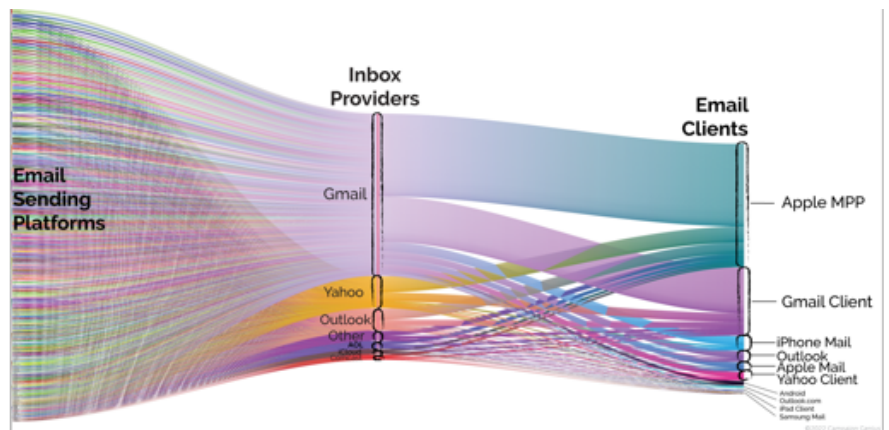# Email Flow Structure 2022: Proxies and Privacy

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The flow of email data directly affects how the channel can be used and how it might change. The structure of this flow has evolved considerably in a few short years. Email is less and less a direct channel between sender and recipient; inbox providers and client providers are playing a larger role.

Apple's introduction of Mail Privacy Protection (MPP) affected more than open rates. The flow of email data has moved to the mobile-duopoly battlefield, where the divergent visions of Apple and Google are playing out.

This change in structure will affect some markets more than others. Google-dominated markets such as India are less affected by these changes; some vendors and marketers will be able to experiment with Google's vision for email, including greater interactivity. Other vendors, such as email advertisers, will face Google lockout in those markets.

In duopoly markets like the US, marketers and vendors will face a more complex set of choices. Marketers will be flying with fewer instruments, as the feedback signals in email have become weaker and (arguably) less useful. Vendors and marketers will have to balance tactics and resources to operate effectively in the space between the giants.

As these giants square off, they face their own external forces. Privacy legislation, monopoly regulations and a growing societal desire to reclaim control will shape their decisions more directly than in the past decade.

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1   Email Flow Evolves

Providing email inboxes for individual consumers, freeing them from the technical overhead of domains and servers, was key to the continued growth of email. The landscape has changed and consolidated considerably in the past decade, however. Hotmail's success pioneering viral marketing gave them considerable market share, but the company (owned by Microsoft) stagnated after that.
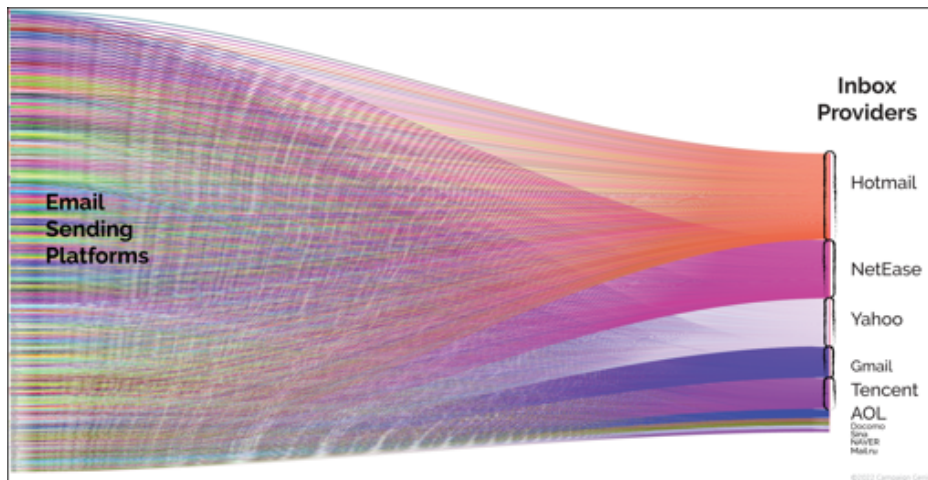

Fig 1: Email Inbox Flow, 2010

Google's Gmail has become the dominant inbox provider, with nearly 66%. (Statista data; experts suspect that this under-estimates GSuite inboxes.)
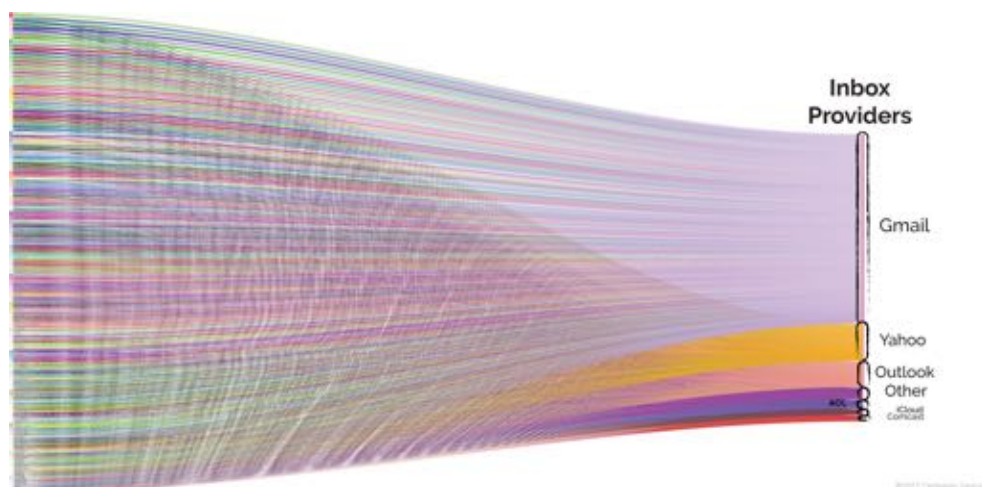

Fig 2: Email Inbox Flow, 2022

The sending platforms on the left side are a generalization, with several intentional inaccuracies worth noting. This diagram charts out 251 email platforms, based on the 2022 MarTech Landscape data. Data on the number of email platforms in 2010 was unavailable — experience suggests that there were fewer email platforms then.

Actual mail-by-volume distribution across these platforms is not available. Distribution models elsewhere in the world suggest that volume would fall along a power curve, with a handful of platforms handling 50% of the traffic and a "long tail" handling the rest.

Related to this, the visual also does not capture consolidation in the MTA (Message Transfer Agent) market between platforms and inboxes. MTA has been explosive during the same period; Sparkpost, the largest MTA, sends 40% of the world's commercial email (over 6 trillion sends per year.) Data about platform-to-MTA data is likewise scarce.

While these omissions reduce the explanatory depth of the visual, from a marketer's perspective the loss is relatively minimal. The path of email from sending platform to inbox is standards-based; the "250 OK" handoff line of delivery ends at the inbox. From the inbox on, recent events suggest that standards play a lesser role.

1.1   What MPP Uncovered

Apple's Email Privacy Protection, announced in June 2021, aims to "stop senders from using invisible pixels to collect information about the user." Apple implemented a complex 2-tier system to retrieve images/pixels and obscure user IP address and other private information. After a slow launch, iOS 15 has become the dominant iOS version in the market. Industry experts estimate that MPP — nominally a choice — is activated on nearly all iOS 15 devices.

This client-side shift has created a significant schism in email flow; the "everything going to Gmail" trend now looks like a nearly-even standoff.
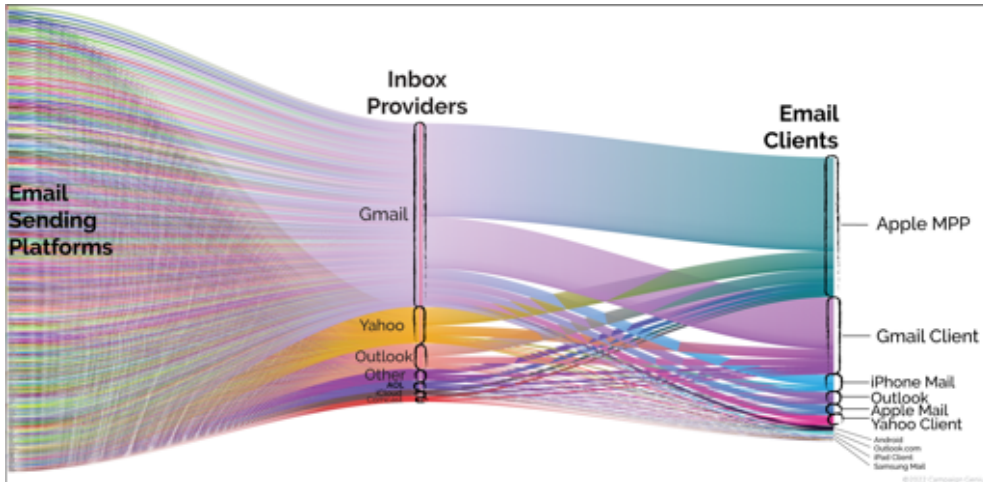
Fig 3: Inbox-Client Flow 2022

While Gmail commands 2/3rds of inboxes, Apple dictates the defaults on just over ½ of email clients.
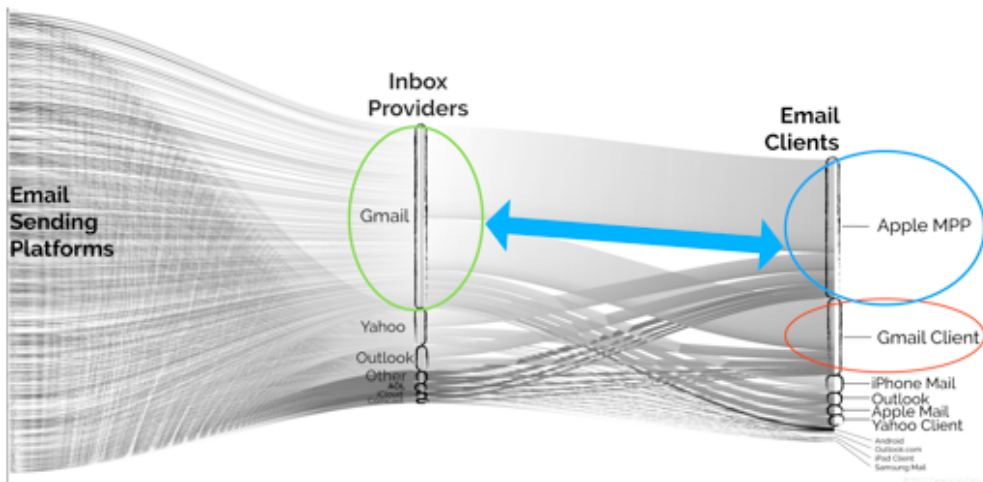

Fig 4: Inbox-Client Flow (focused) 2022

2 New Structure Alters Email Feedback

Email open measures are an historical accident, the result of a "technology credit." When HTML was included as a standard message-body type over 20 years ago, HTML image tags (<img>) using the Web HTTP protocol for source fetch were included. This inclusion created a mechanism — probably unintentionally — for feedback data on user email actions, with an unexpectedly rich payload from the robust data provided by the HTTP protocol.
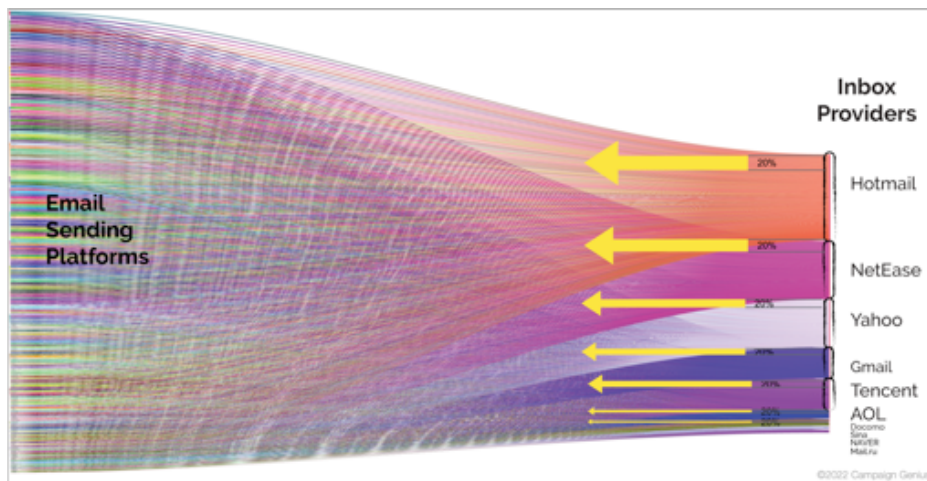

Fig 5 Inbox-Feedback 2010

This visualization scales feedback (arrows) to 20% of the inbox share to represent average opens and the proportion of data that results.

Google began handling email images with a proxy ("Google Image Proxy") nearly a decade before Apple introduced MPP. Google Image proxy reduced the data in the email feedback cycle. The change was gradual; Google was not so dominant in 2013, and broadly speaking, Google's proxying is less aggressive. Additionally, the fact that no small volume of Gmail was handled by other clients (such as iOS), and thus bypassed the Google Image Proxy, played a perhaps underappreciated role in keeping opens-driven data in the mainstream for email marketing and platforms.
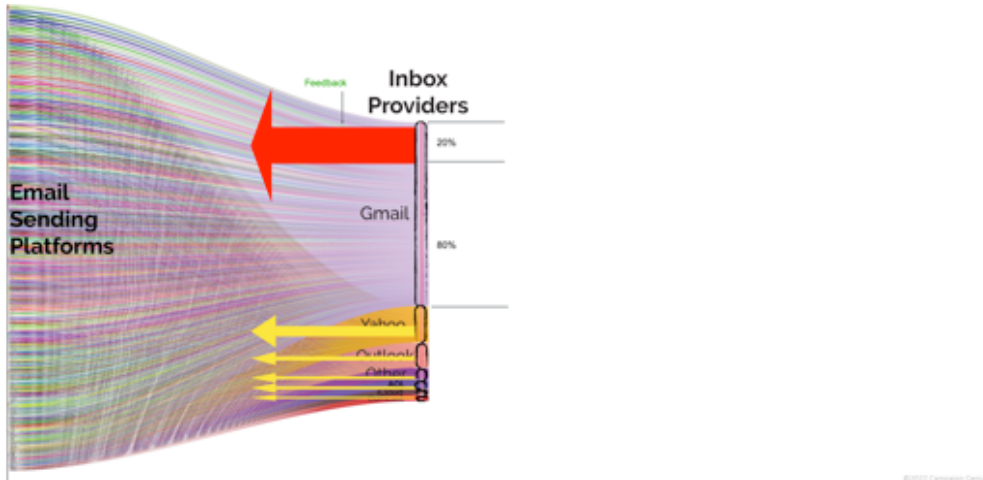
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Fig 6 Inbox-Feedback 2020

Prior to Apple's announcement of MPP in June 2021, email clients with the main exception of Gmail were 'passthrough' — most of them generated feedback data from pixels and images in roughly the same way.

MPP changed this landscape considerably — in fact, the quantitative impact of MPP is usually underestimated. This visualization helps understand why:
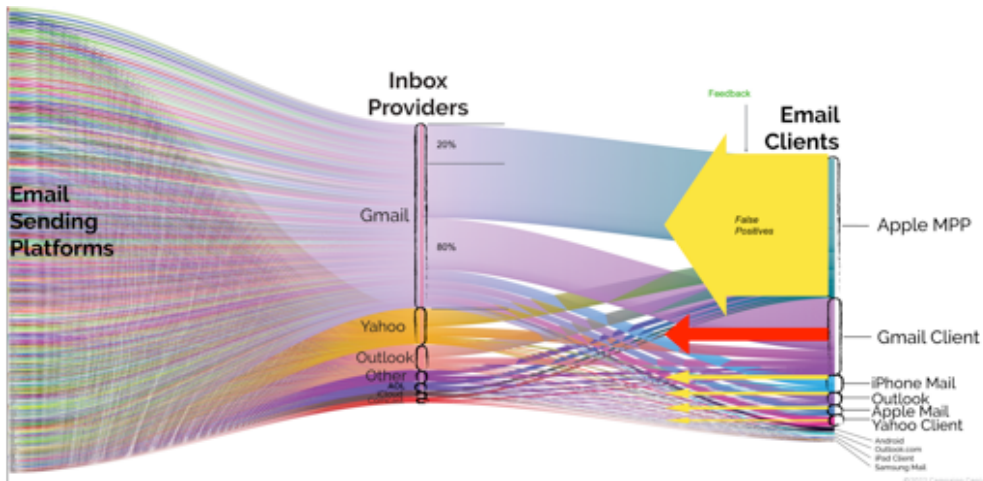

Fig 7 Inbox-Feedback 2022

As in the earlier graphic, the "feedback arrows" are scaled to 20% of the height of the source (= 20% open rate.) Apple's approach is to open 100% of images, sooner or later. Depending on list composition, the signal from MPP can easily be the dominant source of feedback data in the flow.

2.1 Feedback Data Details

Data returned from image fetches and proxies is inconsistent and complicated.

	Direct Client	MPP	Google Image Proxy
Opened	✓	✓✓✓	✓
Moment of Open	✓	✓✓✓	✓
IP Address	✓	⊘	⊘
UserAgent String	✓	⊘	⊘
User Language	✓	⊘	✓
Query-String Data	✓	✓	✓
Location	✓	✓	⊘

There's some misconception about how MPP delivers location. MPP masks the user's IP address by using a 2-hop proxy structure. Apple's iCloud Private Relay hands the HTTP request off to an edge-network provider such as Cloudflare. However, Apple went to considerable technical effort to assign IP addresses that do deliver a meaningful address. Apple has published the list of over 370,000 IP subnets and the location assigned to each; global hot-spots like Saguache, Colorado (pop. 500) get their own IP subnet and location data. An informed MPP data solution can deliver accurate-to-the-town user location data, which Apple has apparently decided does not constitute a privacy infringement.

3 Interactive Email: Deadlocked By The Mobile Duopoly

Email marketers have dreamed of interactivity and rich content for decades. Startups attempting to deliver interactivity have come and gone, stymied by email's "dumb" non-programmable constraints and (perhaps) by the continued success of email marketing without interactivity.

Google took a page from their Accelerated Mobile Pages (AMP) and introduced AMP for Email in early 2019. AMP for Email (AMP for short here) delivers many things on email marketers wish-lists — API connectivity, interactivity, real-time content updates, visual effects and more. AMP components are strictly defined, and in theory the severely constrained set of Javascript commands ensures security.

Whether AMP for Email will be the vehicle to make email interactive (finally) is very much up for grabs, based on the inbox/client market share split depicted in Fig 4.
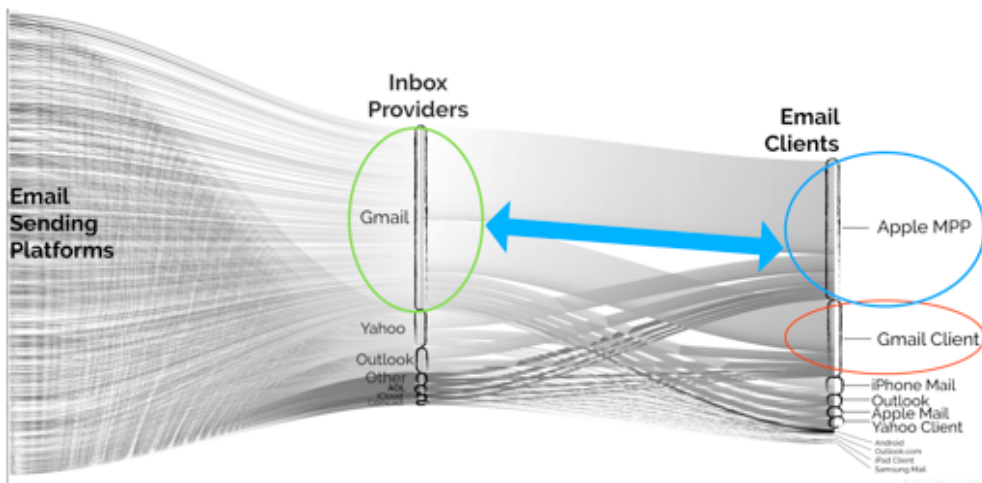

Fig 4, repeated: Inbox-Client Flow (focused) 2022

Apple is making a huge brand bet on user privacy; debates about how sincere they are about user privacy are by and large irrelevant. It's highly, highly unlikely that Apple will ever support AMP for Email in Apple-native email clients. "You thought image pixels did a lot of spying…running Javascript/AMP in email = 100x that." noted Ryan Phelan in MediaPost.

On one hand, over 66% market share of inboxes puts Google, Yahoo and other companies supporting AMP in a strong position to (finally!) bring some interactivity to the inbox. On the other hand, Apple has the biggest single grip on email clients in the key North American market, and a smaller but critical chunk of the EU market. It's ironic that the country with the weakest privacy laws — the US — might forestall the evolution of email because of privacy concerns.

In broad strokes, this could play out in several ways.

The 'Nation by Nation' scenario looks like this: in markets where Gmail and other AMP supporters are completely dominant, such as India or Israel, vendors and marketers may at last run large-scale experiments on the value of interactive email. The US and similar markets, meanwhile, will likely continue with status quo practices.

The 'Google Loses Interest' scenario is status quo writ large. If Google drops active development and evangelization of AMP, it's likely to wither and fade from use. In theory, this pause could provide a chance for email to develop new standards for interactivity that successfully meet the bar for user privacy — especially Apple's. The left edge of that flow structure — email-sending platforms — suggests that this is highly unlikely. As a technology sector, email is fragmented <u>except</u> in the inbox and the client. Absent a robust industry standards organization or the proverbial 800-lb gorilla vendor, or at least a couple of 400-lb chimps who agree that interactivity is vital to their competing businesses, as the man says, it ain't gonna happen.

External 'landscape' factors that bear on the flow of email, especially laws and policies, will affect the evolution of the space. As the game-board is set now, email is not a central issue in debates about privacy, monopoly or consumer harm. Changes in law or policy based on that configuration are likely to affect email directly but some accidentally. One could imagine a "black swan" event that pushes email into the spotlight — a high-profile email hack involving a public figure, for example. Or a legislative staffer might decide to make concentrated market share in inboxes a straw-man for monopoly debates. Email's strength — it just works, thanks to thousands of unsung and dedicated people and companies in the space — is its weakness as a focal subject.

The fact that tens of millions of people use the email client from one company (Apple) for their email inbox from another company (Google) says something about how personally they think of "their" email. Do they want better privacy protection? Do they want interactivity? Do they want email to change at all? Their habits and expectations are firm; change won't be easy.