

Connecting the LAN-Cell 3 to a MiFi or Wi-Fi Access Point

Technote LCTN3012

Proxicast, LLC 312 Sunnyfield Drive Suite 200 Glenshaw, PA 15116

1-877-77PROXI 1-877-777-7694 1-412-213-2477

Fax: 1-412-492-9386

E-Mail: <u>support@proxicast.com</u>

Internet: www.proxicast.com © Copyright 2013, Proxicast LLC. All rights reserved.

Proxicast is a registered trademark and LAN-Cell, and LAN-Cell Mobile Gateway are trademarks of Proxicast LLC. All other trademarks mentioned herein are the property of their respective owners.

This Technote applies to LAN-Cell models:

LAN-Cell 3: LC3-52U

Document Revision History:

Date	Comments
May 6, 2012	First release



Introduction

The Proxicast LAN-Cell 3 has the ability to function as a Wi-Fi "client" and connect to any existing Wi-Fi access point and use that connection as one of its wide-area network (WAN) interfaces.

This feature is useful in situations where there is an existing Wi-Fi network available at a location, when the LAN-Cell is temporarily moved to a Wi-Fi-enabled area, or for connecting to devices such as MiFi's, JetPack's, or other 802.11 compatible mobile hotspot equipment. The Wi-Fi WAN connection is fully supported by the LAN-Cell's load-balancing and fail-over features. It is also available even if the LAN-Cell is functioning as Wi-Fi Access Point to other wireless devices.

This Technote documents how to configure the Wi-Fi WAN Client feature on the LAN-Cell 3. Please consult the *LAN-Cell 3 User's Guide* for more information. This Technote is for illustration purposes only.

Example Network Topology



Figure 1: Example Network Topology

Usage Notes

- Some MiFi devices (such as the MiFi 2200, JetPack 4620L and JetPack 5510L) can be directly tethered to the LAN-Cell 3's USB port and used as a cellular modem. See the *LAN-Cell 3 Firmware Release Notes* and our online knowledgebase for more information on compatible models.
- The LAN-Cell 3's Access Point will use the same Wi-Fi channel as the Wi-Fi WAN connection.
- To enable inbound initiated (remote access) connections to the LAN-Cell, the external Wi-Fi access point and any upstream networks must be configured to permit inbound traffic. Some MiFi devices cannot be configured to allow inbound initiated traffic.
- The LAN-Cell 3 supports 802.11 b/g/n connections.
- This example was created using the Proxicast LAN-Cell 3 firmware version 5.2.0.



LAN-Cell Configuration

Many Wi-Fi access points default to use the 192.168.1.x subnet that is also the default for the LAN-Cell 3. You may need to change the LAN-Cell's IP address to a different subnet in order to use an existing Wi-Fi AP's subnet.

Change the LAN-Cell's LAN IP on the **Setup > LAN** screen (Figure 2). After changing the LAN IP, the LAN-Cell will reboot and the DHCP server will automatically be adjusted to the new subnet.

192.168.3.1
255.255.255.0 💌
Enable • Disable
1500 Bytes

Figure 2: Changing the LAN-Cell 3's IP Address

To enable the Wi-Fi WAN Client feature, the LAN-Cell 3's Wi-Fi radio must first be enabled. To reach this screen, select **Wireless > Basic** from the menu (Figure 3).

Wireless - Basic	
WLAN	
Wireless Connection	Enable Disable
Wireless Mode	B/G/N Mixed 💌
Transmission Power	100%
Wireless Channel	Channel 11 [2 462GHz] 💌
Wireless Isolation Between SSIDs	🔿 Enable 💌 Disable
WLAN - SSID 1 Wireless SSID	e Enable e Disable
Wireless SSID	e Enable Disable
Wireless Sold Name	PFOXICasit/1
Wireless SSID Broadcasting	C Enable P Disable
Wi-Fi Multimedia (WMM)	 Enable Disable
Wireless Isolation	 Enable Disable
Security Mode	WPA2 PSK (Pre-Shared Key)
Кеу	MySuperSecret
Encryption Method	AES

Figure 3: Enabling the LAN-Cell 3's Wi-Fi Radio

Select **Enable** to activate the LAN-Cell's Wi-Fi radio. You must also enable SSID1. If you do not wish to allow other Wi-Fi clients to access the LAN-Cell, disable SSID broadcasting and enable security on SSID1.



Next, configure the LAN-Cell's WAN for Wi-Fi Client Mode. Select **Setup > WAN** from the menu and scroll to the bottom section labeled **WAN (Ethernet)** (Figure 4).

WAN (Ethernet)	
WAN	😐 Enable 🛫 Disable
Connection Type	DHCP
Host Name	PPPoE
MTU	State IP Wi-Fr Client 25
Bigpond Login	 Enable Disable
Bigpond Login Server	New South Wales (61 9 192 13)
Bigpond Login User Name	
Bigpond Login Password	
PPTP VPN Client	🗢 Enable 🐱 Disable

Figure 4: Wi-Fi WAN Client Mode

Select Wi-Fi Client Mode from the <u>Connection Type</u> drop-down list. Note that enabling Wi-Fi Client Mode will disable the Ethernet WAN interface on the LAN-Cell 3.

After selecting Wi-Fi Client Mode, the screen will update with additional fields as shown in Figure 5.

WAN (Ethernet)		
WAN	🖷 Enable 💿 Dis	sable
Connection Type	Wi-Fi Ckent 🔻	
Target SSID		
Target BSSID (MAC)		
Wireless Channel	Channel 6 (2.437GHz)	
Extention Channel	Below	
Site Survey	Survey	
Security Mode	Disable	
PPTP VPN Client	🔿 Enable 💿 De	sable

Figure 5: Wi-Fi WAN Client Mode Fields

The easiest way to configure the necessary Wi-Fi settings is to use the **Survey** button and allow the LAN-Cell to detect the target access point. Clicking the Survey button will open a screen showing all of the access points that the LAN-Cell can currently "hear" (Figure 6). If the Site Survey results window is empty, click **Refresh** to rescan for available access points.



	Ŷ					
Chan	SSID	BSSID	Security Mode	Signal	ExtCH	Wireless M
5	WC-310	00.1b.39.10.e3.a8	WPA2P5K/AES	100	BELOW	11b/g/n
	Weaver	00:c0:ca:1c:e7:22	WPA1PSKWPA	20	BELOW	11b/g
11	Verizon-MiFi5510L-05CB	00:15:ff:59:05:cb	WPA2PSK/AES	81	BELOW	11b/g/n

Figure 6: Site Survey Results Window

Highlight the desired target access point and click the **Select** button. This will populate the LAN-Cell's Wi-Fi WAN screen with the correct parameters for connecting to the desired AP (Figure 7). If the target AP is password protected, you must enter the required password in the <u>Key</u> field on the Wi-Fi WAN screen.

WAN	💌 Enable 💿 Disable
Connection Type	Wi-Fi Client
arget SSID	Verizon-MiFi5510L-05CE
arget BSSID (MAC)	00:15 ff.59:05.cb
Vireless Channel	Channel 11 [2.462GHz]
xtention Channel	Below 💌
lite Survey	Survey
ecurity Mode	WPA2 PSK (Pre-Shared Key)
(ey	
Encryption Method	AES

Figure 7: Completed Wi-Fi WAN Client Settings

NOTE: If the target access point is not available when configuring the LAN-Cell, you may enter the required parameters manually. Consult with your AP's documentation or Information Technology Department for the required settings.

When completed, click the **Save Settings** button at the bottom of the screen. After several seconds, the LAN-Cell will begin to search for the target access point. Once discovered, it will associate to the AP and make a connection. You can observe the progress on the right-side status column (Figure 8) and in the LAN-Cell 3 log.





Figure 8: Successful Wi-Fi WAN Connection

At this point, the Wi-Fi WAN connection will function just like a wired Ethernet WAN connection. You may configure load balancing, fail-over and connectivity monitoring on the **Setup > WAN Advanced** screen.

###

