



## Avaya Solution & Interoperability Test Lab

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### **Application Notes for configuring Intuition Acclaim V5.4 from Enghouse Interactive to interoperate with Avaya Communication Server 1000 R7.6 - Issue 1.0**

#### **Abstract**

These Application Notes describe the configuration steps required for Intuition Acclaim to interoperate with Avaya Communication Server 1000 using the Local Media Server on IP Media Services to connect directly to the Avaya Media Server.

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 for Intuition Acclaim V5.4 from Enghouse Interactive to interoperate with Avaya Communication Server 1000 R7.6 using the Local Media Server to make a direct connection from the Avaya Communication Server 1000 IP Media Services to the Avaya Media Server R7.6.

Intuition Acclaim is a suite of applications built around an operator console called Switchboard that runs on a desktop PC, providing operators with extended call-handling functionality. In addition, it offers directory, search, absence, person-specific announcements and other benefits. Switchboard and its underlying components are the only part of the Intuition Acclaim suite that has direct integration with the Avaya Communication Server 1000.

The Intuition Acclaim Switchboard application uses the Avaya IP Attendant Software Development Kit (SDK) in order to connect to and communicate with the Avaya IP Attendant Gateway and Avaya Media Server. This SDK is responsible for the signalling and voice media path and the Intuition Acclaim console controls the interactions.

The IP Attendant 3260 is an IP-enabled Attendant Console that replaces the need for a Personal Computer Console Interface Unit (PCCIU) or an Avaya M2250 Attendant Console for supported third party Attendant Console clients such as Intuition Acclaim. The IP Attendant Console is included with the IP Media Services applications that are installed as part of the Signalling Server software.

IP Media Services is installed with the Signaling Server application and enabled using Element Manager. To configure the individual IP Media Services applications, package 422 must be unrestricted and configuration options must adhere to licensing limitations.

The IP Attendant Gateway is an application running on IP Media Services and uses Session Initialization Protocol (SIP) to manage signalling between the IP Attendant Console and Avaya Media Server. Communication between the IP Attendant Gateway and the CS1000 Call Server is managed using Time Compression Multiplexing (TCM) messaging, over TCP. In a Direct deployment, the IP Attendant client communicates directly with an IP Attendant Gateway and then on to the Local Media Server.

**Note:** These Application Notes focus on IP Media Services connecting directly with the Avaya Media Server via the Local Media Server. Another option could have Avaya Aura® Session Manager acting as a proxy server between the CS1000 IP Media Services and the Avaya Media Server and the Application Notes titled *Application Notes for configuring Intuition Acclaim from Enghouse to interoperate with Avaya Communication Server 1000 R7.6 using Avaya Aura® Session Manager R7.1* illustrates the setup required for this option.

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

The general test approach was to configure the Intuition Acclaim to communicate with the CS1000 as implemented on a customer's premises. For this compliance testing the Avaya solution was setup to use the Local Media Server on IP Media Services to connect directly to the Avaya Media Server. Testing focused on verifying that Intuition Acclaim registered with the IP Attendant and all features of the Switchboard behaved as expected. Various call scenarios were performed to simulate real call types as would be observed on a customer premises. See **Figure 1** for a network diagram. The interoperability compliance test included both feature functionality and serviceability tests.

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.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Avaya systems and Intuition Acclaim did not include use of any specific encryption features as requested by Enghouse Interactive.

### **2.1. Interoperability Compliance Testing**

The testing included:

- Verification of connectivity between: the CS1000 and the Intuition Acclaim PC
- Switchboard answers direct calls
- Supervised and unsupervised transfer with answer
- Directing calls to busy extensions
- Call queuing and retrieval
- Detection for busy and unanswered extensions
- Person-specific announcements
- End to End signalling
- Camp-on to busy extensions
- Call Requeuing

- Conference calls
- Serviceability testing, which included a simulated LAN failure from the Intuition Acclaim PC

## 2.2. Test Results

Tests were performed to insure full interoperability of the Intuition Acclaim with the CS1000 using the Local Media Server on IP Media Services to connect directly to the Avaya Media Server. The tests were all functional in nature and performance testing was not included. All test cases that were executed passed successfully. The following observations were noted.

- The Switchboard makes a transfer by dialling party B while the operator is still present on a call with party A, when party B answers the call the three parties are in conference. When the operator hangs up, the call the two remaining parties are still in the conference and that is how the transfer was made.
- Upon completion of a Blind or Supervised transfer (as described above) the CLID displayed on the Avaya 1100 Series SIP phones was not updated, but the Digital and UNIStim phones were, this is as per design as the SIP phone did not receive any message to update the display, this is due to the phone being in conference and not being transferred in the typical fashion.
- Upon completion of a Blind or Supervised transfer (as described above) the CLID displayed on the PSTN phone (Simulated PSTN using SIP trunk from the CS1000 to Communication Manager) was not updated but the Digital and UNIStim phones were, this is as per design as the PSTN phone did not receive any message to update the display, this is due to the phone being in conference and not being transferred in the typical fashion.
- DTMF tones are heard on SIP and Digital phones; however DTMF was not heard on calls to UNIStim phones. DTMF tones are not audible on the UNIStim IP set as the DTMF tones are out of band.

## 2.3. Support

EMEA technical support from Enghouse Interactive can be obtained through the following:

Phone: +44 870 220 2205, opt1, opt2

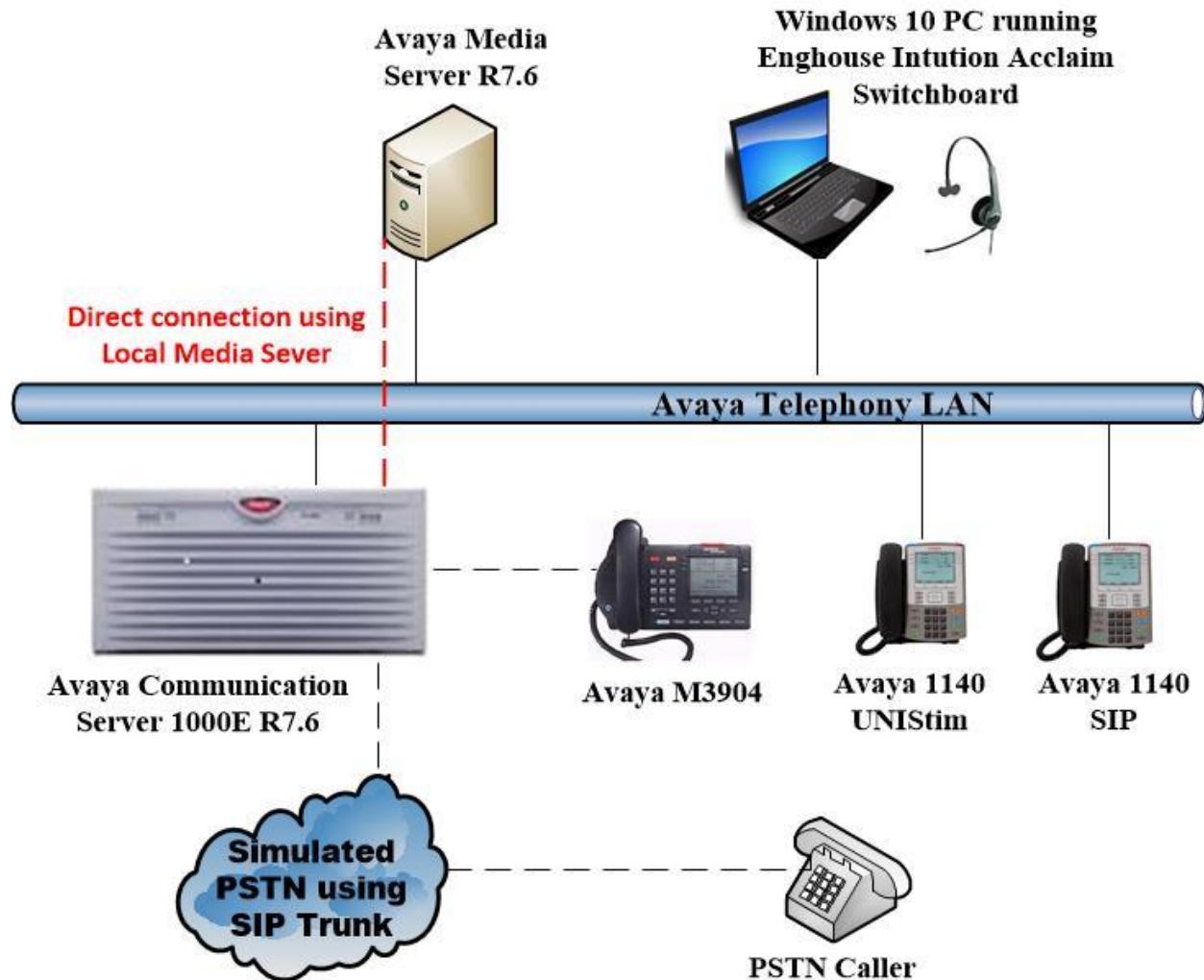
E-mail: [support@datapulse.com](mailto:support@datapulse.com)

### 3. Reference Configuration

Figure 1 illustrates the network topology used during compliance testing. The Avaya solution consists of a CS1000 and an Avaya Media Server. The Intuition Acclaim registers to the CS1000 as an IP Attendant 3260, for which an IP Attendant 3260 is configured on the CS1000.

The IP Media Services Controller on the CS1000 uses the Local Media Server on IP Media Services to connect directly to the Avaya Media Server.

SIP, Digital and UNIStim phones are configured on the CS1000 to generate intra-switch calls and outbound calls to a simulated PSTN caller over a SIP trunk.



**Figure 1: Avaya Communication Server 1000 R7.6 and Enghouse Interactive Intuition Acclaim Switchboard V5.4**

## 4. Equipment and Software Validated

The following equipment and software was used for the compliance test.

Device Description	Versions Tested
Avaya Communication Server 1000 running on Common Processor Pentium Mobile CPPM (Pentium M Processor Card)	R7.65.16.00 (See <b>Appendix A</b> for patch details)
Avaya Media Server running on a COTS server (IBM x3350)	R7.65.16.00 (See <b>Appendix B</b> for patch details)
Avaya 1140 UNIStim Deskphone	UNIStim V0625C8Q
Avaya 1140 SIP Deskphone	SIP 04.04.28.00
Avaya 3904 Digital set	Core Firmware 024 Flash Firmware 094
Enghouse Interactive Intuition Acclaim running on a Windows 10 Enterprise PC - Application Switchboard - Product Intuition Acclaim	V5.4.0.570 V5.4.0.42

## 5. Configure Avaya Communication Server 1000

It is assumed that a fully functioning CS1000 is in place with the necessary licensing and with any required SIP trunks. See **Appendix C** for a printout of the SIP route, d-channel, and trunk information. For further information on the configuration of CS1000 please see **Section 11** of these Application Notes. “PUTTY” is used to administer the CS1000. Using PuTTY, open an SSH session to the Node IP address of the CS1000, log in to the CS1000 Linux application using the appropriate credentials and type **cslogin** (not shown) to gain access to the PBX command line.

**Note:** A simulated PSTN connection was present on the CS1000 in the form of a SIP Trunk connection, the configuration of which is outside the scope of these Application Notes.

**Note:** Ensure the CS1000 has sufficient licenses for **IP MEDIA SESSIONS** and **IP ATTENDANT CONSOLES** this can be found by typing SLT into overlay 22.

**Note:** Not all prompts require a response and what is shown throughout this section are the responses that were given in the setup for this particular configuration. Please be aware that other sites may require different responses as each site is setup in its own unique fashion. Pressing the ‘Return’ key will add the default response in most cases.

### 5.1. Configure IP Attendant

Intuition Acclaim connects to and uses an IP Attendant Console type 3260. The configuration of the 3260 attendant console is carried out in overlay 12. At the prompt, type **LD 12**.

**Note:** The **TN** (Primary TN) and **SETN** (Secondary TN) are required when configuring Intuition Acclaim in **Section 8.1**.

Prompt	Response	Description
>	<b>LD 12</b>	Enter Overlay 12
REQ	New	New Data
TYPE	9260	Attendant type
TN	100 0 00 13	Terminal number
CTYP	XDLC	Card type
SETN	100 0 00 14	Secondary Terminal number
CUST	0	Customer number
ANUM	01	Attendant number
IADN	3900	Attendant Destination number
SSU		
ICDR	ICDD	Internal Call Detail Recording (Denied) Allowed
ABAN	ABDD	Abandoned call record and time to answer Denied
CPND	CNDA	Call Party Name Display Allowed
PRES		
AADN		
DNDI	DNDA	Dialed Name Display (Denied) Allowed
ZONE	0010	Bandwidth Zone for the IP set
IPCR	NO	
DAPC	DAPA	Display Access Prefix Allowed
LANG	00	
KEY 00	BVR	Allow Busy Verify on key 0

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
KEY 01	BIN	Allow Barge-In on key 01
KEY 02	BKI	Break-In key
KEY 03	AWU	Automatic Wake Up key (cannot be key 0 or 1)
KEY 04	PRK	Call Park key
KEY 05	DPD	Display Destination key
KEY 06	DPS	Display Source key
KEY 07	DCW	Display Call Waiting key
KEY 10	MIK	Message Indication key
KEY 11	MCK	Message Cancellation key
KEY 12	SACP	Semi-Automatic Camp-On key
KEY 13	SECL	Series Call key
KEY 14	SCC 0001	Speed Call Controller key
KEY 15	EES	End to End Signalling key
KEY 16	DDL	Do Not Disturb Individual key
KEY 17	COS	Controlled Class of Service key
Return to end		

## 5.2. Configure ATT\_DATA Block

Attendant Data needs to be configured for the IP Attendant 3260 to function. The configuration of Attendant Data is carried out in overlay 15. Type **LD 15** to get into overlay 15 and issue the command **CHG** to change the Attendant Data, subsets of these commands are illustrated below.

**Note:** The ICI settings in this section are required when configuring Intuition Acclaim.

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
>	<b>LD 15</b>	Enter Overlay 15
REQ	CHG	Change Data
TYPE	ATT	Attendant
CUST	0	Customer Number
OPT	ABDA AHA EBIN BIXA BLA BOHA DNCA DNX DRE FACD IC2 XTG IDP XLF XBL MCTD NCD CUI MWUD LOD PSA RECA REA SYA SLA SIAA ATDA	
ATDN	0	Attendant Directory Number
NCOS	0	Class of Service
CWUP	YES	Call Waiting queue Update
CWCL	2 4	Call Waiting queue Update
CWTM	10 20	Call Waiting Time
CWBZ	NO NO	Call Waiting Buzz
EFLL	0	Efficiency Factor Loading Level
MATT	YES	Consoles used as Message Center
RTIM	30 30 30	Recall Timers for Slow-Answer, Camp-On and Call Waiting
ATIM	0	Attendant Alternative Answering Timer
AQTT	30	Attendant Queue Timing Threshold in seconds
AODN		
SPVC	00	Supervisory Console
SBLF	NO	Standard Busy Lamp Field
RTSA	RSAD	Recall To Same Attendant (aaaa = (RSAD), RSAA, or RSAX)
SACP	SNGL	Semi-Automatic Camp-On (aaaa = (NO), ALL, or SNGL)
ABDN	NO	Activation of the Attendant Blocking of DN feature
IRFR	NO	Internal Attendant Remote Call Forward Password
XRFR	NO	External Attendant Remote Call Forward Password
ADHT	0	Attendant Delay On-Hold Timer in seconds
AFNT	0	Attendant Forward No Answer Timer (must be an even number)
AFBT	0	Attendant Forward Buzz Tone
IDBZ	NO	Trunk Buzzing IADN calls in the attendant queue

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
PBUZ	02 10`	Flexible Priority Buzz cadence for IADN and Code Blue calls
ICI 00	DL0	Attendant Incoming Call Indicators
ICI 01	LD0	ICI number, listed DN0
ICI 02	LD1	ICI number, listed DN1
ICI 03	LD2	ICI number, listed DN2
ICI 04	LD3 LD4	ICI number, listed DN3 and 4
ICI 05	CFB IADN	ICI number, Call Forward Busy
ICI 06	CFN	ICI number, Call Forward No Answer
ICI 07	RLL	ICI number, Recall
ICI 08	IAT	ICI number, Inter-Attendant call
ICI 09	INT	ICI number, Intercept
ICI 10		
ICI 11		
ICI 12		
ICI 13		
ICI 14		
ICI 15		
ICI 16		
ICI 17		
ICI 18		
ICI 19		
RICI		

### 5.3. Configure Feature Data Block

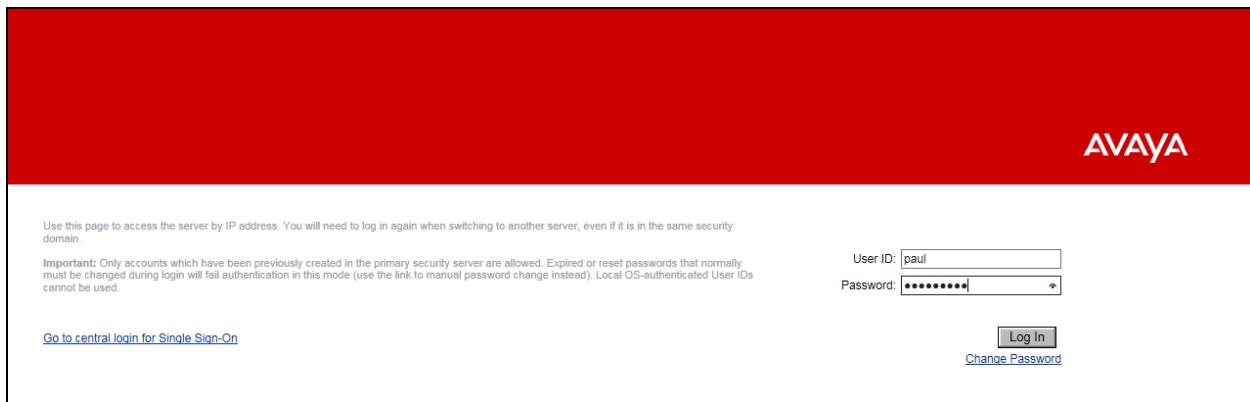
Changes to the Feature Data Block (FTR\_Data) are carried out in overlay 15, so staying in LD 15 type **CHG** and then **FTR** to make the necessary changes. To test End to End Signaling **ESST**, **DTMF** and **EESD** were set to **yes**. All others prompts were left as default or as it was set prior to compliance testing.

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
>	<b>LD 15</b>	Enter Overlay 15
REQ	<b>CHG</b>	Change Data
TYPE	<b>FTR</b>	Feature Data Block
CUST	0	Customer number
OPT	ABDA AHA EBIN BIXA BLA BOHA CFO CFRA COX CPA CTA DBA DNCA DNX DSX DRE DSTD FACD HTU HVA XBL IC2 IDP ILF IHD XTG FKA LOD LRA MCI MCTD CUI MWUD NCD PCMD PSA PVCA RECA REA RNA RTR RTA ROX SDDE SIAA SLA SYA THPD TTAD VOBD CCBD CWRD HLPD HRLD CXOD BWTA GPAD MKRL	
DGRP	0	
IRNG	NO	
PKND	1	
DNDL	NO	
SPRE	71	
PREO	0	
BPSS	NO	
SRCD	0000	
<b>EEST</b>	<b>YES</b>	End-to-End Signaling Tone to originating party
<b>DTMF</b>	<b>YES</b>	DTMF feedback tone
<b>EESD</b>	<b>YES</b>	End-to-End Signalling Digit Display
TTBL	0	

<b>Prompt</b>	<b>Response</b>	<b>Description</b>
MUS	YES	
MUSR	30	
HCC	NO	
ALDN		
RECD	NO	
PORT	0	
STCB	YES	
NSCP	YES	
TFDR	NO	
RPA	NO	
MCDC	NO	
NAUT	NO	
IDEF	NO	
MTAR	NO	
LEND	NO	
MSCD	NO	
CPCI	NO	
CONF_DSP		
CNFFIELD	NO	
CNF_NAME	CONF	
INTFIELD	NO	
INT_NAME	I	
EXTFIELD	NO	
EXT_NAME	E	
BSFE	NO	
ASPCT	000	
FXS	NO	
DFLT_LANG	ENG	
STS_MSG		
MSG01	Please leave message	
MSG02	Back to work	
MSG03	In a meeting	
MSG04	On a conference call	
MSG05	At lunch	
MSG06	Busy call	
MSG07	Out of the office today	
MSG08	On a business trip	
MSG09	Project deadline today	
MSG10	Will reply after	
VO_ALO	NO	
PCA	ON	
TPDN		
BFS_CFW	YES	
VO_CUR_ZONE_ZDM	NO	
VO_CUR_ZONE_TD	NO	
ZBD	NO	
DSAR_ALLOWED	NO	
<b>MSRN</b>	<b>3999</b>	Media Services Routing Number
NPI	PRIV	
TON	ECDP	

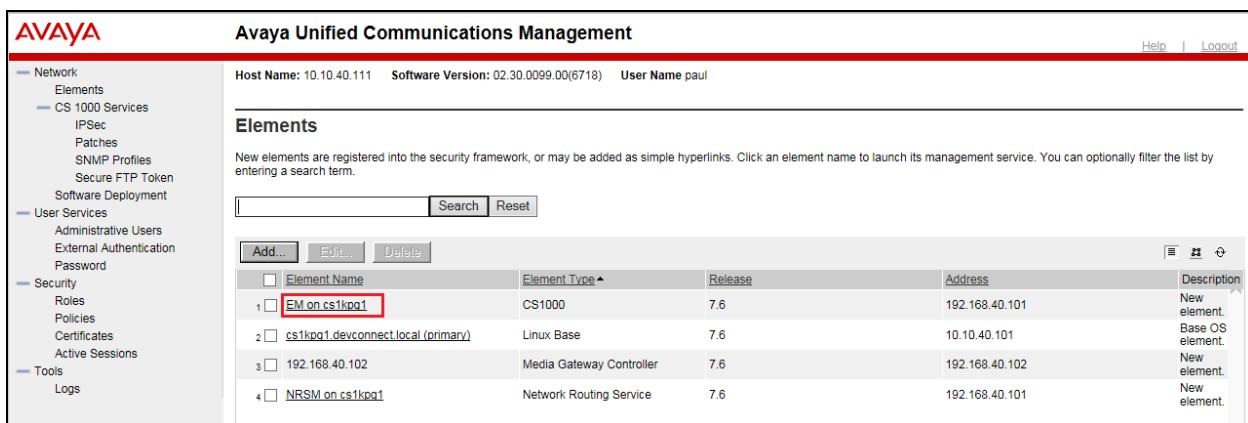
## 6. Configure IP Media Services on the Communication Server 1000 Signalling Server

Access to the CS1000 Signalling Server is achieved by logging into System Manager using a Web Browser by entering `http://<FQDN>/SMGR`, or logging directly into the CS1000 Unified Communication Manager (UCM) as is shown below. Log in using appropriate credentials.



The screenshot shows the AVAYA System Manager login page. At the top right is the AVAYA logo. Below it is a message: "Use this page to access the server by IP address. You will need to log in again when switching to another server, even if it is in the same security domain." A note below says: "Important: Only accounts which have been previously created in the primary security server are allowed. Expired or reset passwords that normally must be changed during login will fail authentication in this mode (use the link to manual password change instead). Local OS-authenticated User IDs cannot be used." On the right side, there are fields for "User ID" (containing "paul") and "Password" (containing "\*\*\*\*\*"). Below these are "Log In" and "Change Password" buttons. At the bottom left is a link "Go to central login for Single Sign-On".

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



The screenshot shows the Avaya Unified Communications Management interface. The left sidebar has a tree view with nodes like Network, CS 1000 Services, User Services, Security, and Tools. The main area is titled "Elements" and shows a table of registered elements. The table has columns: Element Name, Element Type, Release, Address, and Description. One row is highlighted with a red border: "1 EM on cs1kpg1" (Element Type: CS1000, Release: 7.6, Address: 192.168.40.101, Description: New element). Other rows include "cs1kpg1.devconnect.local (primary)" (Element Type: Linux Base, Release: 7.6, Address: 10.10.40.101), "192.168.40.102" (Element Type: Media Gateway Controller, Release: 7.6, Address: 192.168.40.102), and "NRSM on cs1kpg1" (Element Type: Network Routing Service, Release: 7.6, Address: 192.168.40.101).

Element Name	Element Type	Release	Address	Description
1 EM on cs1kpg1	CS1000	7.6	192.168.40.101	New element.
2 cs1kpg1.devconnect.local (primary)	Linux Base	7.6	10.10.40.101	Base OS element.
3 192.168.40.102	Media Gateway Controller	7.6	192.168.40.102	New element.
4 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 window and select the Node associated with the CS1000. In the example below this **Node ID** is **111**. Open this node by clicking on **111** highlighted below.

The screenshot shows the AVAYA CS1000 Element Manager interface. The left sidebar has a tree view with categories like UCM Network Services, Home, Links, System, and IP Network. Under IP Network, 'Nodes, Servers, Media Cards' is selected and highlighted with a red box. The main pane is titled 'IP Telephony Nodes' and contains a table with columns: Node ID, Components, Enabled Applications, ELAN IP, Node/TLAN IPv4, Node/TLAN IPv6, and Status. A single row is selected, showing Node ID 111, Components 1, Enabled Applications SIP Line, LTPS, Gateway (SIPGw), ELAN IP -, Node/TLAN IPv4 10.10.40.111, Node/TLAN IPv6 -, and Status Synchronized. Below the table are buttons for Add..., Import..., Export..., Delete, Print, and Refresh.

Select **IP Media Services** highlighted. Note the **TLAN IP Address** is shown (**10.10.40.111**). This will be required again in **Section 8.1** when configuring the Intuition Acclaim.

The screenshot shows the 'Node Details (ID: 111 - SIP Line, LTPS, IP Media Services, Gateway (SIPGw))' dialog. It includes fields for Node ID (111), Call server IP address (192.168.40.101), TLAN address type (IPv4 only selected), Embedded LAN (ELAN) settings (Gateway IP address 192.168.40.1, Subnet mask 255.255.255.0), Telephony LAN (TLAN) settings (Node IPv4 address 10.10.40.111, Subnet mask 255.255.255.0), and Node IPv6 address (empty). The 'IP Telephony Node Properties' section lists various options like Voice Gateway (VGW) and Codecs, Quality of Service (QoS), LAN, SNTP, Numbering Zones, MCDN Alternative Routing Treatment (MALT), and Causes. The 'Applications (click to edit configuration)' section lists SIP Line, Terminal Proxy Server (TPS), Gateway (SIPGw), Personal Directories (PD), Presence Publisher, and IP Media Services, with IP Media Services highlighted with a red box. At the bottom are Save and Cancel buttons.

The **IP Media Services Configuration Details** page opens and under the section **Services** the required **IP media services** can be selected. During compliance testing only IP Attendant and Tones were tested, however other services may also be chosen as is shown below.

Under the section **General**, the **IP media services domain name** and the **Application node ID** are both entered.

Scroll down using the vertical scroll bar on the right side of the page to make further changes.

**Node ID: 111 - IP Media Services Configuration Details**

[Services](#) | [IP Media Services Settings](#) | [SIP URI Map](#) | [Port Settings](#)

**Services**

IP media services:  Adhoc conference  
 Music  
 Announcements  
 Tones  
 IP attendant

**IP Media Services Settings**

Import SIP gateway settings:   
Import SIP redirect, SIP URI and domain values from SIP gateway settings.

**General**

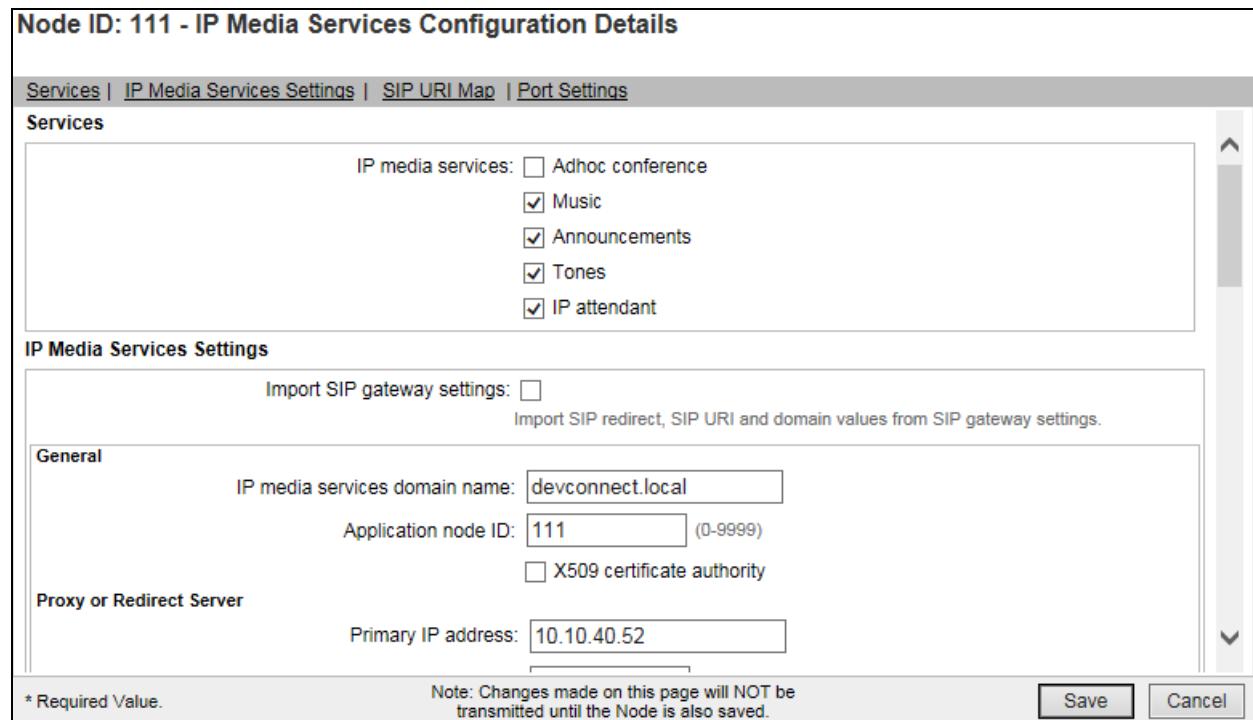
IP media services domain name:

Application node ID:  (0-9999)  
 X509 certificate authority

**Proxy or Redirect Server**

Primary IP address:

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



Scroll down using the vertical scroll bar on the right side of the page to **Proxy or Redirect Server**.

For a direct connection using the Local Media Server, under the section **Proxy or Redirect Server**, the IP Addresses should all be set to 0.0.0.0 as a Proxy or Redirect Server is not being used in this configuration.

Scroll down using the vertical scroll bar on the right side of the page to make further changes.

**Node ID: 111 - IP Media Services Configuration Details**

[Services](#) | [IP Media Services Settings](#) | [SIP URI Map](#) | [Port Settings](#)  [Add certificate authority](#)

**Proxy or Redirect Server**

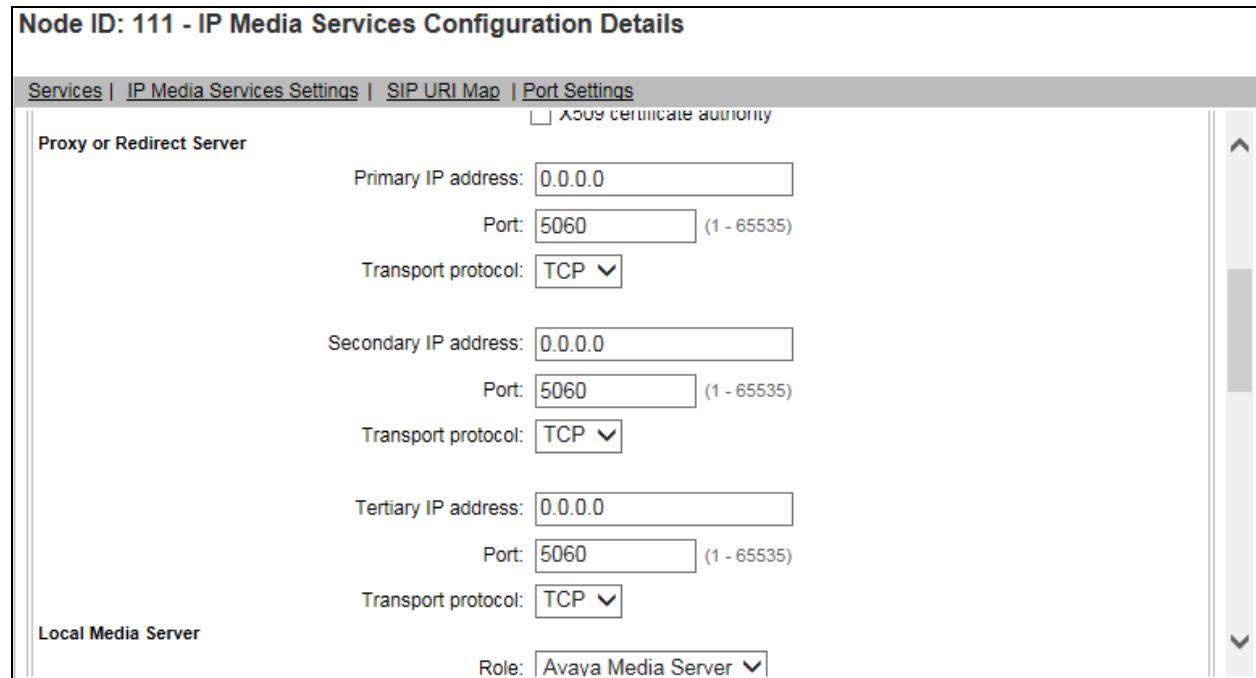
Primary IP address:	<input type="text" value="0.0.0.0"/>
Port:	<input type="text" value="5060"/> (1 - 65535)
Transport protocol:	<input type="button" value="TCP ▾"/>

Secondary IP address:	<input type="text" value="0.0.0.0"/>
Port:	<input type="text" value="5060"/> (1 - 65535)
Transport protocol:	<input type="button" value="TCP ▾"/>

Tertiary IP address:	<input type="text" value="0.0.0.0"/>
Port:	<input type="text" value="5060"/> (1 - 65535)
Transport protocol:	<input type="button" value="TCP ▾"/>

**Local Media Server**

Role:	<input type="button" value="Avaya Media Server ▾"/>
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Scroll down using the vertical scroll bar on the right side of the page to **Local Media Server**. The **Role** should be set to **Avaya Media Server** as shown with the **IP address** of the Avaya Media Server entered and **Port 5060** used with the **Transport protocol** set to **TCP**.

Scroll down using the vertical scroll bar on the right side of the page to make further changes.

**Node ID: 111 - IP Media Services Configuration Details**

[Services](#) | [IP Media Services Settings](#) | [SIP URI Map](#) | [Port Settings](#)

Transport protocol:

**Local Media Server**

Role:

FQDN/IP address:

Port:  (1 - 65535)

Transport protocol:

**SIP URI Map**

Public E.164 domain names		Private domain names	
National:	<input type="text"/>	UDP:	<input type="text" value="udp"/>
Subscriber:	<input type="text"/>	CDP:	<input type="text" value="cdp.udp"/>
Special number:	<input type="text" value="PublicSpecial"/>	Special number:	<input type="text" value="PrivateSpecial"/>
Unknown:	<input type="text" value="PublicUnknown"/>	Vacant number:	<input type="text" value="PrivateUnknown"/>
		Unknown:	<input type="text" value="UnknownUnknown"/>

Scroll down to **Port Settings** and **IP Attendant**. In the IP Attendant window, enter the following port information:

- Enter **3500** for **TCM TCP port**
- Enter **5090** for **SIP UDP port**
- Enter **5090** for **SIP TCP port**
- Enter **5091** for **SIP TLS port**

Click on the **Save** button to save the configuration.

**Node ID: 111 - IP Media Services Configuration Details**

[Services](#) | [IP Media Services Settings](#) | [SIP URI Map](#) | [Port Settings](#)

**Port Settings**

	TCP	UDP	TLS
Conference	6150	6150	6151
Music	6152	6152	6153
RAN	6154	6154	6155
Tones	6156	6156	6157

**IP Attendant**

TCM TCP port:	3500	(1 - 65535)
SIP UDP port:	5090	(1 - 65535)
SIP TCP port:	5090	(1 - 65535)
SIP TLS port:	5091	(1 - 65535)

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

**Save** **Cancel**

Once the IP Media Services configuration is saved the Node must also be saved. On the **Node Details** page, click on the **Save** button.

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

---

Node ID: <input type="text" value="111"/> * (0-9999)	Call server IP address: <input type="text" value="192.168.40.101"/> * TLAN address type: <input checked="" type="radio"/> IPv4 only <input type="radio"/> IPv4 and IPv6						
<b>Embedded LAN (ELAN)</b> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">           Gateway IP address: <input type="text" value="192.168.40.1"/> *         </td> <td style="width: 50%;">           Telephone LAN (TLAN)                       Node IPv4 address: <input type="text" value="10.10.40.111"/> *         </td> </tr> <tr> <td>           Subnet mask: <input type="text" value="255.255.255.0"/> *         </td> <td>           Subnet mask: <input type="text" value="255.255.255.0"/> *         </td> </tr> <tr> <td colspan="2">           Node IPv6 address: <input type="text"/> </td> </tr> </table>		Gateway IP address: <input type="text" value="192.168.40.1"/> *	Telephone LAN (TLAN) Node IPv4 address: <input type="text" value="10.10.40.111"/> *	Subnet mask: <input type="text" value="255.255.255.0"/> *	Subnet mask: <input type="text" value="255.255.255.0"/> *	Node IPv6 address: <input type="text"/>	
Gateway IP address: <input type="text" value="192.168.40.1"/> *	Telephone LAN (TLAN) Node IPv4 address: <input type="text" value="10.10.40.111"/> *						
Subnet mask: <input type="text" value="255.255.255.0"/> *	Subnet mask: <input type="text" value="255.255.255.0"/> *						
Node IPv6 address: <input type="text"/>							
<b>IP Telephony Node Properties</b> <ul style="list-style-type: none"> <li>• <a href="#">Voice Gateway (VGW) and Codecs</a></li> <li>• <a href="#">Quality of Service (QoS)</a></li> <li>• <a href="#">LAN</a></li> <li>• <a href="#">SNTP</a></li> <li>• <a href="#">Numbering Zones</a></li> <li>• <a href="#">MCDN Alternative Routing Treatment (MALT)</a></li> <li>• <a href="#">Causes</a></li> </ul>							
<b>Applications (click to edit configuration)</b> <ul style="list-style-type: none"> <li>• <a href="#">SIP Line</a></li> <li>• <a href="#">Terminal Proxy Server (TPS)</a></li> <li>• <a href="#">Gateway (SIPGw)</a></li> <li>• <a href="#">Personal Directories (PD)</a></li> <li>• <a href="#">Presence Publisher</a></li> <li>• <a href="#">IP Media Services</a></li> </ul>							

---

\* Required Value.

### Associated Signaling Servers & Cards

<input type="button" value="Select to add"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>	<input type="button" value="Make Leader"/>	<a href="#">Print</a>   <a href="#">Refresh</a>	
<input type="checkbox"/> Hostname ▾	<input type="checkbox"/> Type	<input type="checkbox"/> Deployed Applications	<input type="checkbox"/> ELAN IP	<input type="checkbox"/> TLAN IPv4	<input type="checkbox"/> Role
<input type="checkbox"/>	<input type="checkbox"/> cs1kpg1	<input type="checkbox"/> Signaling_Server	<input type="checkbox"/> SIP Line, LTPS, Gateway (SIP/H323), PD, Presence Publisher, IP Media Services	<input type="checkbox"/> 192.168.40.101	<input type="checkbox"/> 10.10.40.101
<input type="checkbox"/> Show: <input type="checkbox"/> IPv6 address					

Select **Transfer Now** as shown below.

### 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...



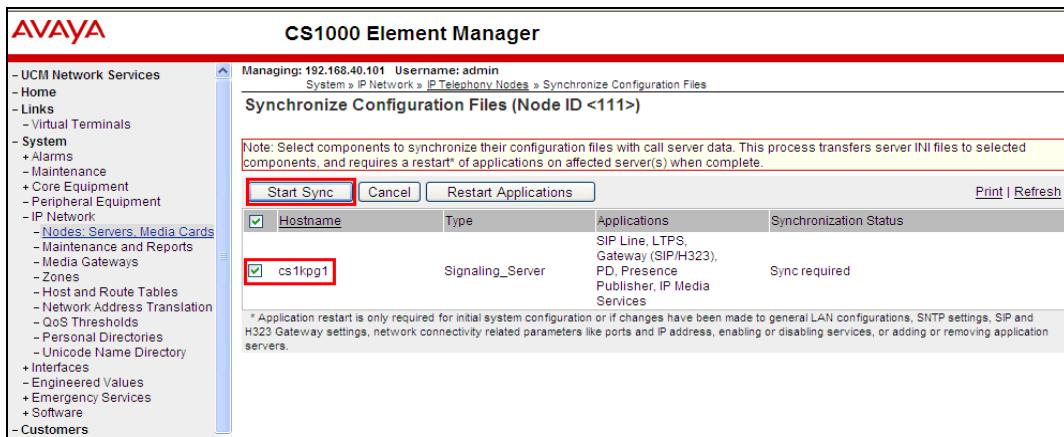
You will be given an option to select individual servers, or transfer to all.

Show Nodes

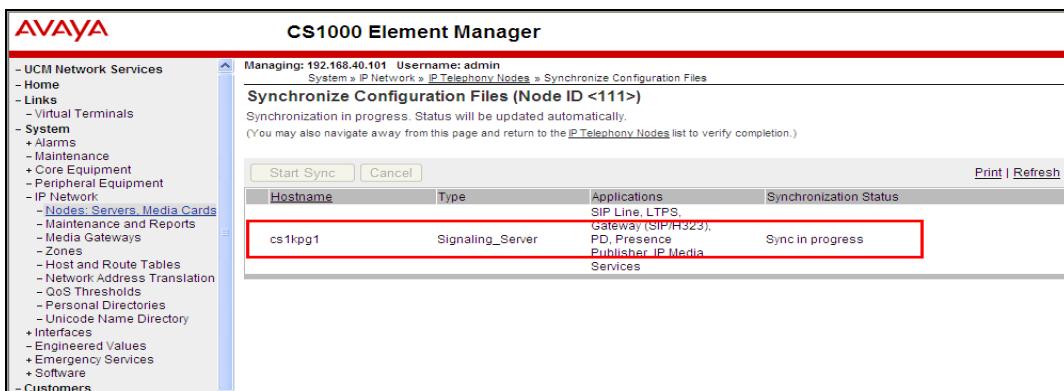


You may initiate a transfer manually at a later time.

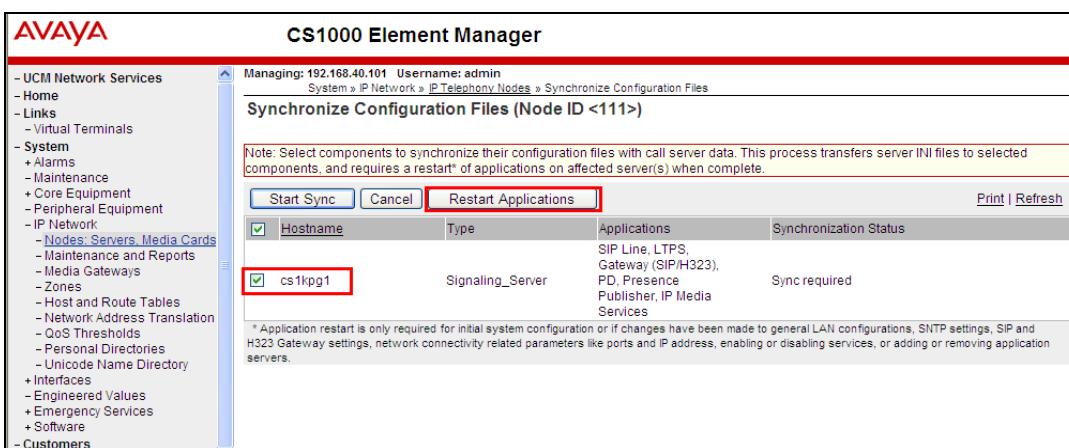
The following screen is displayed requiring that synchronization is performed followed by a restart of the Applications. Ensure the **Hostname** is ticked and click on **Start Sync**.



The following screen shows the **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 IP Attendant.



## 7. Configure Avaya Media Server

This section provides the procedures to configure Avaya Media Server. It is implied that Avaya Media Server is already in place; the Media Server application deployed and is part of the security framework. Ensure that the License contains RFC4240, see **Appendix D**.

Avaya Media Server is configured using a web interface accessed via a link from System Manager → CS1000 → Elements (not shown) or UCM natively as is shown below. The configuration operations described in this section can be summarized as follows:

- Adding the SIP Domain
- Adding SIP Nodes and Routes
- Restart Application

For compliance testing the Media Server was accessed directly by navigating to **http://<Media Server IP Address>:8443/emlogin** as is shown below. Log in using appropriate credentials.

The screenshot shows a web browser window with the following details:

- Address Bar:** https://10.10.40.104:8443/emlogin
- Title Bar:** Certificate error
- Content Area:**
  - AVAYA Logo:** Red text "AVAYA" with a white outline.
  - Sign in to manage Avaya Media Server:** Text link.
  - User ID:** Input field containing "admin2".
  - Password:** Input field filled with dots (\*\*\*\*\*).
  - Sign In:** Button.
- Note Box:** A callout box containing legal text about system restrictions and monitoring.

## 7.1. Configure Signalling Protocols

Navigate to **System Configuration** → **Signaling Protocols** → **SIP** → **General Settings** from the left menu as shown below. In the main window ensure that all the SIP Transport Protocols are ticked as shown, or at the very least tick the appropriate protocols for the site in question.

The screenshot shows the Avaya Media Server interface. The left sidebar has a tree view with nodes like System Status, Applications, Cluster Configuration, and System Configuration. Under System Configuration, the SIP node is expanded, and its子节点 General Settings and Domains and Accounts are highlighted with red boxes. The main content area is titled "General Settings" and describes it as a task for administrators to view and modify SIP general settings. It includes tabs for Transport Settings, Routing, Access Control, Session Audit, and SIP Settings. Under Transport Settings, several checkboxes are checked: Enable SIP UDP Transport, Enable SIP TCP Transport, Enable SIP TLS Transport, Enable SIP TLS Mutual Authentication, and Enforce SIP TLS in Secured Media Mode. There is also an option to Always Approve SIP TLS Certificate. A "Routing" section is partially visible at the bottom.

### 7.1.1. Adding the SIP Domain

Staying in the same menu, select **SIP** → **Domains and Accounts** and click on the **Add** button.

The screenshot shows the Avaya Media Server interface. The left sidebar has a tree view with nodes like System Status, Applications, Cluster Configuration, and System Configuration. Under System Configuration, the SIP node is expanded, and its子节点 Domains and Accounts is highlighted with a red box. The main content area is titled "SIP Domains and Accounts" and contains two sections: "Domains" and "Accounts". The Domains section has an "Add..." button and a table with a header row showing "Domain Name". The Accounts section has an "Add..." button and a table with columns "Account Name", "Domain Name", and "Cluster Node".

Once the **Add SIP Domain** page opens, enter in the **Name** box the name of the domain Avaya Media Server belongs and then click on the **Save** button. For compliance testing the domain was **devconnect.local**, this will also be referenced in **Section 8.1**.

The screenshot shows the 'Add SIP Domain' configuration page. At the top, it says 'Avaya Media Server' and 'Managing: cs1kpg1mas.devconnect.local, 10.10.40.104'. Below that is a breadcrumb trail: Home > System Configuration > Signaling Protocols > SIP > Domains and Accounts > Add SIP Domain. The main area is titled 'Add SIP Domain' with a 'Name:' input field containing 'devconnect.local'. There are 'Save' and 'Cancel' buttons at the bottom.

### 7.1.2. Adding SIP Nodes and Routes

A SIP Node and a Route need to be configured so as to allow Avaya Media Server to communicate with the CS1000. To add the SIP Node and Route select **Nodes and Routes**. Click on the **Add** button.

The screenshot shows the Avaya Element Manager interface. The left sidebar has a tree view with nodes like Network, System Status, Applications, Cluster Configuration, System Configuration (with Quick Setup, Server Profile, Network Settings, General Settings, Advanced Settings), Signaling Protocols (with SIP, General Settings, Domains and Accounts, Nodes and Routes), Media Processing, Application Interpreters (with CCXML, VoiceXML, RFC5707(MSML)), and Monitoring Settings. The 'Nodes and Routes' node under SIP is highlighted with a red box. The main panel is titled 'SIP Nodes and Routes' and shows sections for 'Trusted Nodes' and 'Routes'. Under Trusted Nodes, there are 'Add...', 'Edit...', and 'Delete...' buttons and a table header with columns for 'Name' and 'Domain'. Under Routes, there are 'Add...', 'Edit...', and 'Delete...' buttons and a table header with columns for 'Domain', 'Address', 'Port', 'Transport', 'Proxy', 'IM Proxy', and 'Registrar'.

Once the **Add SIP Trusted Node** page opens add the necessary IP addresses such as that of the CS1000 Node IP Address in the **Host or Server Address** box and click on the **Save** button.

The screenshot shows the 'Add SIP Trusted Node' page of the Avaya Media Server. At the top, the title 'Avaya Media Server' is displayed in red. Below it, the URL 'Managing: cs1kpg1mas.devconnect.local, 10.10.40.104' is shown. The navigation path is: Home > System Configuration > Signaling Protocols > SIP > Nodes and Routes > Add SIP Trusted Node. The main form has a title 'Add SIP Trusted Node'. It contains a single input field labeled 'Host or Server Address' with the value '10.10.40.x'. At the bottom right are two buttons: 'Save' and 'Cancel'.

A Route must be added to the Trusted Node. Click on the **Routes Add** button.

The screenshot shows the 'SIP Nodes and Routes' page of the Avaya Media Server. The title 'Avaya Media Server' is in red at the top. The URL 'Managing: cs1kpg1mas.devconnect.local, 10.10.40.104' is shown. The navigation path is: Home > System Configuration > Signaling Protocols > SIP > Nodes and Routes. The main area is titled 'SIP Nodes and Routes'. It has two sections: 'Trusted Nodes' and 'Routes'. The 'Trusted Nodes' section shows a list of three nodes: '10.10.40.101', '10.10.40.111', and '10.10.40.52'. The 'Routes' section has a table with columns: Domain, Address, Port, Transport, Proxy, IM Proxy, Registrar, Priority, Weight, and Enabled. The 'Add...' button in the 'Routes' section is highlighted with a red box.

Once the **Add SIP Route** page opens, enter the following in the **General** section:

- Check the **Enabled** Check box
- Select the Domain from the **Domain** drop down box (e.g., **devconnect.local**)
- Select the Trusted Node from the **Trusted Node** drop down box. (IP address of the CS1000 Node)
- Select **TCP** from the **Transport** drop down box

In the **Roles** section, check the **Proxy** check box. Click on the **Save** button to save the configuration.

**Edit SIP Route**

[General](#) | [Roles](#) | [Properties](#)

**General**

Enabled:	<input checked="" type="checkbox"/>
Domain:	devconnect.local
Trusted Node:	10.10.40.111
Transport:	TCP
Remote Port:	5060
Priority:	0 (0 - 65,535)
Weight:	10 (0 - 65,535)

**Roles**

Proxy:	<input checked="" type="checkbox"/>
Registrar:	<input type="checkbox"/>
IM Proxy:	<input checked="" type="checkbox"/>

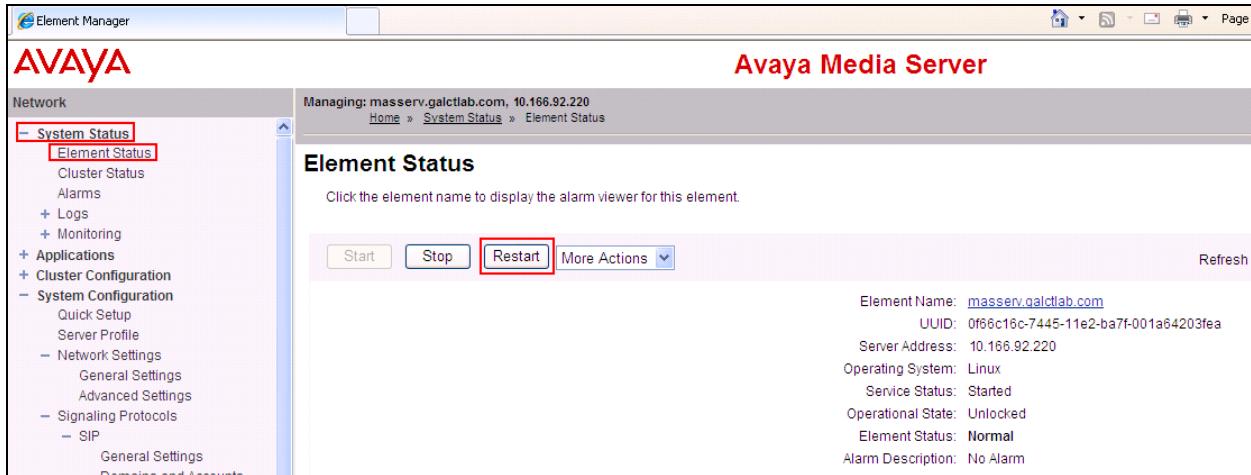
**Properties**

Server Keepalive:	Disabled
SIP Route Type:	Standard SIP
SIP Server Poll Timer:	30000 (30,000 - 600,000 milliseconds)

**Buttons:** Save | Cancel

## 7.2. Restart Element

Once Avaya Media Server configuration is complete the Element must be restarted. To restart the Element, select **System Status** → **Element Status** and click on the **Restart** button.



After selecting **Restart**, click on the **Confirm** button.



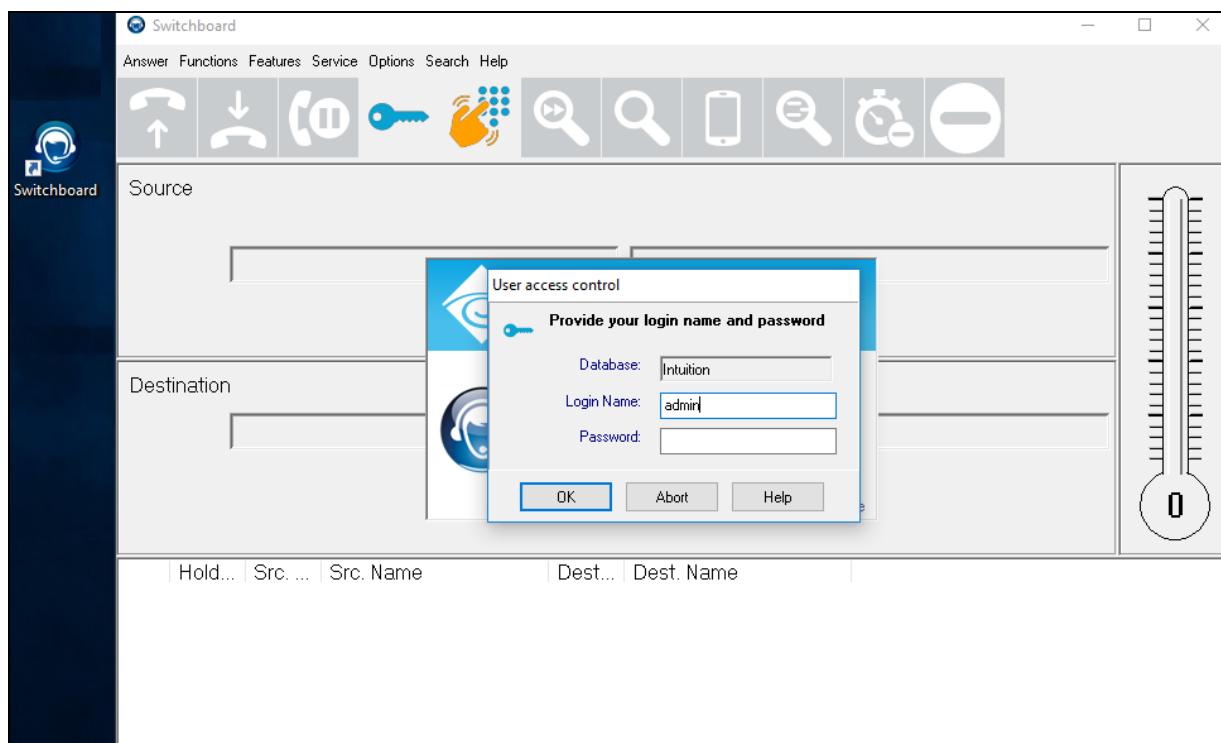
## 8. Configure Intuition Acclaim

This section provides the procedures to configure Intuition Acclaim. Intuition Acclaim was installed on a Microsoft Windows 10 operating system. It is implied that Intuition Acclaim is already installed, including the license and that the SQL database and Firewall settings are configured. The Attendant Keys and Incoming Call Indicators (ICI) that were configured in **Section 5.1** and **Section 5.2** are required for the configuration of the Switchboard but the actual configuration is beyond the scope of these Application Notes. The configuration operations described in this section can be summarized as follows:

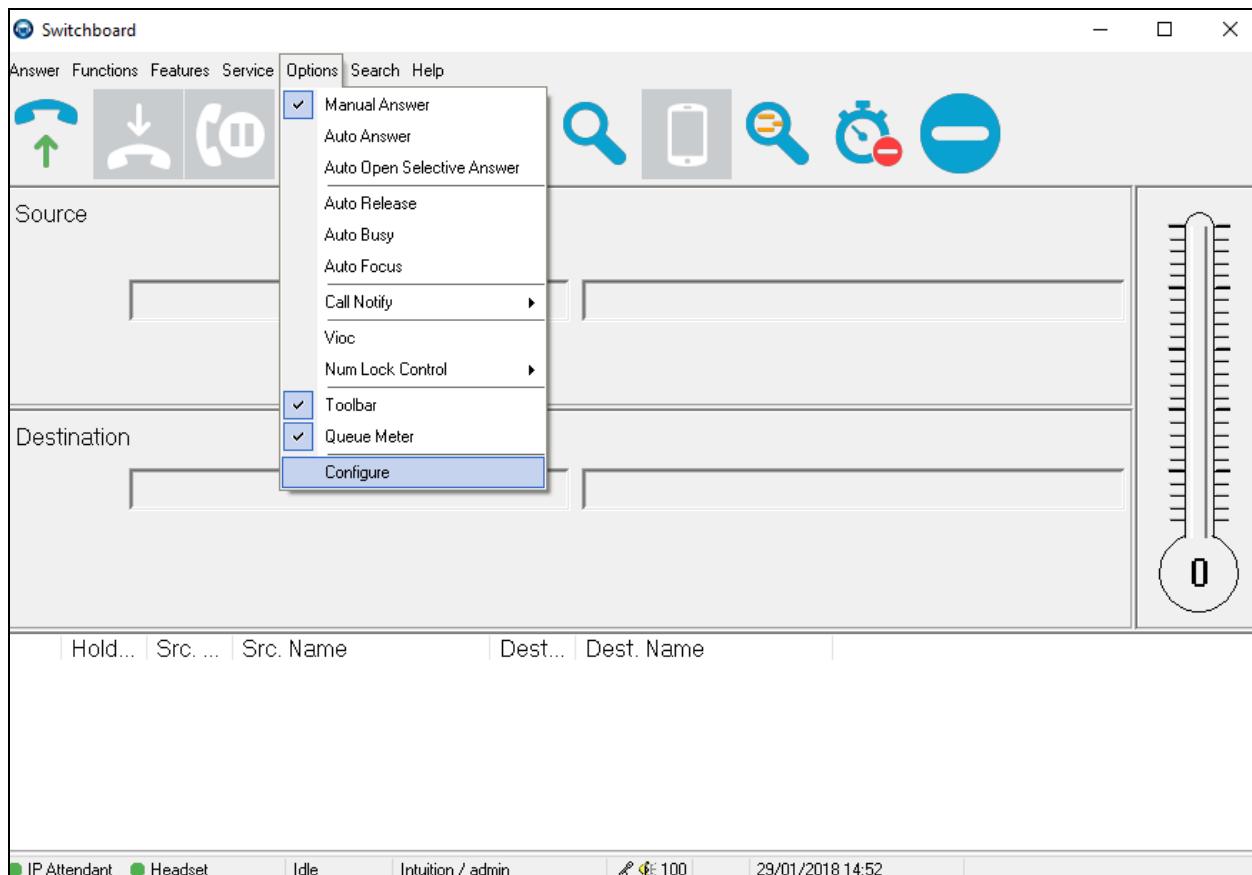
- Configure IP Attendant Connections
- Configure Voice Settings
- Restart the Switchboard application

### 8.1. Configure IP Attendant Connections

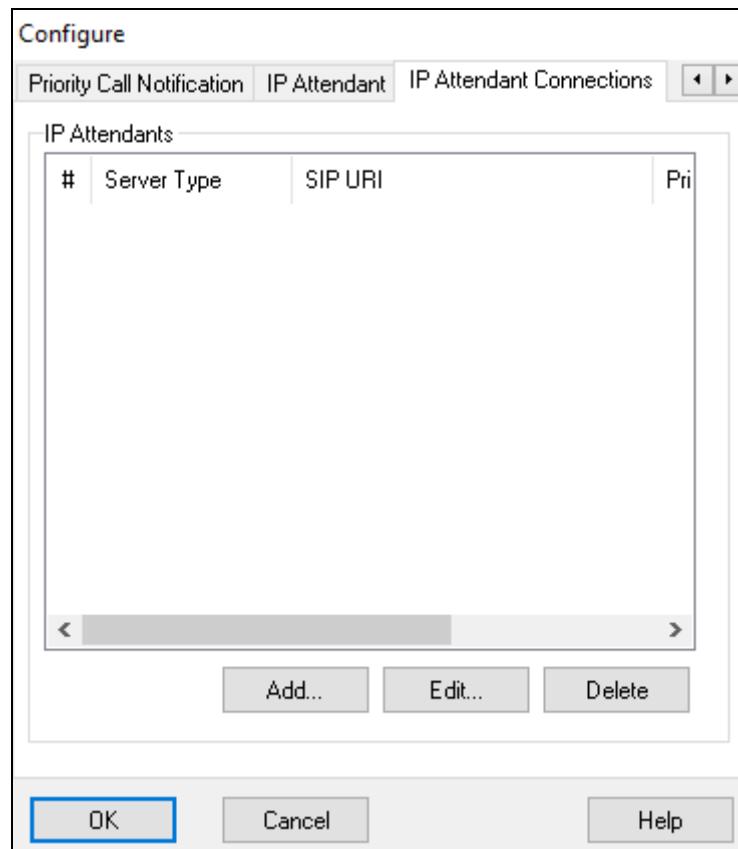
To configure the IP Attendant Connections open the **Switchboard** application using the Switchboard shortcut found on the desktop and log in using the appropriate administrator/supervisor credentials.



Once the Switchboard application is opened, select **Options** followed by **Configure**.



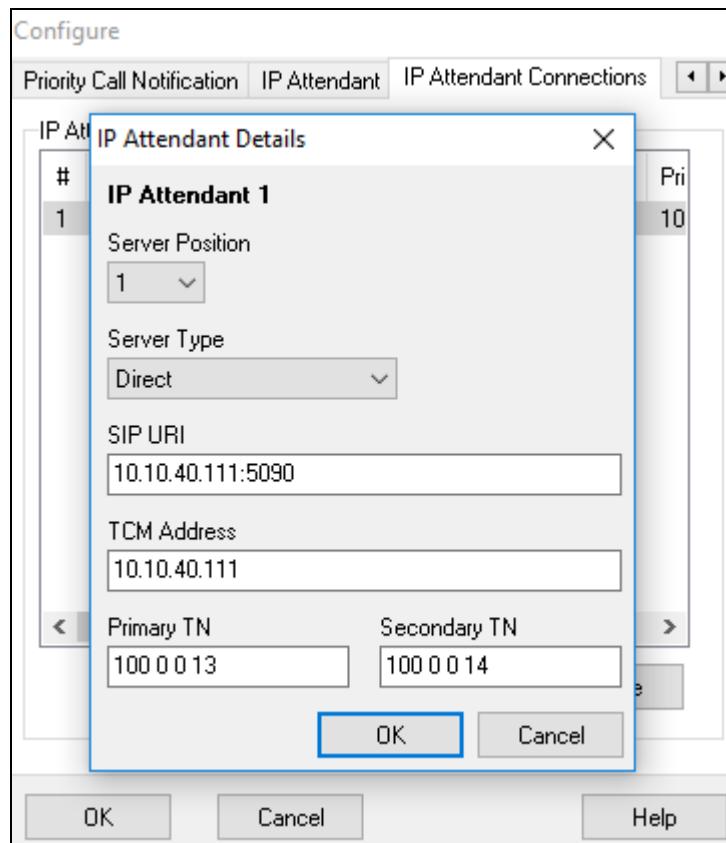
Once the Configure window opens, click on the right arrow until the **IP Attendant Connections** tab appears. Click on the **IP Attendant Connections** tab followed by the **Add** button.



Once the **IP Attendant Details** window opens, enter the following:

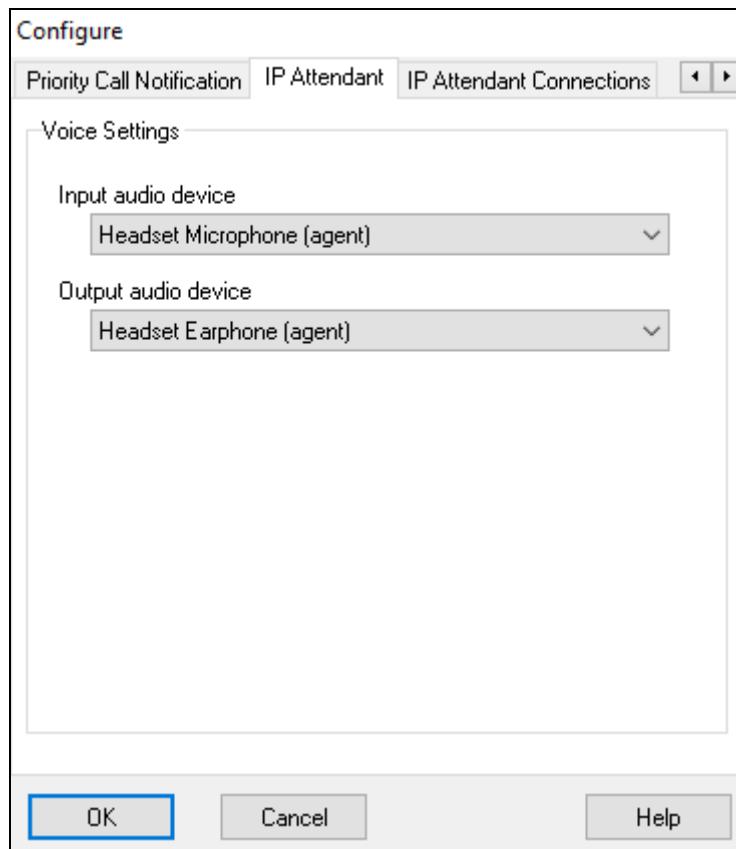
- Select the Server Position from the **Server Position** dropdown box. If this is the only IP attendant on the PC **Server Position 1** will be the default
- Select **Direct** from the **Server Type** dropdown box
- Enter the Telephony LAN IP address of CS1000 Node (see **Section 6**) followed by :5090 in the **SIP URI** field (e.g., **10.10.40.111:5090**)
- Enter the Telephony LAN IP address of CS1000 Node (see **Section 6**) in the **TCM Address** field (e.g., **10.10.40.111**)
- Enter the Primary TN as configured in **Section 5.1** in the **Primary TN** field  
**Note:** Enter the TN format exactly as shown in the screen shot below (Loop Shelf Card Unit)
- Enter the Secondary TN as configured in **Section 5.1** in the **Secondary TN** field  
**Note:** Enter the TN format exactly as shown in the screen shot below (Loop Shelf Card Unit)

Click on the **OK** button to save.



## 8.2. Configure Voice Settings

Click on the **IP Attendant** tab and select the **Input** and **Output audio device** that is to be used for voice with Intuition Acclaim from the appropriate dropdown boxes. Click on the **OK** button to save.



## 8.3. Restart the Switchboard Application

After any configuration changes are made a restart is required. To restart click on the exit button on the top right of the window (not shown) and use the Switchboard shortcut on the desktop (not shown) to start the application again.

## 9. Verification Steps

This section provides the tests that can be performed to verify correct configuration of Avaya and Enghouse solution.

### 9.1. Verify Intuition Acclaim is registered with CS1000

Use the **stat ss** command in LD 117 to verify that Intuition Acclaim is registered with the CS1000. In the screen shot below one IP Attendant is registered.

**ld 117**

=> **stat ss**

```
NODE ELANIP          LDR   SRV          PBXLINK  HOSTNAME
ID                STATE
3    172.18.20.14    YES   Avaya CPPMv1    LINK UP   cores3.galctlab.com
APPS:      LTPS      VTRK      IPCONF     IPTONE    IPMUS     IPANN     IPATTN
PBXLINK DATE: 16/04/2013
PBXLINK TIME: 13:16:41
CONNECTID: 36f85540
APPLICATION NODE ID: 3
Sets: [reg - 00007] [busy - 00000] [dvla - 00000]
VTRK: [reg - 00040] [busy - 00000]
SIPL VTRK: [reg - 00000] [busy - 00000]
SIGNALLING SERVER CAPACITY (SSRC): 4096
IP Conference: [reg - 00000] [busy - 00000]
IP Tones: [reg - 00000] [busy - 00000]
IP Music: [reg - 00000] [busy - 00000]
IP Announce: [reg - 00000] [busy - 00000]
IP Attendant: [reg - 00001] [busy - 00000]
Type: Avaya CPPMv1
Location: 0 0 1
Product Eng.Code: NTDW61BA0008
Serial Number: NNTMG19XYWA0CPPM
Memory Size: 2048 MB
Disk Size 37 GB
```

## 9.2. Verify Avaya Media Server

To verify that the Avaya Media Server Service is started access the Media Server outlined in **Section 7**. Select **System Status → Element Status** and ensure that the **Service Status** is **Started**.

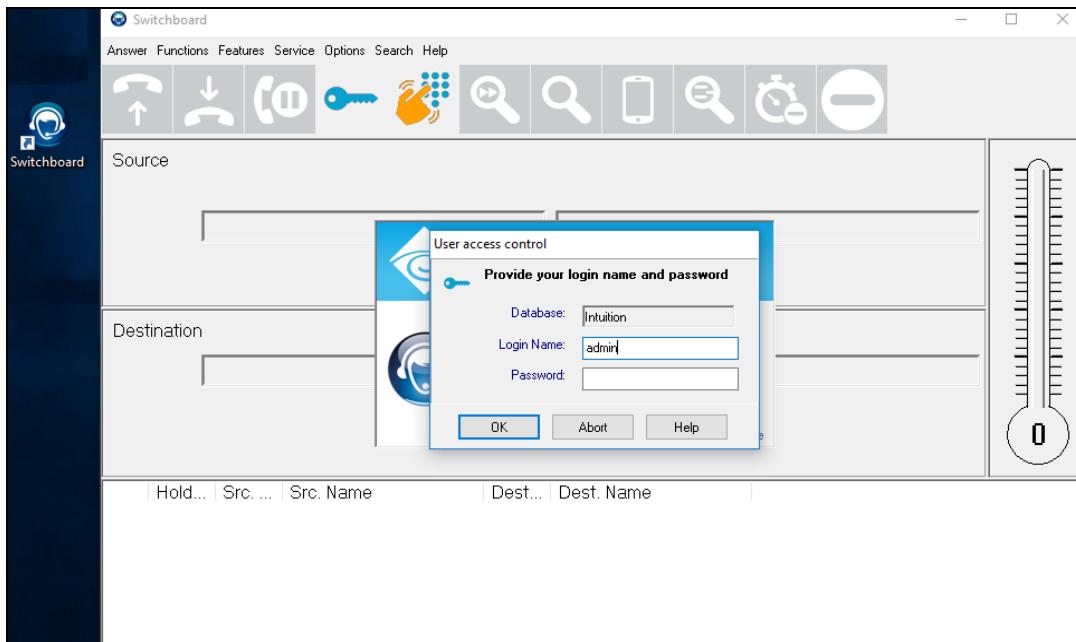
The screenshot shows the Avaya Media Server Element Status page. The left sidebar has a red box around the 'System Status' section. The main area shows the element name is `masserv.galctlab.com`, UUID is `0f66c16c-7445-11e2-ba7f-001a64203fea`, and the service status is **Started**. Other details include Operating System: Linux, Operational State: Unlocked, Element Status: Normal, and Alarm Description: No Alarm.

## 9.3. Verify Intuition Acclaim Switchboard

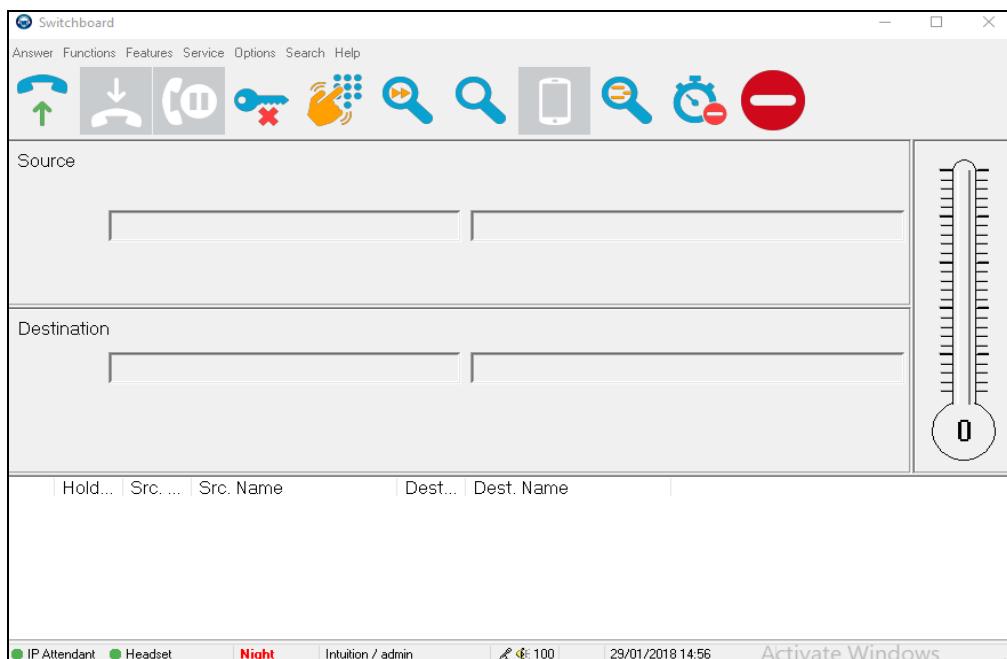
The following steps are taken to verify that the Intuition Acclaim Switchboard is in full working order.

### 9.3.1. Verify Intuition Acclaim Switchboard is registered

Verify that the status LED in the bottom left hand corner of the Switchboard is green to signify that Intuition Acclaim is registered. Open the Switchboard using the desktop shortcut and enter the appropriate credentials and click on OK.

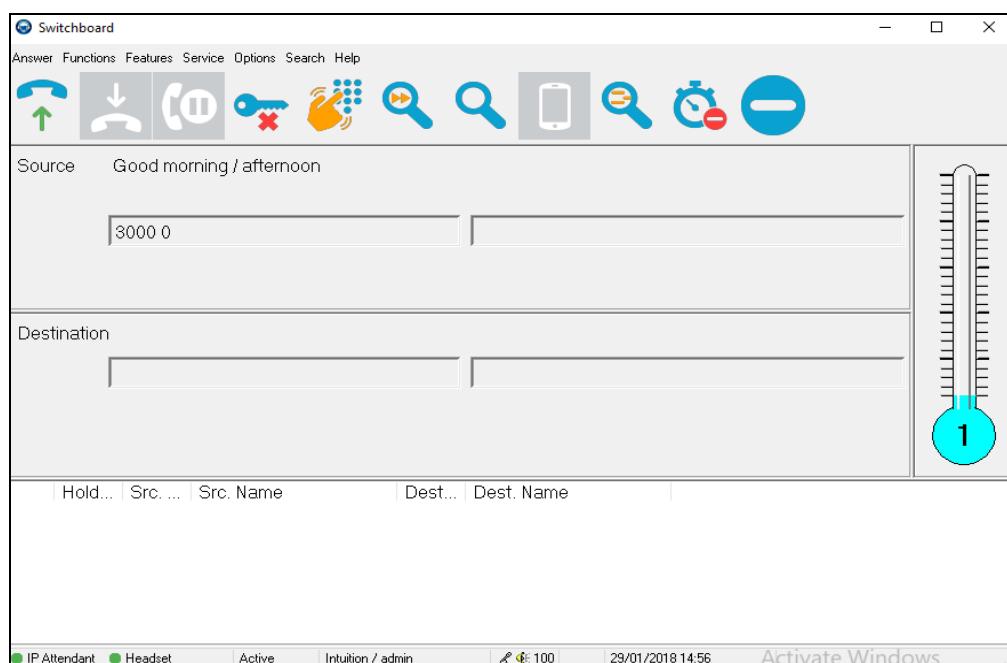


The following page should appear showing the Switchboard is registered as the lights at the bottom left of the screen are green. The Switchboard is in “night mode” and pressing the idle button (top right of the screen) will change the Switchboard to idle and ready to accept calls.

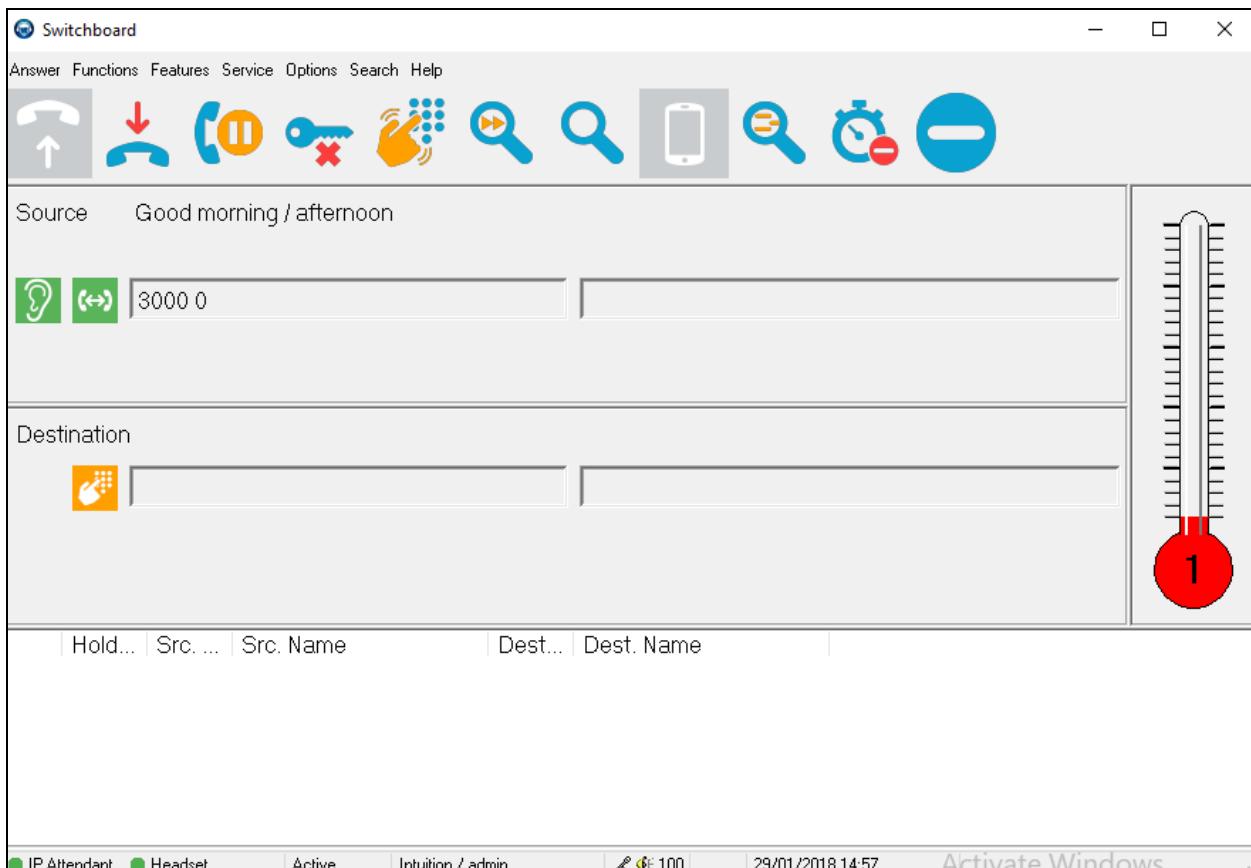


### 9.3.2. Verify Intuition Acclaim Switchboard can accept a call

Make a call to the Operator by dialling either the Attendant DN or the Listed Directory Number. The call will appear on the screen and can be answered by pressing the + key on the keyboard or using the icon at the top left of the screen.



Once the call is answered the operator is in conversation as shown below. Note that another call is waiting which is indicated on the thermometer on the right side of the Switchboard. The call can be transferred or placed on hold and the next call can be answered.



## 10. Conclusion

These Application Notes describe the interoperability of Intuition Acclaim V5.4 from Enghouse Interactive with Avaya Communication Server 1000 R7.6 using the Local Media Server on IP Media Services to connect directly to the Avaya Media Server. All test cases passed successfully with all observations noted in **Section 2.2**.

## 11. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information can be obtained from <http://support.avaya.com> or from your Avaya representative.

- [1] *Avaya Communication Server 1000 Linux Platform Base and Applications Installation and Commissioning, Document Number NN43001-315, Revision: 06.08, Jun 2016.*
- [2] *Avaya Communication Server 1000 Software Input Output Reference — Administration, Document Number NN43041-611, Revision: 06.05, Sept 2015*
- [3] *Avaya Communication Server 1000 Signaling Server IP Line Applications Fundamentals Document Number NN43001-125, Revision: 04.10, Jun 2016*

Product Documentation for Enghouse Interactive can be obtained through the following:

Phone: Monday to Friday 08:30-17:30 use +44 870 220 2205, opt 1, opt 2

E-mail: [support@datapulse.com](mailto:support@datapulse.com)

# Appendix A

## Avaya CS1000 R7.6 - Linux Patches

Product Release: 7.65.16.00						
In system patches: 9						
PATCH#	NAME	IN_SERVICE	DATE	SPECINS	TYPE	RPM
48	p31484_1	Yes	10/10/17	NO	FRU	cs1000-shared-general-7.65.16-00.i386
49	p33125_1	Yes	10/10/17	NO	FRU	cs1000-OS-1.00.00.00-00.noarch
50	p33274_1	Yes	10/10/17	YES	FRU	initscripts-8.45.25-1.e15.i386
51	p33384_1	Yes	10/10/17	NO	FRU	cs1000-OS-1.00.00.00-00.noarch
52	p33493_1	Yes	10/10/17	NO	FRU	cs1000-OS-1.00.00.00-00.noarch
53	p33557_1	Yes	10/10/17	YES	FRU	cs1000-OS-1.00.00.00-00.noarch
54	p33584_1	Yes	10/10/17	YES	FRU	cs1000-OS-1.00.00.00-00.noarch
55	p33673_1	Yes	10/10/17	NO	FRU	net-snmp-5.3.2.2-5.e15.i386
56	p33774_1	Yes	10/10/17	YES	FRU	cs1000-OS-1.00.00.00-00.noarch
In System service updates: 48						
PATCH#	IN_SERVICE	DATE	SPECINS	REMOVABLE	NAME	
0	Yes	10/10/17	YES	YES	cs1000-linuxbase-7.65.16.23-35.i386.000	
1	Yes	10/10/17	NO	YES	cs1000-Jboss-Quantum-7.65.16.23-12.i386.000	
2	Yes	10/10/17	YES	YES	cs1000-patchWeb-7.65.16.23-2.i386.000	
3	Yes	10/10/17	YES	YES	cs1000-dmWeb-7.65.16.23-5.i386.000	
4	Yes	10/10/17	YES	YES	avaya-cs1000-cnd-4.0.48-1.e15.i386.000	
5	Yes	10/10/17	NO	YES	bash-3.2-33.e15_11.4.i386.000	
6	Yes	10/10/17	YES	YES	cs1000-baseWeb-7.65.16.22-4.i386.000	
7	Yes	10/10/17	YES	YES	cs1000-bcc-7.65.16.23-19.i386.000	
8	Yes	10/10/17	NO	YES	cs1000-cppmUtil-7.65.16.23-4.i686.000	
9	Yes	10/10/17	YES	YES	cs1000-cs-7.65.P.100-03.i386.000	
10	Yes	10/10/17	NO	YES	cs1000-cs1000WebService-6-0-7.65.16.23-6.i386.000	
11	Yes	10/10/17	YES	YES	cs1000-csmWeb-7.65.16.23-2.i386.000	
12	Yes	10/10/17	YES	YES	cs1000-csoneksvrmgr-7.65.16.22-5.i386.000	
13	Yes	10/10/17	YES	YES	cs1000-csv-7.65.16.23-4.i386.000	
14	Yes	10/10/17	YES	YES	cs1000-dbcom-7.65.16.23-1.i386.000	
15	Yes	10/10/17	YES	YES	cs1000-emWebLocal-6-0-7.65.16.22-1.i386.000	
16	Yes	10/10/17	YES	YES	cs1000-emWeb-6-0-7.65.16.23-8.i386.000	
17	Yes	10/10/17	YES	YES	cs1000-ftrpkg-7.65.16.23-1.i386.000	
18	Yes	10/10/17	NO	YES	cs1000-gk-7.65.16.22-1.i386.000	
19	Yes	10/10/17	YES	YES	cs1000-ipsec-7.65.16.22-1.i386.000	
20	Yes	10/10/17	YES	YES	cs1000-mscAnn-7.65.16.23-1.i386.000	
21	Yes	10/10/17	YES	YES	cs1000-mscAttn-7.65.16.23-15.i386.000	
22	Yes	10/10/17	YES	YES	cs1000-mscConf-7.65.16.23-1.i386.000	
23	Yes	10/10/17	YES	YES	cs1000-mscMusc-7.65.16.23-1.i386.000	
24	Yes	10/10/17	YES	YES	cs1000-mscTone-7.65.16.23-1.i386.000	
25	Yes	10/10/17	YES	YES	cs1000-nrsm-7.65.16.23-1.i386.000	
26	Yes	10/10/17	YES	YES	cs1000-oam-logging-7.65.16.23-1.i386.000	
27	Yes	10/10/17	NO	YES	cs1000-pd-7.65.16.23-1.i386.000	
28	Yes	10/10/17	NO	YES	cs1000-shared-carrdtct-7.65.16.21-01.i386.000	
29	Yes	10/10/17	NO	YES	cs1000-shared-omm-7.65.16.21-2.i386.000	
30	Yes	10/10/17	YES	YES	cs1000-shared-pbx-7.65.16.23-3.i386.000	
31	Yes	10/10/17	NO	YES	cs1000-shared-tpselect-7.65.16.23-1.i386.000	
32	Yes	10/10/17	YES	YES	cs1000-shared-xmsg-7.65.16.22-1.i386.000	
33	Yes	10/10/17	NO	YES	cs1000-snmp-7.65.16.21-00.i686.000	
34	Yes	10/10/17	NO	YES	cs1000-sps-7.65.16.23-1.i386.000	
35	Yes	10/10/17	YES	YES	cs1000-tps-7.65.16.23-21.i386.000	
36	Yes	10/10/17	YES	YES	cs1000-vtrk-7.65.16.23-123.i386.000	
37	Yes	10/10/17	NO	YES	freetype-2.2.1-32.e15_9.1.i386.000	
38	Yes	10/10/17	YES	YES	jdk-1.6.0_151-fcs.i586.000	
39	Yes	10/10/17	YES	YES	kernel-2.6.18-419.e15.i686.000	
40	Yes	10/10/17	NO	YES	libssh2-1.4.2-2.e15_7.1.i386.000	
41	Yes	10/10/17	NO	YES	libxml2-2.6.26-2.1.25.e15_11.i386.000	
42	Yes	10/10/17	NO	YES	libxml2-python-2.6.26-2.1.25.e15_11.i386.000	
43	Yes	10/10/17	NO	YES	openldap-2.3.43-29.e15_11.i386.000	
44	Yes	10/10/17	YES	YES	openssl-0.9.8e-40.e15_11.i386.000	
45	Yes	10/10/17	NO	YES	pass_harden-7.65.16.23-2.i386.000	
46	Yes	10/10/17	NO	YES	pcap-7.65.16.23-1.i386.000	
47	Yes	10/10/17	NO	yes	tzdata-2016g-2.e15.i386.000	

## Avaya CS1000 R7.6 - Call Server Patches

IN-SERVICE PEPS						
PAT#	CR #	PATCH REF #	NAME	DATE	FILENAME	SPECINS
0000	wi01199336	ISS1:1OF1	p33410_1	20/12/2016	p33410_1.cpl	NO
0001	wi01088055	ISS1:1OF1	p32607_1	20/12/2016	p32607_1.cpl	NO
0002	wi01098433	ISS1:1OF1	p32736_1	20/12/2016	p32736_1.cpl	NO
0003	wi01199608	ISS1:1OF1	p33414_1	20/12/2016	p33414_1.cpl	NO
0004	wi01146254	ISS1:1OF1	p33127_1	20/12/2016	p33127_1.cpl	NO
0005	wi01075149	ISS1:1OF1	p32475_1	20/12/2016	p32475_1.cpl	NO
0006	wi01070585	ISS1:1OF1	p32383_1	20/12/2016	p32383_1.cpl	NO
0007	wi01128512	ISS1:1OF1	p32997_1	20/12/2016	p32997_1.cpl	NO
0008	wi01098783	ISS1:1OF1	p32748_1	20/12/2016	p32748_1.cpl	NO
0009	wi01133960	ISS1:1OF1	p33034_1	20/12/2016	p33034_1.cpl	NO
0010	wi01137694	ISS1:1OF1	p33081_1	20/12/2016	p33081_1.cpl	NO
0011	wi01068011	ISS1:1OF1	p33182_1	20/12/2016	p33182_1.cpl	NO
0012	wi01153896	ISS1:1OF1	p33185_1	20/12/2016	p33185_1.cpl	NO
0013	wi01115369	ISS1:1OF1	p32889_1	20/12/2016	p32889_1.cpl	NO
0014	wi01171418	ISS1:1OF1	p33278_1	20/12/2016	p33278_1.cpl	NO
0015	CS1000-7113	ISS1:1OF1	p33623_1	20/12/2016	p33623_1.cpl	NO
0016	wi01201882	ISS1:1OF1	p33427_1	20/12/2016	p33427_1.cpl	NO
0017	wi01079444	ISS1:1OF1	p32564_1	20/12/2016	p32564_1.cpl	NO
0018	wi01089519	ISS1:1OF1	p32665_1	20/12/2016	p32665_1.cpl	NO
0019	wi01065248	ISS1:1OF1	p32412_1	20/12/2016	p32412_1.cpl	NO
0020	wi01052968	ISS1:1OF1	p32540_1	20/12/2016	p32540_1.cpl	NO
0021	wi01144609	ISS1:1OF1	p33119_1	20/12/2016	p33119_1.cpl	NO
0022	wi01132244	ISS1:1OF1	p33041_1	20/12/2016	p33041_1.cpl	NO
0023	wi01045058	ISS1:1OF1	p32214_1	20/12/2016	p32214_1.cpl	NO
0024	wi01053920	ISS1:1OF1	p32303_1	20/12/2016	p32303_1.cpl	NO
0025	wi01169714	ISS1:1OF1	p33335_1	20/12/2016	p33335_1.cpl	NO
0026	wi01151870	ISS1:1OF1	p33162_1	20/12/2016	p33162_1.cpl	YES
0027	wi01099300	iss1:1of1	p32704_1	20/12/2016	p32704_1.cpl	NO
0028	wi01171467	ISS1:1OF1	p33270_1	20/12/2016	p33270_1.cpl	NO
0029	wi01207693	ISS1:1OF1	p33452_1	20/12/2016	p33452_1.cpl	NO
0030	wi01120705	ISS1:1OF1	p32930_1	20/12/2016	p32930_1.cpl	NO
0031	wi00959458	ISS1:1OF1	p31551_1	20/12/2016	p31551_1.cpl	NO
0032	wi01197054	ISS1:1OF1	p33397_1	20/12/2016	p33397_1.cpl	NO
0033	wi01065118	ISS1:1OF1	p32397_1	20/12/2016	p32397_1.cpl	NO
0034	wi01181174	ISS1:1OF1	p33316_1	20/12/2016	p33316_1.cpl	NO
0035	wi01053597	ISS1:1OF1	p32304_1	20/12/2016	p32304_1.cpl	NO
0036	wi01071996	ISS1:1OF1	p32461_1	20/12/2016	p32461_1.cpl	NO
0037	wi01127527	ISS1:1OF1	p32988_1	20/12/2016	p32988_1.cpl	YES
0038	wi01008182	ISS1:1OF1	p33277_1	20/12/2016	p33277_1.cpl	NO
0039	wi01096842	ISS1:1OF1	p32731_1	20/12/2016	p32731_1.cpl	NO
0040	wi01068922	ISS1:1OF1	p32454_1	20/12/2016	p32454_1.cpl	NO
0041	wi01182880	ISS1:1OF1	p33328_1	20/12/2016	p33328_1.cpl	NO
0042	wi01138136	ISS1:1OF1	p33191_1	20/12/2016	p33191_1.cpl	NO
0043	CS1000-6738	ISS1:1OF1	p33495_1	20/12/2016	p33495_1.cpl	NO
0044	wi01156086	ISS1:1OF1	p33269_1	20/12/2016	p33269_1.cpl	NO
0045	wi01045144	ISS1:1OF1	p33202_1	20/12/2016	p33202_1.cpl	NO
0046	wi01120458	ISS1:1OF1	p32929_1	20/12/2016	p32929_1.cpl	NO
0047	wi01078721	ISS1:1OF1	p32553_1	20/12/2016	p32553_1.cpl	NO
0048	CS1000-7208	ISS1:1OF1	p33648_1	20/12/2016	p33648_1.cpl	NO
0049	wi01059388	iss1:1of1	p32628_1	20/12/2016	p32628_1.cpl	NO
0050	wi01065922	ISS1:1OF1	p32516_1	20/12/2016	p32516_1.cpl	NO
0051	wi01205975	ISS1:1OF1	p33447_1	20/12/2016	p33447_1.cpl	NO

0052	wi01142100	ISS1:1OF1	p33090_1	20/12/2016	p33090_1.cpl	NO
0053	wi01153039	ISS1:1OF1	p17588_1	20/12/2016	p17588_1.cpl	NO
0054	WI01077073	ISS1:1OF1	p32534_1	20/12/2016	p32534_1.cpl	NO
0055	wi01215810	ISS1:1OF1	p33494_1	20/12/2016	p33494_1.cpl	NO
0056	wi01066991	ISS1:1OF1	p32449_1	20/12/2016	p32449_1.cpl	NO
0057	wi01106658	ISS1:1OF1	p32812_1	20/12/2016	p32812_1.cpl	NO
0058	wi01068851	ISS1:1OF1	p32439_1	20/12/2016	p32439_1.cpl	NO
0059	wi01053314	ISS1:1OF1	p32555_1	20/12/2016	p32555_1.cpl	NO
0060	wi01123389	ISS1:1OF1	p33045_1	20/12/2016	p33045_1.cpl	NO
0061	CS1000-7174	ISS1:1OF1	p33655_1	20/12/2016	p33655_1.cpl	NO
0062	wi01165881	ISS1:1OF1	p33239_1	20/12/2016	p33239_1.cpl	NO
0063	wi01065125	ISS1:1OF1	p32416_1	20/12/2016	p32416_1.cpl	NO
0064	wi01119086	ISS1:1OF1	p32917_1	20/12/2016	p32917_1.cpl	NO
0065	wi01109251	ISS1:1OF1	p32827_1	20/12/2016	p32827_1.cpl	NO
0066	wi01173768	ISS1:1OF1	p33288_1	20/12/2016	p33288_1.cpl	NO
0067	wi01180594	ISS1:1OF1	p33312_1	20/12/2016	p33312_1.cpl	NO
0068	wi01126552	ISS1:1OF1	p32975_1	20/12/2016	p32975_1.cpl	NO
0069	CS1000-7171	ISS1:1OF1	p33626_1	20/12/2016	p33626_1.cpl	NO
0070	wi01204623	ISS1:1OF1	p33444_1	20/12/2016	p33444_1.cpl	NO
0071	wi01099724	ISS1:1OF1	p32742_1	20/12/2016	p32742_1.cpl	YES
0072	wi01118819	ISS1:1OF1	p32954_1	20/12/2016	p32954_1.cpl	NO
0073	wi01094305	ISS1:1OF1	p32640_1	20/12/2016	p32640_1.cpl	NO
0074	wi01188722	ISS1:1OF1	p33365_1	20/12/2016	p33365_1.cpl	NO
0075	wi01134602	ISS1:1OF1	p32398_1	20/12/2016	p32398_1.cpl	NO
0076	wi01101876	ISS1:1OF1	p32858_1	20/12/2016	p32858_1.cpl	NO
0077	wi01142792	ISS1:1OF1	p33099_1	20/12/2016	p33099_1.cpl	NO
0078	CS1000-7276	ISS1:1OF1	p33675_1	20/12/2016	p33675_1.cpl	YES
0079	CS1000-6789	ISS1:1OF1	p33508_1	20/12/2016	p33508_1.cpl	NO
0080	wi01164281	ISS1:1OF1	p33232_1	20/12/2016	p33232_1.cpl	NO
0081	wi01133985	ISS1:1OF1	p33049_1	20/12/2016	p33049_1.cpl	NO
0082	wi01149017	ISS1:1OF1	p33145_1	20/12/2016	p33145_1.cpl	NO
0083	wi01186846	ISS1:1OF1	p33332_1	20/12/2016	p33332_1.cpl	NO
0084	wi01188972	ISS1:1OF1	p33352_1	20/12/2016	p33352_1.cpl	NO
0085	cs1000-7217	ISS1:1OF1	p33643_1	20/12/2016	p33643_1.cpl	NO
0086	CS1000-7255	ISS1:1OF1	p33663_1	20/12/2016	p33663_1.cpl	YES
0087	wi01111194	ISS1:1OF1	p32821_1	20/12/2016	p32821_1.cpl	NO
0088	wi01189247	ISS1:1OF1	p33382_1	20/12/2016	p33382_1.cpl	YES
0089	wi01099606	iss1:1of1	p32713_1	20/12/2016	p32713_1.cpl	NO
0090	wi01088775	ISS1:1OF1	p32659_1	20/12/2016	p32659_1.cpl	NO
0091	wi01148697	ISS1:1OF1	p33187_1	20/12/2016	p33187_1.cpl	NO
0092	wi01130348	ISS1:1OF1	p33014_1	20/12/2016	p33014_1.cpl	NO
0093	CS1000-6844	ISS1:1OF1	p33507_1	20/12/2016	p33507_1.cpl	NO
0094	wi01134756	ISS1:1OF1	p33453_1	20/12/2016	p33453_1.cpl	NO
0095	wi01184588	ISS1:1OF1	p33338_1	20/12/2016	p33338_1.cpl	NO
0096	wi01147091	ISS1:1OF1	p33137_1	20/12/2016	p33137_1.cpl	NO
0097	CS1000-7286	ISS1:1OF1	p33686_1	20/12/2016	p33686_1.cpl	NO
0098	wi01087543	ISS1:1OF1	p32662_1	20/12/2016	p32662_1.cpl	NO
0099	wi01166011	ISS1:1OF1	p33235_1	20/12/2016	p33235_1.cpl	NO
0100	wi01035976	ISS1:1OF1	p32173_1	20/12/2016	p32173_1.cpl	NO
0101	wi01146804	ISS1:1OF1	p33132_1	20/12/2016	p33132_1.cpl	NO
0102	wi01153104	ISS1:1OF1	p33174_1	20/12/2016	p33174_1.cpl	NO
0103	wi01092443	ISS1:1OF1	p32676_1	20/12/2016	p32676_1.cpl	NO
0104	CS1000-6740	ISS1:1OF1	p33622_1	20/12/2016	p33622_1.cpl	NO
0105	wi01113712	ISS1:1OF1	p32877_1	20/12/2016	p32877_1.cpl	NO
0106	wi01150846	ISS1:1OF1	p33157_1	20/12/2016	p33157_1.cpl	NO
0107	CS1000-7052	ISS1:1OF1	p33573_1	20/12/2016	p33573_1.cpl	NO
0108	wi01153844	ISS1:1OF1	p33172_1	20/12/2016	p33172_1.cpl	NO
0109	wi01093071	ISS1:1OF1	p32701_1	20/12/2016	p32701_1.cpl	NO
0110	CS1000-7151	ISS1:1OF1	p33617_1	20/12/2016	p33617_1.cpl	NO
0111	wi01190506	ISS1:1OF1	p33361_1	20/12/2016	p33361_1.cpl	NO
0112	wi01118714	ISS2:1OF1	p32952_2	20/12/2016	p32952_2.cpl	NO
0113	wi01075538	ISS1:1OF1	p32469_1	20/12/2016	p32469_1.cpl	NO

0114	wi01091447	ISS1:1OF1	p32675_1	20/12/2016	p32675_1.cpl	NO
0115	wi01159931	ISS1:1OF1	p33231_1	20/12/2016	p33231_1.cpl	YES
0116	WI01108562	ISS1:1OF1	p32832_1	20/12/2016	p32832_1.cpl	NO
0117	wi01099810	ISS1:1OF1	p32796_1	20/12/2016	p32796_1.cpl	NO
0118	CS1000-7003	ISS1:1OF1	p33561_1	20/12/2016	p33561_1.cpl	NO
0119	wi01128596	ISS1:1OF1	p33000_1	20/12/2016	p33000_1.cpl	NO
0120	wi01185642	ISS1:1OF1	p33342_1	20/12/2016	p33342_1.cpl	NO
0121	wi01193201	ISS1:1OF1	p33381_1	20/12/2016	p33381_1.cpl	YES
0122	cs1000-6998	ISS1:1OF1	p33555_1	20/12/2016	p33555_1.cpl	NO
0123	CS1000-6791	ISS1:1OF1	p33501_1	20/12/2016	p33501_1.cpl	YES
0124	wi01191767	ISS1:1OF1	p33368_1	20/12/2016	p33368_1.cpl	NO
0125	wi01144354	ISS1:1OF1	p33117_1	20/12/2016	p33117_1.cpl	NO
0126	wi01121374	ISS1:1OF1	p31107_1	20/12/2016	p31107_1.cpl	NO
0127	wi01185751	ISS1:1OF1	p33409_1	20/12/2016	p33409_1.cpl	YES
0128	WI01169289	ISS1:1OF1	p33257_1	20/12/2016	p33257_1.cpl	NO
0129	wi01100508	ISS1:1OF1	p32761_1	20/12/2016	p32761_1.cpl	NO
0130	wi01189516	ISS1:1OF1	p33373_1	20/12/2016	p33373_1.cpl	NO
0131	wi01101969	ISS1:1OF1	p32726_1	20/12/2016	p32726_1.cpl	NO
0132	wi01102296	ISS1:1OF1	p32780_1	20/12/2016	p32780_1.cpl	NO
0133	cs1000-7162	ISS1:1OF1	p33625_1	20/12/2016	p33625_1.cpl	NO
0134	wi01097598	ISS1:1OF1	p32797_1	20/12/2016	p32797_1.cpl	NO
0135	wi01132215	ISS1:1OF1	p33084_1	20/12/2016	p33084_1.cpl	NO
0136	wi01094832	iss1:1of1	p32718_1	20/12/2016	p32718_1.cpl	NO
0137	wi01197246	ISS1:1OF1	p33400_1	20/12/2016	p33400_1.cpl	NO
0138	CS1000-6872	ISS1:1OF1	p33520_1	20/12/2016	p33520_1.cpl	NO
0139	wi01147983	ISS1:1OF1	p33141_1	20/12/2016	p33141_1.cpl	NO
0140	wi01060826	ISS1:1OF1	p32379_1	20/12/2016	p32379_1.cpl	NO
0141	wi01077639	ISS1:1OF1	p32883_1	20/12/2016	p32883_1.cpl	NO
0142	wi01085855	ISS1:1OF1	p32658_1	20/12/2016	p32658_1.cpl	NO
0143	wi01053195	ISS1:1OF1	p32297_1	20/12/2016	p32297_1.cpl	NO
0144	wi01174116	ISS1:1OF1	p33287_1	20/12/2016	p33287_1.cpl	NO
0145	wi01095255	ISS1:1OF1	p33027_1	20/12/2016	p33027_1.cpl	NO
0146	wi01203516	ISS1:1OF1	p33438_1	20/12/2016	p33438_1.cpl	NO
0147	wi01094727	ISS1:1OF1	p32848_1	20/12/2016	p32848_1.cpl	NO
0148	wi01151898	ISS1:1OF1	p33175_1	20/12/2016	p33175_1.cpl	NO
0149	CS1000-7103	ISS1:1OF1	p33596_1	20/12/2016	p33596_1.cpl	NO
0150	wi01080753	ISS1:1OF1	p32518_1	20/12/2016	p32518_1.cpl	NO
0151	wi01125238	ISS1:1OF1	p32971_1	20/12/2016	p32971_1.cpl	NO
0152	wi01110593	ISS1:1OF1	p32849_1	20/12/2016	p32849_1.cpl	NO
0153	wi01119100	ISS1:1OF1	p32925_1	20/12/2016	p32925_1.cpl	NO
0154	CS1000-6978	ISS1:1OF1	p33551_1	20/12/2016	p33551_1.cpl	YES
0155	wi01156999	ISS1:1OF1	p33180_1	20/12/2016	p33180_1.cpl	NO
0156	wi01141625	ISS1:1OF1	p33324_1	20/12/2016	p33324_1.cpl	NO
0157	wi01102093	ISS1:1OF1	p32760_1	20/12/2016	p32760_1.cpl	NO
0158	wi01132883	ISS1:1OF1	p33030_1	20/12/2016	p33030_1.cpl	NO
0159	wi01070279	ISS1:1OF1	p32262_1	20/12/2016	p32262_1.cpl	NO
0160	wi01102475	ISS1:1OF1	p32782_1	20/12/2016	p32782_1.cpl	YES
0161	cs1000-6924	ISS1:1OF1	p33523_1	20/12/2016	p33523_1.cpl	NO
0162	wi01181423	ISS1:1OF1	p33318_1	20/12/2016	p33318_1.cpl	NO
0163	wi01150083	ISS1:1OF1	p33152_1	20/12/2016	p33152_1.cpl	NO
0164	wi01181854	ISS1:1OF1	p33323_1	20/12/2016	p33323_1.cpl	NO
0165	wi00897254	ISS1:1OF1	p31127_1	20/12/2016	p31127_1.cpl	NO
0166	wi01083036	ISS1:1OF1	p32571_1	20/12/2016	p32571_1.cpl	NO
0167	wi01070468	iss1:1of1	p32418_1	20/12/2016	p32418_1.cpl	NO
0168	wi01181197	ISS1:1OF1	p33317_1	20/12/2016	p33317_1.cpl	NO
0169	wi01063864	ISS1:1OF1	p32410_1	20/12/2016	p32410_1.cpl	YES
0170	wi01075355	ISS1:1OF1	p32594_1	20/12/2016	p32594_1.cpl	NO
0171	wi01127447	ISS1:1OF1	p32990_1	20/12/2016	p32990_1.cpl	NO
0172	wi01133106	ISS1:1OF1	p33032_1	20/12/2016	p33032_1.cpl	NO
0173	wi01212017	ISS1:1OF1	p33482_1	20/12/2016	p33482_1.cpl	YES
0174	wi01099292	ISS1:1OF1	p32886_1	20/12/2016	p32886_1.cpl	NO
0175	wi01167427	ISS1:1OF1	p33264_1	20/12/2016	p33264_1.cpl	NO

0176	wi01075540	ISS1:1OF1	p32492_1	20/12/2016	p32492_1.cpl	NO
0177	wi01072027	ISS1:1OF1	p32689_1	20/12/2016	p32689_1.cpl	NO
0178	wi01114038	ISS1:1OF1	p32869_1	20/12/2016	p32869_1.cpl	NO
0179	CS1000-6933	ISS1:1OF1	p33529_1	20/12/2016	p33529_1.cpl	NO
0180	wi01212527	ISS1:1OF1	p33481_1	20/12/2016	p33481_1.cpl	YES
0181	wi01181578	ISS1:1OF1	p33321_1	20/12/2016	p33321_1.cpl	NO
0182	CS1000-7106	ISS1:1OF1	p33598_1	20/12/2016	p33598_1.cpl	NO
0183	wi01063263	ISS1:1OF1	p32573_1	20/12/2016	p32573_1.cpl	NO
0184	wi01102091	ISS1:1OF1	p32744_1	20/12/2016	p32744_1.cpl	YES
0185	wi01104473	ISS1:1OF1	p32818_1	20/12/2016	p32818_1.cpl	NO
0186	wi01053950	ISS1:1OF1	p32654_1	20/12/2016	p32654_1.cpl	YES
0187	wi01139981	ISS1:1OF1	p33083_1	20/12/2016	p33083_1.cpl	NO
0188	wi01058378	ISS1:1OF1	p32344_1	20/12/2016	p32344_1.cpl	NO
0189	wi01070580	ISS1:1OF1	p32380_1	20/12/2016	p32380_1.cpl	NO
0190	wi01187059	ISS1:1OF1	p33346_1	20/12/2016	p33346_1.cpl	NO
0191	wi01043367	ISS1:1OF1	p32232_1	20/12/2016	p32232_1.cpl	NO
0192	wi01145002	ISS1:1OF1	p33186_1	20/12/2016	p33186_1.cpl	NO
0193	wi01175294	ISS1:1OF1	p33290_1	20/12/2016	p33290_1.cpl	NO
0194	wi01041453	ISS1:1OF1	p32587_1	20/12/2016	p32587_1.cpl	NO
0195	wi01185441	ISS1:1OF1	p33341_1	20/12/2016	p33341_1.cpl	NO
0196	wi01130815	ISS1:1OF1	p33017_1	20/12/2016	p33017_1.cpl	NO
0197	wi01214452	ISS1:1OF1	p33488_1	20/12/2016	p33488_1.cpl	NO
0198	wi01089807	ISS1:1OF1	p32957_1	20/12/2016	p32957_1.cpl	NO
0199	CS1000-7023	ISS1:1OF1	p33526_1	20/12/2016	p33526_1.cpl	NO
0200	wi01149384	ISS1:1OF1	p33147_1	20/12/2016	p33147_1.cpl	NO
0201	WI01121737	ISS1:1OF1	p32939_1	20/12/2016	p32939_1.cpl	NO
0202	CS1000-6794	ISS1:1OF1	p33539_1	20/12/2016	p33539_1.cpl	NO
0203	wi01208580	ISS1:1OF1	p33461_1	20/12/2016	p33461_1.cpl	NO
0204	wi01083896	ISS1:1OF1	p32937_1	20/12/2016	p32937_1.cpl	NO
0205	wi01210497	ISS1:1OF1	p33468_1	20/12/2016	p33468_1.cpl	YES
0206	wi01178476	ISS1:1OF1	p33305_1	20/12/2016	p33305_1.cpl	NO
0207	wi01039280	ISS1:1OF1	p32423_1	20/12/2016	p32423_1.cpl	NO
0208	wi01081510	ISS1:1OF1	p32582_1	20/12/2016	p32582_1.cpl	NO
0209	wi01088797	ISS1:1OF1	p32844_1	20/12/2016	p32844_1.cpl	NO
0210	wi01098905	ISS1:1OF1	p32556_1	20/12/2016	p32556_1.cpl	NO
0211	wi01146766	ISS1:1OF1	p33131_1	20/12/2016	p33131_1.cpl	NO
0212	wi00937672	ISS1:1OF1	p31276_1	20/12/2016	p31276_1.cpl	NO
0213	wi01170583	ISS1:1OF1	p33261_1	20/12/2016	p33261_1.cpl	NO
0214	wi01057403	ISS1:1OF1	p32591_1	20/12/2016	p32591_1.cpl	NO
0215	wi01132204	ISS1:1OF1	p32501_1	20/12/2016	p32501_1.cpl	NO
0216	wi01112655	ISS1:1OF1	p32870_1	20/12/2016	p32870_1.cpl	NO
0217	CS1000-7137	ISS1:1OF1	p33629_1	20/12/2016	p33629_1.cpl	NO
0218	wi01201045	ISS1:1OF1	p33424_1	20/12/2016	p33424_1.cpl	YES
0219	CS1000-7248	ISS1:1OF1	p32811_1	20/12/2016	p32811_1.cpl	NO
0220	wi01185138	ISS1:1OF1	p33411_1	20/12/2016	p33411_1.cpl	NO
0221	wi01025156	ISS1:1OF1	p32136_1	20/12/2016	p32136_1.cpl	NO
0222	wi01127138	ISS1:1OF1	p33304_1	20/12/2016	p33304_1.cpl	NO
0223	wi01070756	ISS1:1OF1	p32444_1	20/12/2016	p32444_1.cpl	NO
0224	wi01132599	ISS1:1OF1	p33025_1	20/12/2016	p33025_1.cpl	NO
0225	wi01056633	ISS1:1OF1	p32322_1	20/12/2016	p32322_1.cpl	NO
0226	wi01060241	ISS1:1OF1	p32381_1	20/12/2016	p32381_1.cpl	NO
0227	wi01134952	ISS1:1OF1	p33039_1	20/12/2016	p33039_1.cpl	NO
0228	wi01132902	ISS1:1OF1	p33028_1	20/12/2016	p33028_1.cpl	NO
0229	wi01201986	ISS1:1OF1	p33433_1	20/12/2016	p33433_1.cpl	NO
0230	wi01071379	ISS1:1OF1	p32522_1	20/12/2016	p32522_1.cpl	NO
0231	cs1000-6845	ISS1:1OF1	p33509_1	20/12/2016	p33509_1.cpl	NO
0232	wi01069441	ISS1:1OF1	p32097_1	20/12/2016	p32097_1.cpl	NO
0233	WI11032038	ISS1:1OF1	p33022_1	20/12/2016	p33022_1.cpl	NO
0234	CS1000-7152	ISS1:1OF1	p33668_1	20/12/2016	p33668_1.cpl	YES
0235	wi01134354	ISS1:1OF1	p33031_1	20/12/2016	p33031_1.cpl	NO
0236	CS1000-6946	ISS1:1OF1	p33543_1	20/12/2016	p33543_1.cpl	NO
0237	wi01096910	ISS1:1OF1	p32734_1	20/12/2016	p32734_1.cpl	NO

0238	wi01076948	ISS1:1OF1	p32526_1	20/12/2016	p32526_1.cpl	YES
0239	wi01093118	ISS1:1OF1	p32496_1	20/12/2016	p32496_1.cpl	NO
0240	wi01202917	ISS1:1OF1	p33434_1	20/12/2016	p33434_1.cpl	NO
0241	wi01198794	ISS1:1OF1	p33408_1	20/12/2016	p33408_1.cpl	NO
0242	wi01160967	ISS1:1OF1	p33213_1	20/12/2016	p33213_1.cpl	NO
0243	wi01104867	ISS1:1OF1	p32828_1	20/12/2016	p32828_1.cpl	NO
0244	wi01154485	ISS1:1OF1	p33194_1	20/12/2016	p33194_1.cpl	NO
0245	wi01146705	ISS1:1OF1	p33129_1	20/12/2016	p33129_1.cpl	NO
0246	wi01096712	ISS1:1OF1	p32708_1	20/12/2016	p32708_1.cpl	NO
0247	wi01061481	ISS1:1OF1	p32382_1	20/12/2016	p32382_1.cpl	NO
0248	wi01070465	iss1:1of1	p32562_1	20/12/2016	p32562_1.cpl	NO
0249	CS1000-7301	ISS1:1OF1	p33691_1	20/12/2016	p33691_1.cpl	NO
0250	wi01187443	ISS1:1OF1	p33359_1	20/12/2016	p33359_1.cpl	NO
0251	wi01034307	ISS1:1OF1	p32615_1	20/12/2016	p32615_1.cpl	NO
0252	CS1000-6964	ISS1:1OF1	p33541_1	20/12/2016	p33541_1.cpl	NO
0253	wi01135146	ISS1:1OF1	p33033_1	20/12/2016	p33033_1.cpl	NO
0254	CS1000-6852	ISS1:1OF1	p33517_1	20/12/2016	p33517_1.cpl	NO
0255	wi01195975	ISS1:1OF1	p33394_1	20/12/2016	p33394_1.cpl	NO
0256	wi01108262	ISS1:1OF1	p32865_1	20/12/2016	p32865_1.cpl	YES
0257	wi01104627	ISS1:1OF1	p32819_1	20/12/2016	p32819_1.cpl	NO
0258	wi01204274	ISS1:1OF1	p33451_1	20/12/2016	p33451_1.cpl	NO
0259	CS1000-7022	ISS1:1OF1	p33560_1	20/12/2016	p33560_1.cpl	NO
0260	CS1000-6583	ISS1:1OF1	p33531_1	20/12/2016	p33531_1.cpl	NO
0261	wi01096967	ISS1:1OF1	p32735_1	20/12/2016	p32735_1.cpl	NO
0262	wi01177690	ISS1:1OF1	p33320_1	20/12/2016	p33320_1.cpl	YES
0263	wi01060611	ISS1:1OF1	p32809_1	20/12/2016	p32809_1.cpl	NO
0264	wi01163826	ISS1:1OF1	p33229_1	20/12/2016	p33229_1.cpl	NO
0265	wi01182523	ISS1:1OF1	p33327_1	20/12/2016	p33327_1.cpl	NO
0266	CS1000-7267	ISS1:1OF1	p33669_1	20/12/2016	p33669_1.cpl	NO
0267	wi01090535	ISS1:1OF1	p32519_1	20/12/2016	p32519_1.cpl	NO
0268	wi01124074	ISS1:1OF1	p32989_1	20/12/2016	p32989_1.cpl	NO
0269	wi01034961	ISS1:1OF1	p32144_1	20/12/2016	p32144_1.cpl	NO
0270	wi01127874	ISS1:1OF1	p25747_1	20/12/2016	p25747_1.cpl	NO
0271	wi01062607	ISS1:1OF1	p32503_1	20/12/2016	p32503_1.cpl	NO
0272	CS1000-6910	ISS1:1OF1	p33528_1	20/12/2016	p33528_1.cpl	NO
0273	wi01060382	iss1:1of1	p32623_1	20/12/2016	p32623_1.cpl	YES
0274	wi01215563	ISS1:1OF1	p33412_1	20/12/2016	p33412_1.cpl	NO
0275	CS1000-7147	ISS1:1OF1	p33616_1	20/12/2016	p33616_1.cpl	NO
0276	wi01075359	ISS1:1OF1	p32671_1	20/12/2016	p32671_1.cpl	NO
0277	wi01120406	ISS1:1OF1	p32956_1	20/12/2016	p32956_1.cpl	NO
0278	wi01095462	ISS1:1OF1	p32723_1	20/12/2016	p32723_1.cpl	NO
0279	wi01213334	ISS1:1OF1	p33485_1	20/12/2016	p33485_1.cpl	NO
0280	wi01070473	ISS1:1OF1	p32413_1	20/12/2016	p32413_1.cpl	NO
0281	wi01114695	ISS1:1OF1	p32885_1	20/12/2016	p32885_1.cpl	NO
0282	wi01129098	ISS1:1OF1	p32951_1	20/12/2016	p32951_1.cpl	NO
0283	wi01134799	ISS1:1OF1	p33069_1	20/12/2016	p33069_1.cpl	NO
0284	wi01163048	ISS1:1OF1	p33223_1	20/12/2016	p33223_1.cpl	YES
0285	wi01096718	ISS1:1OF1	p33138_1	20/12/2016	p33138_1.cpl	YES
0286	CS1000-7293	ISS1:1OF1	p33679_1	20/12/2016	p33679_1.cpl	NO
0287	wi01166065	ISS1:1OF1	p33241_1	20/12/2016	p33241_1.cpl	NO
0288	wi01130836	ISS1:1OF1	p33008_1	20/12/2016	p33008_1.cpl	YES
0289	wi01109345	ISS1:1OF1	p32830_1	20/12/2016	p32830_1.cpl	NO
0290	wi01104410	ISS1:1OF1	p32801_1	20/12/2016	p32801_1.cpl	NO
0291	wi01183783	ISS1:1OF1	p33333_1	20/12/2016	p33333_1.cpl	NO
0292	wi01064599	iss1:1of1	p32580_1	20/12/2016	p32580_1.cpl	NO
0293	wi01124477	ISS1:1OF1	p32963_1	20/12/2016	p32963_1.cpl	NO
0294	wi01072062	ISS1:1OF1	p32776_1	20/12/2016	p32776_1.cpl	NO
0295	wi01118320	ISS1:1OF1	p32753_1	20/12/2016	p32753_1.cpl	NO
0296	wi01126454	ISS1:1OF1	p32973_1	20/12/2016	p32973_1.cpl	NO
0297	wi01154253	ISS1:1OF1	p33206_1	20/12/2016	p33206_1.cpl	NO
0298	CS1000-7086	ISS1:1OF1	p33587_1	20/12/2016	p33587_1.cpl	NO
0299	wi01021522	ISS1:1OF1	p32863_1	20/12/2016	p32863_1.cpl	NO

0300	CS1000-6786	ISS1:1OF1	p33497_1	20/12/2016	p33497_1.cpl	NO
0301	wi01108828	ISS1:1OF1	p32831_1	20/12/2016	p32831_1.cpl	NO
0302	wi01150771	ISS1:1OF1	p33210_1	20/12/2016	p33210_1.cpl	NO
0303	wi01022598	ISS1:1OF1	p32066_1	20/12/2016	p32066_1.cpl	NO
0304	wi01146289	ISS1:1OF1	p33146_1	20/12/2016	p33146_1.cpl	NO
0305	wi01184272	ISS1:1OF1	p33336_1	20/12/2016	p33336_1.cpl	NO
0306	CS1000-6752	ISS1:1OF1	p33540_1	20/12/2016	p33540_1.cpl	NO
0307	wi01082456	ISS1:1OF1	p32596_1	20/12/2016	p32596_1.cpl	NO
0308	wi01177614	ISS1:1OF1	p33303_1	20/12/2016	p33303_1.cpl	NO
0309	wi01163521	ISS1:1OF1	p33226_1	20/12/2016	p33226_1.cpl	NO
0310	wi01071296	ISS1:1OF1	p32836_1	20/12/2016	p32836_1.cpl	NO
0311	wi01118928	ISS1:1OF1	p32922_1	20/12/2016	p32922_1.cpl	NO
0312	wi01068669	ISS1:1OF1	p32333_1	20/12/2016	p32333_1.cpl	NO
0313	wi01137003	ISS1:1OF1	p33053_1	20/12/2016	p33053_1.cpl	NO
0314	wi01165870	ISS1:1OF1	p33238_1	20/12/2016	p33238_1.cpl	NO
0315	wi01136194	ISS1:1OF1	p33051_1	20/12/2016	p33051_1.cpl	NO
0316	wi01068751	ISS1:1OF1	p32445_1	20/12/2016	p32445_1.cpl	NO
0317	wi01075353	ISS1:1OF1	p32613_1	20/12/2016	p32613_1.cpl	NO
0318	wi01208515	ISS1:1OF1	p33455_1	20/12/2016	p33455_1.cpl	NO
0319	wi01165461	ISS1:1OF1	p33237_1	20/12/2016	p33237_1.cpl	NO
0320	wi01132222	ISS1:1OF1	p33023_1	20/12/2016	p33023_1.cpl	NO
0321	WI0110261	ISS1:1OF1	p32758_1	20/12/2016	p32758_1.cpl	NO
0322	CS1000-7202	ISS1:1OF1	p33646_1	20/12/2016	p33646_1.cpl	NO
0323	CS1000-7326	ISS1:1OF1	p33699_1	20/12/2016	p33699_1.cpl	NO
0324	CS1000-7357	ISS1:1OF1	p33698_1	20/12/2016	p33698_1.cpl	NO
0325	CS1000-7265	ISS1:1OF1	p33666_1	20/12/2016	p33666_1.cpl	NO
0326	CS1000-7140	ISS1:1OF1	p33624_1	20/12/2016	p33624_1.cpl	NO
0327	CS1000-7062	ISS1:1OF1	p33579_1	20/12/2016	p33579_1.cpl	NO
0328	CS1000-7359	ISS1:1OF1	p33700_1	20/12/2016	p33700_1.cpl	NO
0329	CS1000-6980	ISS1:1OF1	p33586_1	20/12/2016	p33586_1.cpl	NO
0330	CS1000-7036	ISS1:1OF1	p33566_1	20/12/2016	p33566_1.cpl	NO
0331	CS1000-7101	ISS1:1OF1	p33641_1	20/12/2016	p33641_1.cpl	NO
0332	CS1000-6546	ISS1:1OF1	p33597_1	20/12/2016	p33597_1.cpl	NO
0333	CS1000-7231	ISS1:1OF1	p33652_1	20/12/2016	p33652_1.cpl	NO
0334	CS1000-7296	ISS1:1OF1	p33681_1	20/12/2016	p33681_1.cpl	NO
0335	CS1000-7323	ISS1:1OF1	p33688_1	20/12/2016	p33688_1.cpl	NO
0336	CS1000-7262	ISS1:1OF1	p33665_1	20/12/2016	p33665_1.cpl	NO
0337	CS1000-7061	ISS1:1OF1	p33575_1	20/12/2016	p33575_1.cpl	NO
0338	CS1000-7154	ISS1:1OF1	p33619_1	20/12/2016	p33619_1.cpl	NO
0339	CS1000-7081	ISS1:1OF1	p33585_1	20/12/2016	p33585_1.cpl	NO
0340	cs1000-7128	ISS1:1OF1	p33605_1	20/12/2016	p33605_1.cpl	NO
0341	CS1000-7053	ISS1:1OF1	p33574_1	20/12/2016	p33574_1.cpl	NO
0342	CS1000-7461	ISS1:1OF1	p33736_1	20/12/2016	p33736_1.cpl	NO
0343	CS1000-7015	ISS1:1OF1	p33606_1	20/12/2016	p33606_1.cpl	NO
0344	cs1000-7223	ISS1:1OF1	p33647_1	20/12/2016	p33647_1.cpl	YES
0345	CS1000-7143	ISS1:1OF1	p33614_1	20/12/2016	p33614_1.cpl	NO
0346	cs1000-7160	ISS1:1OF1	p33621_1	20/12/2016	p33621_1.cpl	NO
0347	CS1000-7253	ISS1:1OF1	p33662_1	20/12/2016	p33662_1.cpl	NO
0348	CS1000-7337	ISS1:1OF1	p33696_1	20/12/2016	p33696_1.cpl	NO
0349	CS1000-7462	ISS1:1OF1	p33737_1	20/12/2016	p33737_1.cpl	NO
0350	cs1000-7029	ISS1:1OF1	p33563_1	20/12/2016	p33563_1.cpl	NO
0351	CS1000-7366	ISS1:1OF1	p33702_1	20/12/2016	p33702_1.cpl	NO
0352	cs1000-7269	ISS1:1OF1	p33670_1	20/12/2016	p33670_1.cpl	NO
0353	CS1000-7313	ISS1:1OF1	p33692_1	20/12/2016	p33692_1.cpl	NO

MDP>LAST SUCCESSFUL MDP REFRESH : 2016-12-20 10:09:17 (Local Time)  
MDP>USING DEPLIST ZIP FILE DOWNLOADED : 2016-12-20 03:51:22 (est)

## Avaya Media Server Patches

# Appendix B

In System service updates: 15					
PATCH#	IN_SERVICE	DATE	SPECINS	REMOVABLE	NAME
0	Yes	25/01/18	NO	YES	tzdata-2015a-1.el5.x86_64.000
1	Yes	25/01/18	YES	YES	cs1000-linuxbase-amsx64-7.65.16.26-5.i386.000
2	Yes	25/01/18	NO	YES	autofs-5.0.1-0.rc2.184.el5.x86_64.000
3	Yes	25/01/18	NO	YES	base_harden-amsx64-7.65.16.26-1.i386.000
4	Yes	25/01/18	NO	YES	bash-3.2-33.el5_11.4.x86_64.000
5	Yes	25/01/18	NO	YES	cs1000-cppmUtil-amsx64-7.65.16.26-1.i686.000
6	Yes	25/01/18	YES	YES	cs1000-mas-amsx64-7.65.16.26-6.i386.000
7	Yes	25/01/18	NO	YES	hwdata-0.213.30-1.el5.noarch.000
8	Yes	25/01/18	YES	YES	initscripts-8.45.45-1.el5.x86_64.000
9	Yes	25/01/18	YES	YES	kernel-2.6.18-419.el5.x86_64.000
10	Yes	25/01/18	NO	YES	ksh-20100621-24.el5_11.x86_64.000
11	Yes	25/01/18	NO	YES	ntp-4.2.2p1-18.el5_11.x86_64.000
12	Yes	25/01/18	NO	YES	rsync-3.0.6-6.el5_11.x86_64.000
13	Yes	25/01/18	NO	YES	sysstat-7.0.2-13.el5.x86_64.000
14	Yes	25/01/18	NO	YES	udev-095-14.32.el5.x86_64.000

## Appendix C

### Avaya CS1000 Route for SIP Trunk Gateway

```
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 YES
NDGT 4
DDLY NO
DCDR YES
ICOG IAO
SRCH LIN
TRMB YES
STEP
ACOD 8022
TCPP NO
PII NO
AUXP NO
TARG
CLEN 1
BILN NO
OABS
INST
IDC YES
DCNO 0
```

```
NDNO 0 *
DNAM NO
ANTK
SIGO STD
STYP SDAT
MFC NO
ICIS YES

PAGE 002

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 YES
INC YES
LAST YES
QREC YES
OAL YES
AIA YES
OAN YES
OPD NO
NDP EXC 0
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
```

PAGE 003

```
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
ATTR NO
TRRL NO
SGRP 0
CCBA NO
ARDN NO
CTBL 0
ANIE 0
CAC_CIS 3
AACR NO
```

## Avaya CS1000 D-Channel for SIP Trunk Gateway

```
ADAN      DCH 1
CTYP DCIP
DES SIPL
USR ISLD
ISLM 4000
SSRC 3700
OTBF 32
NASA YES
IFC SL1
CNEG 1
RLS ID 7
RCAP
MBGA NO
H323
OVLR NO
OVLS NO
```

# Appendix D

## Avaya Media Server License Details

The screenshot shows the Avaya Media Server interface under the 'General Settings' tab. The left sidebar lists 'Licensing' as the selected category. The main area displays a license key in a text input field, which is highlighted with a red box. Below the input field is a 'Validate' button. A note at the bottom states: 'Changing this field will require the system to be restarted to take effect.' At the bottom, there is a table titled 'License Details' with one row, also highlighted with a red box.

Feature	Release	MAC Address	Available	Expiration Date(BST)
Media Server Instances cs1krfc4240:sess	1.0	0:1a:64:20:3feb	0	30

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