



OTTAWA-GATINEAU

WiFi

www.ogwifi.ca

Architecture and Technology behind ogWifi

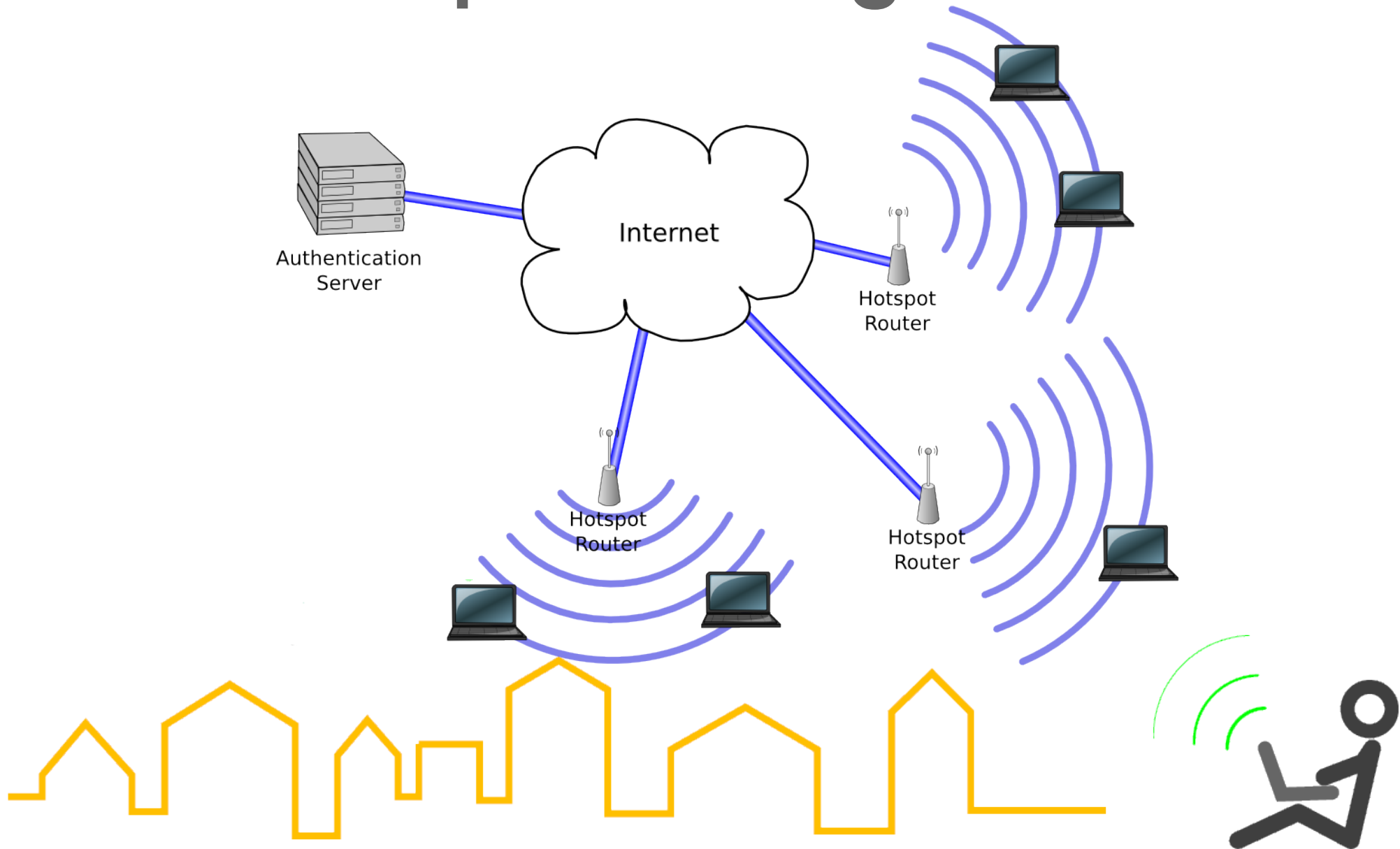


Simple View

<i>Components</i>	<i>Technology</i>
Deployed routers	Linksys WRT54GL
	OpenWRT
	WifiDog
Authentication server	Linux
	Apache/PHP
	WifiDog
	PostgreSQL



Simplified Diagram



Architecture

- Multiple hotspots, each has a wireless router
- One (or multiple) authentication server(s)
- Router monitors connections and redirects to appropriate captive portal page
- Authentication server verifies user's credentials
- Router allows unimpeded access to the net



Hotspot Router



- Commercial Linksys WRT54GL
- Firmware replaced with OpenWRT “White Russian”
- Install WifiDog package
- Add ogWifi-specific configuration



Authentication Server

- Co-location offered by Cooperix.net
- Linux 2.6, Debian
- Authentication Service: WifiDog
- Web services: Apache HTTPD / PHP 5
- Database: PostgreSQL 7.4



OpenWRT

- Firmware replacement for various wireless routers
- <http://www.openwrt.org>
- “White Russian” variant based on Linux 2.4
- Provides:
 - Linux command line
 - all services of wireless routers: DHCP, Filtering, etc.
 - a simple web GUI



WifiDog



Wifidog
A captive portal suite

- Software initiated by Ile Sans Fil, Montréal
- PHP-based authentication server
- Includes a captive portal for Linux-based routers
- Open source : <http://www.wifidog.org>
- Provides login page, hotspot map, administrative tools



WifiDog – Hotspot Map

Deployed HotSpots map

Show me the closest hotspot Refresh map

Map Satellite Hybrid

Alex Laidlaw Housing Coop
Booth,
Ottawa, Ontario,
k1r 7j4, Canada
Lebreton

Show me on the map

Le Petit Chicago
50, du Portage,
Vieux-Hull, Outaouais,
J8X 2J7, Québec
819-483-9843
Homepage

Show me on the map

Marlin
Clarey Ave,
Ottawa, Ontario,
Canada

Show me on the map


OpenConcept Consulting Inc.
Tweedsmuir Ave,
Ottawa, Ontario

Legend: the hotspot is operational the hotspot is down not monitored




WifiDog – Hotspot Page

Welcome to
The Parliament Pub


Logged in as:  jpfiset
[Profile / Settings](#) [Logout](#)

Language:




OTTAWA-GATINEAU
WiFi




Find Hotspots | Network administration | Node administration | Server administration | User administration



THE PARLIAMENT PUB

101 Sparks Street, Ottawa, Canada



-  MENU
-  HOME
-  NEWS
-  NEED A GOOD LOBBYIST

Located directly opposite the Peace Tower, the Parliament Pub is an inviting spot where good food, fine beverages, and good conversation are sure to be had.

*****New Menu Items for Parliament Pub*****

Belinda's Pasta du Jour

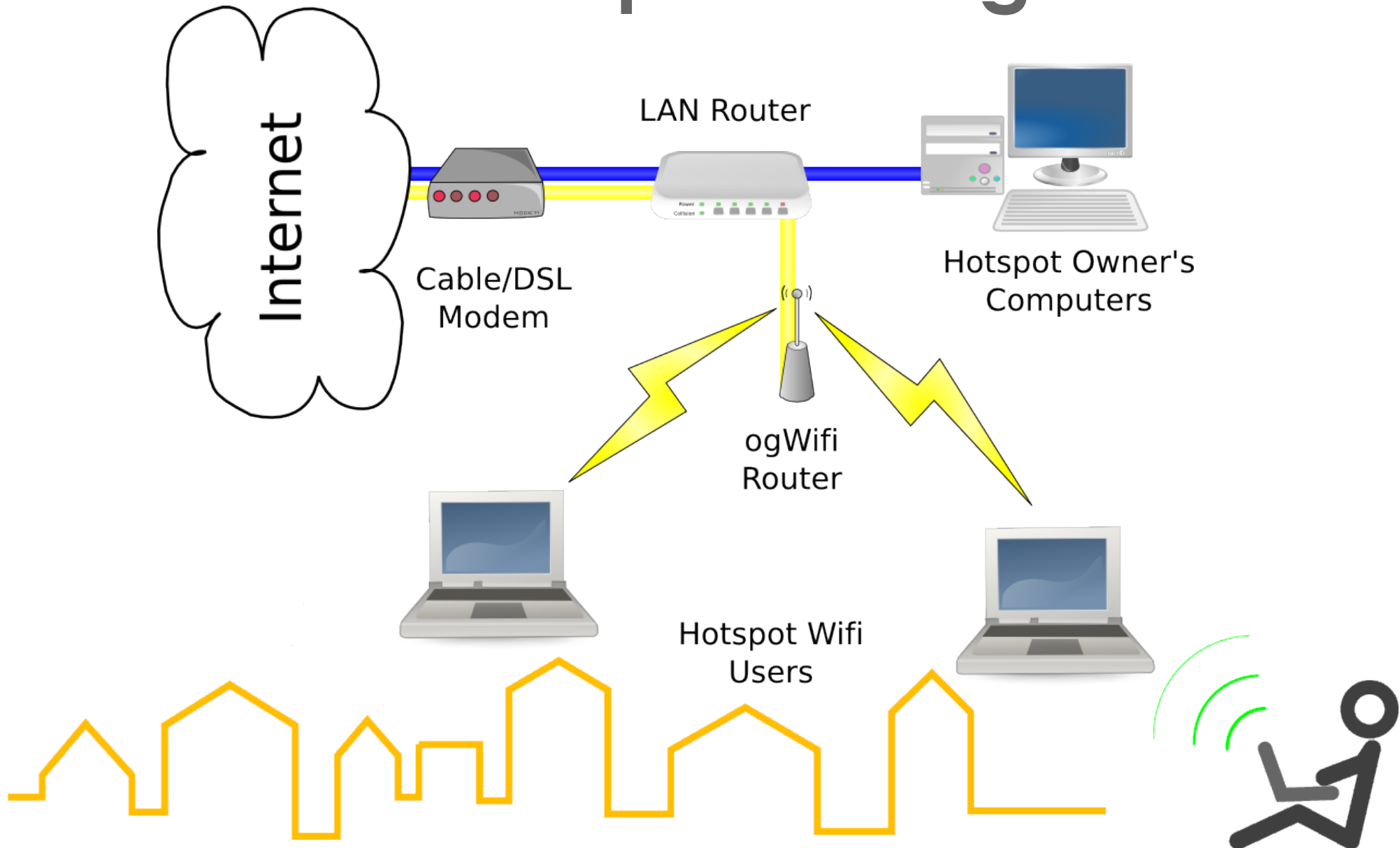


ogWifi-specific Configuration

- Routers loaded with ogWifi authentication server
- Node identifications in format ogWifi-...
- Routing table disallows traffic to local IP addresses
- Block port 25



Preferred Hotspot Configuration



Conclusion

- All software used is open source
- OpenWRT + WifiDog = Turnkey Solution
- Linksys preferred for consistency, but other hardware can be used
- Hotspot customization is easy
- Community Wireless Group (CWG) is more preoccupied with organization and promotion than technology – that's progress!

