Avaya Solution & Interoperability Test Lab

Application Notes for Phybridge PoLRE Switch with Avaya AP 9100 series WLAN and Avaya IP Office Server Edition 9.1 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Phybridge PoLRE Switch to interoperate with Avaya AP9100 series WLAN and Avaya IP Office Server Edition 9.1. In the compliance testing, the Phybridge PoLRE Switch leveraged Cat3 single-pair telephony wiring to provide dedicated Ethernet voice path and Power over Ethernet to Avaya AP 9100 Series WLAN and used wireless IP telephones registered to Avaya IP Office Server Edition 9.1 Linux Server and 500V2 expansion.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe a compliance-tested configuration consisting of Phybridge PoLRE Switch, Phybridge Phylink adapters, Avaya IP Office Server Edition 9.1 and Avaya AP9100 Series WLAN.

The Phybridge PoLRE Switch is a LAN appliance that leverages Cat3 single-pair telephony wiring to provide dedicated Ethernet and Power over Ethernet to Avaya AP9100 series WLAN.

2. General Test Approach and Test Results

The compliance testing focused on the interoperability between Phybridge PoLRE Switch and Avaya AP9100 series WLAN to ensure that the wireless IP phones work as expected. Serviceability testing was also performed.

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

Testing consisted of typical call scenarios involving wireless endpoints registered to an AP9100 series WLAN connected to the PoLRE Switch. The Test included 1000ft of Cat3 cable to verify the extended range that the PoLRE Switch provides. External call scenarios were also tested with a simulated PSTN connection. All tests were performed manually and the focus was on verifying interoperability compliance.

Feature testing included, registration, audio codec, basic calls, hold/reconnect, conference, transfer, display, DTMF, Speaker Phone and message waiting indicator (MWI) scenarios.

The serviceability testing focused on verifying the ability of Phybridge PoLRE Switch to recover from adverse conditions, such as disconnecting and reconnecting the Ethernet cables to the Phybridge PoLRE Switch. Power cycling of Phybridge PoLRE Switch was also tested.

2.2. Test Results

All applicable test cases were executed and passed successfully with following observations.

- The Avaya AP9100 series WLAN has single and dual radio models and the 912x and 913x dual radio models required PoE+ local power to interoperate with the PoLRE Switch. The PoLRE Switch provides PoE Class 1, 2, and Class 3, depending on distance and cable type.

2.3. Support

Technical support on the Phybridge PoLRE Switch can be obtained through the following:

- **Phone:** +1 (888) 901-3633
- **Email:** Support@Phybridge.com
- **Web:** www.phybridge.com/support/single-pair-utp/polre/

3. Reference Configuration

In the test configuration shown in **Figure 1** Avaya AP9100 series WLAN is connected to the Phybridge PoLRE Switch leveraging CAT3 cabling. For each AP9100 series WLAN, one end of the CAT3 cable is connected to the Phybridge PoLRE Switch. The other end of the CAT3 cable connects to a Phybridge Phylink adapter with an RJ11 connector. Each Phylink adapter is connected using a standard CAT5 Ethernet cable to an Avaya AP9100 series WLAN.

In the sample configuration Wifi telephones register to IP Office Server Edition 9.1 which included Linux Server and 500 V2 Expansion.

The Phybridge PoLRE LPC provides power to the Avaya AP9133 WLAN, and is transparent to the telephones in terms of the telephones' network settings.
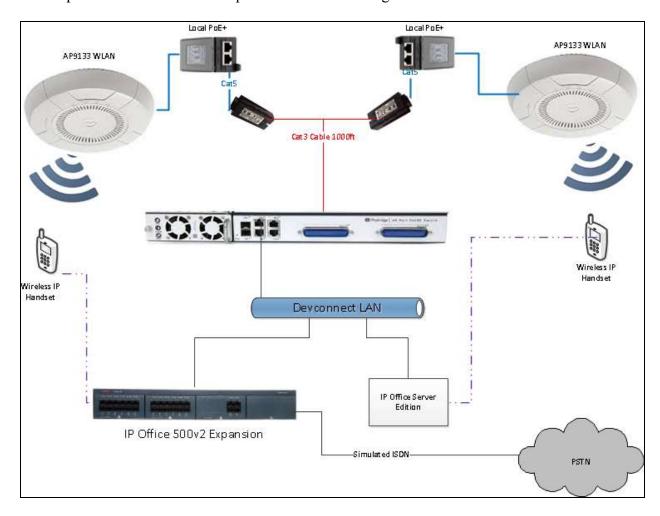

Figure 1: Phybridge PoLRE Switch with Avaya AP9100 series WLAN and Avaya IP Office Server Edition 9.1

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office Server Edition 9.1 Linux Server	9.1.5 Build 145
Avaya IP Office Server Edition 9.1 500V2 Expansion	9.1.5 Build 145
Avaya AP9133 WLAN	7.0.1
AC power Adapter	POE75U-1U-AV
Phybridge Phylink	R1.4
Phybridge PoLRE LPC Switch	R3.3.1

Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

5. Configure Avaya IP Phones on Avaya IP Office

No special configuration is required for Wifi telephones to interoperate with PoLRE Switch. For completeness this section provides the procedures for configuring an H.323 IP phone on IP Office. It is assumed that IP Office has already been installed and is functioning.
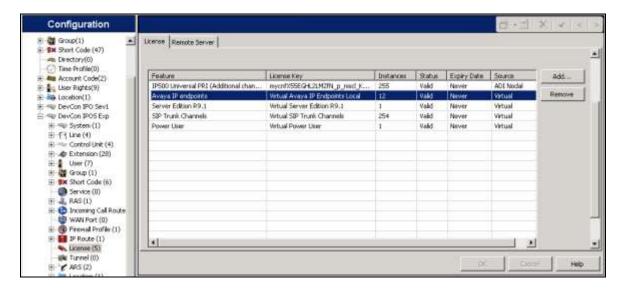
5.1. Verify IP Office License

This section explains the steps to verify if the license status for Avaya IP endpoints is valid. Open the IP Office Manager by navigating to **Start → Programs → IP Office → Manager** on the server IP Office Manager is installed on. Log in with the appropriate credentials (not shown).

To verify license on Linux server, from the configuration tree in the left pane, browse to Linux Server, in this example it is **DevCon IPO Ser1**, select **License** to display the License screen in the right pane. Verify that the License **Status** is **Valid** for **Avaya IP endpoints**.
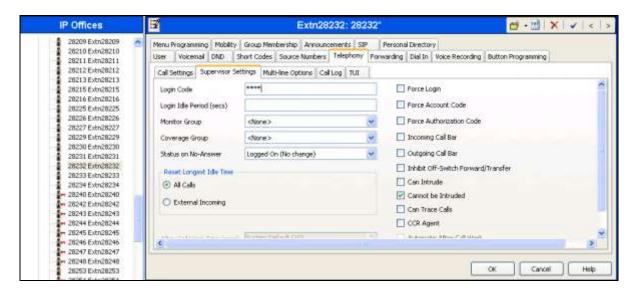

From the configuration tree in the left pane, browse to Expansion, in this example it is **DevCon IPOS Exp**, select **License** to display the License screen in the right pane. Verify that the License **Status** is **Valid** for **Avaya IP endpoints**.

5.2. Configure an Avaya H.323 Phone

From the configuration tree in the left pane, right-click on **Extension** and select **New → H323 Extension** from the pop-up list to add a new H.323 extension (not shown). Enter the extension "**28232**" into the **Base Extension** field, as shown below. Defaults can be used for the remaining fields. Click on **OK** when finished.

For security H.323 IP phones can have a password assigned to register with IP Office. To add the password, navigate the configuration tree in the left pane. Click on **User** and then select the user to change. In this example "**28232**" is used. Now select the **Telephony** tab and the **Supervisor Settings** sub tab. In the **Login Code** field enter a password to be used at log in of the H.323 phone. Click on **OK** when finished.

6. Configure AP9100 Series WLAN

There is no additional configuration required to connect to the PoLRE Switch

7. Configure Phybridge PoLRE Switch

The Phybridge PoLRE Switch is an unmanaged switch and therefore there is no additional configuration required to connect to the AP9100 series WLAN.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of IP Office and PoLRE LPC.
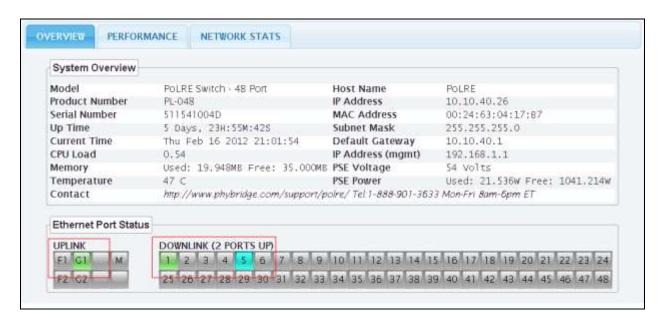
8.1. Verify Avaya AP 9100 Series WLAN

This section describes the steps needed to verify the connectivity of the AP9100 series WLAN to the PoLRE Switch. Browse to the IP Address of the AP9100 series WLAN and login using valid credentials the initial screen is a view of the configuration as shown below. Check that **gig1** is showing as **up** under **Link** and that the number of stations configured are stated under one of the **Radios**.

8.2. Verify Phybridge PoLRE Switch

This section describes the steps needed to verify the connectivity of the PoLRE Switch to the AP9100 series WLAN. Browse to the IP Address of the PoLRE and login using valid credentials the initial screen is an overview of the configuration as shown below. Check that **UPLINK G1** is showing as Green and that the number of AP9100 series WLAN's are shown under **DOWNLINK** as **UP**.

9. Conclusion

These Application Notes describe the configuration steps required for Phybridge PoLRE Switch to interoperate with Avaya AP9100 series WLAN and Avaya IP Office. Applicable test cases were completed successful and passed.

10. Additional References

This section references the product documentation relevant to these Application Notes.

Documentation for Avaya IP Office can be found at http://support.avaya.com.

[1] *Administering Avaya IP Office Platform with Manager*
[2] *Using IP Office Platform Server Edition*
[3] *WLAN 9100: How To Configure Wireless Distribution System*

Documentation for Phybridge products may be found at http://phybridge.com.

SJW; Reviewed:
SPOC 6/2/2016

Solution & Interoperability Test Lab Application Notes
©2016 Avaya Inc. All Rights Reserved.

12 of 12
PoLRE-AP9100