Avaya Solution & Interoperability Test Lab

Application Notes for Configuring GN Netcom Jabra PRO™ 9400 Headsets and Jabra LINK 14201-19 to interoperate with Avaya 2400 Series Digital Telephones – Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning GN Netcom's Jabra PRO™ 9400 headsets to successfully interoperate with Avaya 2400 series Digital Telephones. Jabra PRO™ 9400 series are wireless headsets that use an Electronic Hookswitch (EHS) adapter Jabra LINK 14201-19 to interoperate with Avaya 2400 series Telephones.

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 compliance tested configuration using GN Netcom's Jabra PRO™ 9400 headset solution and Avaya Digital Telephones. The Avaya telephones used are the 2400 Series Digital Telephones connected to Avaya Aura™ Communication Manager.

Jabra PRO™ 9400 series are wireless office headsets with a touch screen base for easy call control. It uses the Electronic Hookswitch (EHS) adapter LINK 14201-19 attached to the Avaya telephone to communicate with Avaya 2400 series Digital Telephones. The base connects to the headset via DECT and Bluetooth is used to connect to mobile phones. The Jabra PRO™ 9470 model was used for the compliance test. It is a multi-use model that can be used with desk phone, softphone and mobile phone. It is only configured for the desk phone in this compliance test.

1.1 Interoperability Compliance Testing

Avaya 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 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 interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on placing calls from the Avaya telephones using the Jabra PRO™ 9400 series of headsets and verifying that good quality audio was sent and received. Intra-switch calls were made on the Avaya Aura™ Communication Manager and inbound and outbound calls to\from the PSTN. The serviceability testing focused on verifying the ability of the Jabra PRO™ 9470 headsets to recover from disconnection and reconnection of the Avaya telephones. Link Failure\Recovery was also tested to ensure successful reconnection on link failure.

1.2 Support

Technical support can be obtained for GN Netcom's Jabra PRO™ 9400 solution as follows:
- Email: Please check www.jabra.com for your local support contact.
- Website: http://www.jabra.com
- Phone: Please check www.jabra.com for your local support contact.

2 Reference Configuration

Figure 1 illustrates the network topology used during compliance testing. The Avaya solution consisted of an Avaya S8500B Server running Communication Manager and Avaya G650 Media Gateway as the PBX. Avaya 2400 series digital telephones are connected to the PBX and used in the testing. GN Netcom's Jabra PRO™ 9400 wireless headsets and GN Netcom Jabra LINK 14201-19 adapters connect to the headset ports of the Avaya telephones.
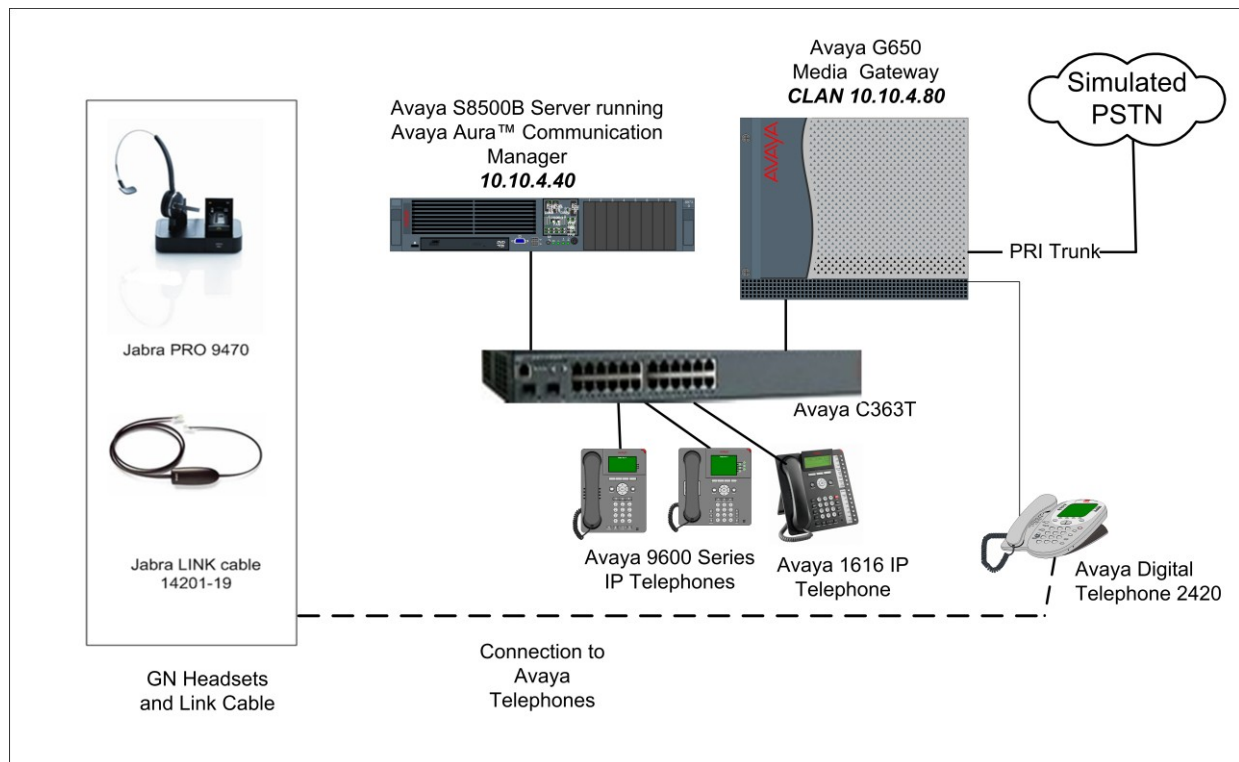

Figure 1: Network Topology

3 Equipment and Software Validated

All the hardware and associated software used in the compliance testing is listed below.

Equipment	Software Version
Avaya S8500B Server	Avaya Aura™ Communication Manager 5.2.1 (R015x.02.1.016.4)
Avaya G650 Media Gateway - IPSI TN2312BP - CLAN TN799DP - IP Media Processor TN2602AP - DS1 Interface TN246CP	 HW15, FW49 HW01, FW34 HW02, FW49 HW02, FW024
Avaya 96xx Telephones (H.323) - 9620 - 9630 - 9640 - 9670G	 3.1 3.1 3.1 3.1
Avaya 16xx Telephones (H.323) - 1616	1.211
Avaya 24xx Digital Telephones - 2410 - 2420	 - -
GN Netcom Jabra PRO™ 9400 Headset - 9470	 1.49.2
GN Netcom Jabra PRO™ 9400 - Base	 1.49.2
GN Netcom LINK cable 14201-19	1.5.0

Table 1: Hardware and Software Version Numbers

4 Configuration of Avaya Aura^{TM} Communication Manager

These Application Notes assume that Communication Manager is configured and operational. There are no additional settings required to be configured for the connection of the Jabra PRO™ 9400 series headsets and Jabra LINK cable adaptor to the Avaya telephones. The compliance tests with the Jabra PRO™ 9400 series headsets was carried out with the default server settings for audio parameters. Please refer to documentation in **Section 9**.

5   Configuration of Jabra PRO™ 9400

The Jabra PRO™ 9400 series headset is a multi-use model that can be used with desk phone, softphone and mobile phone. It is only configured for the desk phone in this compliance test. The headset variant used in the compliance test is the Jabra PRO™ 9470 monaural but the configuration described in these application notes also applies to variants 9460 and 9460/9465 DUO. The configuration of the headset comprises connection of cables, configuring base settings and headset settings.

5.1   Connection of Cables

The Jabra LINK 14201-19 is used for the connection of the Jabra PRO™ 9400 series headsets to the Avaya 2400 series Digital Telephones. There are two connections from the headset base to the telephone:
1. The AUX on base connects to the EU24 port on phone using the Jabra LINK cable 14201-19.
2. The audio port on the base connects to the headset port on the phone using the blue ribbon audio cable.

5.2   Configure Base Settings

There are two ways to configure the base settings, by using a wizard on the PC or by using the touch screen on the headset base. The touch screen on the base was used to configure the headset. A setup wizard is launched automatically when the base for the Jabra PRO™ 9470 is powered up. Each page on the screen is displayed as followed:

- **LANGUAGE** – Choose **English** and press > to move on to the next screen.
- **SETUP** – A welcome message is displayed and press **>** to move on to the next screen.
- **DESK PHONE** – The user is asked 'Connect to a desk phone?' Choose **Yes**.
- **REMOTE CALL CONTROL** – This gives a description of what remote call control is, i.e., answer desk phone directly from headset using either RHL (Remote Handset Lifter) or EHS (Electric Hookswitch Adapter). Press **>** to continue**.**
- **DESK PHONE** – The user is asked 'Do u have RHL or EHS' – Choose **Yes**
- **SELECT** – An option is given to choose **EHS** or **GN100 RHL**. Choose **EHS (link adapter)**. Press **>.**
- **CABLE LABEL** – A message is displayed requesting the user to check adapter documentation to determine cable type.
- **ADAPTER TYPE** – There are three options given - **MSH**, **Cisco** and **DHSG**. Choose **DHSG** and press > to continue.
- **DESK PHONE** – A message requests the user to identify cable ports at back of base.
- **CONNECT TO BASE** – On this screen an image is displayed which shows two connections to
    a) Aux red symbol to EU 24
    b) Phone blue symbol to phone headset port
  No options need to be chosen. Follow on screen instructions and press > to continue.
- **ACTIVATE** – A message reads 'Check desk phone manual to see if you must activate its headset port'. Press **>** to continue.

- **DOCK HEADSET** – Place the headset onto the dock base.
- **DESK PHONE** – A message declares: 'We will now configure the base for optimal sound performance'. Press **>** to continue to the next screen.
- **DESK PHONE** – A message inquires 'Do you prefer a guided (recommended) or manual Desk Phone setup?' – Choose **Manual** option.
- **MANUAL SETUP** –The options on this screen are as follows:
  a) Set clear dial-tone switch – choose **A** (default) and press **>**
  b) Set microphone level – Choose **8**
  c) Setup complete.
- **PC & SOFTPHONE** – A message inquires 'Connect to PC and softphone?' Choose **No**.
- **CONFIRM** – The user is asked to keep or delete current settings. Choose **Keep**.
- **MOBILE v PHONE** – The user is asked to connect to microphone? Choose **No**.
- **CONFIRM** – Confirm current settings by choosing **Keep**.
- **HEADSET INTRO** – An option is provided to have an introduction to the headset controls. Choose **No**.
- **PERSONAL SETUP** – An option is provided to set personal preferences. Choose **No**. [These settings can be controlled from the PC at another stage and they include settings such as timeout, headset illumination after call etc.]
- **SETUP** – A message indicates that the setup is complete.

5.3 Headset Settings

The Multi-Function Button (MFB) is positioned on the headset and is used to hook on and off when a call is placed or received. The touch-sensitive panel on the headset allows volume control and mute control of the headset.

6 General Test Approach and Test Results

The test approach was to verify that the calls placed and received using the Jabra PRO™ 9400 headsets with Avaya Telephones functioned correctly with good audio received. Functionality testing included basic telephony operations such as answer, hold/retrieve and transfer and calls to\from the PSTN. The tested features also available from the headset are
- Receive incoming call notification away from the desk
- Answer/end calls away from the desk using the headset
- Enable dial tone from headset to place outgoing call
- Use microphone mute and volume control from the headset

The tests were all functional in nature and performance testing was not included. All test cases passed successfully. The serviceability tests were performed by disconnecting the Jabra PRO™ 9400 headsets from the Avaya Telephones and ensuring successful placing of calls and good audio on re-connection. These tests were repeated for the Avaya solution by disconnecting and reconnecting the Avaya Telephones. All the test cases passed successfully.

7 Verification Steps

This section provides the tests that can be performed to verify correct configuration of Avaya telephones and Jabra PRO™ 9400 series headsets.

7.1 Verify Avaya Telephones

Verify that inbound and outbound calls can be made successfully with good audio on the Avaya telephones.

7.2 Verify Jabra PRO™ 9400 Headsets

The following steps can be performed to verify the basic operation of the system components:
- Make calls to and from Avaya telephones using the headsets to hook on and off.
- Perform hold, transfer and conferencing operations and ensure that the headsets function as expected.

8 Conclusion

These Application Notes describe the configuration steps required for GN Netcom Jabra PRO™ 9400 headsets to successfully interoperate with Avaya 2420 series Digital Telephones. All functionality and serviceability test cases were completed successfully.

9 Additional References

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

Product documentation for Avaya products may be found at http://support.avaya.com.
1. *Administering Avaya Aura™ Communication Manager, Release 5.2; Document No. 03-300509, May 2009*
2. *Avaya Audio Quality Tuning for IP Telephones, Issue 2.0, Document No. 120942, July 2007*

Product documentation for GN Netcom Jabra PRO™ 9400 can be found at http://www.jabra.com/UK-CP/headsetsolutions/Pages/JabraPRO9400.aspx