



Personal Telco Project

Weather Report

“Its All About The Clouds”

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In This Issue

- * The PTPnet
- * Reading Lists
- * Maps Networks And Portland
- * How To Connect

PTP In A Nutshell

We are a volunteer group of Portlanders who believe that 802.11 (wireless networking, or "Wi-Fi") technology is both cool and empowering. We started out by turning our own houses and apartments into wireless hot spots (also referred to as "nodes"), and then set about building these nodes in public locations such as parks and coffee shops. Currently we have over 100 active nodes, and we eventually would like to cover the entire city of Portland, Oregon with even more.

Our Mission Statement

We are here to promote and build public wireless networks through community support and education.

The PTPnet

“The law of plentitude is most accurately rendered thus: In a network, the more opportunities that are taken, the faster new opportunities arise. A network is a possibility factory.”

Kevin Kelly

*Stop me, oh, stop me
Stop me if you think that you've
Heard this one before*

Morrissey

From the very earliest days of the PTP the idea of a network of nodes covering large chunks of Portland was the Holy Grail to many. Not just nodes standing in a solitary effort to bridge the divide of access in just one location, but a legion of nodes connected together such that the sum of their interactions would make possible access not just on the Internet but across our own PTPnet.

Across the globe the various wireless networking groups have taken this quest on in different ways. Some have started by building an network and then looking for nodes to fill in the coverage. Others built up small villages and connected them together. Still others have looked to traditional commercial method.

The PTP's path has been a mix of all those with a decided focus so far on setting up the nodes. This has given

us the plethora of locations where you can now get access across the city.

Always though the quest of interconnected nodes has been in the planning. Last year saw some leaps forward. Links were made via Keegan's home node and Rocky Butte, work has been done on routing methodology, and as the many new nodes were going up the questions about connecting them up were being asked.

November is turning out to be a time to refocus the methods and plans and get on with the work of building the network. There is a lot that goes into the idea of the PTPnet, much more than I can fit here. We will be meeting during the month to work up our collective knowledge base, educate each other, come up with some plans of action and actually make some nodes talk to each other.

November's HackNights will focus on these issues as well as the usual node box building fun. If you are interested in learning about, planning and building up the networking aspects of the PTP than come join us at Node236. We will gather at about 6PM and call it a night no latter than 10PM.

-tomhiggins

Reading Lists

Tech, like many good things, is a never ending study. If its not about new methods its to relearn how old ones mesh into the new and emerging. With 32 hours a day there still would not be enough time to sit and devour the stream of lit that spills off the bookshelves at Powell's Tech.

When I am looking for a dead tree volume I can move right passed certain offering and head on over to the great wall of O'Reilly. The tech book publisher has time and again proven themselves for on the mark volumes that get to the heart of the subject matter they are talking on.

O'Reilly also earns my dollars by reaching out to the tech community and in many ways extending itself to be the testbed for many emerging projects. Many other publishers have flooded the market with books on using wireless at home, at pay hot spots and for business but it was O'Reilly who put out the books for and about Community Wireless Networking.

The PTP has not only been mentioned in several O'Reilly books but we have also been gifted by them, via their UserGroup program, with enough books to seed out groups lending library.

The book from O'Reilly we have now include...

- Security Warrior
- Linux Security CookBook
- 802.11 Wireless Networks
- Linux Unwired

There are other books in our library as well, come on by during the monthly

and see whats on tap.

Many of these books are going to be instrumental in helping us gain the knowing we are going to need to build out the PTPnet. There are things we will be butting our heading up against that these books address. The more of us who are well versed in this topics the better.

There are other books that will help get the knowing out to as many who are willing to learn. Take some time this month to pick one of these up, even if just to browse through them once, and fill in some of what you might need to know.

- Building Wireless Community Networks , 2nd Edition
- Windows XP Unwired
- Wireless Hacks
- BGP
- IP Routing
- TCP/IP Network Administration
- Essential System Administration , 3rd Edition

There are more, but these should be a good starting point depending on where it is your interests may be.

If you have any of these books, or any book you think would make a good fit, please consider donating them to the PTP Library when you have drained them for our purposes. You can contact me (tom@personaltelco.net) if you do. Similarly if you have the want to write a review of a book you have read please send it to that address as well. Sometimes hearing about a books, good or bad, can help others determine if its a book they want to devote time and money on.

-tomhiggins

Maps, Networks and Portland

Portland is fast becoming the land of Free Community Wireless but it has not been an easy task. Not only are we working against a lack of funding and tight work schedules, we are often running smack dab up against the problems of terrain and environment,

It hard to find fault with the beauty that is Portland, unless you are trying to make a wireless link longer than a block or two. Culprit number one are trees.

Yes you heard me right, trees. These stately bastions of all thing environmental happen to be covered with leaves and leaves are crammed full of water. Water just happens to soak up the power we are transmitting from our 2.4 ghz gear.

So despite the well tuned 12 db omnis and the 200mw power house pemica cards we have picked up from Invictus all our hopes for multi blocks links may still be dashed by our local beauty.

Another factor that can dampen the signal are the dips and rises inherent in a valley suck as we are situated in. 802.11 gear is all about Line Of Sight. Sure we can punch through some walls and maybe a few untreated windows, but stick a few cubic yard of hill in your path and you are back to playing free cell.

So is there any hope of building out the PTPnet in this town? The short answer is yes, the long answer is..well its longer. What follows are some pointers to learning to overcome the over abundance of beauty we have in our neck of the wood.

Topography – The Lay Of The Land

Topo skills have become much valued of late. Making maps that are accurate and reliable are essential in planning any good far reaching network.

Where once geodata was locked behind government or corporate systems there is now a rich flood of data that can be used to create maps.

One on line tool is Topozone (www.topozone.com) From this site you can examine in detail the make up of an area from the grand scale to the extremely local. The datasets are used to show you the surrounding make up of elevation changes, environmental composition and certain other meta data that will help you better understand the area you are studying.

One tool , sadly just for the Windows platform, can be valuable in examining radio wave propagation across a given terrain. Radio Mobile (<http://www.cplus.org/rmw/english1.html>) allows you place place nodes on a topo map, give it some properties such as power of the radio, db of the antenna, loss of cable, etc and it will plot on top of the topo map the projection of the radios signal. The tool was made for all radio types, not simply 802.11 gear, so if you are a HAM or FM “hobbyist” you will find it useful as well.

A handy feature of Radio Mobile is its ability to suck in maps from a number of places across the internet. Previous topo programs required you to have vast stores of cds filled with the topo data of the areas you wanted to study; many commercial programs still do.

Portlandmaps.com is a website run by Metro that contains a wealth of information both topographically and

socio economical. If you are wanting to search out possible node locations or are going to work on a node this is a great web site to find all there is to know about that piece of land. The site will show what schools, parks and libraries are around, what the census data is, what the crime rates are and what the topography looks like. Metro did good on this website, use it and enjoy.

War*ing – The Networks Around Us

With a flip of a bit GPS went from being a private tool of the US gov, and folks who did not mind being a few miles off the mark, to a bounty of possibilities.

The bit that was flipped allowed consumer grade gear to get an accuracy that allowed folks to do all sorts of things like get accurate real time positioning, find hidden Happy Meal toys in ammo cans, and tie geospacial location to other data.

Wardriving was a child of that last one. With accurate data from the 24 birds in the sky wireless network enthusiasts could now drive around and grab not just the fact that there was an open AP nearby but mark exactly where it was they found that data, From those two pieces of information networkmaps were able to be created that showed everyone the shape of the wireless networks around them.

Wigle.net fast became the place to share your data. Hundreds of Wardrivers dumped their findings into the shared database of wigle.net and where then able to see not just

the networks around them but around the globe.

Wardriving requires three pieces to get the data. The first is a GPS attached to your computer. The second is a wireless card and possibly an antenna to sniff out the wireless networks, the more powerful the card and/or the antenna the better. The third piece is software to stitch the two together.

Netstumbler is a Windows and Mac based application that fits this bill nicely. Kismet is the tool of choice on Linux. Both of these tools will stitch up the GPS and wireless scans into a file that can then be used to map, analyze and share.

Another application that often works with Kismet is GPSDrive. This application uses your GPS to show you where you are. It can also be used over the internet to show you where your friends are as well. Through some simple yet effective data sharing the program becomes a sort of GPS buddy list, instant messenger and data collector. It is also a nice app to study maps in.

If you have not used these program before, even if you have never used GPS , you should give these things a try. Ask around at Hacknights for demos of the applications and devices mentioned in this article. Odds are someone with a setup will be willing to get you excited enough to want to run out and buy your own gear. The more the merrier.

-tomhiggins

How To Connect

1. Set your [ESSID](http://www.personaltelco.net) to www.personaltelco.net
2. Come within range of one of the nodes listed on this page.
3. Open a web browser and try and go somewhere , you will be redirected to our web page.
4. Read the terms and conditions, if you accept them click "I Agree ... " to continue and get access.

SouthWest

Bar 71 -

SW 2nd and Ash

Coffee Plant -

SW Broadway and
Washington

Daily Double -

SW 20th and Morrison

Moonlight Staffing at PGE Park -

SW 18th and Salmon

Pioneer Courthouse Square Area -

SW 6th and Morrison

Stumptown Coffee Roasters -

SW 3rd and Ash

South Park Blocks -

SW Park and Market

Northwest

Anna Bannanas -

NW 21st and Northup

Backspace -

NW 5th and Couch

Couch Park -

NW 19th and Glisan

Ecotrust -

NW 10th and Johnson

Old Town Pizza -

226 NW Davis St

Powell's Bookstore -

NW 10th and Burnside

Urban Grind In The Perl

NW 14th and Kearney

Vivace Coffee House -

NW 23rd and Pettygrove

World Cup Coffee and Tea -

NW 18th and Glisan

Southeast

The Basement Public House -

SE 12th and Taylor

Crema Cafe and Bakery

SE 27th and Ankeny

Hawthorne Hosteling International -

SE 31st and Hawthorne

Portland Independent Media Center

SE 34th and Belmont

Red Wing Coffee and Baking -

SE 6th and Market

Rose and Raindrop -

SE Grand and Stark

Subway Sandwich Restaurant -

SE 35th and Hawthorne

Red and Black Cafe -

SE 21st and Division

Stumptown Coffee Roasters-

SE 45th and Division

Stumptown Coffee Roasters-

SE 34th and Belmont

Ugly Mug Coffeehouse -

SE 13th and Nehalem

WSMF -

SE 29th and Alder

NorthEast

Cafe La Dolce Vita -

NE 12th and Alberta

Costello's Travel Caffe -

NE 22nd and Broadway

Goldrush Coffee Bar -

NE M L King Blvd and

Russell

Hollywood Library -

NE 41st and Tillamook

Irving Park -

NE 7th and Fremont

Rocky Butte -

NE Rocky Butte

Urban Grind Coffeehouse -

NE 22nd and Oregon

North and Beyond

Arbor Lodge Park -

N Dekum and Greeley

Cedar Hills Crossing Shopping

3205 SW Cedar Hills Blvd.

The Crow Bar -

N Mississippi and Failing

Dittos-

N Williams and Freemont

Northstar Coffeehouse -

N Interstate and Lombard