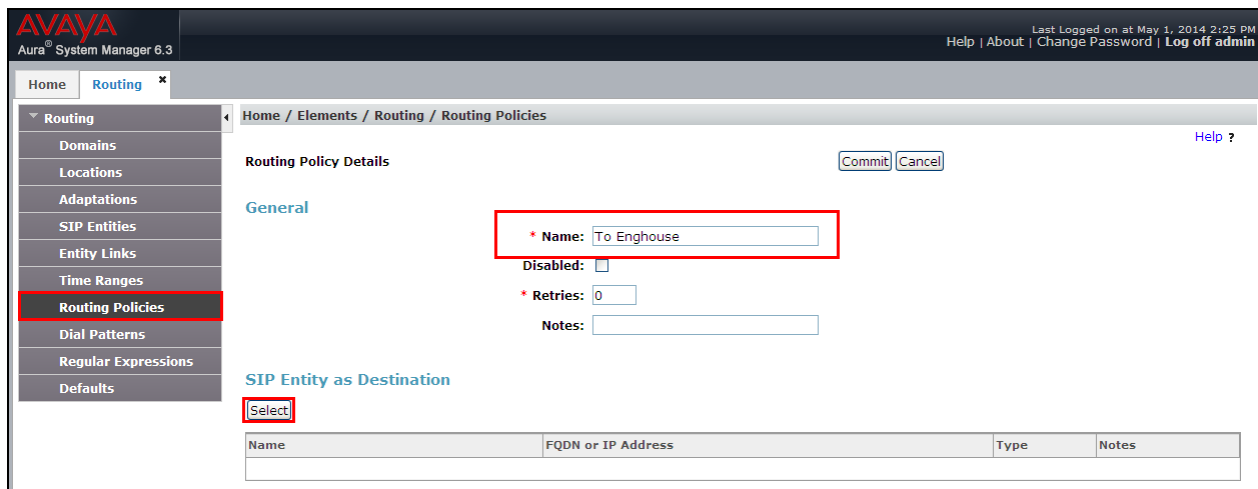
Select : All, None

7.7. Configure Routing Policy for Enghouse Interactive Communications Portal

Select **Routing Policies** from the left panel and click on **New** in the main window.



Enter a suitable **Name** and click on **Select** highlighted in order to associate this routing policy with a SIP Entity.



Select the **EnghouseCP** SIP Entity created in **Section 7.5** and click on **Commit** when done (not shown).

The screenshot shows the Avaya Aura System Manager 6.3 interface. The left sidebar contains a navigation menu with 'Routing Policies' highlighted. The main window displays the 'SIP Entities' page. A table lists 11 items, with 'EnghouseCP' highlighted. The table has columns for Name, FQDN or IP Address, Type, and Notes.

Name	FQDN or IP Address	Type	Notes
AA Messaging	192.168.50.60	SIP Trunk	
AastraBS1	10.10.40.75	SIP Trunk	
AastraBS2	10.10.40.76	SIP Trunk	
ASCOMDECT1	10.10.40.181	SIP Trunk	
CM62	192.168.50.13	CM	
CM63VMGP	10.10.40.31	CM	
CS1KPG1	10.10.40.111	SIP Trunk	
CS1KPG2	192.168.50.99	SIP Trunk	
EnghouseCP	10.10.40.40	SIP Trunk	
IPOfficeR9	10.10.40.50	SIP Trunk	
SM63vmgp	10.10.40.34	Session Manager	

7.8. Configure Dial Pattern for Enghouse Interactive Communications Portal

In order to route calls to the Communications Portal a dial pattern is created pointing to the SIP Entity. Select **Dial Patterns** from the left panel and click on **New** in the main window.

The screenshot shows the Avaya Aura System Manager 6.3 interface. The left sidebar contains a navigation menu with 'Dial Patterns' highlighted. The main window displays the 'Dial Patterns' page. A table lists 6 items, with the 'New' button highlighted. The table has columns for Pattern, Min, Max, Emergency Call, Emergency Type, Emergency Priority, SIP Domain, and Notes.

Pattern	Min	Max	Emergency Call	Emergency Type	Emergency Priority	SIP Domain	Notes
10	4	4				devconnect.local	
2	4	4				devconnect.local	CM63
30	4	4				-ALL-	CS1KPG1
5999	4	5				-ALL-	AURA_Messaging
70	4	4				devconnect.local	CS1KPG1

Enter the number to be routed noting this will be the same number outlined in **Section 5.3.2**. Note the **SIP Domain** is that configured in **Section 7.2**. Click on **Add** to select originating location and routing policy (see second screen below).

AVAYA
Aura® System Manager 6.3

Last Logged on at May 1, 2014 2:25 PM
Help | About | Change Password | Log off admin

Home Routing

Home / Elements / Routing / Dial Patterns

Dial Pattern Details

Commit Cancel

General

* Pattern: 43
* Min: 4
* Max: 4

Emergency Call: ☐
Emergency Priority: 1
Emergency Type:
SIP Domain: devconnect.local
Notes: To Enghouse CP

Originating Locations and Routing Policies

Add Remove

1 Item

Originating Location Name	Originating Location Notes	Routing Policy Name	Rank	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes

Tick on the **Originating Location** as shown below and select the **Enghouse** Routing Policy. Click on **Select** once complete (not shown).

SIP Entities
Entity Links
Time Ranges
Routing Policies
Dial Patterns
Regular Expressions
Defaults

Originating Location

☐ Apply The Selected Routing Policies to All Originating Locations

1 Item

Name	Notes
<input checked="" type="checkbox"/> DevConnectPG63	

Select : All, None

Routing Policies

7 Items

Name	Disabled	Destination	Notes
<input type="checkbox"/> ToAAMessaging	<input type="checkbox"/>	AAMessaging	
<input type="checkbox"/> ToCM62	<input type="checkbox"/>	CM62	
<input type="checkbox"/> ToCM63VMGP	<input type="checkbox"/>	CM63VMGP	
<input type="checkbox"/> ToCS1KPG1	<input type="checkbox"/>	CS1KPG1	
<input type="checkbox"/> ToCS1KPG2	<input type="checkbox"/>	CS1KPG2	
<input checked="" type="checkbox"/> To Enghouse	<input type="checkbox"/>	EnghouseCP	
<input type="checkbox"/> To IPOR9	<input type="checkbox"/>	IPOfficeR9	

Select : All, None

With the new Routing Policy in place, click on **Commit** as shown below.

Routing / Home / Elements / Routing / Dial Patterns [Help ?](#)

Dial Pattern Details **Commit** **Cancel**

General

* **Pattern:** 43

* **Min:** 4

* **Max:** 4

Emergency Call: ☐

Emergency Priority: 1

Emergency Type:

SIP Domain: devconnect.local

Notes: To Enghouse CP

Originating Locations and Routing Policies

Add **Remove**

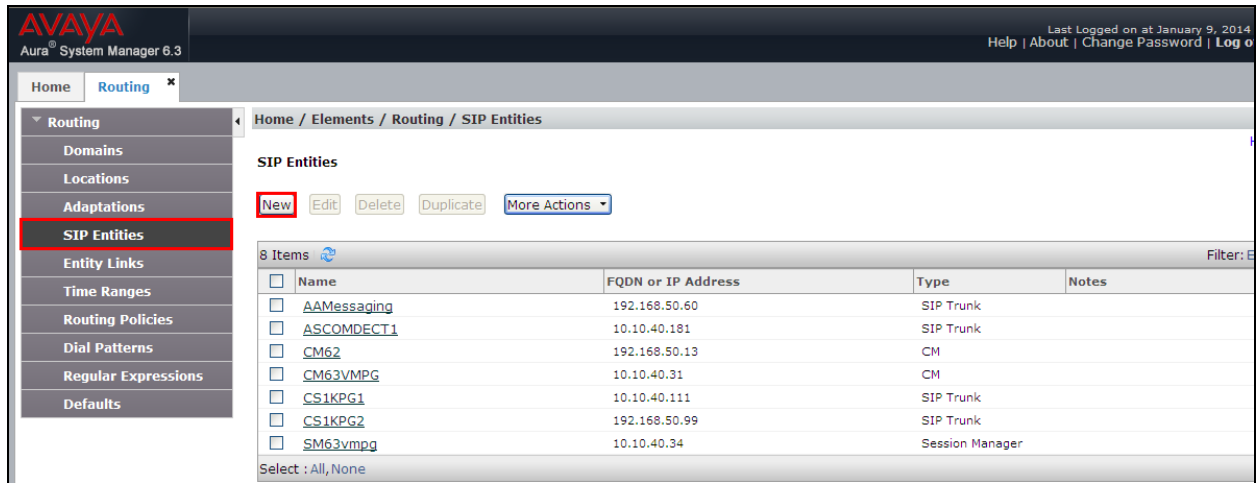
1 Item [Filter: Enable](#)

<input type="checkbox"/>	Originating Location Name	Originating Location Notes	Routing Policy Name	Rank	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes
<input type="checkbox"/>	DevConnectPG63		To Enghouse	0	<input type="checkbox"/>	EnghouseCP	

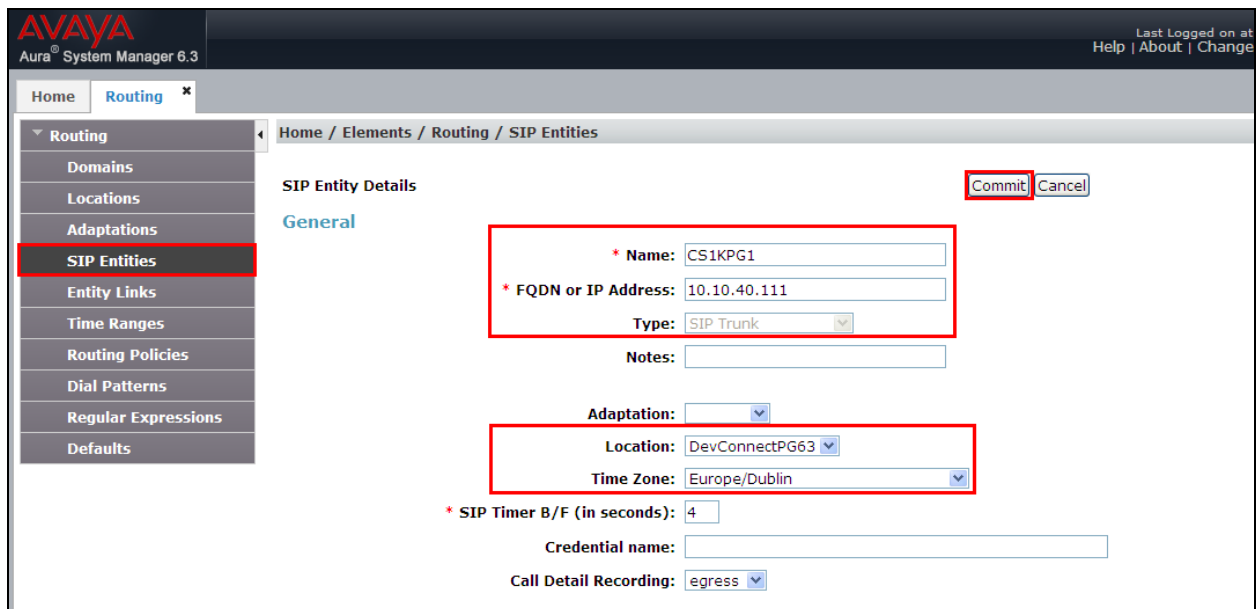
Select : All, None

7.9. Configure SIP Entity for Avaya Communication Server 1000E

Select **SIP Entities** from the left panel and click on **New** in the main window.

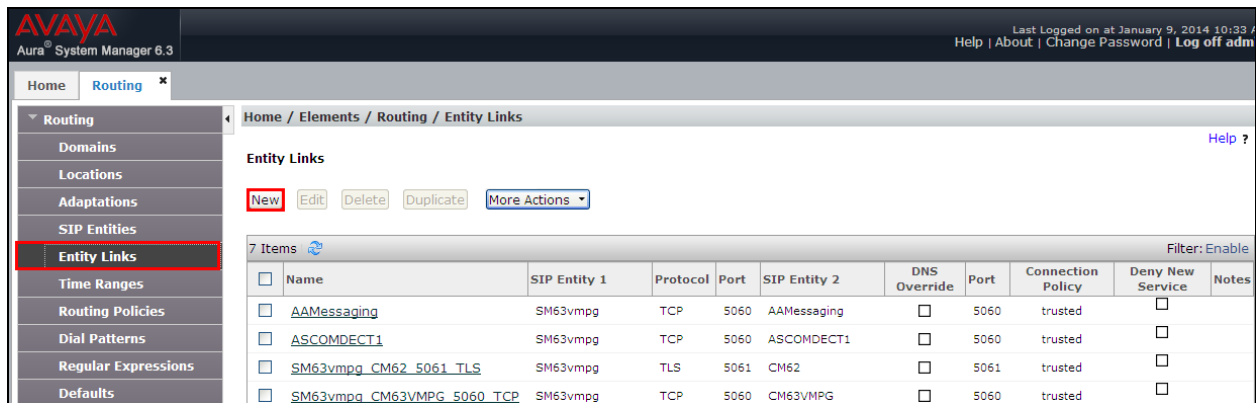


Enter a suitable **Name** and ensure the **Location** that was configured in **Section 7.2** and the correct **Time Zone** is entered.



7.10. Configure Entity Link for Avaya Communication Server 1000E

Select **Entity Link** from the left panel and click on **New** in the main window.



AVAYA
Aura System Manager 6.3

Home Routing

Home / Elements / Routing / Entity Links

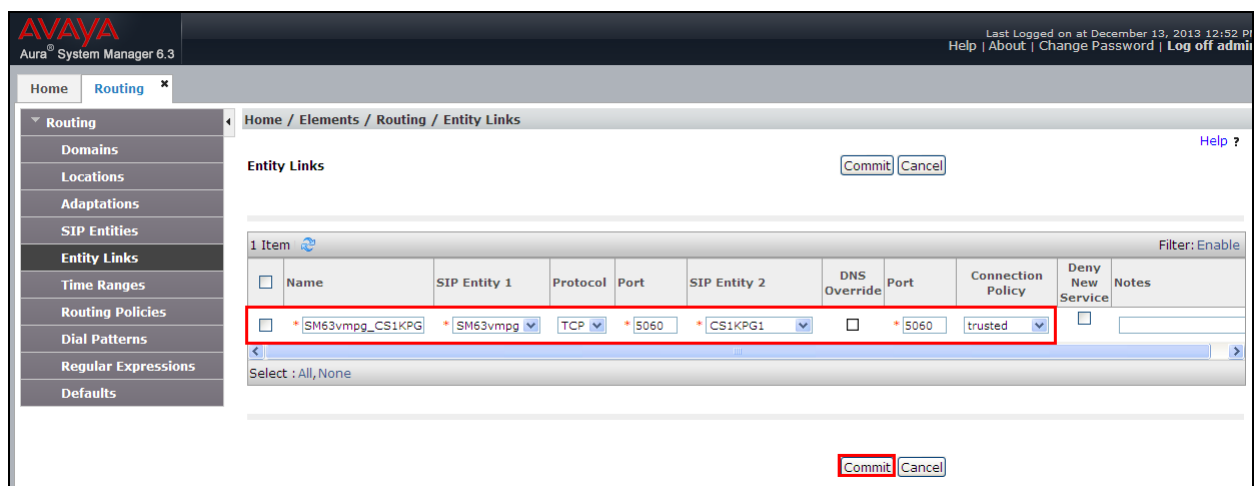
Entity Links

New Edit Delete Duplicate More Actions

7 Items Filter: Enable

<input type="checkbox"/>	Name	SIP Entity 1	Protocol	Port	SIP Entity 2	DNS Override	Port	Connection Policy	Deny New Service	Notes
<input type="checkbox"/>	AAMessaging	SM63vmpg	TCP	5060	AAMessaging	<input type="checkbox"/>	5060	trusted	<input type="checkbox"/>	
<input type="checkbox"/>	ASCOMDECT1	SM63vmpg	TCP	5060	ASCOMDECT1	<input type="checkbox"/>	5060	trusted	<input type="checkbox"/>	
<input type="checkbox"/>	SM63vmpg_CM62_5061_TLS	SM63vmpg	TLS	5061	CM62	<input type="checkbox"/>	5061	trusted	<input type="checkbox"/>	
<input type="checkbox"/>	SM63vmpg_CM63VMPG_5060_TCP	SM63vmpg	TCP	5060	CM63VMPG	<input type="checkbox"/>	5060	trusted	<input type="checkbox"/>	

Select the correct **Sip Entity** that was created in **Section 7.9** and ensure that **TCP** is used as the **Protocol**. Note the **Port** is **5060**. Note the same **Port** and **Protocol** are configured in **Section 6**.



AVAYA
Aura System Manager 6.3

Home Routing

Home / Elements / Routing / Entity Links

Entity Links

Commit Cancel

1 Item Filter: Enable

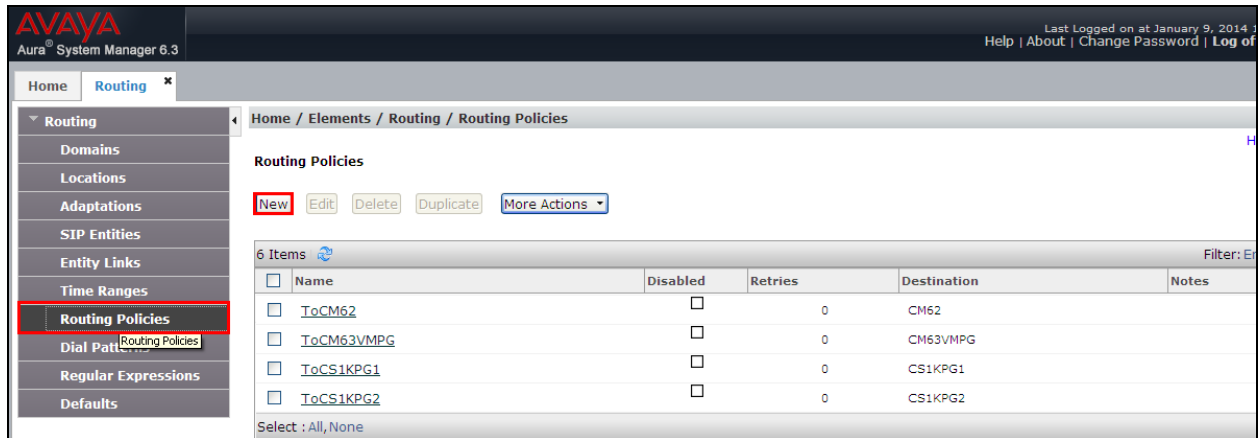
<input type="checkbox"/>	Name	SIP Entity 1	Protocol	Port	SIP Entity 2	DNS Override	Port	Connection Policy	Deny New Service	Notes
<input type="checkbox"/>	*SM63vmpg_CS1KPG	*SM63vmpg	TCP	*5060	*CS1KPG1	<input type="checkbox"/>	*5060	trusted	<input type="checkbox"/>	

Select : All, None

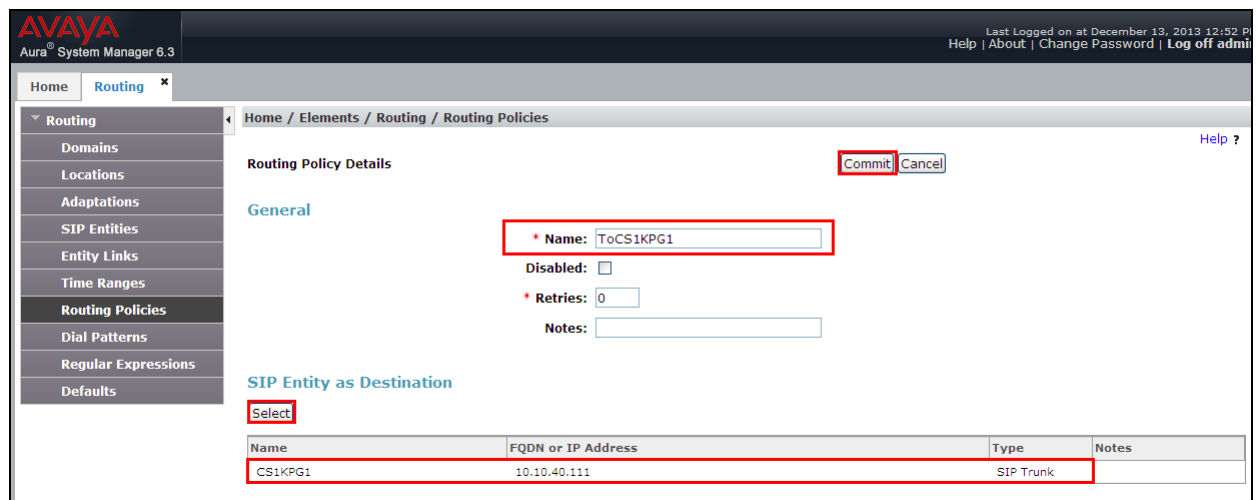
Commit Cancel

7.11. Configure Routing Policy for Avaya Communication Server 1000E

Select **Routing Policies** from the left panel and click on **New** in the main window.

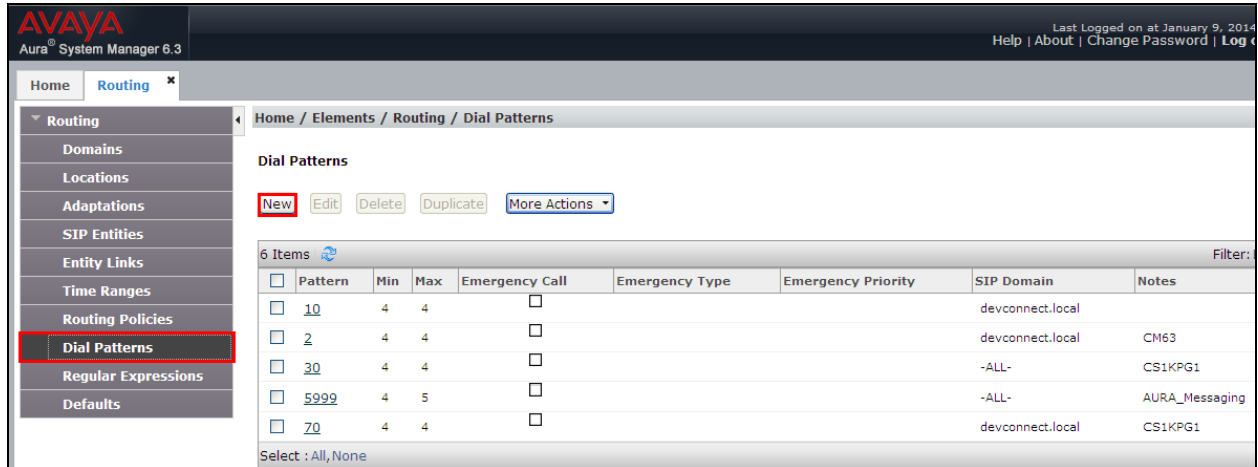


Enter a suitable **Name** and click on **Select** highlighted in order to associate this routing policy with a SIP Entity. Select the **CS1000E** SIP Entity created in **Section 7.9** (not shown) and click on **Commit** when done.

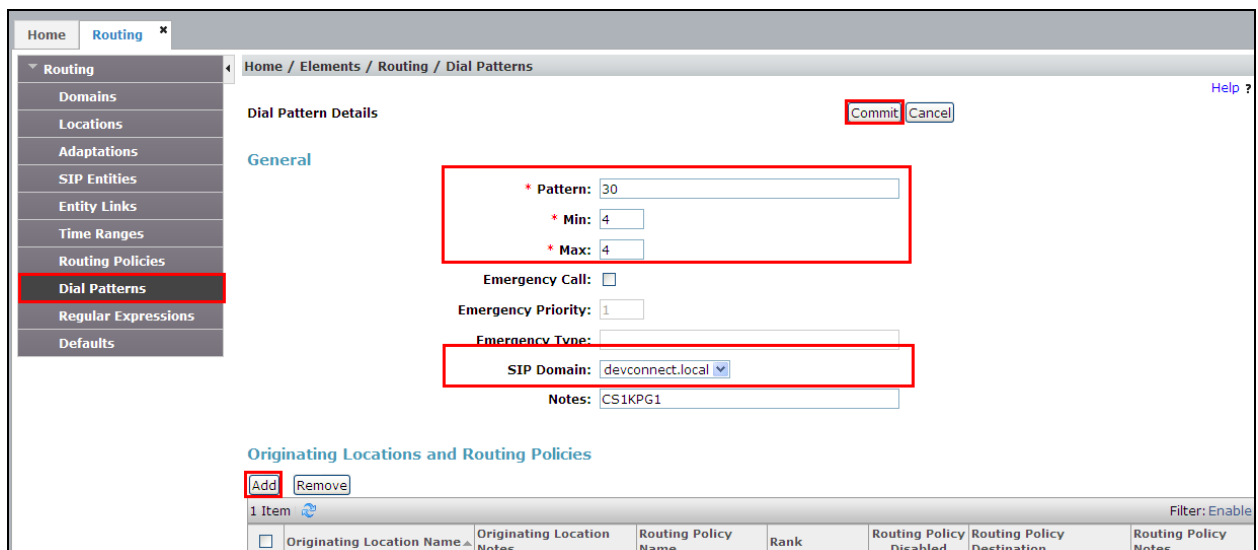


7.12. Configure Dial Pattern for Avaya Communication Server 1000E

In order to route calls to the CS1000E a dial pattern is created pointing to the SIP Entity. Select **Dial Patterns** from the left panel and click on **New** in the main window.



Enter the number to be routed noting this will be extension numbers of the CS1000E deskphones, in this case **30xx**. Note the **SIP Domain** is that configured in **Section 7.2**. Click on **Add** to select the originating location and routing policy.



Tick on the **Originating Location** as shown below and select the **CS1000E** Routing Policy as configured in **Section 7.11**. Click on **Select** once complete.

Domains

Locations

Adaptations

SIP Entities

Entity Links

Time Ranges

Routing Policies

Dial Patterns

Regular Expressions

Defaults

Originating Location Select Cancel

Originating Location

☐ Apply The Selected Routing Policies to All Originating Locations

1 Item

<input checked="" type="checkbox"/>	Name	Notes
<input checked="" type="checkbox"/>	DevConnectPG63	

Select : All, None

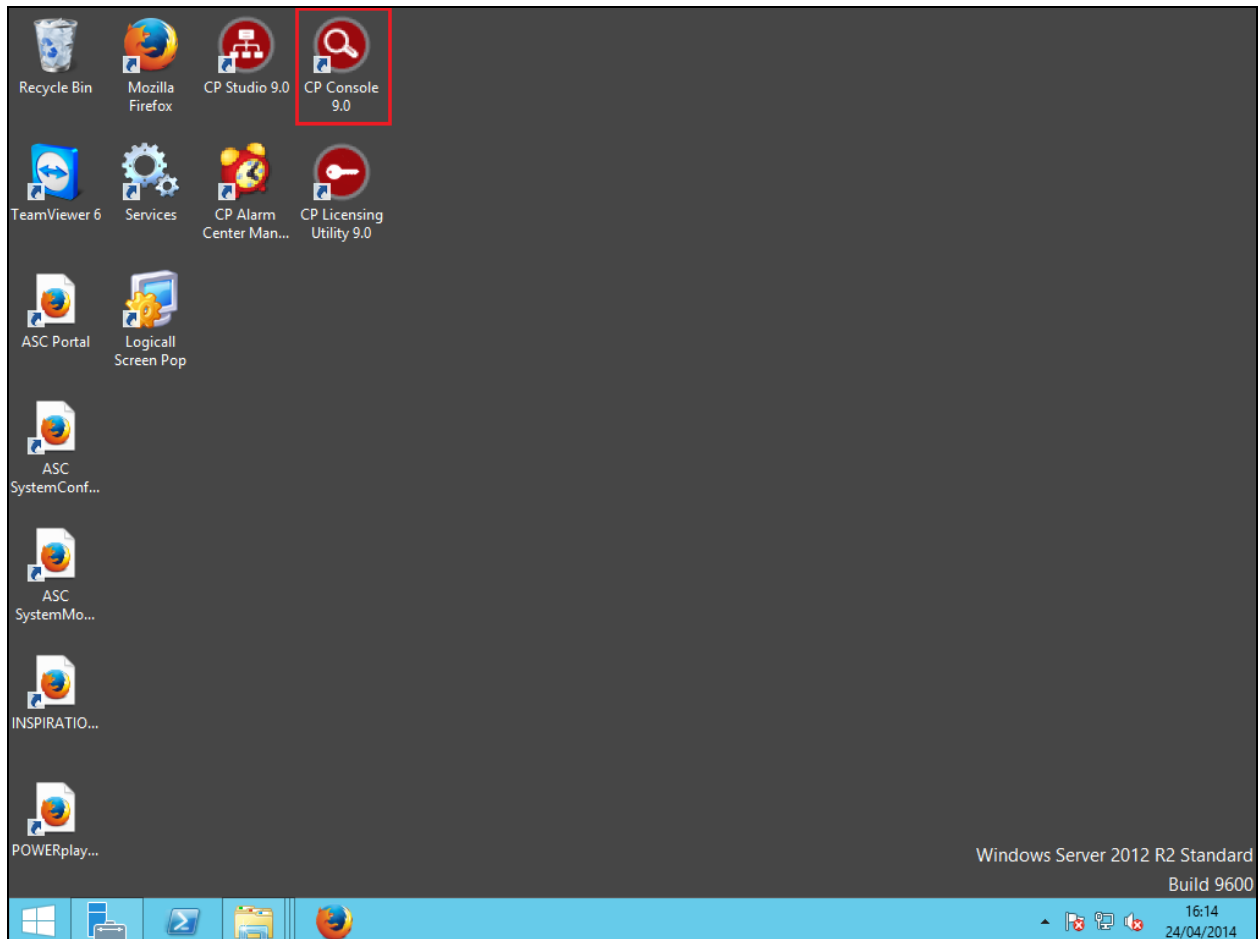
Routing Policies

6 Items

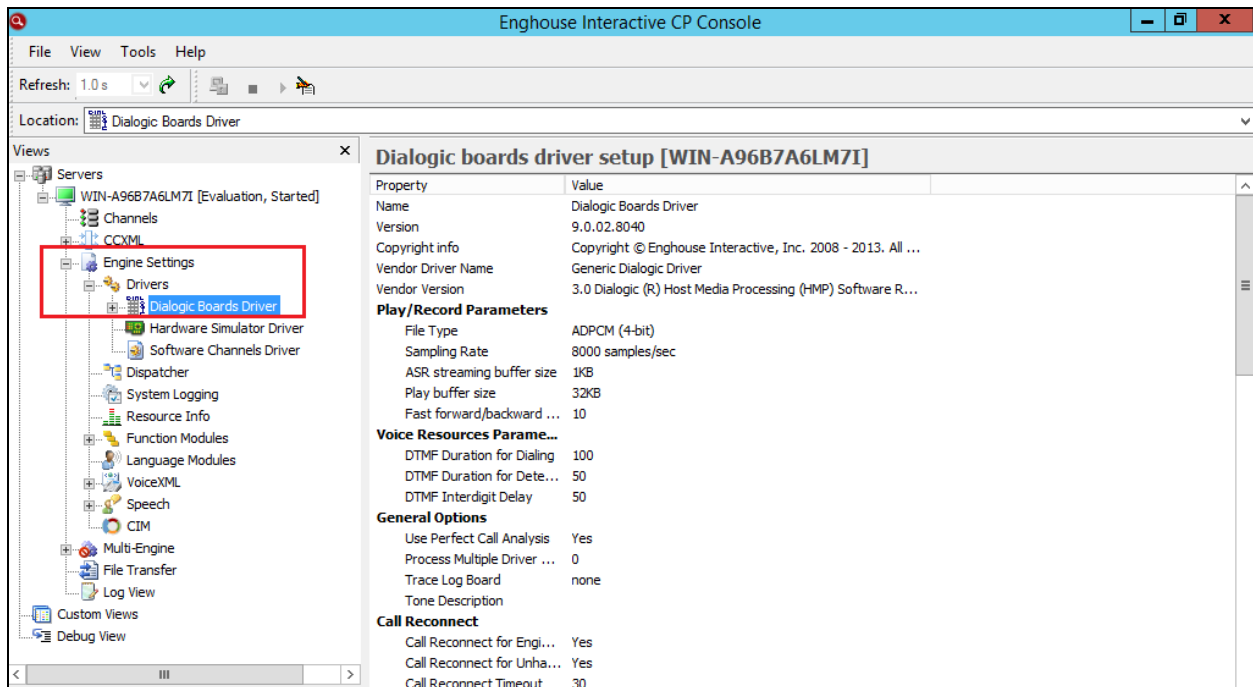
<input type="checkbox"/>	Name	Disabled	Destination	Notes
<input checked="" type="checkbox"/>	ToCS1KPG1	<input type="checkbox"/>	CS1KPG1	
<input type="checkbox"/>	ToAAMessaging	<input type="checkbox"/>	AAMessaging	
<input type="checkbox"/>	ToCM62	<input type="checkbox"/>	CM62	

8. Configure Enghouse Interactive Communications Portal 9.0

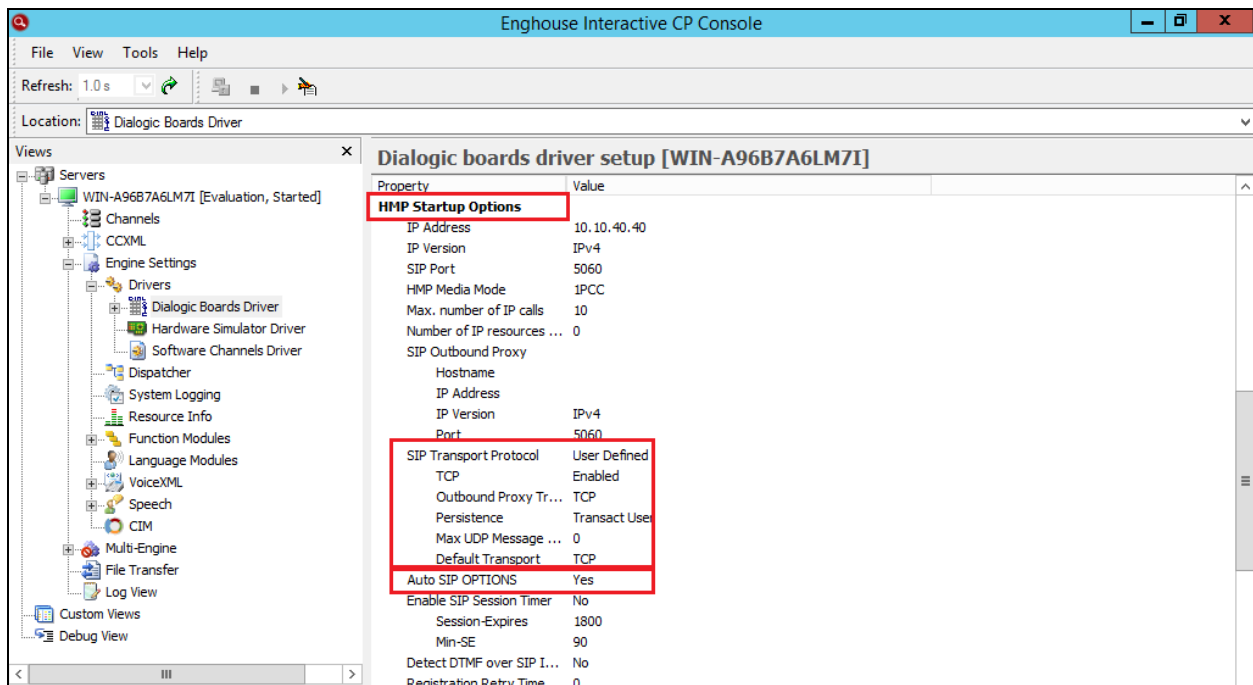
The Telephony module of Communications Portal which provides the connection to Session Manager is provided by a Dialogic Boards Driver. This driver completely caters to the telephony module of this solution. To configure the Dialogic Boards Driver open the **CP Console 9.0** by double clicking on the shortcut as shown below.



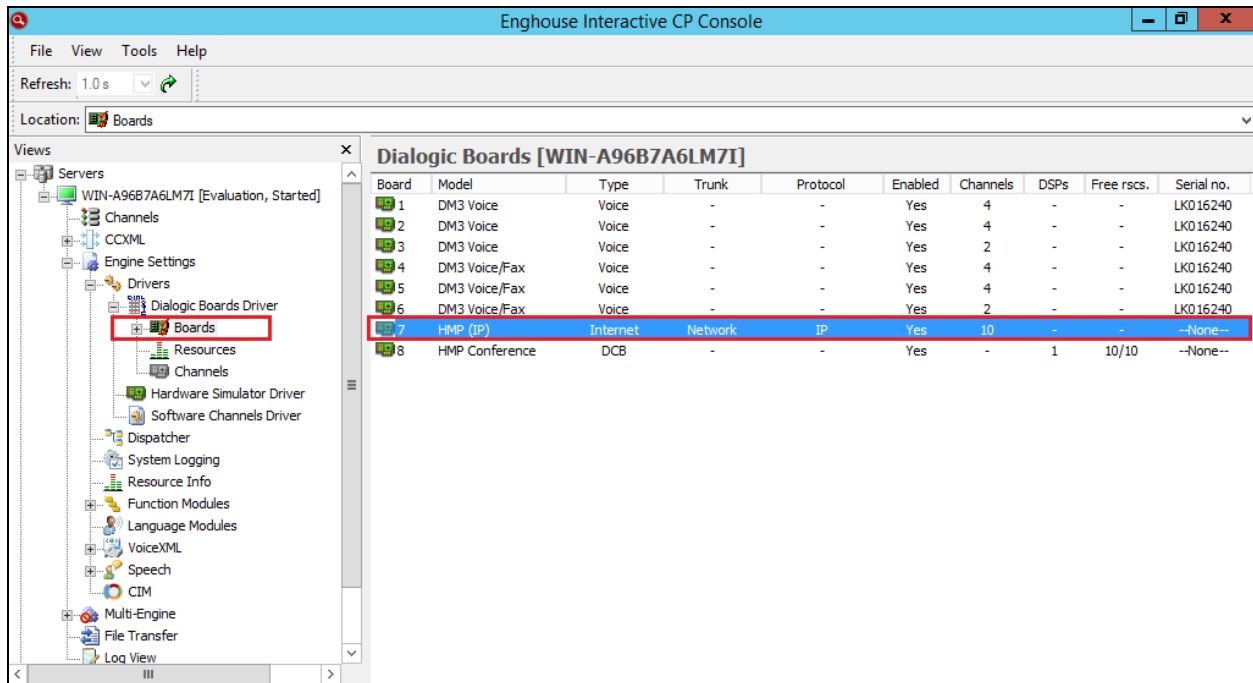
In the left window, navigate to **Servers**→[Server Name]→**Engine Settings**→**Drivers**→**Dialogic boards Driver**.



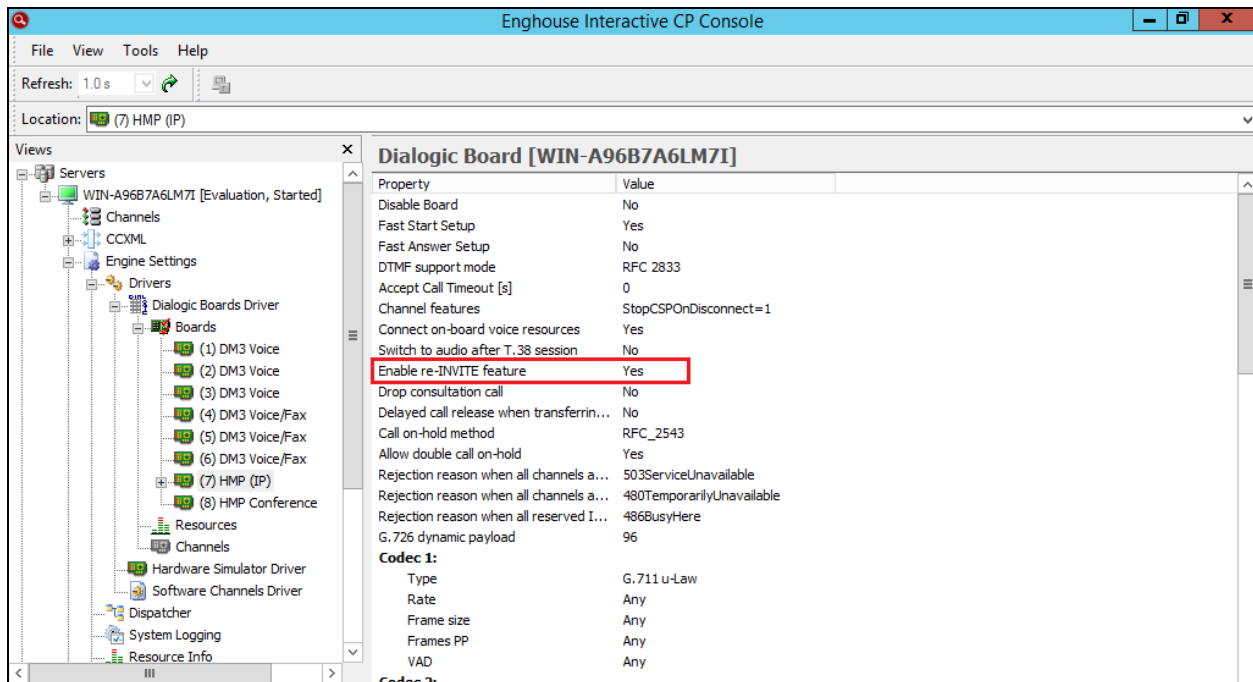
In the main window scroll down to **HMP Startup Options**, ensure that **Auto SIP OPTIONS** is set to **Yes**. **SIP Transport Protocol** is set to **User Defined** and **TCP** is **enabled**, also note the **Default Transport** is set to **TCP**.



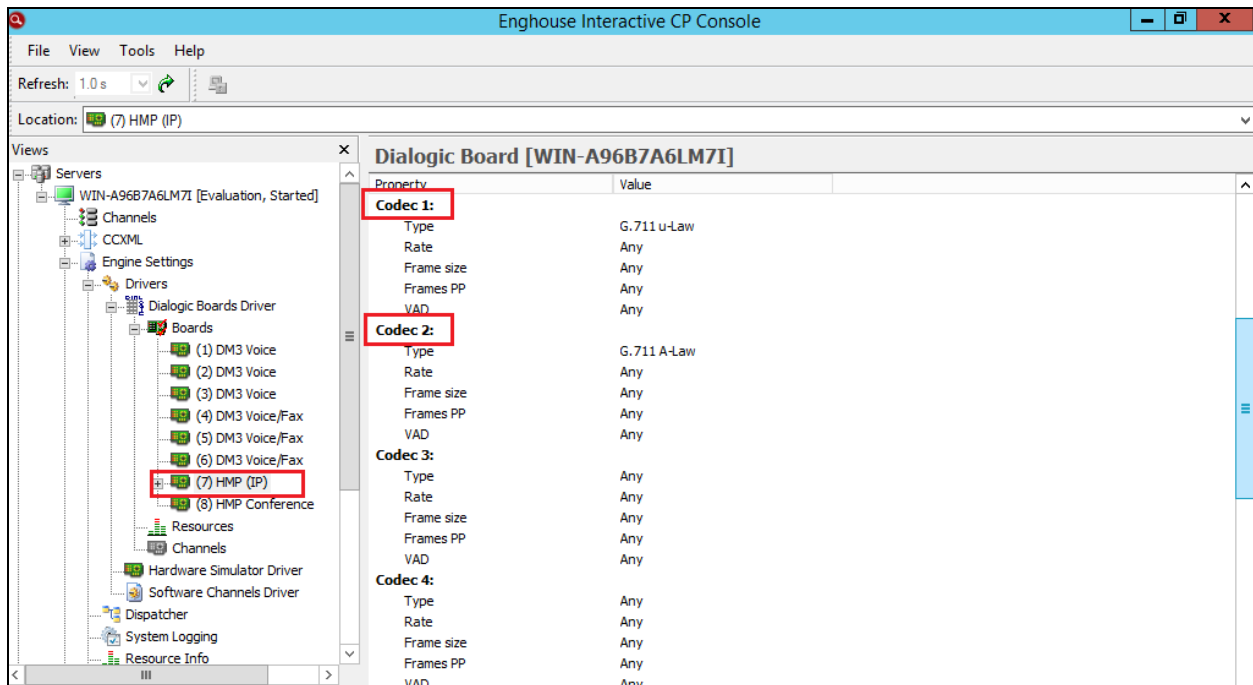
Click on **Boards** in the left window and select the **HMP (IP)** board in the main window.



The following window is then displayed; ensure that **Enable re-INVITE feature** is set to **Yes**.



Scroll down to **Codec 1, 2, 3...** and select the proper codec to be used. In the example below **G.711 u-Law** and **G.711 A-Law** are selected.



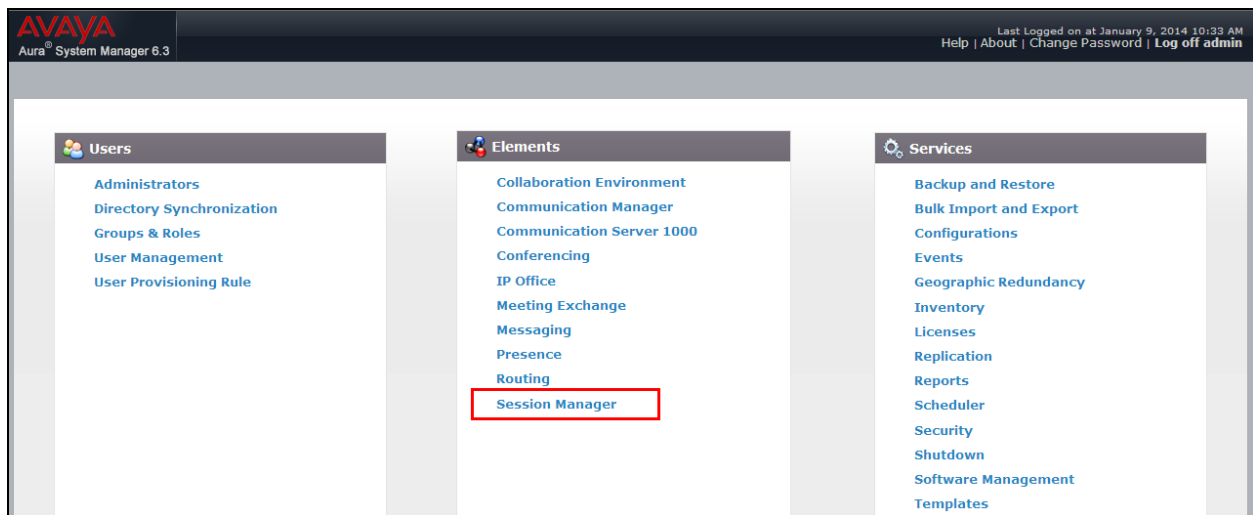
Please note that configuration of Communications Portal with regards to the setup of the IVR is outside the scope of these Application Notes, for more information on this setup please refer to **Section 11** of these Application Notes.

9. Verification Steps

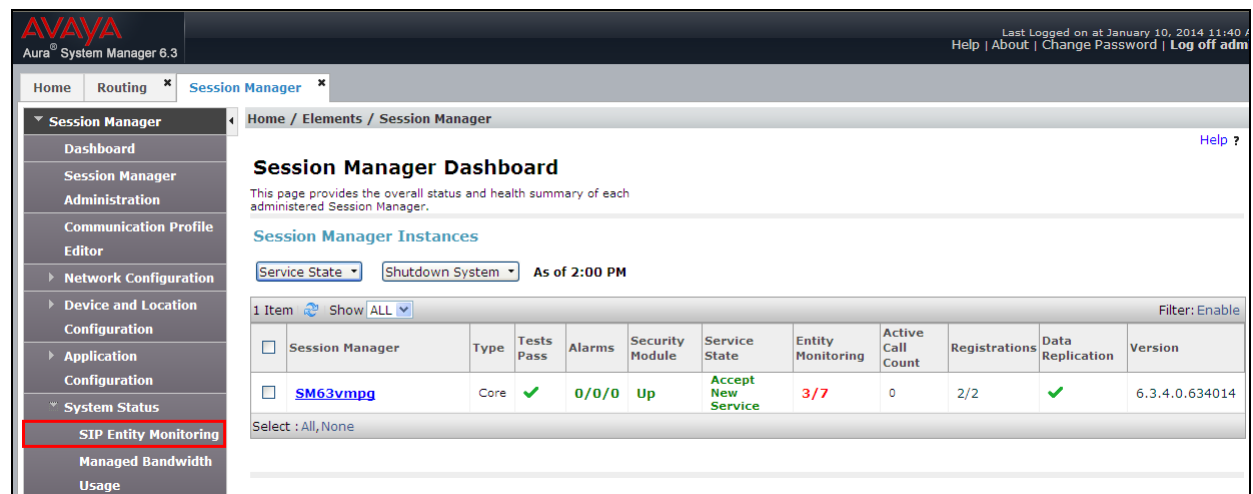
To verify a successful configuration of Enghouse Interactive Communications Portal and Session Manager/CS1000E a call is placed from a CS1000E telephone to the Communications Portal with the caller getting answered successfully hearing clear and audible speech.

9.1. Verify Enghouse Interactive Communications Portal SIP Entity Status

Log into System Manager as per **Section 7.1**. From the main menu select Session Manager as shown below.



Navigate to **System Status → SIP Entity Monitoring**.



Select the **EnghouseCP** SIP Entity.

Configuration	Session Manager	Type	Monitored Entities					
			Down	Partially Up	Up	Not Monitored	Deny	Total
System Status	<input type="checkbox"/>							
SIP Entity Monitoring	<input type="checkbox"/>	Core	3	0	7	0	0	10
Managed Bandwidth Usage								
Security Module Status								
SIP Firewall Status								
Registration Summary								
User Registrations								
Session Counts								
System Tools								
Performance								

Select: All, None

All Monitored SIP Entities

Run Monitor

10 Items | Refresh Filter: Enable

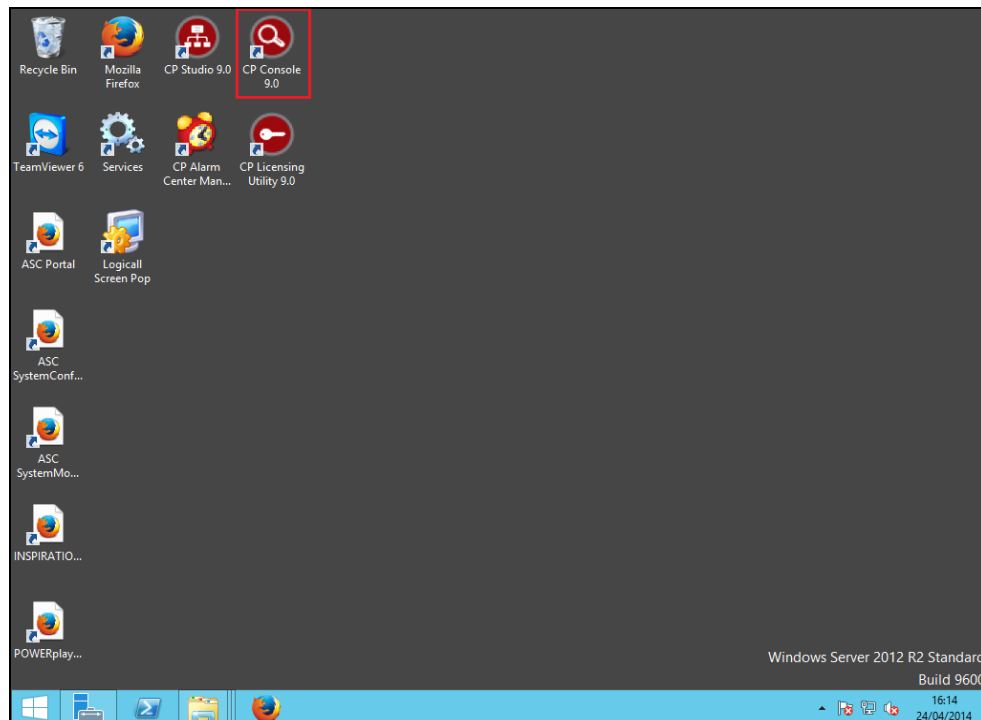
SIP Entity Name
<input type="checkbox"/> CM62
<input type="checkbox"/> AastraBS1
<input type="checkbox"/> AastraBS2
<input type="checkbox"/> AAMessaging
<input type="checkbox"/> ASCOMDECT1
<input type="checkbox"/> IPOfficeR9
<input type="checkbox"/> EnghouseCP
<input type="checkbox"/> CS1KPG2

Note that both the **Conn. Status** and **Link Status** show **UP**.

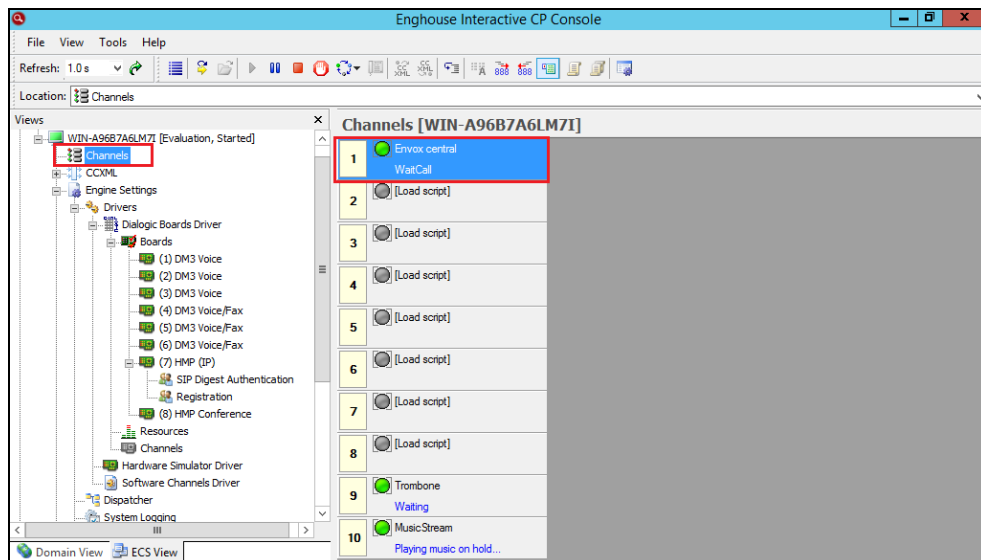
Application Configuration	1 Items Refresh Filter: Enable							
	Session Manager Name	SIP Entity Resolved IP	Port	Proto.	Deny	Conn. Status	Reason Code	Link Status
System Status	<input type="radio"/>							
SIP Entity Monitoring	<input type="radio"/>	10.10.40.40	5060	TCP	FALSE	UP	200 OK	UP
Managed Bandwidth Usage								
Security Module Status								
SIP Firewall Status								
Registration Summary								
User Registrations								
Session Counts								
System Tools								
Performance								

9.2. Verify Enghouse Interactive Communications Portal IVR Script

Open the **CP Console 9.0** by double clicking on the shortcut as shown below.



Channel 1 below has the script **Envox Central** associated with it; this should also show as green.



10. Conclusion

These Application Notes describe the configuration steps required for Enghouse Interactive Communications Portal 9.0 to successfully interoperate with Avaya Aura® Session Manager R6.3 and Avaya Communication Server 1000E R7.6. All feature functionality and serviceability test cases were completed successfully as outlined in **Section 2.2**.

11. Additional References

This section references the Avaya and Enghouse product documentation that are relevant to these Application Notes.

Product documentation for Avaya products may be found at <http://support.avaya.com>.

- [1] *Software Input Output Reference – Administration – Avaya Communication Sever 1000, R7.6* NN43001-611
- [2] *Administering Avaya Aura® Session Manager*, Release 6.3, 03-603324

Product documentation for Enghouse Interactive Communications Portal can be obtained by visiting the website, www.enghouseinteractive.com

Appendix A

Avaya Communication Server 1000E R7.6 - Linux Patches

Product Release: 7.65.16.00				
In system patches: 0				
In System service updates: 26				
PATCH#	IN SERVICE	SPECINS	REMOVABLE	NAME
2	Yes	NO	YES	cs1000-dmWeb-7.65.16.21-01.i386.000
3	Yes	NO	yes	cs1000-snmp-7.65.16.00-01.i686.000
4	Yes	NO	YES	cs1000-nrsm-7.65.16.00-03.i386.000
5	Yes	NO	YES	cs1000-oam-logging-7.65.16.01-01.i386.000
6	Yes	NO	yes	cs1000-cs1000WebService_6-0-7.65.16.21-00.i386.000
7	Yes	NO	YES	cs1000-sps-7.65.16.21-01.i386.000
8	Yes	NO	YES	cs1000-pd-7.65.16.21-00.i386.000
9	Yes	NO	YES	cs1000-shared-carrdtct-7.65.16.21-01.i386.000
10	Yes	NO	YES	cs1000-shared-tpselect-7.65.16.21-01.i386.000
11	Yes	NO	YES	cs1000-emWebLocal_6-0-7.65.16.21-01.i386.000
12	Yes	NO	yes	cs1000-dbcom-7.65.16.21-00.i386.000
13	Yes	NO	YES	cs1000-csmWeb-7.65.16.21-05.i386.000
14	Yes	NO	YES	cs1000-shared-xmsg-7.65.16.21-00.i386.000
15	Yes	NO	YES	cs1000-vtrk-7.65.16.21-29.i386.000
16	Yes	NO	YES	cs1000-tps-7.65.16.21-05.i386.000
17	Yes	NO	YES	cs1000-mscAnnc-7.65.16.21-02.i386.001
18	Yes	NO	YES	cs1000-mscAttn-7.65.16.21-04.i386.001
19	Yes	NO	YES	cs1000-mscConf-7.65.16.21-02.i386.001
20	Yes	NO	YES	cs1000-mscMusc-7.65.16.21-02.i386.001
21	Yes	NO	YES	cs1000-mscTone-7.65.16.21-03.i386.001
22	Yes	NO	YES	cs1000-bcc-7.65.16.21-21.i386.000
23	Yes	NO	YES	cs1000-Jboss-Quantum-7.65.16.21-3.i386.000
24	Yes	NO	YES	cs1000-emWeb_6-0-7.65.16.21-06.i386.000
25	Yes	NO	yes	cs1000-cs-7.65.P.100-01.i386.001
26	Yes	YES	yes	cs1000-linuxbase-7.65.16.21-08.i386.000
27	Yes	NO	YES	cs1000-patchWeb-7.65.16.21-06.i386.000

Avaya Communication Server 1000E R7.6 - Call Server Patches

VERSION 4121
 RELEASE 7
 ISSUE 65 P +
 DepList 1: core Issue: 01 (created: 2013-12-17 04:32:53 (est))

IN-SERVICE PEPS

PAT#	CR #	PATCH REF #	NAME	DATE	FILENAME	SPECINS
000	wi01052968	ISS1:1OF1	p32540_1	19/03/2014	p32540_1.cpl	NO
001	wi01045058	ISS1:1OF1	p32214_1	19/03/2014	p32214_1.cpl	NO
002	wi01085855	ISS1:1OF1	p32658_1	19/03/2014	p32658_1.cpl	NO
003	wi01053314	ISS1:1OF1	p32555_1	19/03/2014	p32555_1.cpl	NO
004	wi01060382	iss1:1of1	p32623_1	19/03/2014	p32623_1.cpl	YES
005	wi01070580	ISS1:1OF1	p32380_1	19/03/2014	p32380_1.cpl	NO
006	wi01101876	ISS1:1OF1	p32858_1	20/03/2014	p32858_1.cpl	NO
007	wi01061481	ISS1:1OF1	p32382_1	19/03/2014	p32382_1.cpl	NO
008	wi01124074	ISS1:1OF1	p32989_1	20/03/2014	p32989_1.cpl	NO
009	wi01099300	iss1:1of1	p32704_1	20/03/2014	p32704_1.cpl	NO
010	wi01035976	ISS1:1OF1	p32173_1	19/03/2014	p32173_1.cpl	NO
011	wi01065922	ISS1:1OF1	p32516_1	19/03/2014	p32516_1.cpl	NO
012	wi01055480	ISS1:1OF1	p32712_1	19/03/2014	p32712_1.cpl	NO
013	wi01041453	ISS1:1OF1	p32587_1	19/03/2014	p32587_1.cpl	NO
014	wi01096842	ISS1:1OF1	p32731_1	20/03/2014	p32731_1.cpl	NO
015	WI0110261	ISS1:1OF1	p32758_1	19/03/2014	p32758_1.cpl	NO
016	wi01064599	iss1:1of1	p32580_1	19/03/2014	p32580_1.cpl	NO
017	wi01098783	ISS1:1OF1	p32748_1	20/03/2014	p32748_1.cpl	NO
018	wi01072027	ISS1:1OF1	p32689_1	19/03/2014	p32689_1.cpl	NO
019	wi01059388	iss1:1of1	p32628_1	19/03/2014	p32628_1.cpl	NO
020	wi01104410	ISS1:1OF1	p32801_1	20/03/2014	p32801_1.cpl	NO
021	wi00933195	ISS1:1OF1	p32491_1	19/03/2014	p32491_1.cpl	NO
022	wi00996734	ISS1:1OF1	p32550_1	19/03/2014	p32550_1.cpl	NO
023	wi01065118	ISS1:1OF1	p32397_1	19/03/2014	p32397_1.cpl	NO
024	wi01063864	ISS1:1OF1	p32410_1	19/03/2014	p32410_1.cpl	YES
025	wi01096712	ISS1:1OF1	p32708_1	20/03/2014	p32708_1.cpl	NO
026	wi01075359	ISS1:1OF1	p32671_1	19/03/2014	p32671_1.cpl	NO
027	wi01080753	ISS1:1OF1	p32518_1	19/03/2014	p32518_1.cpl	NO
028	wi01070473	ISS1:1OF1	p32413_1	19/03/2014	p32413_1.cpl	NO
029	wi01075355	ISS1:1OF1	p32594_1	19/03/2014	p32594_1.cpl	NO
030	wi01071379	ISS1:1OF1	p32522_1	19/03/2014	p32522_1.cpl	NO
031	wi01070756	ISS1:1OF1	p32444_1	19/03/2014	p32444_1.cpl	NO
032	wi01075353	ISS1:1OF1	p32613_1	19/03/2014	p32613_1.cpl	NO
033	wi01062607	ISS1:1OF1	p32503_1	19/03/2014	p32503_1.cpl	NO
034	wi01068851	ISS1:1OF1	p32439_1	19/03/2014	p32439_1.cpl	NO
035	wi01075352	ISS1:1OF1	p32603_1	19/03/2014	p32603_1.cpl	NO
036	wi01092300	ISS1:1OF1	p32692_1	19/03/2014	p32692_1.cpl	NO
037	wi01063263	ISS1:1OF1	p32573_1	19/03/2014	p32573_1.cpl	NO
038	wi01087528	ISS1:1OF1	p32700_1	19/03/2014	p32700_1.cpl	NO
039	wi01111400	ISS1:1OF1	p32854_1	20/03/2014	p32854_1.cpl	NO
040	wi01039280	ISS1:1OF1	p32423_1	19/03/2014	p32423_1.cpl	NO
041	wi01068669	ISS1:1OF1	p32333_1	19/03/2014	p32333_1.cpl	NO
042	wi01069441	ISS1:1OF1	p32097_1	19/03/2014	p32097_1.cpl	NO
043	wi01058621	ISS1:1OF1	p32339_1	19/03/2014	p32339_1.cpl	NO
044	wi01032756	ISS1:1OF1	p32673_1	19/03/2014	p32673_1.cpl	NO
045	wi01070465	iss1:1of1	p32562_1	19/03/2014	p32562_1.cpl	NO
046	wi01053920	ISS1:1OF1	p32303_1	19/03/2014	p32303_1.cpl	NO
047	wi00897254	ISS1:1OF1	p31127_1	19/03/2014	p31127_1.cpl	NO
048	wi01057403	ISS1:1OF1	p32591_1	19/03/2014	p32591_1.cpl	NO
049	wi01066991	ISS1:1OF1	p32449_1	19/03/2014	p32449_1.cpl	NO
050	wi01094305	ISS1:1OF1	p32640_1	19/03/2014	p32640_1.cpl	NO
051	wi01060611	ISS1:1OF1	p32809_1	20/03/2014	p32809_1.cpl	NO

052	wi01123033	ISS1:1OF1	p33006_1	20/03/2014	p33006_1.cpl	NO
053	wi01060241	ISS1:1OF1	p32381_1	19/03/2014	p32381_1.cpl	NO
054	wi01034307	ISS1:1OF1	p32615_1	19/03/2014	p32615_1.cpl	NO
055	wi01052428	ISS1:1OF1	p32606_1	19/03/2014	p32606_1.cpl	NO
056	wi00884716	ISS1:1OF1	p32517_1	19/03/2014	p32517_1.cpl	NO
057	wi01070468	iss1:1of1	p32418_1	19/03/2014	p32418_1.cpl	NO
058	wi01091447	ISS1:1OF1	p32675_1	19/03/2014	p32675_1.cpl	NO
059	wi01130189	ISS1:1OF1	p33004_1	20/03/2014	p33004_1.cpl	YES
060	wi01132599	ISS1:1OF1	p33025_1	20/03/2014	p33025_1.cpl	NO
061	wi01065125	ISS1:1OF1	p32416_1	19/03/2014	p32416_1.cpl	NO
062	wi01056633	ISS1:1OF1	p32322_1	19/03/2014	p32322_1.cpl	NO
063	wi01078721	ISS1:1OF1	p32553_1	20/03/2014	p32553_1.cpl	NO
064	wi01053597	ISS1:1OF1	p32304_1	19/03/2014	p32304_1.cpl	NO
065	wi01132883	ISS1:1OF1	p33030_1	20/03/2014	p33030_1.cpl	NO
066	wi01025156	ISS1:1OF1	p32136_1	19/03/2014	p32136_1.cpl	NO
067	wi01088775	ISS1:1OF1	p32659_1	19/03/2014	p32659_1.cpl	NO
068	wi01114038	ISS1:1OF1	p32869_1	20/03/2014	p32869_1.cpl	NO
069	wi01075360	iss1:1of1	p32602_1	19/03/2014	p32602_1.cpl	NO
070	wi01053195	ISS1:1OF1	p32297_1	19/03/2014	p32297_1.cpl	NO
071	wi01043367	ISS1:1OF1	p32232_1	19/03/2014	p32232_1.cpl	NO
072	wi01082456	ISS1:1OF1	p32596_1	19/03/2014	p32596_1.cpl	NO
073	wi01089519	ISS1:1OF1	p32665_1	19/03/2014	p32665_1.cpl	NO
074	wi01105888	ISS1:1OF1	p32794_1	20/03/2014	p32794_1.cpl	NO
075	wi01088585	ISS1:1OF1	p32656_1	19/03/2014	p32656_1.cpl	NO
076	wi01035980	ISS1:1OF1	p32558_1	19/03/2014	p32558_1.cpl	NO
077	wi01087543	ISS1:1OF1	p32662_1	19/03/2014	p32662_1.cpl	NO
078	wi01060826	ISS1:1OF1	p32379_1	19/03/2014	p32379_1.cpl	NO
079	wi01114177	ISS1:1OF1	p32871_1	20/03/2014	p32871_1.cpl	NO
080	wi01034961	ISS1:1OF1	p32144_1	19/03/2014	p32144_1.cpl	NO
081	wi01111041	ISS1:1OF1	p32840_1	20/03/2014	p32840_1.cpl	NO
082	WI01077073	ISS1:1OF1	p32534_1	19/03/2014	p32534_1.cpl	NO
083	wi01133985	ISS1:1OF1	p33049_1	20/03/2014	p33049_1.cpl	NO
084	wi01060341	ISS1:1OF1	p32578_1	19/03/2014	p32578_1.cpl	NO
085	wi01130836	ISS1:1OF1	p33008_1	20/03/2014	p33008_1.cpl	YES
086	wi01118928	ISS1:1OF1	p32922_1	20/03/2014	p32922_1.cpl	NO
087	wi01070585	ISS1:1OF1	p32383_1	20/03/2014	p32383_1.cpl	NO
088	wi01071296	ISS1:1OF1	p32836_1	20/03/2014	p32836_1.cpl	NO
089	wi01089355	ISS1:1OF1	p32674_1	20/03/2014	p32674_1.cpl	YES
090	wi01119312	ISS1:1OF1	p32919_1	20/03/2014	p32919_1.cpl	NO
091	wi01134952	ISS1:1OF1	p33039_1	20/03/2014	p33039_1.cpl	NO
092	wi01124477	ISS1:1OF1	p32963_1	20/03/2014	p32963_1.cpl	NO
093	wi01117636	ISS1:1OF1	p32941_1	20/03/2014	p32941_1.cpl	YES
094	wi01115894	ISS1:1OF1	p32910_1	20/03/2014	p32910_1.cpl	NO
095	wi01101385	ISS1:1OF1	p32773_1	20/03/2014	p32773_1.cpl	YES
096	wi01115450	ISS1:1OF1	p32888_1	20/03/2014	p32888_1.cpl	NO
097	wi01075538	ISS1:1OF1	p32469_1	20/03/2014	p32469_1.cpl	NO
098	wi01038234	ISS1:1OF1	p32192_1	20/03/2014	p32192_1.cpl	YES
099	wi01126552	ISS1:1OF1	p32975_1	20/03/2014	p32975_1.cpl	NO
100	wi01130405	ISS1:1OF1	p33015_1	20/03/2014	p33015_1.cpl	NO
101	wi01129028	ISS1:1OF1	p33016_1	20/03/2014	p33016_1.cpl	NO
102	wi01099724	ISS1:1OF1	p32742_1	20/03/2014	p32742_1.cpl	YES
103	wi01129098	ISS1:1OF1	p32951_1	20/03/2014	p32951_1.cpl	NO
104	wi01101781	ISS1:1OF1	p32890_1	20/03/2014	p32890_1.cpl	NO
105	WI01108562	ISS1:1OF1	p32832_1	20/03/2014	p32832_1.cpl	NO
106	wi01094727	ISS1:1OF1	p32848_1	20/03/2014	p32848_1.cpl	NO
107	wi01096967	ISS1:1OF1	p32735_1	20/03/2014	p32735_1.cpl	NO
108	wi01022598	ISS1:1OF1	p32066_1	20/03/2014	p32066_1.cpl	NO
109	wi01126454	ISS1:1OF1	p32973_1	20/03/2014	p32973_1.cpl	NO
110	wi01051200	ISS1:1OF1	p32290_1	20/03/2014	p32290_1.cpl	NO
111	wi01127640	ISS1:1OF1	p32992_1	20/03/2014	p32992_1.cpl	NO
112	wi01128512	ISS1:1OF1	p32997_1	20/03/2014	p32997_1.cpl	NO
113	wi01122174	ISS1:1OF1	p32936_1	20/03/2014	p32936_1.cpl	NO

114	wi01097598	ISS1:1OF1	p32797_1	20/03/2014	p32797_1.cpl	NO
115	wi01095462	ISS1:1OF1	p32723_1	20/03/2014	p32723_1.cpl	NO
116	wi01108828	ISS1:1OF1	p32831_1	20/03/2014	p32831_1.cpl	NO
117	wi01104473	ISS1:1OF1	p32818_1	20/03/2014	p32818_1.cpl	NO
118	wi01079444	ISS1:1OF1	p32564_1	20/03/2014	p32564_1.cpl	NO
119	wi01109251	ISS1:1OF1	p32827_1	20/03/2014	p32827_1.cpl	NO
120	wi01092443	ISS1:1OF1	p32676_1	20/03/2014	p32676_1.cpl	NO
121	wi01099292	ISS1:1OF1	p32886_1	20/03/2014	p32886_1.cpl	NO
122	wi01104867	ISS1:1OF1	p32828_1	20/03/2014	p32828_1.cpl	NO
123	wi01080963	ISS1:1OF1	p32626_1	20/03/2014	p32626_1.cpl	YES
124	wi01065115	ISS1:1OF1	p32523_1	20/03/2014	p32523_1.cpl	NO
125	wi01081510	ISS1:1OF1	p32582_1	20/03/2014	p32582_1.cpl	NO
126	wi01110593	ISS1:1OF1	p32849_1	20/03/2014	p32849_1.cpl	NO
127	wi01099606	iss1:1of1	p32713_1	20/03/2014	p32713_1.cpl	NO
128	wi01123389	ISS1:1OF1	p33045_1	20/03/2014	p33045_1.cpl	NO
129	wi01072062	ISS1:1OF1	p32776_1	20/03/2014	p32776_1.cpl	NO
130	wi01076654	ISS1:1OF1	p32529_1	20/03/2014	p32529_1.cpl	NO
131	WI01092793	ISS1:1OF1	p32699_1	20/03/2014	p32699_1.cpl	NO
132	wi01128596	ISS1:1OF1	p33000_1	20/03/2014	p33000_1.cpl	NO
133	wi01090535	ISS1:1OF1	p32519_1	20/03/2014	p32519_1.cpl	NO
134	wi01127447	ISS1:1OF1	p32990_1	20/03/2014	p32990_1.cpl	NO
135	wi01132244	ISS1:1OF1	p33041_1	20/03/2014	p33041_1.cpl	NO
136	wi01126704	ISS1:1OF1	p32980_1	20/03/2014	p32980_1.cpl	NO
137	wi01093118	ISS1:1OF1	p32496_1	20/03/2014	p32496_1.cpl	NO
138	wi01108262	ISS1:1OF1	p32865_1	20/03/2014	p32865_1.cpl	YES
139	wi01098433	ISS1:1OF1	p32736_1	20/03/2014	p32736_1.cpl	NO
140	wi01115807	ISS1:1OF1	p32895_1	20/03/2014	p32895_1.cpl	YES
141	wi01072366	ISS1:1OF1	p32488_1	20/03/2014	p32488_1.cpl	NO
142	wi01136698	ISS1:1OF1	p33057_1	20/03/2014	p33057_1.cpl	NO
143	wi01119086	ISS1:1OF1	p32917_1	20/03/2014	p32917_1.cpl	NO
144	wi01132204	ISS1:1OF1	p32501_1	20/03/2014	p32501_1.cpl	NO
145	wi01058378	ISS1:1OF1	p32344_1	20/03/2014	p32344_1.cpl	NO
146	wi01088797	ISS1:1OF1	p32844_1	20/03/2014	p32844_1.cpl	NO
147	wi00937672	ISS1:1OF1	p31276_1	20/03/2014	p31276_1.cpl	NO
148	wi01098905	ISS1:1OF1	p32556_1	20/03/2014	p32556_1.cpl	NO
149	wi01120705	ISS1:1OF1	p32930_1	20/03/2014	p32930_1.cpl	NO
150	wi01120406	ISS1:1OF1	p32956_1	20/03/2014	p32956_1.cpl	NO
151	wi01083896	ISS1:1OF1	p32937_1	20/03/2014	p32937_1.cpl	NO
152	wi01130815	ISS1:1OF1	p33017_1	20/03/2014	p33017_1.cpl	NO
153	wi01113374	ISS1:1OF1	p32874_1	20/03/2014	p32874_1.cpl	NO
154	wi01102168	ISS1:1OF1	p32738_1	20/03/2014	p32738_1.cpl	NO
155	wi01104627	ISS1:1OF1	p32819_1	20/03/2014	p32819_1.cpl	NO
156	wi01137003	ISS1:1OF1	p33053_1	20/03/2014	p33053_1.cpl	NO
157	wi01093071	ISS1:1OF1	p32701_1	20/03/2014	p32701_1.cpl	NO
158	wi01068751	ISS1:1OF1	p32445_1	20/03/2014	p32445_1.cpl	NO
159	wi01134602	ISS1:1OF1	p32398_1	20/03/2014	p32398_1.cpl	NO
160	wi01102093	ISS1:1OF1	p32760_1	20/03/2014	p32760_1.cpl	NO
161	wi01101969	ISS1:1OF1	p32726_1	20/03/2014	p32726_1.cpl	NO
162	wi01133106	ISS1:1OF1	p33032_1	20/03/2014	p33032_1.cpl	NO
163	wi01070279	ISS1:1OF1	p32262_1	20/03/2014	p32262_1.cpl	NO
164	wi01107601	ISS1:1OF1	p32970_1	20/03/2014	p32970_1.cpl	NO
165	wi01088915	ISS1:1OF1	p32638_1	20/03/2014	p32638_1.cpl	NO
166	wi01130348	ISS1:1OF1	p33014_1	20/03/2014	p33014_1.cpl	NO
167	wi01077639	ISS1:1OF1	p32883_1	20/03/2014	p32883_1.cpl	NO
168	wi01125238	ISS1:1OF1	p32971_1	20/03/2014	p32971_1.cpl	NO
169	wi01000087	ISS1:1OF1	p32014_1	20/03/2014	p32014_1.cpl	NO
170	wi01119100	ISS1:1OF1	p32925_1	20/03/2014	p32925_1.cpl	NO
171	wi01132902	ISS1:1OF1	p33028_1	20/03/2014	p33028_1.cpl	NO
172	wi01053950	ISS1:1OF1	p32654_1	20/03/2014	p32654_1.cpl	YES
173	wi01082824	ISS1:1OF1	p32467_1	20/03/2014	p32467_1.cpl	NO
174	wi01109345	ISS1:1OF1	p32830_1	20/03/2014	p32830_1.cpl	NO
175	wi01073725	ISS1:1OF1	p32552_1	20/03/2014	p32552_1.cpl	NO

176	wi01103142	ISS1:1OF1	p32778_1	20/03/2014	p32778_1.cpl	NO
177	wi01099810	ISS1:1OF1	p32796_1	20/03/2014	p32796_1.cpl	NO
178	wi01134354	ISS1:1OF1	p33031_1	20/03/2014	p33031_1.cpl	NO
179	wi01127527	ISS1:1OF1	p32988_1	20/03/2014	p32988_1.cpl	YES
180	wi01095255	ISS1:1OF1	p33027_1	20/03/2014	p33027_1.cpl	NO
181	wi01121374	ISS1:1OF1	p31107_1	20/03/2014	p31107_1.cpl	NO
182	wi01102475	ISS1:1OF1	p32782_1	20/03/2014	p32782_1.cpl	YES
183	wi01120458	ISS1:1OF1	p32929_1	20/03/2014	p32929_1.cpl	NO
184	wi01118320	ISS1:1OF1	p32753_1	20/03/2014	p32753_1.cpl	NO
185	wi01133960	ISS1:1OF1	p33034_1	20/03/2014	p33034_1.cpl	NO
186	wi01075540	ISS1:1OF1	p32492_1	20/03/2014	p32492_1.cpl	NO
187	wi01112655	ISS1:1OF1	p32870_1	20/03/2014	p32870_1.cpl	NO
188	wi01106658	ISS1:1OF1	p32812_1	20/03/2014	p32812_1.cpl	NO
189	wi01021522	ISS1:1OF1	p32863_1	20/03/2014	p32863_1.cpl	NO
190	wi01089807	ISS1:1OF1	p32957_1	20/03/2014	p32957_1.cpl	NO
191	wi01083036	ISS1:1OF1	p32571_1	20/03/2014	p32571_1.cpl	NO
192	wi01102091	ISS1:1OF1	p32744_1	20/03/2014	p32744_1.cpl	YES
193	wi01104486	ISS1:1OF1	p32866_1	20/03/2014	p32866_1.cpl	NO
194	wi01119863	ISS1:1OF1	p32923_1	20/03/2014	p32923_1.cpl	NO
195	wi01071996	ISS1:1OF1	p32461_1	20/03/2014	p32461_1.cpl	NO
196	wi01094832	iss1:1of1	p32718_1	20/03/2014	p32718_1.cpl	NO
197	wi01115369	ISS1:1OF1	p32889_1	20/03/2014	p32889_1.cpl	NO
198	wi01137737	ISS1:1OF1	p33055_1	20/03/2014	p33055_1.cpl	NO
199	wi01081692	ISS1:1OF1	p32569_1	20/03/2014	p32569_1.cpl	NO
200	wi01065248	ISS1:1OF1	p32412_1	20/03/2014	p32412_1.cpl	NO
201	wi01132222	ISS1:1OF1	p33023_1	20/03/2014	p33023_1.cpl	NO
202	wi01127874	ISS1:1OF1	p25747_1	20/03/2014	p25747_1.cpl	NO
203	wi01118819	ISS1:1OF1	p32954_1	20/03/2014	p32954_1.cpl	NO
204	wi01096907	ISS1:1OF1	p32733_1	20/03/2014	p32733_1.cpl	NO
205	wi01111194	ISS1:1OF1	p32821_1	20/03/2014	p32821_1.cpl	NO
206	wi01113712	ISS1:1OF1	p32877_1	20/03/2014	p32877_1.cpl	NO
207	wi01100508	ISS1:1OF1	p32761_1	20/03/2014	p32761_1.cpl	NO
208	wi01096910	ISS1:1OF1	p32734_1	20/03/2014	p32734_1.cpl	NO
209	wi01071659	ISS1:1OF1	p32589_1	20/03/2014	p32589_1.cpl	NO
210	wi01075149	ISS1:1OF1	p32475_1	20/03/2014	p32475_1.cpl	NO
211	wi01097166	ISS1:1OF1	p32878_1	20/03/2014	p32878_1.cpl	NO
212	wi01068922	ISS1:1OF1	p32454_1	20/03/2014	p32454_1.cpl	NO
213	wi01127738	ISS1:1OF1	p32993_1	20/03/2014	p32993_1.cpl	NO
214	wi01102296	ISS1:1OF1	p32780_1	20/03/2014	p32780_1.cpl	NO
215	wi01076948	ISS1:1OF1	p32526_1	20/03/2014	p32526_1.cpl	YES
216	wi01088055	ISS1:1OF1	p32607_1	20/03/2014	p32607_1.cpl	NO
217	wi01114695	ISS1:1OF1	p32885_1	20/03/2014	p32885_1.cpl	NO
MDP>LAST SUCCESSFUL MDP REFRESH :2014-03-20 09:14:46(Local Time)						
MDP>USING DEPLIST ZIP FILE DOWNLOADED :2014-03-20 04:55:58(est)						

Appendix B

Avaya Communication Server 1000E D-Channel for SIP Trunks

```
>ld 22
REQ prt
TYPE adan dch 1
ADAN DCH 1
CTYP DCIP
DES SIPL
USR ISLD
ISLM 4000
SSRC 3700
OTBF 32
NASA NO
IFC SL1
CNEG 1
RLS ID 25
RCAP
MBGA NO
H323
OVLN NO
OVLS NO
```

Avaya Communication Server 1000E Route for SIP calls

```
>ld 21
REQ: prt
TYPE: rdb
CUST 0
ROUT 22
TYPE RDB
CUST 00
ROUT 22
DES SIPTRK
TKTP TIE
M911P NO
ESN NO
RPA NO
CNVT NO
SAT NO
RCLS EXT
VTRK YES
ZONE 00066
PCID SIP
CRID YES
SBWM NO
NODE 111
DTRK NO
ISDN YES
MODE ISLD
DCH 1
IFC SL1
PNI 00001
NCNA YES
NCRD YES
TRO YES
FALT NO
```

CTYP UKWN
 INAC NO
 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 8022
 TCPP NO
 PII NO
 AUXP NO
 TARG
 CLEN 1
 BILN NO
 OABS
 INST
 IDC NO
 DCNO 0 *
 NDNO 0
 DEXT NO
 ANTK
 SIGO STD
 STYP SDAT
 MFC NO
 ICIS YES
 OGIS YES
 PTUT 0
 TIMR ICF 1920
 OGF 1920
 EOD 13952
 LCT 256
 DSI 34944
 NRD 10112
 DDL 70
 ODT 4096
 RGV 640
 GTO 896
 GTI 896
 SFB 3
 PRPS 800
 NBS 2048
 NBL 4096
 IENB 5
 TFD 0
 RTD 12
 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 NO
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
PECL NO
DCTI 0
TIDY 8022 22
ATRR NO
TRRL NO
SGRP 0
CCBA NO
ARDN NO
CTBL 0
ANIE 0
CAC_CIS 3
AACR NO

Avaya Communication Server 1000E Trunk channel

```
>ld 20
REQ: prt
TYPE: tn
TYPE TNB
TN 100 0 3 0
DES SIPTRK
TN 100 0 03 00 VIRTUAL
TYPE IPTI
CDEN 8D
CUST 0
XTRK VTRK
ZONE 00066
TIMP 600
BIMP 600
AUTO_BIMP NO
NMUS NO
TRK ANLG
NCOS 0
RTMB 22 1
CHID 11
TGAR 0
STRI/STRO IMM IMM
SUPN YES
AST NO
IAPG 0
CLS UNR DIP CND ECD WTA LPR APN THFD XREP SPCD MSBT
P10 NTC MID
TKID
AACR NO
DATE 27 AUG 2013
```

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