CHICAGO
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SOFTWARE DEVELOPMENT
CONFERENCE 2016

goto; conference

Modding, Security, & Privacy (OpenWRT edition)

Barry Galster

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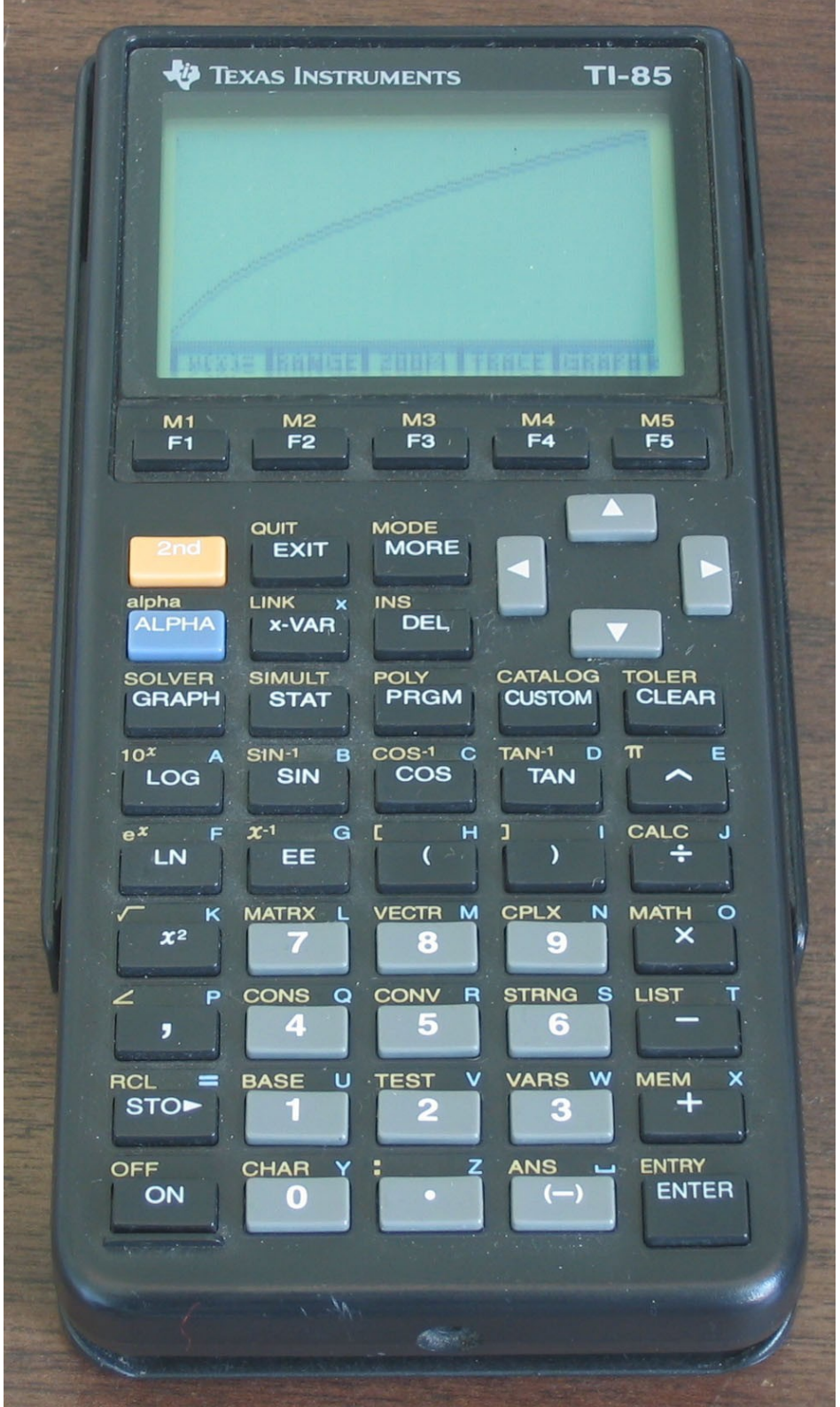
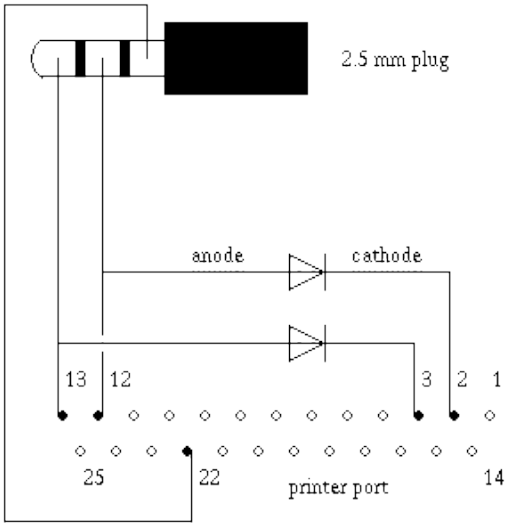
Conference: May 24th-25th / Workshops: May 23rd & 26th

Modding, Security, and Privacy – OpenWRT edition

MOUNTAIN
HARD WEAR

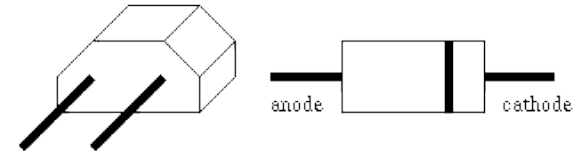
Why Modding?





I have connected the two silicon diodes inside the printer port connector. I use silicon switching diodes.

There are two main types of diodes:



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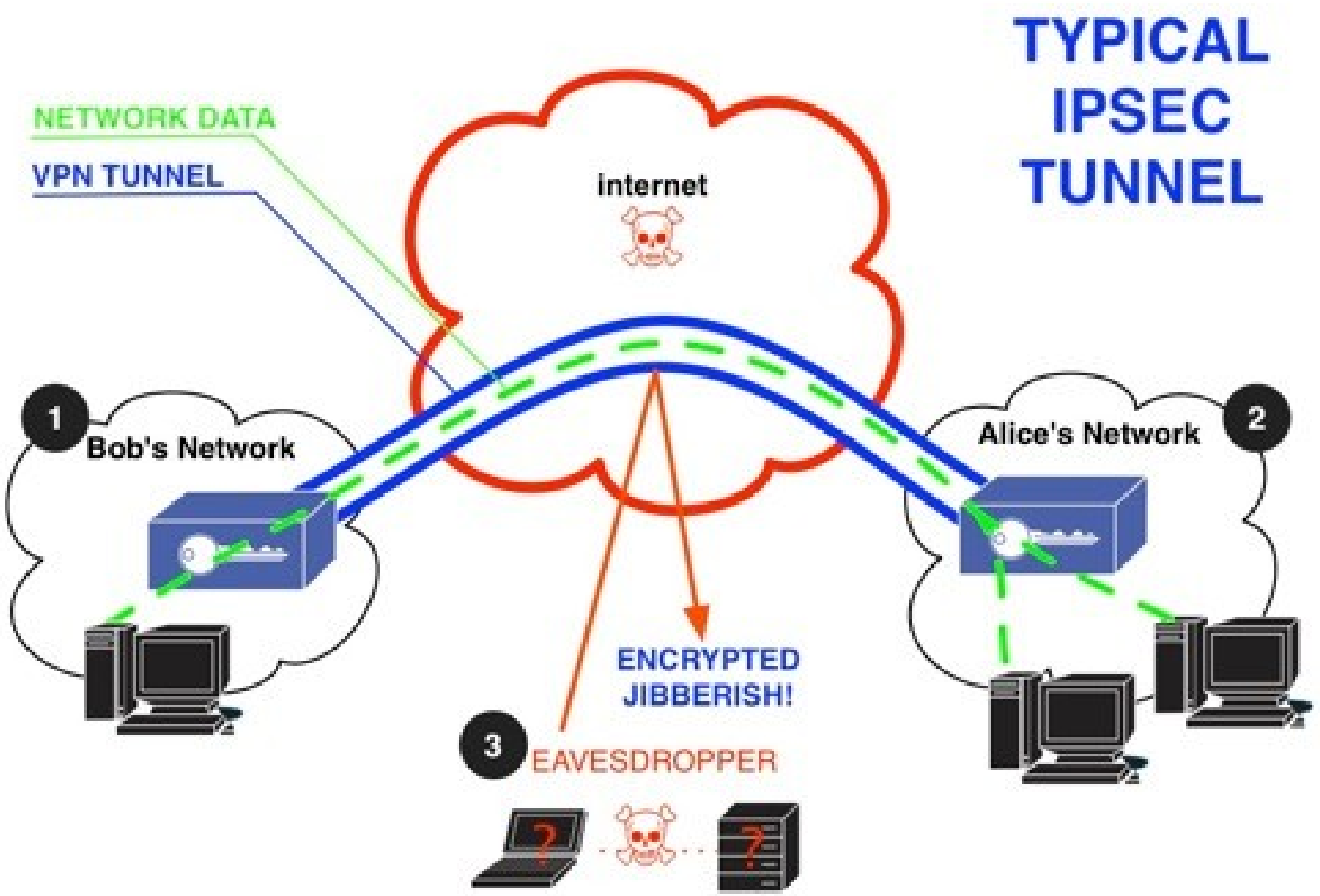
XBOX
Bank1
Bank2
Unprotect
Protect
Disable
Enable

Photo by Barry Galster; background art by Adair Galster adapted from municipal flag of the City of Chicago

DANGER
INTERNET AHEAD
PROCEED
WITH
CAUTION

Can a Virtual Private Network help?



By SpectreVision - https://spectregroup.files.wordpress.com/2010/12/vpn-ipsec-tunnel.jpeg

Why VPN?

- All traffic encapsulated between network endpoints – and optionally encrypted!
- Connect to private networks and resources which are not always publicly available on the Internet (home, school, company – printers, servers, unattended webcams and automation devices without third party intermediary).
- Access Internet with traffic which is opaque to observers until emerging from a source in a different out of region city/country.

Which devices can use a VPN?

- Multiple clients available for Linux, Mac OSX, and Windows
- On Android (official app in Store)
- On iOS (official app in Store)
- Or something completely different...

PPTP

IPSEC

L2TP

What is the history of WRT54G?

Why OpenWrt?

OpenWrt
Wireless Freedom

- One of several firmware choices since public WRT54G code – along with DD-WRT and Tomato
- Full packaging system for adding new software including VPN servers and clients
- Full operating system based on Linux and available for large variety of platforms (diverse set of devices / instruction sets)
- Web and command line interfaces
- Vast array of optional features and highly customizable
- Small in size, small enough for even for devices with modest technical capabilities – limited in CPU, RAM, and storage

How about a tiny travel router???!!!!

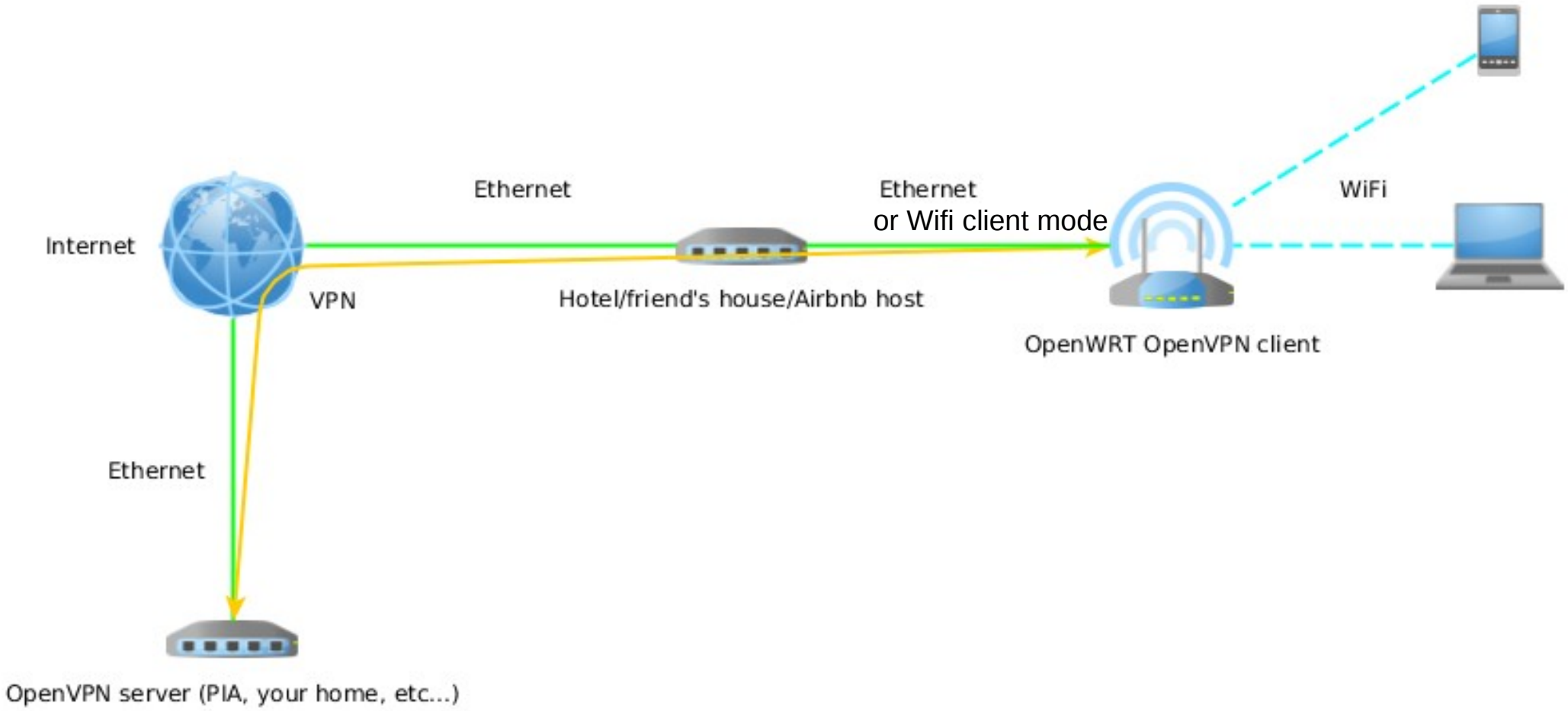
3G Router Mode
Share 3G WiFi hotspots
by plugging in a 3G modem

Travel outer (AP) Mode
Plug & Play instantly becomes
a WiFi hotspot using an
Exsisting wired network

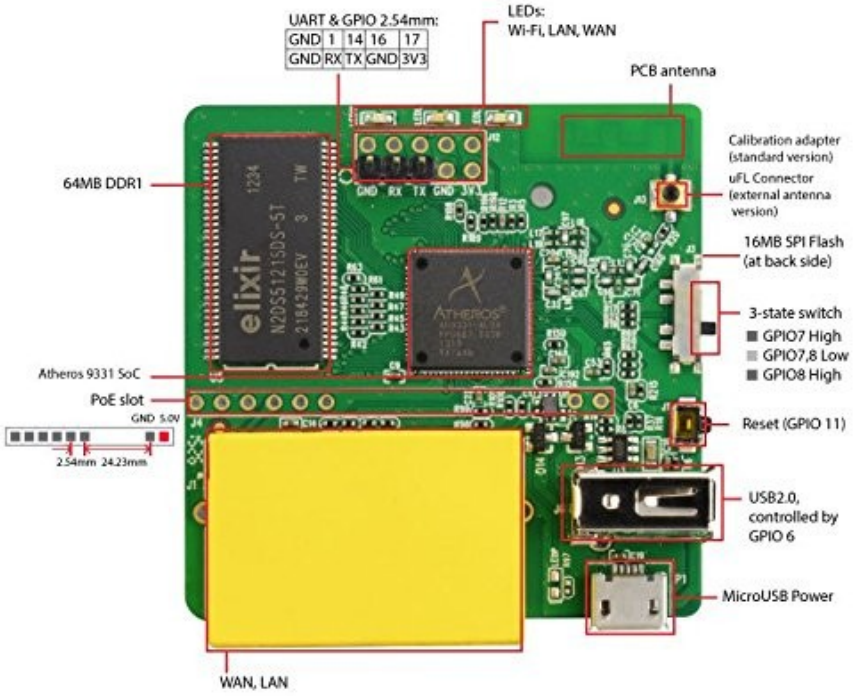
WSP Client Router Mode
Simultaneous Wireless ISP
access and wireless sharing

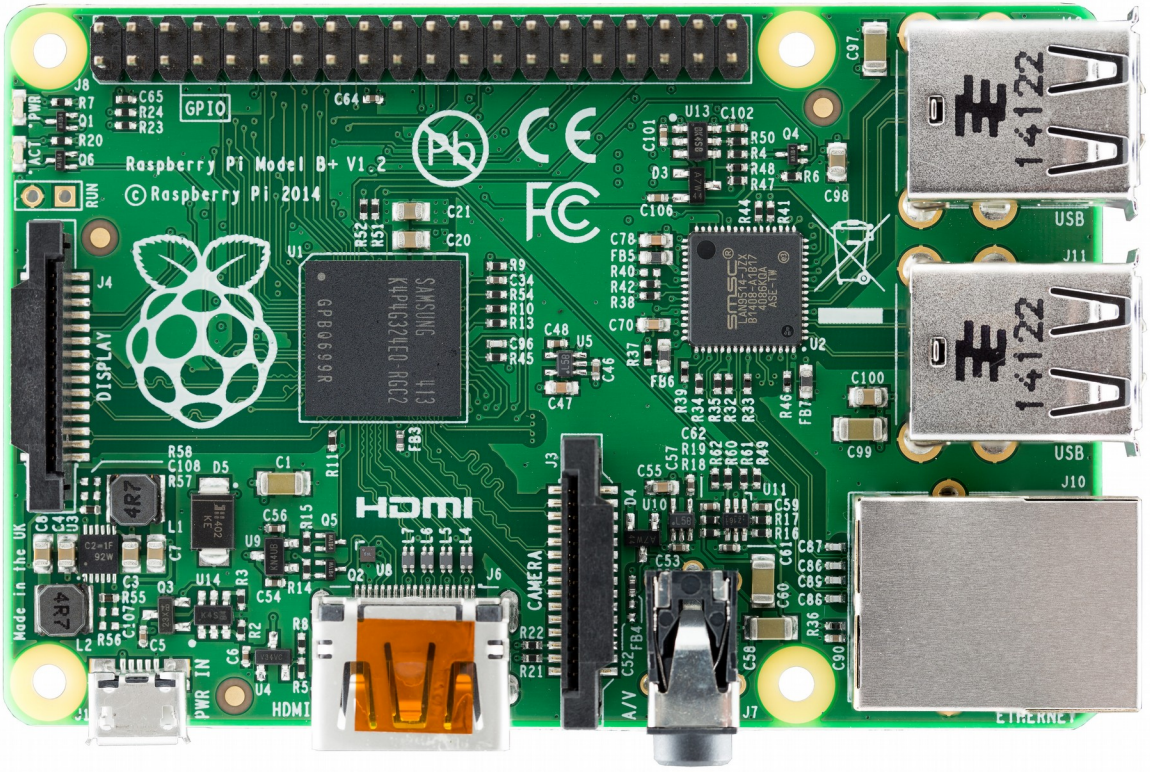
Wireless Router Mode
Connects to a modem and
creates a reliable 150Mbps
wireless network

Small device, huge security improvement!



The paradox of choice





A quick note about the darkside...

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