Resistance Networks

You Are Much Louder Than You Think

27 September 2013 – BSidesPDX – Portland, OR

Presented by:
Drew Porter
Bishop Fox
www.bishopfox.com

BISHOP FOX

Agenda

OVERVIEW

- Story time

- Ways to communicate

- Network fingerprinting

- Reducing your fingerprint

- Summary

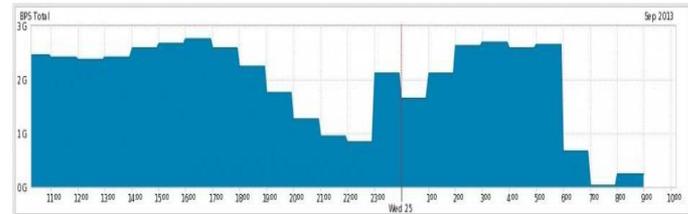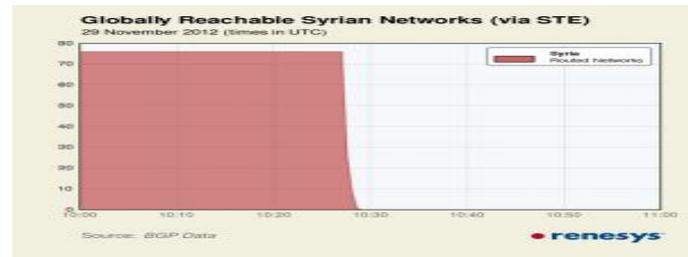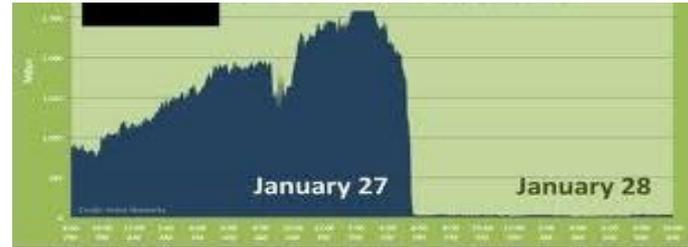- Questions

BISHOP FOX

Story Time

GATHER AROUND EVERYONE

BISHOP FOX

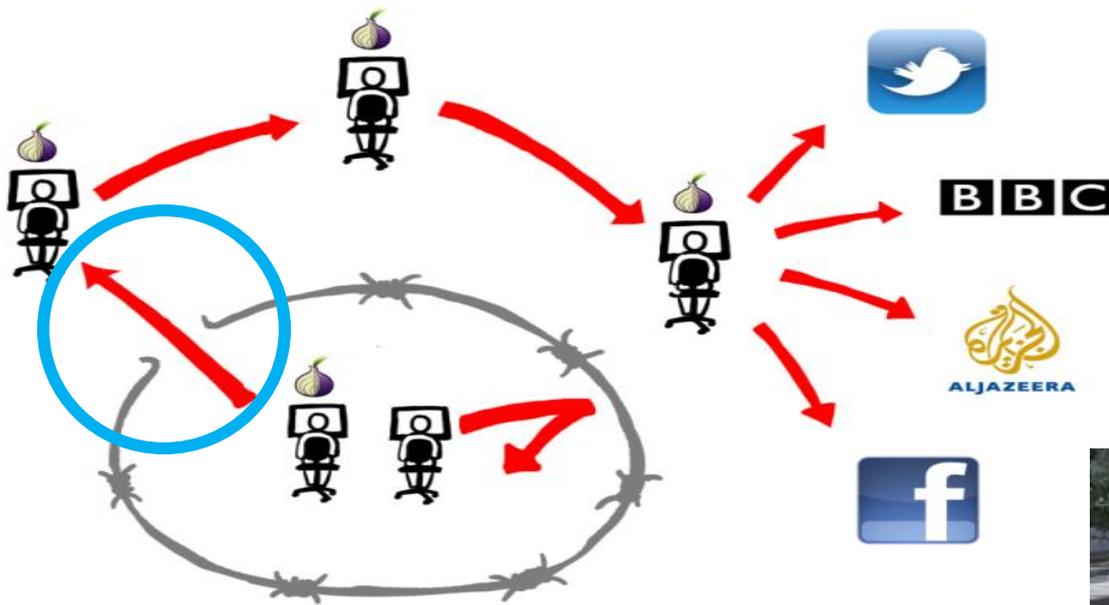# A Short Story

A Short Story Continued
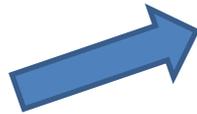
A Short Story Continued

Communication

POST INTERNET SHUTDOWN

BISHOP FOX

Ways To Communicate

...REALISTICALLY

- Modem

- Wireless

- Packet Radio

- Ethernet Over Power

- SatComm
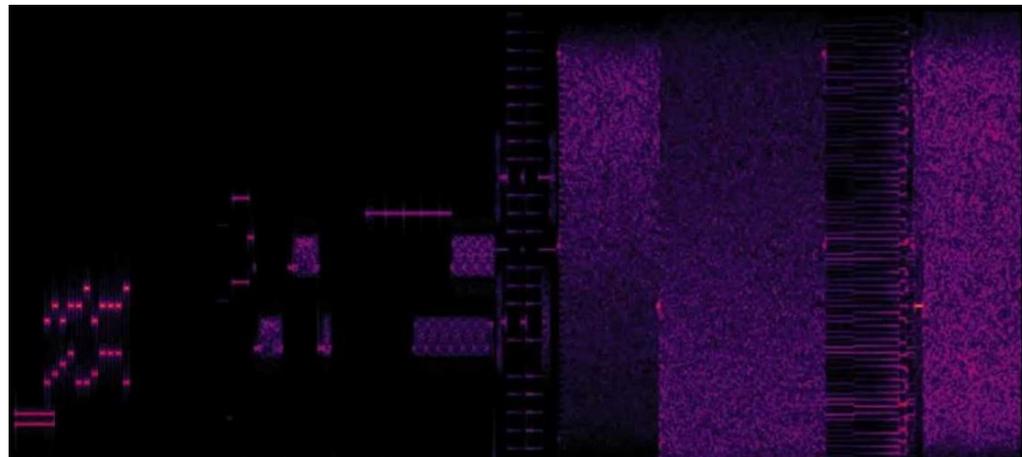
BISHOP FOX

Ways To Communicate

- Good Old RFC2549

BISHOP FOX

Network Fingerprints

WHAT THEY LOOK LIKE

BISHOP FOX

Modems

- Inline tap

- PSK & DPSK Modulation
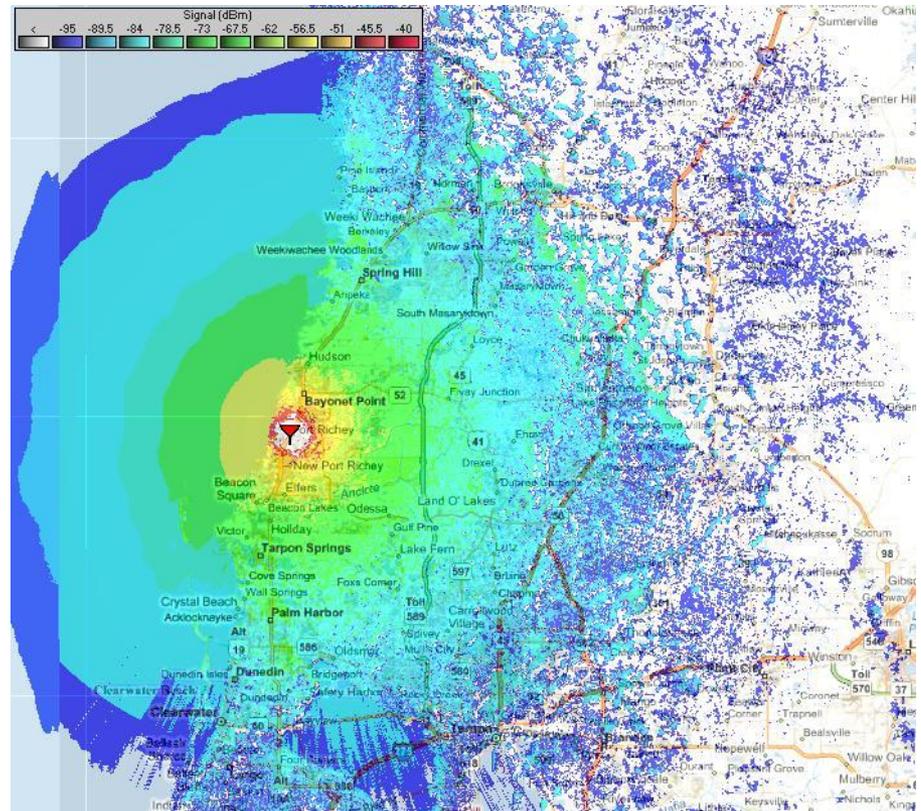
- Interception

BISHOP FOX

11
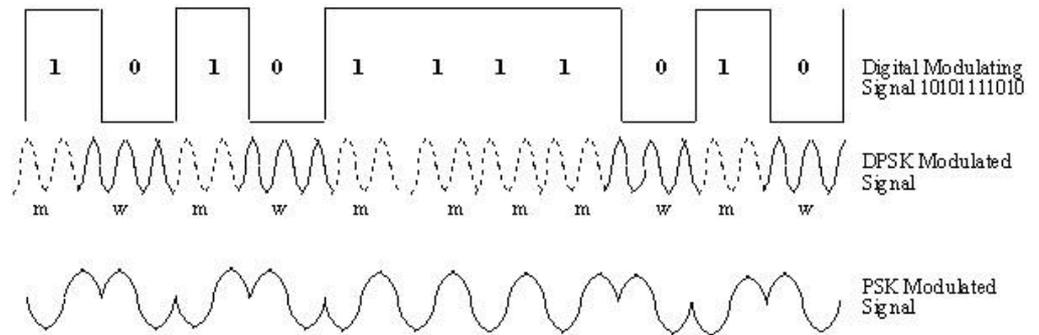
Wireless

TUBES IN THE SKY

- Passive detection/interception

- Many modulation schemas

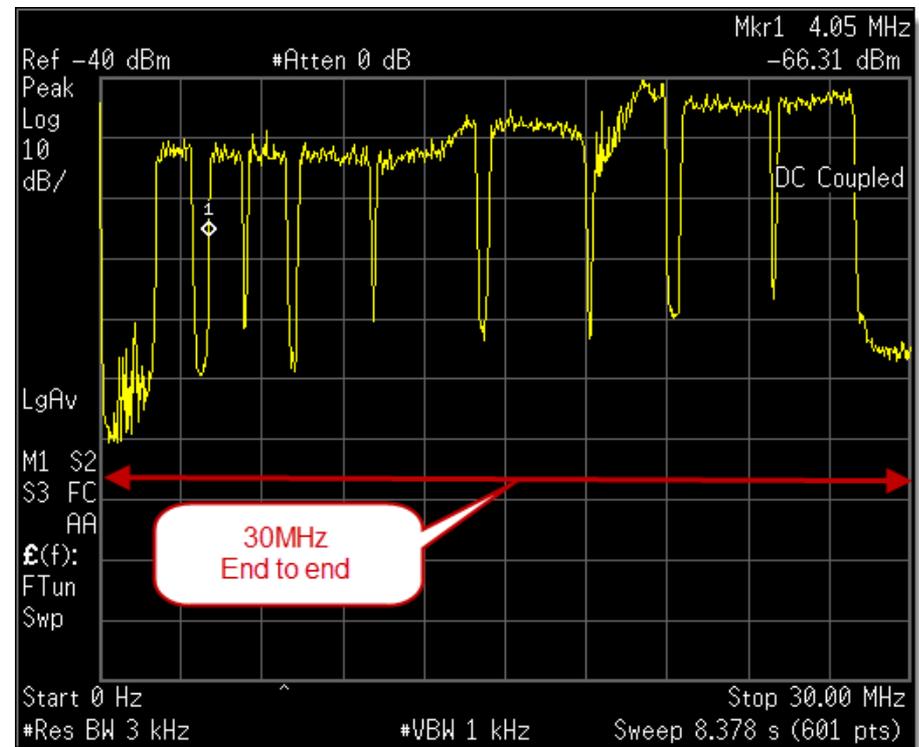- Cracking, Rogue AP/BS

BISHOP FOX

Packet Radio

- Detection & interception

- Long range

- Encryption and you

Ethernet Over Power

VIRTUAL

- A little harder to detect

- Thanks Edison

- Problems with interference

BISHOP FOX

Fingerprint Reduction

BECOMING A GHOST

BISHOP FOX

Reduction

BE ONE WITH THE PACKETS

- It's Hard

- Timing

- Don't forget about physical
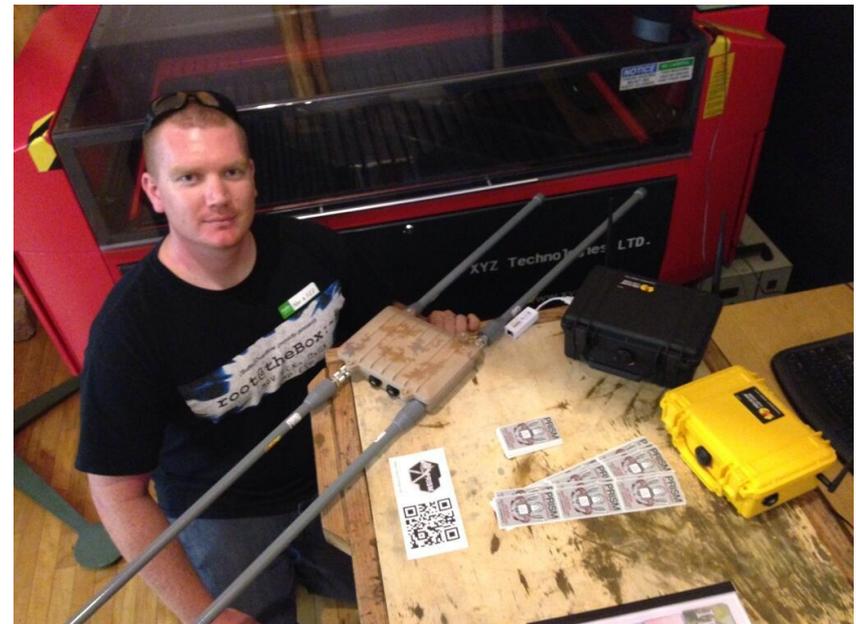
BISHOP FOX

Current Research

WITH GREAT POWER COMES GREAT RESPONSIBLITY

BISHOP FOX

Current Research

LOL SLEEP

- Let The Noise Hit The Floor

- Specter Comms

- Dusknet

BISHOP FOX

Summary

- Ways to communicate

- Fingerprints of networks

- Fingerprint reduction

- Moving forward

BISHOP FOX

Key Highlights

1. We need smarter solutions

2. More learning, researching, and sharing

3. Communication for all

BISHOP FOX

20

Thank You

Drew Redshift Porter
Senior Security Analyst
@iamredshift

Image Citations

- [Family Image: David Castillo Dominici/FreeDigitalPhotos.net](#)

- [Demonstration Image: Liftarn/ Openclipart.org](#)

- [Tahrir Square Image: Mona/Wikimedia Commons](#)

- [Tear Gas Image: Cosmopolita. / photo on flickr](#)

- [Demonstration Fists Image: RamyRaoof / Foter / CC BY-NC-SA](#)

Image Citations

- [Social Media Icons Image: Jason A. Howie / Foter / CC BY](#)

- [Egyptian Internet Shutdown Image: Wired](#)

- [Syrian Internet Blackout Image: Network World](#)

- [Sudanese Internet Blackout Image: Gigaom](#)

- [Bombed Car Image: Beshroffline / Foter / CC BY](#)

Image Citations

- [Carrier Pigeon Image: Mental Floss](#)

- [Packet Radio Image: APRS Florida](#)