Hackmeeting 2013 POC

Tor + Bitcoins + fresh email for privacy-friendly hosting hiring.



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November 2, 2013



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► I <3 hackmeeting



Hackandalus 2k4 Sevilla, my first hackmeeting





- ► I <3 hackmeeting
- ▶ Barcelona 2000; Leioa 2001; hm++;



Hackandalus 2k4 Sevilla, my first hackmeeting





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- breaking news about Tor and Bitcoins



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- #whoami jaXvi Metabolik BioHacklab



Hackandalus 2k4 Sevilla, my first hackmeeting



iaXvi



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- breaking news about Tor and Bitcoins
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- #whoami jaXvi Metabolik BioHacklab
- being at \$HOME rules



Hackandalus 2k4 Sevilla, my first hackmeeting



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Profile End



\beep disclamer!

"The attendee accepts the talk as is, with all faults."

"For educational purposes only."

just a Proof Of Concept I tried for myself



what could possibly go wrong?



Profile End



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- maybe not enough for your needs



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- remember Hacktivistas/Tools



what could possibly go wrong?



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- just a Proof Of Concept I tried for myself
- maybe not enough for your needs
- for fun, curiosity
- remember Hacktivistas/Tools
- more ideas please :)



what could possibly go wrong?





wanted: server in internet





- wanted: server in internet
- not wanted: giving personal data



- wanted: server in internet
- not wanted: giving personal data

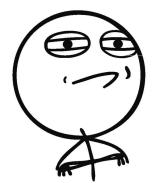








CHALLENGE ACCEPTED





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Definition

Tor is a network of virtual tunnels that allows people and groups to improve their privacy and security on the Internet.

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► Journalists use Tor to communicate more safely with whistleblowers and dissidents.



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- ▶ Non-governmental organizations NGOs use Tor, corporations use Tor



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- ► Groups such as Indymedia recommend Tor for safeguarding their members online privacy and security.



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- Activist groups like the Electronic Frontier Foundation EFF recommend Tor as a mechanism for maintaining civil liberties online.



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- Activist groups like the Electronic Frontier Foundation EFF recommend Tor as a mechanism for maintaining civil liberties online.
- Hackmeeting attendees use Tor ;)





WAIT, why Tor? we have proxys

- who's the admin behind that proxy?
- X-Forwarded-For header?
- slow, types(socks4,5 http, https...), ports/fw...
- proxy are OK sometimes
- time to mention I2P, Freenet, VPN
- ssh -ND 4444 yourhost.net





OK! Let's go using Tor! :D

Some reading:

https://www.torproject.org/about/overview.html.en

Or... some pictures:



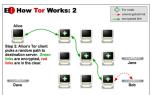
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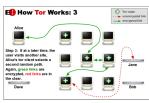
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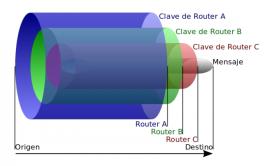




or 1 or 2

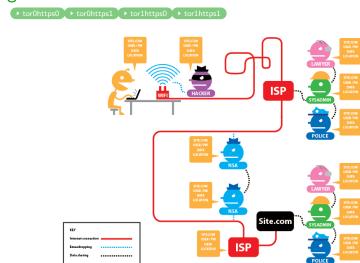
or 3



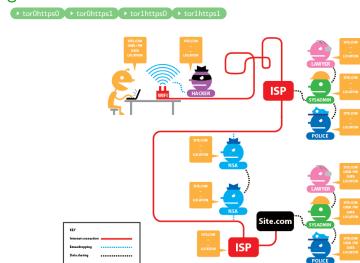


Onion routing



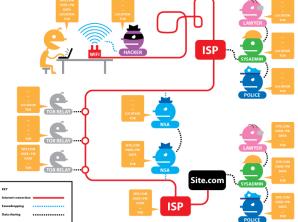


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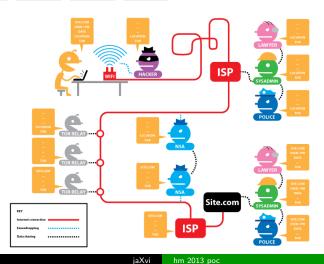






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Remember: we want Tor to use Bitcoins to buy hosting :P How do we use Tor in Real Life TM?

- ▶ Torbutton
 - deprecated!
- ▶ Tor Browser Bundle
 - patched version of Firefox, easy
 - only web surfing
 - don't install plugins
 - ► don't open documents downloaded

- ► Tails: The Amnesic Incognito Live System
 - live DVD—SD—USB
 - ▶ debian+tor
 - no-trace
 - being paranoid: coreboot: BIOS replacement
- ▶ https://www.whonix.org *my choice
 - ► TorBOX gateway now "Whonix anonymous operating system"
 - ▶ debian+tor
 - Virtual Machine(s) (GW+desktop)
 - comfortable



where they are torified and routed to the Internet.

Whonix Anonymous Operating System



- 1. reliable PC, OS, connection?
- 2. working Virtual Box
- 3. pre-install advice
- 4 download Whonix-Gateway
- download Whonix signing key (PGP)
- 6. import key
- 7. verify downloaded VM
- 8. same for Whonix-Workstation



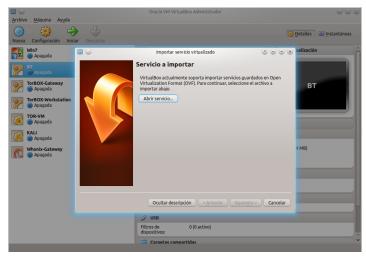
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```
jaxvi@piv: ~/VM$ gpg --import adrelanos.asc
gpg: clave 713AAEEF: «adrelanos <adrelanos@riseup.net>» sin cambios
gpg: Cantidad total procesada: 1
gpg:
                  sin cambios: 1
jaxvi@piv:~/VM$ gpg --fingerprint 9B157153925C303A42253AFB9C131AD3713AAEEF
    4096R/713AAEEF 2012-03-02
    Huella de clave = 9B15 7153 925C 303A 4225 3AFB 9C13 1AD3 713A AEEF
nid
                    adrelanos <adrelanos@riseup.net>
sub 4096R/794279C4 2012-03-02
jaxvi@piv:~/VM$ gpg --keyid-format long --verify Whonix-Gateway-7.ova.asc Whonix-Gateway-7.ova
gpg: Firma caducada en vie 11 oct 2013 00:32:09 CEST
                    usando RSA clave 9C131AD3713AAEEF
gpg:
gpg: Firma correcta de «adrelanos <adrelanos@riseup.net>»
gpg: AVISO: ¡Esta clave no está certificada por una firma de confianza!
             No hay indicios de que la firma pertenezca al propietario.
gpg:
Huellas dactilares de la clave primaria: 9B15 7153 925C 303A 4225 3AFB 9C13 1AD3 713A AEEF
```











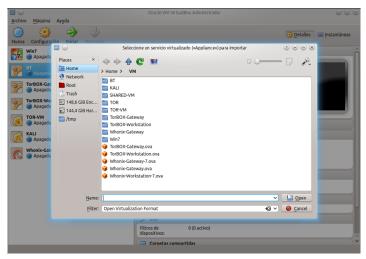
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vi hm 2013 poc







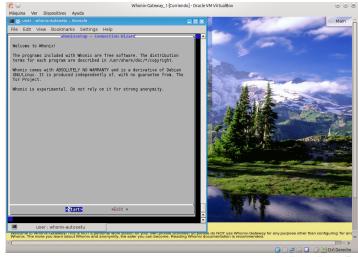


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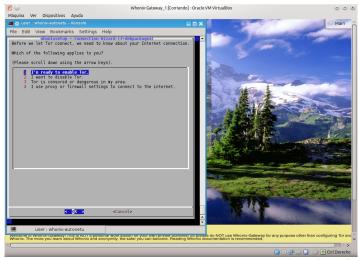








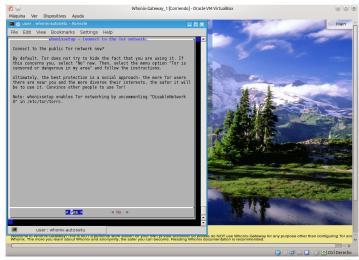








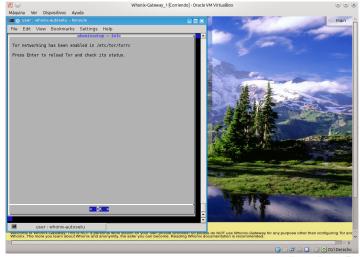








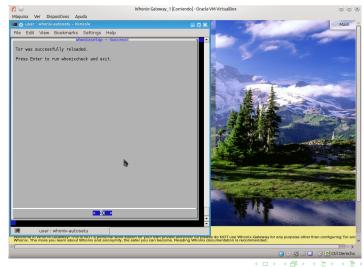








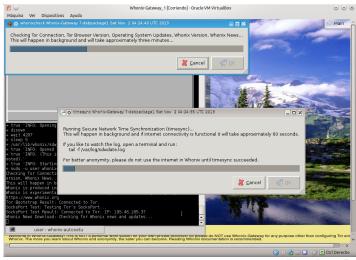




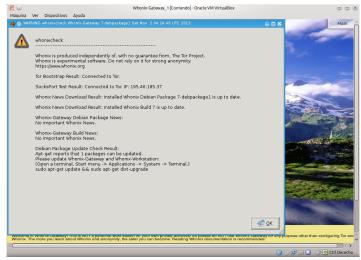








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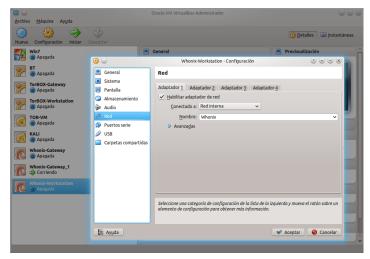


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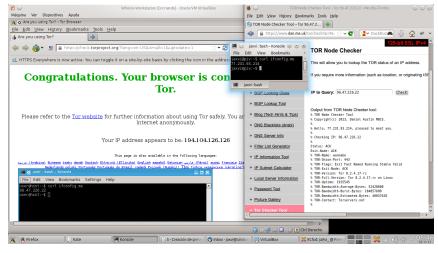












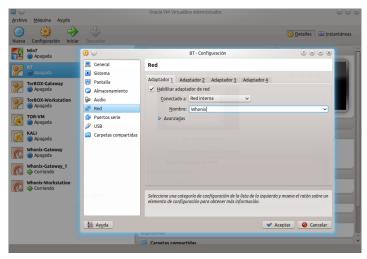


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Just in case...



Xvi hm 2013 pc







August:



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October:



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Please, think about it:

- ► traceability
- ► correlation is not causation but...





Please, think about it:

- software vulnerabilities (!= tor protocol vuln)
- ▶ info leaks, talk to strangers
- ► anonymous' epic fails
- metadata, OSINT
- ▶ VPN, end to end encryption
- ► read more
- ▶ fails++;



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Definition

Bitcoin is a distributed peer-to-peer digital currency that functions without the intermediation of any central authority. The concept was introduced in a 2008 paper by a pseudonymous developer known only as "Satoshi Nakamoto".

http://bitcoin.org/bitcoin.pdf

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▶ Not new but it's in the news





bitcoin.org



bitcoin.org



- ► Not new but it's in the news
- ▶ real





bitcoin.org



bitcoin.org



- Not new but it's in the news
- real
- super interesting both technologically and socially





bitcoin.org



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- difficult to understand the internals









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bitcoin.org





- Not new but it's in the news
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- difficult to understand the internals
- not so difficult to use
- let's see the basics







bitcoin.org



bitcoin.org



I said basics

End

1. You need a wallet, a bitcoin client software

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I said basics

- 1. You need a wallet, a bitcoin client software
- 2. You have addresses in your wallet

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I said basics

- 1. You need a wallet, a bitcoin client software
- 2. You have addresses in your wallet
- 3. let's say addresses are: btc balance + public address + private key

jaXvi hm 201

I said basics

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- 2. You have addresses in your wallet
- 3. let's say addresses are: btc balance + public address + private key
- 4. there is a shared public ledger: the block chain

48/65

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I said basics

- 1. You need a wallet, a bitcoin client software
- 2. You have addresses in your wallet
- 3. let's say addresses are: btc balance + public address + private key
- 4. there is a shared public ledger: the block chain
- 5. Alice sends BTC to Bob
 - 5.1 Alice tells her client to transfer BTC to Bob's address
 - 5.2 her client sign (with the private key) the transaction
 - 5.3 the transaction needs to be verified



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- 1. the *miners* verfy the transaction
 - 1.1 miners work with a block

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- 1. the *miners* verfy the transaction
 - 1.1 miners work with a block
 - 1.2 the miners' computers calculate hashes

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jaXvi hm 2013 j

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- 1. the *miners* verfy the transaction
 - 1.1 miners work with a block
 - 1.2 the miners' computers calculate hashes
 - 1.3 they try to find an special nonce+hash (difficult)
 - 1.4 if they find it, that block goes to the block chain
 - 1.5 the miners earn BTC! and trans is confirmed!



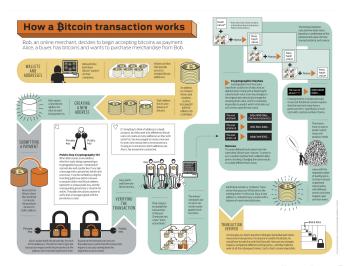
Alice, Bob r u mad?

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Alice, Bob r u mad? Let's try with a picture...

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i hm 2013 poc



my setup

- ► Getting bitcoins
 - hax0r way: mining
 - ► lame way: buying (* fast)
- Store bitcoins
 - local wallet on encrypted volume (tested, ok but needs your work)
 - online wellknown wallets MTgox (*what you probably expect :P)
- ► OH WAIT! you have to send almost DNA sample to mtgox, that doesn't seem to be privacy-friendly
 - ▶ one-use ewallet
- ► OH WAIT! bitcoins transactions are public
 - ▶ use a mixer



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demo time





1HW65ZrAFd9XMq9o2HBGZnFDR5d7GpS1F8

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Profile End



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prepare to be someone else (inside tor)



- prepare to be someone else (inside tor)
- ► GOTO 60



- prepare to be someone else (inside tor)
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- being anon is hard, Pro tip: read a lot



- prepare to be someone else (inside tor)
- ► GOTO 60
- being anon is hard, Pro tip: read a lot
- ► hardcore demo







fake profile



- + email
- + photo;)





shouldnt be difficult to find hosting in BTC



- shouldnt be difficult to find hosting in BTC
- 2. remember slides 0 n



- shouldnt be difficult to find hosting in BTC
- 2. remember slides 0 n
- 3. prepare your wallet(s)



- 1. shouldnt be difficult to find hosting in BTC
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- 4. send some BTC, always use mixer



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Bitcoins Profile End



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Bitcoins Profile End



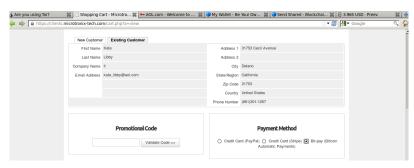
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Take my BTC!







control panel

hm 2013 poc









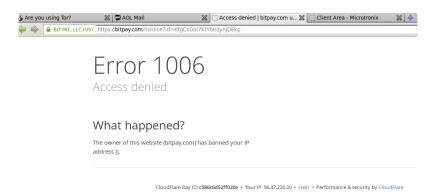
invoice

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ooops shit happens!



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technoviking to the rescue!





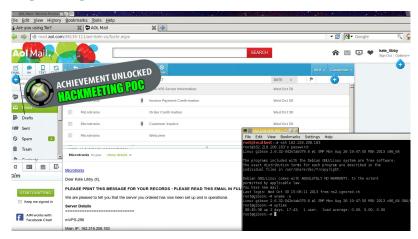
payment



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ACHIEVEMENT UNI OCKED!



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FAQ

- 1. what about DNS?
- 2. what about hidden services?
- 3. you talking but all your shots are belong to us!
- 4. what to do and not next
- 5. ...



agur! bye bye! hasta otra! :)

