Inside
Hotel California

How the Internet giants dominate through culture and technology

Vittorio Bertola – 21 October 2020

Who am I

Internet expert since 1995

Free software activist

Loves Perl

Former CTO at Vitaminic

Apologizes for co-founding the M5S

Involved in Internet governance since ages

Currently head of policy at **Open-Xchange**

OX® *Stay Open.*

German open source software company

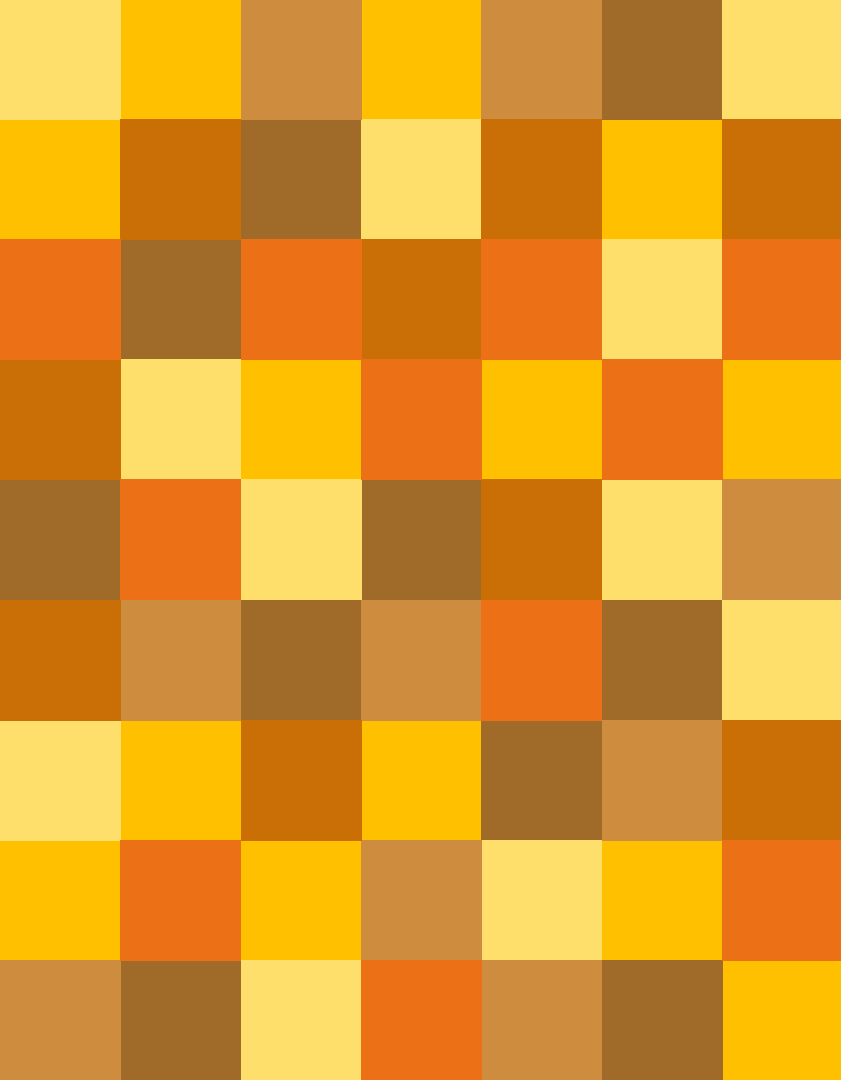Maker of DOVECOT

POWERDNS

Disclaimer

I do not hate Google, Microsoft etc, or the U.S.

I do not want to «put the Internet under control»

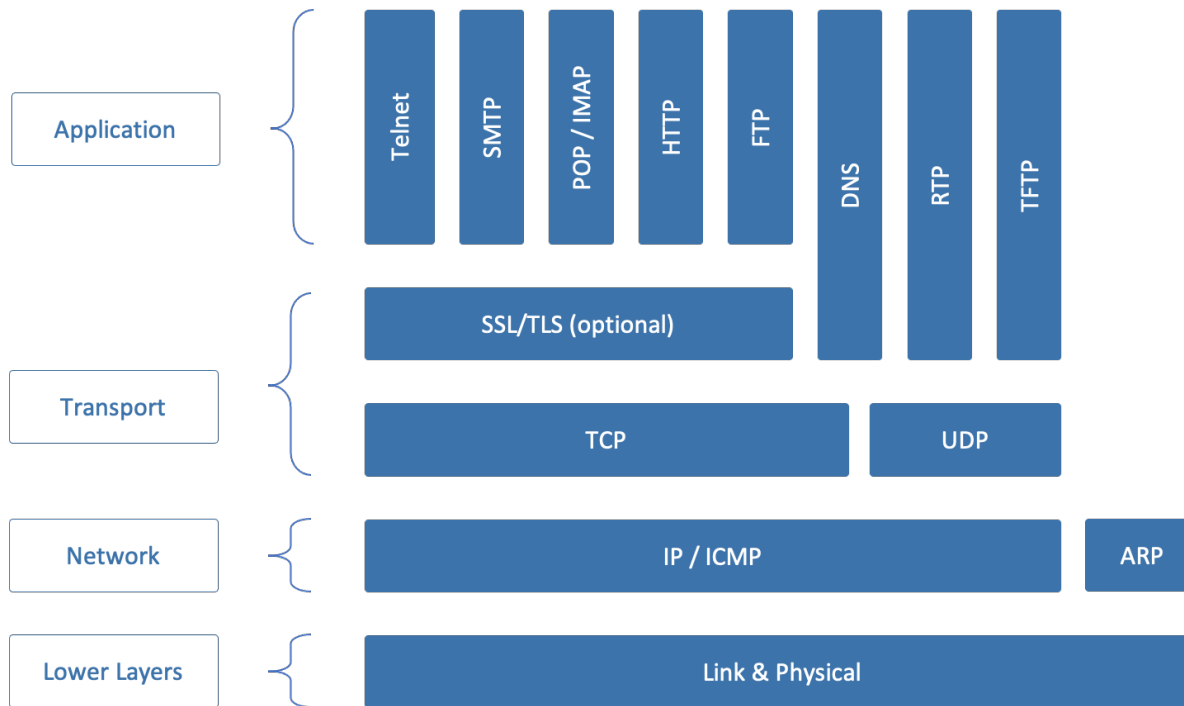I do not like censorship

I do not like communism

This is not a plot – just business and geopolitics

1.

Welcome to the Hotel California

The Internet!

Federated services: Email

All email services are compatible and interoperable

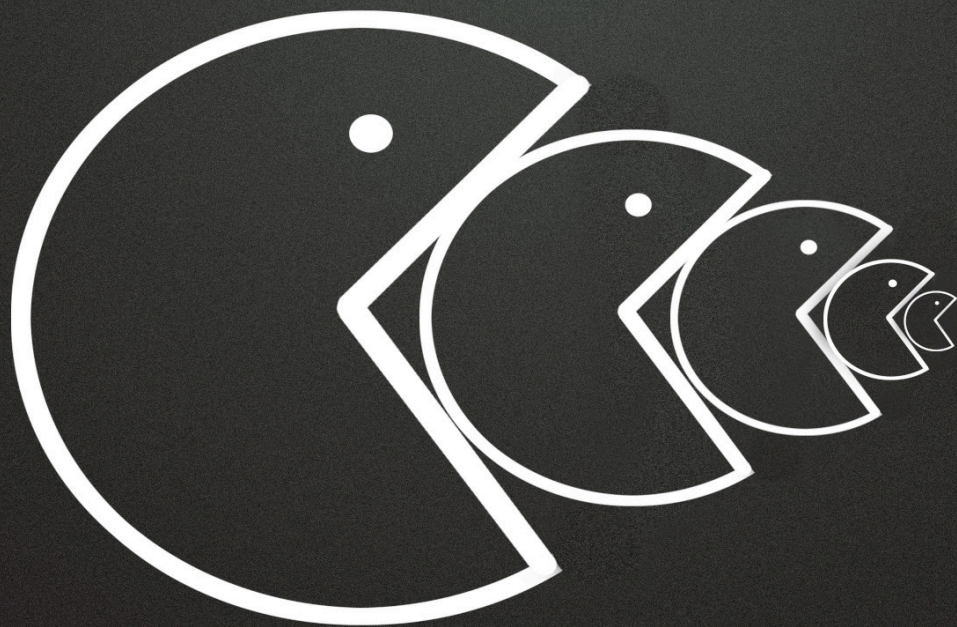Any email address can write to any other email address from any provider

Anyone can offer email services

All standards are open and public

There are many free software implementations

US$34.6 billion
Growth: 31.4%

37% Others
5% Alibaba Cloud
6% Google Cloud
20% Microsoft Azure
31% AWS
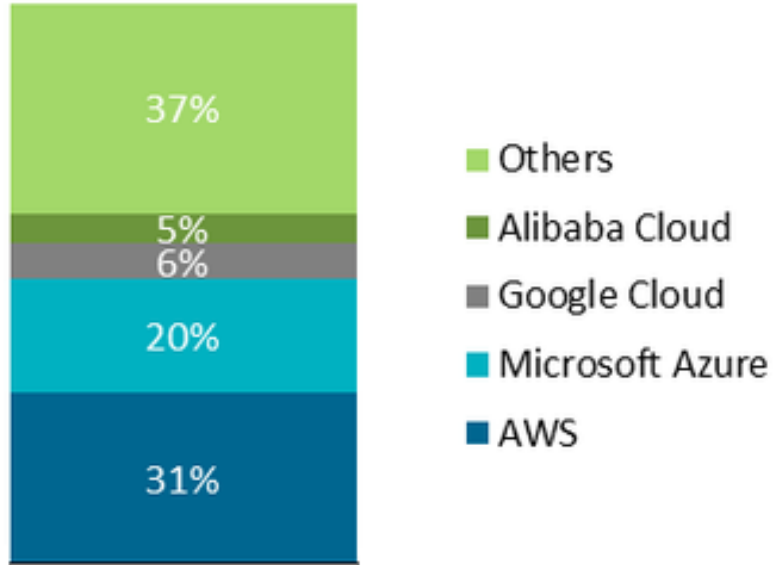
Q2 2020

Source: Canalys estimates, July 2020

There is no cloud
it's just someone else's computer

THE LARGEST COMPANIES BY MARKET CAP

The oil barons have been replaced by the whiz kids of Silicon Valley

Top 5 Publicly Traded Companies (by Market Cap)   ■ Tech   ■ Other

	#1	#2	#3	#4	#5
2001	GE $406B	Microsoft $365B	EXXON $272B	citi $261B	Walmart $260B
2006	EXXON $446B	GE $383B	TOTAL $327B	Microsoft $293B	citi $273B
2011	EXXON $406B	Apple $376B	PetroChina $277B	Shell $237B	ICBC $228B
2016	Apple $582B	Alphabet $556B	Microsoft $452B	amazon $364B	facebook $359B

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Big
Tech Era

2019*

Today, it's
Big Tech that
dominates the
list, taking
seven spots.

Microsoft $1,050B — 1
amazon $943B — 2
Apple $920B — 3
Alphabet $778B — 4
facebook $546B — 5
Berkshire Hathaway $507B — 6
Alibaba.com $435B — 7
Tencent 腾讯 $431B — 8
VISA $379B — 9
Johnson & Johnson $376B — 10

Yes, that's **two trillion dollars**! That's equal to *Italy's GDP in 2019* (before Covid-19).

$1,633B

$2,000B

$753B

Big Tech Era

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Johnson&Johnson $376B

1   2   3   4   5   6   7   8   9   10

$1,646B

$1,028B

Market cap on 9 Oct 2020

715 M€

?

Google
Ireland Ltd.

Google
International
LLC (U.S.A.)

104.5 M€

4.7 M€
Tax/revenue rate: 0.6%

2.3 M€

Google
Italy S.r.l.

Google's Italian advertising revenues in 2018
(Sources: AGCOM, balance sheets – Credits: Altreconomia)
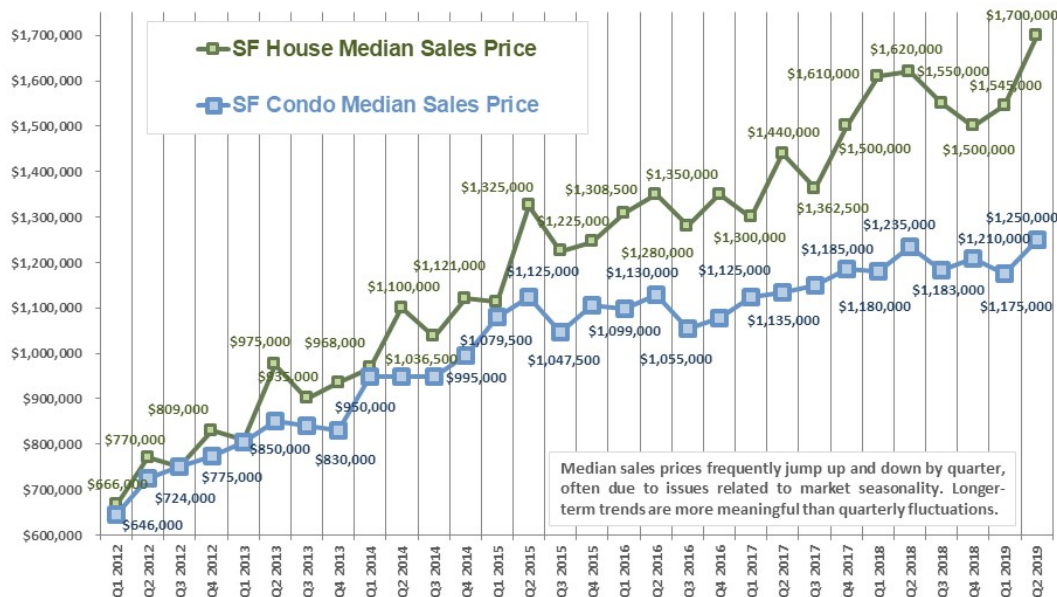
Median house price in San Francisco = +155% in 7 years (2012-2019)

San Francisco Home Price Appreciation

Median House & Condo Sales Prices, 2012 – Present, by Quarter

Sales reported to MLS by 7/3/19.

Median sales prices frequently jump up and down by quarter, often due to issues related to market seasonality. Longer-term trends are more meaningful than quarterly fluctuations.

Median sales price is that price at which half the sales occurred for more and half for less. It is a general statistic affected by factors other than changes in fair market value. Data from sources deemed reliable, but may contain errors and subject to revision. Late reported sales may change the median prices graphed for the latest quarter, typically to an insignificant degree.

COMPASS

1. Platform
2. Silo
3. Lock-In
4. Trojan Horse
5. Control
6. One-stop
7. Over-the-top
8. Closed

Monopoly Records

Hotel California
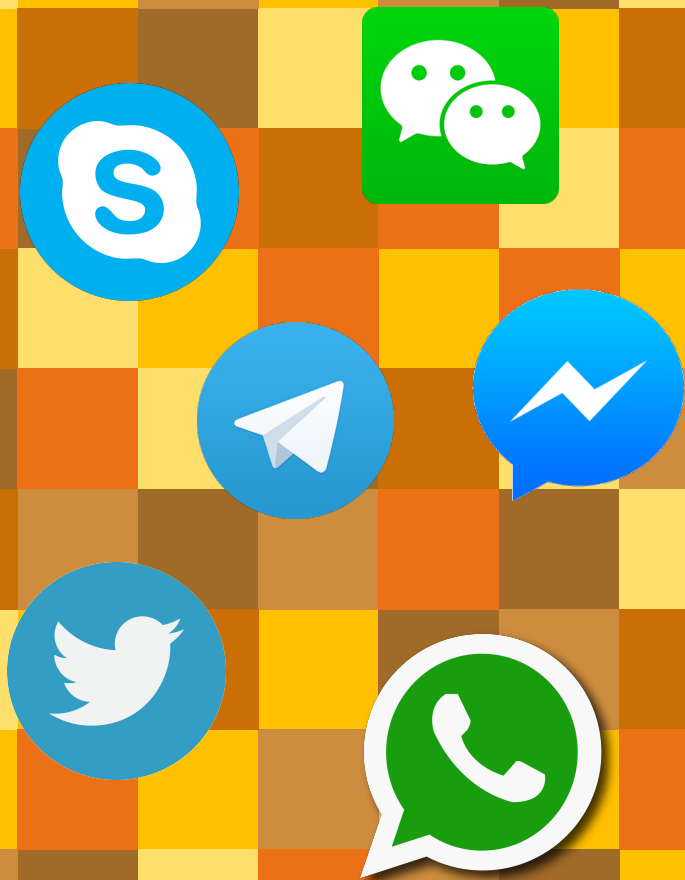
Siloed services: Instant messaging

Each IM service is a walled garden

You cannot communicate with users of other IM services – you need an account on each service

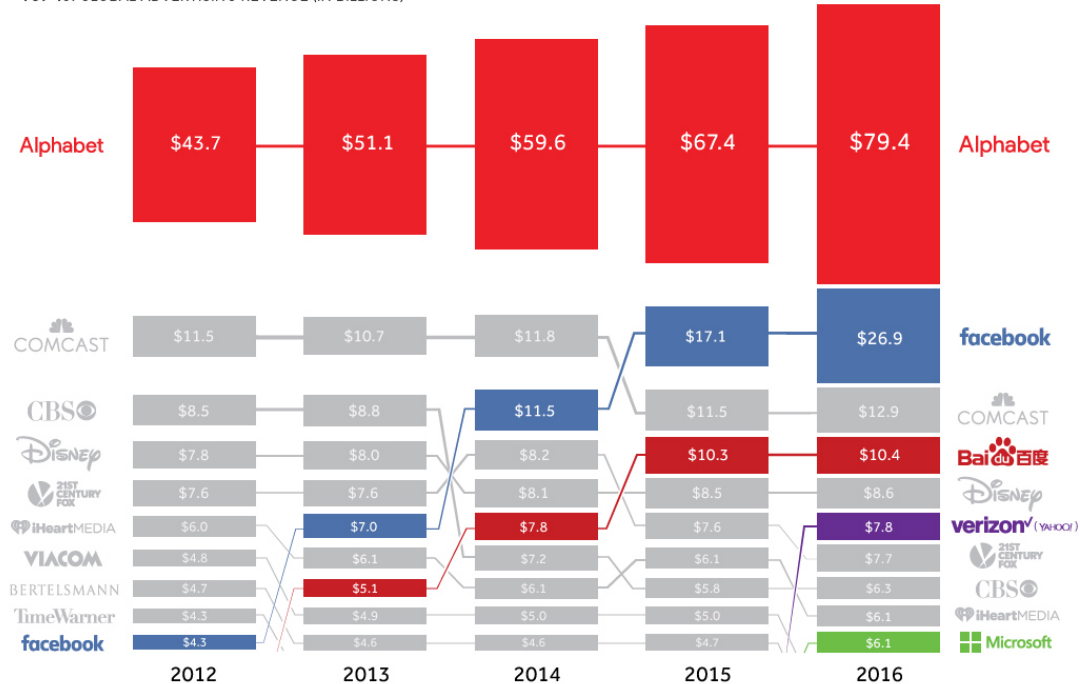If you move, you lose your contacts and history – you are locked in

Only a few IM services can exist – you cannot compete or run yours

Either standards are closed, or deployments are closed

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THE TECH TAKEOVER OF ADVERTISING

Legacy media brands are falling hard and fast

TOP 10: GLOBAL ADVERTISING REVENUE (IN BILLIONS)

	2012	2013	2014	2015	2016	
Alphabet	$43.7	$51.1	$59.6	$67.4	$79.4	Alphabet
COMCAST	$11.5	$10.7	$11.8	$17.1	$26.9	facebook
CBS	$8.5	$8.8	$11.5	$11.5	$12.9	COMCAST
Disney	$7.8	$8.0	$8.2	$10.3	$10.4	Baidu
21ST CENTURY FOX	$7.6	$7.6	$8.1	$8.5	$8.6	Disney
iHeartMEDIA	$6.0	$7.0	$7.8	$7.6	$7.8	verizon (YAHOO!)
VIACOM	$4.8	$6.1	$7.2	$6.1	$7.7	21ST CENTURY FOX
BERTELSMANN	$4.7	$5.1	$6.1	$5.8	$6.3	CBS
TimeWarner	$4.3	$4.9	$5.0	$5.0	$6.1	iHeartMEDIA
facebook	$4.3	$4.6	$4.6	$4.7	$6.1	Microsoft

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«Surveillance capitalism» is the main business model

Even non-personal, aggregated information is the key to success

- Best product placement and pricing
- Estimation of credit risk
- Optimization of cloud infrastructure
- Aggregated mobility patterns
- Traffic information from every phone

Advertising
Google Properties
70.4% $96.3B

Google ▶ YouTube
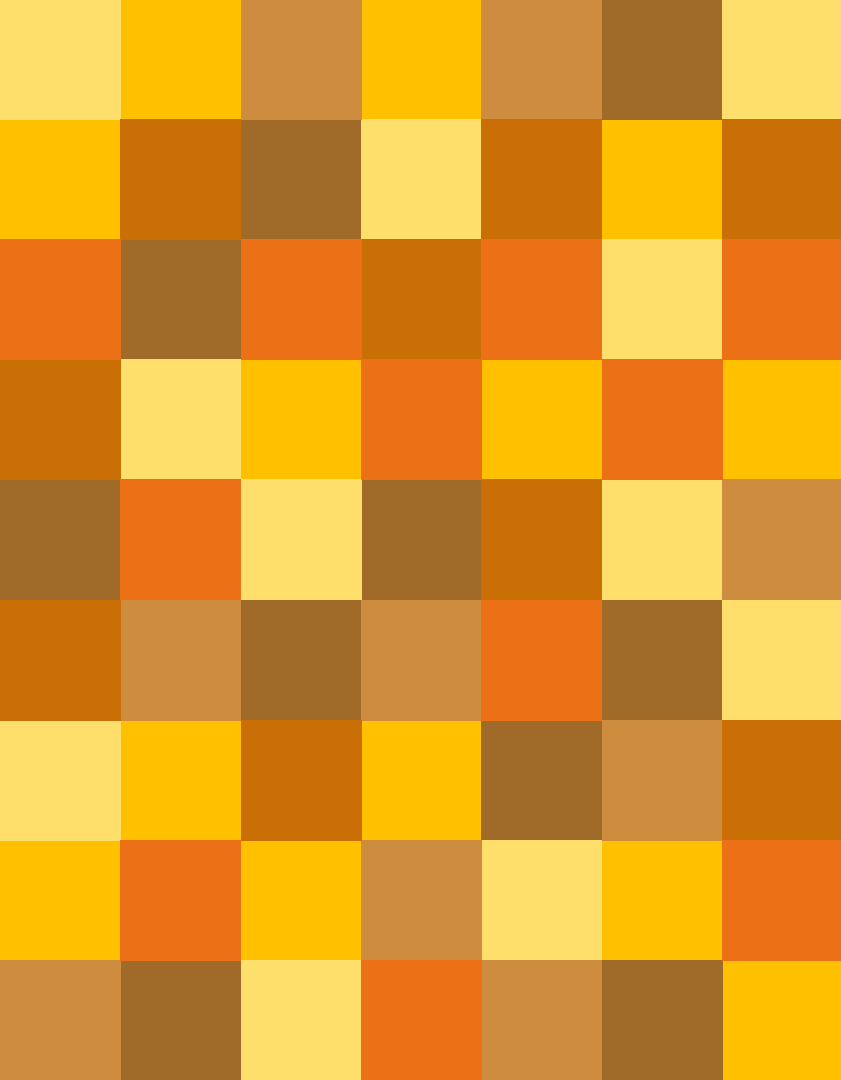Google Maps

$55.0B **98.5%**
facebook Ads

How Google and Apple outflanked governments in the race to build coronavirus apps

Tech giants played hardball in forcing policymakers to fall in line with their approach to building digital tracking tools.

By **MARK SCOTT, ELISA BRAUN, JANOSCH DELCKER AND VINCENT MANANCOURT** |
5/15/20, 5:25 AM CET | Updated 5/16/20, 5:51 AM CET

In the digital fight against COVID-19, Big Tech squared off against governments — and won.

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2.

This could be heaven or this could be hell

*The Internet was built over
(and successful thanks to)
a few innovative
technical + policy principles*

Permissionless innovation

No advance authorization or license is required to deploy new content, new devices, new technology, new services over the Internet
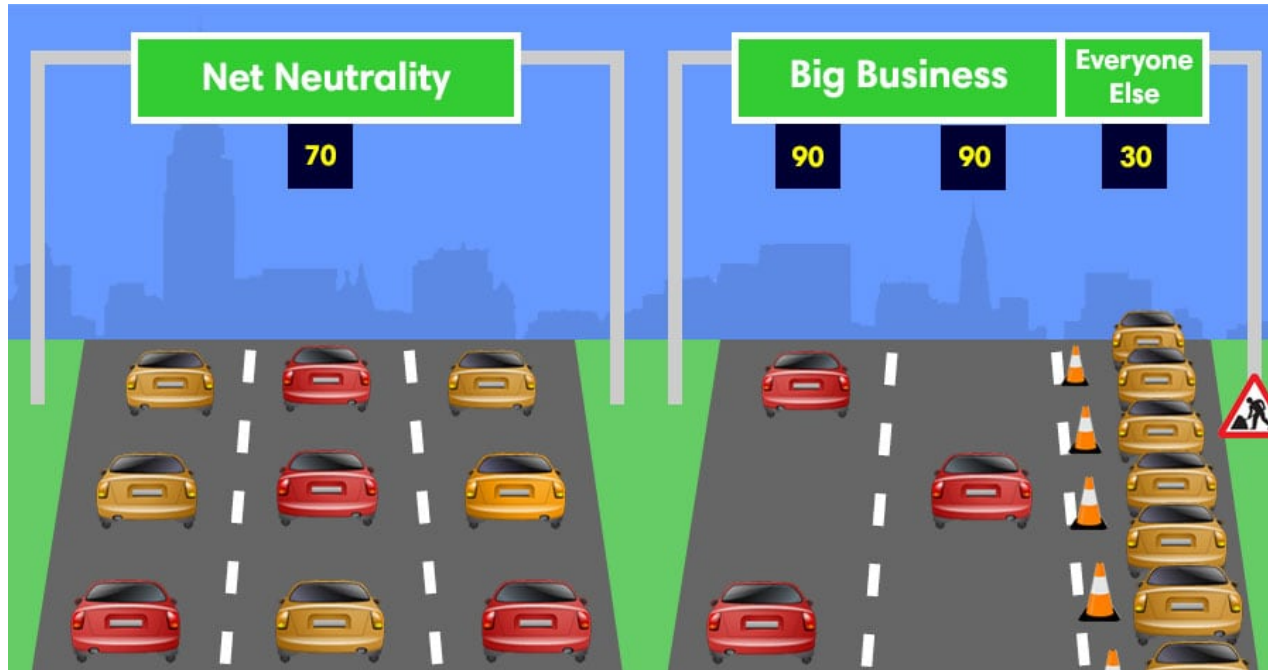
(Source of the picture: IETF blog)

Internet vs Telcos

«Permissionless innovation» was conceived as the opposite of traditional telecommunication regulation
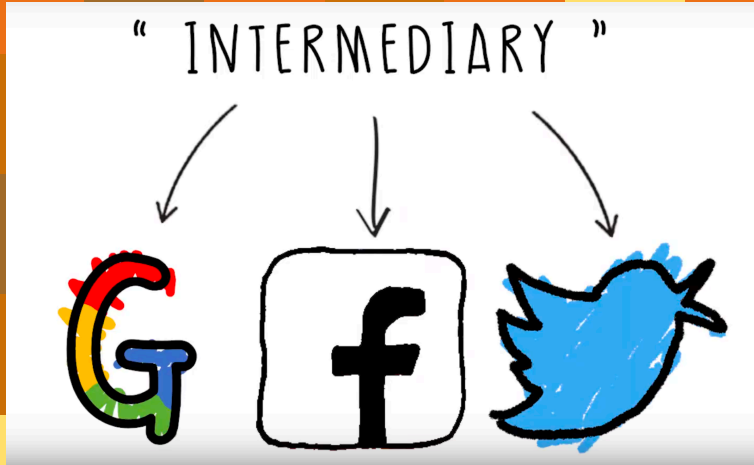
This allowed the Internet to grow much more quickly than traditional PSTN and replace it

Network neutrality
A way to prevent telcos from «gatekeeping» Internet services

Intermediary liability exemption

Platforms distributing user-generated content are not legally responsible for it (at least until flagged)

Governments and national laws are not welcome

«The Internet thrives because it is global and unregulated»

«The Internet defeats bad governments and brings democracy to the world»
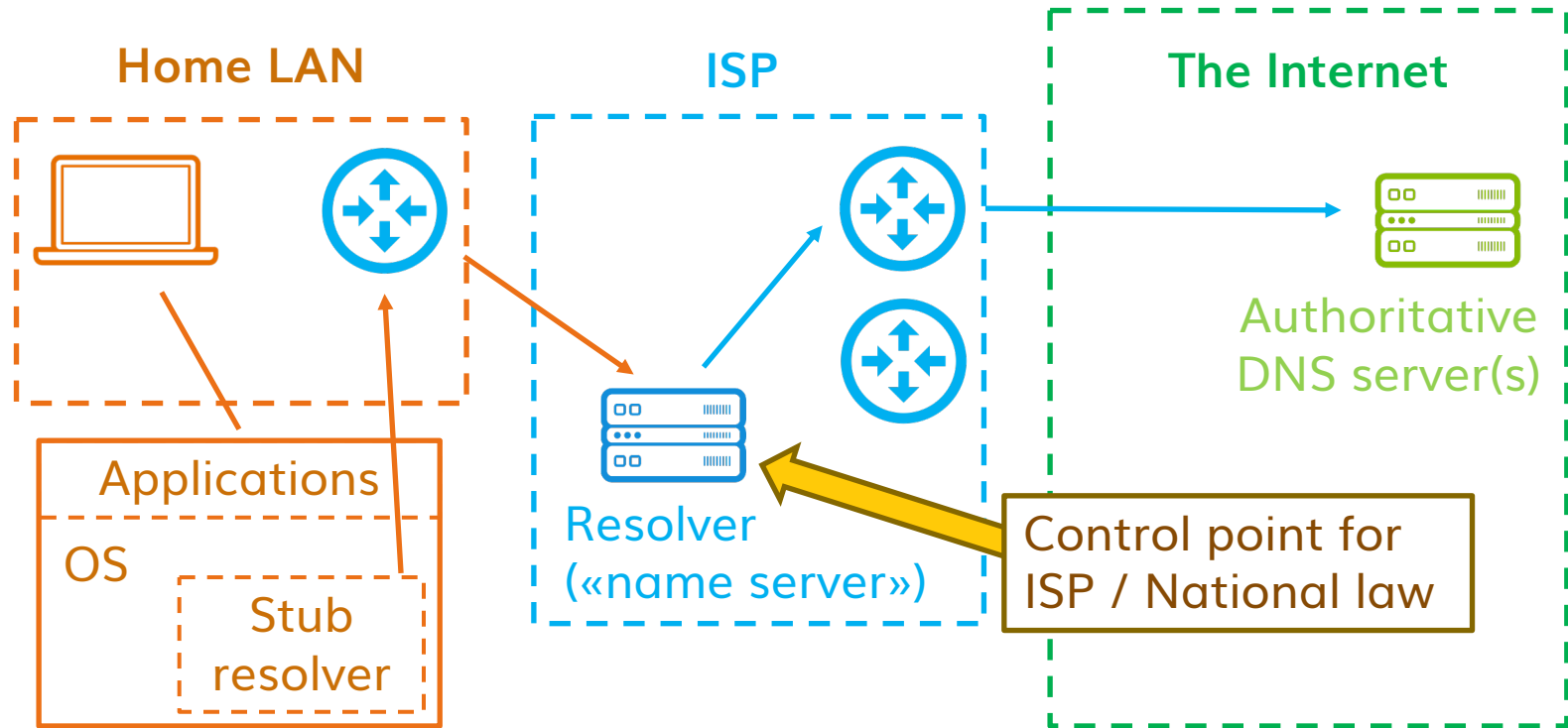
Encrypt everything

A reaction to Snowden

Official IETF guideline

Big platforms make encryption (e.g. HTTPS) a requirement

Organized lobbying against anti-encryption law proposals

Encryption is a good thing

*You should encrypt
your communications*

*State-run backdoors in encryption
are a bad idea*

Home LAN
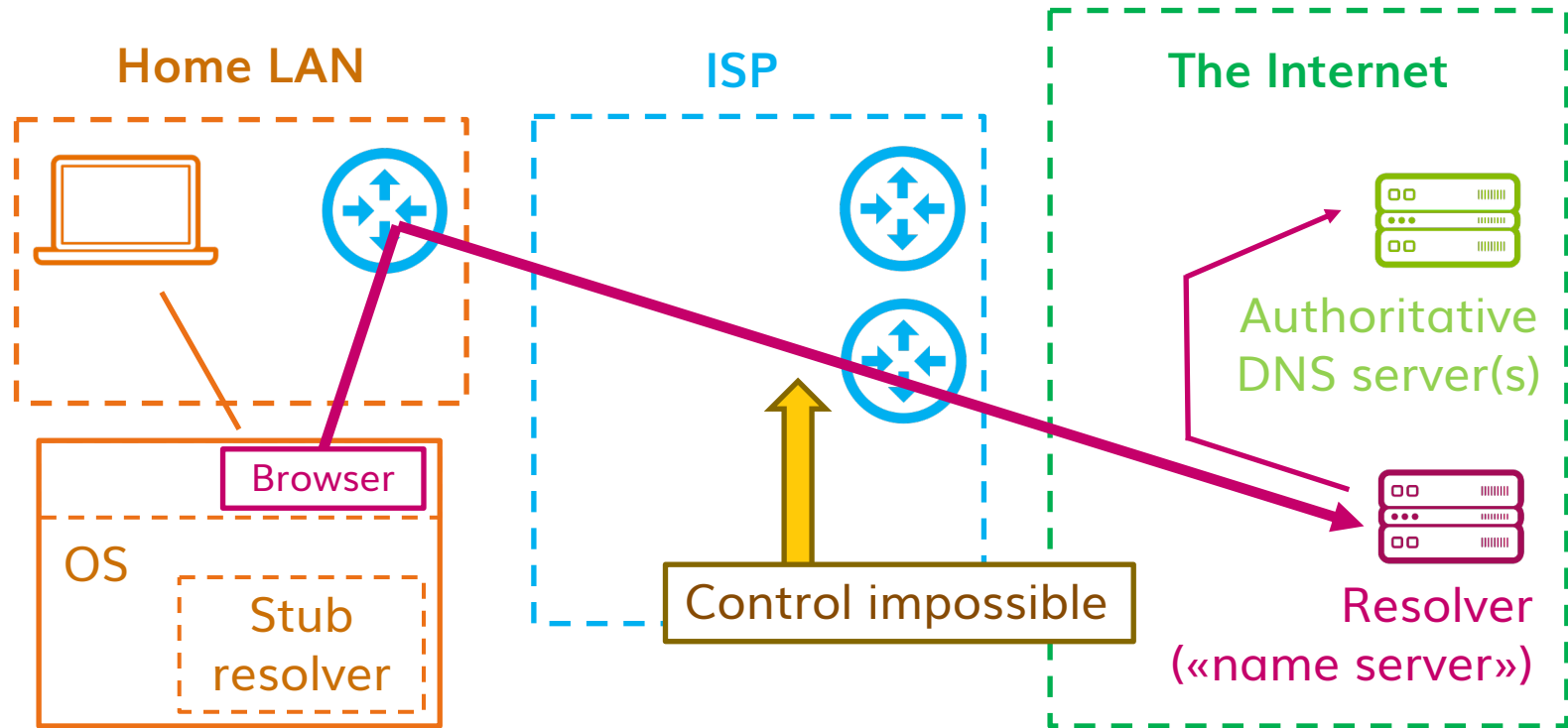
ISP

The Internet

Applications

OS

Stub resolver

Resolver
(«name server»)

Authoritative
DNS server(s)

Control point for
ISP / National law

Local DNS resolution

Home LAN

ISP

The Internet

Applications

OS

Stub resolver

Control point for ISP / National law

Authoritative DNS server(s)

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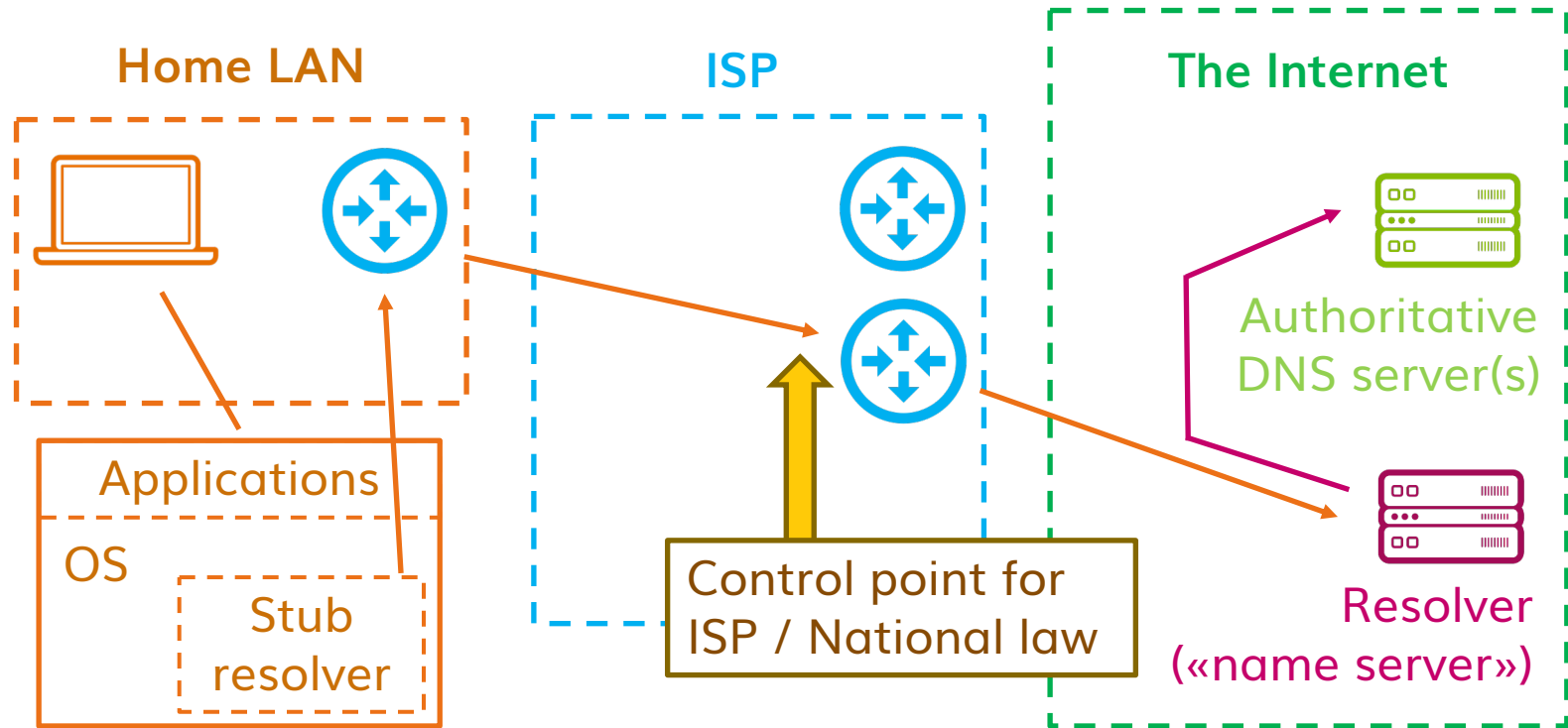
Remote DNS resolution (unencrypted)

Home LAN | **ISP** | **The Internet**

Browser

OS

Stub resolver

Control impossible

Authoritative DNS server(s)

Resolver («name server»)
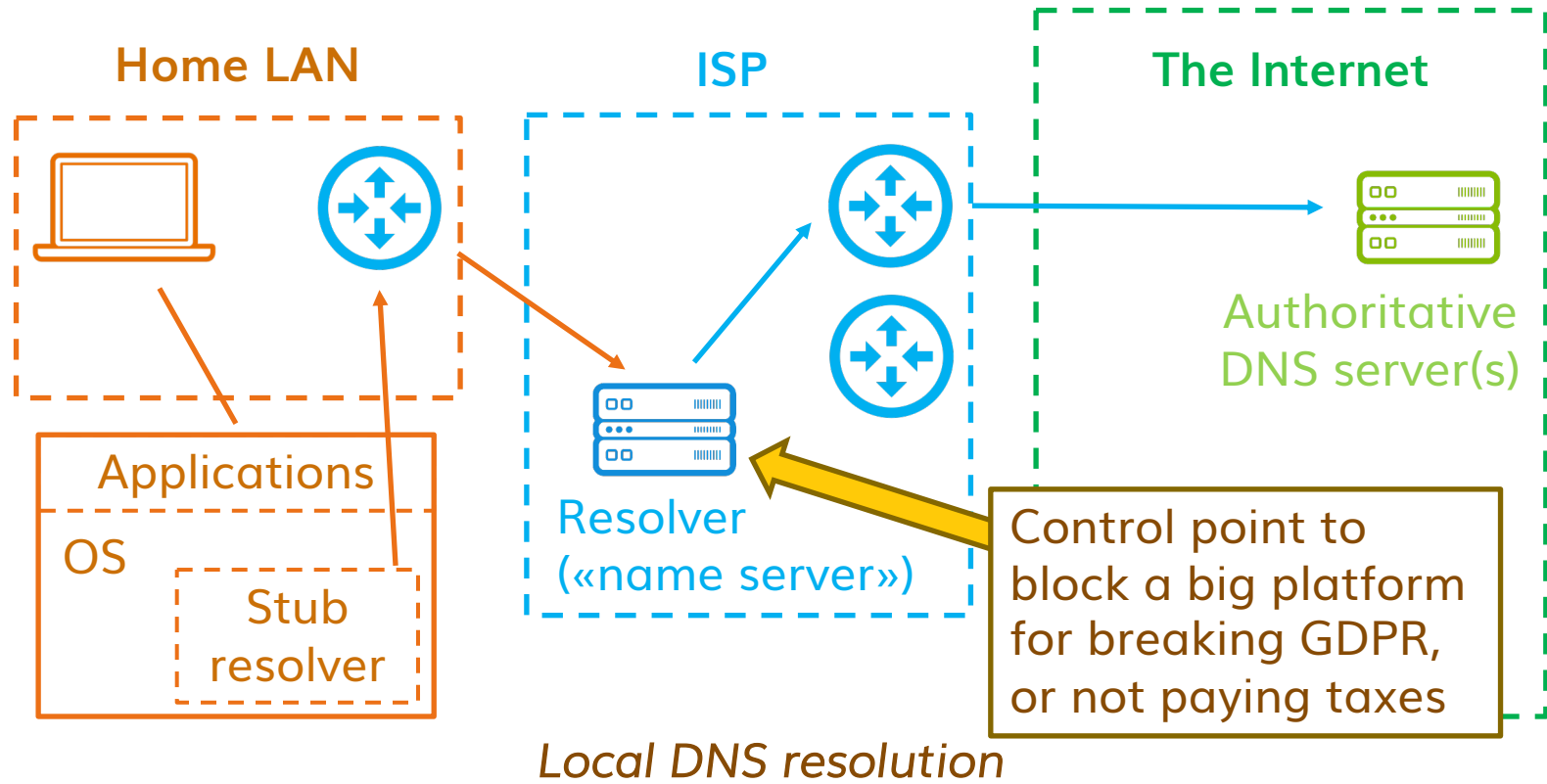
Remote DNS-over-HTTPS resolution
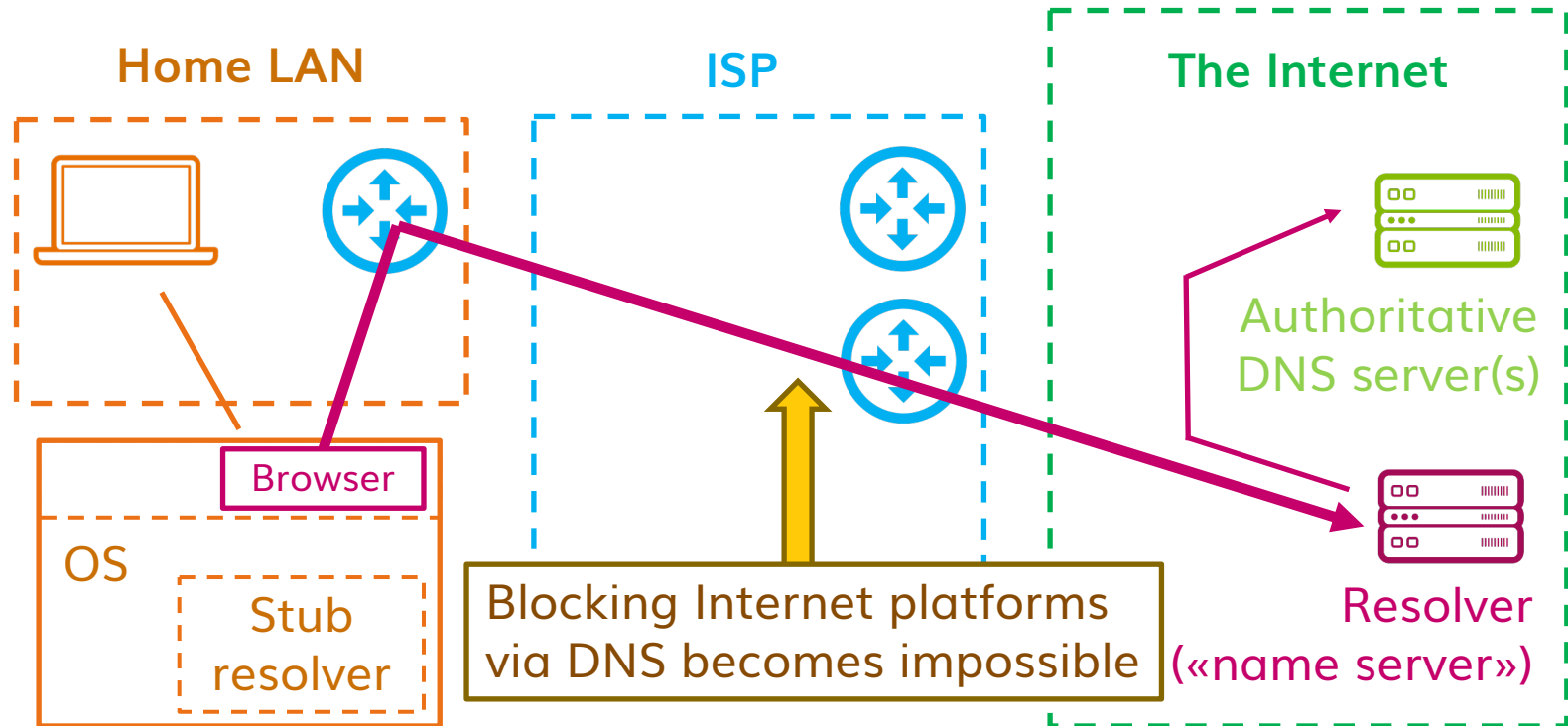
Local control is not always bad

1. Blocking malware and phishing
2. Detecting active botnets
3. Providing parental controls
4. Blocking child sexual abuse material
5. Blocking fixed gambling websites, counterfeit shops, illegal pharmacies...

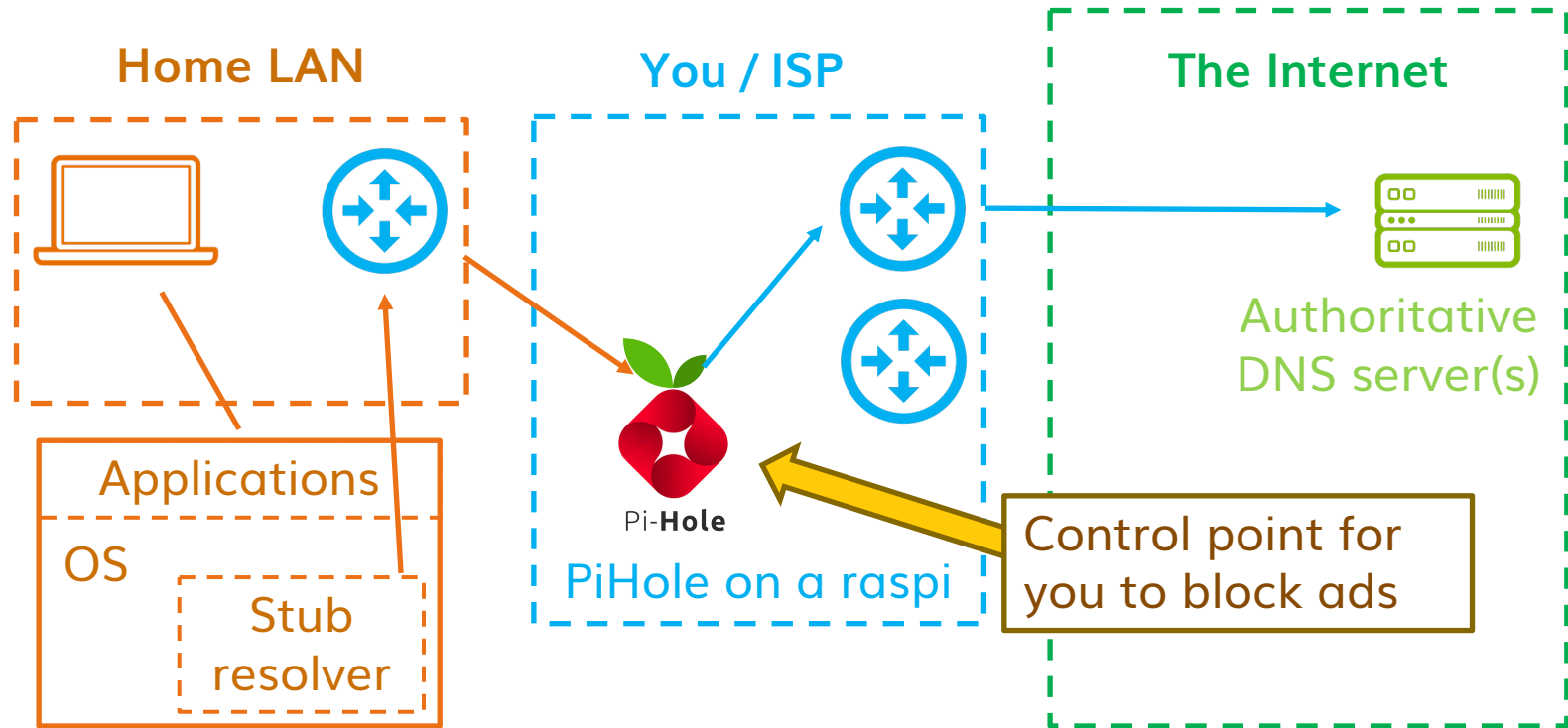...but still, some think that privacy and individual freedom should always prevail

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Is this really about privacy and freedom?
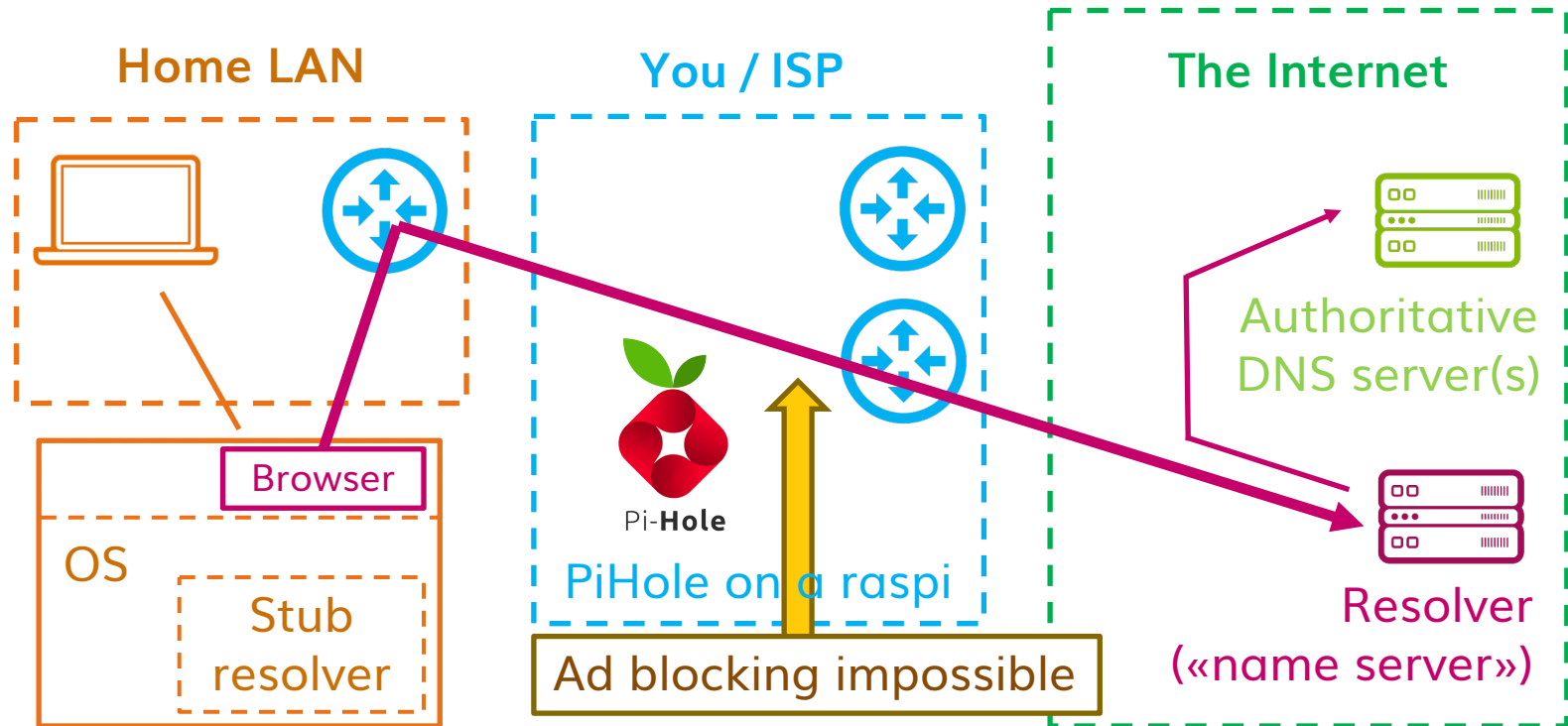
Home LAN

ISP

The Internet

Applications

OS

Stub resolver

Resolver
(«name server»)

Authoritative
DNS server(s)

Control point to block a big platform for breaking GDPR, or not paying taxes

Local DNS resolution

Home LAN

ISP

The Internet

Browser

OS

Stub resolver

Blocking Internet platforms via DNS becomes impossible

Authoritative DNS server(s)

Resolver («name server»)

Remote DNS-over-HTTPS resolution

Home LAN

You / ISP

The Internet

Applications

OS

Stub resolver

Pi-**Hole**

PiHole on a raspi

Authoritative DNS server(s)

Control point for you to block ads

Local DNS resolution

Home LAN

You / ISP

The Internet

Browser

OS

Stub resolver

Pi-**Hole**

PiHole on a raspi

Ad blocking impossible

Authoritative DNS server(s)

Resolver («name server»)

Remote DNS-over-HTTPS resolution

Encryption is also about control

The Internet of other people's things

We are filling our homes with devices that send back encrypted data all the time

We have no control over what they send

Even if there are laws to protect us, it is increasingly impossible to enforce them
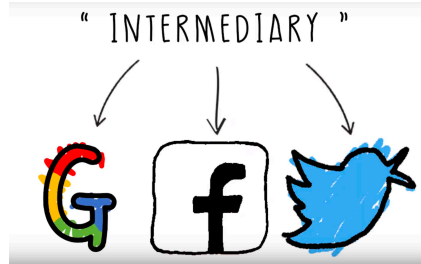
45

"

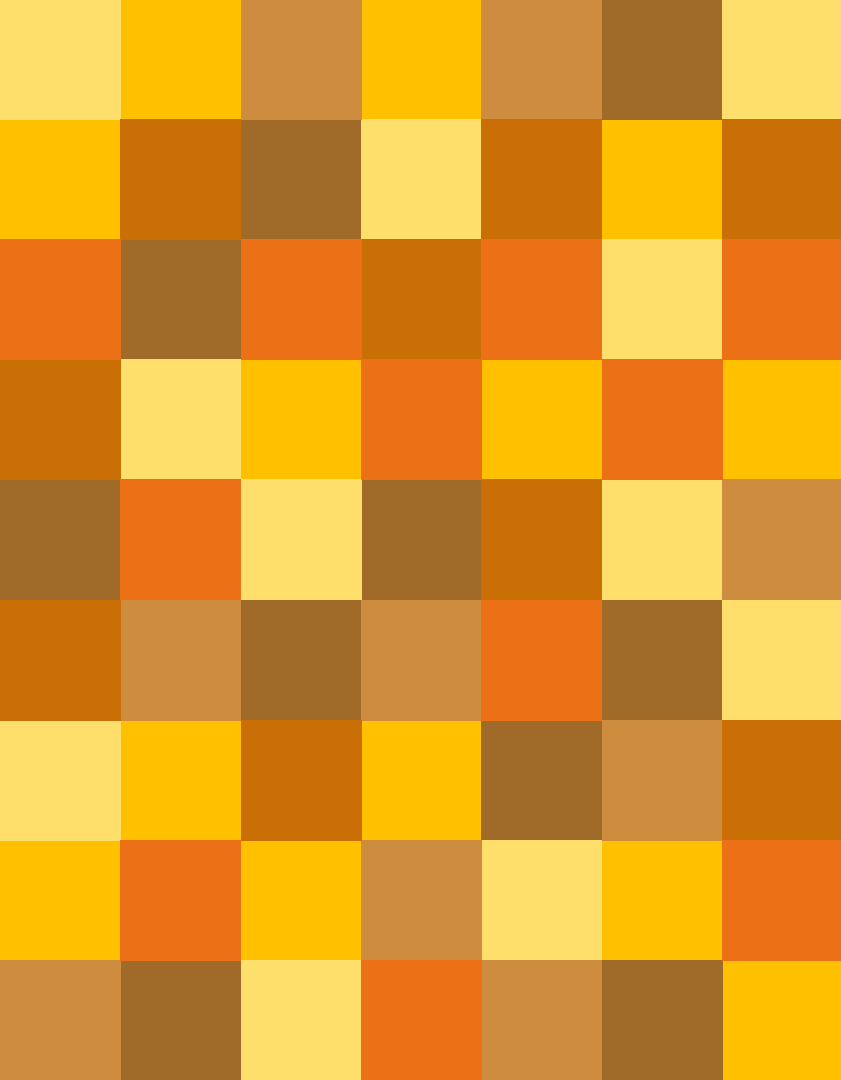I can vote for my government.

Can I vote for Facebook's CEO?

«We can do anything we want to preserve our dominant position and our revenues»

«We can spread out fake news, anti-covid propaganda, abusive material and make money out of it»

«We are above the law»

3.

Last thing I remember I was running for the door

Shaping Europe's Digital Future

Europe's digital sovereignty:
From rulemaker to superpower
in the age of US-China rivalry

Essay Collection
Carla Hobbs (ed.)
30th July, 2020

Xavier Lejeune / European Union, 2020 - ©

Europe's requests to big tech

1. Pay taxes here
2. Stop tracking and profiling our citizens
3. Share your aggregated datasets
4. Do not steal our startups
5. Do not kill our competition through your dominant positions
6. Stop spreading fake news and illegal content while making money out of it
7. Let our police intercept criminals

Open source is fit for Europe

Europe is an archipelago of countries, languages, societies, markets

It works by horizontal cooperation

It does not produce GAFAMs, but alliances of SMEs

An effective alliance

Freely accessible technology

Cooperative development

Open standards

Competition and consumer defense

Enforcement of rules

Funding

Coming soon (hopefully)

1. Digital Services Act
   - Rules and liability on content
2. Digital Markets Act
   - New competition tool
   - Interoperability requirements
   - Data sharing requirements
3. eIDAS regulation revision
   - Open public identities

Thanks!

Any questions?

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