



*Simply Connected*

# Tech Note: Configuring Luxul Xen™ Access Points for Use as a Wireless Bridge When Running Firmware Version 1.0

Version 1.0

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## INTRODUCTION

### Background

Luxul Xen™ access points support Bridging for point-to-point and point-to-multipoint operation. However, in XenSmart™ Firmware release version 1.0, Bridge Mode is not yet displayed in the interface and will be added into the next release.

### Scope/Purpose

With Bridge Mode being temporarily unavailable for configuration in the XenSmart user interface, this document explains a workaround for enabling and configuring two Luxul Xen Access Points for use in bridge mode with client access. This document assumes that you have a basic knowledge of TCP/IP settings and IP networking.

### Setup Instructions

Follow the instructions below to configure your Luxul Xen access points as a wireless bridge:

1. First, determine which of your Luxul Xen Access Points will be used as the Root Bridge. This will be the AP with the Internet feed that is connected directly to the LAN network.
2. Open the XenSmart management interface of the Luxul Xen AP by entering the default address. (For help determining the default address, refer to the Quick Install Guide provided with your AP)
3. With the XenSmart management interface open, configure the Luxul Xen AP for client access per the example below, using the designated IP address and your own SSID:

#### IP Address

DHCP Client	<input type="checkbox"/>	Disabled ▾
IP Address	<input type="checkbox"/>	192.168.0.10
Subnet Mask	<input type="checkbox"/>	255.255.255.0
Default Gateway	<input type="checkbox"/>	192.168.0.1

#### Wireless Settings

Network Name (SSID)	<input type="checkbox"/>	LuxulXenMartin
Security Mode	<input type="checkbox"/>	WPA/WPA2 Auto ▾
WPA2 Passphrase	<input type="checkbox"/>	11223344

#### Administrator Login

Password	<input type="checkbox"/>	•••••
Confirm Password	<input type="checkbox"/>	•••••
<input type="button" value="Save"/> <input type="button" value="Reboot"/> <input type="button" value="Cancel"/>		

4. Click Save and Reboot to retain the settings.
5. Once the Luxul Xen AP has rebooted, log back into the XenSmart interface to obtain the Wireless MAC address. To do this click Status > Basic Status in the left hand menu, at which point your screen should look similar to that shown below. Write down the MAC Address under the Wireless Settings section as it will be required for configuring the Bridge:

- Quick Setup
- ▶ Wireless
- ▶ Maintenance
- ▼ Status
  - Basic Status
  - Client List

### System Information

Firmware Version 1.0  
Hardware Model XAP 1010  
Uptime 01:20:57

### Ethernet Settings

IP Address 192.168.0.10  
Subnet Mask 255.255.255.0  
Default Gateway 192.168.0.1  
MAC Address A4:13:4F:FF:FF:FF

### Wireless Settings

Wireless Mode 11NGHT20  
Channel Width 1  
Channel 6  
MAC Address 00:03:7F:BE:F0:23

### Primary SSID

Network Name (SSID) LuxuXenMartin  
Security WPA

6. Now, we will access a hidden page that can be used for the Bridge settings. To do so, in your Web Browser address bar enter **cgi-bin/VAPcfg?INDEX=2** AFTER the IP Address and press enter. You should now see a page that looks like this:

Virtual AP/Station Configuration for VAP 2

ESSID String

VLAN ID  VLAN Bridge

VAP Mode  Access Point  Station  WDS Access Point  WDS Station

Root AP Mac Address

Security Settings

Open No Security Applied

WEP Simple WEP Security (64 or 128 bit hardware key)

MODE:  Open  Shared  Auto

Key 1   Primary Key

Key 2   Primary Key

Key 3   Primary Key

Key 4   Primary Key

WPA Enhanced Security for Personal/Enterprise

MODE:  802.1x  WPA  WPA 2  Auto

CYPHER:  TKIP  CCMP  Auto

WPA Rekey Int:  WPA Master Rekey:

WEP Rekey Int:  (802.1x mode Only)

7. We can now configure the Bridge settings. To do so, set ONLY the following:

- ESSID String: This is the SSID that will connect the Bridge. This can be any name except the name configured for the wireless network in step 2.
- WDS Station: Turns on Bridge Mode.
- Root AP Mac Address: This is the MAC Address we recorded in step 4
- WPA: Turns on the secure connection for the Bridge
- MODE: Sets the security used by the Bridge (WPA 2 is recommended)
- CYPHER: Sets the encryption type used (CCMP recommended)
- Personal Shared Key: The passphrase used by the secure bridge connection. It must be a minimum of 8 characters.

After completing these setting, your page should look similar to the following:

AP/Station Configuration for VAP 2

String

ID  VLAN Bridge

Mode  Access Point  Station  WDS Access Point  WDS Station

Root AP Mac Address

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Security Settings

Security:  No Security Applied

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Simple WEP Security (64 or 128 bit hardware key)

MODE:  Open  Shared  Auto

Key 1   Primary Key

Key 2   Primary Key

Key 3   Primary Key

Key 4   Primary Key

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Enhanced Security for Personal/Enterprise

MODE:  802.1x  WPA  WPA 2  Auto

CYPHER:  TKIP  CCMP  Auto

WPA Rekey Int:  WPA Master Rekey:

WEP Rekey Int:  (802.1x mode Only)

## Setting up the Second Luxul Xen Access Point

To configure the Access Point that will bridge to the Root Access Point, follow steps 1-7 and enter the same data. Everything should be identical except for the IP Address of the second Luxul Xen AP. See the following screens:

### IP Address

DHCP Client  Disabled

IP Address

Subnet Mask

Default Gateway

### Wireless Settings

Network Name (SSID)

Security Mode

WPA2 Passphrase

### Administrator Login

Password

Confirm Password

Virtual AP/Station Configuration for VAP 2

ESSID String   
 VLAN ID  VLAN Bridge   
 VAP Mode:
  Access Point
  Station
  WDS Access Point
  WDS Station  
 Root AP Mac Address

Security Settings

Open No Security Applied

WEP Simple WEP Security (64 or 128 bit hardware key)  
 MODE:
  Open
  Shared
  Auto  
 Key 1   Primary Key  
 Key 2   Primary Key  
 Key 3   Primary Key  
 Key 4   Primary Key

WPA Enhanced Security for Personal/Enterprise  
 MODE:
  802.1x
  WPA
  WPA 2
  Auto  
 CYPHER:
  TKIP
  CCMP
  Auto  
 WPA Rekey Int.  WPA Master Rekey:   
 WEP Rekey Int.  (802.1x mode Only)  
 Personal Shared Key  
 PSK KEY

## Troubleshooting and Support

After completing the above steps, your Luxul Xen Access Points should be operating in Bridge Mode. If you experience any difficulty after completing this setup, please contact Luxul Support with any issues or questions.

### Phone Support:

801-822-5450

### Email:

support@luxul.com

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