



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avaya Communication Server 1000E with Nu Technologies™ ORBi-TEL⁷ using an IP Buffer - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Avaya Communication Server 1000E 7.5 with Nu Technologies ORBi-TEL⁷ 18.2 using an IP Buffer.

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

Nu Technologies ORBi-TEL⁷ is a set of integrated tools to measure quality of service, usage trends and performance to optimize networks. Nu Technologies ORBi-TEL⁷ consists of four modules. Cost management also referred to as call logging and reporting module was the only module that was tested. Call logging and Reporting module collects, stores and processes these call records to provide usage analysis, call costing and billing capabilities. The other modules, that were not tested, include Performance management, Traffic management, Operations management and Alarm management. Nu Technologies ORBi-TEL⁷ retrieves Call Details Records via an IP Buffer from Avaya Communication Server 1000E system. The IP Buffer is configured via a web interface to receive and buffer Call Detail Records via serial cable connection. Nu Technologies ORBi-TEL⁷ polls the IP Buffer and converts the call records into a common internal format. Avaya Communication Server 1000E system can generate call detail records for intra-switch calls, inbound trunk calls and outbound trunk calls. In addition, split records can be generated for transferred calls and conference calls. Nu Technologies ORBi-TEL⁷ creates a custom PBX configuration file to accurately parse the CDR data. Nu Technologies ORBi-TEL⁷ server is capable of receiving Call Details Records from multiple sites.

2. General Test Approach and Test Results

The general test approach was to configure the ORBi-TEL⁷ to communicate with the Avaya Communication Server 1000E (CS1000E) as implemented on a customer's premises. Testing focused on verifying that Call Detail Records (CDR) are collected by the IP buffer and received in the format as generated by the CS1000E. The ORBi-TEL⁷ application would collect the CDR data using File transfer Protocol from the IP buffer. Various call scenarios were preformed 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.

2.1. Interoperability Compliance Testing

The testing included:

- Verification of connectivity between:
 - CS1000E and the IP buffer using a Serial connection
 - ORBi-TEL⁷ and the IP buffer using a TCP connection
 - IP buffer and ORBi-TEL⁷ using a TCP connection
- Verification that CDR data was collected as output by the CS1000E.
- Link Failure\Recovery was also tested to ensure successful reconnection after link failure.
- CDR data collected included:

- Local internal call handling
- Handling of Incoming Network calls over PRI and SIP trunks
- Handling of External Calls
- Call Forwarding on busy or No Answer
- Transfers – Blind and Supervised
- Call Park and Call Pick Up
- Ring again,
- Account Codes
- Daylight Savings
- Handling of calls to and from Avaya IP UniStim, SIP, Digital, and Analog Deskphones
- Handling of calls over SIP and QSIG trunks
- Defence Tests to ensure recovery following LAN interruptions

2.2. Test Results

Tests were performed to insure full interoperability between ORBi-TEL⁷/IP buffer and CS1000E. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully.

2.3. Support

Technical support from Nu Technologies can be obtained through the following:

Phone: +44 1582 814700
E-mail: support@nut.eu.com.
Web: <http://www.nut.eu.com>

3. Reference Configuration

Figure 1 illustrates the network topology used during compliance testing. The Avaya solution consists of a CS1000E which is configured to output CDR data to ORBi-TEL⁷ via an IP buffer. The CS1000E connects to the IP buffer using a serial connection. The CDR data is sent to and stored on the IP Buffer which is retrieved by the ORBi-TEL⁷ application at defined periods. During compliance testing to test the Multi-Site feature of the ORBi-TEL⁷ multiple sites were configured on the ORBi-TEL⁷ server. To ensure that records were collected by the second site the IP address of the IP buffer was changed. The ORBi-TEL⁷ then collected these records as to simulate a second site. Digital, UniStim, SIP and Soft phones were configured on the CS1000E to generate intra-switch calls (calls between phones on the same system), and outbound/inbound calls to/from the PSTN. QSIG and SIP trunks were configured to connect to the PSTN.

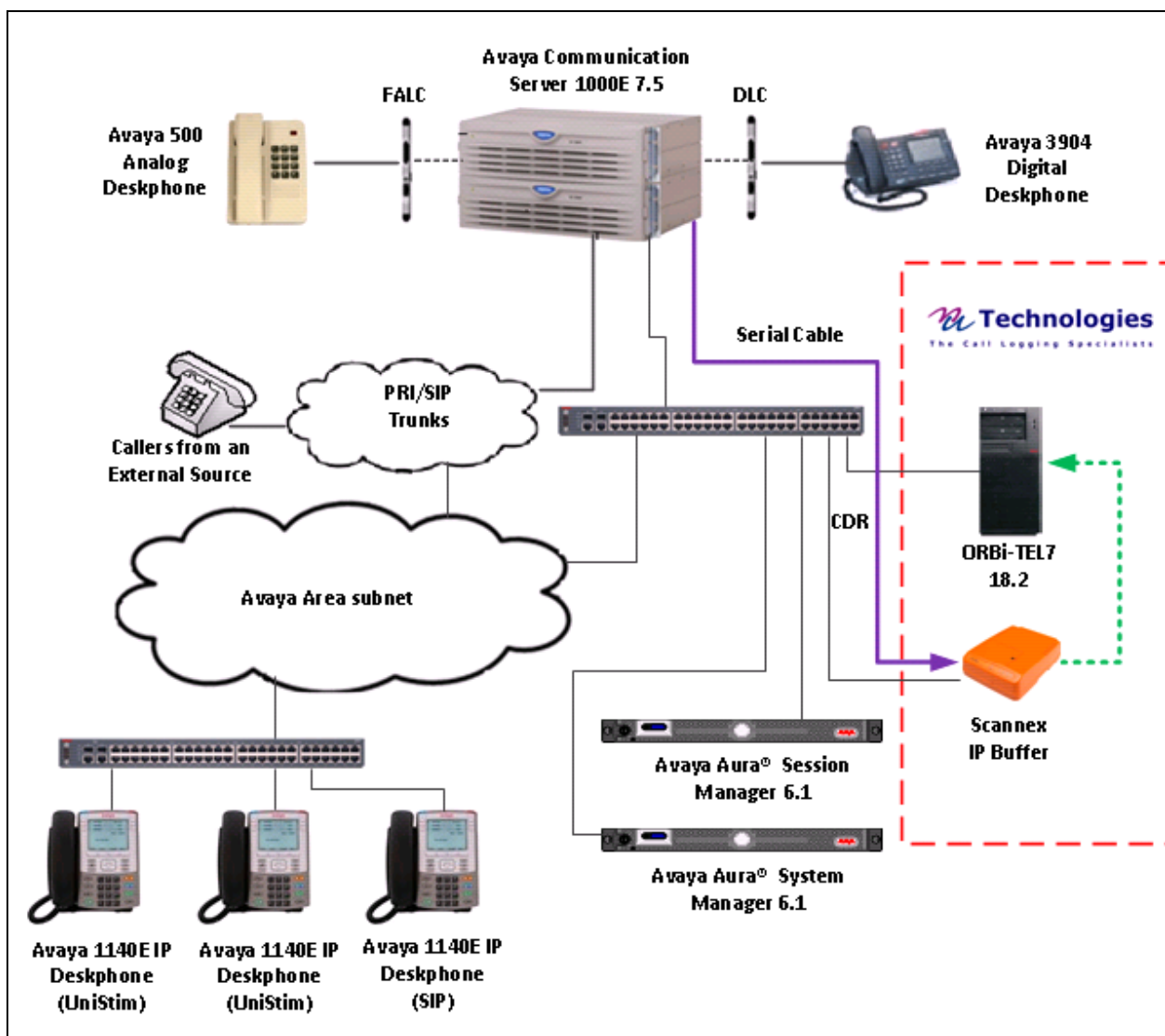


Figure 1: Avaya CS1000E and Nu Technologies ORBi-TEL⁷ Reference Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Call Processor Pentium Mobile (CPPM) Avaya Media Gateway NTDW60	Avaya Communication Server 1000E R7.5 FPGA AA18
Avaya S8800 Server running Avaya Aura® System Manager	Avaya Aura® System Manager R6.1 Build 6.1.0023
Avaya S8800 Server running Avaya Aura® Session Manager	Avaya Aura® Session Manager R6.1 Build 6.1.0012
Avaya Flexible Analog Line Card	NT5K02QC
Avaya Digital Line Card	NT8D02
Avaya 1100 series IP Telephones <ul style="list-style-type: none">• 1140e	0625C8A (UniStim 5.0) SIP FW 04.00.04.00.bin
Avaya 3904 Digital set	F/W 2.4
Avaya Analog set	NT2N73AA
Dell Latitude running Windows XP Professional SP3	ORBi-TEL ⁷ Version 18.2
Scannex IP Buffer	Release IPBCF2.75.199 2012-02-09 / i5.0.10

5. Configure Avaya Communication Server 1000E

The configuration operations illustrated in this section were performed using terminal access to the CS1000E over a telnet session. It is implied a working system is already in place. 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 CS1000E patches, deplist and service packs loaded on the system. The configuration operations described in this section can be summarized as follows:

- Configure a TTY port for collecting CDR data
- Configure CDR Data in the Configuration Data Block
- Configure CDR Data in the Customer Data Block
- Configure Route Data Block
- Configure Telephones for CDR options
- Configure CDR in the Authorization Data Block

Note: In the telnet screenshots below only the unique prompt inputs are shown in **BOLD**. To accept default values carriage return at all other prompts.

5.1. Configure a TTY port for collecting CDR data

The communication between the Communication Server 1000E and the ORBi-TEL⁷ uses an RS232 serial port. A TTY port needs to be configured on the Communication Server 1000E to support CDR. The IP Buffer monitors the output on this TTY. **USER** needs to be set to **CTY** (Call Detail Recording on Teletype Terminal). In order to configure a new TTY port **LD 17** is used. Subsets of these commands are illustrated below.

LD 17

Prompt	Response	Description
>	LD 17	Enter Overlay 17
REQ	CHG	Change Data
TYPE	ADAN	Action Device and Number
ADAN	NEW TTY 12	New I/O device and number
CTYP	MGC	Card type
IPMG	4 0	loop and Card
PORT	2	Port number
DNUM	13	Device number for I/O ports
DES	ORBITELE	Designator
BPS	9600	Bits per Second
BITL	8	Data Bit Length
STOP	1	Number of Stop bits
PARY	NONE	Parity type
FLOW	NO	Flow Control
USER	CTY	Output message type

5.2. Configure CDR Data in the Configuration Data Block

The Format for Call Detail Recording (**FCDR**) needs to be changed in the CDR Data Block to **NEW**. This is the format that ORBi-TEL⁷ uses when collecting CDR data. Calling Line Identification (**CLID**) also needs to be changed to **YES**. In order to change the CDR data **LD 17** is used. Subsets of these commands are illustrated below.

LD 17

Prompt	Response	Description
>	LD 16	Enter Overlay 16
REQ	CHG	Change Data
TYPE	PARM	System Parameters
CUST	0	Customer Number
FCDR	NEW	Format Type
CLID	YES	Calling Line Identification

5.3. Configure CDR Data in the Customer Data Block

CDR needs to be enabled and assigned to the TTY port that was configured in **Section 5.1**. During compliance testing port **12** was used. The Aux Identification (**AXID**) and Output in CDR record (**CDR**) needs to be set to **YES**. In order to change the CDR data **LD 15** is used. Subsets of these commands are illustrated below.

LD 15

Prompt	Response	Description
>	LD 15	Enter Overlay 15
REQ	CHG	Change Data
TYPE	CDR	Call Detailed Reporting
CUST	0	Customer Number
CDR	YES	Call Detailed Reporting
AXID	YES	Aux Identification
PORT	12	Port Number assigned to CDR

5.4. Configure Route Data Block

CDR has to be activated on the trunk route to the PSDN and any other routes to other PBX's. During compliance testing route **42** was configured to route calls to and from the PSDN using QSIG. In order to change the Route data **LD 16** is used. Subsets of these commands are illustrated below.

LD 16

Prompt	Response	Description
> LD	16	Enter Overlay 16
REQ	CHG	Change Data
TYPE	RDB	Route Data Block
CUST	0	Customer Number
ROUT	42	Route Number
CDR	YES	Call Detail Recording
INC	YES	CDR records for incoming calls
LAST	YES	CDR records for redirected calls
TTA	YES	Time To Answer output in CDR
ABAN	YES	Abandoned call records for this route
CDRB	YES	Abandoned call on busy tone records
QREC	NO	CDR ACD Q initial connection
OAL	YES	CDR on outgoing calls
AIA	YES	Answered call Identification Allowed
OAN	YES	CDR On Answer of outgoing calls
OPD	YES	Outpulsed Digits in CDR

5.5. Configure Telephones for additional CDR options

Abandoned Call-Time to Answer and Internal CDR record options can be activated on a per set basis by modifying the Class of Service (CLS). Abandoned call record and Time to Answer (**ABD**) and Internal Call Detail Recording (**ICD**) needs to be set to Allowed. If Charge codes are to be used, Key 25 must be used if the phone type is IP. During compliance testing a number of telephone types were used, in the example below an Avaya 1140 IP Deskphone was used using TN96 0 0 1. In order to add CDR options for the phone type 1140 **LD 11** is used. Subsets of these commands are illustrated below.

LD 11

Prompt	Response	Description
>	LD 11	Enter Overlay 11
REQ	CHG	Change Data
TYPE	1140	Phone Type
TN	96 0 0 1	Terminal Number
CUST	0	Customer Number
CLS	ABDA ICDA	Class of Service
KEY	25 CHG	Charge Account key

5.6. Configure CDR in the Authorization Data Block

During compliance testing Authorization Codes were used. The Activate CDR for Authcodes (**ACDR**) option must be set to yes. In order to configure the authorization Data Block **LD 88** is used. Subsets of these commands are illustrated below.

Note: It is implied that the Secure Data Password is already configured

LD 88

Prompt	Response	Description
>	LD 88	Enter Overlay 88
REQ	CHG	Change Data
TYPE	AUB	Authcode Data Block
CUST	0	Customer Number
SPWD	****	Secure Data Password
ALEN	4	Authcode Length
ACDR	YES	Activate CDR for Authcode
AUTO	NO	Automatically generate Authcodes

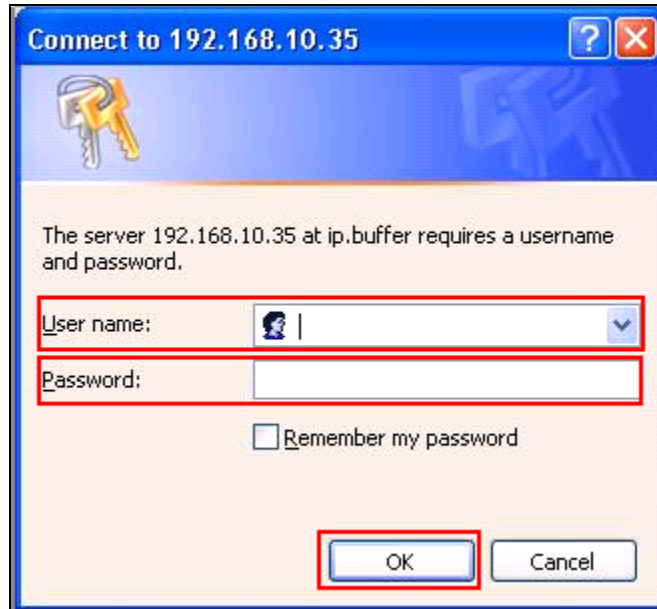
6. Configuration of Scannex IP buffer

This section provides the procedures to configure the Scannex IP buffer. It is implied that the Scannex IP buffer is already in place and configured with an IP address on the same subnet as the CS1000E. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**. The configuration.

Note: The procedures described below are normally carried out by a Nu Technologies engineer during installation and subsequent re-configuration.

6.1. Logging into the Scannex IP Buffer

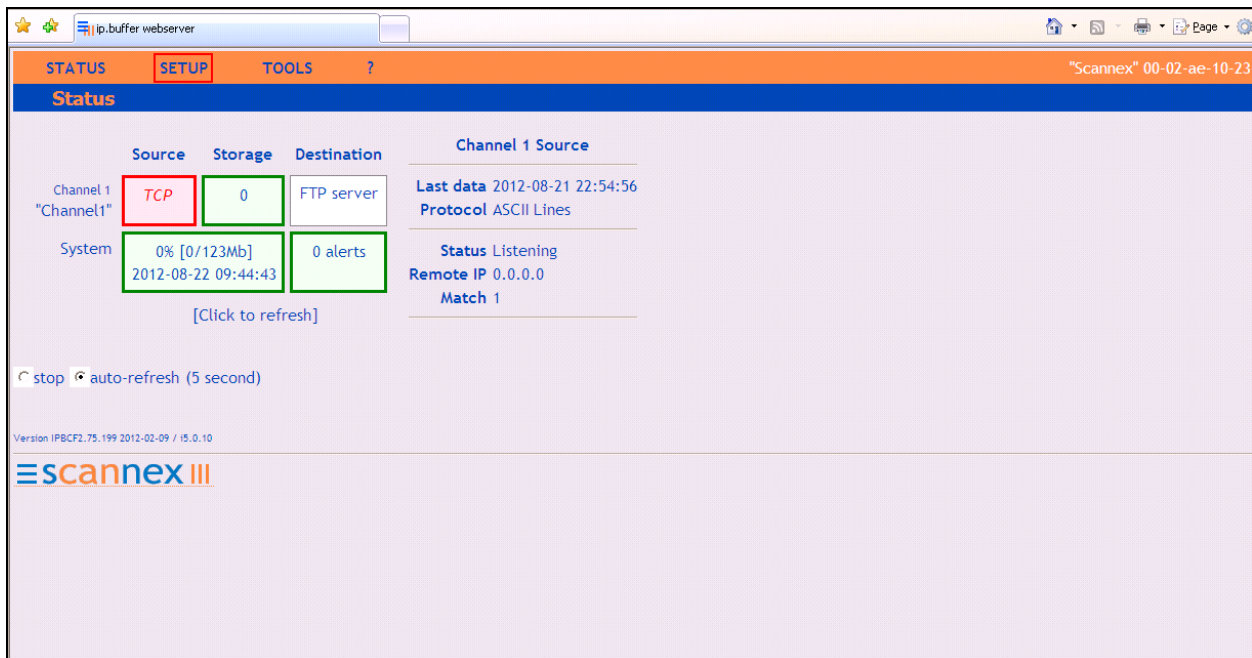
To access the web-based interface of the Scannex IP Buffer use the URL **http://x.x.x.x**, where x.x.x.x is the selected IP address of the IP Buffer. In the windows login box that appears, enter the default username and password and click on the **OK** button.



A Windows-style dialog box titled "Connect to 192.168.10.35". It features a blue header bar with a question mark and close button. The main area has a light blue background with a key icon. Text inside says: "The server 192.168.10.35 at ip.buffer requires a username and password." Below this are two input fields: "User name:" with a dropdown arrow and "Password:". A checkbox labeled "Remember my password" is below the password field. At the bottom are "OK" and "Cancel" buttons. Red boxes highlight the "User name:" field, the "Password:" field, and the "OK" button.

6.2. Setup Scannex IP Buffer

After logging in the **Management Main page** is displayed. Select **SETUP** followed by **Channel 1** (Not shown).



A screenshot of a web browser showing the "ip.buffer webserver" interface. The top navigation bar has tabs: "STATUS", "SETUP" (highlighted in orange), "TOOLS", and "?". The main content area is titled "Status" and displays system information. It includes a table with columns "Source", "Storage", and "Destination". The "Source" column shows "Channel 1 'Channel1'" with a red box around "TCP". The "Storage" column shows "0" with a green box. The "Destination" column shows "FTP server". Below this, "System" status shows "0% [0/123Mb]" and "2012-08-22 09:44:43" with a green box. A "[Click to refresh]" link is below. To the right, "Channel 1 Source" shows "Last data 2012-08-21 22:54:56", "Protocol ASCII Lines", "Status Listening", "Remote IP 0.0.0.0", and "Match 1". At the bottom left, there is a "stop" button and "auto-refresh (5 second)" option. The footer shows the Scannex logo and version information: "Version IPBCF2.75.199 2012-02-09 / 15.0.10".

Once the **Channel 1** page is opened select **COM1 Serial** from the **Source** dropdown box, then select **show**.

Channel 1: "Channel1"

Name: Channel1 The name of the channel (don't use spaces)

Source: COM1 Serial Where to collect from **show / hide**

Destination: TCP How to deliver the data **show / hide**

Storage: FTP server **show / hide**

Press **SAVE** to store changes!

SAVE Cancel

Version IPBCF2.75.199 2012-02-09 / 15.0.10

scannex III

Once the next page opens select **9600** from the Baud dropdown box. The **Baud** should match **BPS** as configured on the CS1000E in **Section 5.1**. From the **Protocol** drop down box enter **Nortel Meridian & Norstar**. Use the scroll bar on the right side of the page and scroll to the bottom.

Channel 1: "Channel1"

Name: Channel1 The name of the channel (don't use spaces)

Source: COM1 Serial Where to collect from **show / hide**

Serial

Autobaud: Enabled Autobaud provides detection of baudrate and parity

Baud: 9600 The baud rate

Protocol: 8N1 Data length and parity

Rx/Tx: Auto Pin-out. Default=auto

Rx Flow: RTS Control lines to regulate incoming data

On Passthrough: None Control lines to change when passthrough connects

Serial transmit

Tx Flow: CTS Control lines to check for transmit

Tx Size: 16 Chunk size for transmit. Default=16

Tx Pause: 10 bits Interbyte pause. Max=255. Default=0 (off)

Serial diagnostics

Loopback: Normal Diagnostic mode to do local loopback.

Protocol

Protocol: Nortel Meridian & Norstar Which protocol or data type

Time Stamp: Prefix each record. See manual for formats. Blank = no prefix

Scroll bar

From the **Destination** dropdown box select **FTP push (client)** and then select **show**.

Notification

Quiet minutes *Notify if no data. 0=ignore*

Connects *Notify connect & disconnect events*

Destination [show](#) / [hide](#) *How to deliver the data*

Storage [Storage settings show / hide](#)

Press **SAVE** to store changes!

Version IPBCF2.75.199 2012-02-09 / 15.0.10

scannex III

Once the **FTP push (Client)** window opens, enter the following:

- **Address** – Enter the IP Address of the ORBi-TEL⁷ Server
- **Username** – Enter the **Username** of the ORBi-TEL⁷ Server
- **Password** - Enter the **Password** of the ORBi-TEL⁷ Server
- **Directory** - Enter the file location where the CDR data is stored
- **Command** – select **Append** from the drop down box
- **Filename** – Enter **FILE1**

Use the scroll bar on the right side of the page and scroll down to **Push Schedule**.

STATUS SETUP TOOLS ? "Scannex" 00-02-ae-10-23-6a

Channel 1: "Channel1"

Name *The name of the channel (don't use spaces)*

Source [show](#) / [hide](#) *Where to collect from*

Destination [show](#) / [hide](#) *How to deliver the data*

FTP push (client)

Address *Name or IP address of FTP server*

Port *TCP/IP port number*

Username *FTP username*

Password *FTP password*

Directory *FTP directory (use forward slashes)*

Command *Whether to overwrite or append on the FTP server*

Filename *Filename (%Q=hex, %D=date, %T=time, etc)*

Compression *Send normal or zlib compressed*

Limit kb *File limit (0=no limit)*

Info Filename *Device Info file (blank = don't push)*

Event Filename *FTP Event CSV file (blank = don't push)*

Data Markers

Prefix *Prefix string. Blank = no prefix*

The screen shot below shows the Push Schedule as set during compliance testing. Once the schedule is complete click on the **Save** button.

Push Schedule

Condition: Only when data

Deliver Every: 1 minutes

At/Between: 08:00 HH:MM ...and 18:00 HH:MM

Variance: 0 minutes

On These Days: ☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday ☒ Friday ☒ Saturday ☒ Sunday

At all other times: Deliver Every: 1 minutes

Zone A: When to act on schedule
Interval to deliver, 0 = once-a-day
At or From Time (24hr).
To Time (24hr).
Serial# variance for times
Which days of the week

Zone B: Interval to deliver, 0 = none

Failures: Retry time: 60
Time in seconds between retry attempts

Storage: Storage settings show / hide

Press **SAVE** to store changes!

SAVE Cancel

7. Configure ORBi-TEL⁷

This section provides the procedures to configure ORBi-TEL⁷ Server to receive CDR data from the CS1000E via the IP buffer.

7.1. Configure the ORBi-TEL⁷ Server

The ORBi-TEL⁷ Server needs to be configured for site details including setting up the Collection and Translation script for receiving CDR data. This procedure is normally carried out by a Nu Technologies engineer during installation and subsequent re-configuration.

7.2. Add Extensions to the ORBi-TEL⁷ Server Database

The database on the ORBi-TEL⁷ Server must be populated with CS1000E extensions and trunks prior to running reports. Enter the following url **http://<IPaddr ORBi-TEL⁷>/orbitel.html**. Select **dbAdmin** and then select **New** on the dbAdmin page (not shown) to access the **Add Extension** form.

On the Add Extension form complete the following fields:

- **Site Name** Choose a pre-configured site name.
- **Extension** Enter a valid extension as configured on CS1000E
- **Status** Choose **Ext Owner**

Click the **Add Extension** button. Repeat the these steps to add all necessary extensions

dbAdmin - Add Extension | Logged in as cs1000

Add Extension

Personal	Location
Name: UNKNOWN	Site Name: CS10001
Job Title:	Node: CS1000 EXTNS
Extension: 3004	Code:
Status: Ext Owner	

Contact	Notes
Email:	
Mobile:	
Fax:	

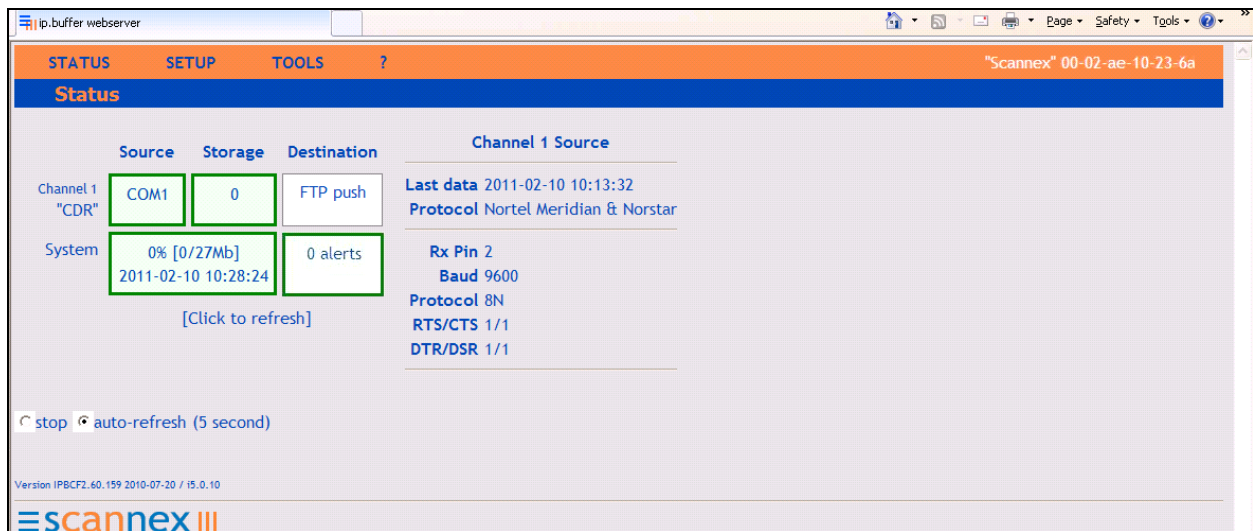
Close Add Extension Clear

8. Verification Steps

This section provides the tests that can be performed to verify correct configuration of CS1000E and ORBi-TEL⁷ solution.

8.1. Verify the Avaya Communication Server 1000E to Scannex IP buffer connection

In order to verify successful connection of the Scannex IP buffer to the CS1000E select **Status**. The **Status** screen is displayed. The **COM1 Source** displays in green indicating that the IP Buffer has successfully connected to the CS1000E.



8.2. Verify connection between Nu Technologies ORBi-TEL⁷ Server and the IP Buffer.

Once some test calls, including internal, inbound trunk and outbound trunk calls, have been produced then run the ORBi-TEL⁷ report to ensure correct collection of results. Compare to the IP Buffer output. The following screen shows a report after some calls were made.

Date	Start Time	End Time	Duration (hh:mm:ss)	Ring Time	Source Extn	Source Trunk	Dest Extn	Dest Trunk	Auth Code	Dialled Digits	OLI	TLI	Destination	Exch	Cost
07/10/2012	15:39:48	15:40:00	00:12		3016		3032								0.00
07/10/2012	15:56:39	15:57:00	00:21		3016		3032								0.00
07/10/2012	16:29:44	16:30:00	00:16		3909		4901								0.00
07/10/2012	16:33:46	16:34:00	00:14		3909		4621								0.00
07/10/2012	16:39:44	16:40:00	00:16		2025		4621								0.00
07/10/2012	17:48:54	17:49:00	00:06		4621		2025								0.00

9. Conclusion

A full and comprehensive set of feature functional test cases were during Compliance testing. ORBi-TEL⁷ 18.2 is considered compliant with Avaya Communication Server 1000E 7.5. All test cases have passed and met the objectives outlined in **Section 2.2**.

10. Additional References

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

- [1] *Software Input Output Reference — Administration Avaya Communication Server 1000 7.5, NN43001-611, 05.09 September 2011*
- [2] *System Management Reference, Avaya Communication Server 1000 7.5, NN43001-600, 05.07 August 2011*
- [3] *Call Detail Recording Fundamentals, Avaya Communication Server 1000 7.5, NN43001-550, 05.03 September 2011*

Product Documentation for ORBi-TEL⁷ and Scannex IP Buffer can be obtained from Nu Technologies Ltd. or may be requested at <http://www.nut.eu.com/nutech/contactus.html>

Appendix A: Avaya Communication Server 1000E Software

Avaya Communication Server 1000E call server deplists						
VERSION 4121						
RELEASE 7						
ISSUE 50 Q +						
DepList 1: core Issue: 01 (created: 2012-03-14 13:55:18 (est))						
IN-SERVICE PEPS						
PAT#	CR #	PATCH REF #	NAME	DATE	FILENAME	SPECINS
000	wi00969890	ISS1:10F1	p31664_1	20/08/2012	p31664_1.cpl	YES
001	wi00974635	ISS1:10F1	p31695_1	20/08/2012	p31695_1.cpl	YES
002	wi00958776	ISS1:10F1	p31542_1	20/08/2012	p31542_1.cpl	YES
003	wi00925218	ISS1:10F1	p30675_1	20/08/2012	p30675_1.cpl	NO
004	wi00881777	ISS1:10F1	p25747_1	20/08/2012	p25747_1.cpl	NO
005	wi00862574	iss1:10f1	p30870_1	20/08/2012	p30870_1.cpl	NO
006	wi00879322	ISS1:10F1	p30954_1	20/08/2012	p30954_1.cpl	NO
007	wi00976209	ISS1:10F1	p31717_1	20/08/2012	p31717_1.cpl	YES
008	wi00984178	ISS1:10F1	p31786_1	20/08/2012	p31786_1.cpl	NO
009	wi00959284	ISS1:10F1	p31531_1	20/08/2012	p31531_1.cpl	NO
010	wi00905660	ISS1:10F1	p27968_1	20/08/2012	p27968_1.cpl	NO
011	wi00897082	ISS1:10F1	p31124_1	20/08/2012	p31124_1.cpl	NO
012	wi00897096	ISS1:10F1	p30676_1	20/08/2012	p30676_1.cpl	NO
013	wi00855423	ISS1:10F1	p31328_1	20/08/2012	p31328_1.cpl	YES
014	wi00896680	ISS1:10F1	p30357_1	20/08/2012	p30357_1.cpl	NO
015	wi00937672	ISS1:10F1	p31276_1	20/08/2012	p31276_1.cpl	NO
016	wi00859123	ISS1:10F1	p30648_1	20/08/2012	p30648_1.cpl	NO
017	wi00949273	ISS1:10F1	p31411_1	20/08/2012	p31411_1.cpl	NO
018	wi00840590	ISS1:10F1	p30767_1	20/08/2012	p30767_1.cpl	NO
019	wi00978007	ISS1:10F1	p31737_1	20/08/2012	p31737_1.cpl	NO
020	wi00865477	ISS1:10F1	p30897_1	20/08/2012	p30897_1.cpl	YES
021	wi00900668	ISS1:10F1	p30456_1	20/08/2012	p30456_1.cpl	NO
022	wi00906163	ISS1:10F1	p31205_1	20/08/2012	p31205_1.cpl	NO
023	wi00949627	ISS1:10F1	p31462_1	20/08/2012	p31462_1.cpl	NO
024	wi00875701	ISS1:10F1	p30942_1	20/08/2012	p30942_1.cpl	NO
025	wi00937114	ISS1:10F1	p31310_1	20/08/2012	p31310_1.cpl	NO
026	wi00858335	ISS1:10F1	p30819_1	20/08/2012	p30819_1.cpl	NO
027	wi00869243	ISS1:10F1	p30848_1	20/08/2012	p30848_1.cpl	NO
028	wi00896394	ISS1:10F1	p30807_1	20/08/2012	p30807_1.cpl	NO
029	wi00925208	ISS1:10F1	p30986_1	20/08/2012	p30986_1.cpl	NO
030	wi00835294	ISS1:10F1	p30565_1	20/08/2012	p30565_1.cpl	NO
031	wi00962211	ISS1:10F1	p31580_1	20/08/2012	p31580_1.cpl	NO
032	wi00945997	ISS1:10F1	p31641_1	20/08/2012	p31641_1.cpl	NO
033	wi00907697	ISS1:10F1	p31227_1	20/08/2012	p31227_1.cpl	NO
034	wi00886321	ISS1:10F1	p31009_1	20/08/2012	p31009_1.cpl	NO
035	wi00854130	ISS1:10F1	p30443_1	20/08/2012	p30443_1.cpl	NO
036	wi00873382	ISS1:10F1	p30832_1	20/08/2012	p30832_1.cpl	NO
037	WI00927300	ISS1:10F1	p30999_1	20/08/2012	p30999_1.cpl	NO
038	wi00982243	ISS1:10F1	p31797_1	20/08/2012	p31797_1.cpl	NO
039	wi00898327	ISS1:10F1	p31136_1	20/08/2012	p31136_1.cpl	NO
040	wi00832106	ISS1:10F1	p30550_1	20/08/2012	p30550_1.cpl	NO

041	wi00900096	ISS1:1OF1	p31006_1	20/08/2012	p31006_1.cpl	NO
042	wi00959820	ISS1:1OF1	p31562_1	20/08/2012	p31562_1.cpl	NO
043	wi00895090	ISS1:1OF1	p31105_1	20/08/2012	p31105_1.cpl	NO
044	wi00967509	ISS1:1OF1	p31294_1	20/08/2012	p31294_1.cpl	NO
045	wi00890475	p30952	p31048_1	20/08/2012	p31048_1.cpl	NO
046	wi00852365	ISS1:1OF1	p30707_1	20/08/2012	p30707_1.cpl	NO
047	wi00957252	ISS1:1OF1	p31530_1	20/08/2012	p31530_1.cpl	NO
048	wi00887744	ISS2:1OF1	p31026_2	20/08/2012	p31026_2.cpl	NO
049	WI00853473	ISS1:1OF1	p30625_1	20/08/2012	p30625_1.cpl	NO
050	wi00905600	ISS1:1OF1	p31201_1	20/08/2012	p31201_1.cpl	NO
051	WI00889786	ISS1:1OF1	p30750_1	20/08/2012	p30750_1.cpl	NO
052	wi00827950	ISS2:1OF1	p30471_2	20/08/2012	p30471_2.cpl	NO
053	wi00843623	ISS1:1OF1	p30731_1	20/08/2012	p30731_1.cpl	YES
054	wi00960809	ISS1:1OF1	p31564_1	20/08/2012	p31564_1.cpl	NO
055	wi00898200	ISS1:1of1	p31274_1	20/08/2012	p31274_1.cpl	NO
056	wi00938555	ISS1:1OF1	p30881_1	20/08/2012	p30881_1.cpl	YES
057	wi00964006	ISS1:1OF1	p31595_1	20/08/2012	p31595_1.cpl	YES
058	wi00865477	ISS1:1OF1	p30898_1	20/08/2012	p30898_1.cpl	YES
059	wi00905297	ISS1:1OF1	p31195_1	20/08/2012	p31195_1.cpl	NO
060	wi00839255	ISS1:1OF1	p30591_1	20/08/2012	p30591_1.cpl	NO
061	wi00960133	ISS2:1OF1	p31557_2	20/08/2012	p31557_2.cpl	NO
062	wi00967754	ISS1:1OF1	p31653_1	20/08/2012	p31653_1.cpl	YES
063	wi00943172	ISS1:1OF1	p31402_1	20/08/2012	p31402_1.cpl	NO
064	wi00877367	ISS1:1OF1	p30534_1	20/08/2012	p30534_1.cpl	NO
065	wi00857566	ISS1:1OF1	p30766_1	20/08/2012	p30766_1.cpl	NO
066	wi00948274	ISS1:1OF1	p31365_1	20/08/2012	p31365_1.cpl	NO
067	wi00841980	ISS1:1OF1	p30618_1	20/08/2012	p30618_1.cpl	NO
068	wi00897176	ISS1:1OF1	p30418_1	20/08/2012	p30418_1.cpl	NO
069	wi00865477	ISS1:1OF1	p30892_1	20/08/2012	p30892_1.cpl	YES
070	wi00931028	ISS1:1OF1	p31354_1	20/08/2012	p31354_1.cpl	YES
071	wi00875425	ISS1:1OF1	p30943_1	20/08/2012	p30943_1.cpl	NO
072	wi00968531	ISS1:1OF1	p31645_1	20/08/2012	p31645_1.cpl	NO
073	wi00895181	ISS1:1OF1	p31106_1	20/08/2012	p31106_1.cpl	NO
074	wi00973241	ISS1:1OF1	p31715_1	20/08/2012	p31715_1.cpl	NO
075	wi00948931	ISS1:1OF1	p31407_1	20/08/2012	p31407_1.cpl	NO
076	wi00968157	ISS1:1OF1	p31637_1	20/08/2012	p31637_1.cpl	NO
077	wi00871969	ISS1:1OF1	p30768_1	20/08/2012	p30768_1.cpl	NO
078	wi00967510	ISS1:1OF1	p31147_1	20/08/2012	p31147_1.cpl	NO
079	wi00891626	ISS1:1OF1	p31051_1	20/08/2012	p31051_1.cpl	YES
080	wi00946558	ISS1:1OF1	p31358_1	20/08/2012	p31358_1.cpl	NO
081	wi00839821	ISS1:1OF1	p30619_1	20/08/2012	p30619_1.cpl	NO
082	WI00839794	ISS1:1OF1	p28647_1	20/08/2012	p28647_1.cpl	NO
083	WI00843571	ISS1:1OF1	p30627_1	20/08/2012	p30627_1.cpl	NO
084	wi00856991	ISS1:1OF1	p17588_1	20/08/2012	p17588_1.cpl	NO
085	wi00842409	ISS1:1OF1	p30621_1	20/08/2012	p30621_1.cpl	NO
086	wi00927321	ISS1:1OF1	p31286_1	20/08/2012	p31286_1.cpl	YES
087	wi00974272	ISS1:1OF1	p31690_1	20/08/2012	p31690_1.cpl	YES
088	wi00880386	ISS1:1OF1	p30977_1	20/08/2012	p30977_1.cpl	NO
089	wi00865477	ISS1:1OF1	p30896_1	20/08/2012	p30896_1.cpl	YES
090	wi00838073	ISS1:1OF1	p30588_1	20/08/2012	p30588_1.cpl	NO
091	wi00965838	ISS1:1OF1	p31623_1	20/08/2012	p31623_1.cpl	NO
092	wi00879526	ISS1:1OF1	p31007_1	20/08/2012	p31007_1.cpl	NO
093	wi00958682	ISS1:1OF1	p31540_1	20/08/2012	p31540_1.cpl	NO
094	wi00969581	ISS1:1OF1	p31661_1	20/08/2012	p31661_1.cpl	YES
095	wi00973858	ISS1:1OF1	p31691_1	20/08/2012	p31691_1.cpl	NO

096	wi00946282	ISS1:1OF1	p31204_1	20/08/2012	p31204_1.cpl	NO
097	wi00863876	ISS1:1OF1	p30787_1	20/08/2012	p30787_1.cpl	NO
098	wi00908933	ISS1:1OF1	p31239_1	20/08/2012	p31239_1.cpl	NO
099	wi00856702	ISS1:1OF1	p30573_1	20/08/2012	p30573_1.cpl	NO
100	wi00975133	ISS1:1OF1	p31731_1	20/08/2012	p31731_1.cpl	NO
101	wi00932948	ISS1:1OF1	p31077_1	20/08/2012	p31077_1.cpl	NO
102	wi00969208	ISS1:1OF1	p31656_1	20/08/2012	p31656_1.cpl	NO
103	WI00836292	ISS1:1OF1	p30554_1	20/08/2012	p30554_1.cpl	NO
104	wi00908598	ISS1:1OF1	p31235_1	20/08/2012	p31235_1.cpl	NO
105	wi00880836	ISS1:1OF1	p30976_1	20/08/2012	p30976_1.cpl	NO
106	WI00854150	ISS1:1OF1	p30468_1	20/08/2012	p30468_1.cpl	NO
107	wi00894243	ISS1:1OF1	p31087_1	20/08/2012	p31087_1.cpl	NO
108	wi00877592	ISS1:1OF1	p30880_1	20/08/2012	p30880_1.cpl	NO
109	wi00871739	ISS1:1OF1	p30856_1	20/08/2012	p30856_1.cpl	NO
110	wi00688381	ISS1:1OF1	p30104_1	20/08/2012	p30104_1.cpl	NO
111	wi00955753	ISS1:1OF1	p31733_1	20/08/2012	p31733_1.cpl	NO
112	wi00850521	ISS1:1OF1	p30709_1	20/08/2012	p30709_1.cpl	YES
113	wi00932204	ISS2:1OF1	p31305_2	20/08/2012	p31305_2.cpl	NO
114	wi00906022	ISS1:1OF1	p31202_1	20/08/2012	p31202_1.cpl	NO
115	wi00860279	ISS1:1OF1	p30789_1	20/08/2012	p30789_1.cpl	NO
116	wi00959457	ISS1:1OF1	p31551_1	20/08/2012	p31551_1.cpl	NO
117	wi00852389	ISS1:1OF1	p30641_1	20/08/2012	p30641_1.cpl	NO
118	wi00941500	ISS1:1OF1	p31394_1	20/08/2012	p31394_1.cpl	NO
119	wi00834382	ISS1:1OF1	p30548_1	20/08/2012	p30548_1.cpl	NO
120	wi00883604	ISS1:1OF1	p30973_1	20/08/2012	p30973_1.cpl	NO
121	wi00921295	ISS1:1OF1	p31265_1	20/08/2012	p31265_1.cpl	NO
122	wi00946876	ISS1:1OF1	p31430_1	20/08/2012	p31430_1.cpl	NO
123	wi00909476	ISS1:1OF1	p31340_1	20/08/2012	p31340_1.cpl	NO
124	wi00923899	ISS1:1OF1	p31270_1	20/08/2012	p31270_1.cpl	NO
125	wi00856410	ISS1:1OF1	p30749_1	20/08/2012	p30749_1.cpl	NO
126	wi00859499	ISS1:1OF1	p30694_1	20/08/2012	p30694_1.cpl	NO
127	wi00951837	ISS1:1OF1	p31485_1	20/08/2012	p31485_1.cpl	NO
128	wi00978883	ISS1:1OF1	p31770_1	20/08/2012	p31770_1.cpl	NO
129	wi00950575	ISS1:1OF1	p31724_1	20/08/2012	p31724_1.cpl	NO
130	wi00869695	ISS1:1OF1	p30654_1	20/08/2012	p30654_1.cpl	NO
131	wi00899584	ISS1:1OF1	p30809_1	20/08/2012	p30809_1.cpl	NO
132	wi00891621	ISS1:1OF1	p31037_1	20/08/2012	p31037_1.cpl	NO
133	wi00969039	ISS1:1OF1	p31643_1	20/08/2012	p31643_1.cpl	NO
134	wi00942734	ISS1:1OF1	p31409_1	20/08/2012	p31409_1.cpl	NO
135	wi00865477	ISS1:1OF1	p30893_1	20/08/2012	p30893_1.cpl	YES
136	wi00930649	ISS1:1OF1	p31570_1	20/08/2012	p31570_1.cpl	NO
137	wi00841273	ISS1:1OF1	p30713_1	20/08/2012	p30713_1.cpl	NO
138	wi00826075	ISS1:1OF1	p30452_1	20/08/2012	p30452_1.cpl	NO
139	wi00959463	ISS1:1OF1	p31528_1	20/08/2012	p31528_1.cpl	NO
140	wi00929140	ISS1:1OF1	p31284_1	20/08/2012	p31284_1.cpl	NO
141	wi00824257	ISS1:1OF1	p30447_1	20/08/2012	p30447_1.cpl	NO
142	WI00836334	ISS1:1OF1	p30481_1	20/08/2012	p30481_1.cpl	NO
143	wi00936714	ISS1:1OF1	p31379_1	20/08/2012	p31379_1.cpl	NO
144	wi00903381	ISS1:1OF1	p30421_1	20/08/2012	p30421_1.cpl	NO
145	wi00839134	ISS1:1OF1	p30698_1	20/08/2012	p30698_1.cpl	YES
146	wi00962557	ISS1:1OF1	p31581_1	20/08/2012	p31581_1.cpl	NO
147	wi00853178	ISS1:1OF1	p30719_1	20/08/2012	p30719_1.cpl	NO
148	WI00928455	ISS1:1OF1	p31297_1	20/08/2012	p31297_1.cpl	NO
149	wi00903437	ISS1:1OF1	p31167_1	20/08/2012	p31167_1.cpl	NO
150	wi00884699	ISS1:1OF1	p31000_1	20/08/2012	p31000_1.cpl	YES

151	wi00932958	ISS1:1OF1	p31115_1	20/08/2012	p31115_1.cpl	NO
152	wi00896420	ISS1:1OF1	p30867_1	20/08/2012	p30867_1.cpl	NO
153	wi00865477	ISS1:1OF1	p30894_1	20/08/2012	p30894_1.cpl	YES
154	wi00925141	ISS1:1OF1	p30802_1	20/08/2012	p30802_1.cpl	NO
155	wi00857362	ISS1:1OF1	p30782_1	20/08/2012	p30782_1.cpl	NO
156	wi00956788	ISS1:1OF1	p31638_1	20/08/2012	p31638_1.cpl	NO
157	wi00924886	ISS1:1OF1	p31062_1	20/08/2012	p31062_1.cpl	YES
158	wi00854415	ISS1:1OF1	p30593_1	20/08/2012	p30593_1.cpl	NO
159	wi00930864	ISS1:1OF1	p31325_1	20/08/2012	p31325_1.cpl	NO
160	wi00968448	ISS1:1OF1	p31648_1	20/08/2012	p31648_1.cpl	YES
161	wi00962955	ISS1:1OF1	p31585_1	20/08/2012	p31585_1.cpl	NO
162	wi00977393	ISS1:1OF1	p31744_1	20/08/2012	p31744_1.cpl	YES
163	wi00868729	ISS1:1OF1	p31163_1	20/08/2012	p31163_1.cpl	NO
164	wi00951427	ISS1:1OF1	p31478_1	20/08/2012	p31478_1.cpl	NO
165	wi00894443	ISS1:1OF1	p31093_1	20/08/2012	p31093_1.cpl	NO
166	wi00956885	ISS1:1OF1	p31489_1	20/08/2012	p31489_1.cpl	NO
167	wi00968353	ISS1:1OF1	p31412_1	20/08/2012	p31412_1.cpl	NO
168	wi00836182	ISS1:1OF1	p30450_1	20/08/2012	p30450_1.cpl	NO
169	wi00961267	ISS1:1OF1	p30288_1	20/08/2012	p30288_1.cpl	NO
170	wi00907707	ISS1:1OF1	p31228_1	20/08/2012	p31228_1.cpl	NO
171	wi00965285	ISS1:1OF1	p31476_1	20/08/2012	p31476_1.cpl	NO
172	wi00903369	ISS1:1OF1	p31165_1	20/08/2012	p31165_1.cpl	NO
173	wi00936935	ISS1:1OF1	p31362_1	20/08/2012	p31362_1.cpl	NO
174	wi00900766	ISS1:1OF1	p31159_1	20/08/2012	p31159_1.cpl	NO
175	wi00943748	ISS1:1OF1	p31516_1	20/08/2012	p31516_1.cpl	NO
176	wi00882293	ISS1:1OF1	p31010_1	20/08/2012	p31010_1.cpl	NO
177	wi00953900	ISS1:1OF1	p31494_1	20/08/2012	p31494_1.cpl	NO
178	wi00949410	ISS1:1OF1	p31248_1	20/08/2012	p31248_1.cpl	NO
179	wi00975659	ISS1:1OF1	p31707_1	20/08/2012	p31707_1.cpl	NO
180	wi00946477	ISS1:1OF1	p31426_1	20/08/2012	p31426_1.cpl	NO

Avaya Communication Server 1000E Peripheral Software Version (PSWV) data
PSWV VERSION: PSWV 100

LCRI: VERSION NUMBER: AA02
XNET: VERSION NUMBER: AC23
XPEC: VERSION NUMBER: AC43
FNET: VERSION NUMBER: AA07
FPEC: VERSION NUMBER: AA08
MSDL: VERSION NUMBER: AJ73
SDI: VERSION NUMBER: AH51
DCH: VERSION NUMBER: AA72
AML: VERSION NUMBER: AK81
BRIL: VERSION NUMBER: AK83
BRIT: VERSION NUMBER: AK82
MISP: VERSION NUMBER: AJ71
MPH: VERSION NUMBER: AH51
BRSC: VERSION NUMBER: AJ71
BBRI: VERSION NUMBER: AH54
PRIE: VERSION NUMBER: AA87
BRIE: VERSION NUMBER: AK89
ISIG: VERSION NUMBER: AA33
SWE1: VERSION NUMBER: BA53
UKG1: VERSION NUMBER: BA51
AUS1: VERSION NUMBER: BA49
DEN1: VERSION NUMBER: BA48

```

FIN1: VERSION NUMBER: BA49
GER1: VERSION NUMBER: BA54
ITA1: VERSION NUMBER: AA54
NOR1: VERSION NUMBER: BA49
POR1: VERSION NUMBER: BA49
DUT1: VERSION NUMBER: BA50
EIR1: VERSION NUMBER: BA49
SWI1: VERSION NUMBER: BA53
BEL1: VERSION NUMBER: BA49
SPA1: VERSION NUMBER: BA51
NET1: VERSION NUMBER: BA48
FRA1: VERSION NUMBER: BA52
CIS1: VERSION NUMBER: BA48
ETSI: VERSION NUMBER: BA48
E403: VERSION NUMBER: BA07
N403: VERSION NUMBER: BA05
JTTC: VERSION NUMBER: AC08
TCNZ: VERSION NUMBER: AA13
AUBR: VERSION NUMBER: AA14
AUPR: VERSION NUMBER: AA04
HKBR: VERSION NUMBER: AA06
HKPR: VERSION NUMBER: AA08
SING: VERSION NUMBER: AA15
THAI: VERSION NUMBER: AA07
NI02: VERSION NUMBER: AA26
T1IS: VERSION NUMBER: AA10
T1ES: VERSION NUMBER: AA09
ESGF: VERSION NUMBER: AC30
ISGF: VERSION NUMBER: AC31
ESGFTI: VERSION NUMBER: AC29
ISGFTI: VERSION NUMBER: AC31
INDO: VERSION NUMBER: AA06
JAPN: VERSION NUMBER: AA16
MSIA: VERSION NUMBER: AA04
CHNA: VERSION NUMBER: AA04
INDI: VERSION NUMBER: AA03
PHLP: VERSION NUMBER: AA02
TAIW: VERSION NUMBER: AA03
EAUS: VERSION NUMBER: AA02
EGF4: VERSION NUMBER: AC14
DCH3: VERSION NUMBER: AA10
PUP3: VERSION NUMBER: AA14
T1E1: VERSION NUMBER: AA19
DITI: VERSION NUMBER: AA40
CLKC: VERSION NUMBER: AA20
3902: VERSION NUMBER: AA84
3903: VERSION NUMBER: AA91
3904: VERSION NUMBER: AA94
3905: VERSION NUMBER: AA94
MGC, MGX and MGS:
    CSP VERSION: MGCC CD01
    MSP VERSION: MGCM AB01
    APP VERSION: MGCA BA07
    FPGA VERSION: MGCF AA18
    BOOT VERSION: MGCB BA07

```

DSP1 VERSION: DSP1 AB03
DSP2 VERSION: DSP2 AB03
DSP3 VERSION: DSP3 AB03
DSP4 VERSION: DSP4 AB01
DSP5 VERSION: DSP5 AA01
UDT VERSION NUMBER: AA42

©2013 Avaya Inc. All Rights Reserved.

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

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.