



# 3.8 Billion users' future

Email 3.0



They didn't cut it

## Proprietary

- |                         |             |
|-------------------------|-------------|
| ❑ AOL Instant Messenger | ❑ Viber     |
| ❑ Amazon Workmail       | ❑ Line      |
| ❑ Google Wave           | ❑ Lmo       |
| ❑ HCL Places            | ❑ KakaoTalk |
| ❑ Google Plus           | ❑ Pinger    |
| ❑ Blackberry Messenger  | ❑ Brosix    |
| ❑ Groove                | ❑ Chatzy    |
| ❑ Twist                 | ❑ Palringo  |
| ❑ ICQ                   | ❑ BuddyTalk |
| ❑ MSN Messenger         | ❑ ...       |





They didn't cut it

## Open Source

- |  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Kontalk           | <input type="checkbox"/> Mumble     |
| <input type="checkbox"/> Pump.io           | <input type="checkbox"/> Zulip      |
| <input type="checkbox"/> Diaspora          | <input type="checkbox"/> Orbit      |
| <input type="checkbox"/> Jappix            | <input type="checkbox"/> Emoty      |
| <input type="checkbox"/> Project Appleseed | <input type="checkbox"/> Coccinella |
| <input type="checkbox"/> Hemlis            | <input type="checkbox"/> ...        |
| <input type="checkbox"/> Elgg              |                                     |



# 103 Trillion

Emails sent each year, between 3.8 bn users, rising 6% in 2019



DJIA 28522.62 -0.10% ▼

S&P 500 3222.98 -0.03% ▼

U.S. 10 Yr 1/32 Yield 1.914% ▲

Euro 1.1094 0.04% ▲



THE WALL STREET JOURNAL.



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# The Hot New Channel for Reaching Real People: Email

Frustrated by social media, businesses and others looking for an audience turn to an old standby



January 19th, 2019

<https://www.wsj.com/articles/the-hot-new-channel-for-reaching-real-people-email-11547874005>



# Email is king of communication



Hundreds of mail clients,  
for every platform



Email is consistently #1  
for marketing ROI



Facebook, Google, Amazon,  
Adobe, all acquired mail  
tech firms



\$17 Billion in mergers and  
acquisitions over 7 years



# What makes a good messaging experience?

## ADOPTION: users perspective

- ❑ Gratis (free price tiers)
- ❑ Low adoption costs
- ❑ Low switching costs
- ❑ Critical mass of users (eg Unis)

## ECONOMICS: business perspective

- ❑ Accessibility, requires:
  - ❑ Business-backed
  - ❑ Viable business models
- ❑ Efficient market, requires:
  - ❑ Low barriers to market entry
  - ❑ Attractive to new market entrants



# What makes a good messaging experience?

## TECHNOLOGY: strategic perspective

- ❑ Freedom of implementation  
(freedom over client and server used)
- ❑ Separate protocol from implementation
- ❑ Extensible functionality
- ❑ Independence from a single authority

## EFFECTS

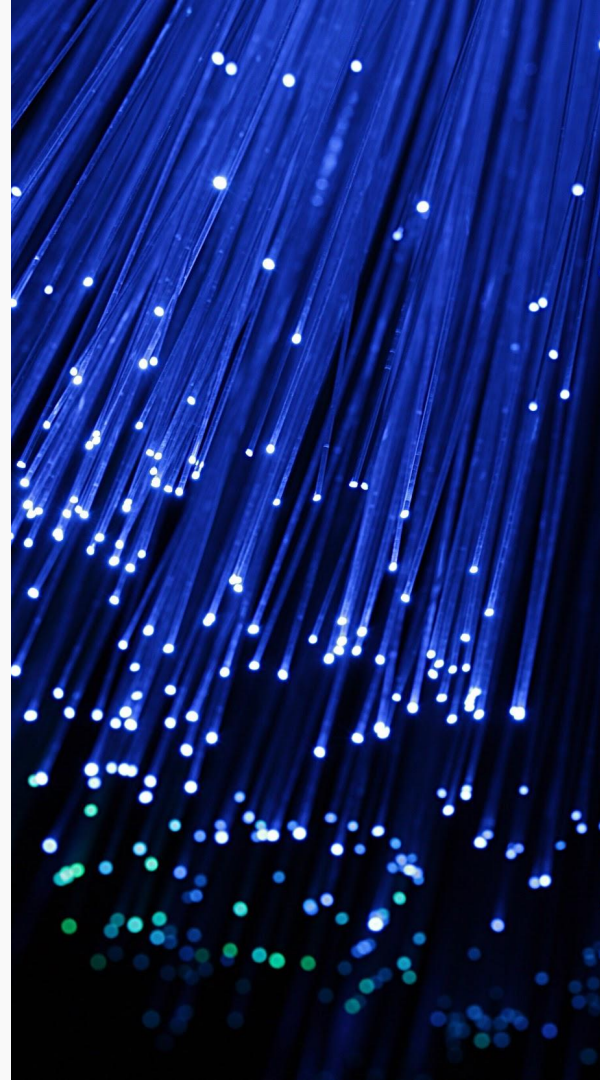
- ❑ Efficient innovation & competition
  - ❑ At client level
  - ❑ At server & infra level
- ❑ Fast adaptation to new platforms + devices
- ❑ High performance products
- ❑ Responsive security
- ❑ Scalability and localisation






## The magic formula

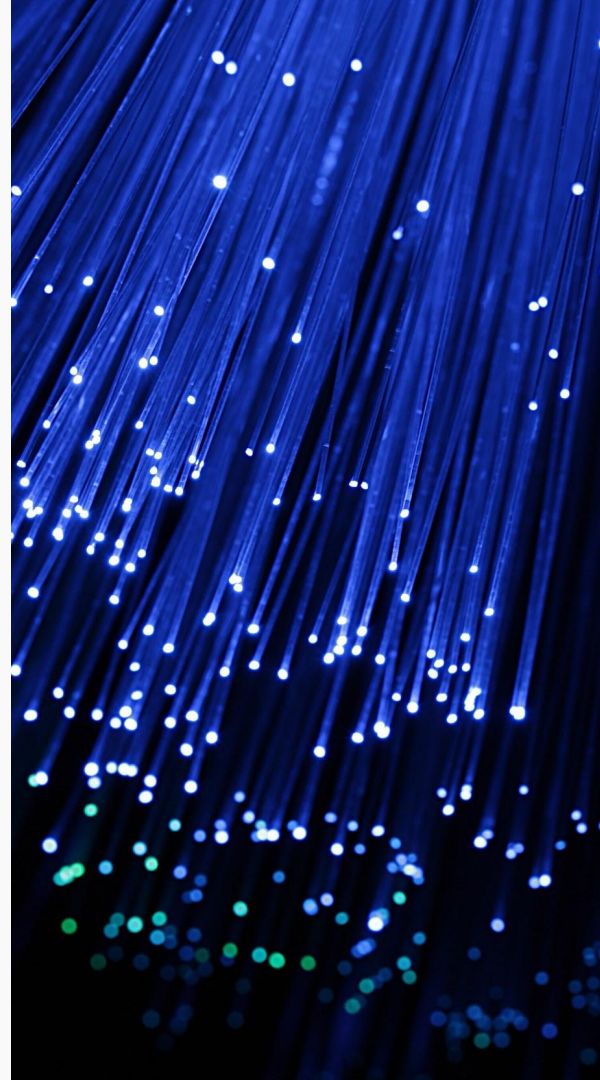
- ❑ Critical mass of users
- ❑ Extensible functionality
- ❑ Independence from a single authority
- ❑ Efficient market of service providers





## The magic formula

- ❑  **Critical mass of users**
- ❑ Extensibility (free and easily)
- ❑ Independent of a single authority
- ❑ Efficient market of service providers





# Email's extensibility

- ❑ 1995: Read receipts
- ❑ 1996: MIME / attachments
- ❑ 2000: IMAP extensions (eg Quota, Replace, Move, Sort)
- ❑ 2001: OpenPGP MIME
- ❑ 2002: HTML content
- ❑ 2002: Tracking pixels
- ❑ 2004: Message Disposition Notifications (read receipts)
- ❑ 2015: Protected E-mail Headers (incl. subject)

# 1,841 MIME types

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APP

1,380



FONT

6



MESSAGE

21



MULTIPART

18



AUDIO

153



IMAGE

74



MODEL

18



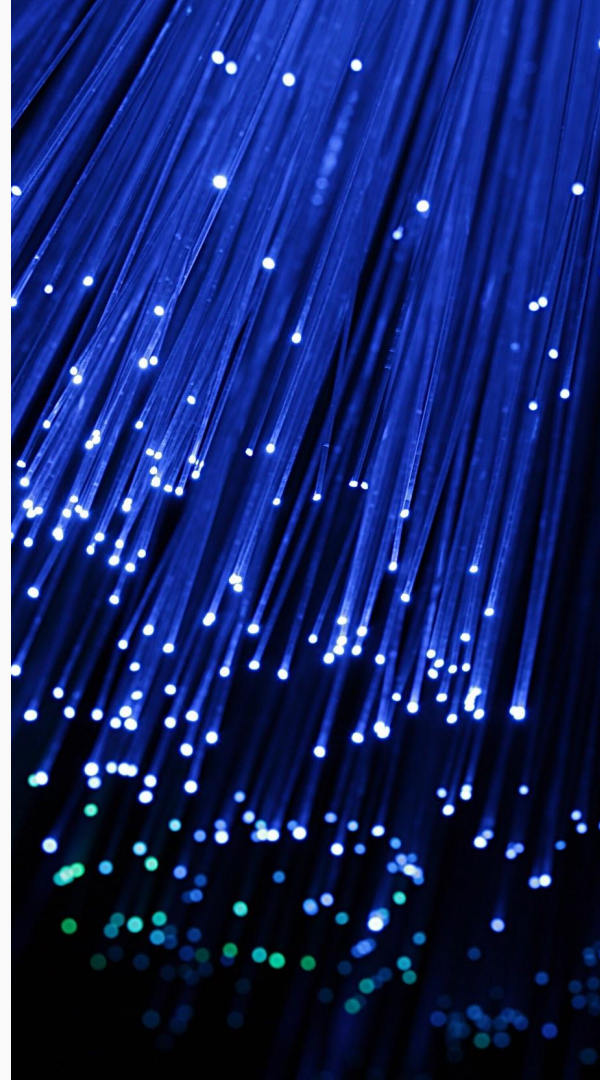
VIDEO

83



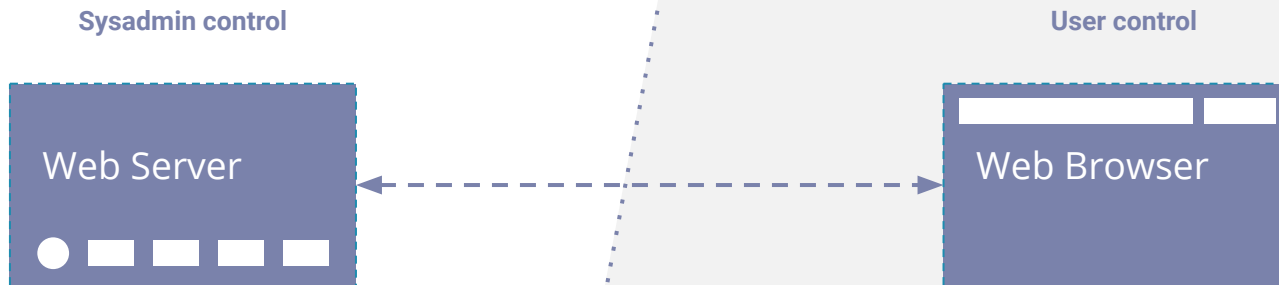
## The magic formula

- ☒ Critical mass of users
- ☒ Extensibility (free and easily)
- ☐ Independent of a single authority
- ☐ Efficient market of service providers



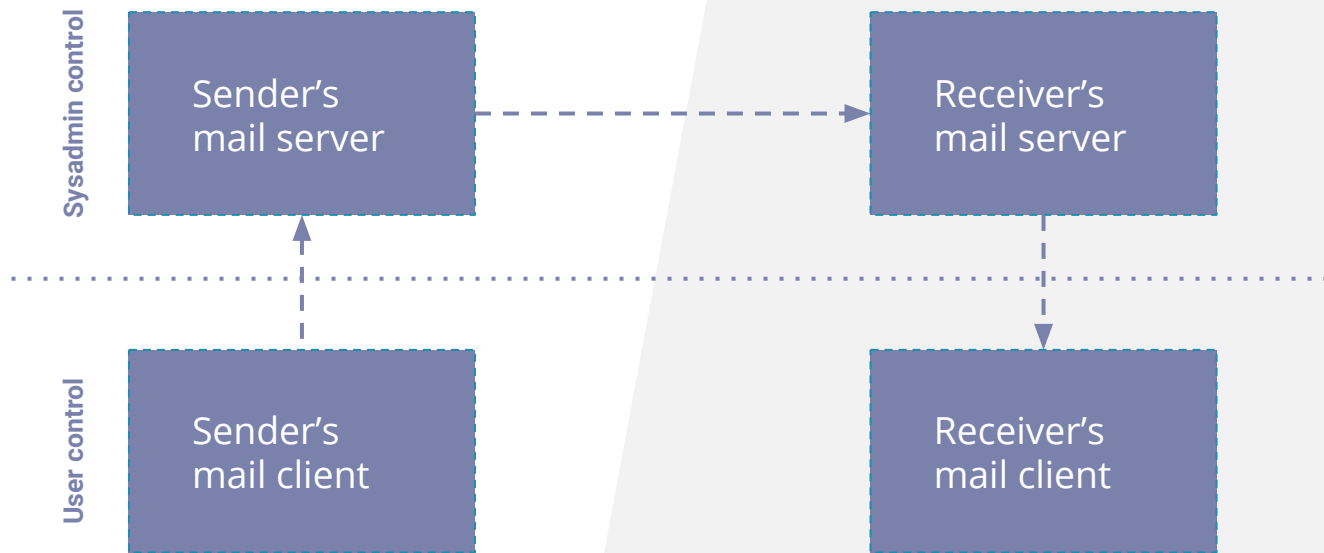


# Authority independence: Web architecture





# Authority independence: Email Architecture





# Authority independence: Email Architecture



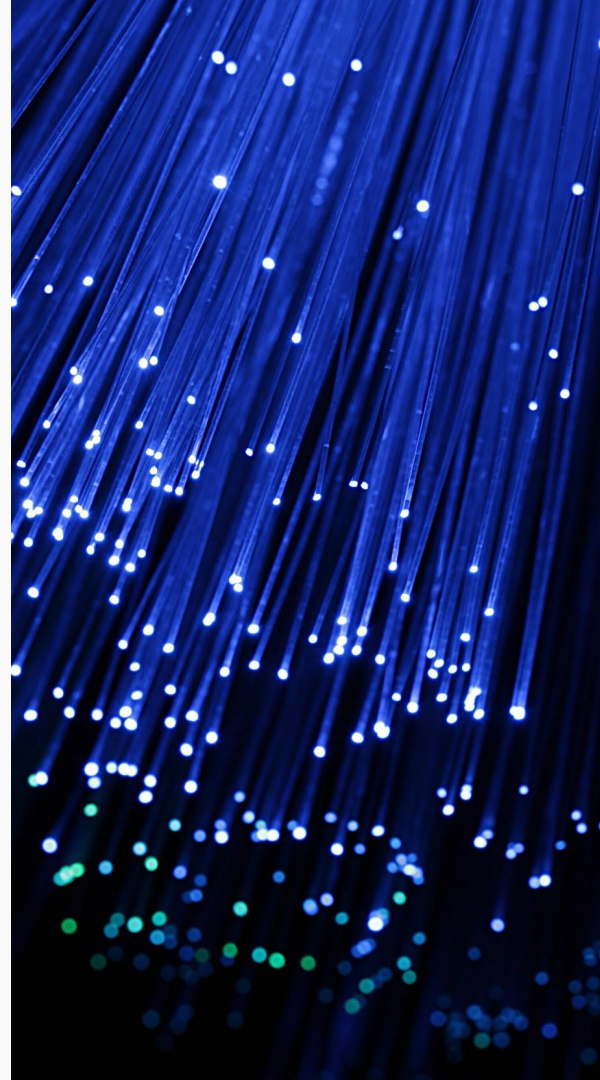
- ❑ Peer to peer - requires cooperation
- ❑ All peers equal
- ❑ Messages: store and forward
- ❑ Resilient asynchronous architecture
- ❑ SMTP and IMAP are Open Standards





## The magic formula

- ☐ ☒ Critical mass of users
- ☐ ☒ Extensibility (free and easily)
- ☐ ☒ Independent of a single authority
- ☐ Efficient market of service providers





# Email's existing revenue models

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## Advertising revenue

- ☐ Hotmail (direct)
- ☐ Gmail (indirect)
- ☐ Yandex (both)



## Ecosystem lock-in

- ☐ Google\*
- ☐ Microsoft\*
- ☐ Apple\*



## Monthly fee / freemium

- ☐ Yahoo Mail Pro
- ☐ Protonmail Plus
- ☐ Kolab Now



## Cost center for comms (self hosted)

- ☐ businesses
- ☐ universities
- ☐ Government



## Advertise another service

- ☐ Internet Service Providers

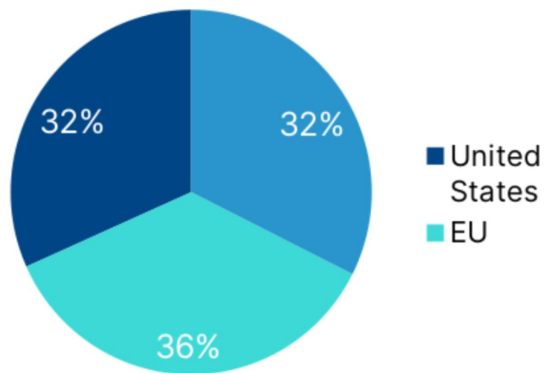


## Pay for association with brand

- ☐ GnuPG
- ☐ FSF\*

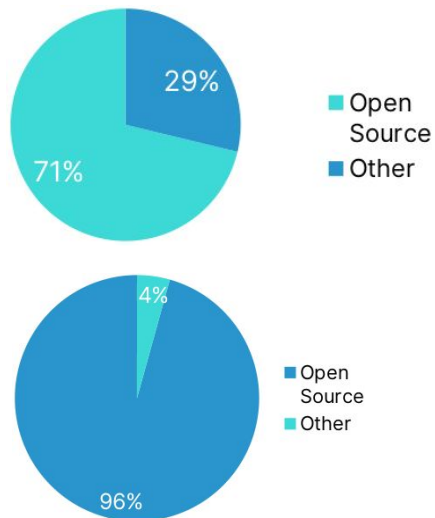
# Most mail servers in use (MTAs) are Open Source

## Global mail server location



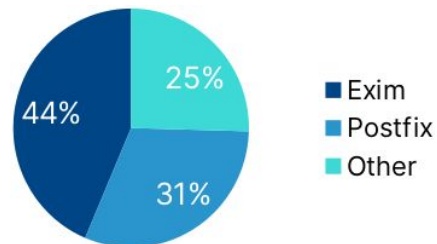
## Mail server software market share

Two independent datasets



## Breakdown of Open Source mail servers

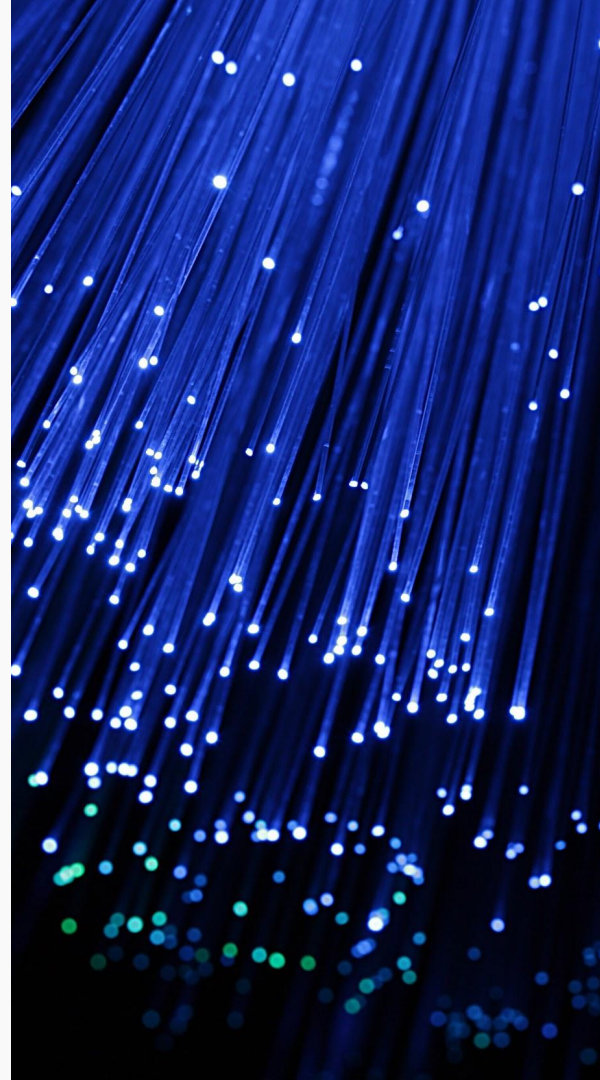
Datasets averaged





## The magic formula






- ☐ ✓ Critical mass of users
- ☐ ✓ Extensibility (free and easily)
- ☐ ✓ Independent of a single authority
- ☐ ✓ Efficient market of service providers








## The threat to email from centralisation: client market share

2017

1	 Apple iPhone	28%
2	 Gmail	26%
3	 Apple iPad	11%
4	 Apple Mail	7%
5	 Outlook	6%
6	 Samsung Mail	5%
7	 Outlook.com	4%
8	 Android	3%
9	 Yahoo! Mail	2%
10	 Windows Live Mail	1%

2018

1	 Apple iPhone	29%
2	 Gmail	27%
3	 Apple iPad	9%
4	 Outlook	8%
5	 Apple Mail	8%
6	 Yahoo! Mail	6%
7	 Samsung Mail	3%
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- ❑ Gratis plan success drove centralisation
- ❑ Pre-gmail, no company had >25% market share

The threat



# Gmail: Google's lonely messenger

Discontinued or unsuccessful messaging products

- ☐ Google Wave
- ☐ Google Hangouts
- ☐ Google Plus
- ☐ Google Talk
- ☐ Google Allo
- ☐ Pie
- ☐ Orkut
- ☐ Sparrow
- ☐ Remail
- ☐ Jaiku
- ☐ Rich Communication Services (RCS)?



# The threat to email from centralisation

## Extensibility

- ❑ Missing features:
  - ❑ CSS style tag
  - ❑ Linked files (eg CSS)
  - ❑ Most CSS3 rules
  - ❑ Javascript
  - ❑ SVG
  - ❑ HTML Canvas
  - ❑ Media query
  - ❑ Video or audio



## The threat to email from centralisation

### Centralised authority

- ❑ Gmail: easy target for state blocking
  - ❑ 2012: Iran
  - ❑ 2014: China
  - ❑ 2018: Russia
- ❑ Google dropping support for IMAP
- ❑ Loss of standard independence - AMP (Accelerated Mobile Pages)

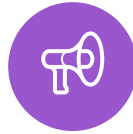




# The threat to email from centralisation

Viable economic model

Threats to extensibility and decentralised authority in turn threaten competition



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- ❑ Yandex (direct)
- ❑ Gmail (indirect)



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\* = wildcard



## Recent innovations

- ❑ MJML
- ❑ Mailvelope
- ❑ Chat Over IMAP
- ❑ Mailspring
- ❑ Deltachat
- ❑ JMAP
- ❑ Wild Duck
- ❑ Superhuman
- ❑ Juicymail
- ❑ AMP Email
- ❑ Zapier



Work in  
progress



# LIGHTMETER



Dashboard



Postfix ready



Monitoring



Open Source



## Follow future progress



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