

Tor

The Onion Router

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- Secure meaning:

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- Secure meaning:
 - Privacy

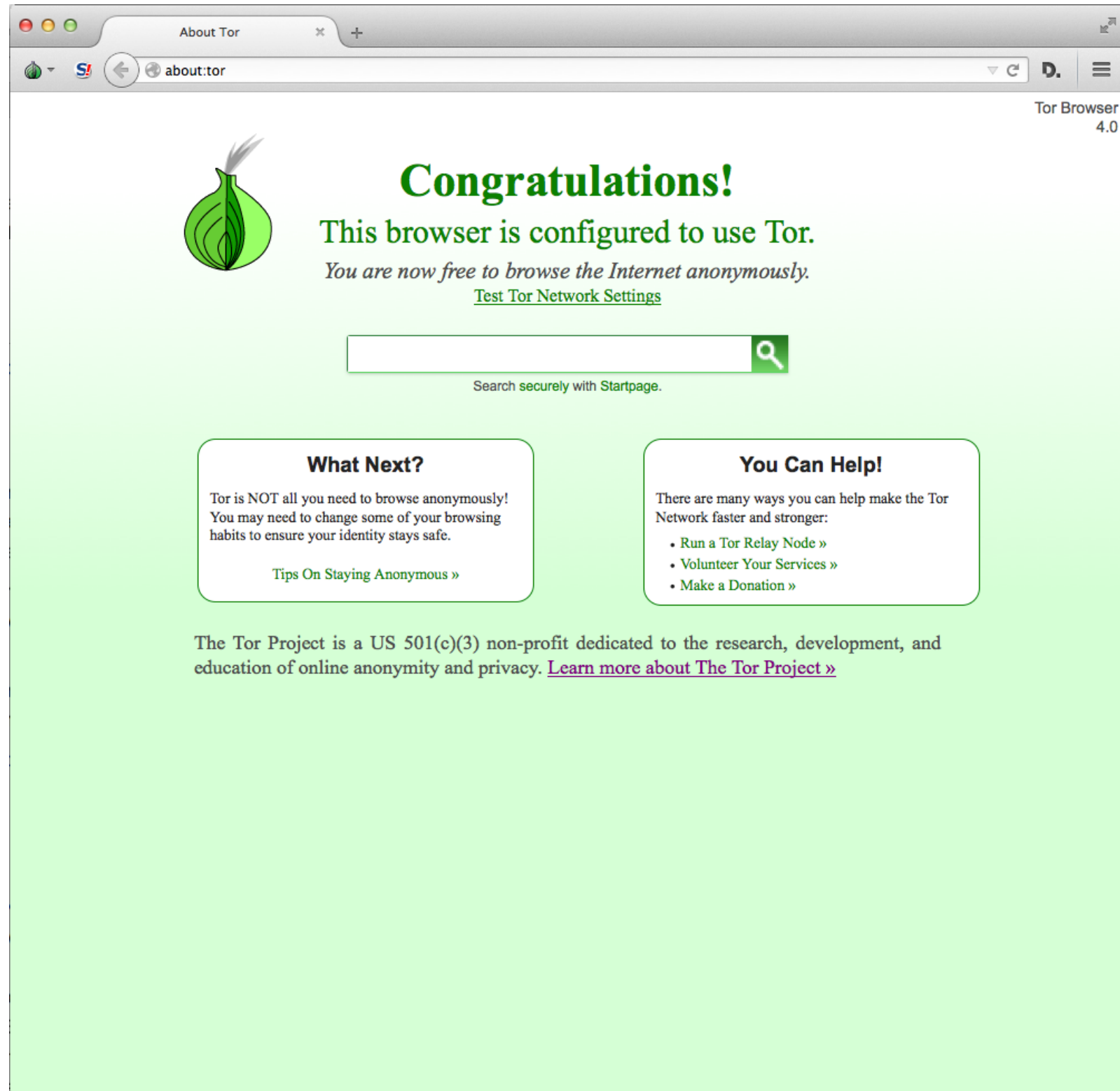
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- A way to use the internet 'securely'.
- Secure meaning:
 - Privacy
 - Anonymity
- Censorship circumvention

Most common use of Tor:



about:tor

Tor Browser 4.0



Congratulations!

This browser is configured to use Tor.
You are now free to browse the Internet anonymously.
[Test Tor Network Settings](#)

Search securely with Startpage.

What Next?

Tor is NOT all you need to browse anonymously!
You may need to change some of your browsing habits to ensure your identity stays safe.

[Tips On Staying Anonymous »](#)

You Can Help!

There are many ways you can help make the Tor Network faster and stronger:

- [Run a Tor Relay Node »](#)
- [Volunteer Your Services »](#)
- [Make a Donation »](#)

The Tor Project is a US 501(c)(3) non-profit dedicated to the research, development, and education of online anonymity and privacy. [Learn more about The Tor Project »](#)

Who uses Tor?

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- Journalists
- Dissidents
- 'Normal people'

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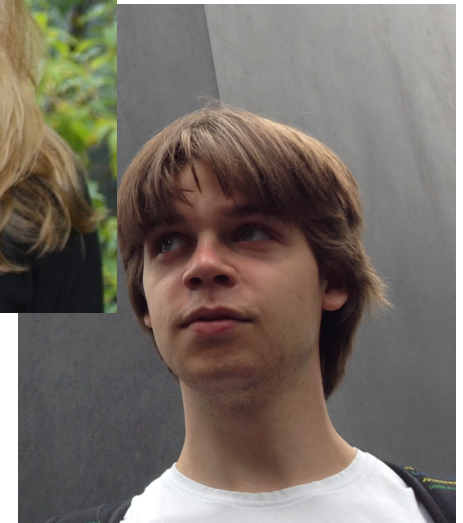
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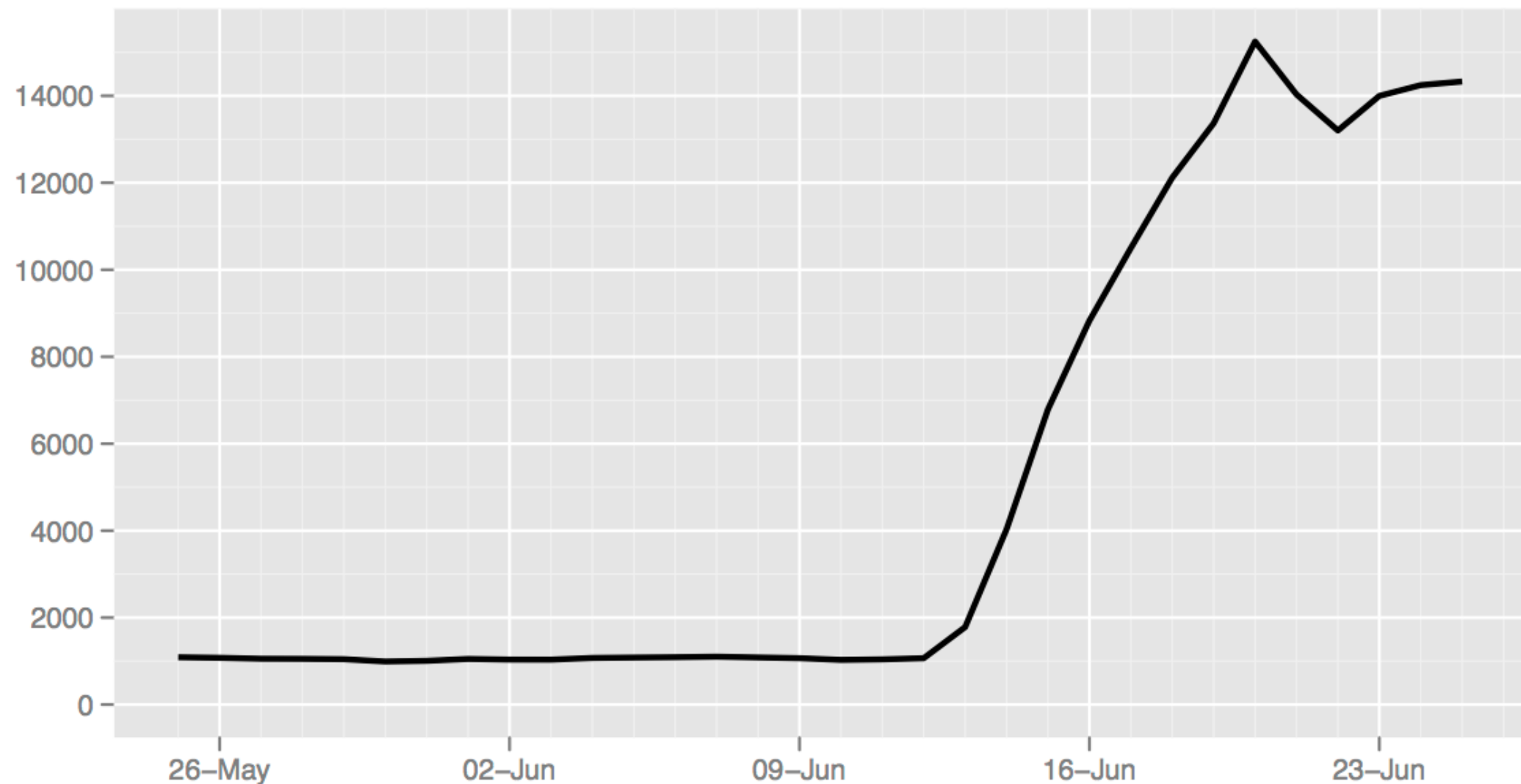
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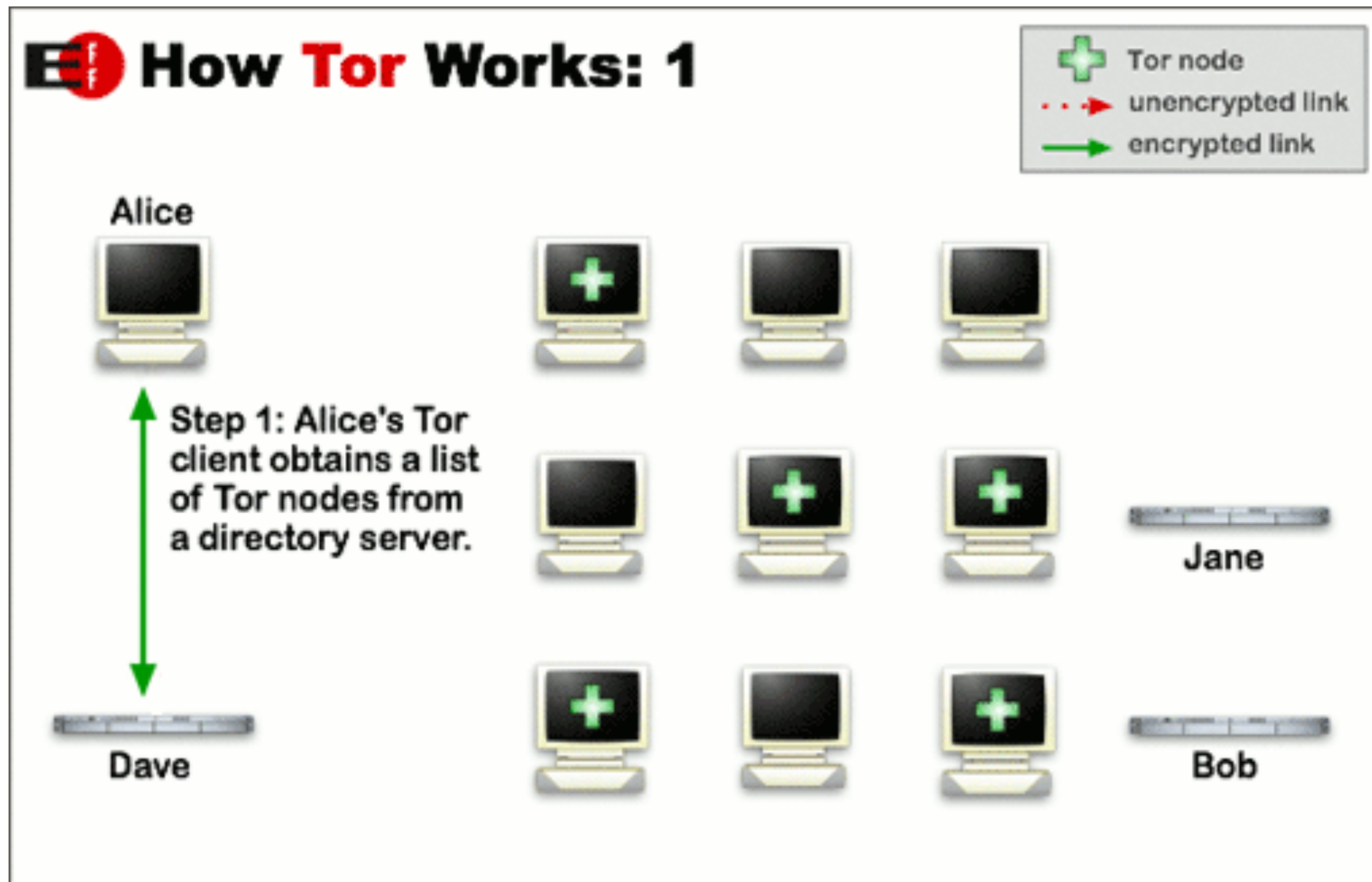


Tor usage often correlates with political events:

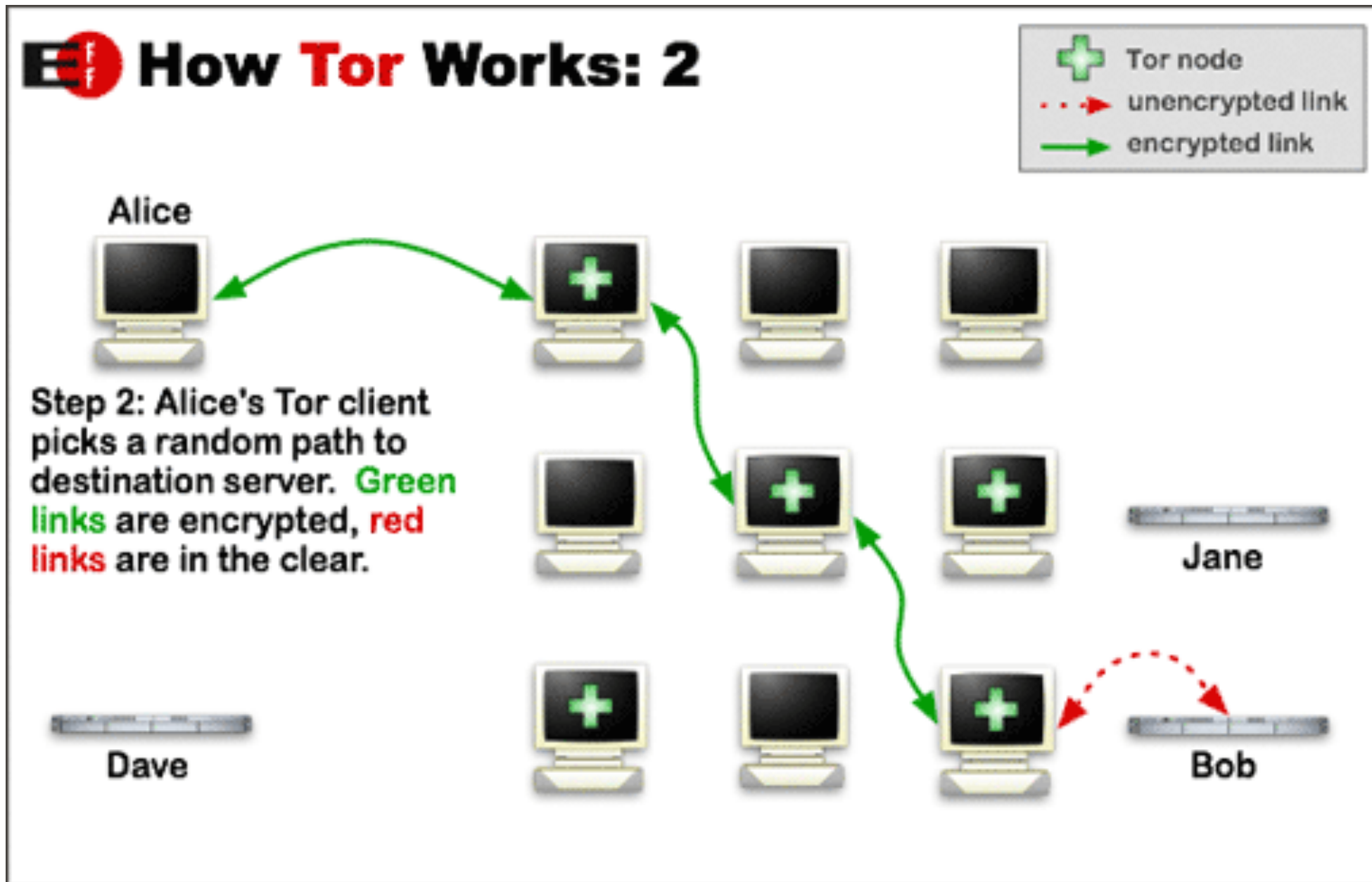
Directly connecting users from Iraq



How Tor works

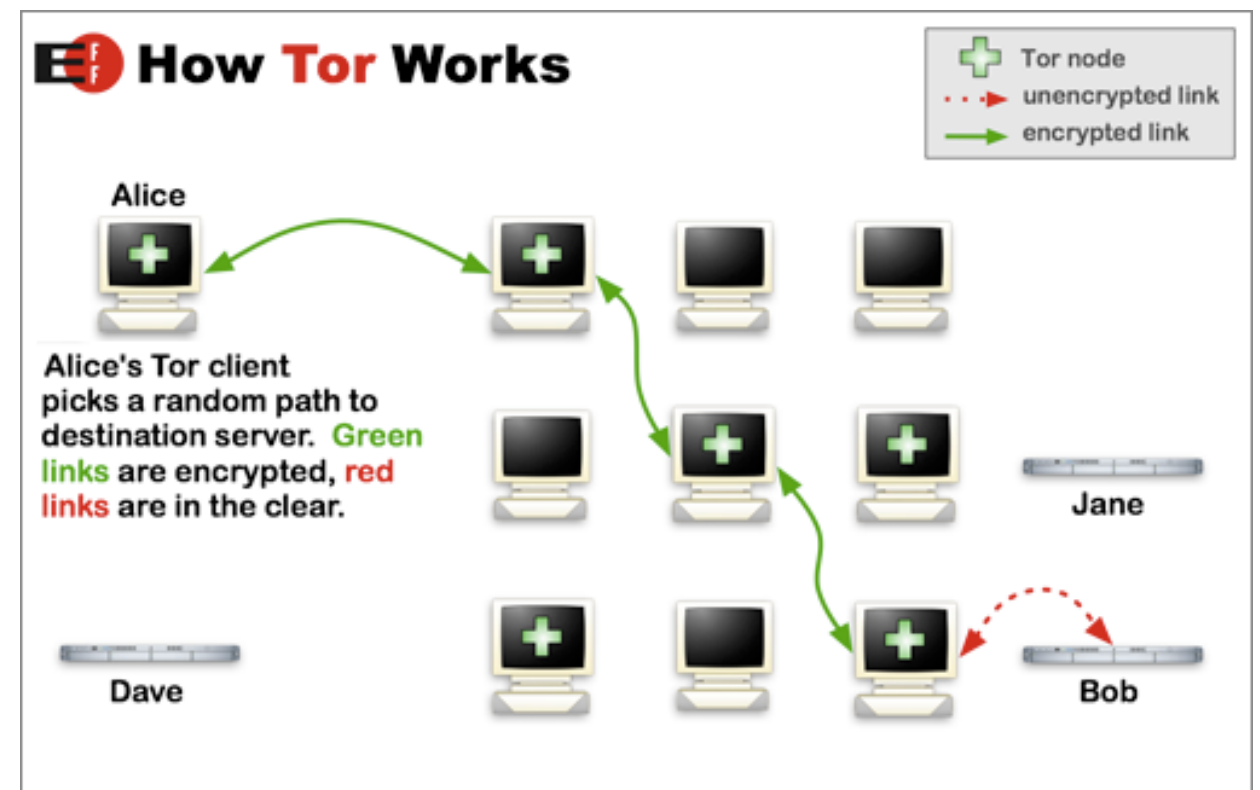


How Tor works



Tor circuit

- Alice knows everything
- The individual Tor nodes know (almost) nothing
- Circuit is valid for 10 minutes
- Bob is exposed



Tor Hidden Services

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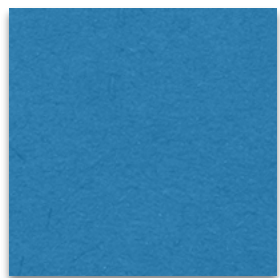
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4. Alice creates a circuit to the IP and tells Bob about the RP

Tor Hidden Services

1. Bob creates a public key
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3. Alice creates a circuit to a Rendezvous Point
4. Alice creates a circuit to the IP and tells Bob about the RP
5. Alice and Bob meet at the RP

Alice



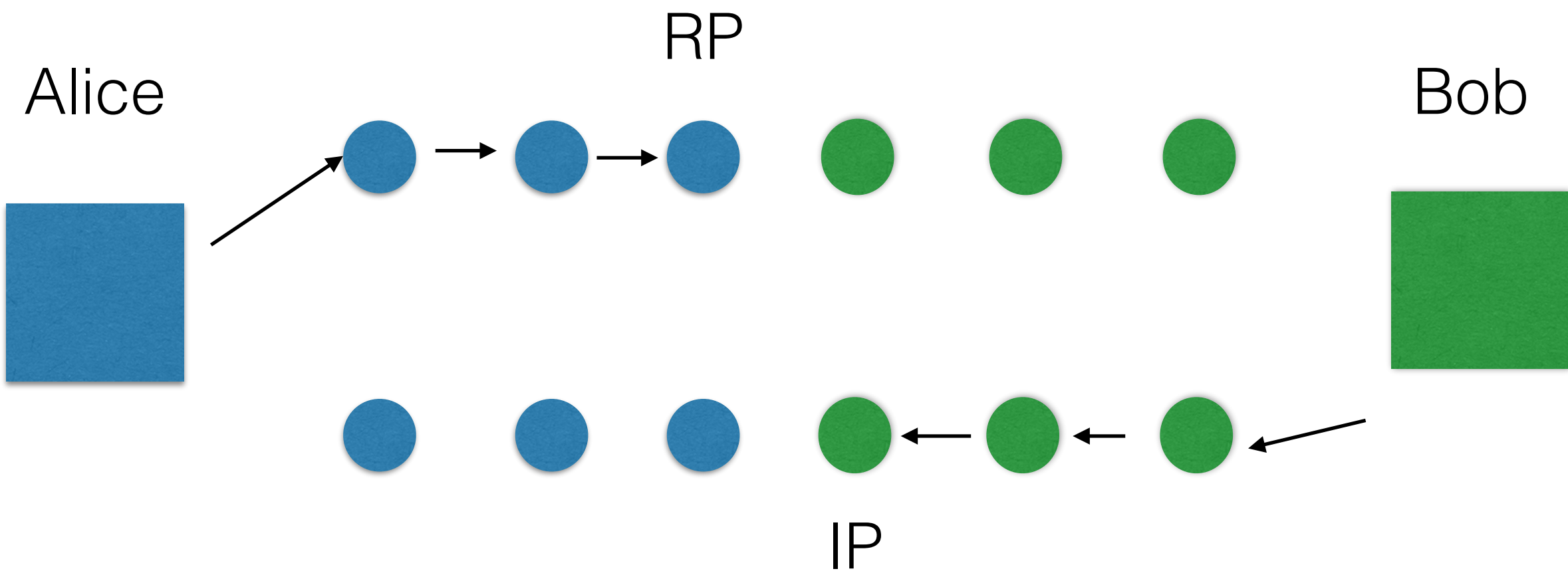
RP

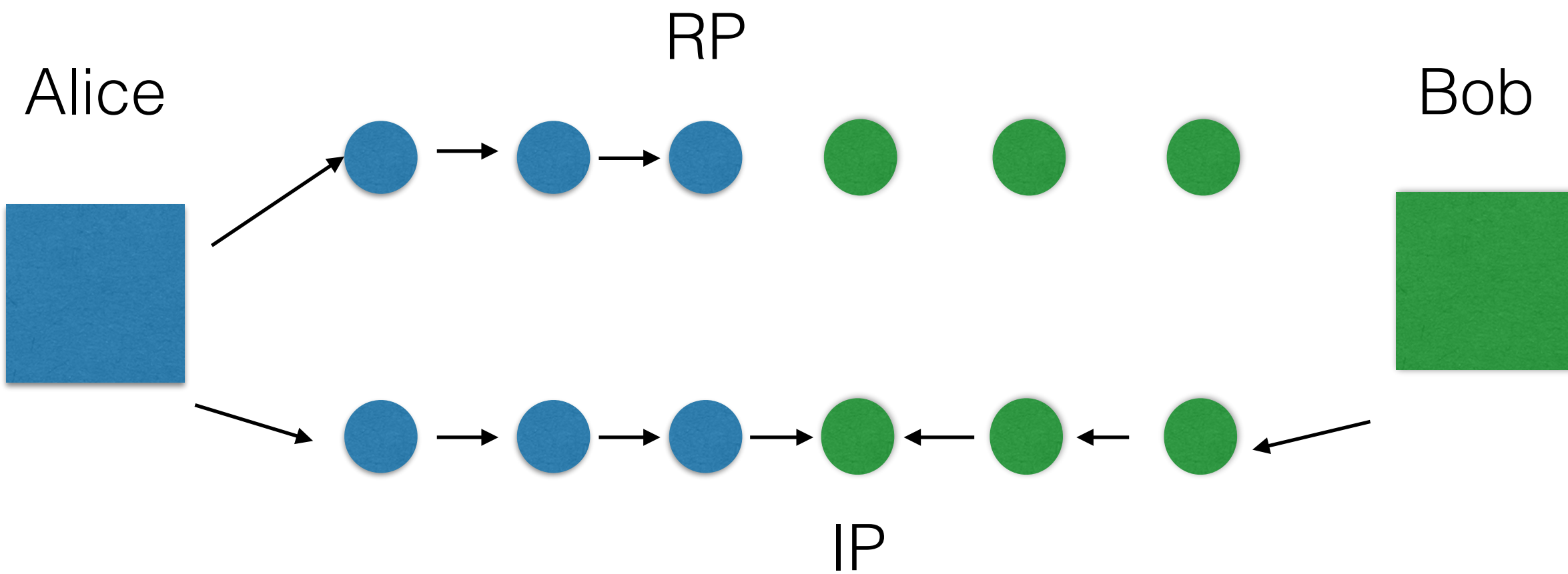


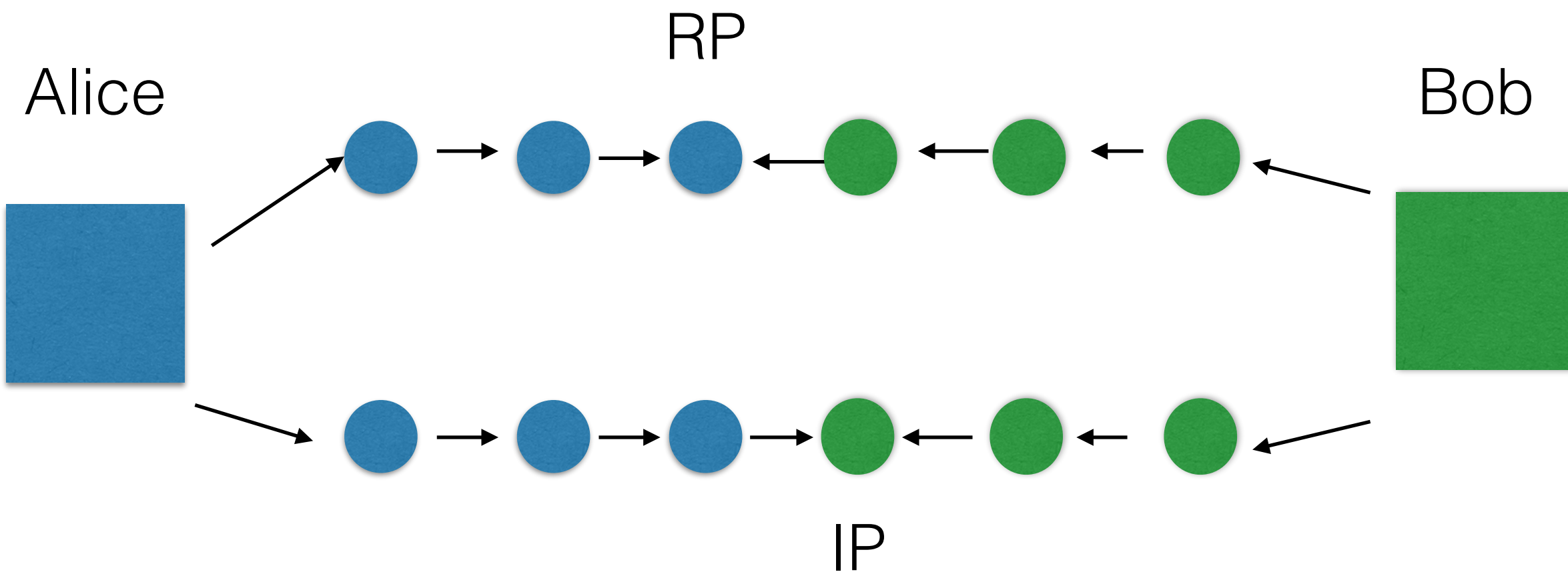
Bob



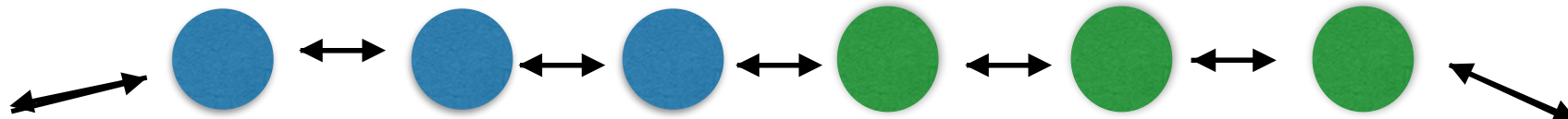
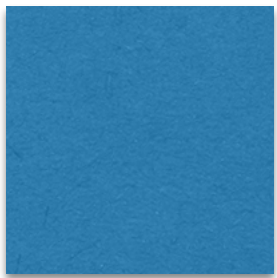
IP



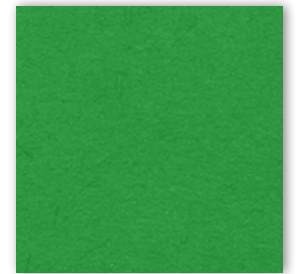




Alice



Bob



Attacks against Tor

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- Sybil attack
 - Prevention by directory authorities

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 - Meek bridges (Google, Amazon, Microsoft)

Demo