

Competition and Markets Authority

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For the attention of:

browsersandcloud@cma.gov.uk

By email only

Our Ref: TC/ADM838

2 September 2024

Dear Browsers and Cloud Team,

Re: Mobile browsers and cloud gaming – Working Paper 7 ('WP7') - Comment

1. As you know, we represent Movement for an Open Web ("MOW"). We are writing further to our submissions made regarding our comments on previous Working Papers (1-6), which should be read in conjunction with this letter. Four key themes emerge in our comments on WP7:
2. First, when crafting remedies for the Mobile Browsers and Cloud Gaming Enquiry under the UK's antitrust laws, the CMA has accepted the necessity of recognising, as a fact, the effect of enforcement actions taken by the EU Commission under its Digital Markets Regulation. It refers to these matters as "cross cutting". We would also observe that the cross-cutting effect of remedies here operates in two ways, so that UK remedies can cut across the remedies of its major trading partners. We also accept that while not formally antitrust enforcement, the DMA is sufficiently close to overlapping and aims to achieve similar ends. Similarly, therefore, antitrust enforcement actions taken by foreign government agencies also need to be considered. As a matter of law and public policy, the UK's usual approach to international comity is to respect the positions of EU and US agencies on antitrust enforcement actions. We understand that the UK was coordinating its position with those agencies via G7 meetings¹. Both on matters of substance and timing, enforcement decisions can be reached consistently.² We therefore suggest that not only should the EU's DMA enforcement actions be respected but also its antitrust actions. The CMA has recognised that the global nature of markets

¹<https://www.gov.uk/government/news/joint-statement-from-uk-competition-and-markets-authority-u-s-ftc-and-doj-antitrust-division-leadership-following-the-g7-competition-enforcers-summit>

² As a practical matter, we understand that the EU's Decision in Google (AdTech) [AT.40670] will be decided and published before the end of November and the remedies hearing in *USA v Google* (Search) is taking place on 6th September [Case 1:20-cv-03010-APM]. Accommodating those outcomes looks to be manageable and can be achieved within the CMA's timetable.

affected the antitrust cases brought by the USA's Department of Justice against Google and Apple, and likely remedies need to be considered³.

3. Secondly, we are concerned that the CMA may be crafting remedies that operate within Google or Apple's walled gardens whilst taking an idiosyncratic view of the architecture of the internet, the factual context, and the mechanisms available for remediation. Our concern is also that insufficient recognition of the open web as an interconnected and interoperable network means that the CMA has not fully appreciated the nature and effect of the competition restrictions imposed by Google and Apple. The worldwide web naturally supports decentralised competition, as functions, features and products are offered by both software and hardware companies and can be supplied and combined:
 - i. In certain places in WP7 the CMA has recognised that progressive web apps, provided over the open web, can compete with applications in apps stores.
 - ii. The restrictions on interoperability between software available as an app and functionality in software not available in that app stem from policies adopted by Apple and Google, as well as developer guidelines or contractual rules that limit the functions developers are allowed to include in their software. These have operated for so long that the activity of combining features and functions available outside the app stores with products available inside the stores their boundaries has been undermined, potentially limiting capability. That is a consequence of abuse that could be remediated.
 - iii. As a conceptual matter, the issue at the heart of both the CMA's case and *USA v Apple* is that Apple imposes constraints on interoperability with other products and with services and tools readily available over the Open Web.⁴
 - iv. Instead of conceding that some degree of (unjustified) constraint can continue, the CMA should undo constraints on interoperability that limit the use of Open Web tools and hence competition with the Open Web. Apple and Google should be required to enable competition between apps and tools available on the Open Web. Artificial boundaries to competition should be eliminated. For example, Apple places technical and contractual limits on gaming or music software from combining with payments or marketing software that is readily available. This is like a distributor of newspapers limiting the tools used by the newspaper producers or journalists in making their products. Like the newspaper distributors of old, Apple and Google are distributors and should not interfere with content, or how that content is offered or paid for - whether by advertising or subscription.

4. Thirdly, we outline some of the fundamental flaws that arise from using choice screens as a remedy.

³ See *USA v Google (Search)* case [Case 1:20-cv-03010-APM], *USA v Google (AdTech)* [Case 1:23-cv-00108] and *USA v Apple* [Case 2:24-cv-04055-JXN-LDW] as well as the EU *Google (AdTech)* case [AT.40670]. The outcomes and remedies in parallel antitrust cases are clearly cross cutting. Ignoring them could provide Google and Apple with material to use in possible judicial review proceedings that the CMA's approach is inconsistent/irrational.

⁴ The US Department of Justice summarises this best in *USA v Apple* [Case 2:24-cv-04055-JXN-LDW], in the sections of its complaint dealing with "*Apple harms competition by imposing contractual restrictions, fees, and taxes on app creation and distribution*" [at p.27] and "*Apple uses APIs and other critical access points in the smartphone ecosystem to control the behavior and innovation of third parties in order to insulate itself from competition*" [p.36] and "*Apple's 'moat' around its smartphone monopoly is wide and deep: it uses a similar playbook to maintain its monopoly through many other products and services*" [at p.47]. Available at: <https://www.justice.gov/d9/2024-06/423137.pdf>

5. Finally, we caution that, in crafting remedies, the CMA should be mindful of claims put forward by Apple and Google that they are in the best (or only) position to deal with privacy and security concerns. In matters of privacy, it is not the job of any supplier to take on or regulate the obligations that apply to the content owner. In the Mobile Ecosystems Final Report, the CMA recognised this and identified that neither should be allowed to become private regulators of others' behaviour. Under the law, privacy obligations apply to each company and should not be confused. Similarly, security is a matter for each company to address, not for Google and Apple to dictate. As noted, by Department of Justice in its complaint against Apple, "*Apple deploys privacy and security justifications as an elastic shield that can stretch or contract to serve Apple's financial and business interests*".⁵

I. **Cross-cutting issues, consistency and the scope of the CMA enquiry**

6. In **Section 3.1**, the CMA highlights many of the cross-cutting considerations relevant to remedy design and implementation. Although we commend the CMA for acknowledging the importance of the Digital Markets Act and 'measures taken in other jurisdictions' we note that there is no mention at all in Working Paper 7 of the *USA v Google (Search)* judgment that was given on August 5th. It is striking that this is not noted specifically as a cross-cutting consideration.
7. We are concerned the CMA may have overlooked relevant facts that infringe laws in parallel antitrust proceedings. For example, Google pays both Apple and Mozilla, its main Browser competitors, enormous sums. It is quite likely that those agreements affect the degree of competition between and among all browser owners and the availability of browsers on handsets supplied by telecoms carriers and handset manufacturers to end users in the UK. The exclusive distribution and revenue sharing agreements affect *browsers*, which are clearly in scope of the enquiry.
8. If the CMA's administrative concern is to restrict the scope of its work to ensure a manageable workload, scope to facts and matters for establishing an AEC. The CMA may thus assess certain facts and whether any law has been broken. However, remedies can also be crafted taking into account other jurisdictions enforcement actions and decisions, and different states can avoid their remedies cutting across each other. For example:
 - i. *USA v Google (Search)* will go to a remedies hearing starting on September 6 2024. In the meantime, several remedies are being canvassed. Tim Wu, former Antitrust Advisor to President Obama, has suggested the divestiture of Google Chrome⁶. This is relevant to the CMA's proposals regarding remedies, as the remedy introduced in the US will have an impact both on Google Search, and, in turn, Google Chrome. This is because the remedy in the US is likely to seek to reintroduce competition in i) the search market, ii) for search access points, or "*choke points*", iii) in the revenue sharing agreements that keep Google Search dominant and therefore restrict incentives to engender a thriving browser market. A remedy that provides competition in Search by undoing the illegal revenue-sharing agreements should provide competition in the Browser market, too. In the light of this, the CMA should

⁵ *USA v Apple*, Case 2:24-cv-04055-JXN-LDW, at [16]. Available at: <https://www.justice.gov/d9/2024-06/423137.pdf>

⁶ <https://www.nytimes.com/2024/08/13/opinion/google-antitrust-remedy.html>

pay close attention to the remedies crafted in the US and where possible, coordinate to ensure remedies mutually reinforce each other.

9. Beyond the *USA v Google (Search)* case, we agree with the CMA that the Digital Markets Act should be appropriately factored in and considered when crafting a remedy. However, we would caution the CMA that interpreting the DMA too narrowly risks undermining its effectiveness and running contrary to its intended purpose. For instance, Art 2(29) DMA defines ‘interoperability’ as:

“The ability to exchange information and mutually use the information which has been exchanged through interfaces or other solutions, so that all elements of hardware or software work with other hardware and software and with users in all the ways in which they are intended to function.” [emphasis added]

10. This definition is not limited to vertical interoperability between an app and a platform. It includes horizontal interoperability: to exchange and mutually use information exchanged through interfaces, or other solutions among decentralised website servers, using the internet. Browser owners limit use of basic web data such as internet addresses. Four essential components must be open and free to use for the web to function: URLs, IP addresses and UAS string data, and short-term storage files or cookies must be available. They are the four key building block components that enable the web to interoperate. A simple example would be for shopping. If a shopper wants to access the John Lewis website its computer browser needs to use the John Lewis website URL. A hypertext link to that URL allows the user’s computer to connect the John Lewis website and the browser to render the page so the user can see the page. When this visit is initiated from clicking in an app it is called click-to-web⁷. Enabling click-to-web interoperability is key to ensuring competition. Short term storage files, or cookies, enable the computer session to remain continuous when the user turns the page or seeks to pay using the John Lewis payment software. John Lewis chooses the software it uses, the funding mechanism of its business, and its own supplier of payments products. This interoperability is being routinely restricted by Apple and Google.

11. [REDACTED]

II. Geographic limitations

12. In **Section 3.7**, the CMA notes the importance of geographic scope of a potential remedy in ensuring effectiveness and proportionality of the remedy. Browsers and app stores are used globally. The market boundary is therefore global. Parenthetically, if the CMA were to impose a remedy that was inconsistent with remedies applied by the EU or the US, there would be a

⁷ See <https://cromulentlabs.wordpress.com/2016/01/15/explanation-of-canopenurl-changes-in-ios-9/> for an example of how Apple is restricting click-to-web interoperability.

risk of each cutting across the other. That may provide an opportunity for legal challenge and undermine effectiveness of remedies contrary to the intended outcome of the authorities. The need for greater international coordination is clear.

13. It is also important to recognise that the UK economy is more important than might be thought, given it has a much smaller population in comparison with the EU or the USA. However, the UK is the third largest e-commerce market in the world, after China and the United States.⁸ By 2025, the Government has projected that UK e-commerce revenue will increase to \$285.60 billion⁹. This makes any remedy the CMA applies economically significant. It also means that the remedies crafted in the UK will have significant weight for Apple and Google, as the UK is one of their biggest markets.

III. The Open Web and Interoperability as the Underlying Infrastructure of the Internet

The importance of restoring interoperability

14. In **Section 3.13**, it is stated that *'it is not always clear whether a particular functionality resides within the operating system or browser engine layer.'* The underlying assumption here seems to be that functionality should either be in Apple or Google's operating system or browser. A third space should always be further considered; the functionality can reside in software supplied by website owners or other solution providers over the Open Web.
15. When considering remedies to the restrictions that created closed ecosystems, the CMA should always seek to enable competition from foreclosed Open Web functions, outside of either a browser or an operating system owned by Apple or Google. This is explicitly recognised by the CMA in **Section 5.4**, where it highlights concerns raised in relation to Progressive Web Apps ('PWAs') being unable to run due to difficulties accessing browser functionalities. We agree. It means the CMA accepts that the web can provide a vehicle for functionality for Web Apps. It would be inconsistent to accept there is a restriction on use of PWAs by Apple and Google, without also accepting that the Open Web can (and should) provide alternative functionality that could be used in competition.
16. Furthermore, there is no technical reason why we cannot have competition between apps on an app store and apps not contained on the app store. It is the anticompetitive "steering provisions", and technical restrictions supporting them, that limit competition and funnel all downloads of apps through Google or Apple's proprietary app stores. This is highlighted in *USA v Apple*, where Apple blocks interoperability through *'control of app distribution or control of APIs'*.¹⁰ In the Department of Justice's complaint, examples are given of the suppression of competition for 'super apps' (which could provide a broad functionality in a single app available across the web generally), cloud streaming game apps, messaging apps and digital wallets¹¹.
17. In **Section 3.16**, WP7 highlights that *'potential issues being considered in this market investigation relate to mobile operating systems, browsers and app stores. The design,*

⁸ <https://worldmetrics.org/uk-e-commerce-statistics/>

⁹ <https://www.trade.gov/country-commercial-guides/uk-e-commerce>

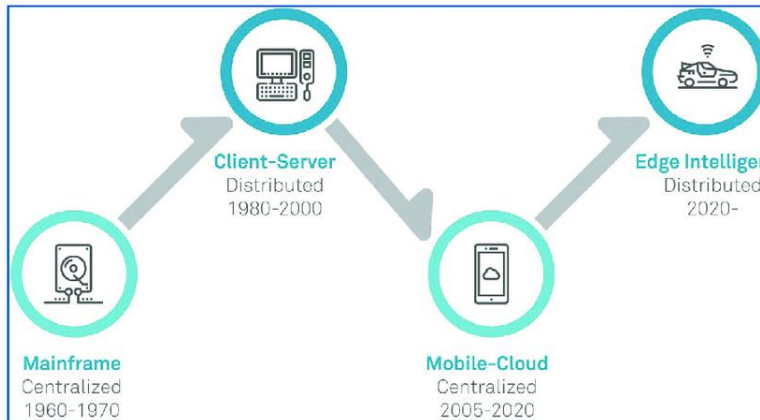
¹⁰ *USA v Apple*, Case 2:24-cv-04055-JXN-LDW, at [10]. Available at: <https://www.justice.gov/d9/2024-06/423137.pdf>

¹¹ *USA v Apple*, Case 2:24-cv-04055-JXN-LDW at [10]. Available at: <https://www.justice.gov/d9/2024-06/423137.pdf>

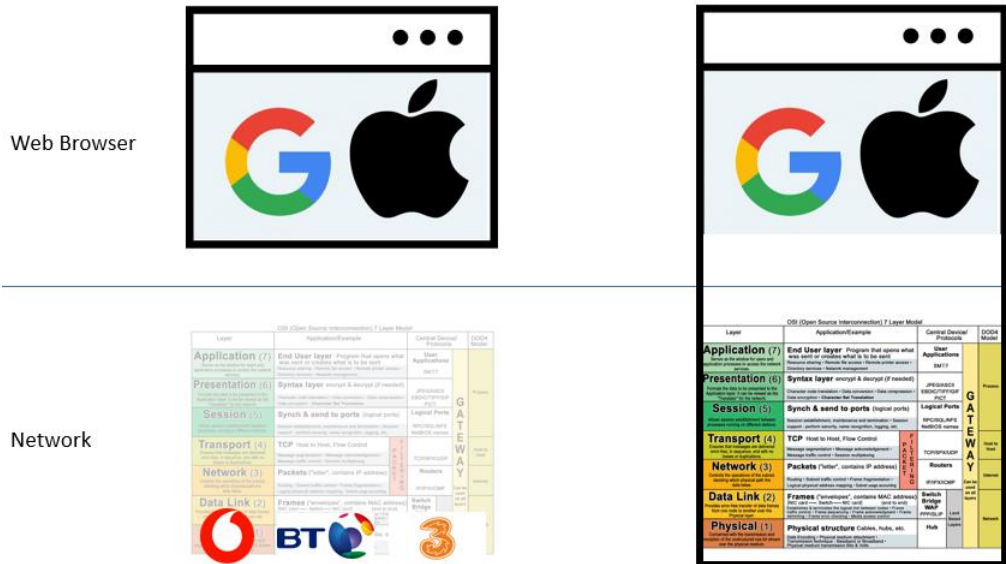
implementation and monitoring of the potential remedy options set out below would involve consideration of how these aspects of mobile ecosystems interrelate. Although the CMA is right to focus on how the different rooms in the walled garden operate and interrelate, remedies should not aim to simply shift functionality from one room within the walled garden to another. Instead, remedies should focus on restoring interoperability with the Open Web, enabling access to rivals on non-discriminatory terms and enabling consumer demand to generate competition on the merits. There is no justification for this to be limited to the example of PWAs alone.

18. Ecosystem and app competition depends on web standards architecture, quality of service, quality of experience, business and end user needs. To understand this, it is important to understand the internet's underlying architecture and how the ecosystem structure has evolved into a series of walled gardens of curated content over time.
 - i. At the Internet's inception, there were centralised mainframes that were not connected outside the enterprise. Following the ending of the mainframe era, personal computers and servers were widely adopted on a decentralised basis. Client computers were then connected to servers using communications networks. With the increased functionality of data transmission systems and improvements to data networks, these computers became increasingly linked together using the TCP/IP protocol (also known as the Internet protocol). Between the 1980s and the early 2000s, with increased liberalisation and competition in the provision of telecommunications systems, this shifted to increasingly distributed networks that became linked together through hypertext links, after the invention of the HTTP standard.
 - ii. Google and Apple's mobile cloud ecosystems emerged alongside the development of smartphones after 2010. Their platforms have been built over the past 14 years as technology systems supporting mobile services optimised for their smartphones. Their platforms centralise computing tasks that were decentralised during the 1990s, up until circa 2010. Centralisation means that platform features substitute for features and products that were previously supplied by separate businesses on decentralised websites. Competition has thus been restricted.
 - iii. Innovation and development in Edge intelligence has progressed over time. Meanwhile, distributed computing has progressed in parallel with enterprises increasingly using remote data centres rather than on premises servers and outsourcing computer tasks via the use of hypervisors that enable computer tasks to be shared among computers in remote data centres. Certain applications can now be provided more efficiently as a shared resource in data centres at lower costs than before.
 - iv. The Open Web is designed with an open architecture which enables any-to-any computing. It provides the interoperable framework and an opportunity for more decentralised computing, with functionalities spread across different layers, and with innovation possible at any level in the technology stack. There is nothing preventing products and services being offered over the Open Web in competition with native Apps at a technical level. Google and Apple's contractual and technical restrictions on interoperability with the Open Web restricts what end users can access.

19. **Figure 1** provides an image of processing capacity available in different configurations over time.



20. **Figure 2** provides a visual representation of how Google and Apple have centralised control of the interoperable layers of the technology stack under their browsers in their walled gardens.



21. As is evident in **Figure 2**, Google and Apple’s ownership of browsers have enabled them to block access to the Open Web and centralise control over all the layers. The CMA’s narrow view of the issues means it is failing to address major anticompetitive exploitation of UK consumers by Apple:

“Today, Apple charges as much as \$1,599 for an iPhone and earns high margins on each one, more than double those of others in the industry. When developers imagine a new product or service for iPhone consumers, Apple demands up to 30 percent of the price of an app whose content, product, or service it did not create. Then when a consumer wants to buy some additional service within that app, Apple extracts up to another 30 percent, again for a service Apple does not create or develop. When customers buy a coffee or pay for groceries, Apple charges a fee for every “tap-to-pay” transaction, imposing its own form of an interchange fee on banks and a

*significant new cost for using credit cards. When users run an internet search, Google gives Apple a significant cut of the advertising revenue that an iPhone user's searches generate.*¹²

22. Computers are now accessible in cloud computing centres and are available to perform all manner of tasks, in competition with processing at the edge of the network in PCs or local servers. The quality of our communications infrastructure has improved such that remote processing, whether of games or otherwise, means that cloud computing provides a ready alternative to on-device computer processing. This was a major issue in the CMA's assessment of Microsoft /Activision Blizzard¹³, where cloud streaming, and hence the use of remote data centres to provide competition for on device gaming, was accepted.
23. Interoperability that enables competition between and among servers that are remote, whether in a data centre or otherwise available over the internet, is immaterial. What is material is that edge devices and remote devices can be used to run apps that compete. As the Department of Justice has stated in the *USA v Apple*, a cheap Android handset can provide the vehicle for applications that meet the same need running remotely¹⁴. There is no need for such expensive handsets, and they are only bought because the handset owner controls the software that is available by restricting interoperability. This must be central to any enquiry into browsers and cloud.
24. There is no technical reason why a browser owner should be allowed to centralise other functionalities. The same holds of the app store – it is a platform that enables users to access and download apps. There is no good technical reason why an app store should be able to impose restrictions on what can be downloaded, or restrict how third-party apps can interact with their users, simply by virtue of them offering the only marketplace through which third-party apps can access users. The restrictions are contractual and their economic consequences anticompetitive; they limit competition with Open Web alternatives. Purported pretextual statements about “privacy” often presume all data must be Personal Data, as well as exempt – often without justification - the gatekeeper's own use of the same data for business purposes it restricts from rivals (e.g., attribution services).
25. In **Section 4.5**, the CMA refers to enabling measures that can be split into different categories. In **Section 4.5(a)**, market- opening measures only cite reduction or removal of barriers to entry, expansion or switching. However, this does not consider the importance of restoring a decentralised Open Web through providing *interoperability*. Similarly, in **Section 4.5 (c)**, the CMA notes that vertical relationships can bring with them adverse effects on competition. Beyond simply FRAND Remedies, remedies should introduce *interoperability*. Web standards upholding this are key to limiting the discriminatory risks that these vertical relationships carry.
26. Indeed, [REDACTED]
[REDACTED] understanding the browsers as the gateway to the web, and the importance of restoring competition through the Open Web by enabling interoperability. [REDACTED]

¹² *USA v Apple*, Case 2:24-cv-04055-JXN-LDW, at [5]. Available at: <https://www.justice.gov/d9/2024-06/423137.pdf>

¹³ <https://www.gov.uk/cma-cases/microsoft-slash-activision-blizzard-merger-inquiry>

¹⁴ *USA v Apple*, Case 2:24-cv-04055-JXN-LDW, at [74]. Available at: <https://www.justice.gov/d9/2024-06/423137.pdf>

Apple has consistently degraded interoperability on its Operating System and browser over time; first, through ITP (which prevents third-party cookies in Safari), and secondly, through ATP (which prevents third-party apps' access to key user data that enables them to advertise better products). Enabling interoperability – and undoing the anticompetitive harms introduced by Apple and Google by restricting how rivals can interact with their users - is therefore the key to restoring competition and remediating the competitive harm.

Quarantining the browser as an effective and proportionate remedy

27. In **Section 4.13(a)**, the CMA notes a restriction of competition from the obligation to use Apple's WebKit Browser Engine to operate on iOS devices. If this restriction is lifted, app developers would likely shift to using Google Chrome's browser engine. As is noted in the Mobile Ecosystems Market Study, the lack of competitive pressure on Google or Apple means that, for instance, in the context of Apple, there has been '*persistent underinvestment [...] resulting in 'bugs and glitches that add burdens and costs for web developers and reduce the quality of their content on Apple devices.'*' There is also a lack of '*support for a range of specific features and functionalities that would support development of web apps.*'¹⁵ This is likely to have arisen because Apple is paid by Google to promote Google search ads. It is thus in Apple's interest to block any data from any Apple end users to any business other than Google. It is this lack of investment in its browser and software changes that have successfully achieved that end. It also means that if nothing is done about the Google/Apple revenue sharing agreements, no incentive to incur expenditure in browser development will take place.
28. Furthermore, if Apple users can download Chrome without any limitations (that is, without using Safari's WebKit Engine), it increases the share of Google's browser market, and no competitive pressure is added to Google. Apple's current technical restrictions on using anything other than the WebKit Engine means that Google's access to end-user data is blocked. However, if Google gets control over Apple users through the Chrome browser, this will serve only to enhance Google's dominance. This also may undermine whatever remedy is put in place in the *USA v Google (Search)* case. Indeed, in the light of the *USA v Google (Search)* case, it is important to consider that Apple is an OEM and mobile operating system provider – that is, it provides handset devices. However, its incentives are misaligned given its 36% revenue sharing agreement with Google, which provided Apple with 17.5% of its operating profit in 2020¹⁶. This revenue share, coming from Google's search ads profits, provides Apple with an incentive to restrict data interoperability with third party rivals to benefit Google's own commercial interests, which in turn, will benefit Apple. If the exclusive distribution, revenue sharing agreements and default setting agreements are banned, and the CMA simultaneously enables Chrome to have access to Apple users end data, the US remedy will be defeated.
29. To avoid these pitfalls, an appropriate remedy would be to quarantine both Google and Apple's underlying browser engines. This would mean that additional functionalities in the browser can no longer be added – the browser is instead quarantined so that it is only the user's portal to access the web. Any other version of a remedy will allow Google and Apple to continue substituting products in their browsers by adding functionality into the browsers. The

¹⁵https://assets.publishing.service.gov.uk/media/63f61bc0d3bf7f62e8c34a02/Mobile_Ecosystems_Final_Report_amended_2.pdf at p.309

¹⁶ *USA v Google (Search)*, Case 1:20-cv-03010-APM at [99]. Available at: <https://cdn.arstechnica.net/wp-content/uploads/2024/08/US-v-Google-Opinion-8-5-2024.pdf>

browser can substitute for open web and app functionality as it is all software. The issue with the browser is that it is used at the start of a user journey, so it can be used in a way that involves reduced friction costs for users. This can restrict competition. For instance, a Chrome-integrated digital wallet will likely be used instead of a competing digital wallet available on a website or in an app – even if the competing digital wallet offers a better service. If use of a website or app wallet involves the user clicking more frequently than the alternative presented at the gateway, they may not be used. Quarantining the browser is therefore vital to ensure that products compete on their merits rather than from their position at the start of the user’s online journey.

30. In **Section 5.65**, we agree that third parties’ browsers face difficulties in adding features to Chrome through lack of access or time delays. As the CMA is aware, APIs act as an interface between the browser and businesses that operate on the web. In enabling access to APIs for other third-party browser vendors, the remedy will also mean that Chrome will become more dominant over time. This is because Google Chrome’s continuous updating of interfaces and APIs forces developers – and rival browsers - to continue updating their own products. This results in products suitable only for Chrome. This creates a feedback loop whereby Google can lock developers into their walled gardens through these continuous updates. The end-result is that if a user tries to access a website on a rival browser instead of Chrome, the website will not work. This has the effect of excluding rivals from the browser market completely. This was flagged in the US Government’s Investigation of Competition in Digital Markets (2022), where it is noted that:

“First, changes to Chrome’s functionality create de facto standards. Market participants must adhere to these standards or risk their technology no longer being compatible with most websites. Market participants explain that Google will often build features quickly, without using the standard-setting process or giving smaller browsers time to implement the new features. Once web developers start building to these specifications, however, smaller browsers are under pressure to quickly implement these changes, often with little notice. If smaller browsers cannot keep up, users are flooded with “[b]rowser not supported” messages on webpages that have already been built to Chrome’s specifications.¹⁷”

31. In **Section 4.13(b)**, the CMA highlights that ‘access to browser functionalities within the iOS and Android Mobile Ecosystem’ may be restricted because ‘Apple and Google are using their positions in the supply of browser engines to restrict rival browsers’ access to functionality’. This is correct but misses the elephant in the room; the recent findings of fact in the *USA v Google (Search)* case established that Google has several exclusive distribution agreements for use of its Search engine for browsers, such as with Apple and Mozilla, who are paid such extraordinary amounts of money that they depend on Google for their profits. Therefore, it is not only that rival browsers are being prevented from accessing functionality, but that rival browsers are not able to compete because of the illegal agreements operating between Google and other rival browsers. For instance, Mozilla runs on the Gecko Engine. This is a substantive and competitively innovative product that is different from Chromium or WebKit. The Gecko Engine is not very heavy on your handset battery¹⁸ and it does not take up a lot of

¹⁷ <https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf> at p.191

¹⁸ <https://www.avg.com/en/signal/chrome-battery-life-vs-edge-and-firefox>

the handset storage memory¹⁹. This is because Google and Apple as Chrome and Safari's owners are pursuing a strategy of upgrading software that generates software bloating in edge devices, incompatibility and upgrade requirements and a need for increased mobile device capacity – driving churn or sales of devices. As the CMA noted in its Mobile Ecosystems Final Report, there is no substitution between handset makers, the substitution arises because of the need to upgrade which is dictated by the software supplier.²⁰

32. It has to be recognised that Mozilla is being paid over \$400 million a year by Google²¹. It is stated in the US judgment that *'Mozilla has repeatedly made clear that without these payments [from Google], it would not be able to function as it does today.'*²² It is therefore impossible to think of Mozilla as operating independently as a competing browser rival to Apple or Google - that could benefit only from access to functionality - because its entire business model is propped up by Google.
33. In **Figure 4.1**, we agree with the CMA that Google and Apple have imposed several restrictions on how rivals can use the underlying Browser engine and restrict in-app browsing. However, in line with our comments above, the CMA should also recognise the significant limitations rival face that restrict interoperability and functionality directly on the Web.
34. In **Table 4.1**, we agree with the CMA with respect to many of the issues it highlights as requiring a remedy. However, the proposed remedies do not sufficiently consider interoperability needed for Open Web functionality. This is inconsistent with **Section 5.4**, where concerns are raised in relation to Progressive Web Apps, which by their very nature offer an alternative, decentralised user experience that could operate outside of Google and Apple's walled gardens.
35. In **Section 5.18**, we agree with the CMA's proposed Option A4, which *'would require Google to grant equivalent access to APIs used by WebKit and Safari to browsers using alternative browser engines'*. This would serve to enable access to choke points and help increase competition.
36. In **Section 5.54**, the CMA *'envisage[s] that the access to iOS functionalities required under remedy options [...] relevant to browser apps main purpose of which is to enable users of devices to access the web [...] and is not expected to be needed by other types of native apps.'* We question why access to web functionalities should be limited. The use of interoperability depends on certainty, and the remedy will fail to restore competition if it does not unleash the energy of the Open Web. The only reason native apps are currently used is because of the restriction on App stores and limitations built into browsers that prevent people from using PWAs or other apps such as 'superapps', that could otherwise be available over the Open Web. Interoperability standards and functionalities should be open to any app developer at any level of the technology stack. Falling short of this would suggest that the CMA is assuming what the market needs, whereas in these circumstances, this should be left to competition.

¹⁹ https://cloudzy.com/blog/which-browsers-use-the-least-memory/#Which_Browsers_Use_the_Least_Memory

²⁰ https://assets.publishing.service.gov.uk/media/63f61bc0d3bf7f62e8c34a02/Mobile_Ecosystems_Final_Report_amended_2.pdf at

²¹ *USA v Google (Search)*, Case 1:20-cv-03010-APM at [335]. Available at: <https://cdn.arstechnica.net/wp-content/uploads/2024/08/US-v-Google-Opinion-8-5-2024.pdf>

²² *USA v Google (Search)*, Case 1:20-cv-03010-APM at [335]. Available at: <https://cdn.arstechnica.net/wp-content/uploads/2024/08/US-v-Google-Opinion-8-5-2024.pdf>

37. In **Section 5.74**, we agree with the CMA that prohibiting Apple from owning a browser engine is not likely to create effective competition. Instead of divestiture or an outright ban on Apple owning a browser, competition can be effectively restored through functional separation of the browser from the other business arms of Google and Apple and the web application layer. In this way, Apple can retain ownership over its browser engine and browser but will need to offer it on non-discriminatory terms that allow for interoperability and free access for rivals. Please see attached a copy of MOW's Vision Paper outlining this position in more detail.
38. In **Section 6.1(a)** the CMA states that *'Apple is preventing all rival browser vendors from offering remote tab IABs [...] meaning that native apps cannot call on any other functionality other than SFSafariViewController.'* This misunderstands the key issue that is harming competition - app developers are prevented from displaying web content on the app itself. Apple is limiting functionality to only that which is within the App Store and preventing the use of the Open Web. It is this that limits competition. Opening up the web so that functionalities or technical restrictions no longer limit rivals' use of the stack is key to effectively restoring competition.
39. In **Section 6.25**, the CMA states that it has *'seen evidence from several parties indicating that webview IABs could have weaker security and privacy protections relative to remote tab IABs and dedicated browsers'*. This does not make any technical or logical sense. Technically, security in software and systems design is routinely installed and deployed in cloud computing centres. Businesses such as Microsoft Azure and Amazon's AWS are highly regarded for their level of data security and privacy protections. This is similarly true of most banks and financial institutions, or payment systems that run applications in data centres. Google and Apple have no greater capability on security or privacy protections that many other such businesses which are technically protected to a much higher level than Google or Apple. Logically, if Google and Apple have developed higher levels of protection for their consumer applications it would be likely that they could and would be sold to enterprise businesses, but we have seen no evidence that any cutting-edge security or privacy software or systems are being supplied by Apple or Google to other businesses. Instead, we note that there is a thriving business in security and privacy protection software that is independent of all computer and platform businesses.
40. In **Section 8.7**, the CMA highlights that it is considering two possible remedy options for Apple and Google policies on in-app transactions. We agree with the reasoning behind these remedies, however, any restriction on rival app developers' ability to combine functionality outside of the Apple and Google walled garden should be lifted. In other words, the proposals for remedies are too limited. The CMA has identified issues that are not just an in-app-payment problem or a gaming problem, but rather an underlying problem with how Google and Apple have designed limitations on the use of the internet to limit the availability of its functionality. Remedies that address specific issues arising from this, instead of the larger underlying problem, will fail to effectively restore competition.

IV. The limited usefulness of choice prompts

41. In **Section 4.13(d)**, the CMA flags the role of choice architecture on competition in the supply of mobile browsers. In this context, the CMA may wish to recall its study, *Online Choice*

Architecture: How digital design can harm competition and consumers (2020)²³, and avoid any pitfalls that were identified there. Indeed, in a recent W3C TAG Meeting, Google representatives noted that ‘*We’re convinced that we should avoid prompts when we can*’²⁴, highlighting Google’s own reluctance to introduce prompts where possible.

42. In relation to dark patterns and nudges, the CMA’s Browser and Cloud Market Investigation Working Paper 5 focusses on choice architecture. MOW’s submission in relation to Working Paper 5 highlights the importance of looking at the broader market context when assessing the effectiveness of choice screens or user choice prompts. Indeed, where a market has been distorted for decades due to anticompetitive practices by Apple and Google that have entrenched dominance, a choice prompt does little to remedy the underlying structural problems:

- i. First, users are unfamiliar with the services provided by other rivals due to a lack of experience in using them. This means that a choice screen or prompt is limited in its ability to effectively restore competition.
- ii. Second, and line with this, pre-installation is a significant factor that has so far limited choice effectively. We know this from the EU *Android*²⁵ case and *USA v Google (Search)*, where Judge Mehta found that even if where there are options to switch from a pre-loaded default browser, very few users ‘*know/care to change it*’.²⁶ Judge Mehta also found that ‘*some users on Edge don’t even realize they aren’t using Google*’;²⁷ which also points to the limited differentiation that currently exists between browsers, and why choice screens are unlikely to be an effective remedy.
- iii. Third, dominant browsers such as Chrome or Safari have been benefiting from monopoly profits, and vast amounts of data collection through their anticompetitive practices, meaning rivals cannot hope to compete on equal terms. A choice screen which puts choice in the hands of the user does little to remediate this underlying competitive harm.
- iv. Fourth, and given the findings of the *USA v Google (Search)* case, the CMA should coordinate with the Department of Justice, following the hearing on 6th September in Washington, to craft a remedy that can be effective at a global scale.

43. In **Section 7.11**, the CMA proposes remedies for rectifying pre-installation of Safari on iOS and Chrome on Android, as well as removing default settings for browsers on mobile devices. However, as is noted above, the current ecosystem for mobile browsers is governed by the revenue sharing agreements that have been found to be illegal in the *USA v Google (Search)* case. Changing default settings or pre-installation – through user prompts or otherwise - will do little to remedy this or counter its harmful effects. Without considering the implications of these revenue-sharing agreements, targeted remedies such as banning pre-installation or default settings will be ineffective.

²³ <https://www.gov.uk/government/publications/online-choice-architecture-how-digital-design-can-harm-competition-and-consumers>

²⁴ <https://github.com/w3ctag/meetings/blob/gh-pages/2024/07-seattle/minutes.md>

²⁵ CASE AT.40099, *Google Android*, Available at: https://ec.europa.eu/competition/antitrust/cases/dec_docs/40099/40099_9993_3.pdf See also: <https://www.android.com/choicescreen/dma/#:-:text=Following%20the%20European%20Commission%E2%80%99s%20July%202018%20Android%20decision%2C.a%20default%20search%20provider%20during%20initial%20device%20setup>. See also:

<https://www.techpolicy.press/choice-screen-fever-dream-enforcers-new-favorite-remedy-wont-blunt-googles-search-monopoly/>

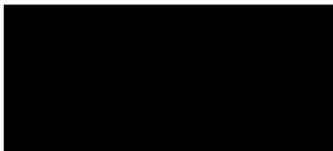
²⁶ *USA v Google (Search)*, Case 1:20-cv-03010-APM at [68] Available at: <https://cdn.arstechnica.net/wp-content/uploads/2024/08/US-v-Google-Opinion-8-5-2024.pdf>

²⁷ *USA v Google (Search)*, Case 1:20-cv-03010-APM at [68] Available at: <https://cdn.arstechnica.net/wp-content/uploads/2024/08/US-v-Google-Opinion-8-5-2024.pdf>

V. **Privacy, Security and Commercial Restrictions**

44. In **Section 5.44**, the CMA flags that *'Apple may seek to impose certain security and privacy requirements on browser vendors wishing to use alternative browsers engines on iOS.'* We are very sceptical that either Google or Apple have world leading security or privacy software, systems or processes. As we have suggested above, enterprise computing companies such as Microsoft Azure, Amazon's AWS, IBM, banks and financial institutions and those running payments businesses operate systems that are more highly regarded²⁸. There is an entire industry offering security and privacy software and systems that can and are used by many different businesses. Since the remedy risks being defeated if Apple or Google impose onerous privacy and security requirements, Apple's and Google's position should be rejected, consistent with the position of the US authorities on this issue where *'Apple deploys privacy and security justifications as an elastic shield that can stretch or contract to serve Apple's financial and business interests.'*²⁹.
45. A robust response is required from the CMA. Google and Apple's practices are designed to mislead, and they have a long history of misusing privacy and security to further entrench their dominant position. There is no reason why Apple or Google should be able to dictate privacy or security terms for third parties.
46. In **Section 5.57**, the CMA rightly notes that Apple or Google may implement commercial and technical implementation terms to rival browser vendors that might raise barriers to entry and defeat the purpose of any proposed remedy. The CMA should note that anything that is subjective will be exploited.
47. We hope the above is helpful to the CMA and remain available should the CMA have any questions.

Yours faithfully,



Preiskel & Co LLP

²⁸ See, for example [Best Endpoint Protection Platforms Reviews 2024 | Gartner Peer Insights](#) and [Best Network Firewalls Reviews 2024 | Gartner Peer Insights](#) and [Best Email Security Reviews 2024 | Gartner Peer Insights](#) and [Best Enterprise Backup and Recovery Software Solutions Reviews 2024 | Gartner Peer Insights](#).

²⁹ <https://techcrunch.com/2024/03/21/doj-calls-apples-privacy-justifications-an-elastic-shield-for-financial-gains/>