

Creating a Transparent Wireless Bridge With Ubiquiti AirOS

This guide will walk you through the steps of sharing (bridging) an internet connection in one building, and extending that same internet to another building. The same setup can be used to connect local area networks (LAN's) in two different buildings. Since this configuration is "transparent", it is a bridged connection and requires no routing.

Things that can be accomplished using this guide:

- Sharing a neighbors internet connection from across the street (must have their permission and must be legal from there provider).
- Bridging your internet/local area network with another building.
- Making a standard layer 2 transparent bridge for joining two LAN networks.

Items you will need:

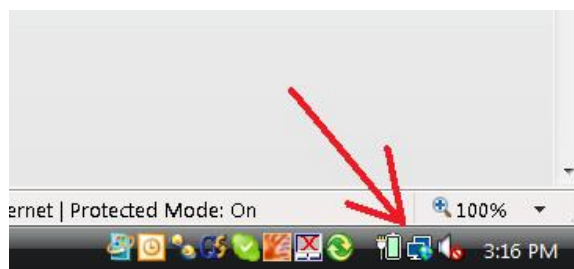
- Two UBNT devices such as NanoStation, PowerStation, PicoStation etc.
- Ethernet Cables for each device.
- Location to mount the units (either on a pole outside or using the UBNT Window Mounts).
- Line of Site between each mounting location.
- A PC or Laptop to do the configuration of the units.

Step 1: Connecting the UBNT device to your computer

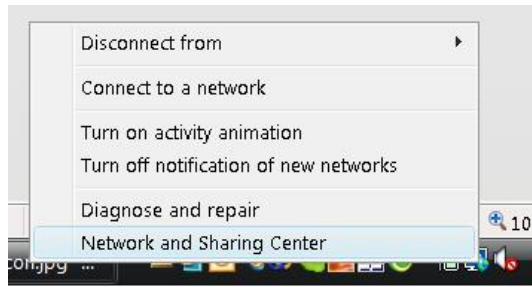
- Plug the provided power adapter into the wall, then connect the other side to the PoE splitter.
- Connect an Ethernet cable to the UBNT Device, then the other side to the PoE port on the PoE splitter.
- Next, connect a second Ethernet cable into the PoE splitters LAN port, then into the back of your computer.

Step 2: Configure your Windows computer to talk UBNT device

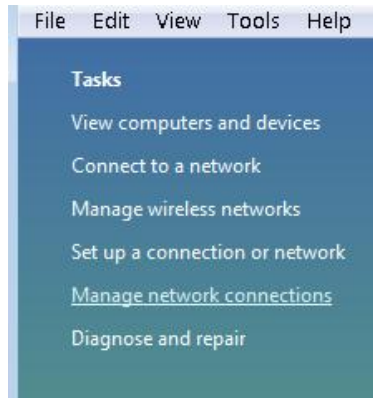
- Right click on your Network icon in the bottom right hand corner of the desktop (System Tray).



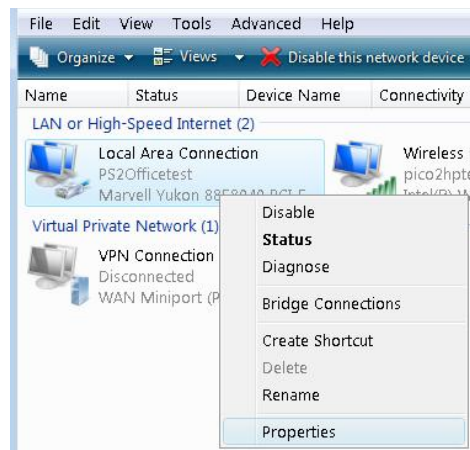
- Select the Network and Sharing option.



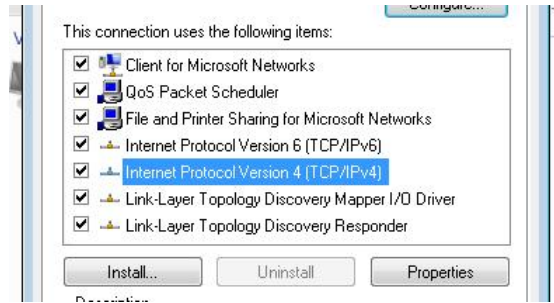
C) Select the Manage Network Connections link



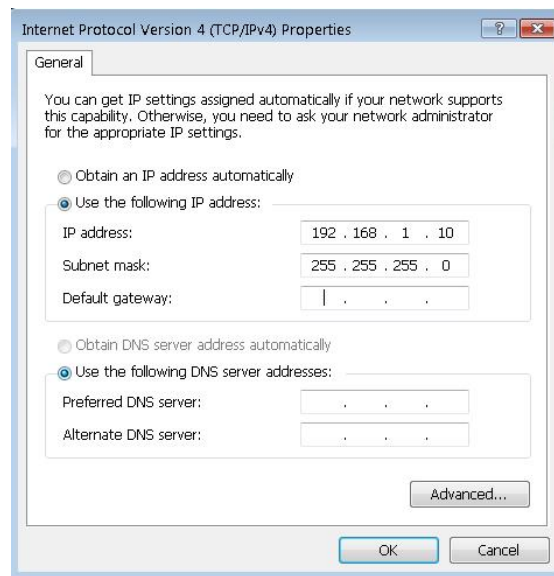
D) Right click on Local Area Connection and select the Properties link



E) Double click on the Internet Protocol version 4 option



F) Type in the information as seen to the right, then hit ok, and ok once more to return you to your desktop. Your system is now properly configured to talk with the UBNT device.



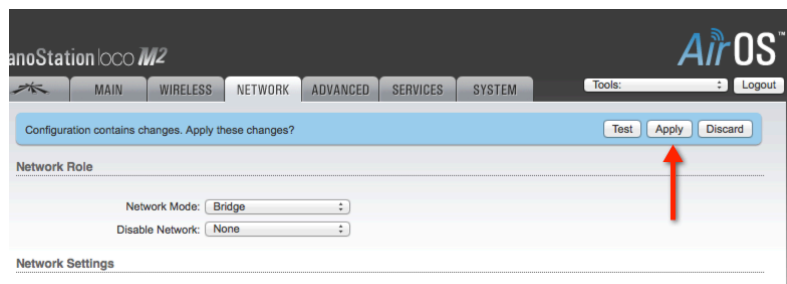
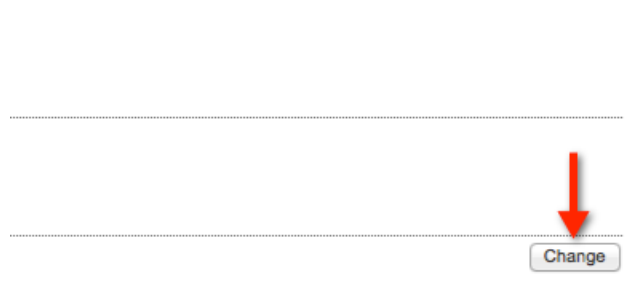
Step 3: Log Into the Ubiquiti Device

A) Launch your Web Browser. We have seen problems with any browser besides Internet Explorer so that is recommended.

B) Type this address into the address bar: 192.168.1.20

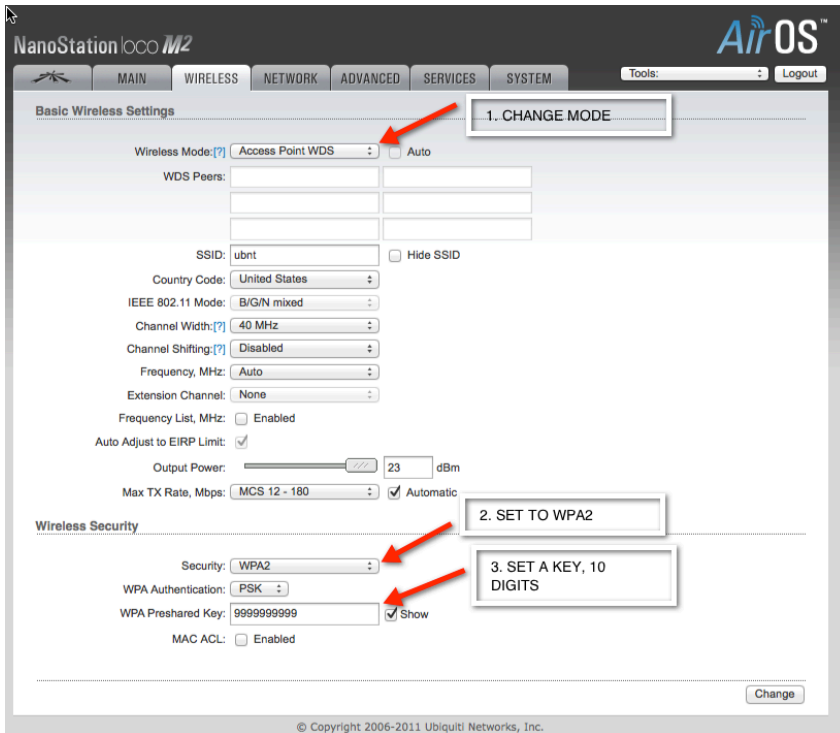
C) A pop up window will appear and you will enter ubnt for both the username and password field.

Note: After every configuration change, you will need to click the Change button and then the Apply button.



Step 4: Configure the Access Point (AP) End

Click the Wireless tab and set as follows (Wireless Security section is optional):



B) Click the Network tab and set as follows:

The screenshot displays the NanoStation loco M2 AirOS configuration interface. The 'NETWORK' tab is selected. The 'Network Role' section shows 'Network Mode' set to 'Bridge' and 'Disable Network' set to 'None'. A red arrow points to the 'Bridge' dropdown, with a callout box stating '4. LEAVE IN BRIDGE MODE'. The 'Network Settings' section shows 'Bridge IP Address' set to 'Static' (indicated by a selected radio button). A red arrow points to the 'Static' radio button, with a callout box stating '5. SET AS REQUIRED'. Other settings include IP Address: 192.168.1.21, Netmask: 255.255.255.0, Gateway IP: 192.168.1.1, MTU: 1500, and 'Auto IP Aliasing' checked. Below are sections for 'VLAN Network Settings', 'Firewall Settings', and 'Static Routes', each with an 'Enable' checkbox and a 'Configure...' button. A 'Change' button is located at the bottom right of the configuration area.

Step 5: Configure the Station End

A) Click the Wireless tab and set as follows (Wireless Security section is optional):

The screenshot displays the configuration interface for a NanoStation M2. The 'WIRELESS' tab is selected. The 'Basic Wireless Settings' section includes fields for Wireless Mode (Station WDS), SSID (ubnt), Lock to AP MAC (00:27:22:4A:FC:53), Country Code (United States), IEEE 802.11 Mode (B/G/N mixed), Channel Width (Auto 20/40 MHz), Channel Shifting (Disabled), Frequency Scan List (Disabled), and Auto Adjust to EIRP Limit (checked). The Output Power is set to 23 dBm and Max TX Rate is MCS 12 - 78 (180) Mbps with Automatic checked. The 'Wireless Security' section shows Security set to WPA2, WPA Authentication set to PSK, and a WPA Preshared Key of 9999999999 with the Show checkbox checked. Three red arrows point to the Wireless Mode, Security, and WPA Authentication dropdown menus, which are highlighted with callout boxes: '1. CHANGE MODE', '2. SET TO WPA2', and '3. SET A KEY, 10 DIGITS' respectively. A 'Change' button is located at the bottom right of the configuration area.

B) Click the Network tab and set as follows:

NanoStation loco M2 AirOS™

MAIN WIRELESS NETWORK ADVANCED SERVICES SYSTEM Tools: Logout

Network Role

Network Mode: Bridge
Disable Network: None

Network Settings

Bridge IP Address: DHCP Static
IP Address: 192.168.1.21
Netmask: 255.255.255.0
Gateway IP: 192.168.1.1
Primary DNS IP:
Secondary DNS IP:
MTU: 1500
Spanning Tree Protocol:
Auto IP Aliasing:
IP Aliases: Configure...

VLAN Network Settings

Enable VLAN:

Firewall Settings

Enable Firewall: Configure...

Static Routes

Static Routes: Configure...

Change

Once the devices have been configured and confirmed that they are working, you may wish to change the IP addresses to coincide with your network addressing scheme.