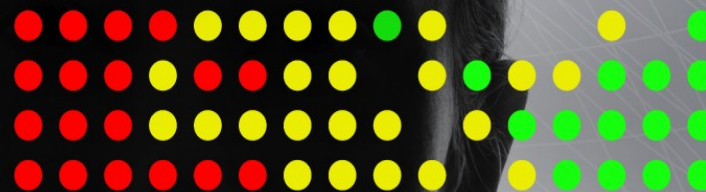


August 15-16 / 2015

I2P

GETI2P.NET



HackLab

1266 Queen Street West,
Toronto, Ontario
Canada

In Partnership
with:



Toronto Crypto for
helping organize this
event

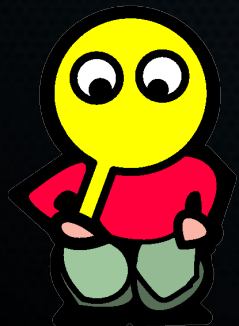


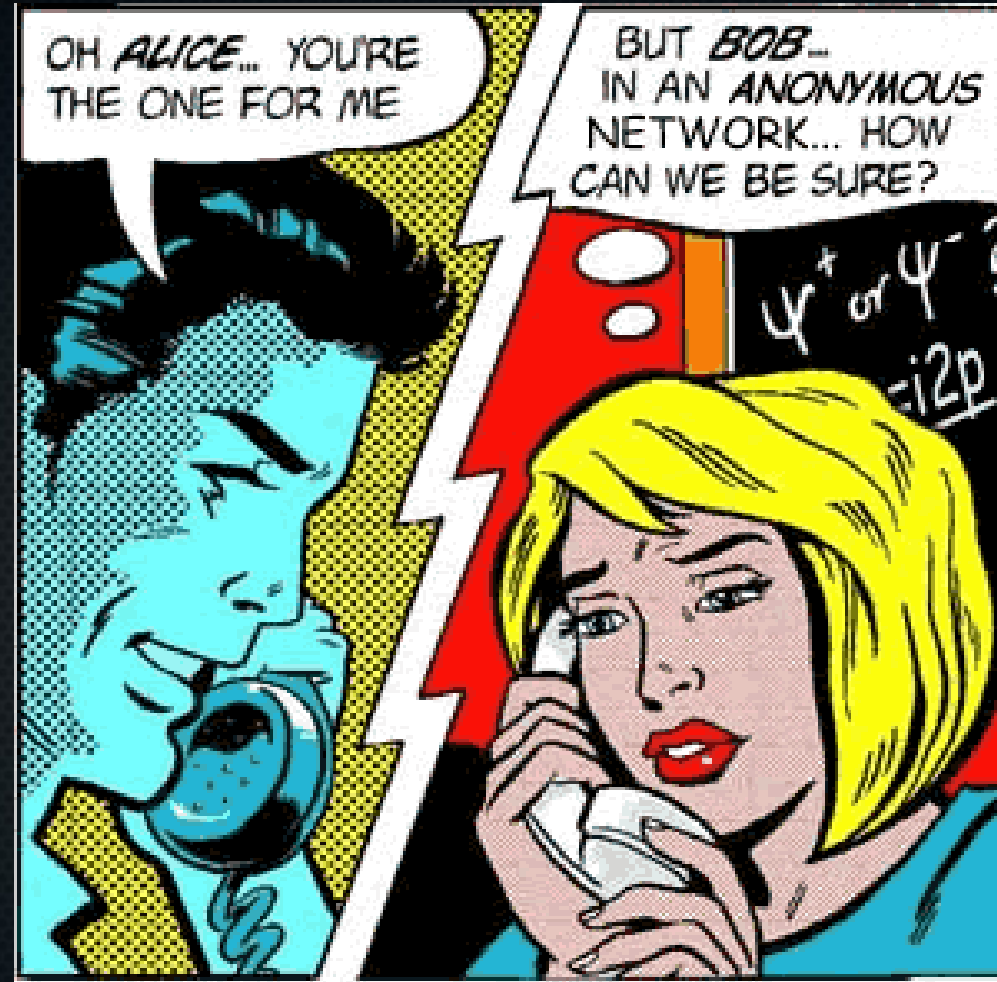
Hacklab for providing
us with a great space



- Growing the Network
 - Spreading the Word

#I2PCon Toronto
August 15-16, 2015
zzz
zzz@i2pmail.org
geti2p.net
@i2p







Invisible IRC Project



I2P



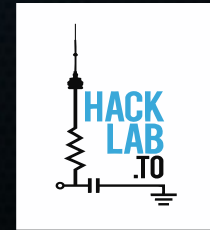
Decentralized

Every node is a relay

Organized using a DHT

No single point of failure

No centralized authorities



Decentralized – *but...*

Every node is a relay – *all except very low bandwidth and hidden*

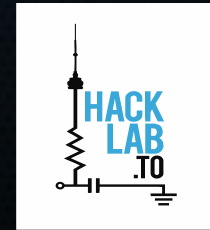
Organized using a DHT – *but not a completely traditional one, and only fast peers are members*

No single point of failure – *but wouldn't be good if the bus hit somebody*

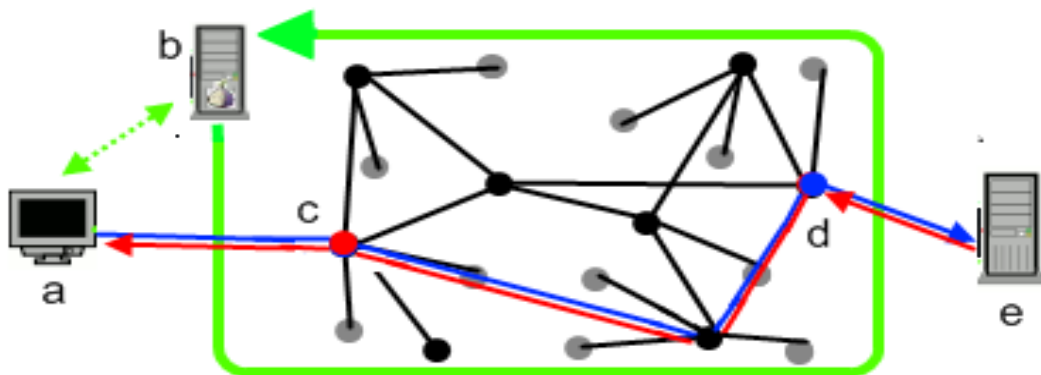
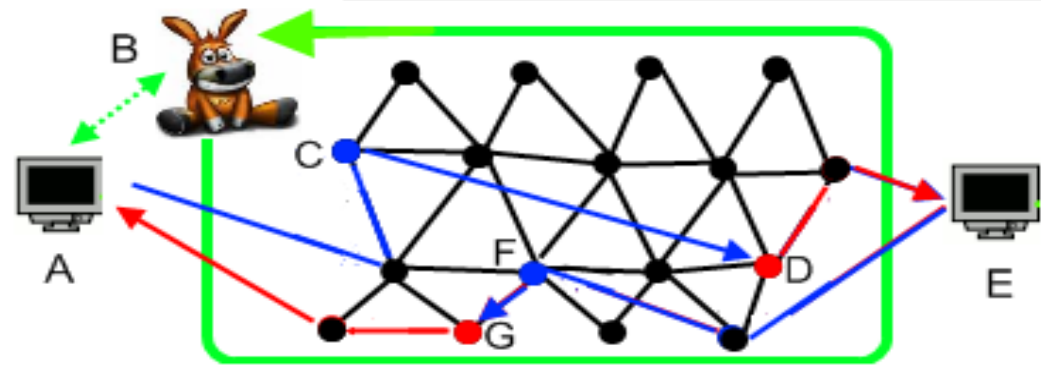
No centralized authorities – *except news, update, subscriptions, one outproxy, ...*



Making it work, making it better, spreading the word 2002-2015



I2P Network: 大蒜路由



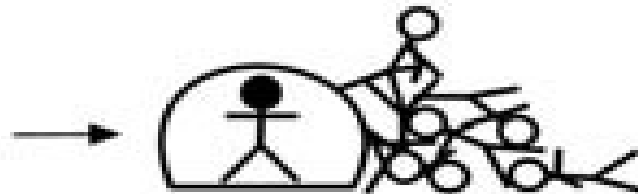
Tor Network: 洋葱路由



WHY I2P?



**The Relentless
March of the Conga
Line is Halted**



www.geti2p.net



Invisible Internet Project
NEEDS YOU
Java coders & translators apply within

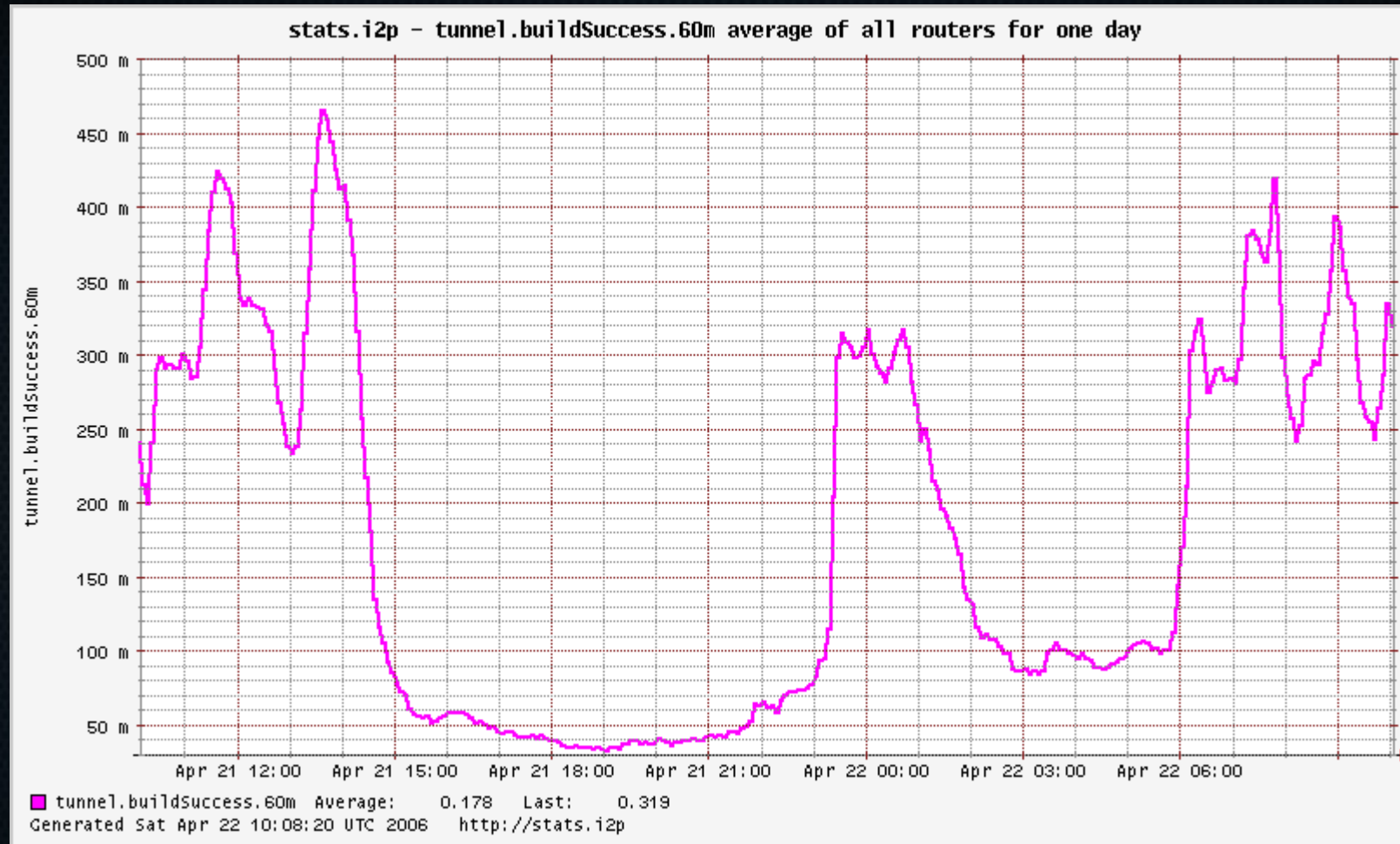


First decade

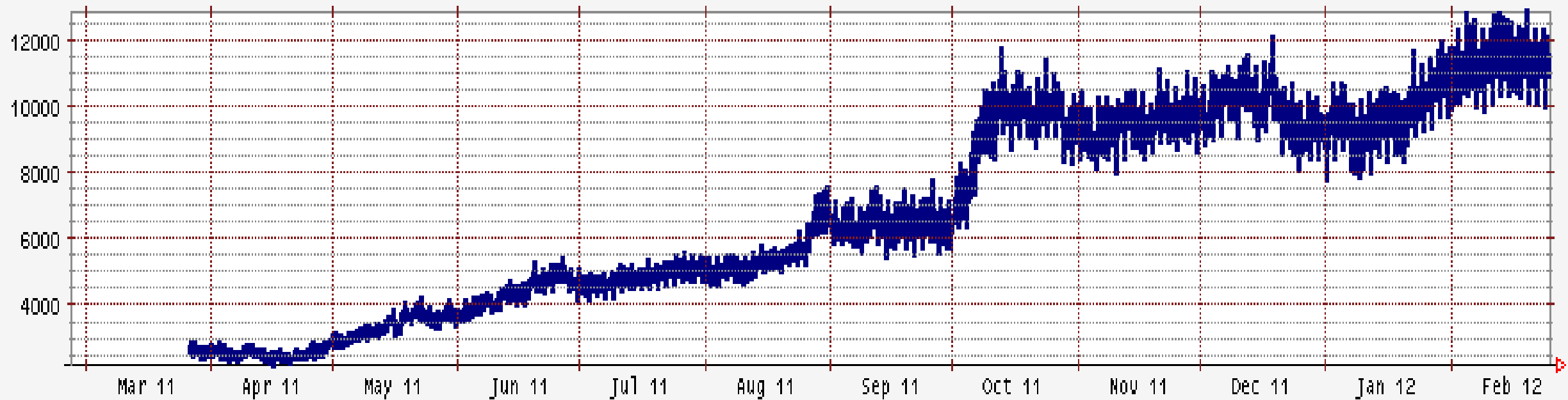
- 2002-2003 IIP - Lance
- 2003-2007 I2P jrandom - don't publicize it until it's perfect
- late 2007 jrandom vanishes
- 2008: it won't be perfect until it gets bigger so we can fix things... let's start publicizing!
- 2008-2009 twitter, ...
- 2009: thepiratebay.i2p
- 2009: PET-CON paper
- 2009:: Good documentation, console translation
- 2009-present: CCC, HOPE, DEFCON
- 2009-2015: Android
- 2013-2015: Android apps (nightweb, i2p-bote)
- 2010 French laws
- 2010-2013 Plugin support
- 2011 rusleaks.i2p, Russian Laws



2006 disaster (tomorrow's talk)



stats.i2p - Estimated Total Routers



■ Total routers in the network Avg: 6853 Now: 10891

Generated Sat Feb 25 07:46:07 UTC 2012 <http://stats.i2p>





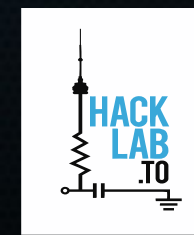
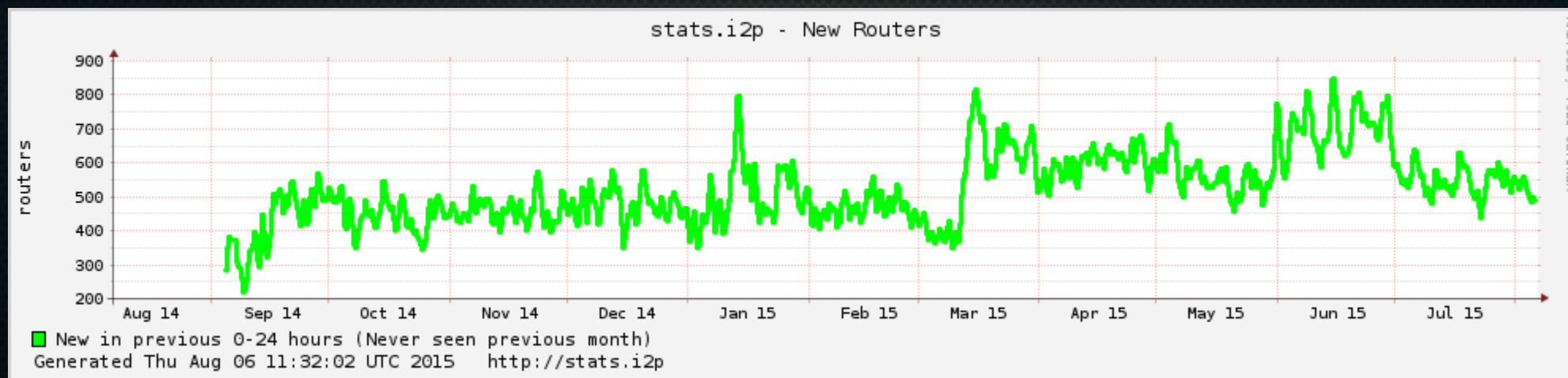
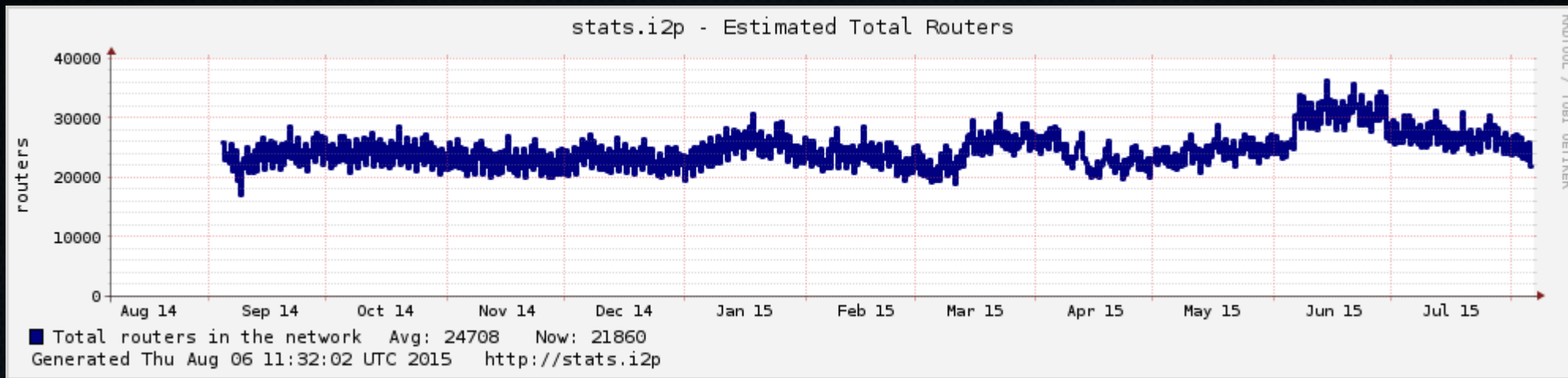
Last 4 years

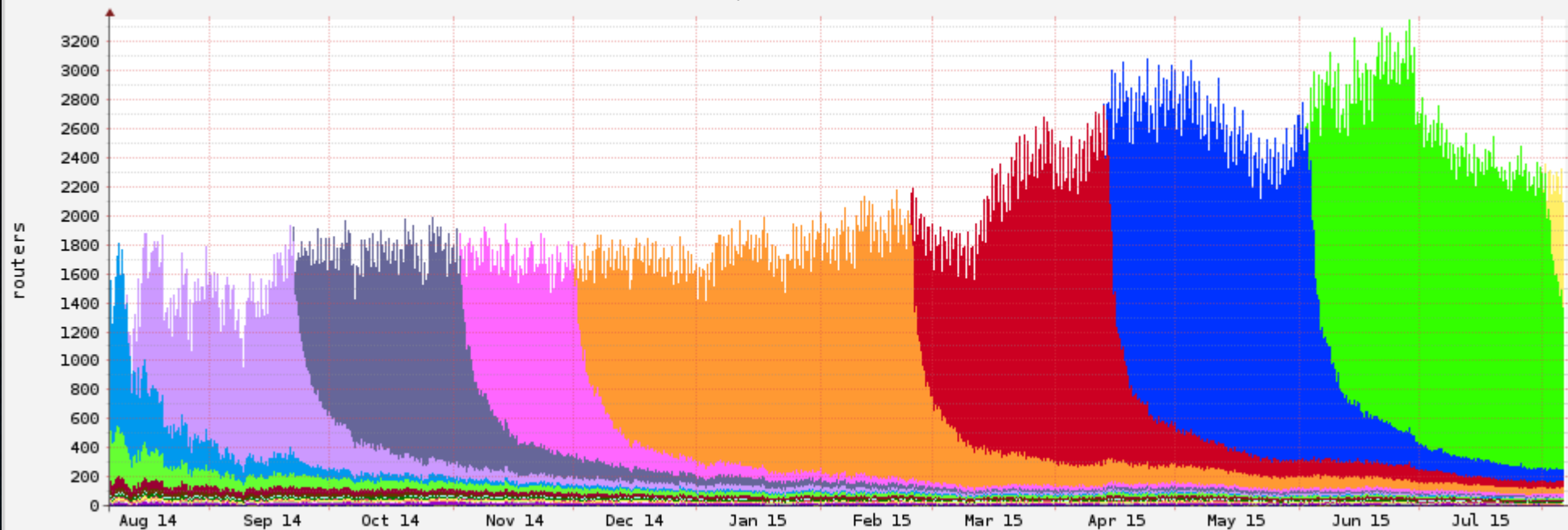
- 2012-2014 Content will bring users? Search engines? Duckduckgo.i2p?
- 2012 In-i2p search box added to console, but remains hidden because no site can do competent filtering
- 2013 Chans
- 2013-2014 Markets
- 2014 Audit?
- 2014-2015 i2pd
- 2014 duckduckgo award but no eepsite
- 2014 Orchid (Tor) plugin
- 2015 Apps bundling I2P / VUZE, botnets
 - Vuze takes off
- 2015 Facebook on Tor
- 2015 I2PCon!



•State of the Network



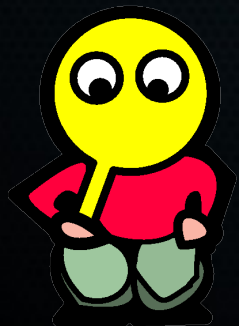
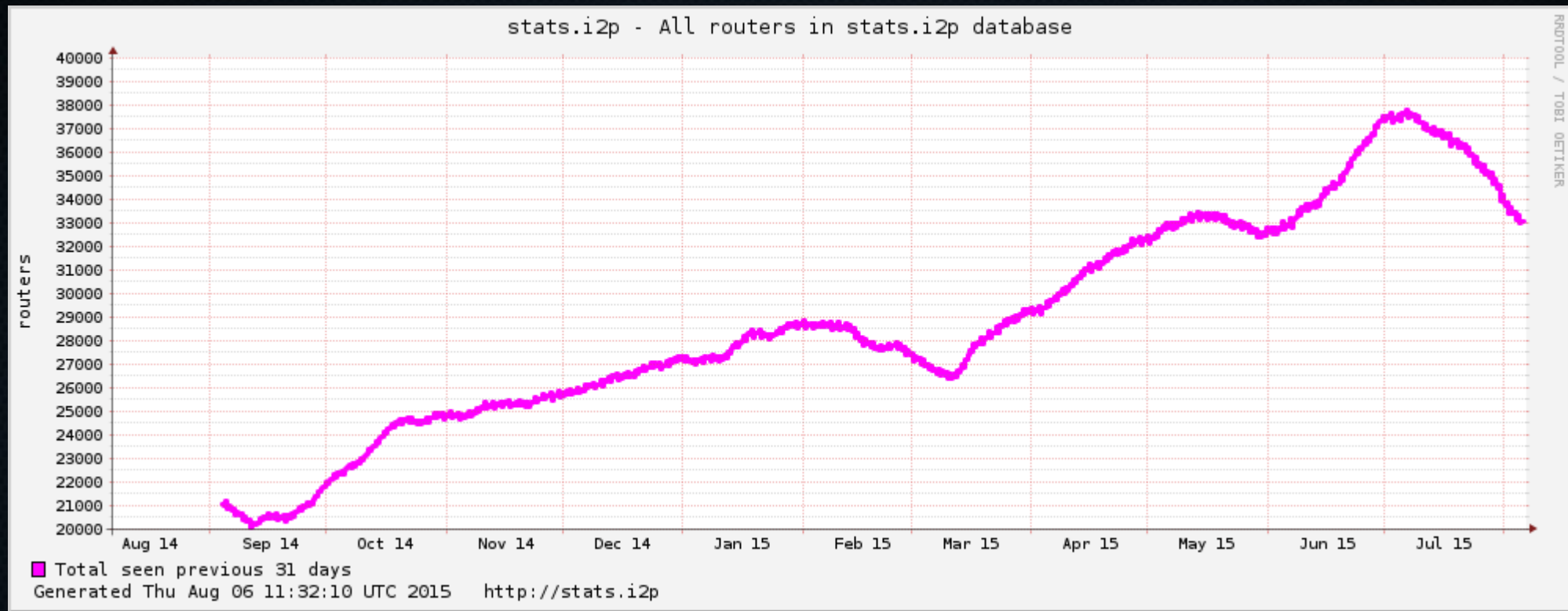




0.9.1	Now:	0	(0.0 %)
0.9.2	Now:	0	(0.0 %)
0.9.3	Now:	0	(0.0 %)
0.9.4	Now:	0	(0.0 %)
0.9.5	Now:	8	(0.4 %)
0.9.6	Now:	1	(0.0 %)
0.9.7	Now:	0	(0.0 %)
0.9.7.1	Now:	1	(0.1 %)
0.9.8	Now:	4	(0.2 %)
0.9.8.1	Now:	3	(0.1 %)
0.9.9	Now:	5	(0.2 %)
0.9.10	Now:	3	(0.1 %)
0.9.11	Now:	2	(0.1 %)
0.9.12	Now:	9	(0.4 %)
0.9.13	Now:	12	(0.6 %)
0.9.14	Now:	4	(0.2 %)
0.9.14.1	Now:	7	(0.4 %)
0.9.15	Now:	7	(0.3 %)
0.9.16	Now:	19	(0.9 %)
0.9.17	Now:	39	(1.9 %)
0.9.18	Now:	47	(2.2 %)
0.9.19	Now:	80	(3.8 %)
0.9.20	Now:	1115	(53.2 %)
0.9.21	Now:	726	(34.7 %)

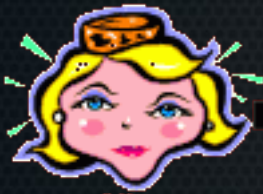
Generated Thu Aug 06 11:32:02 UTC 2015 <http://stats.i2p>





How did we get here?





Alice

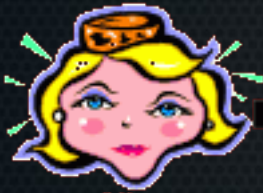


Bob



to
crypto

Google



Alice



Bob

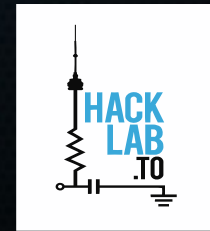
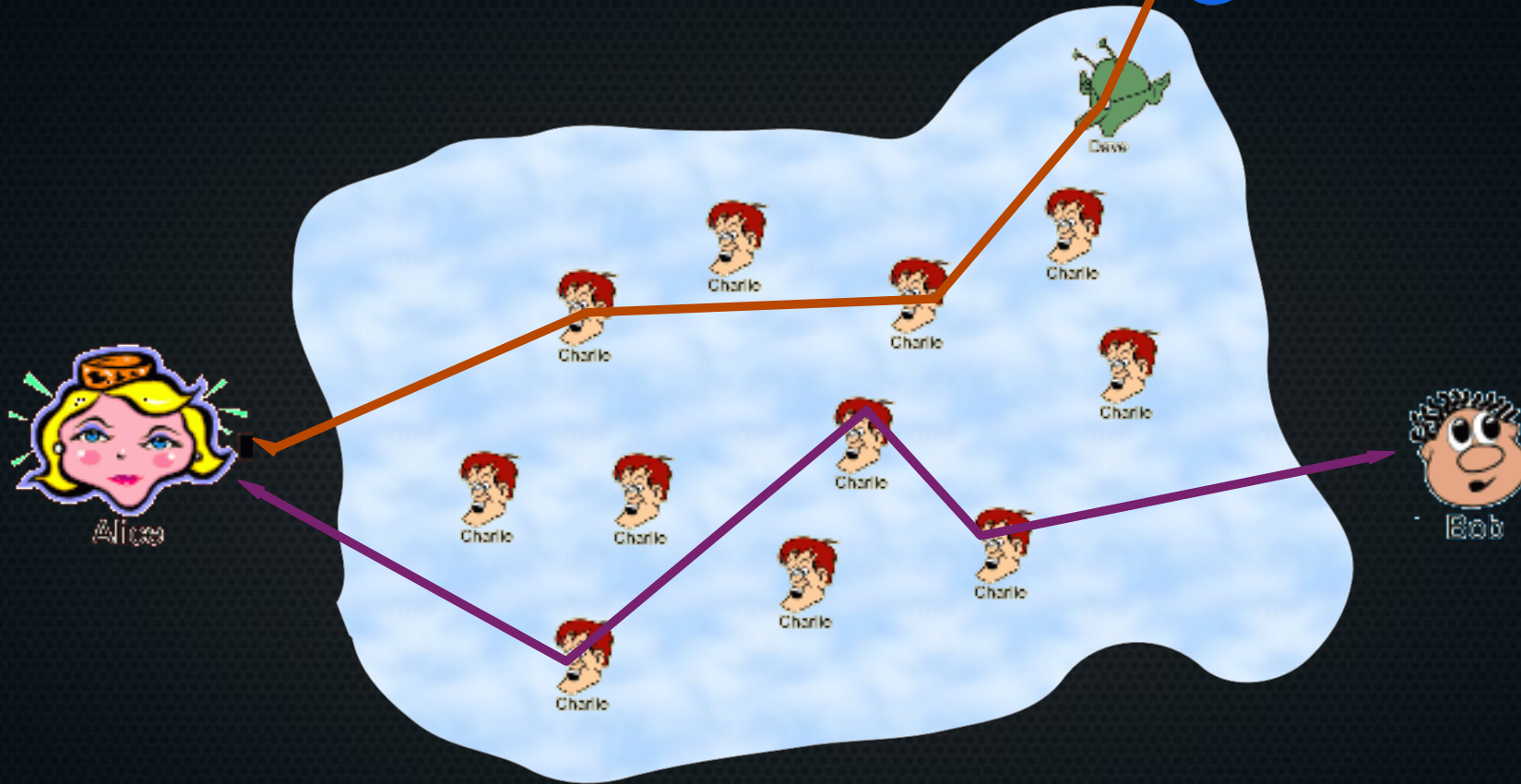


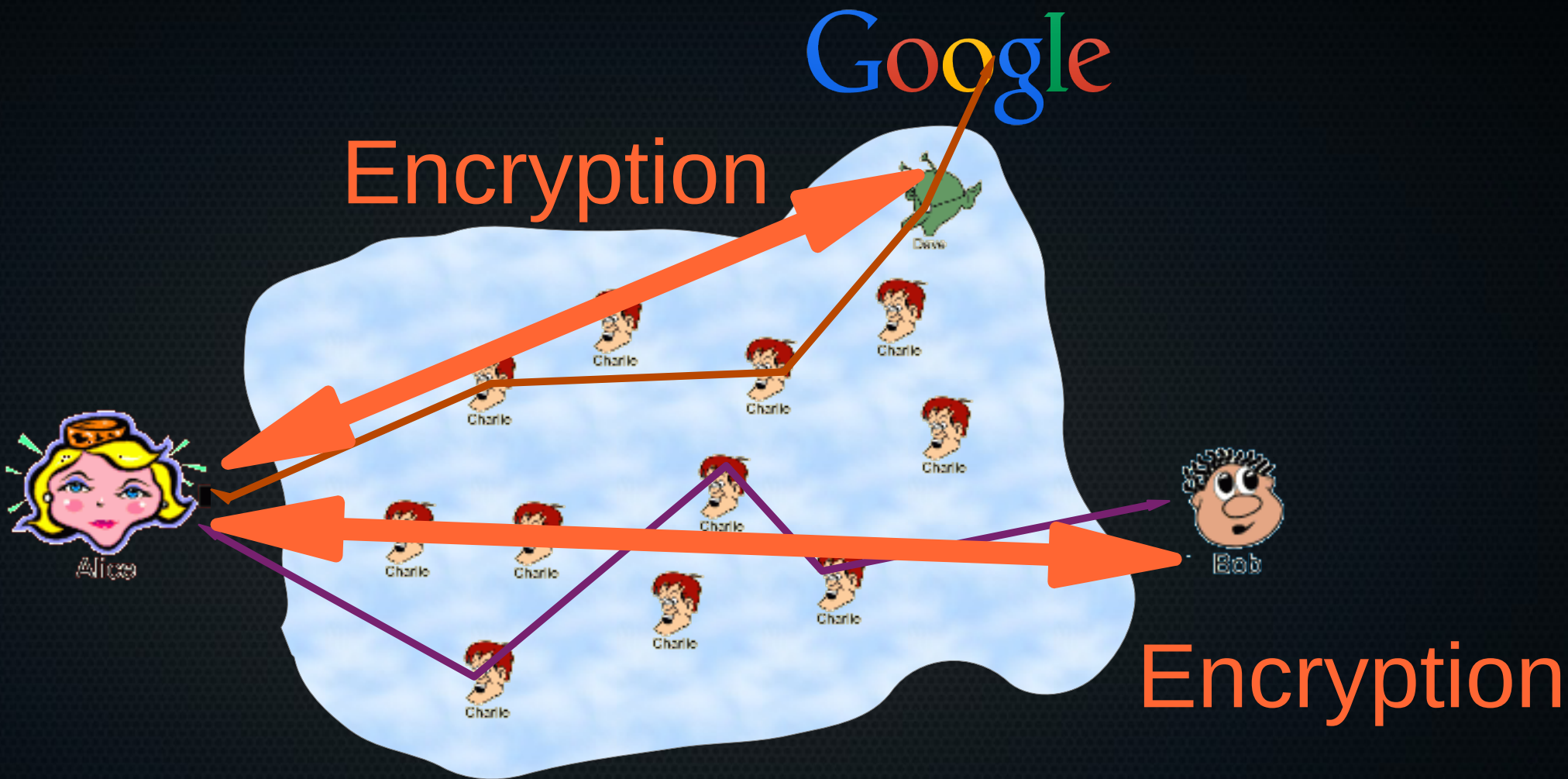
to
crypto

Google



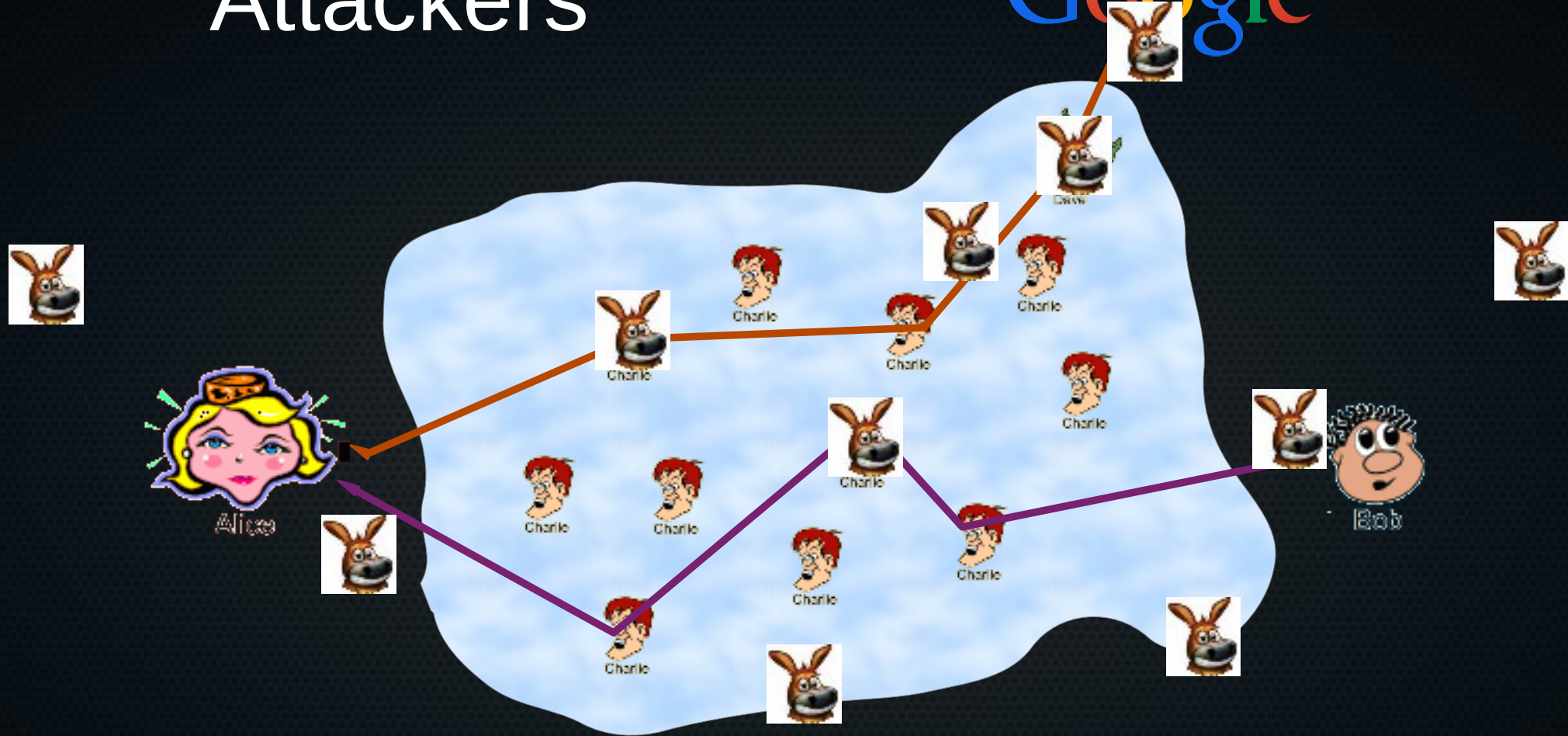
Google



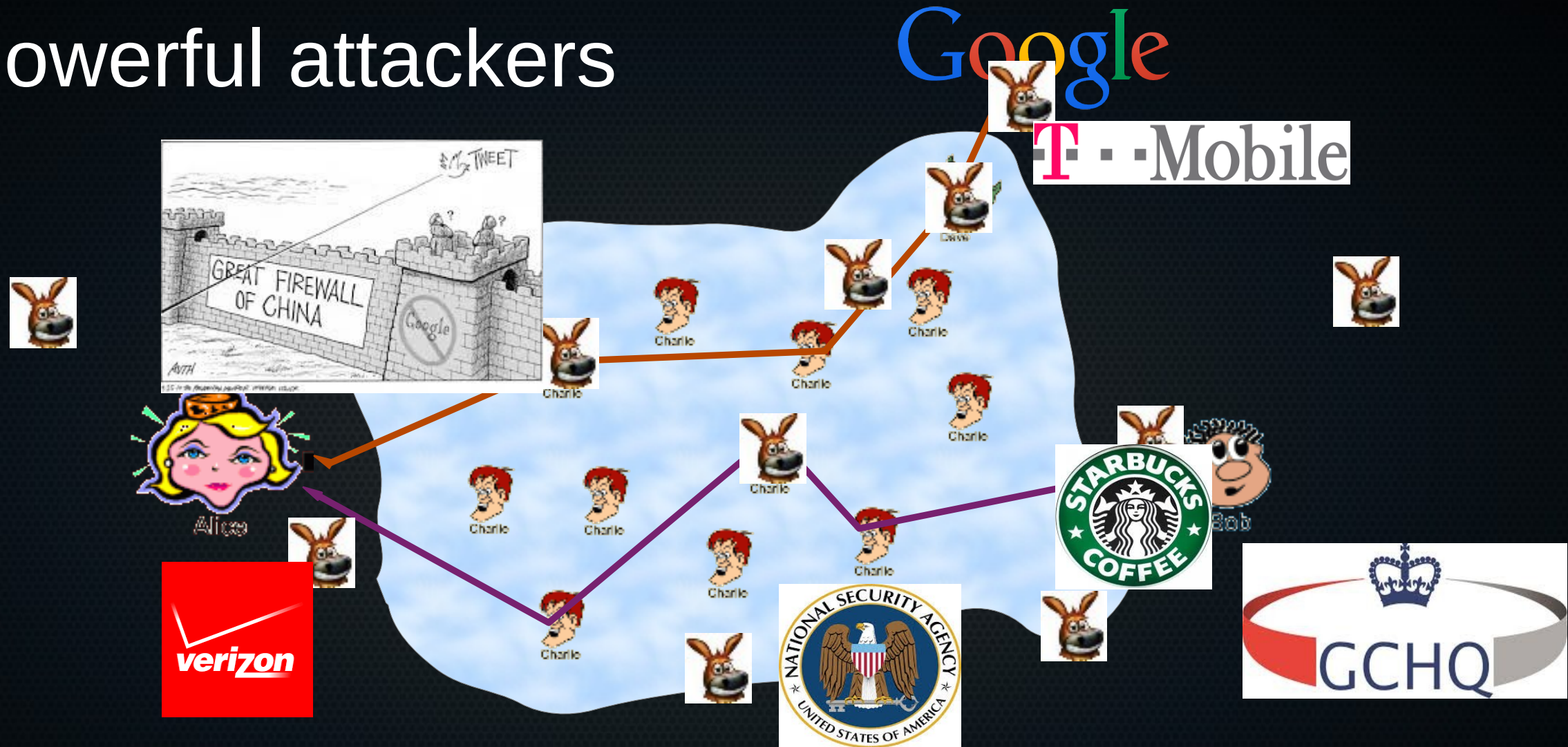


Attackers

Google



Powerful attackers

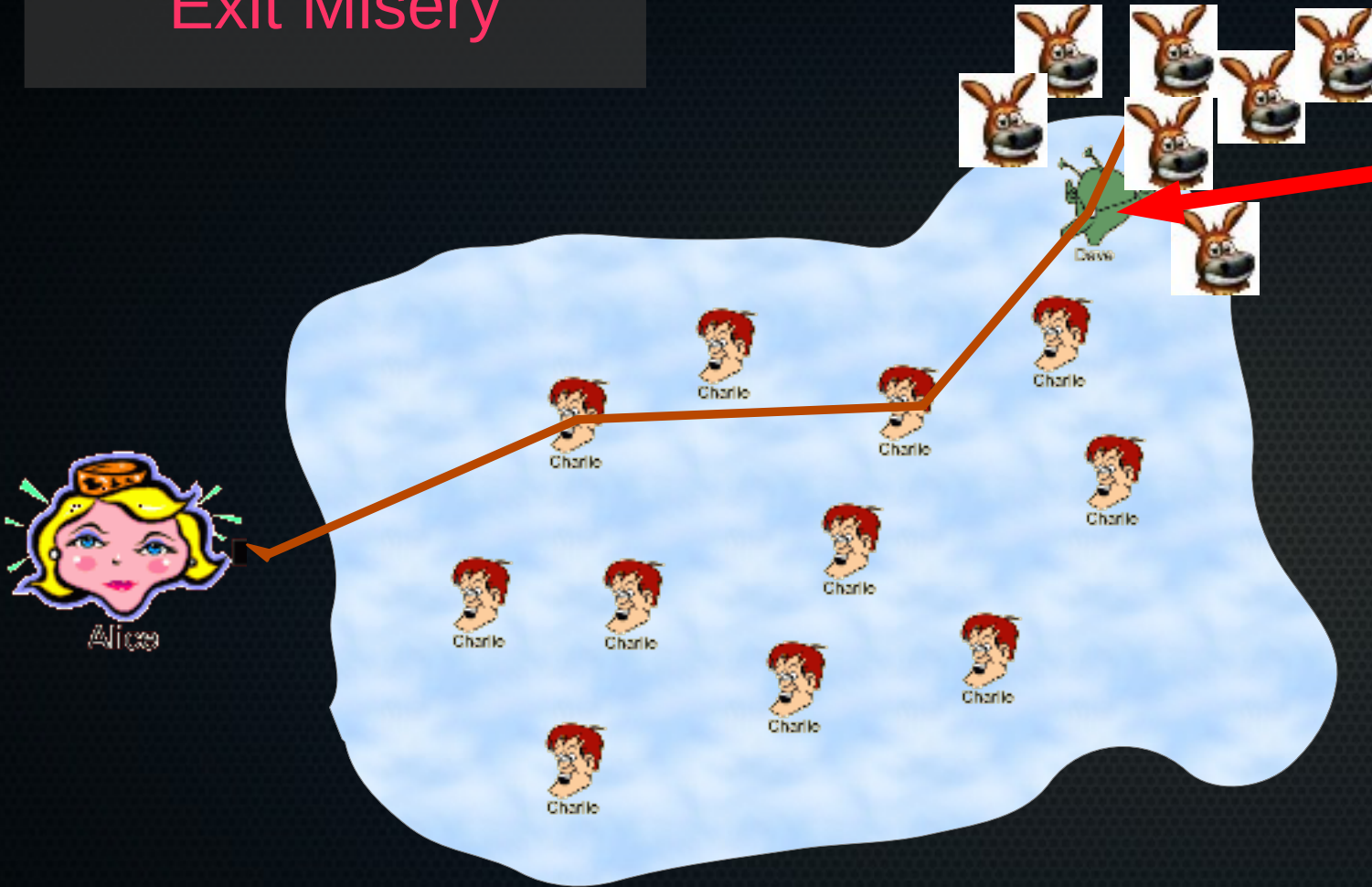


13 years of working on...

- Enabling (or reacting to) growth
- Speed
- Reliability
- Security
- Bugs
- Features
- Usability
- Portability
- Resistance to DPI
- Crypto migration
- Extensability
- Applications



Exit Misery



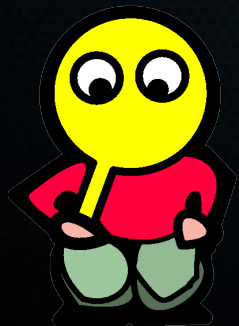
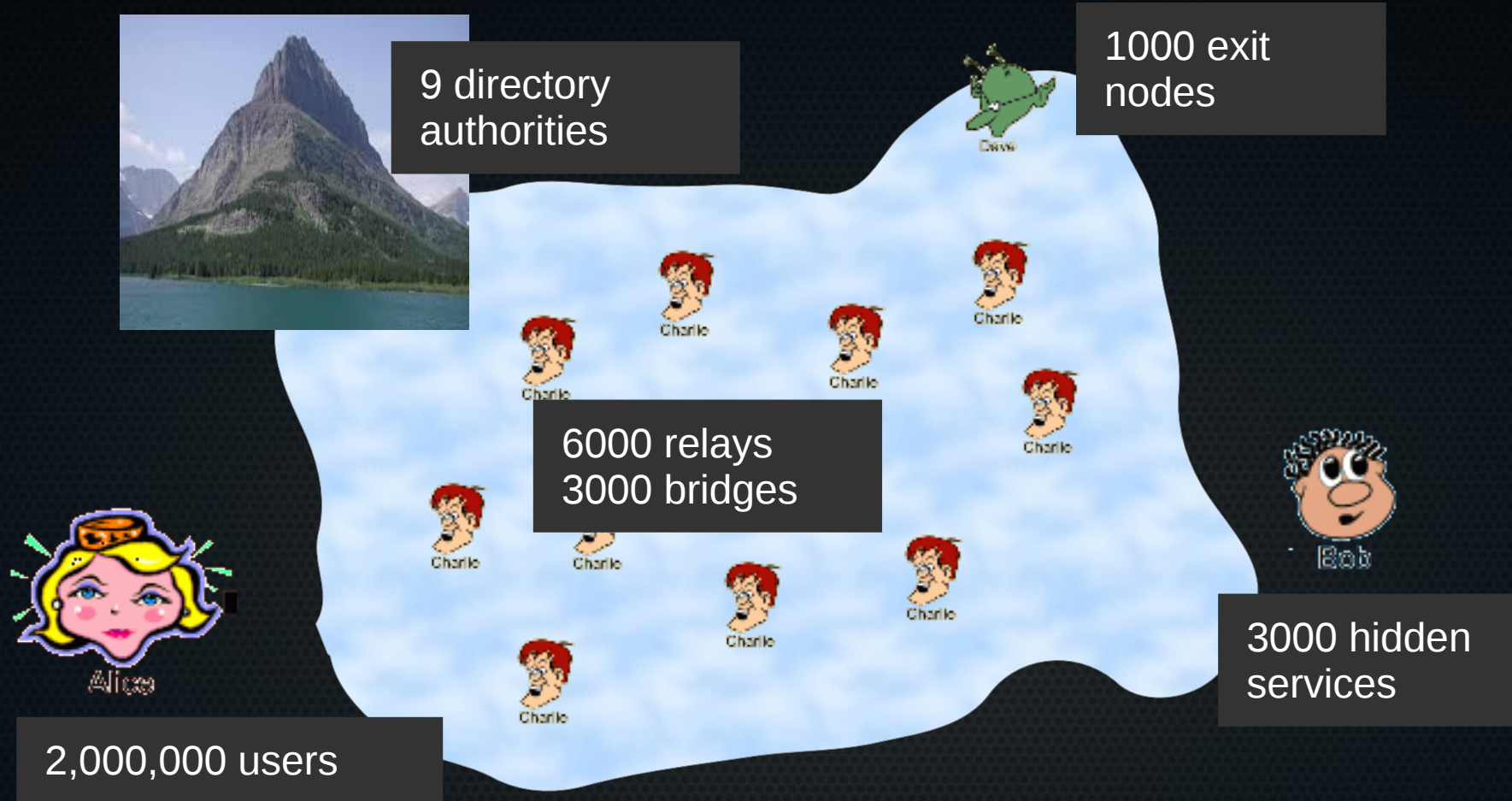
Dave is crazy to risk subpoenas, or
Dave is evil and can't protect
against that, or attackers will
inspect or modify here.
Unsolvable problem?

And: This, of course, is what Tor
does well

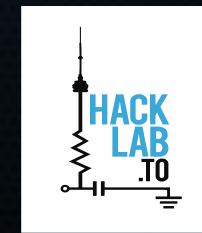
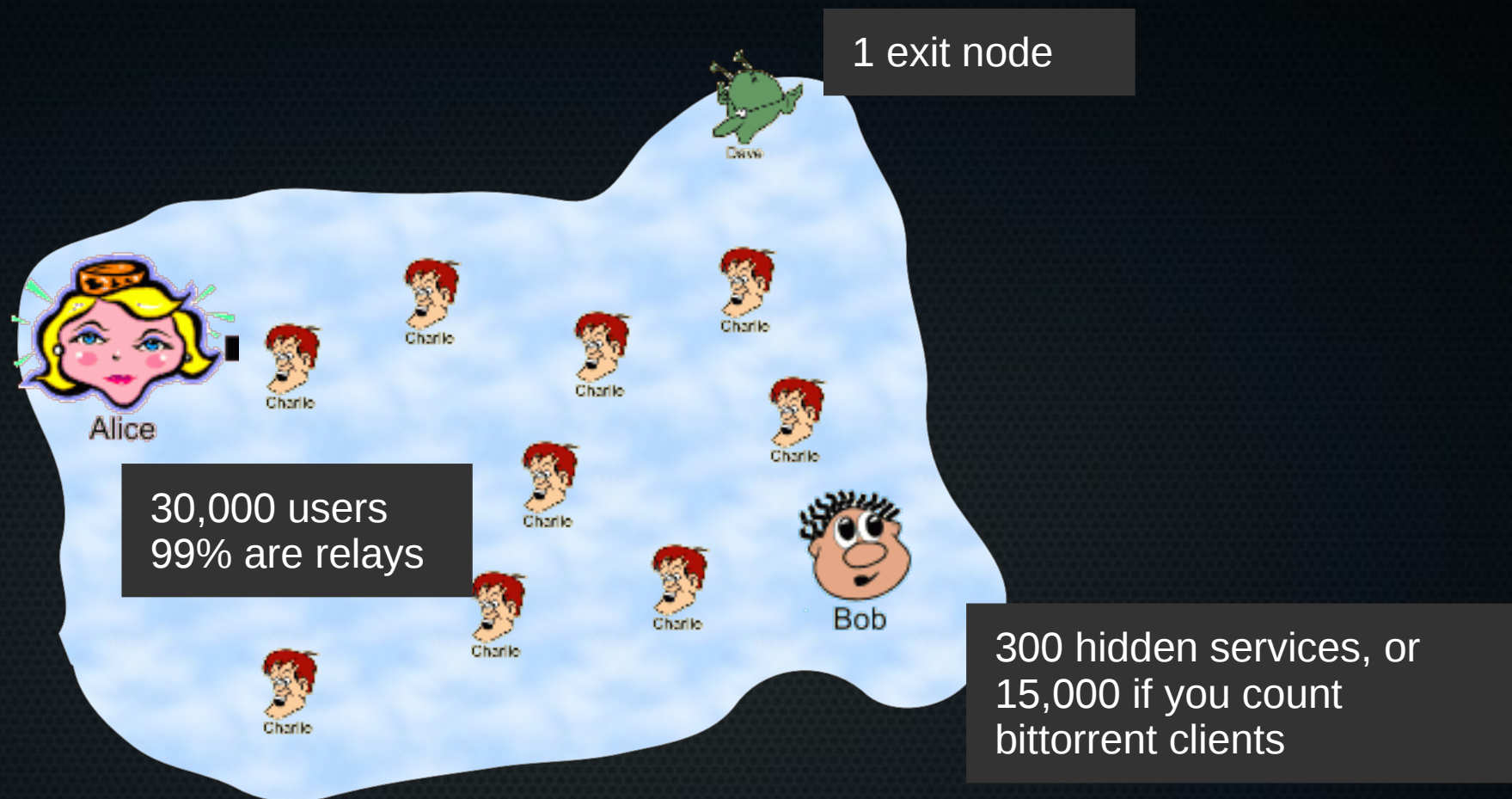
But: This is all users want in many,
many countries



Tor

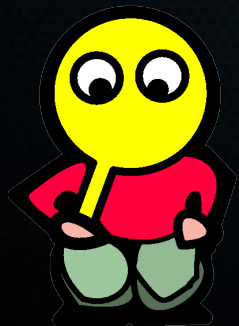


I2P



Uncertain efforts

- Not big drivers of growth:
 - conferences
 - apply for grants
- Haven't been able to successfully:
 - Apply for GSoC
 - Attract big website or search engine
- Not all content is good for our image (e.g. markets)
- Not all nodes are good for the network (e.g. botnets)
- But:
 - For both I2P and Tor, growth was always bursty and random: Snowden, Wikileaks, Iran, ...
 - Does everything pay off eventually?



Marketing Challenges

- Still a hard sell
- Users in many countries just want uncensored connection to internet (they need Tor)
- Still hard to explain
 - A platform more than an application
 - Elaborate router console only useful for diagnostics
- Moving to Tor terminology ("hidden services" etc) just as they are (possibly) moving away



Somewhat helpful

Can't enable search!

Hidden Services of Interest



Mostly dev sites

Applications and Configuration



Mostly config stuff

Nice background?



Coming Challenges

- Keep doing what we do best, even while Tor:
 - 30+ paid employees
 - Finally starting to invest significantly in hidden services
 - Finally starting to improve their crypto primitives, catching up to or surpassing I2P
- New alternatives continue to pop up
- Restart growth
 - More devs, more testers, more support
 - More embedded applications
 - More of everything!
- Better research contacts / associations



Join Us

- You need I2P
- I2P needs you

