



Application Notes for configuring Ascom IP-DECT Base Station and Ascom IP-DECT Handsets with Avaya Communication Server 1000 Release 7.6 – Issue 1.0

Abstract

These Application Notes describe a solution comprised of Avaya Communication Server 1000 Release 7.6, Ascom DECT Handsets and Ascom IP-DECT Base Station. The Ascom DECT Handsets and Ascom IP-DECT Base Station registered as SIP client endpoints with Communication Server 1000 SIP Line gateway. The Ascom DECT Handsets and Ascom IP-DECT Base Station placed and received calls from Communication Server 1000 non-SIP and SIP Line telephones. The compliance testing focused on basic telephone features.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any 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 provide detailed configurations of Avaya Communication Server 1000 R7.6 (CS1000) and the Ascom DECT Handsets and Ascom IP-DECT Base Station (DECT system) used during the compliance testing. The Ascom DECT Base Stations registered with the SIP Line Gateway (SLG) application on the CS1000.

Note: The Ascom IP-DECT Base Stations may also be described as Access Points.

2. General Test Approach and Test Results

The general test approach was to have the Ascom DECT Base Stations register to the CS1000. Calls were then placed from other CS1000 Deskphones to and from the Ascom DECT handset. Other telephony features such as busy, hold, DTMF, MWI and codec negotiation were also verified.

2.1. Interoperability Compliance Testing

Avaya's formal testing and Declaration of Conformity is provided only on the headsets/handsets that carry the Avaya brand or logo. Avaya may conduct testing of non-Avaya headset/handset to determine interoperability with Avaya phones. However, Avaya does not conduct the testing of non-Avaya headsets/handsets for: Acoustic Pressure, Safety, Hearing Aid Compliance, EMC regulations, or any other tests to ensure conformity with safety, audio quality, long-term reliability or any regulation requirements. As a result, Avaya makes no representations whether a particular non-Avaya headset will work with Avaya's telephones or with a different generation of the same Avaya telephone.

Since there is no industry standard for handset interfaces, different manufacturers utilize different handset/headset interfaces with their telephones. Therefore, any claim made by a headset vendor that its product is compatible with Avaya telephones does not equate to a guarantee that the headset will provide adequate safety protection or audio quality.

The focus of this testing was to verify that the Ascom DECT system was able to interoperate with the CS1000. The following areas were tested:

- Registration of the Ascom DECT handsets to the CS1000.
- Call establishment of Ascom DECT handsets with CS1000 Deskphones.
- Telephony features tested included:
 - Basic calls
 - Conference (Avaya telephones host the conference)
 - Blind and consultative transfer
 - DTMF transmission
 - Voicemail with Message Waiting Indication (MWI) notification
 - Busy, hold, speed dial, call waiting, call park/pickup
 - Call forward on Busy, No answer and All Calls
- PSTN calls over PRI trunk.
- Codec negotiation.

2.2. Test Results

Tests were performed to verify interoperability between Ascom DECT Handsets and Ascom IP-DECT Base Stations with CS1000 Release 7.6. The tests were all functional in nature and performance testing was not included. All test cases passed successfully. The following observation was made during compliance testing:

- Local Call Waiting and Call Forward Busy are not support due to the CS1000 SIP line gateway and will always return 486 Busy Here.

2.3. Support

Technical support for the Ascom IP DECT product can be obtained through a local Ascom supplier. Ascom global technical support:

- Email: support@ascom.se or Help desk: +46 31 559450

3. Reference Configuration

Figure 1 illustrates the test configuration used during the compliance testing between the Avaya CS1000 and the Ascom DECT system. The CS1000 runs on the Common Processor Pentium Mobile (CPPM) server as a co-resident configuration. The SLG application on the signaling server co-resides as on the CPPM. System Manager is used to configure the SLG. A number of Avaya Deskphones were configured. The Ascom Master Access point was connected to the IP Network which the IP-DECT Handsets register to. The Roaming Access point allows radio communication between the IP-DECT Handsets which in turn communicates with the CS1000. A simulated PSTN was configured to enable incoming and outgoing trunk calls.

Note: A USB DP1 Desktop Programmer cradle connected to the Ascom Device Manager is used to configure the IP-DECT Handsets.

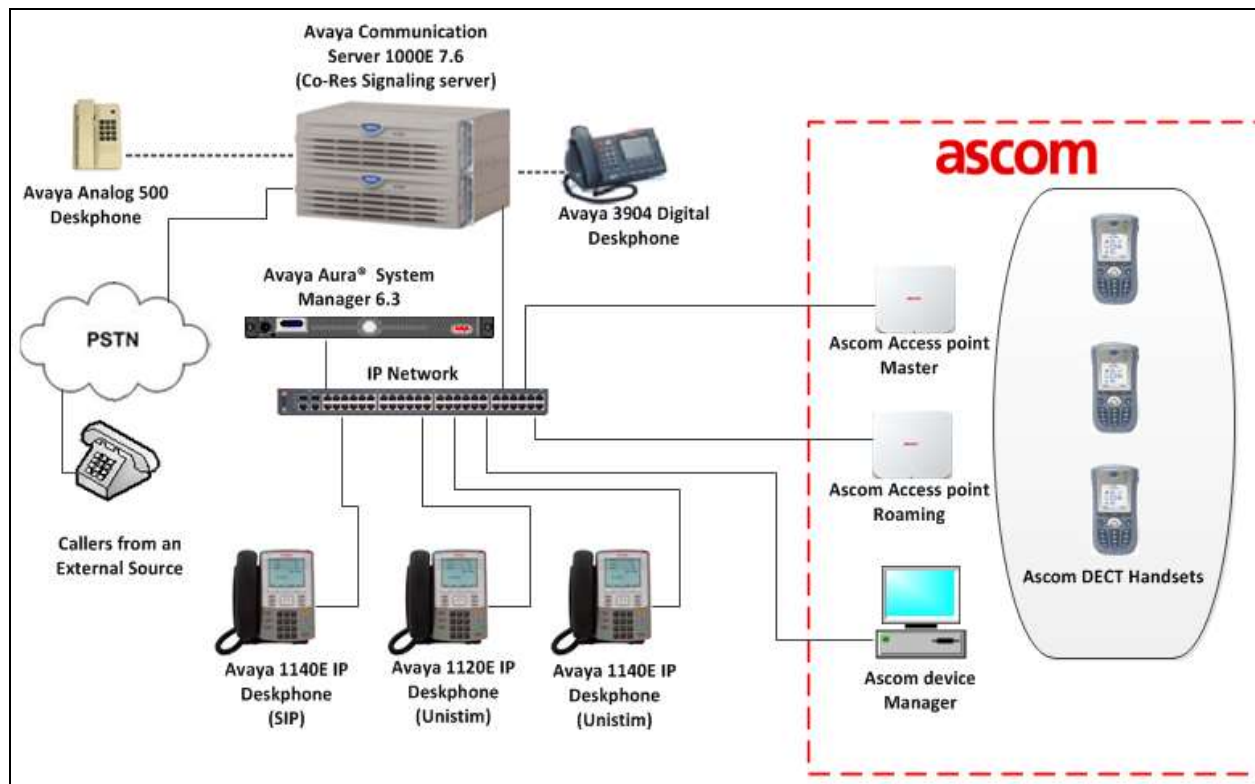


Figure 1: Avaya Communication Server 1000 and Ascom Reference Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Call Processor Pentium Mobile (CPPM) Avaya Media Gateway NTDW60	Avaya Communication Server 1000 R7.6 Version 7.65.16.00 FPGA AA18
Avaya Aura® System Manager running on an Avaya S8800 Server	R6.3 SP3 Build 6.3.0.8.5682-6.3.8.1814 Software Update Revision 6.3.3.5.1719
Avaya Aura® Messaging running on a Dell PowerEdge R610	R6.1 Version 6.1-11-0
Avaya 1120E Deskphone (UNISim) Avaya 1140E Deskphone (UNISim) Avaya 1140E Deskphone (SIP) Avaya 3904 Deskphone (Digital) Avaya 500 Deskphone (Analog)	0624C8Q 0625C8Q 04.03.12.00 F/W 2.4 N/A
Ascom IP-DECT Base Stations (IPBS)	Version 7.1.4 Boot Code 7.1.4
Ascom IP-DECT Handsets D62-Protector D81- Messenger	4.1.6 4.1.6

5. Configure Avaya Communication Server 1000

The configuration operations illustrated in this section were performed using terminal access to the CS1000 over a telnet session. It is implied a working system is already in place, including a Node (NDID111) and D-Channel. For all other provisioning information such as Installation and Configuration, please refer to the product documentation in **Section 10. Appendix A** has a list of all CS1000 patches, deplst and service packs loaded on the system.

Note: Only the unique prompts as shown in the screen captures below, all other inputs can be left at default.

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

5.1. Verify Licenses

To ensure the CS1000 is licensed for SIP use LD 22 and type SLT at the REQ prompt. Check for **THIRD PARTY SIP LINES** (in bold below).

Prompt	Response	Description
>	LD 22	Enter Overlay 22
REQ	SLT	
System type is - Communication Server 1000/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 Data block: SLS (SIP Line Services)

If not already configured a SLS Data block needs to be created using the **CHG** command in **LD15**. The **UAPR** is required when configuring the UEXT for DECT Handset.

Prompt	Response	Description
>	LD 15	Enter Overlay 15
REQ	CHG	Change
TYPE	SLS_DATA	SIP Line Services Data block
CUST	0	Customer Number
SIPL_ON	YES	SIP Line on
UAPR	27	Prefix used to auto-generate the User Agent
NMME	NO	Multimedia Service

5.3. Adding a Third-Party SIP User on the Avaya Communication Server 1000

Ascom DECT users are configured as **3rd Party SIP** users with type **UEXT** on the CS1000. Type **LD 20** at the > prompt to enter overlay 20. The main prompts below are highlighted. The example below shows the UEXT for DECT Handset 4010.

LD20

```
REQ: NEW
TYPE: UEXT
TN    100 0 2 10
DES   DECT1
CUST  0
UXTY SIPL (SIP Line)
MCCL  YES
SIPN  0
SIP3 1 (Third Party SIP phones)
FMCL  0
TLSV  0
SIPU  4010 (Required for Ascom DECT USER ID)
NDID  111 (Node ID (Taken from Section 6))
SUPR  NO
UXID
NUID
NHTN
ZONE 2 (This is the Bandwidth Zone assigned for IP Sets)
MRT
ERL   0
ECL   0
VSIT  NO
FDN
TGAR  0
LDN   NO
NCOS  0
SGRP  0
RNPG  0
SCI   0
SSU
SCPW 1234 (Required for Ascom DECT USER Password)
SGRP
SFLT  NO
CAC_MFC 0
CLS   UNR FBD WTA LPR MTD FNA HTA TDD HFD CRPD
```

```

MWD LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
POD SLKD CCSD SWD LND CNDD
CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBF
ICDD CDMD LLCN MCTD CLBD AUTU
GPUD DPUD DNDD CFXD ARHD FITD CLTD ASCD
CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD
UDI RCC HBTD AHA IPND DDGA NAMA MIND PRSD NRWD NRCD NROD
DRDD EXR0
USMD USRD ULAD CCBD RTDD RBDD RBHD PGND OCBD FLXD FTTC DNDY DNO3 MCBN
FDSD NOVD VOLA VOUD CDMR PRED RECD MCDD T87D SBMD ELMD MSNV FRA PKCH MWTD DVLD
.....CROD CROD
CPND_LANG ENG
RCO 0
HUNT 2025
LHK 0
PLEV 02
PUID
DANI NO
AST
IAPG 0
AACS NO
ITNA NO
DGRP
MLWU_LANG 0
MLNG ENG
DNDR 0
KEY 00 SCR 4010 0 MARP
      CPND New
        CPND_LANG ROMAN
          NAME DECT!
          XPLN 14
          DISPLAY_FMT FIRST, LAST
      01 HOT U 274010 MARP 0 (The HOT U number is derived from the UAPR as configured
in the SLS_DATA plus the Key 00 extension.
02

```

5.4. Saving Avaya Communication Server 1000 Configuration

Type **LD 43** at the > prompt to save the newly configured SIP users. Upon entering overlay 43 type **edd** at the . prompt.

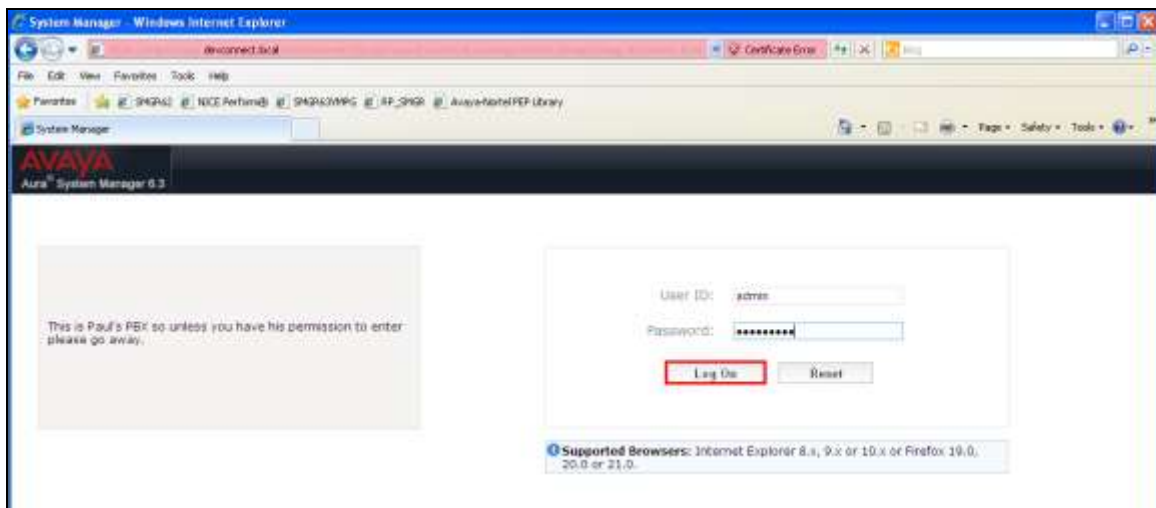
LD 43

Prompt	Response	Description
>ld 43		
>	LD 43	Enter Overlay 43
.	edd	Equipment Data Dump

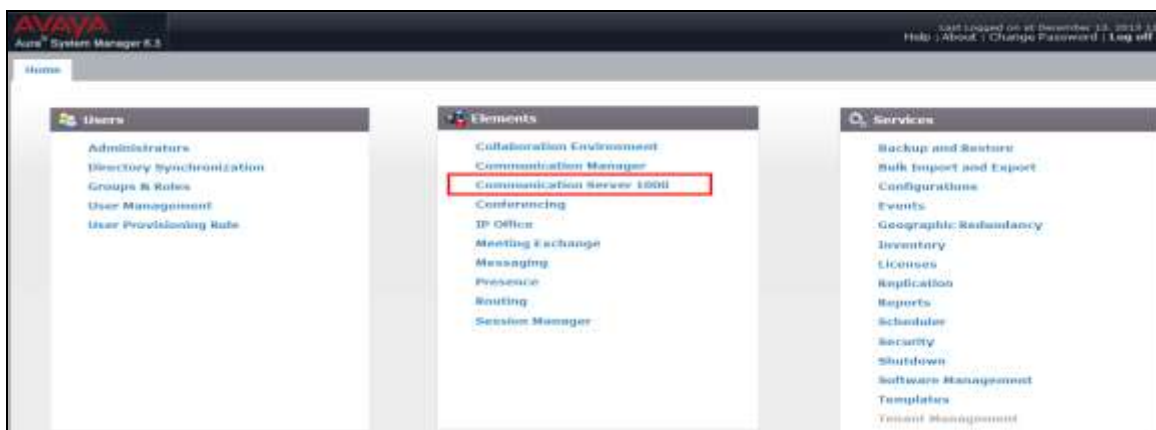
6. Configure Avaya Communication Server 1000 SIP Line Gateway

Although it is assumed that a SIP Line Gateway is already setup, configured and operational it is also essential that this is checked and that the Node IP address is obtained in order to complete the configuration in **Section 7.1.6**. Note that the SIP Line Gateway is an application installed on the Avaya Communication Server 1000 Signaling Server. In this example this Signaling Server is a co-resident installation with the Avaya Communication Server 1000 Call Server.

Access to the CS1000 SIP Line Gateway requires access to the Avaya Communication Server 1000 Signaling Server (Signaling Server). This 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 on click on **Communication Server 1000** as highlighted.



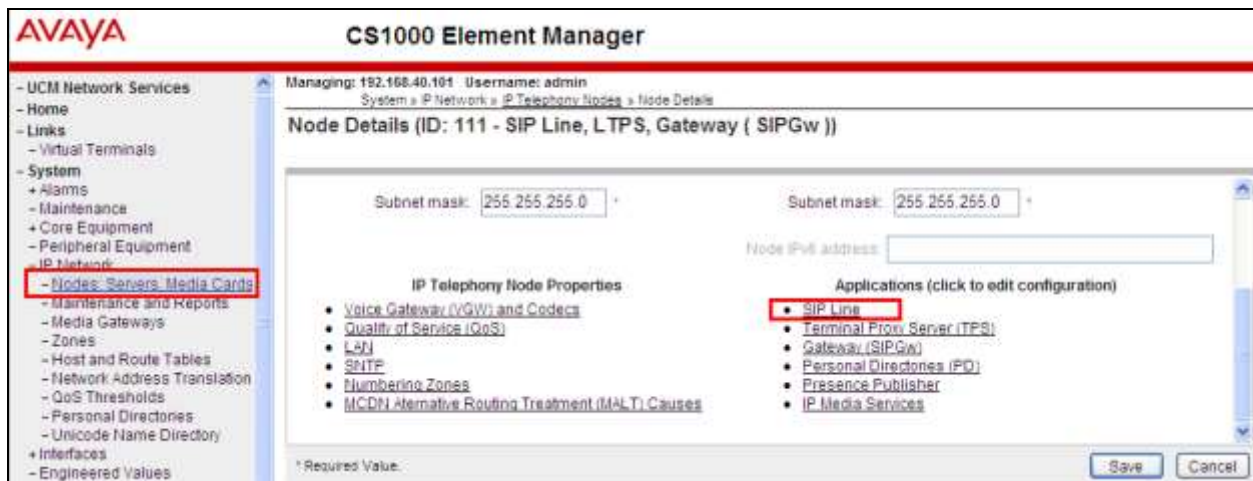
The following screen appears showing the various **Elements**, select **EM on cs1kpg** (note this name may appear different depending on the system).



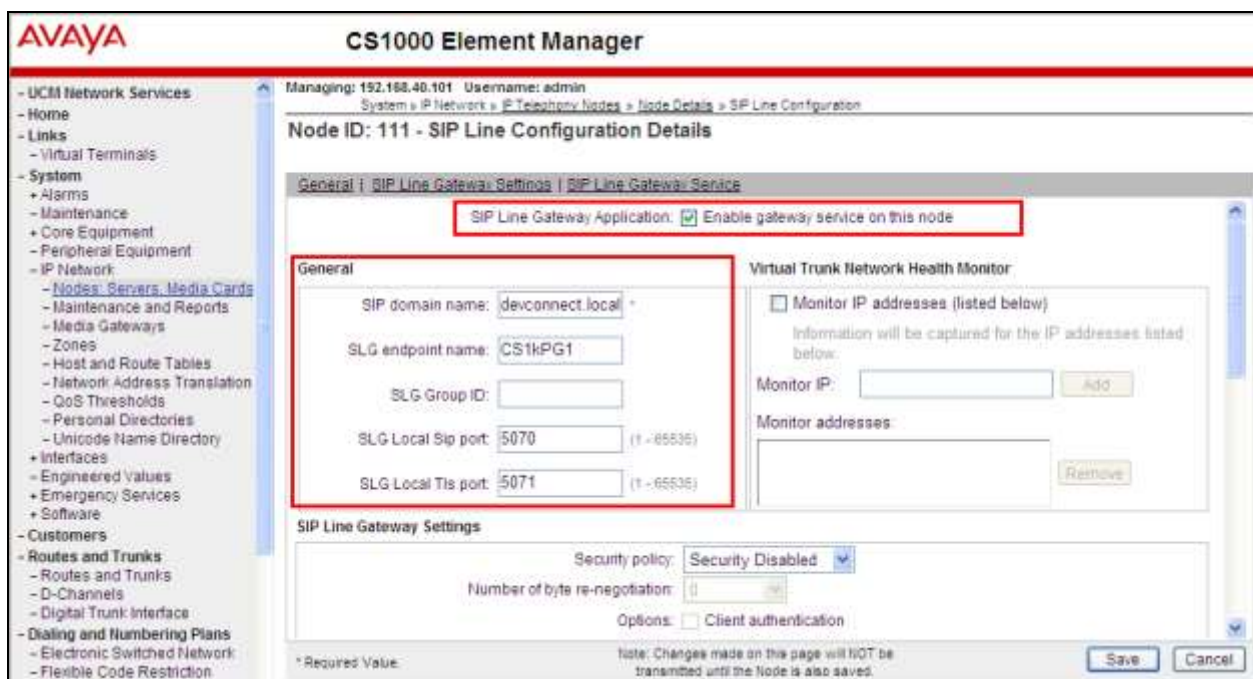
Navigate to **IP Network → Nodes Servers and Media Cards** in the left window and select the Node associated with the CS1000, in the example below this **Node ID** is **111**. Open this node by clicking on **111** highlighted below. Note also the IP address of the Node is **10.10.40.111** which will be required in **Section 7.1.6**.



To check that the SIP Line Gateway is operational click on **SIP Line** in the main window highlighted below.



The **SIP Line Gateway Application** should be ticked as shown below and the information about the site entered into the **General** section as shown in the example below. Note the **SLG Local Sip port** is set to **5070** and this information as well as the **SIP domain name** will be required in **Section 7.1.6**.



If changes are required then click **Save** (shown above) before leaving the page and follow the next **Section 6.1** Saving changes on the Avaya Communication Server 1000 SIP Line Gateway.

6.1. Saving Changes on the Avaya Communication Server 1000 SIP Line Gateway

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"/> cs11pg1	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.

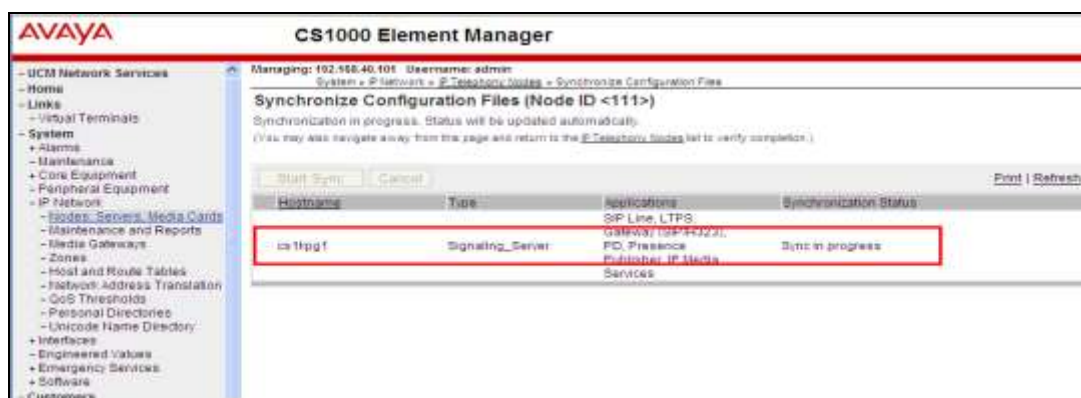
Transfer Now... You will be given an option to select individual servers, or transfer to all.

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 as shown in the example below where the hostname is **cs1kpg1** 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 Signaling Server configuration for SIP Line Gateway.



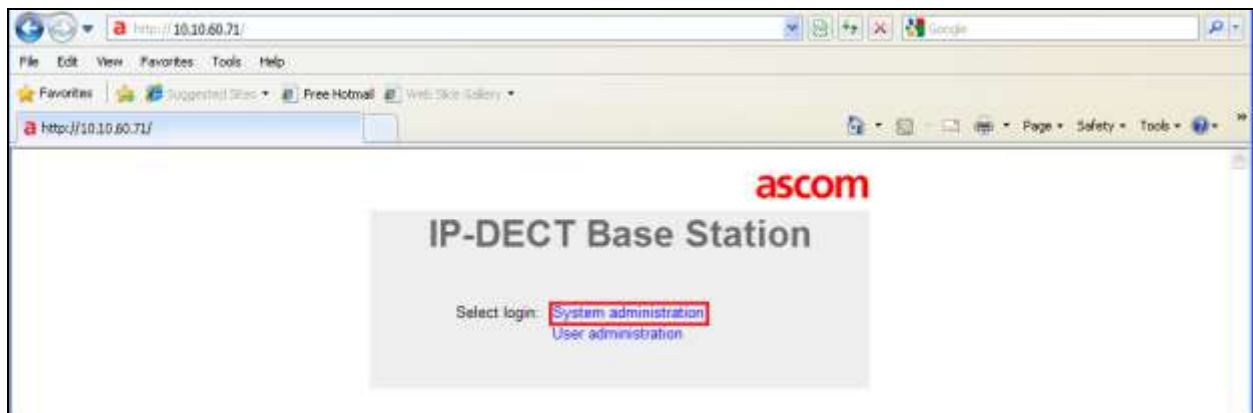
7. Configure Ascom DECT System

This section describes how to access and configure the Ascom DECT solution. The Ascom wireless IP-DECT Base Stations can be configured in a Master/Standby scenario to provide redundancy or to extend the radius of coverage (roaming). The following configuration steps detail the configuration process used to configure an Ascom wireless IP-DECT Base Station in Master mode only.

Roaming between multiple Ascom Wireless IP-DECT Base Stations as shown in **Figure 1** was tested but the configuration setup will not be shown in this document. Refer to the Ascom document in **Section 10** for information on how to configure roaming.

7.1. Configure the IP-DECT Base Station

To configure the IP-DECT Base Station, access a web browser and enter the IP address of the Base Station as the URL. The user will be presented with the screen shown below. Click the **System administration** link and enter the appropriate credentials to access the Ascom wireless IP-DECT Base Station and then click **OK** (not shown).



7.1.1. General Configuration of IP-DECT Base Station

When the new window opens navigate to **General** and select the **Admin** tab and enter the following:

- **Device Name** Enter a descriptive name that identifies this Ascom wireless IP-DECT Base Station (i.e. Avaya-1).
- **User Name** Enter the **User Name** (the default User name was used).
- **Password** Enter the **Password** (the default Password was used.)
- **Confirm Password** Confirm the password.

Click the **OK** button to continue.

The screenshot displays the 'IP-DECT Base Station' configuration window. The 'Admin' tab is selected, and the 'General' configuration section is active. The 'Admin' section contains the following fields:

- Device Name:** Avaya-1
- User Name:** admin
- Password:** [Redacted]
- Confirm Password:** [Redacted]

Below the 'Admin' section, there is a 'Delegated Authentication' section with a 'Join realm' link. Further down, the 'Authentication Servers' section is visible, featuring a table with columns: Realm/Domain, Address, Port, Secondary Address, Secondary Port, and Delete. An 'OK' button is located at the bottom left of the configuration area.

7.1.2. Configure LAN IP

Navigate to **LAN** and select the **IP** tab and enter the following:

- **IP address** Enter the IP address to be assigned to the IP-DECT Station.
- **Network Mask** Enter the Network Mask to be assigned to the IP-DECT Station.
- **Default Gateway** Enter the Default Gateway IP Address.

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

Note: No DNS Server was used during Compliance Testing.

The screenshot displays the 'IP-DECT Base Station' configuration interface. The 'IP' tab is selected under the 'Configuration' section. The 'LAN' option is highlighted in the left sidebar. The main configuration area shows the following settings:

		Active Settings
IP Address	10.10.60.71	10.10.60.71
Network Mask	255.255.255.0	255.255.255.0
Default Gateway	10.10.60.1	10.10.60.1
DNS Server		
Alt. DNS Server		
Check ARP	<input type="checkbox"/>	

At the bottom of the configuration area, there are 'OK' and 'Cancel' buttons. The 'OK' button is highlighted with a red box.

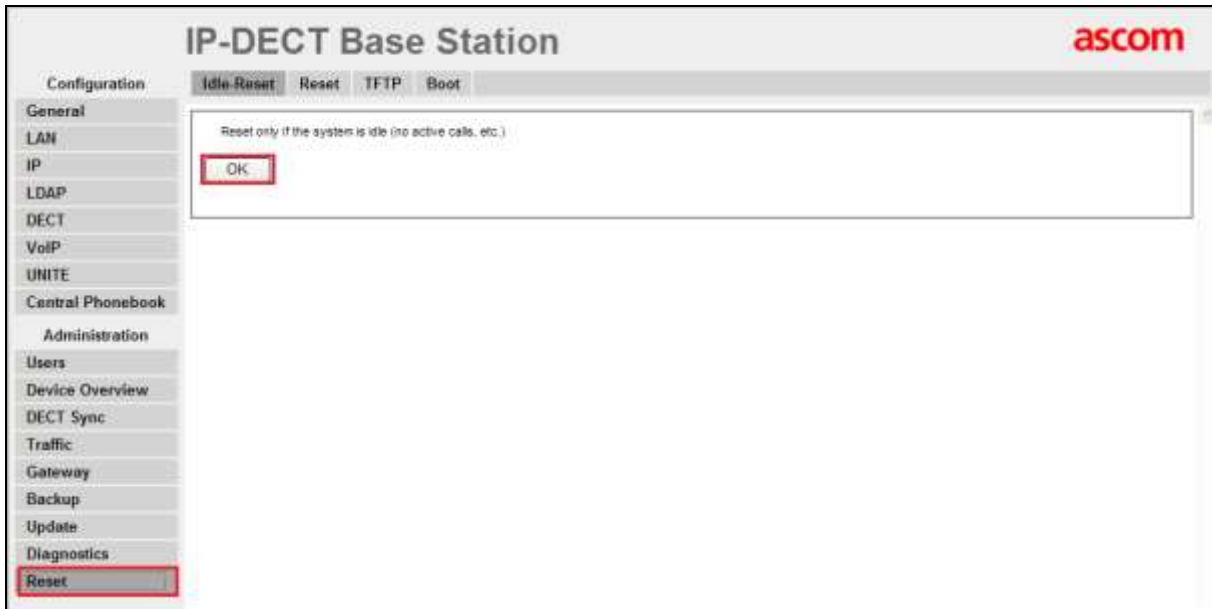
7.1.3. Disable LAN DHCP

Navigate to **LAN** and select the **DHCP** tab. Select **Disabled** from the **Mode** dropdown box. Click on the red text **reset required**, to reset the IP-DECT Base Station. After the reset is completed log back on to the IP-DECT Base Station to complete the configuration. Click on the **OK** Button to save.

The screenshot displays the 'IP-DECT Base Station' configuration window with the 'ascom' logo in the top right. The 'Configuration' tab is active, and the 'DHCP' sub-tab is selected. On the left sidebar, the 'LAN' option is highlighted. The main content area shows the 'Mode' dropdown set to 'disabled', with the text 'Currently - disabled' next to it. Below this, there are 'OK' and 'Cancel' buttons. A red text label 'reset required' is visible in the lower-left area of the configuration pane.

7.1.4. Reset IP-DECT Base Station

Click **Reset** followed by the **OK** button to initiate the system reset. Many of the other changes made to the system during the configuration process require a reset. Repeat this process whenever a reset is required.



7.1.5. Configure LDAP

After the Ascom IP-DECT Base Station (**Avaya-1**) has rebooted, navigate to **LDAP** and select the **Server** tab. The **ldap-guest** account is a default system account. Configure another **User** using **Avaya-1** as previously configured. Enter the Password for **Avaya-1** as previously configured. Check the **Write Access** check box. Click the **OK** button to continue. LDAP replication is configured in order to copy user information to a Standby Master (please refer to Ascom documentation).

The screenshot shows the 'IP-DECT Base Station' configuration interface with the 'ascom' logo in the top right. The 'Configuration' tab is active, and the 'Server' sub-tab is selected. On the left, a navigation menu lists various configuration options, with 'LDAP' highlighted. The main area displays a table for user configuration:

User	Password	Write Access
ldap-guest	*****	<input type="checkbox"/>
Avaya-1	*****	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

Below the table are 'OK' and 'Cancel' buttons. The 'Server' tab and 'LDAP' menu item, along with the 'Avaya-1' row in the table and the 'OK' button, are highlighted with red boxes in the original image.

7.1.6. Configure DECT

Navigate to the **DECT** and click on the **Master** and enter the following:

- **Mode** Select Active from the dropdown box.
- **Enable PARI Function** Tick the check box.
- **Protocol** Select **SIP** from the dropdown box.
- **Proxy** Enter the IP address of the CS1000 Node followed by **:5070**.
- **Domain** Enter the appropriate domain followed by **:5070**.
- **Enbloc Dialing** Tick the check box.
- **Allow DTMF through RTP** Tick the check box.

Click the **OK** button to continue (not shown).

The screenshot displays the 'IP-DECT Base Station' configuration window with the 'Master' tab selected. The left sidebar shows a navigation menu with 'DECT' highlighted. The main configuration area contains the following settings:

- Mode:** Active (dropdown menu)
- Multi-Master:** Unchecked
- Master ID:** 0 (text field)
- Enable PARI Function:** Checked
- Region Code:** (empty text field)
- IP-PBX:**
 - Protocol:** SIP (dropdown menu)
 - Proxy:** 10.10.40.111:5070 (text field)
 - Alt. Proxy:** (empty text field)
 - Alt. Proxy:** (empty text field)
 - Alt. Proxy:** (empty text field)
 - Domain:** devconnect.local:5070 (text field)
 - Max. Internal Number Length:** 5 (text field)
 - International CNF Prefix:** (empty text field)
- Enbloc Dialing:** Checked
- Enable Enbloc Send-Key:** Unchecked
- Send Inband DTMF:** Unchecked
- Allow DTMF Through RTP:** Checked
- Short Disconnect Tone:** Unchecked
- Configured With Local GK:** Unchecked

7.1.6.1 Configure DECT System

Click on the **System** tab and enter the following:

- **System Name** Enter the System Name as previously configured.
- **Password** Enter the Password as previously configured.
- **Confirm Password** Confirm the Password.
- **Subscriptions** Select **With System AC** from the dropdown box.
- **Authentication Code** Enter the DECT handset Login code as configured in **Section 5.3**. (During Compliance testing **1234** was used).
- **Tones** Select the location where the IP-DECT system is located.
- **Default Language** Select the required Language from the dropdown box.
- **Frequency** Select the required Frequency from the dropdown box.
- **Enabled** Select the number of Carriers required.
- **Local R-Key Handling** Check the box.
- **Coder** Select the required Coder from the **Coder** dropdown box.

Click the **OK** button to continue.

The screenshot shows the 'IP-DECT Base Station' configuration window with the 'ascom' logo in the top right. The 'System' tab is selected and highlighted with a red box. The left sidebar contains the following menu items: Configuration, General, LAN, IP, LDAP, DECT, VoIP, Unite, Services, Administration, Users, Device Overview, DECT Sync, Traffic, Gateway, Backup, Update, Diagnostics, and Reset. The main configuration area contains the following fields and options:

- System Name: Avaya-1
- Password: [Redacted]
- Confirm Password: [Redacted]
- Subscriptions: With System AC (dropdown)
- Authentication Code: 1234
- Tones: IRELAND (dropdown)
- Default Language: English (dropdown)
- Frequency: Europe (dropdown)
- Enabled Carriers: 0 1 2 3 4 5 6 7 8 9 (checkboxes, all checked)
- Local R-Key Handling: [checked]
- No Transfer on Hangup: [unchecked]
- No On-Hold Display: [unchecked]
- Display Original Called: [unchecked]
- Early Encryption: [unchecked]
- Coder: G711A (dropdown)
- Frame (ms): 20
- Exclusive: [unchecked]
- SC: [unchecked]
- Secure RTP: [dropdown]
- Buttons: OK (highlighted with a red box), Cancel

7.1.6.2 Configure Supplementary Services

Click on the **Suppl.Serv** tab and check the **Enable Supplementary Services** check box and enter the required fields. The screen shot below shows what was used during compliance testing.

Click the **OK** button to continue.

The screenshot shows the 'IP-DECT Base Station' configuration window with the 'Suppl. Serv.' tab selected. The 'Enable Supplementary Services' checkbox is checked. Below it, there are fields for 'Activate', 'Deactivate', and 'Disable' for various services. The 'OK' button is highlighted with a red box.

	Activate	Deactivate	Disable
Call Forwarding Unconditional	*21*#	#21#	<input type="checkbox"/>
Call Forwarding Busy	*67*#	#67#	<input type="checkbox"/>
Call Forwarding No Reply	*61*#	#61#	<input type="checkbox"/>
Do Not Disturb	*42#	#42#	<input type="checkbox"/>
Call Waiting	*43#	#43#	<input type="checkbox"/>
Call Completion	#	#37#	<input type="checkbox"/>
Call Park	*165(1)	#165(1)	<input type="checkbox"/>
Interception	*23*#	#23#	<input type="checkbox"/>
Call Service URI	*55(1)		<input type="checkbox"/>
Call Service URI (Argument)	*75(1)5#		<input type="checkbox"/>
Logout User	#11*5#		<input type="checkbox"/>
Clear Local Setting	*00#		<input type="checkbox"/>
MWI Mode	User dependent notify number		<input type="checkbox"/>
MWI Interrogate Number			<input type="checkbox"/>
Local Clear of MWI			<input type="checkbox"/>
External Idle Display			<input type="checkbox"/>

7.1.6.3 Configure PARI

Click on the **PARI** tab and enter the PARI in the System ID Field. The PARI is a user-defined system value. Enter any number from 1-292 (e.g. 25). Note the PARI is required when subscribing the Ascom Handset. Click the **OK** button to continue.

The screenshot shows the 'IP-DECT Base Station' configuration window with the 'PARI' tab selected. The 'System ID' field is set to '25'. The 'OK' button is highlighted with a red box.

7.1.6.4 Configure SARI

Click on the **SARI** tab. The **SARI** is an Ascom provided activation code which is needed for the system to function. Contact Ascom to obtain a **SARI**. Enter the **SARI** value (note the actual value has been hidden on the screen shown below for security reasons). Click the **OK** button to continue.

The screenshot shows the 'IP-DECT Base Station' configuration window with the 'SARI' tab selected. The left sidebar lists various configuration categories: Configuration, General, LAN, IP, LDAP, DECT, VoIP, UNITE, Central Phonebook, Administration, Users, Device Overview, DECT Sync, Traffic, Gateway, Backup, Update, Diagnostics, and Reset. The main content area has tabs for System, Suppl. Serv., Master, Mobility Master, Radio, Radio config, PARI, SARI, and Air Sync. The 'SARI' tab is active, displaying a text input field containing a masked SARI value (represented by asterisks). Below the input field are 'OK' and 'Cancel' buttons.

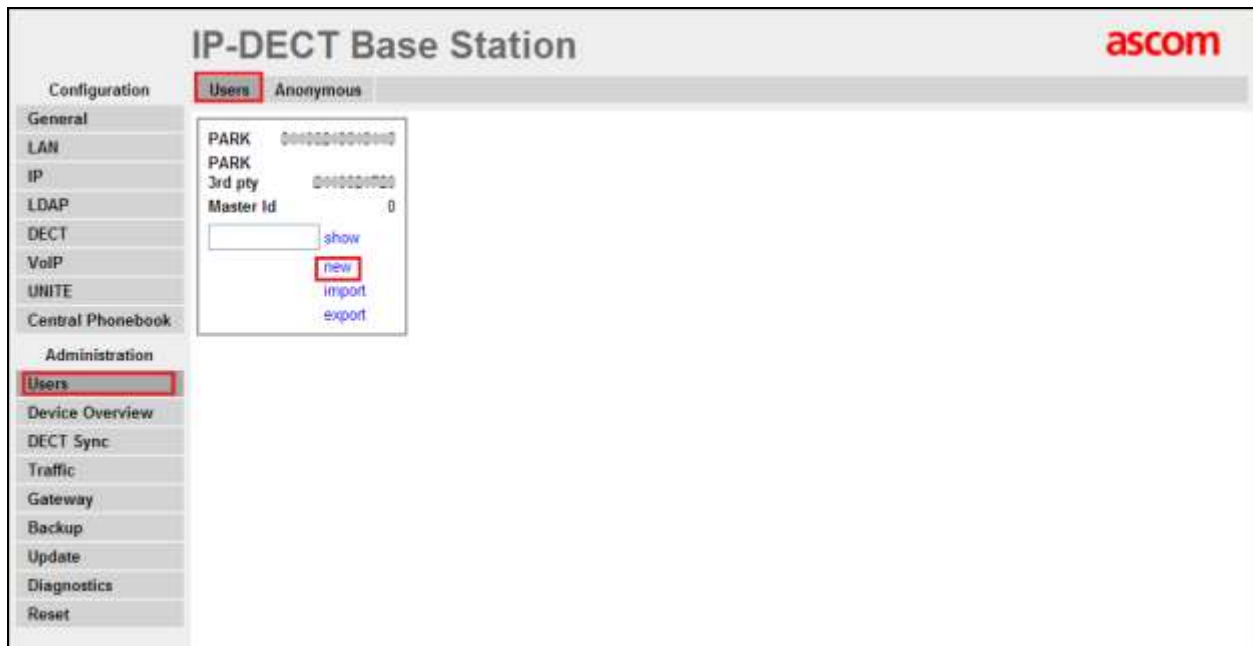
7.1.6.5 Configure Air Sync

Click on the **Air Sync** tab and select **Master** from the **Sync Mode** dropdown box. Click the **Resynchronize on command** radio button. Click the **OK** button to continue.

The screenshot shows the 'IP-DECT Base Station' configuration window with the 'Air Sync' tab selected. The left sidebar is the same as in the previous screenshot. The main content area has tabs for System, Suppl. Serv., Master, Mobility Master, Radio, Radio config, PARI, SARI, and Air Sync. The 'Air Sync' tab is active, displaying the 'Sync Mode' dropdown menu set to 'Master'. Below this are input fields for 'Reference RFPI', 'Alternative reference RFPI', and 'Sync Region'. The 'Action at reference sync failure' section has three radio button options: 'Resynchronize on command' (which is selected), 'Resynchronize every day at 00:00', and 'Resynchronize every Sunday at 00:00'. At the bottom are 'OK' and 'Cancel' buttons.

7.1.7. Create Users

Navigate to the **Users** and click on the **Users** tab. The **Park** value is displayed. This value is needed when programming Ascom wireless DECT handsets. Note, the **PARK** information is derived from the SARI and should be obtained from an Ascom associate (Note the actual **PARK** and **PARK 3rd party** values have been hidden on the screen shown below for security reasons). Click the **new** link to provision a new user account.



When the **User type** page is presented click on the **User** radio button and enter the following:

- **Long Name** Enter any descriptive name that identifies this user (e.g. **4010**).
- **Display Name** Enter a display name which will be displayed on the DECT Handset screen (e.g. **4010**).
- **Name** Enter the extension assigned to this user.
- **Number** Enter the extension assigned to this user.
- **Password** Enter the Password (Note, the password is the **Login Code** configured in **Section 5.3**).
- **Confirm Password** Confirm Password.
- **Auth. Code** Enter the **Auth. Code** (Note the Auth. Code is used only if **Subscriptions** in **Section 7.1.6.1** is set to **With System AC**) The Auth.Code is the same as the **Authentication Code** as configured in **Section 7.1.6.1**.

Once all the user information has been configured click the **OK** button. Repeat this process for each user being added to the system.

The screenshot shows a 'User type' configuration window. At the top, there are two radio buttons: 'User' (selected) and 'User Administrator'. Below this, there is a group of text input fields. The fields 'Long Name', 'Display Name', 'Name', 'Number', 'Auth. Name', 'Password', and 'Confirm Password' are all filled with the value '4010'. The 'Auth. Name' field has a '(SIP only)' label to its right. Below these fields are 'IPEI / IPDI' (empty), 'Idle Display' (filled with '4010'), and 'Auth. Code' (empty). At the bottom of the window are four buttons: 'OK', 'Apply', 'Delete', and 'Cancel'. The 'OK' button is highlighted with a red box. A large red rectangle also encloses the 'Long Name' through 'Confirm Password' fields.

Repeat **Section 7.1.4** to **Reset IP-DECT Base Station**.

7.2. Configure Ascom IP DECT Handsets

Refer to the Ascom documentation in **Section 10** to obtain information on the procedures for subscribing and registering the Ascom wireless DECT Handsets to the Ascom wireless IP-DECT Base Station.

8. Verification Steps

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

8.1. Verify Ascom IP-DECT base station is registered with Avaya Communication Server 1000

Verify that the Ascom IP-DECT base station registers successfully with the CS1000 SIP Line Gateway server and Call Server by using the CS 1000 Linux command line and CS 1000 Call Server overlay LD 32.

Log in to the SIP Line server as an administrator by using Avaya account.

Issue command **slgSetShowByUID** where UID is SIP Line user's ID being checked.

```
paul@cs1kpg1 ~]$ slgSetShowByUID 4010

=== VTRK ===
UserID          AuthId          TN          Clients  Calls
SetHandle      Pos ID        SIPL Type
-----
4010           4010         100-00-02-10      1      0  0x9d54d10
SIP Lines
StatusFlags = Registered Controlled KeyMapDwld SSD
FeatureMask =
CallProcStatus = -1

Current Client = 0, Total Clients = 1

== Client 0 ==
IPv4:Port:Trans = 10.10.40.181:2066:udp
Type            = Unknown
UserAgent       = (Ascom IP-DECT Base Station/
[7.1.4/7.1.4/IPBS2-A3/1B1])
x-nt-guid       = 99e2da894be33a8a1e2df21b35b3d4aa
RegDescrip      =
RegStatus       = 1
PbxReason       = OK
SipCode         = 200
hTransc         = (nil)
Expire          = 120
Nonce           = 8f1523c097bbd040ae463a577f8d8cdb
NonceCount      = 5
hTimer          = 0x9cebcd0
TimeRemain      = 102
Stale           = 0
```

```
Outbound      = 0
ClientGUID    = 0
MSec CLS      = MSNV (MSEC-Never)
Contact       = sip:4010@10.10.40.181:2066;transport=UDP
KeyNum        = 255
AutoAnswer    = NO
```

Key	Func	Lamp	Label
0	2	0	4010
1	126	0	274010
17	16	0	
18	18	0	
19	27	0	
20	19	0	
21	52	0	
22	25	0	
24	11	0	
25	30	0	
26	31	0	

```
== Subscription Info ==
Subscription Event = None
Subscription Handle = (nil)
SubscribeFlag = 0
[paul@cs1kpg1 ~]$
```

Log in to the call server using the admin account. Load overlay 32 and then issue command **stat [TN]** where TN is the SIP Line user's TN being checked.

```
>ld 32
NPR000
.stat 100 0 0 10
IDLE REGISTERED 00
```

8.2. Ascom wireless DECT Handset Registration Verification

From a web browser, open a connection to the Ascom wireless IP-DECT Master Base Station (see **Section 7.1**). Navigate to the **Users** and click on the **Users** tab followed by the **show** link. A **Registration** state of “Unsubscribed” (not shown) indicates an Ascom wireless DECT Handset has not registered to the Ascom wireless IP-DECT Base Station. A **Registration** state of “Subscribed” indicates that an Ascom wireless DECT Handset has connected to the Ascom wireless IP-DECT Base Station and requested the use of that particular extension. A **Registration** state that displays the IP Address of the CS1000 Node IP address indicates the extension has successfully registered to both the Ascom wireless IP-DECT Base Station and CS1000. The screen shot shows 3 DECT Handsets registered to both the Ascom wireless IP-DECT Base Station and CS1000.



The screenshot shows the 'IP-DECT Base Station' web interface. The 'Users' tab is selected, and the 'show' link is highlighted. A table displays the following data:

Long Name	Name	No.	Fty	Display	IPEI / IPDI	AC	Prod	SW	EE	Registration
4010	4010	4010	+	4010	002020859178	d81-Messenger	4.1.6	10.10.40.111		
4011	4011	4011	+	4011	002020859180	d81-Messenger	4.1.6	10.10.40.111		
4012	4012	4012	+	4012	036470762336	d41-Basic	4.1.6	10.10.40.111		

Users: 3, Registrations: 3

9. Conclusion

All of the executed test cases have passed and met the objectives outlined in the **Section 2.1**, with one observation outlined in **Section 2.2**. The Ascom DECT system is considered to be in compliance with CS1000 Release 7.6.

10. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at <http://support.avaya.com> where the following documents can be obtained.

- [1] *Software Input Output Reference — Administration Avaya Communication Server 1000 R7.6* NN43001-611, 05.02
- [2] *SIP Line Fundamentals Avaya Communication Server 1000 R7.6* NN43001-508, 03.03
- [3] *Co-resident Call Server and Signaling Server Fundamentals Avaya Communication Server 1000 R7.6* NN43001-509, 03.01

Product Documentation for Ascom Products can be obtained from Ascom or may be requested at <https://www.ascom-ws.com/AscomPartnerWeb/Templates/WebLogin.aspx> (login required).

Appendix A

Avaya Communication Server 1000 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-carrrdtct-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 1000 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 1000 Route for SIP Line Gateway

```
LD 21
REQ: prt
TYPE: rdb
CUST 0
ROUT 40

TYPE RDB
CUST 00
ROUT 40
DES SIPL
TKTP TIE
M911P NO
ESN NO
RPA NO
CNVT NO
SAT NO
RCLS EXT
VTRK YES
ZONE 00040
PCID SIPL
CRID NO
NODE 111
DTRK NO
ISDN YES
    MODE ISLD
    DCH 1
    IFC SL1
    PNI 00000
    NCNA YES
    NCRD NO
    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 8040
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

PAGE 002

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
```

PAGE 003

```
DCTI 0
TIDY 1012 40
ATRR NO
TRRL NO
SGRP 0
CCBA NO
ARDN NO
CTBL 0
ANIE 0
CAC_CIS 3
AACR NO
```

Avaya Communication Server 1000 D-Channel for SIP line Gateway

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 ND2
  MBGA NO
  H323
    OVLR NO
    OVLS NO
```

Avaya Communication Server 1000 Trunk Channel for SIP line Gateway

LD 20

```
DES  SIPL
TN   100 0 01 00  VIRTUAL
TYPE IPTI
CDEN 8D
CUST 0
XTRK VTRK
ZONE 00040
TIMP 600
BIMP 600
AUTO_BIMP NO
NMUS NO
TRK  ANLG
NCOS 0
RTMB 40 1
CHID 1
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 28 AUG 2013
```

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