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Corso di laurea triennale in *Diritto dell'Economia*

Insegnamento di *Informatica Giuridica*

A.A. 2015/2016

11, 12, 18 e 19 maggio



11 maggio

1/ Il cittadino digitale: conservazione dei dati relativi al traffico **Internet**

2/ Il **consumatore digitale**, *big data* e la **platform economy**

3/ *web tracking*: cos'è, a cosa serve, come fermarlo. I **cookies**.

4/ pseudonimato, *obfuscation* e altri rimedi

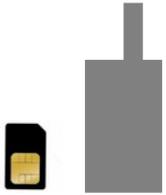
11 maggio

1/ Il cittadino digitale: conservazione dei dati relativi al traffico **Internet**

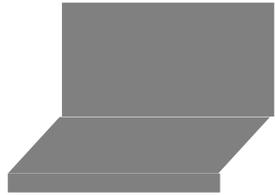
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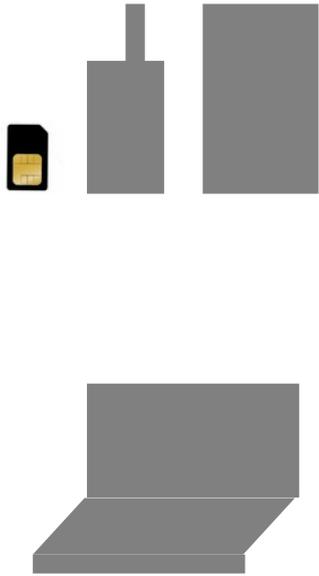
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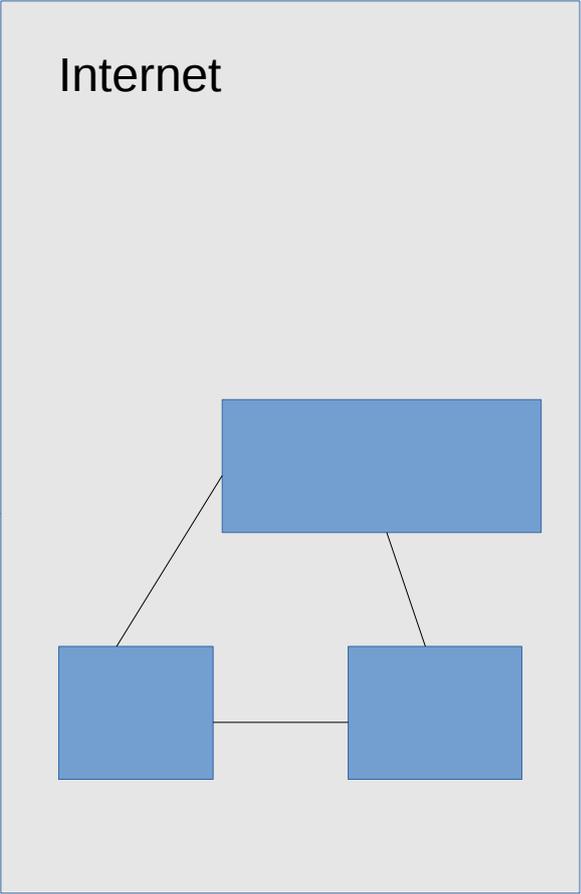
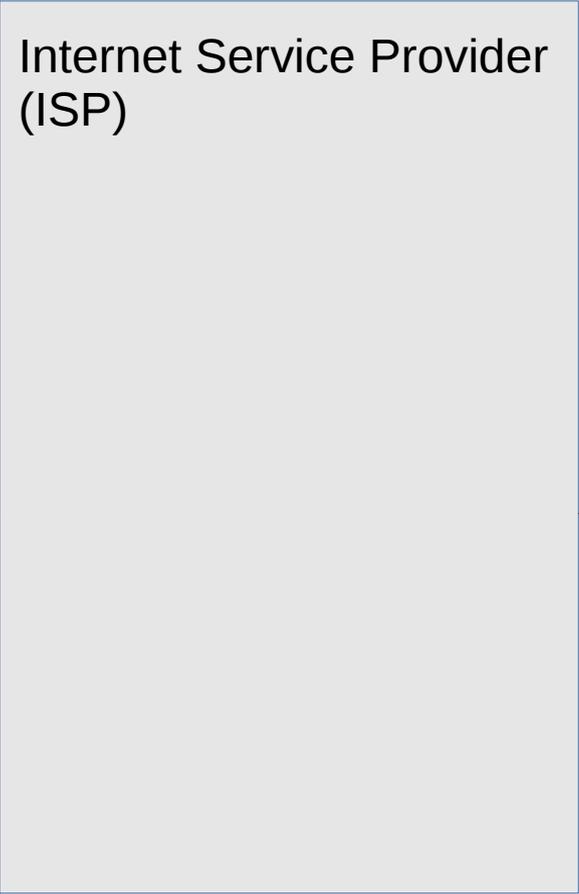
Smartphone,
Tablet + SIM

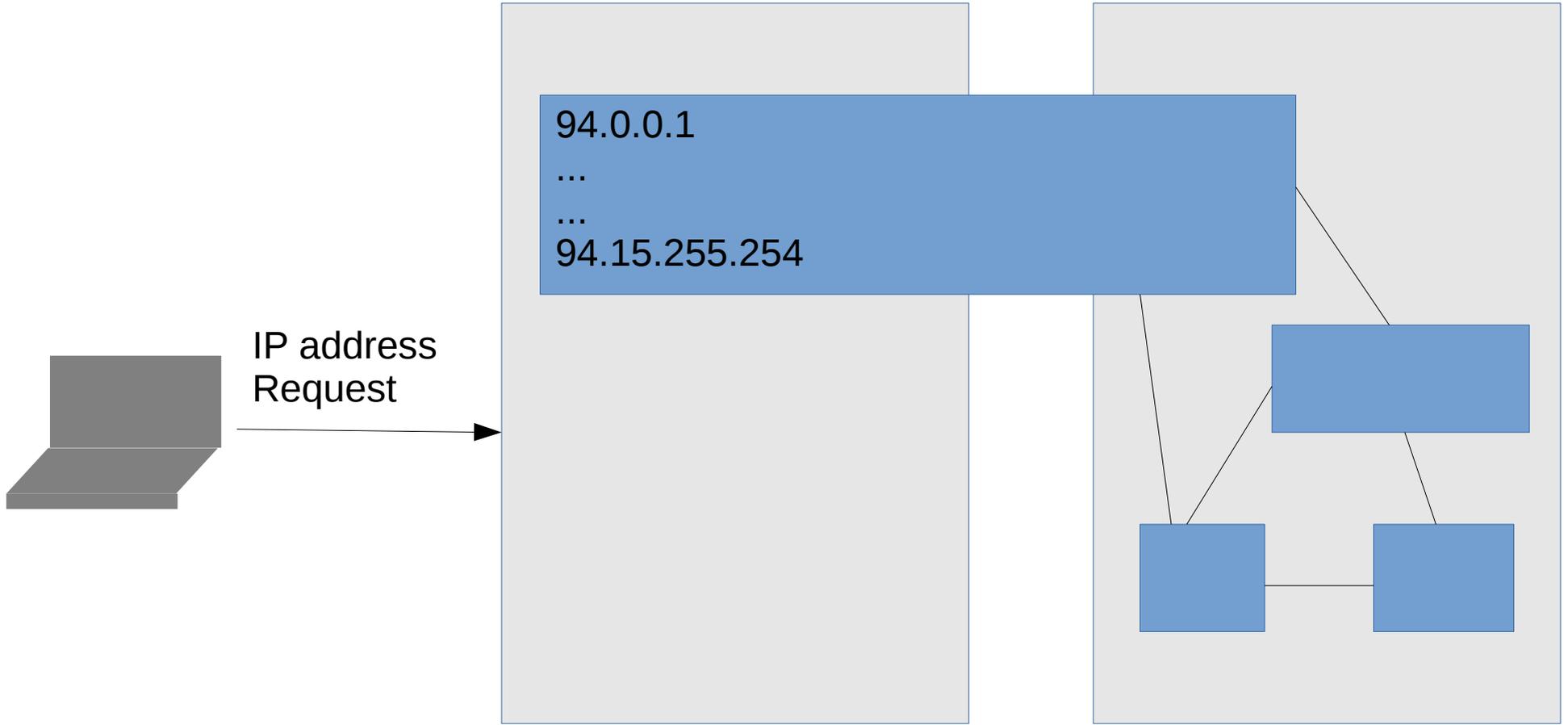


Laptop + ADSL



Utente
Consumatore
Cittadino
digitale

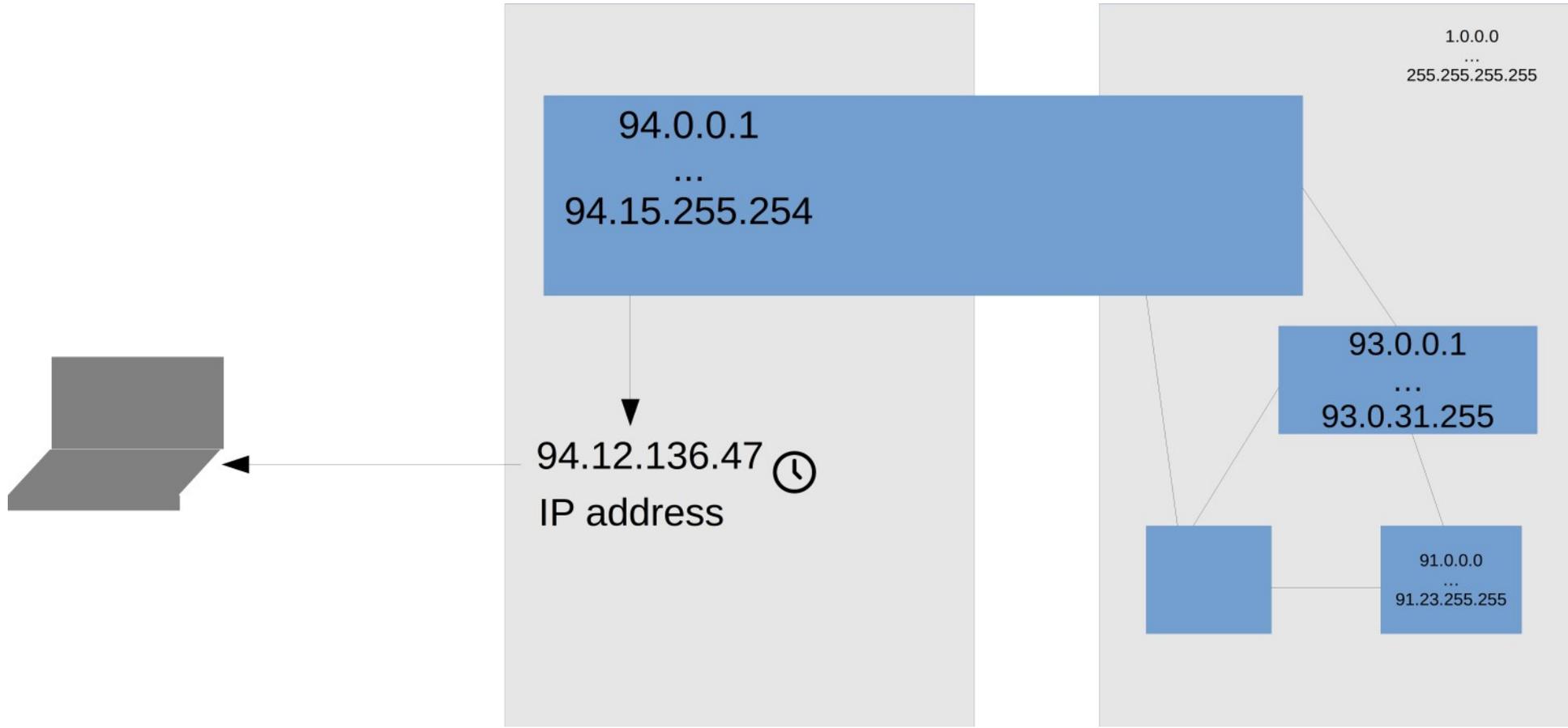




User/ Customer

Internet Service Provider (ISP)
eg. Vodafone, Tre, T.I., ...

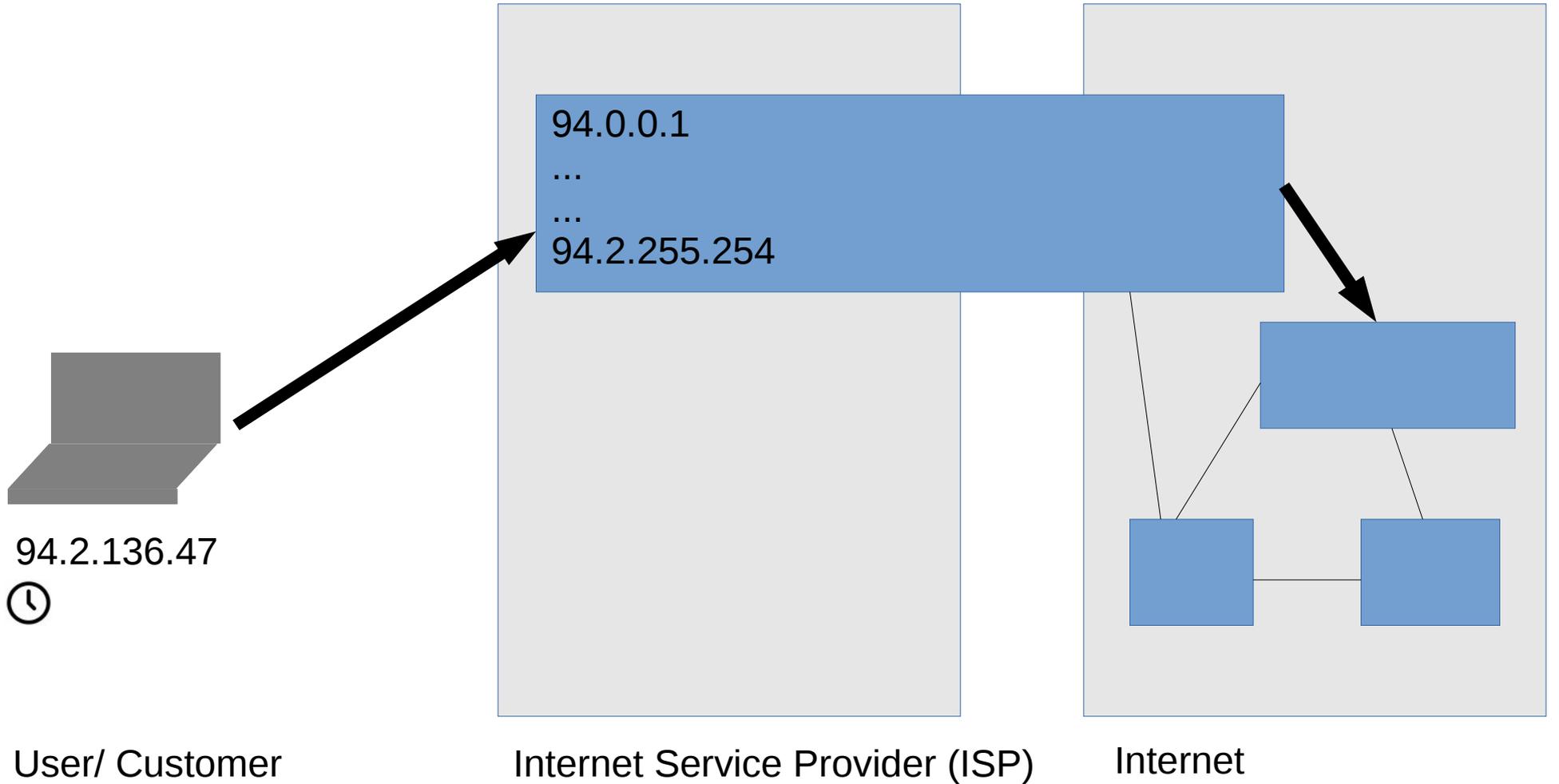
Internet

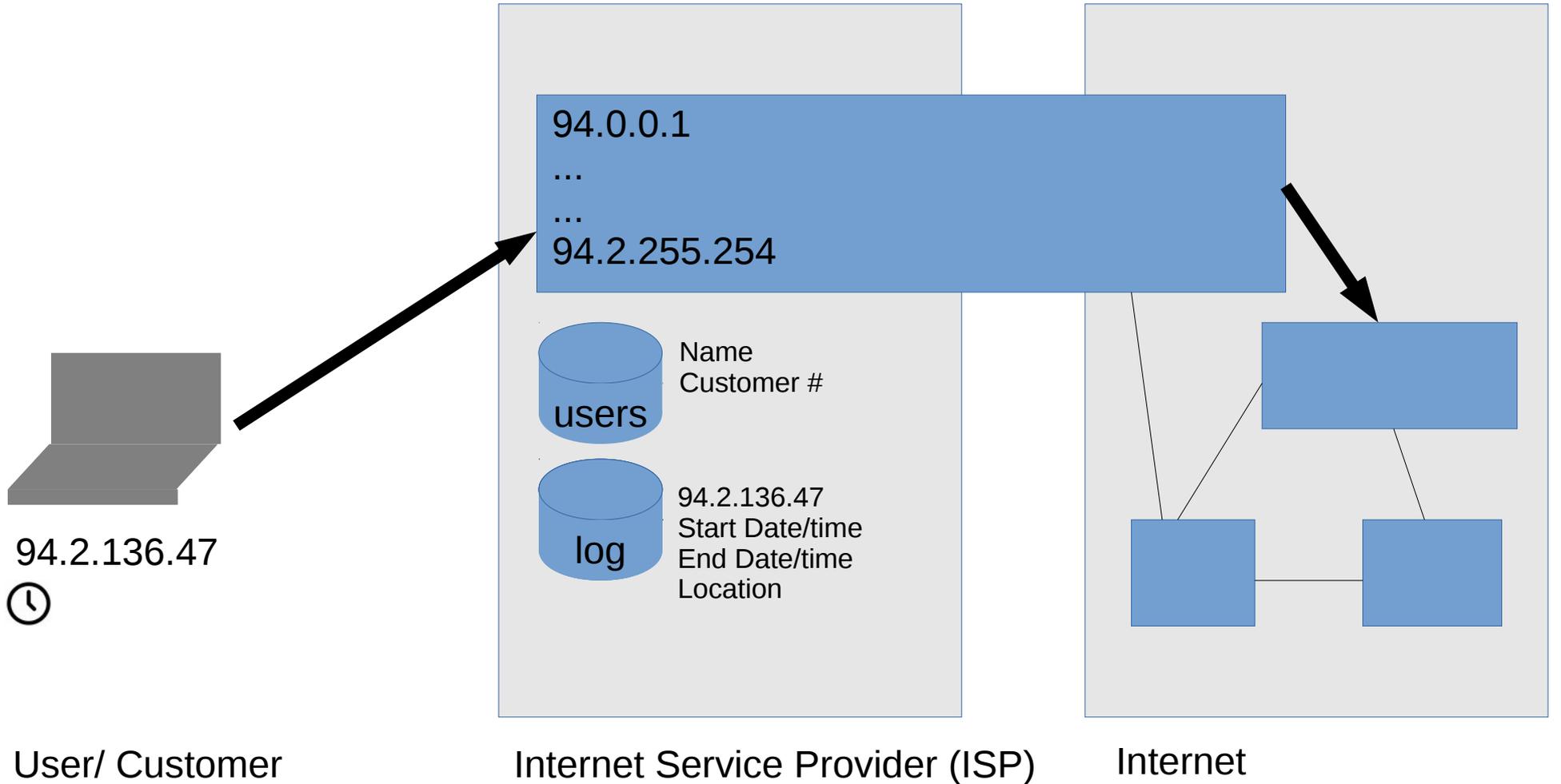


User/ Customer

Internet Service Provider (ISP)

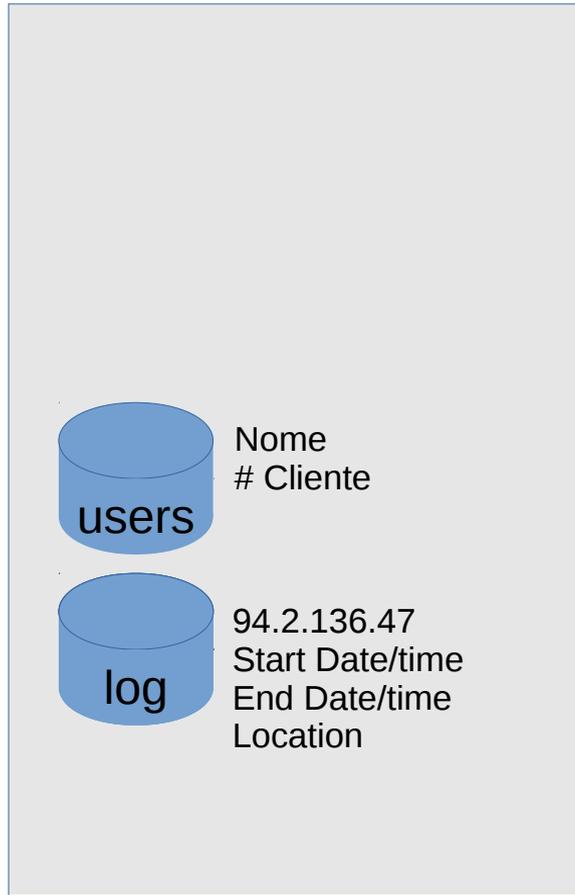
Internet







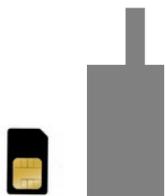
User/ Customer



Internet Service Provider (ISP)

Art. 123 DLGS 196/2003 **Dati relativi al traffico**

1. I dati relativi al traffico riguardanti abbonati ed utenti trattati dal fornitore di una rete pubblica di comunicazioni o di un servizio di comunicazione elettronica accessibile al pubblico *sono cancellati o resi anonimi quando non sono più necessari ai fini della trasmissione della comunicazione elettronica*, fatte salve le disposizioni dei commi 2 (fatturazione), 3 (commercializzazione con consenso) [...]



IMEI

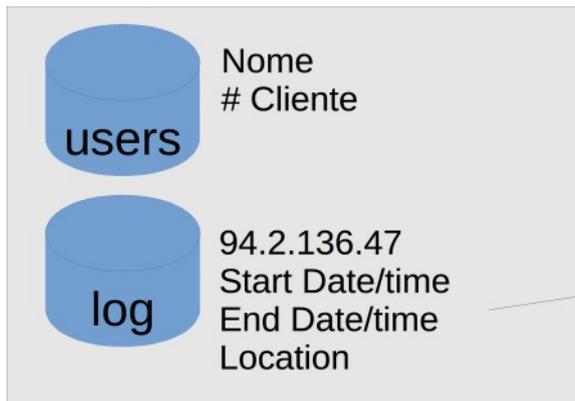
International Mobile Subscriber Identity



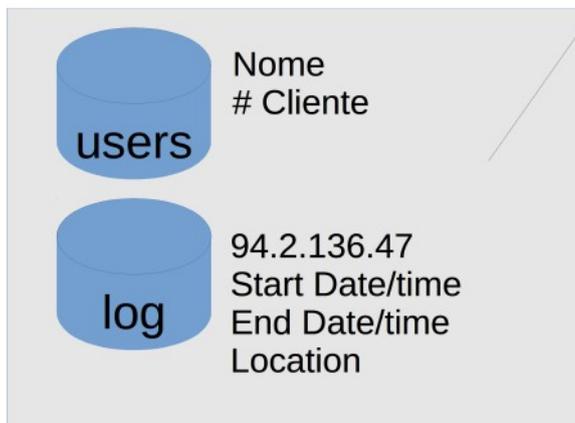
94.2.136.47



User/ Customer



Mobile Operator



Internet Service Provider (ISP)



Art. 132. Conservazione di dati di traffico per finalità di accertamento e repressione dei reati

- **24 mesi**: dati sul traffico **telefonico** (31/12/2016)*
- **30 gg**: dati sulle chiamate senza risposta (31/12/2016)*

- **1 anno**: dati sul **traffico telematico**, (*esclusi i contenuti*) (31/12/2016)*
con decreto motivato del pubblico ministero anche su istanza del difensore dell'imputato, della persona sottoposta alle indagini, della persona offesa e delle altre parti private.
Il *Ministro dell'interno* e [...] possono ordinare, anche in relazione alle eventuali richieste avanzate da *autorità investigative straniere*, [...] di conservare e proteggere i dati per un periodo non superiore a **novanta giorni**, prorogabile non oltre i **sei mesi**

(31/12/2016)* Deroga per il "decreto antiterrorismo" D.L. 7/2015

Garante Privacy

Recepimento normativo in tema di dati di traffico telefonico e telematico - 24 luglio 2008

CHI:

i soggetti che realizzano esclusivamente, o prevalentemente, una trasmissione di segnali su reti di comunicazioni elettroniche, a prescindere dall'assetto proprietario della rete, e che offrono servizi a utenti finali secondo il principio di non discriminazione

COME:

gestione separata, protetti con tecniche crittografiche, strong authentication, cancellazione immediata, audit log, incaricati specifici, ...

COSA va registrato (“esclusi i contenuti”):

l'accesso alla rete Internet;

la posta elettronica;

i fax (nonché i messaggi sms e mms) via Internet;

la telefonia via Internet (cd. Voice over Internet Protocol–VoIP).

Decreto: 000235 [REDACTED]

Consultazione N: [REDACTED]

Tpo Richiesta: Sessione & Anagrafica

Target: 79.45.212 [REDACTED]

Periodo: 21/09/2011 22:12:00 - 21/09/2011 22:13:59 LOCAL_TIME

Data e Ora Report: 09/03/2012 12:24:54

Data Inserimento Richiesta: 09/03/2012 12:27:27

Consultazione Traffico Telematico

SESSIONI ADSL

ID	Indirizzo IP utente	Data e Ora Inizio Sessione	Data e Ora Fine Sessione	Status Type	Durata sessione (sec)	Logge Cliente	Linea Telefonica Utente	Nome ISP	ATM Port/VPI/VCI	Indirizzo IP NAS / Nome NAS	NAS Port Type
1	79.45.212 [REDACTED]	21/09/2011 20:27:20	22/09/2011 06:12:36	Stop	35115	alocastv	08015 [REDACTED]	TIN	1/17/8/35	80.21.258.161/ROMATEL-101	uPTV

Anagrafica Utente

ID	Indirizzo IP utente	Data Inizio Validità	Data Fine Validità	Linea Telefonica	Linea Tecnica	Cognome Nome Cliente	Ragione Sociale	Cod. Fiscale	P. IVA	Indirizzo (indir. prov., via)	Indirizzo e-mail
1	79.45.212 [REDACTED]	21/09/2011	21/09/2011	0801502	0801502 [REDACTED]	[REDACTED]	[REDACTED]	ITL [REDACTED]		[REDACTED]	[REDACTED]

End of Report

Figura 11. Esempio file di log società Telecom Italia.

<http://www.carabinieri.it/editoria/rassegna-dell-arma/anno-2012/n-1---gennaio-marzo/studi/attivita%3%A0-investigativa-in-internet>

DIRECTIVE 2006/24/EC (*data retention*)

Telco Operators dovevano conservare tutti i metadati per ogni chiamata o accesso email, inclusa la localizzazione dell'utente, per 6-24 mesi

Dichiarata invalida dalla ECJ
(C-293/12 and C-594/12)

«interferes in a particularly serious manner with the **fundamental rights** to respect for private life and to the **protection of personal data**»

«EU legislature has exceeded the limits imposed by compliance with the **principle of proportionality**»

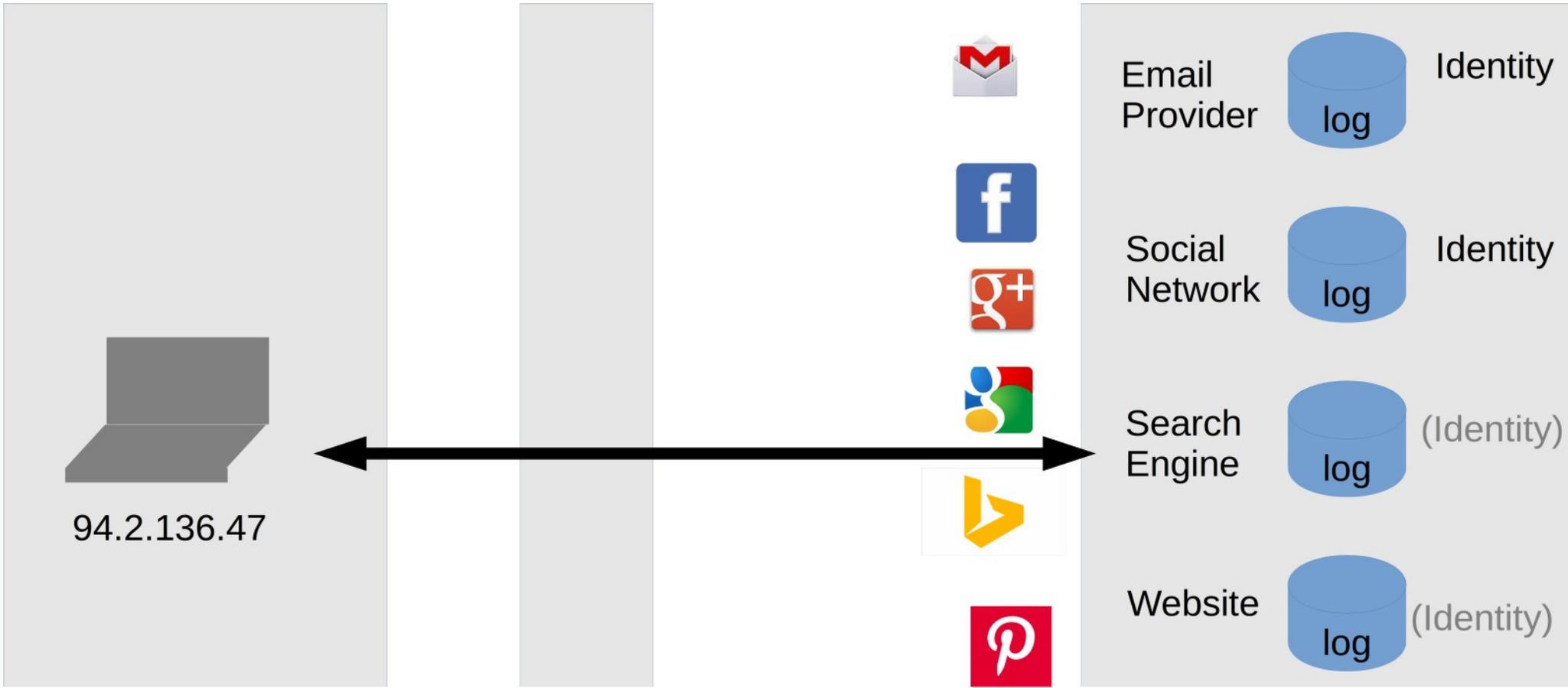
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User/ Customer

Internet Service Provider (ISP)

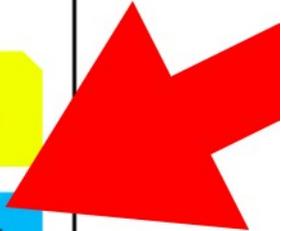
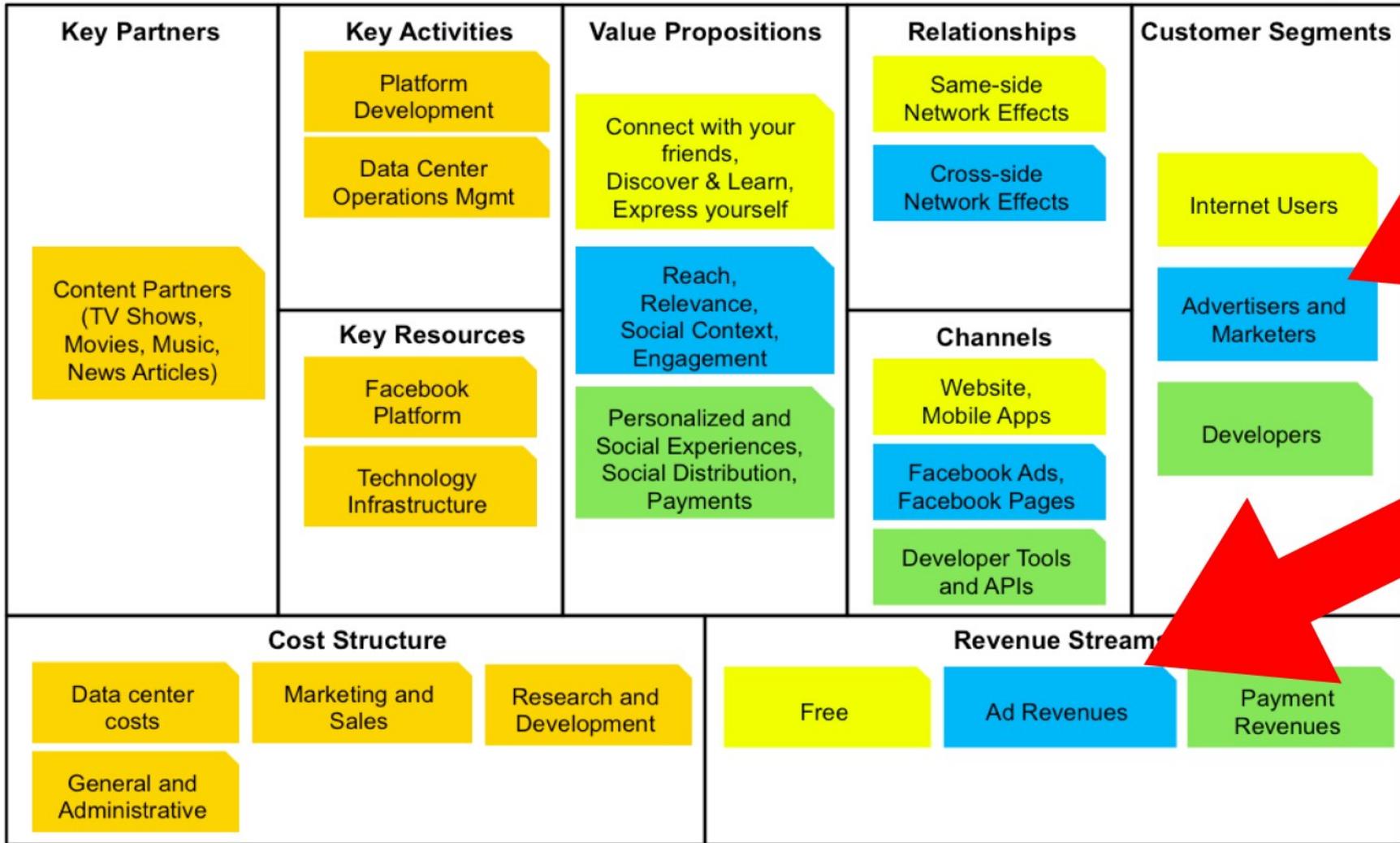
Internet Platform



Di cosa vivono le piattaforme?

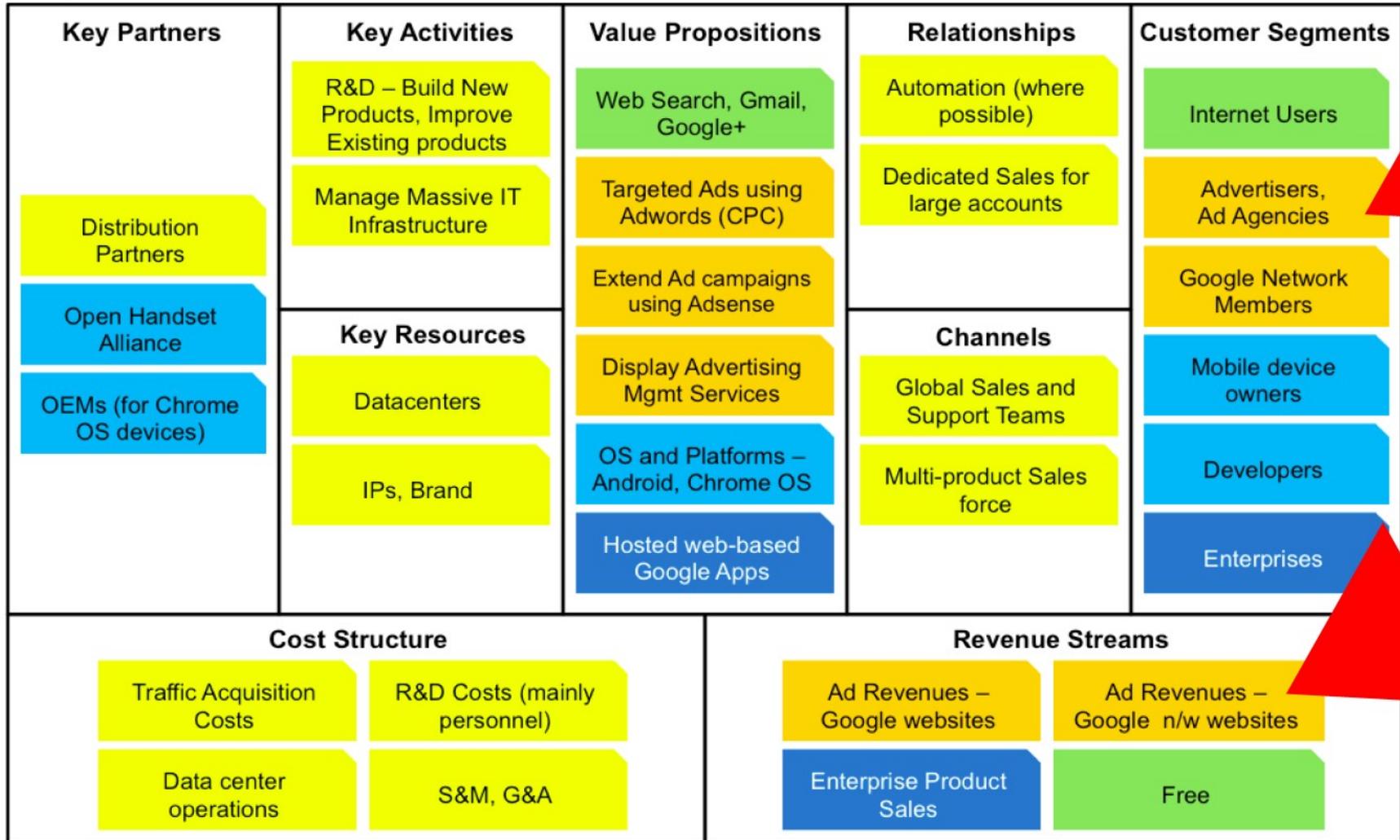


Facebook – World's leading Social Networking Site (SNS)

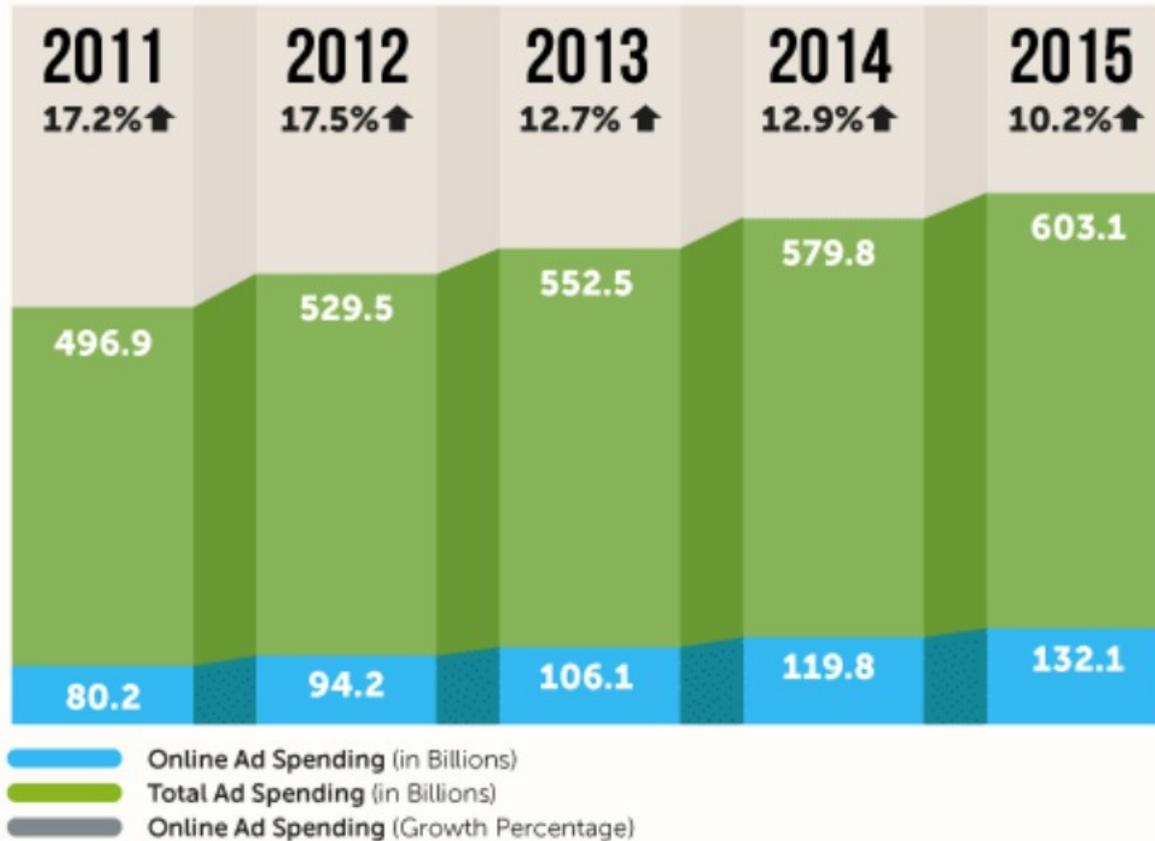




Google Business Model



Global Online Ad Spending Vs Total Ad Spending



Come funziona l'online advertising?
(sommariamente!)

- 1/ *Publisher* (Internet platform): vende lo spazio
- 2/ *Ad Exchange*: intermediario
- 3/ *Advertiser*: l'inserzionista della pubblicità

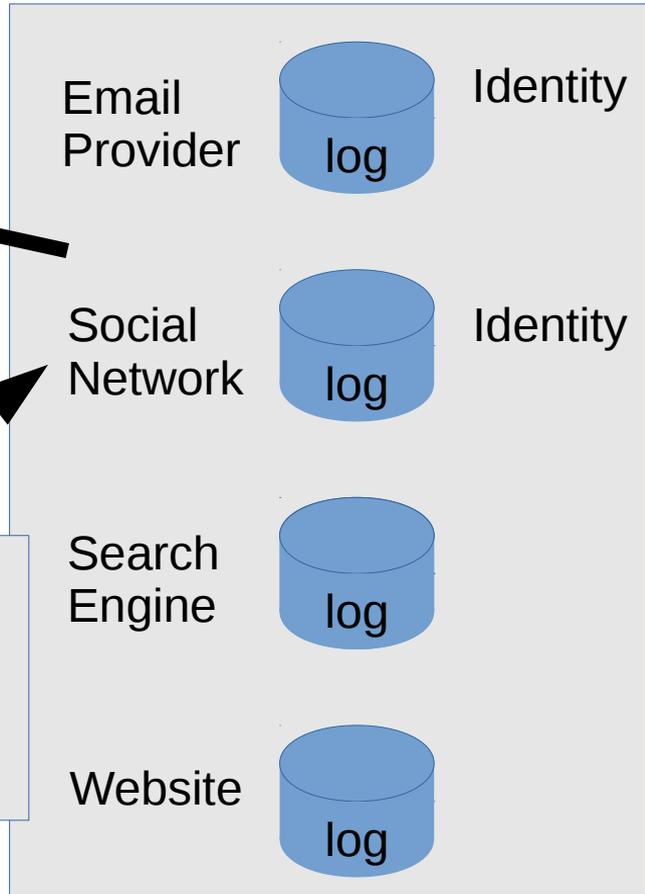
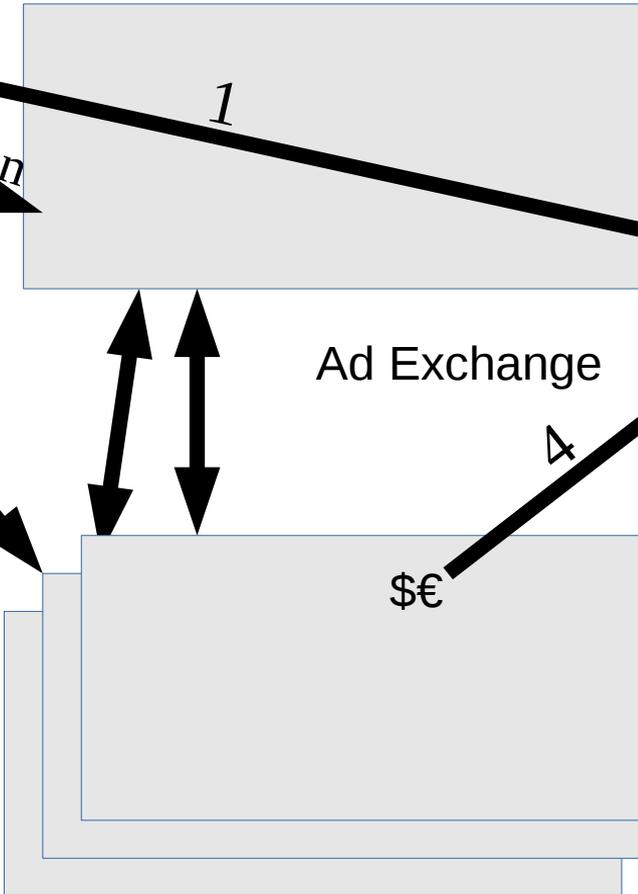
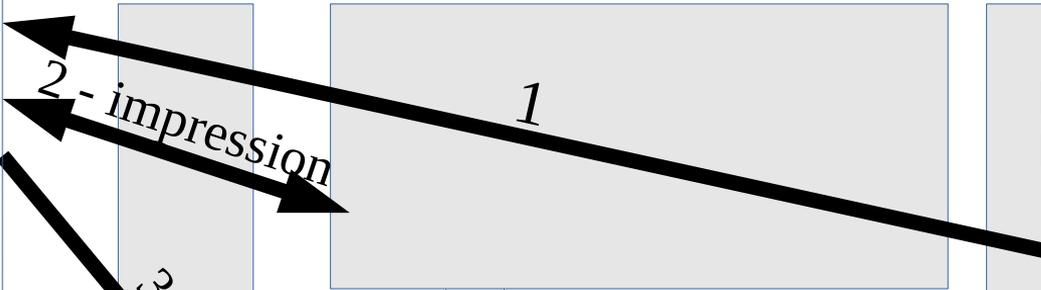
Web page

Great. But how do they do that?
Basically, an ad exchange is just a big pool of ad impressions. Publishers tip their ad impressions into the pool hoping someone will buy them. Buyers then pick which impressions they wish to purchase using technologies like demand-side platforms. These decisions are often made in real time based on information such as the previous behavior of the user an ad is being served to, time of day, device type, ad position and more.

So why do ad exchanges matter?
Exchanges enable advertisers to easily buy ads across a range of sites at once, an option to negotiating deals directly with specific publishers. It's a more effective and efficient way to buy and sell advertising.

Wait, isn't that what ad networks do?
Well, yes. But ad networks typically aggregate inventory from a range of publishers, mark it up and sell it for a profit. That's their business model. Ad exchanges are supposedly more transparent than networks because they enable a buyers to see exactly what price impressions are being sold for. In fact, many ad networks now buy their inventory from exchanges, and as a result, some say DSPs resemble ad networks more than exchanges.

What's a private exchange? It sounds sleazy.
Private exchanges are used by publishers to more carefully control who can buy their inventory, and at what price. Instead of throwing its ad impressions into an "open" exchange and letting anyone buy them, a publisher might instead wish to offer them to a handful of its favorite advertiser clients, or an agency it has a close relationship with. It might also wish to cut off access to networks and other third parties that would sell those ad impressions.

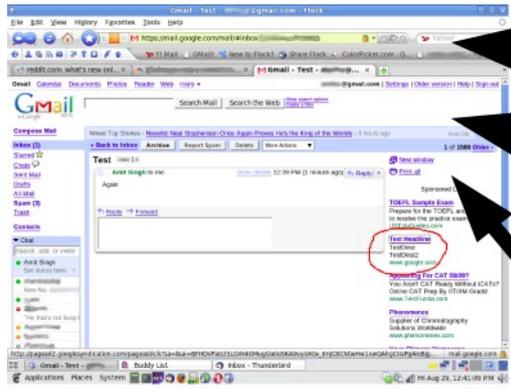


User/ Target

ISP

Advertiser

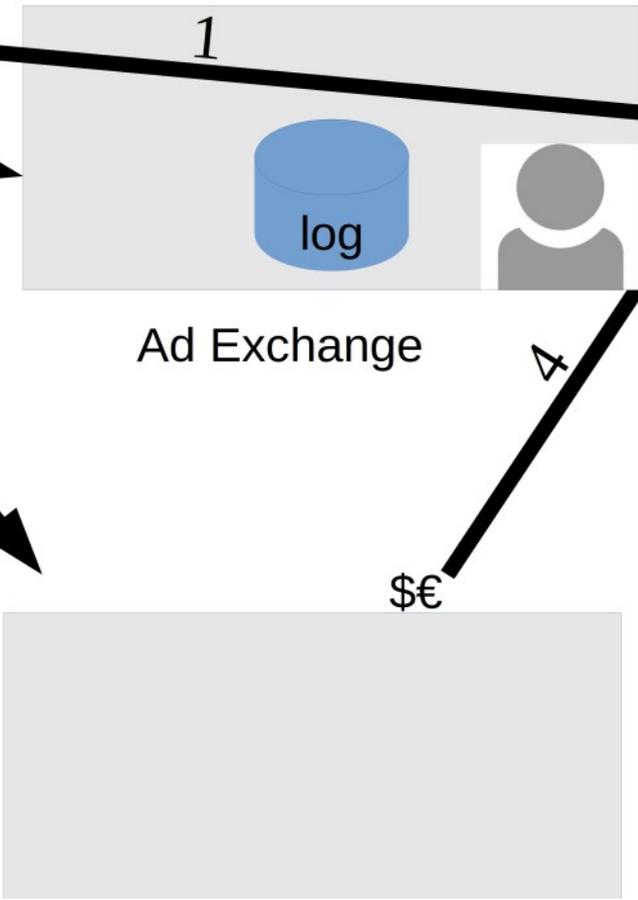
Publisher



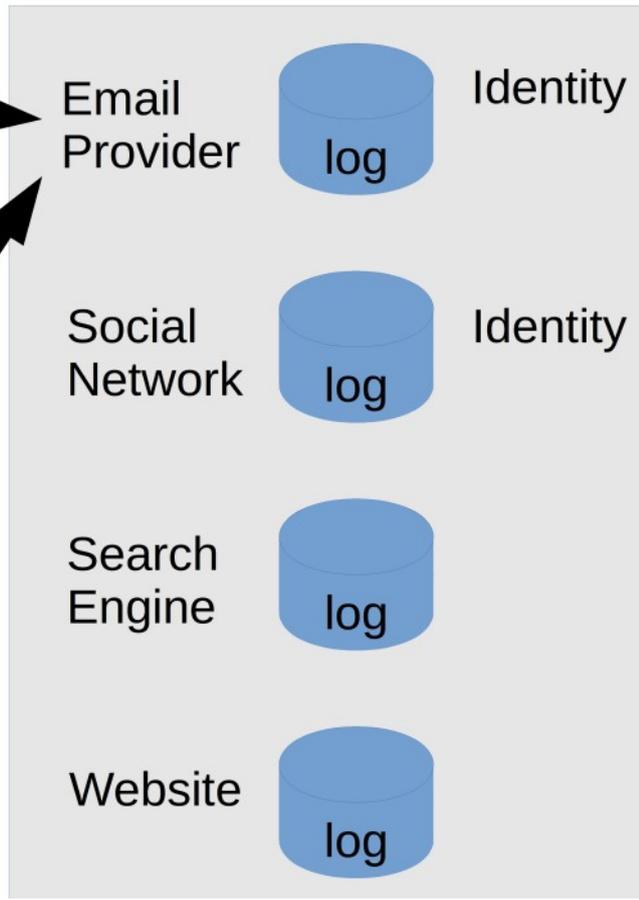
User/ Customer



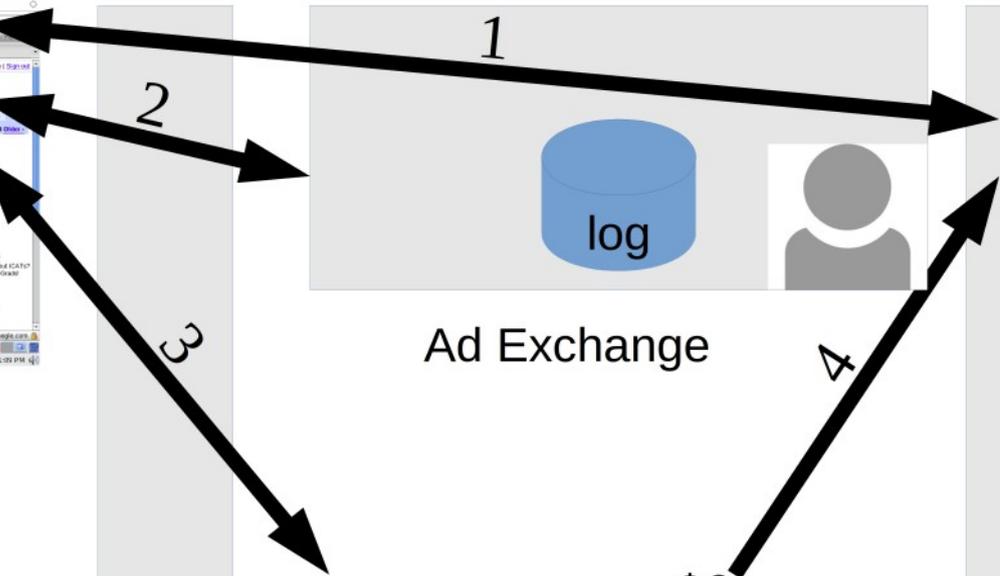
ISP



Advertiser



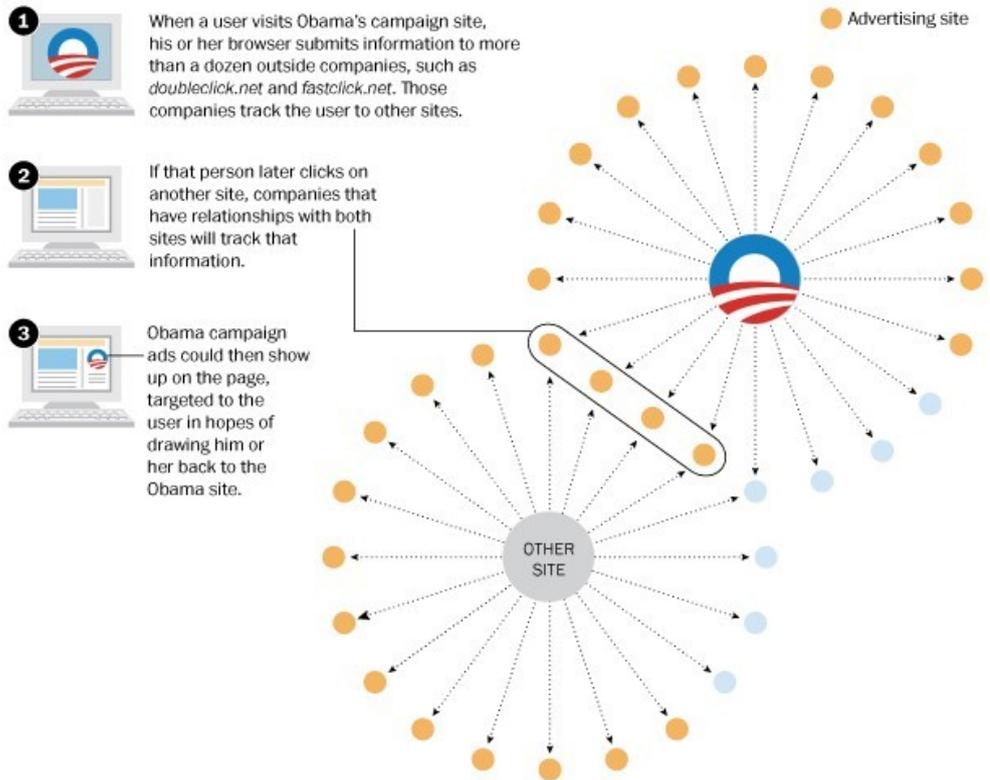
Publisher



€



Obama has aggressive Internet strategy to woo supporters



Ogni pagina ha collegamenti con diversi *AdExchange* che offrono inserzioni da molti *Advertiser*

- ogni pagina contatta molti altri soggetti
- ogni soggetto può trattenere informazioni
- per riconoscere un utente di ritorno

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4/ *obfuscation* e altri rimedi: multipli indirizzi mail

Come fanno Advertisers e Publishers
a riconoscere un utente di ritorno e tracciarlo?

Prevalentemente con i cookies



Web visitor tracking technology

- automatic logon
- **session** tracking
- persistent user information (preferenze)

Perchè il tracking?

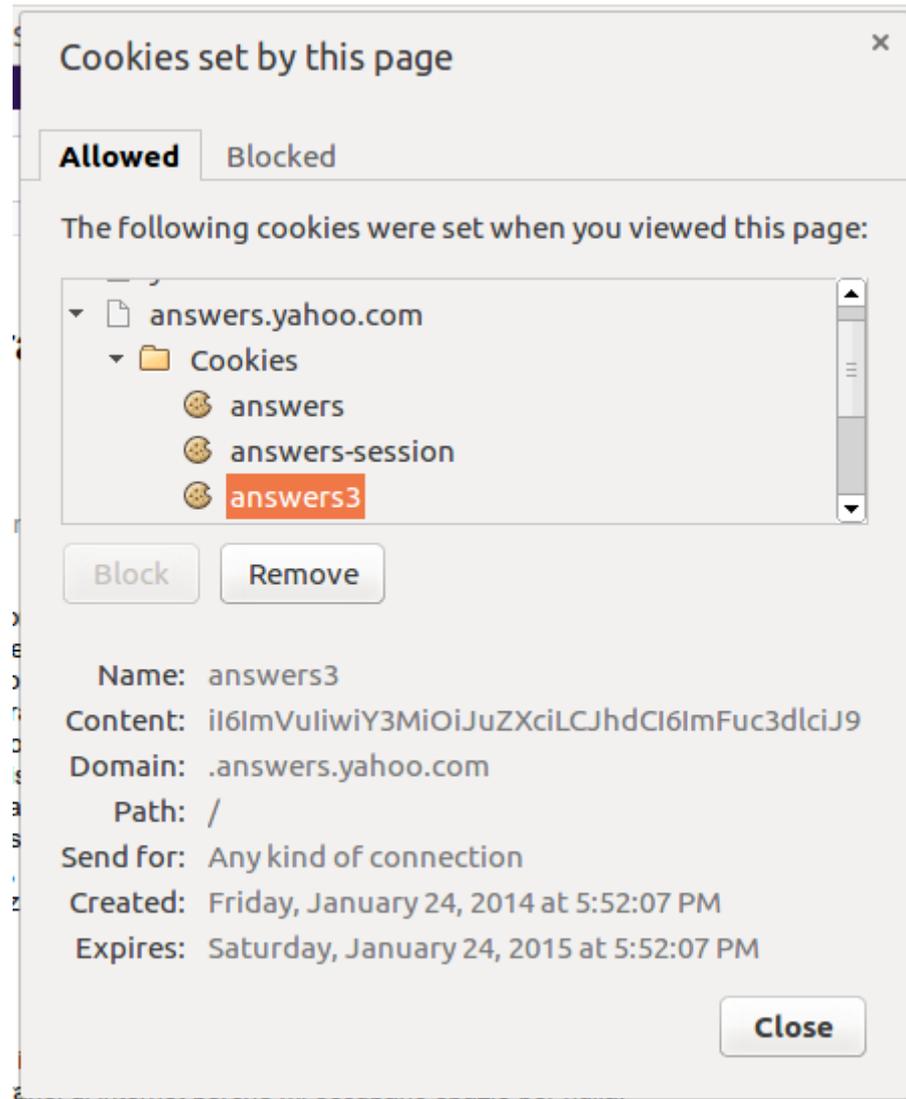
Users profiling
Advertisement
Market analysis
Web analytics
Web crawling

/cookie/

Directive 2009/136/EC

- Session (erased when browser is closed)
- Persistent (max 1y)

- First party (same domain as *visited page*)
- Third party (outside first party domain)



Other techniques

Flash Cookies (Local shared objects – LSOs)	Web bug, web beacon, tracking bug, page tag, +email
JavaScript tags	tracking pixel, pixel tag, 1×1 gif, clear gif
HTTP referral codes	
Browser fingerprinting	Unique Identifier Header (Verizon)

Come proteggerci

Browser options:
Do Not Track ON
Clear cookies

Email: no HTML

Browsers: use ad-hoc plugins

Perchè è importante?

1/ Persistenza oltre la singola sessione

2/ Cross-site tracking da cookies di terze parti
(ads, analytics, ...)

Demo

Useremo il plugin *Lightbeam* per vedere quali siti vengono consultati durante una sessione

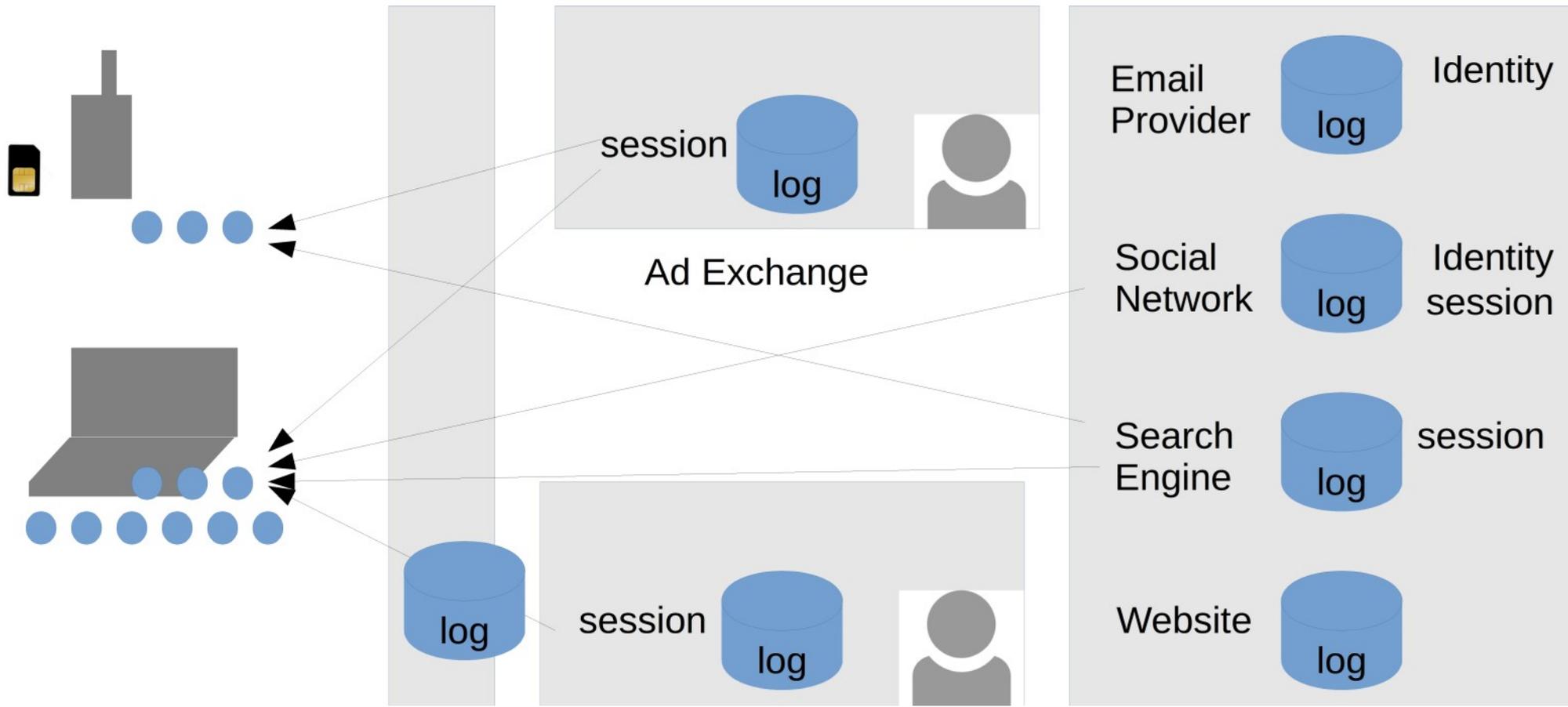


Con e senza il plugin *Ghostery*

Project Tracking Media Websites tracking

<https://trackography.org>

<https://myshadow.org/trace-my-shadow>

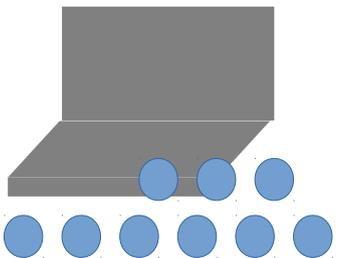
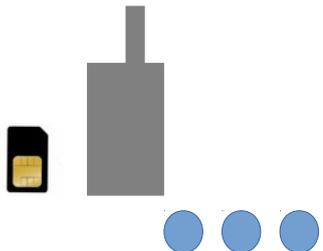


User/ Customer

ISP

Advertiser

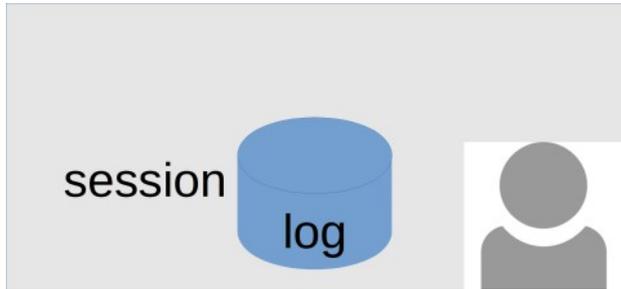
Internet Platform



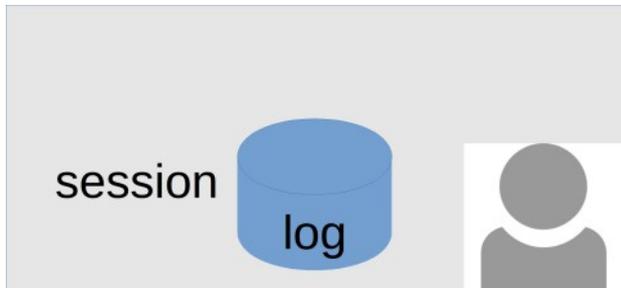
User/ Customer



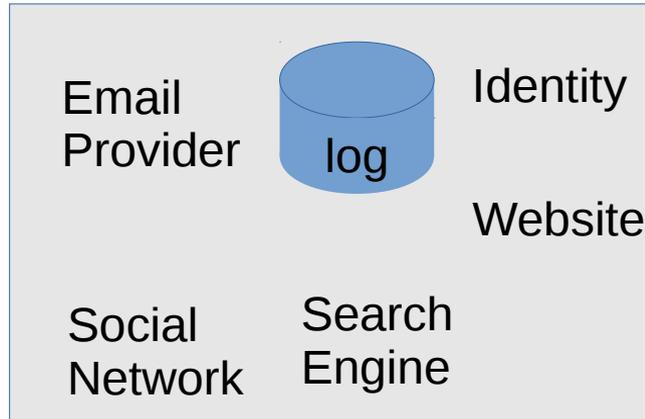
ISP



Ad Exchange



Advertiser



Internet Platform



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pseudonimato

- Anonimato
 - Non devo esporre un nome
- Pseudonimato
 - Espongo più identità a seconda dei contesti
- Real Identity Policy
 - Obbligo ad usare una sola identità

#nymwars



Google+ > Help

Google+ Profile Names Policy

Names and Google+

Google+ makes connecting with people on the web more like connecting with people in the real world. It's recommended that you go by your first and last name because it will help you connect with people you know and help them find you.

This policy applies only to Google+ profiles. Google+ profiles are for individuals. If you want to use Google+ to represent

[Get Started on Facebook](#) >**[Manage Your Account](#)** >[Privacy](#) >[Security](#) >[Timeline](#) >[News Feed](#) >[Sharing](#) >[Messaging](#) >[Connecting](#) >[Facebook Mobile](#) >[Popular Features](#) >[Pages](#) >[Ads & Sponsored Stories](#) >

Facebook's Name Policy

▼ What names are allowed on Facebook?

Personal Accounts

Facebook is a community where people use their real identities. We require everyone to provide their **real names**, so you always know who you're connecting with. This helps keep our community safe.

Names can't include:

- Symbols, numbers, unusual capitalization, repeating characters or punctuation
- Characters from multiple languages
- Titles of any kind (ex: professional, religious, etc)
- Words, phrases, or nicknames in place of a middle name
- Offensive or suggestive content of any kind

Other things to keep in mind:

- The name you use should be your real name as it would be listed on your



My name is [danah boyd](#) and I'm a Senior Researcher at Microsoft Research, a Research Assistant Professor in Media, Culture, and Communication at New York University, a Visting Researcher at Harvard Law School, and an Adjunct Associate Professor at the University of New South Wales. I received my PhD from the [School of Information at UC-Berkeley](#). I spend 1/3 of my time in Cambridge, MA, 1/3 in New York, NY, and 1/3 in the air. Buzzwords in my world include: public/private.

« [Designing for Social Norms \(or How Not to Create Angry Mobs\)](#)

[The Unintended Consequences of Obsessing Over Consequences \(or why to support youth risk-taking\)](#) »

“Real Names” Policies Are an Abuse of Power

Everyone's abuzz with the “nymwars,” mostly in response to Google Plus' decision to enforce its “real names” policy. At first, Google Plus went on a deleting spree, killing off accounts that violated its policy. When the community reacted with outrage, Google Plus leaders tried to calm the anger by [detailing their “new and improved” mechanism to enforce “real names”](#) (without killing off accounts). This only sparked increased discussion about the value of pseudonymity. Dozens of blog posts have popped up with people expressing their support for pseudonymity and explaining their reasons. One of the posts, by [Kirmily “Skud” Robert](#) included a [list of explanations that came from people she polled](#), including:

- “I am a high school teacher, privacy is of the utmost importance.”
- “I have used this name/account in a work context, my entire family know this name and my friends know this name. It enables me to participate online without being subject to harassment that at one point in time lead to my employer having to change their number so that calls could get through.”
- “I do not feel safe using my real name online as I have had people track me down from my online presence and had coworkers invade my private life.”
- “I've been stalked. I'm a rape survivor. I am a government employee that is prohibited from using my IRL.”
- “As a former victim of stalking that impacted my family I've used [my nickname] online for about 7 years.”
- “[this name] is a pseudonym I use to protect myself. My web site can be rather controversial and it has been used against me once.”
- “I started using [this name] to have at least a little layer of anonymity between me and people who act inappropriately/criminally. I think the “real names” policy hurts women in particular.
- “I enjoy being part of a global and open conversation, but I don't wish for my opinions to offend conservative and religious people I know or am related to. Also I don't want my husband's Govt career impacted by his opinionated wife, or for his staff to feel in any way uncomfortable because of my views.”
- “I have privacy concerns for being stalked in the past. I'm not going to change my name for a google+ page. The price I might pay isn't

OBFUSCATION

A USER'S GUIDE FOR PRIVACY AND PROTEST

Finn Brunton | Helen Nissenbaum

A USER'S GUIDE
FOR PRIVACY AND PROTEST
Finn Brunton
Helen Nissenbaum
2015

production of noise modeled on an existing signal in order to make a collection of data more ambiguous, confusing, harder to exploit, more difficult to act on, and therefore less valuable.

Esempi

- TrackMeNot: inquinare la ricerche dei motori con *false ricerche*
- AdNauseam, plug-in, clicca tutte le pubblicità
- Vortex: scambio cookies
- Facebook bayesian flooding (Ludlow)
- FaceCloak plugin: condividi alcuni dati con Fb, altri solo con altre persone con lo stesso plugin
- `M-x spook` in Emacs: NSA food (dal 1987)

Email:

- Address Tagging

`user+tag@example.com`)

Esempio: `alberto+alitalia@gmail.com`

- Mail usa e getta:

<https://mailinator.com/>

Blended 11 e 12 maggio

1) reperimento e lettura di cookies nel proprio browser, Stampa-schermo 1. Cancellazione dei cookies. Stampa-schermo 2. Postare i due file con “carica file”.

2) installazione di *plugin* per escludere il tracking: *lightbeam* e *ghostery*, [eventualmente anche *adblock*].

Navigare per qualche ora. Registrare gli effetti dei plugin.

Stampare la schermata di lightbeam alla fine della navigazione, con e senza la protezione di ghostery.

Postare le due schermate con “carica file”, commentare nel forum