



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for Phybridge UniPhyer with Avaya IP Office – Issue 0.1**

### **Abstract**

These Application Notes describe the configuration steps required for the Phybridge UniPhyer LAN appliance to interoperate with Avaya IP Office. In the compliance testing, the Phybridge UniPhyer leveraged the existing single-pair telephony wiring to provide dedicated Ethernet voice path and Power over Ethernet to Avaya IP Telephones connected to Avaya IP Office.

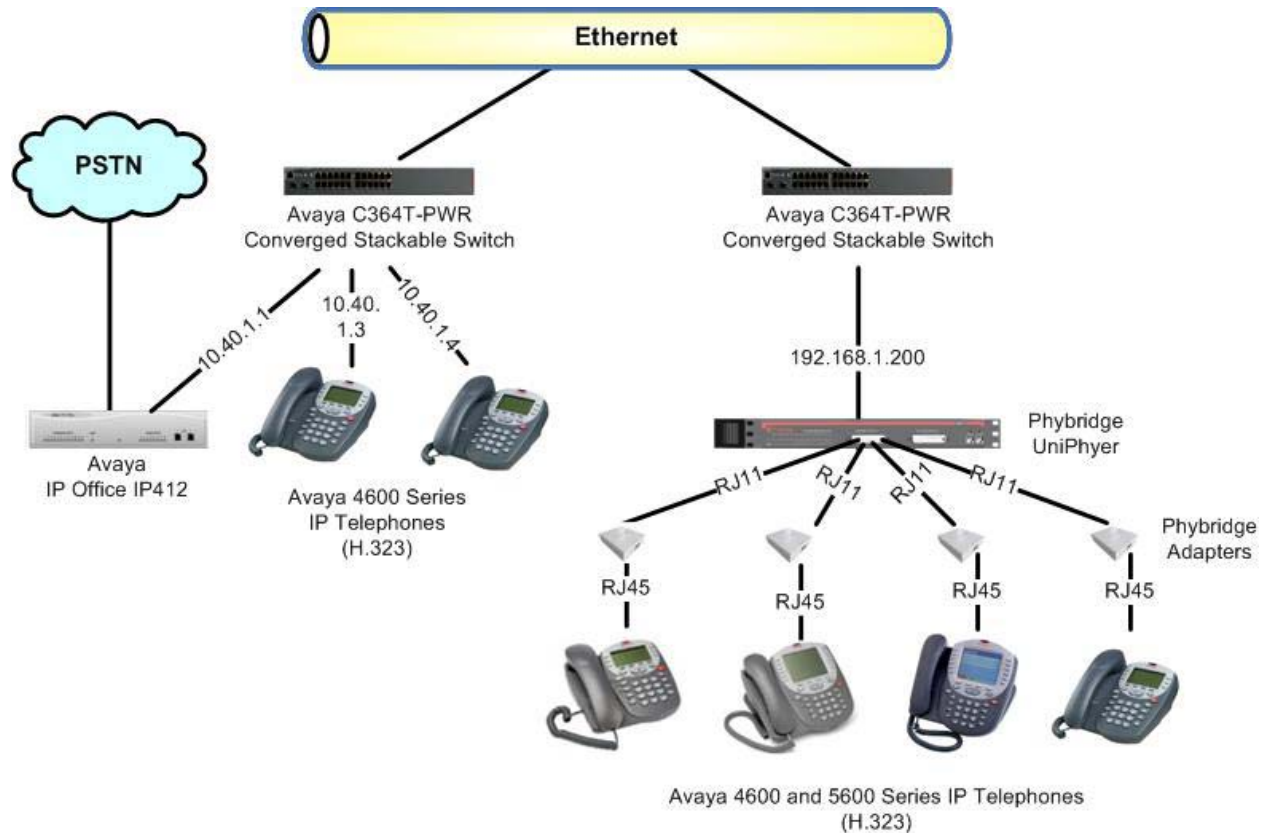
Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

The Phybridge UniPhyer is a LAN appliance that leverages the existing single-pair telephony wiring to provide dedicated Ethernet voice path and Power over Ethernet to Avaya IP Telephones.

In the test configuration shown in **Figure 1**, four digital telephones on Avaya IP Office were replaced with Avaya IP Telephones by leveraging the existing RJ11 cabling. For each station user, one end of the RJ11 cable was changed to connect to the Phybridge UniPhyer instead of the Digital Line module on Avaya IP Office, and the other end of the RJ11 cable was connected to a Phybridge Adapter. For each Phybridge Adapter, there was a RJ45 cable connection to an Avaya IP Telephone.

The Phybridge UniPhyer provided power to the connected Avaya IP Telephones, and acted as a straight pass through and transparent to these Avaya IP Telephones in terms of the telephones' network settings.



**Figure 1: Phybridge UniPhyer with Avaya IP Office**

## 2. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office IP412	4.2 (4)
Avaya 4600 & 5600 Series IP Telephones (H.323)	2.8870
Phybridge UniPhyer	0.77B03
Phybridge Adapters	xxx

### 3. Configure Avaya IP Office

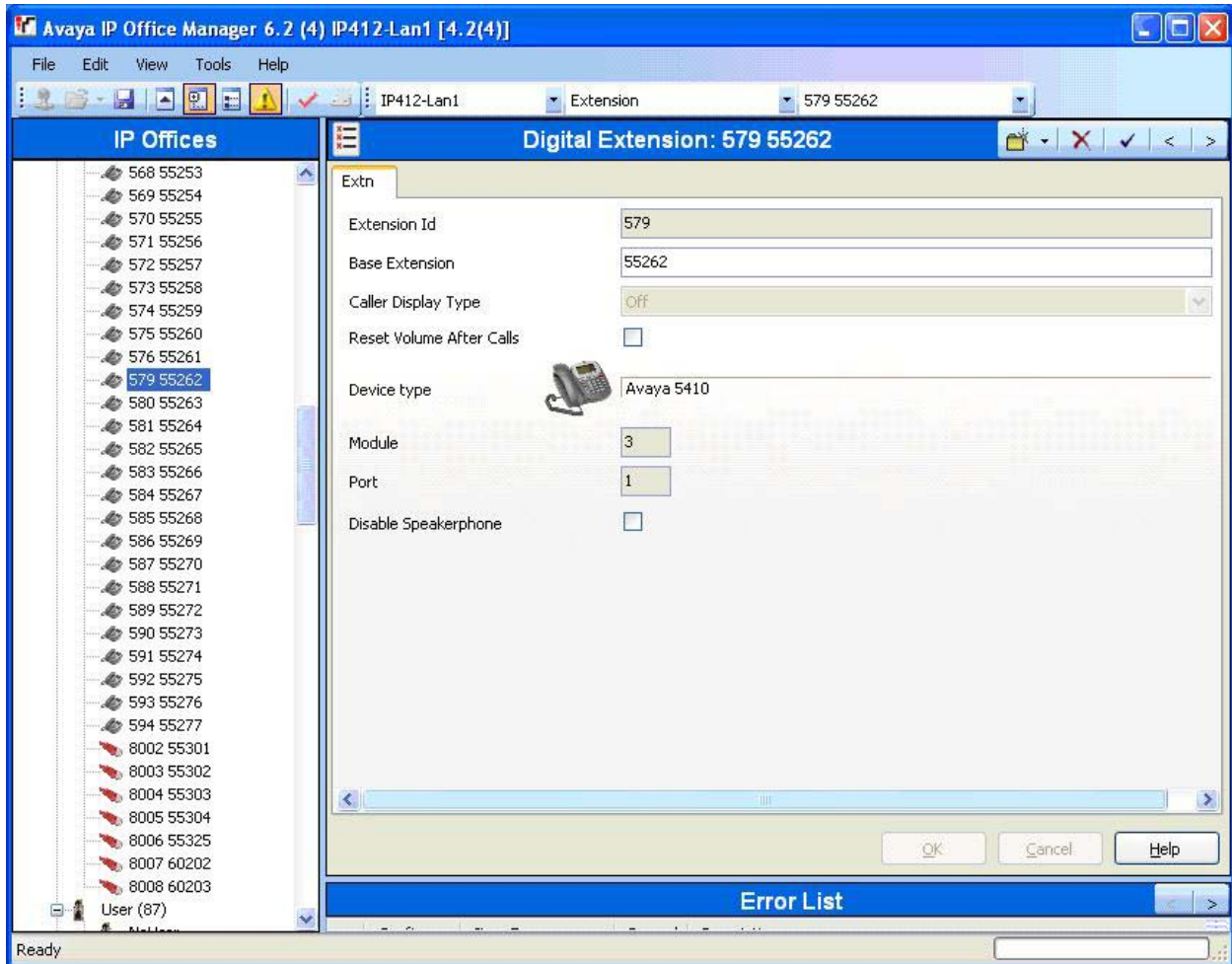
This section provides the procedures for configuring Avaya IP Office. The procedures fall into the following areas:

- Pre-configuration
- Administer extensions

#### 3.1. Pre-Configuration

From a PC running the Avaya IP Office Manager application, select **Start > Programs > IP Office > Manager** to launch the Manager application. Select the proper IP Office system, and log in with the appropriate credentials.

Prior to the start of test, four digital stations were connected to Avaya IP Office with extensions 55262-55265, as shown below.

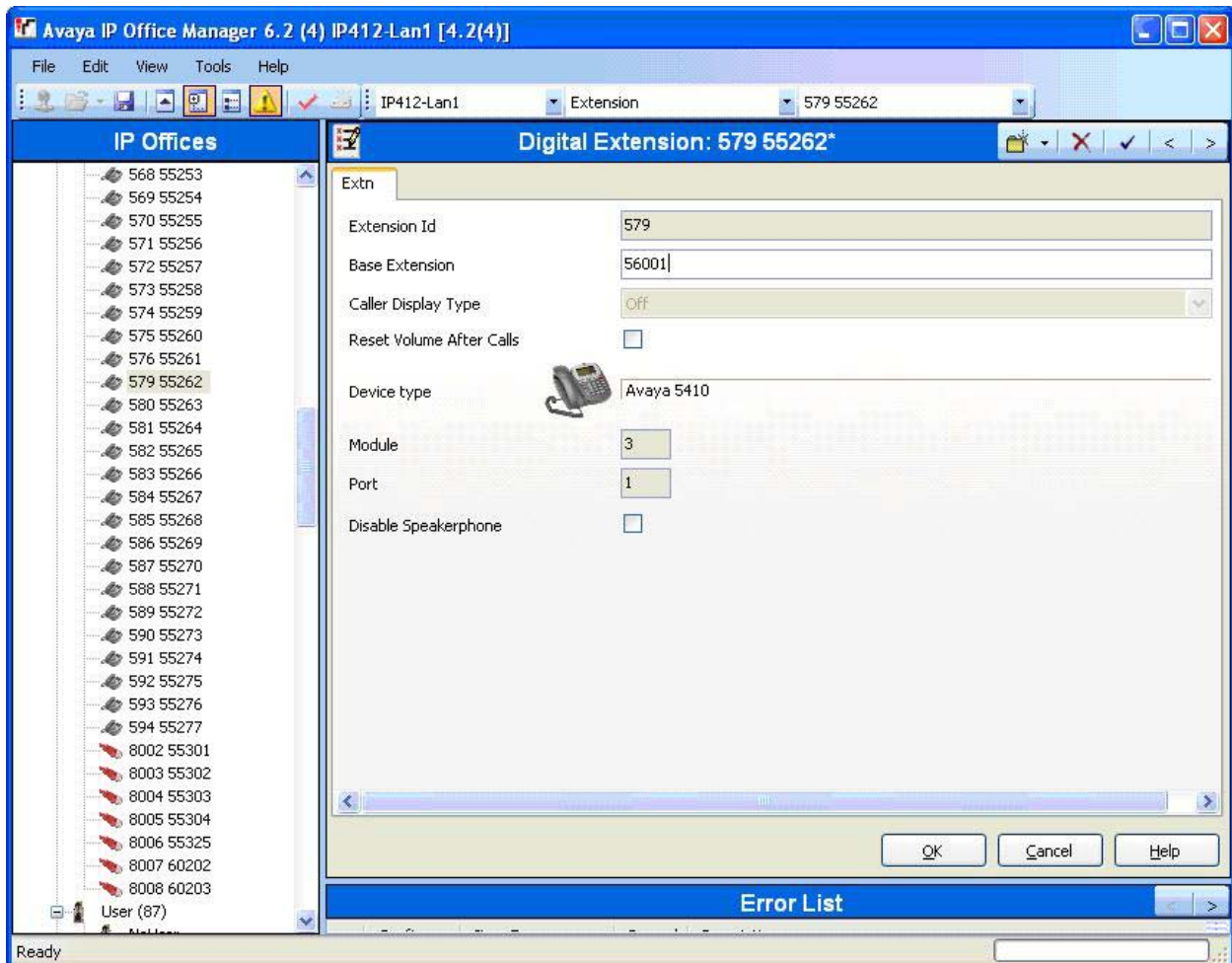


## 3.2. Administer Extensions

After installation of the Phybridge UniPhyer, each digital telephone was replaced with an Avaya IP Telephone, and the RJ11 cables were reconnected as described in **Section 1**. In order for the users to retain the same extension numbers for use with the new Avaya IP Telephones, the extension associated with the old digital ports need to be modified.

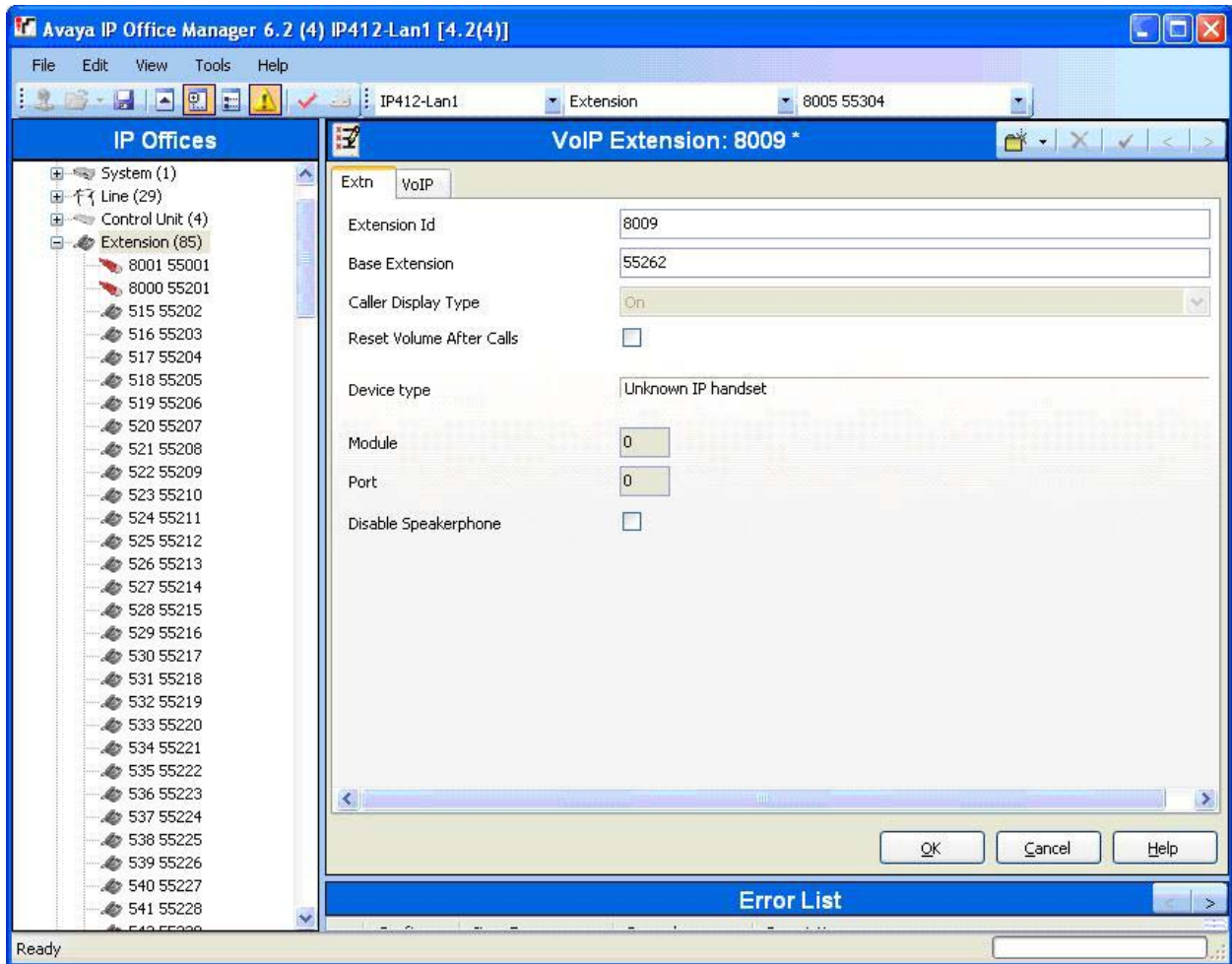
From the configuration tree in the left pane, select **Extension** followed by the specific extension corresponding to the first applicable analog or digital port, in this case “579 55262”. Change the **Base Extension** to an available extension, in this case “56001”, so that the old extension “55262” can be reused for the new Avaya IP Telephone.

Note that if the analog or digital port will not be used going forward, then the old extension can be removed by right-click on **Extension** and select **Delete**.



From the configuration tree in the left pane, right-click on **Extension** and select **New > VoIP Extension** from the pop-up list to add a new VoIP extension. Enter the old extension “55262” into the **Base Extension** field, as shown below.

Repeat this section to modify the extension number for all applicable analog and digital ports, and add the extensions back as VoIP extensions. In the compliance testing, four digital extension of 55262-55265 were changed over to 56001-56004, and the old 55262-55265 extension were reused for the new Avaya IP Telephones.



## 4. Configure Phybridge UniPhyer

This section provides the procedures for configuring Phybridge UniPhyer. The procedures fall into the following areas:

- Launch web interface
- Administer board IP

### 4.1. Launch Web Interface

Access the Phybridge UniPhyer web interface by using the URL “http://ip-address” in an Internet browser window, where “ip-address” is the IP address of the Phybridge UniPhyer. Note that the default IP address of the Phybridge UniPhyer management port is “192.168.1.1”. The **Web Interface Login** screen is displayed as shown below. Log in using the appropriate credentials.



IPDSLAM ADSL2<sup>+</sup>

Web Interface Login

Username:

Password:

Sign in

- Level 1: SuperUser, R/W Management all
- Level 2: Engineer, R/W (Disabled from User Account)
- Level 3: Guest, Read only

## 4.2. Administer Board IP

In the subsequent screen, select **System > Board IP Setup** to display the **Board IP Setup** screen. Modify the **IP Address** and **Subnet Mask** fields under the **GBE (In Band)** and **MGMT (Out Band)** sections to match the network configuration. Click **Modify**, followed by **RESTART**.

Note that the **MGMT (Out Band)** configuration is optional, and needs to be on a different subnet from the **GBE (In Band)** if used.

The screenshot shows the 'Board IP Setup' configuration page. On the left is a navigation menu with categories like System and Bridge. The main content area is titled 'Board IP Setup' and contains several sections:

- Buttons:** 'Modify' and 'RESTART'.
- Address Management:** A table with two columns: 'GBE (In Band)' and 'MGMT (Out Band)'.
 

	GBE (In Band)		MGMT (Out Band)
IP Address	192 . 168 . 1 . 200	IP Address	192 . 168 . 3 . 1
Subnet Mask	255 . 255 . 255 . 0	Subnet Mask	255 . 255 . 255 . 224
- GBE (In Band) Settings:**
  - I/O Limit VID:
  - Limit VID:
  - Priority: 0
- MGMT (Out Band) Settings:**
  - DHCP Client: Disable DHCP Client
  - DHCP Timeout: 60
  - DHCP Lease: 4294967295
- Table:**

HTTP Port	MGMT Speed	Remote IP	System Name
80	Auto Negotiate	192.168.1.10	Uniphyer-01
- Footer:** A red warning message: 'Modify the configuration may cause the connection loss'.

## **5. Interoperability Compliance Testing**

The interoperability compliance test included feature and serviceability testing.

The feature testing included firmware downloads, registration, audio codec, media shuffling, basic call, hold/reconnect, conference, transfer, display, call forwarding, DTMF, button activation/deactivation, short code activation/deactivation, and message waiting lamp scenarios.

The serviceability testing focused on verifying the ability of Phybridge UniPhyer to recover from adverse conditions, such as disconnecting and reconnecting the Ethernet cables to the Phybridge UniPhyer and to the Avaya IP Telephones.

### **5.1. General Test Approach**

All tests were performed manually. The focus was on verifying the Avaya IP Telephones connected via the Phybridge UniPhyer can function seamlessly.

### **5.2. Test Results**

All feature and serviceability tests were completed. The one observation noted from the compliance test is that the Avaya IP Telephones connected to the Phybridge UniPhyer must use the HTTP method for firmware downloads.

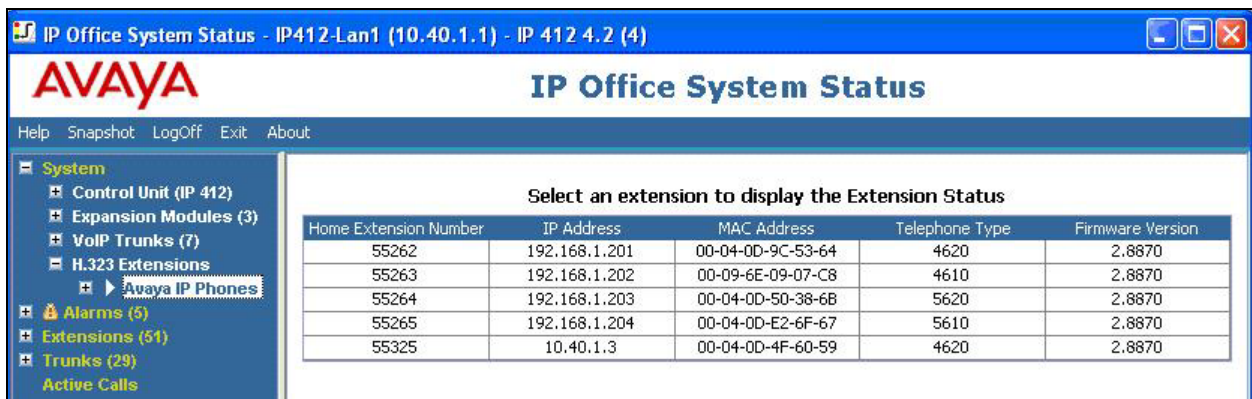
## 6. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and the Phybridge UniPhyer.

### 6.1. Verify Avaya IP Office

From a PC running the Avaya IP Office System Status application, select **Start > Programs > IP Office > System Status** to launch the application. Log in with the appropriate credentials.

In the subsequent **IP Office System Status** screen, select **System > H.323 Extensions > Avaya IP Phones** from the left pane, to display a list of registered IP endpoints. Verify that there is an entry for each Avaya IP Telephone from **Section 3.2**, as shown below.



The screenshot displays the Avaya IP Office System Status application interface. The title bar reads "IP Office System Status - IP412-Lan1 (10.40.1.1) - IP 412 4.2 (4)". The main window features the Avaya logo and the title "IP Office System Status". A menu bar includes "Help", "Snapshot", "LogOff", "Exit", and "About". On the left, a navigation pane shows a tree structure under "System": "Control Unit (IP 412)", "Expansion Modules (3)", "VoIP Trunks (7)", "H.323 Extensions", and "Avaya IP Phones" (which is selected). Below the navigation pane, a table titled "Select an extension to display the Extension Status" lists registered IP endpoints.

Home Extension Number	IP Address	MAC Address	Telephone Type	Firmware Version
55262	192.168.1.201	00-04-0D-9C-53-64	4620	2.8870
55263	192.168.1.202	00-09-6E-09-07-C8	4610	2.8870
55264	192.168.1.203	00-04-0D-50-38-6B	5620	2.8870
55265	192.168.1.204	00-04-0D-E2-6F-67	5610	2.8870
55325	10.40.1.3	00-04-0D-4F-60-59	4620	2.8870

## 6.2. Verify Phybridge UniPhyer

From the Phybridge UniPhyer web interface, select **System > ADSL Port Services**. The **Port Activity View** screen is displayed. Verify that all physically connected voice ports are in the **ON** state, as shown below.

UMAP2110 IPDSLAM ADSL2+

ADSL Port Service

Admin: ON Service Profile: 2 Spectrum Profile: 2 TCA Profile: 2 All  Modify

The Service Profile range from 1 to 120  
The Spectrum Profile range from 1 to 120  
The TCA Profile range from 1 to 64

Port 01~12 Query

Select	Port	Admin Status	Current Status	Service Profile	Spectrum Profile	TCA Profile
<input checked="" type="radio"/>	1	ON	ON	2	2	2
<input type="radio"/>	2	ON	OFF	2	2	2
<input type="radio"/>	3	ON	ON	2	2	2
<input type="radio"/>	4	ON	ON	2	2	2
<input type="radio"/>	5	ON	ON	2	2	2
<input type="radio"/>	6	ON	OFF	2	2	2
<input type="radio"/>	7	ON	OFF	2	2	2
<input type="radio"/>	8	ON	OFF	2	2	2
<input type="radio"/>	9	ON	OFF	2	2	2
<input type="radio"/>	10	ON	OFF	2	2	2
<input type="radio"/>	11	ON	OFF	2	2	2
<input type="radio"/>	12	ON	OFF	2	2	2

[ SERVICE PROFILE | SPECTRUM PROFILE | TCA PROFILE ]

## 7. Support

Technical support on Phybridge UniPhyer can be obtained through the following:

- **Phone:** (888) 901-3633
- **Email:** [techsupport@phybridge.com](mailto:techsupport@phybridge.com)

## 8. Conclusion

These Application Notes describe the configuration steps required for the Phybridge UniPhyer to interoperate with Avaya IP Office via Avaya IP Telephones. All feature and serviceability tests were completed with one observation noted in **Section 5.2**.

## 9. Additional References

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

- *IP Office 4.2 Documentation CD*, August 2008, available at <http://support.avaya.com>.
- *Avaya DevConnect Partner Solutions Guide*, **available xxx**.
- *UniPher Installation Manual*, **available xxx**.

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