Tools for Getting Your Wireless Statistics

To help libraries comply with the federal requirement to gather wireless usage statistics as well as to provide guidance on technology that will enable libraries to offer high-speed wireless access, the Maine State Library has developed this guide that describes one specific solution that is easy to implement.

This solution is the same solution created by Jim Duncan of the Colorado Library Consortium (CLiC). We are very grateful to Jim and CLiC for permitting us to use their procedure for the benefit of Maine libraries.

The first step is the wireless access point (WAP). Most consumer-grade WAPs won’t provide usage statistics. We recommend the **OpenMesh A62 wireless access point** offers a lot of functionality, including extremely high-speed connectivity. These WAPs need a POE injector (Power over Ethernet).

OpenMesh supports a cloud-based management service, **CloudTrax**, which is a powerful and effective tool for maintaining and troubleshooting a wireless network. It is free for the lifetime of the equipment, so libraries aren’t forced to subscribe to an ongoing cost with this product.

While CloudTrax does gather wireless usage statistics, those statistics need to be refined by **Google Analytics**. This is a free Google-supported product that is widely used to track large amount of information about web traffic, including how many times a specific website has been visited. Used hand-in-hand with the ability of CloudTrax to force would-be wireless users to view a “splash page” or **captive portal** and click a button to gain access to the wireless network, this process can count precisely how many users successfully hopped on to the library’s wireless.

These statistics are then automatically maintained and can be reviewed to provide statistics for 30 days, 90 days, 180 days or one year. For most libraries, we believe that this combination of OpenMesh hardware, CloudTrax splash page support and Google Analytics refinement is likely to be the simplest and most cost-efficient approach to gathering wireless statistics while improving wireless network service.
The General Specifics

For libraries that have the expertise to tackle this solution independently, this guide will attempt to demonstrate each step required to set up Google Analytics, CloudTrax and an OpenMesh A62 wireless access point for counting your wireless statistics.

The Specific Specifics

Step 1: Setting up Google Analytics

If you already have a Gmail account, then you may choose to use that to register for Google Analytics. Otherwise, you may use an existing email address by going to the Google sign-up page at https://accounts.google.com/SignUpWithoutGmail and click on “Use my current email address instead”. You will need to verify your non-Gmail email address as valid before using Google Analytics.

Also, you will need to choose the URL for the tracker’s HTML page. We recommend creating the tracker’s HTML page in your library’s home directory and giving it a name like “wifi.html”, so that the URL is http://librarywebaddress/wifi.html where “librarywebaddress” is the library’s website address.

Once you have done both of these things, you can begin setting up Google Analytics.

Go to https://analytics.google.com and sign in with your account.

Click on the Admin button in the bottom left of the screen.

Click Create Account.

Under Account Name, type your library’s name.
Under Website Name, type (library’s name) Wifi tracker.
Under Website URL, put the tracker HTML page address.
Under Industry Category, choose Other.
Change Reporting Time Zone to (GMT-04:00) Eastern Time.
You may uncheck all of the data sharing options. Click Get Tracking ID.

Check the “I also accept” box, then click I Accept.

You will then be given a Tracking ID. Make note of the full ID, which should look like “UA-##########-1”.

Click the left arrow next to Property Settings.
Click Create View.

Under Reporting View Name, type Wifi stats.

Change Reporting Time Zone to (GMT-04:00) Eastern Time.

Click Create View.

Step 2: Making the tracker webpage

Using your preferred web design software (this can be Notepad, if you don’t use web design software), copy the following code into a blank page:

```html
<html>
<head>
<script>
(function(i,s,o,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){(i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o),m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)
}(window,document,'script','//www.google-analytics.com/analytics.js','ga');
ga('create', 'UA-############-1', 'auto');
ga('send', 'pageview');
</script>
<meta http-equiv="refresh" content="0; url=http://www.librarywebaddress.org/" />
</head>
<body>
<p>Redirecting to the Library...</p>
</body>
</html>
```

Now, using the tracking code from Google Analytics, replace UA-############-1 with the actual tracking code.

Also, change www.librarywebaddress.org to a page on your library, preferably NOT the library’s front page, as doing so may throw off webpage usage statistics. Instead, send them to the website page with the library’s Internet Use Policy.

Make sure to save this new webpage as “wifi.html” and place it in the top-level directory of the website. It’s strongly recommended not to link anywhere on the website to the wifi.html page, so that anyone landing on that page is coming from the wireless network.
Step 3: Register your OpenMesh WAP with MSLN

This step is for libraries that receive their Internet connection through Networkmaine, manager of the Maine School and Library Network (MSLN). Presumably having purchased the OpenMesh A62 wireless access point (also, libraries that do not have Power over Ethernet – PoE – in their network backbone will also need to purchase a PoE injector).

Next, you will need to find the device’s MAC address. A MAC address is a sequence of 12 numbers and the letters A-F often separated by colons (e.g., 01:2A:34:5B:67:8C). This can be found on a label on the bottom of the router and on the side of the product box.

With the MAC address, if you have the username and password for your library’s network management tool, use https://nm.msln.net to register the device with a static IP address on your own, or you can contact Networkmaine at 1-888-367-6756.

Step 4: Configure the WAP in CloudTrax

The next step is to set up a CloudTrax account and use that account to manage the access point you added in the previous step. Here is a comprehensive guide to setting up the A62 access point.

To break it down further, start by going to https://www.cloudtrax.com and clicking “Sign up.”

Enter in your email address (preferably the one used to register with Google Analytics).

Create a password.

Select the appropriate type of user, such as End Customer.

Check the box labelled “I agree to the terms of use”.

Click Create account.

You will be sent an email at the selected address for verification purposes. When you have verified your account, you can log in and set up the network.

Click Create Network.
Type your library’s name under Network name.

Type your library’s street address or zip code under Location.

For “What type of network is this?” choose “Other”.

Type “Library” into the text box.

Click Create.

Now, you will need to add the WAP’s MAC address into CloudTrax so that it can be configured. Click Manage -> Access Points.

Click List. Click the down arrow next to Add New and select Bulk add access points via MAC.

Type in the MAC address in the space provided and click Create.

Now, you may plug in the WAP(s) wherever your existing access points were placed (and can re-use the same Ethernet cable for the connection). Remember that you will need to use the PoE injector to power the WAP if your network does not support Power over Ethernet. Once the device has been registered, it may take up to 15 minutes to be recognized by the CloudTrax console.

Click on Configure, then SSID 1.

In SSID name, enter the name of the network.

If you want to add a password to the network, click Authentication and add a password in the box labeled WPA password. Otherwise, skip this step.

Under Captive Portal, click Bandwidth throttling to turn it off.

To edit the appearance of the Splash Page, click Edit Splash Page.
To ensure good daily stats, set Client force timeout to a value of 720 minutes.

Under Redirect URL, put the address of the tracker webpage (e.g. http://librarywebaddress/wifi.html).

If you have wireless library devices that are used daily, you will want to find their MAC addresses and add those to the Whitelist to prevent them from authenticating through the tracker webpage and throwing off your wireless statistics.

Return to the top of the page and click Save Changes.

Click on SSID 2 then click Enable to disable the second wireless network, then click Save Changes.

For libraries that are on MSLN, click Advanced.

Add the following entries to the Alternate DNS box:

208.67.222.222
208.67.220.220

Click Save Changes.

Gathering wireless usage statistics

When you log into Google Analytics, the home page will begin tracking wireless usage based on users being directed to the splash page and clicking on Continue.

The number of sessions is the correct statistic for counting wireless usage statistics.

You can change the date range from the drop-down menu in the bottom left corner of the graph.