Application Note:

xPico 200 Series
Layer 2 Wi-Fi to Ethernet Bridge

Intellectual Property

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Disclaimer

Revision History

Date	Rev.	Comments
February 2021	A	Initial document.

For the latest revision of this product document, please check our online documentation at www.lantronix.com/support/documentation.

Overview

This document describes using two xPico 200 Series modules as a Layer 2 Ethernet to Wi-Fi bridge configuration. The following example uses a standard private LAN/WLAN Layer 3 configuration but the xPico firmware will allow the Layer 2 traffic to pass through the network.

Figure 1 illustrates one xPico 200 series module (Module 1) configured as an AP to ETH bridge and the other (Module 2) configured as a WLAN to ETH bridge. This design can be used when it is not possible to run an Ethernet cable in a use case or where certain Layer 2 devices are used to send raw Ethernet frames (some video cameras).
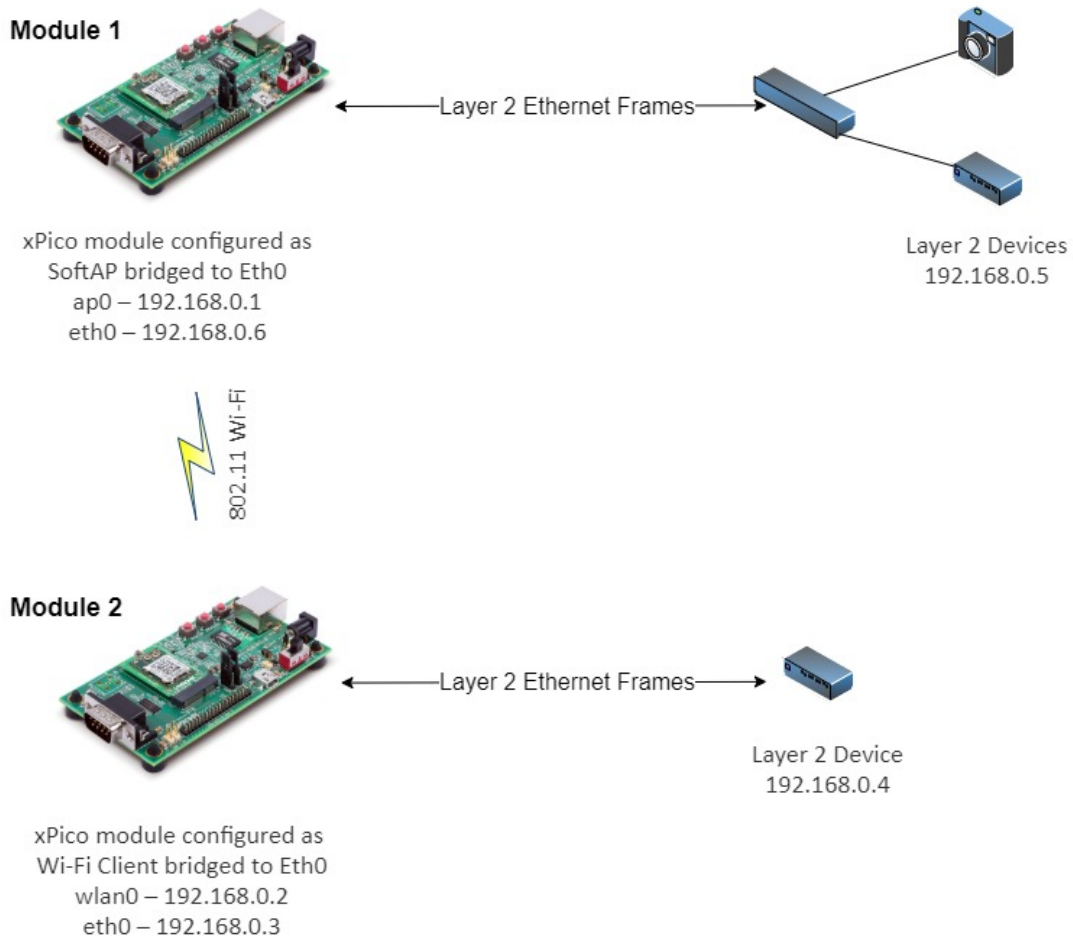

Figure 1: Example Layer 2 Ethernet to Wi-Fi bridge configuration

Example Hardware and Software Used

In this example, the following are used:

- Two xPico 200 Series Evaluation Kits
- Layer 2 Ethernet frame generator

Web UI Configuration

The WLAN profile configuration in this section refers to xPico Module 2 as shown in Figure 1.

WLAN Profile configuration

The WLAN Profile configuration is applied to the xPico 200 module that has wlan0 enabled (Module 2).

You have the option of setting up a WLAN profile as shown in Figure 2 or using the QuickConnect option once the ap0 settings are applied.

The "Network Name" here must match the SSID in the Access Point ap0 Configuration on the other module.

This WLAN configuration example uses no security so authentication is not required. Security settings are allowed but must match between this and the Access Point ap0 Configuration on the other module.

Figure 2: WLAN Profile

Network Interface Configurations – xPico 200 operating as AP to ETH bridge

The Network Interface configuration in this section refers to xPico Module 1 as shown in Figure 1.

AP0 configuration

Configure the ap0 Interface settings on xPico Module 1 as shown in Figure 3.

Note that this will be a point to point IP connection without a gateway.

Figure 3: ap0 interface configuration

Configure the ap0 Link settings on xPico Module 1 as shown in Figure 4.

Figure 4: ap0 link configuration

ETH0 configuration

Configure the eth0 settings on xPico Module 1 as shown in Figure 5.

Figure 5: eth0 configuration

WLAN0 configuration

Configure the wlan0 settings on xPico Module 1 as shown in Figure 6.

Figure 6: wlan0 configuration

Bridge configuration

Configure the bridge settings on xPico Module 1 as shown in Figure 7.

Figure 7: Bridge configuration

Network Interface Configurations – xPico 200 operating as WLAN to ETH bridge

The Network Interface configuration in this section refers to xPico Module 2 as shown in Figure 1.

AP0 config

Configure the ap0 settings on xPico Module 2 as shown in Figure 8.

Note that this will be a point to point IP connection without a gateway.

Figure 8: ap0 configuration

ETH0 configuration

Configure the eth0 settings on xPico Module 2 as shown in Figure 9.

Figure 9: eth0 configuration

WLAN0 configuration

Configure the wlan0 settings on xPico Module 2 as shown in Figure 10.

Figure 10: wlan0 configuration

Bridge configuration

Configure the bridge settings on xPico Module 2 as shown in Figure 11.

Figure 11: Bridge configuration