



Tracking Users without Authentication

First Network Group Inc
1-800-578-6381
www.network1.net



The DHCPatriot™ is a broadband subscriber authentication system designed to give network administrators the same visibility on DHCP networks they once had on dial networks.

Introduction

In the past, the only way to track users on the DHCPatriot system was to force user authentication at a captive portal web page. In fact, far in the past, this was the only option for setting up DHCP on the DHCPatriot system!

Today Standard DHCP is an option, and you do not have to have authentication setup on your DHCPatriot system at all if you do not want to. Some Internet Service Providers (ISPs) may be able to take advantage of a method that would allow them to avoid forcing the customers to remember a password and use the Captive Portal screen.

How is it done?

We can avoid using authentication but still track users by taking advantage of a feature of the DHCP Relay Agent. Most relay agents can be configured to insert circuit identifying information into the DHCP packet when it is relayed to the DHCP server. The original purpose of this was so that the relay agent would know which circuit to return the response upon. This has grown into being used to identify the customer circuit.

This circuit identifying information that is inserted by the relay agent is often referred to as "option 82" as it is DHCP option 82 in the packet. It should be noted that we are really talking about sub-option 1 of option 82 which is "Agent Circuit ID".

Requirements

Being able to use the circuit ID to identify the customer on the DHCPatriot system requires two things outside of the DHCPatriot system itself. The first is that the relay agent must support plain text option 82 content, meaning that the content of option 82 sub-option 1 (agent circuit id) must be plain ASCII text and not binary of some sort.

Examples of plain text supporting manufacturers of equipment that act as relay agents are Calix and Juniper Networks. At least one manufacturer does not support plain ASCII text which is Cisco.

The second is more easily dealt with in that a list of circuit IDs and at what location they terminate must be kept. Many ISPs will already have such a list for maintenance purposes.

The DHCPatriot System's Role

After the relay agent is configured to send option 82 sub-option 1 in plain ASCII text, the DHCPatriot system will automatically collect this data and store it with the session. No extra configuration is required on the DHCPatriot system. It will do this for both authenticated and standard networks. This identifying information being stored with the session will remove the requirement for authentication for network access (at least for identifying purposes). Because authentication is no longer required, the networks may at that point be setup as standard DHCP networks. This network type does not require authentication.

Sessions found using search sessions (Auth or Standard DHCP Actions -> Search Sessions) have a number "82" in each line that is a link. Clicking this link will reveal the option 82 information for that session as shown below.

MM/DD/YY	Hour	Minute	Option 82 data for dlink/84:c9:b2:68:6c:21 using 74.115.183.254 from session 413194dffdce07fab5c2923cc0c6e6b:			
	Username	MAC Address	IP Address	Circuit ID	Remo	
	dlink	84:c9:b2:68:6c:21	74.115.183.254	Ethernet12/vlan4/port6	NOT AVAILABLE	

Address	IP Address	Session Start	Session End	Length	Remain	Option82	Log
3:6c:21	74.115.183.254	2016-01-29 14:18:58 EST (-0500)	2016-03-18 21:06:24 EDT (-0400)	2 months	8 hours	82	View
c:51:59	74.115.183.251	2016-01-29 14:34:51 EST (-0500)	2016-03-18 19:00:07 EDT (-0400)	2 months	6 hours	82	View
c:51:11	74.115.183.249	2016-01-29 14:34:54 EST (-0500)	2016-03-18 19:00:05 EDT (-0400)	2 months	6 hours	82	View
c:51:57	74.115.183.252	2016-01-29 14:34:59 EST (-0500)	2016-03-18 19:00:04 EDT (-0400)	2 months	6 hours	82	View
c:51:13	74.115.183.245	2016-01-29 14:17:04 EST (-0500)	2016-03-18 18:44:45 EDT (-0400)	2 months	5 hours	82	View

Similarly, you can use option 82 information to find session(s) that were made from that circuit-id. For example, searching for "Ethernet12/vlan4/port6" will find any sessions associated with that circuit such as the one in the example above.

Summary

The DHCPatriot system can be used in a new way that maintains IP address tracking without actually having to collect user information from the user. The user doesn't have to remember a password to get online, and abuse complaints or subpoenas can still be serviced.

The relay agent enables this by sending plain text option 82 sub-option 1 circuit-id information in the DHCP packets. The DHCPatriot system stores this information with each session. The information can be retrieved from the session or can be directly searched for, both using the search session feature.

We at First Network Group like to make sure that there are always many ways to use our products and services. As always, if there are any questions or concerns please feel free to contact us!

How to Purchase

The DHCPatriot™ may be purchased direct, or through one of our reseller partners. If purchased direct, no discount from MSRP will be available.

To purchase through a reseller, please contact your reseller of choice. For a current list of resellers, with contact information, please visit <http://www.network1.net/products/dhcpatriot/>, email DHCPatriot@network1.net or call 800-578-6381 opt.3 (419-739-9240 if outside the United States of America) with your request.

To purchase direct or receive pre-sale support, please use the following contact information:

DHCPatriot@network1.net

800-578-6381 opt.3 (419-739-9240 opt.3 if outside the United States of America)

First Network Group, Inc.
P.O. Box 1662
4-6 Perry St.
Wapakoneta, OH 45895
United States of America

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<http://www.network1.net>
4-6 Perry St.
P.O. Box 1662
Wapakoneta, OH 45895

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