Open
Web Advocacy

OWA - Strategic Market Status Investigations into Apple's and Google's Mobile Ecosystems - Response

VERSION 1.0

Open Web Advocacy
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2. Introduction

We strongly support the designation of Apple and Google as having Strategic Market Status (SMS). This classification is both proportionate and justified, given the dominant positions these companies hold within the mobile ecosystem. We are particularly pleased to see that browsers and web apps feature prominently in the CMA's initial SMS investigation. These are critical areas where competition is being stifled, and addressing these issues will be key to unlocking innovation and consumer choice.

The investigation's outlined remedies are, for the most part, on the right path. They are both necessary and proportionate, and if implemented effectively, they will drive growth for UK businesses while delivering substantial benefits to consumers. The proposed measures have the potential to save UK consumers and businesses hundreds of millions of pounds annually, support startups and small businesses in bringing new products to market, and create a more competitive market. By enabling developers to build higher-quality, more private, and more secure mobile applications that are interoperable across major operating systems, these remedies will support a dynamic and growth-focused digital economy in the UK.

At present, mobile app stores face little to no genuine competition. The web, which should be a viable alternative, is actively restricted from competing on equal terms. This is in stark contrast to desktop computing, where approximately 70% of user activity takes place within a browser, largely due to the absence of a gatekeeper tax and browsers having access to the necessary APIs on desktop, which they are denied on mobile.

This restriction is not due to technical limitations but is a direct consequence of anti-competitive practices, as identified in both the Mobile Ecosystems Study and the Browsers and Cloud Gaming Market Investigation. After four years of examination, this investigation presents the CMA with a crucial opportunity to finally address and resolve these issues.

It is this lack of competition that allows mobile app stores to dictate what can be installed on consumer devices and enforce an excessive 30% fee, enabling gatekeepers to extract disproportionate profits that would not exist in a properly functioning market.

The CMA's proposed interventions are critical to restoring fair competition, allowing browsers to compete on a level playing field and enabling web apps to fairly compete with rival native applications. This presents a pivotal opportunity for the CMA to reshape the mobile software landscape and reestablish the web as a strong, open, and truly interoperable alternative, and deliver opportunities for British businesses for decades to come.

3. Answers to Questions

3.1. Q1: Views on Investigations

> *"Q1: Do you have any views on the scope of our investigations and descriptions of Apple's and Google's mobile ecosystem digital activities?"*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We are delighted that the CMA is investigating whether Apple and Google should be designated with SMS status. We strongly believe there is an exceptionally compelling case for both companies to receive this designation.

In Apple's case, the Browsers and Cloud Gaming MIR appears to be shifting the responsibility for addressing the numerous issues identified in the market for mobile browsers and web apps, both in its review and the previous Mobile Ecosystems Study to the DMCC. Given this, it is essential that Apple be designated.

3.2. Q2: Submissions on Avenues of Investigation

> *"Q2: Do you have any submissions or evidence related to the avenues of investigation set out in paragraph 70-72? Are there other issues we should take into account, and if so why?"*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We have provided detailed comments on each avenue of investigation.

It is essential that all proposed remedies from the Browsers and Cloud Gaming MIR are implemented as soon as possible. We have outlined our views on these remedies.

Furthermore, we urge the CMA to consider additional critical remedies against Apple and Google. When combined with those outlined in this investigation and the MIR, these measures will create genuine competition, both between mobile browsers and between web apps and native apps.

Ultimately, this will transform how we use our mobile devices for the better, benefiting both UK consumers and businesses.

3.3. Q3: Missing from Document

This question appears to be missing from the request to comment document.

3.4. Q4: Most Critical Interventions

> *"Q4: Which potential interventions should the CMA focus on in mobile ecosystems? Please identify any concerns relating to Apple's or Google's mobile ecosystems, together with evidence of the scale and/or likelihood of the harms to your business; or to consumers."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We believe that the most critical interventions involve:

1. Allowing third-party browsers to compete on iOS with their own engines.

2. Browsers should be able to install web apps and manage web apps they have installed using their own engines.

3. Sufficient hardware / software API access for browsers and web apps to compete with the native ecosystems.

4. Sufficient integration with mobile operating systems so that web apps can effectively compete with the native ecosystems.

5. The ability to easily install web apps across both iOS and Android.

3.5. Q5: Will these Interventions be Effective, Proportionate and Benefit Businesses and Consumers

> *"Q5: Are the potential interventions set out above likely to be effective, proportionate and/or have benefits for businesses and consumers?"*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

Yes, these measures will be both effective and proportionate. They will save UK consumers and businesses hundreds of millions of pounds per year while enabling developers to create higher-quality, more private, and more secure apps that seamlessly interoperate across all major operating systems.

Currently, mobile app stores face little to no real competition, with the web deliberately blocked from competing on equal footing. This stands in stark contrast to the desktop

environment, where 70% of user activity occurs within a browser. This lack of competition allows mobile app stores to dictate what can be installed on consumer devices and enforce an excessive 30% fee.

This is not a technological limitation, it is a competition problem. The remedies being pursued by the CMA will ensure that browsers and web apps can compete fairly with native app stores. The CMA has a crucial opportunity to correct the mobile app software market, breaking Apple and Google's app duopoly and restoring the web as a powerful, open competitor.

3.6. Q6: Key Lessons from other Jurisdictions

> *"Q6: What key lessons should the CMA draw from interventions being considered, imposed and/or implemented in relation to mobile ecosystems in other jurisdictions?"*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We have outlined key lessons from other jurisdictions. With the EU's Digital Markets Act (DMA) having been in effect for approximately 11 months, it provides the most valuable source of information and data for the CMA.

The CMA should also examine the various strategies gatekeepers have used to circumvent compliance with the DMA and incorporate safeguards and countermeasures into the bespoke requirements for each firm designated with SMS status under the DMCC.

Additionally, the CMA should aim to exceed the DMA's impact and identify opportunities to build upon its success. At a minimum, it should ensure that UK residents and businesses benefit from the same advantages currently available to their EU counterparts.

Crucially, the CMA must prevent firms with both SMS and gatekeeper status from structuring their compliance in a way that creates unnecessary difficulties for consumers and businesses.

Looking ahead, as new digital regulatory regimes take effect in countries like Japan and Australia, the CMA should actively engage in exchanging ideas and data to promote effective competition in digital markets. Enabling other jurisdictions to establish effective competition regimes will create new markets where British businesses can compete and will ensure greater regulatory uniformity, making it easier to operate across different regions.

4. Comments on Proposed Remedies

4.1. Requirement for Google and Apple to not Restrict Interoperability

> *"Requirements for Apple and Google not to restrict interoperability as required by third-party products and services (such as rival browsers, digital wallets and connected devices) to function effectively and compete with Apple's and Google's own products and services."*
>
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We fully support this remedy.

For competition to thrive between browsers and between web apps and native apps, companies that control operating systems or browsers should not leverage that control to disadvantage rivals or limit their ability to compete effectively.

Since Apple and Google are already required to meet similar obligations in the EU under Article 6(7) of the Digital Markets Act, covering both their operating systems and browsers, the cost of compliance in the UK would be minimal. This further strengthens an already strong case for proportionality in implementing such requirements.

We would recommend that this remedy has an open consultation period to accept input from multiple third parties and also draws upon both of the EU's Digital Market Investigation's both on the process for interoperability and relating to the features for connected physical devices. Where possible the processes should be unified to reduce the regulatory burden on the gatekeepers, but should be extended where the Digital Markets Act requirements do not go far enough to enable interoperability for various business users. It is important to ensure that gatekeepers don't misuse security and privacy concerns as an excuse to monopolize features and functionality for their own products and services.

Web apps, built on open-source technology which is both royalty free and exempt from gatekeeper fees, must have access to the necessary hardware via browsers in order to compete with the native ecosystems. Moreover, they should be fully integrated into the operating system on equal footing with native applications, ensuring a level playing field for innovation. A universal, write once, deploy anywhere application distribution system without gatekeeper fees is key to reducing costs and unlocking growth for UK businesses.

4.2. Requirement for Apple to not Prohibit Certain Third-Party Services

> *"A requirement for Apple to make changes to rules or policies where necessary if its current rules or policies prohibit certain third-party services from operating on iOS devices (such as rival wallets)."*
>
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

In general we agree that app stores should not be able to prevent rival services from operating on their own app stores.

We also have concerns about the following rule in Apple's App Store guidelines:

> *"Your app should include features, content, and UI that elevate it beyond a repackaged website."*
>
> Apple App Store Rules

Many apps in the App Store rely on web technologies, including those that offer a native-like experience. Even powerful desktop applications like VSCode are fundamentally web apps wrapped in a native shell. Rules like this risk discouraging developers from using a unified technology stack to build their web, iOS, and Android apps, instead pushing them toward proprietary, platform-specific languages and frameworks. This increases OS lock-in and raises development and maintenance costs.

While we understand the need for app stores to uphold quality standards, this rule should be revised to clarify that well-designed, high-quality native-like apps using a native wrapper for web-based content will be accepted.

Most importantly **browsers and web apps** must be allowed to provide the same third-party services. The current policy and technical restrictions prohibiting third-party services from running via Apple's native ecosystems should also be removed from browsers and Web Apps.

Apple has been well known for rejecting Web Apps from the AppStore most commonly under 4.2 - Design - Minimum Functionality under the AppStore guidelines.

> *"Including iOS features such as push notifications, Core Location, and sharing do not provide a robust enough experience to be appropriate for the App Store.*
>
> *To resolve this issue, please revise your app to provide a more robust user experience by including additional native iOS functionality."*

Developer Post

> *"Your app provides a limited user experience as it is not sufficiently different from a mobile browsing experience. As such, the experience it provides is similar to the general experince of using Safari."*
>
> Apple Developer Forums

> *"The guideline is vague, is applied to some apps and not to others, and Apple offers no assistance or examples. Some of Apple's own apps can't pass this guideline - for instance, the App Store Connect app itself."*
>
> Apple Developer Forums

Apple's policy of compelling developers to integrate iOS-specific features appears designed to deepen both developer and user lock-in within the iOS ecosystem. In contrast, cross-platform interoperability offers UK businesses significant benefits including easier and cheaper market entry, enabling a single unified code base, and reducing maintenance costs. Consequently, Apple should be prohibited from enforcing rules that inhibit the development of interoperable applications. Rather than restricting interoperability, Apple's rules should be focused on ensuring high-quality applications and should be neutral as to the underlying technology.

4.3. Requirement for Apple and Google to make Choice Architecture Changes

> *"Requirements for Apple and Google to make changes to choice architecture in factory settings or subsequent device settings; in order to enable users of mobile devices to make active and informed choices about the product or services they use and/or set as a 'default' service."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We fully support this remedy.

Apple has severely restricted browser competition on iOS through its ban on third-party browser engines, while Google has done so on Android via placement and revenue-sharing agreements with OEMs. Additionally, the Apple-Google agreement to share search engine revenue from Chrome on iOS significantly weakens Google's incentive to compete for browser market share on iOS, bordering on a tacit non-compete arrangement.

The CMA's investigation directly addresses these core issues: Apple's browser engine restrictions, API access for third-party browsers, the Apple-Google search deal's impact on Chrome, and Google's various default browser and placement agreements. Implementing choice architecture changes would be a meaningful incremental step towards stronger browser competition on both iOS and Android.

Ensuring that users can make browser choices with minimal friction, and that those choices are respected by the operating system, is essential for a competitive browser market.

We would recommend that the DMU improves on the current choice architecture in the EU with the following recommendations:

1. On iOS the browser choice screen is moved to device setup rather than on first launch of Safari on iOS.

2. On iOS, that choosing a default browser also ensures that all in-app browsing is conducted via the users chosen default browser.

3. That app defaults which is currently deeply nested under apps > default apps is moved to just below accessibility.

4. That Google's and Apple's own apps are not given preferential treatment in settings and menus.

5. That the same requirements that are applied to iOS are also applied to Android.

6. That the choice screen is not bound to the gatekeepers app store further entrenching its dominance. Browsers should be allowed to distribute their browser directly from the choice screen.

We have written about choice screens more extensively in our Apple DMA review.

4.4. Requirement for Apple to Allow Alternative App Stores

> *"A requirement for Apple to allow alternative app stores to operate on iOS."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We would like to extend the requirement to ensure that Apple and Google do not restrict the ability for browsers and web apps to act as app stores for web apps.

4.5. Requirement for Google to not Share Revenue Payments in Relation to Play Store Default and Exclusivity

> *"A requirement that prevents Google from making revenue share payments in return for certain additional requirements in relation to the Play Store, e.g. setting the Play Store as the default app store and not preloading alternative app stores on devices."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

This question is outside the scope of our organization's mandate.

4.6. Requirement for Apple and Google to list Alternative App Stores in their Own Stores

> *"Requirements to address the challenges faced by alternative app stores in attracting a sufficient user base. These could include that Apple and Google list alternative app stores within the App Store and Play Store; allow access to their catalogue of apps to third-party app stores; do not deter users from accessing alternative app distribution models in a way that unduly self-preferences their own services; and/or do not impose terms and conditions on apps and app stores which restrict their ability to compete effectively in app distribution."*
>
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We support the right of browsers to list on third-party app stores.

Both Apple and Google should not prevent or punish browsers for listing on third-party app stores. In the EU, Apple has been required to allow alternative app stores under the Digital Markets Act. However, in order for businesses to be allowed to list their apps on any third-party app store, they must first sign a new contract and agree to different fees for both the third-party app store and Apple's own app store.

If you choose the new contract, Apple will waive some app store fees but will add a new fee called "Core Technology Fee", summarized as a 50 cent charge per-user per-year, past the first million downloads.

In Apple's own words the fee is:

> *"The Core Technology Fee (CTF) is an element of the new business terms in the European Union (EU) that reflects the value Apple provides developers through ongoing investments in the tools, technologies, and services that enable them to build and share innovative apps with users around the world. Developers can choose to remain on the App Store's current business terms or adopt the new business terms for iOS apps in the EU."*
>
> Apple Documentation

They also explain:

> *"The Core Technology Fee (CTF) reflects Apple's investment in the tools, technology, and services that enable developers to build and share their apps with Apple users.* ***That includes more than 250,000 APIs****, TestFlight, Xcode, and so much more. These tools create a lot of value for developers, whether or not they share their apps on the App Store.*

> ***The CTF only applies to developers who adopt the new terms for alternative distribution and payment processing***"
>
> Apple Documentation
> (emphasis added)

That is, Apple explicitly states that the fee covers access to iOS's APIs.

it is worth considering how much it would cost for a browser to list on one of these third-party app stores. iOS has 1.65 billion users. So that is 16.5 million users for each 1% browser market share. If a browser vendor dares to list their app on a third-party store, even once, and **even if no one downloads it** from that third-party store, Apple will bill them **$8.25 million per year per 1% market share every year with no recourse to change back to the previous contract**.

It seems clear this is designed to make it as difficult as possible for free apps to list on third-party app stores, depriving alternative app stores of these apps, and preventing their ability to succeed.

Apple should remove the Core Technology Fee entirely. Apple should not be able punitively change additional fees to a business's apps on the Apple app store in **retaliation** for listing on other app stores on iOS.

Under pressure Apple has added some exceptions to Core Technology Fee including:

- Nonprofit organizations
- Developers who's apps collectively have less than 1 million users.
- A phase-in period of 3 years for developers that hit $10 million+ revenue
- Students, hobbyists, and other non-commercial developers with a no-revenue business.

The last one is important as it is designed to prevent businesses from listing a free app either directly via their website or third party app stores if their business has revenue.

None of these concessions solve the underlying problem. Apple is attempting to charge fees on interactions between customers and businesses of which they have no part and provide no service beyond that which comes with their operating system by default. These are apps not installed via Apple's app store on devices that Apple has already sold at incredibly high margins to consumers.

The CMA should seek to prevent Apple from playing such games in their compliance with the DMCC. There are two main things that must be prevented:

- Businesses who make their apps available on Apple's app store in the UK should not have to sign alternative contracts to be allowed to distribute by other app stores or directly from their own websites on iOS.

- Apple should not be allowed to charge punitive fees to businesses that wish to distribute by other app stores or directly from their own websites on iOS. Apple should not be allowed to use their control of iOS to block or make rivals prohibitively expensive.

4.7. Requirement that Apple permit Direct Downloads of Native Apps and that Google make Warnings Proportionate

> *"A requirement that Apple must allow users to directly download native apps to their devices (referred to as 'sideloading') (for example from a link within an email), where apps are able to demonstrate appropriate security safeguards. For Google, which already permits sideloading subject to certain warning messages being presented to users, a potential requirement could seek to address the format of such warning messages, either generally or where apps are able to demonstrate appropriate security safeguards."*

SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We support the right of browsers to be listed and installed directly from their own websites.

Apple and Google should not be permitted to block this capability **or impose punitive fees**, such as the Core Technology Fee. Additionally, they must not remove browsers distributed outside their app stores or those that compete directly with their own products.

From a security standpoint, browsers are signed and verified applications. On iOS, they must receive a browser engine entitlement, requiring adherence to strictly necessary and proportionate security conditions, including regular security patching. Distributing browsers directly does not present any additional security risks compared to distribution through Apple's and Google's app stores. Any application that has received the browser engine entitlement should be exempt from warning messages or additional friction.

Apple and Google should only be allowed to block the installation or use of a third-party browser if they can demonstrate that it is acting maliciously against users or has repeatedly failed to comply with strictly necessary and proportionate security requirements. The burden of proof should rest on Apple and Google within their respective operating systems.

4.8. Requirement that Apple and Google Permit the Advertisement of Alternative App Distribution Methods

> *"Requirements that Apple and Google permit the advertising of alternative app distribution methods on websites and/or within apps listed on the App Store and the Play Store."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We support this remedy as it applies to web apps and browsers.

Browsers should be free to advertise their availability outside the app store, and users should have a seamless way to switch an app's distributor from Apple's or Google's app store to a third-party app store or the app's own website.

Apps must not be restricted from promoting their own web app versions, nor should web apps be barred from advertising within apps available on Apple's or Google's app stores.

4.8.1. App Switching

Gatekeepers should be compelled to allow business users to promote and choose the distribution channel that they consider most appropriate for the purpose of interacting with any end users including those business users that have already been acquired.

This means that business users need to be able to freely offer the user the option to switch the distribution channel of individual native apps downloaded by Apple or Google's app store to either direct download (from the software developer) or to be managed by another app store.

Currently in the EU which allows alternative distribution methods, the only way of doing this is the extremely awkward process of entirely uninstalling an app (and thus deleting) all its data, then reinstalling it via either the third party app store or directly from the developers website.

Switching from Google Play to direct download or to a third party app store should be straightforward. Apple and Google should build appropriate interfaces to facilitate such a switch.

This also comes with the advantage that should any individual app store become defunct, there would now be a mechanism as to not orphan apps on that app store. It would also apply great pressure on app stores to be reasonable otherwise risk businesses and users

switching their existing apps en masse to an alternative. Enabling this competitive pressure would benefit both business and consumers.

Finally, Apple and Google must allow businesses the right to be able to promote this switch, and its advantages such as price decreases or extra features, to users which have downloaded the app via Apple or Google's app stores. There should also be no prohibition via app store rules or contracts on promoting direct download or third party app stores in adverts on other third party apps in Apple's app store. This should also include the case where a business wishes to discontinue offering their app via a particular app store and wishes to promote alternative options for users to switch too.

Apps will need the ability to detect which source is managing their distribution, i.e which app store or direct download. An API will need to exist which provides this to the app. This is to allow the app to appropriately alter its features, interfaces or displayed prices.

This change will bring significant advantages for consumers and businesses. It will allow app stores to be more easily contested by third parties and reduce the entrenchment of the existing body of installed apps. This will lead to better prices, more competition and greater choice for consumers.

4.9. Requirement that Apple and Google Permit Alternative Payment Methods for In-App Content

> *"Requirements for Apple and Google to permit app developers to use alternative payment methods for in-app content; including within the app or by linking to a separate website."*
>
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

Appropriate alternative payment provider APIs need to be built into the operating system so that alternative payment providers can offer their services to the equivalent ease-of-use as Apple and Google's own offerings. Gatekeepers should not be permitted to charge a fee to third party payment providers. Both native apps and web apps (via browsers) need the ability to have the equivalent experience when facilitating once off in-app purchases and subscriptions (including subscription management). The CMA should perform an analysis of the features and functionality currently offered by Apple's and Google's payment services and ensure that competitors are given the same level of access.

4.10. Requirement for Apple and Google to not use App Developers Non-Public Information for their Own App Development

> *"Requirements for Apple and Google to ensure they have systems in place to prevent the use of app developers' non-public information for the purpose of their own first-party app development."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

This should also apply to browsers and Web Apps. This should also include metrics collected via the app stores such as the number of active users and install rates of each individual apps. Apple and Google should not be able to use this non-public data in order to advantage their own app development.

4.11. Requirement for Apple and Google to Implement Fair and Transparent App Review Processes

> *"Requirements for Apple and Google to implement fair and transparent app review processes and to offer fair, reasonable and nondiscriminatory access to their app stores."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We support this remedy as it relates to browsers and web apps distributed by Apple's and Google's app stores.

Currently, web apps can be distributed directly through Google's app store using Trusted Web Activities (TWA), whereas Apple requires them to be wrapped in a native app before submission.

For complex and security-critical applications like browsers, which often compete directly with app stores as distribution platforms, it is essential that they are not delayed by arbitrary or opaque app review processes. Frequent and timely security updates are crucial, and any app review rejection must be **fair, reasonable, and transparently explained**.

4.12. Requirement to Remove Guidelines that Arbitrarily Ban Types of Apps from Mobile App Stores

> *"A requirement to remove any guidelines which arbitrarily ban certain types of apps from mobile app stores."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We support this remedy in relation to wrapped web apps distributed by Apple's app store as discussed in 4.2.

4.13. Requirement to Provide Visibility into App Store Search and Ranking Algorithms to App Developers

> *"A requirement for Apple and Google to provide greater visibility over the operation of search and ranking algorithms to app developers on their app stores; and a connected requirement to provide fair warning (and explanation) of planned changes to the operation of algorithms, where these are likely to have a material effect on users."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We support this remedy as it relates to browsers and web apps distributed by Apple's and Google's app stores.

4.14. Requirement for Apple to Provide Equivalent Access to Functionality for Browsers Using Alternative Browser Engines

> *"A requirement for Apple to provide equivalent access to functionality for browsers using alternative browser engines."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We fully support this remedy.

This remedy clearly relies on 4.19 (A removal of Apple's ban on third party browser engines) to be meaningful.

This is a critical remedy to allow for any meaningful browser competition on iOS.

> *"**Apple has a browser monopoly on iOS**, which is something Microsoft was never able to achieve with IE"*
>
> Scott Gilbertson - The Register

> *"All of this is compounded by yet another Apple policy: no third-party browser engines. You can install apps like Chrome, Firefox, Brave, DuckDuckGo, and others on the iPhone — but fundamentally they're all just skins on top of Apple's WebKit engine. That means that* ***Apple's decisions on what web features to support on Safari are final****. If Apple were to find a way to be comfortable letting competing web browsers run their own browser engines, a lot of this tension would dissipate."*
>
> Dieter Bohn and Tom Warren - The Verge

> *"So it's not just one browser that falls behind. It's all browsers on iOS. The whole web on iOS falls behind. And iOS has become so important that* ***the entire web platform is being held back as a result.****"*
>
> Niels Leenheer - HTML5test

> *"because* ***WebKit has literally zero competition on iOS****, because Apple doesn't allow competition, the incentive to make Safari better is much lighter than it could (should) be."*
>
> Chris Coyier - CSS Tricks

> *"What Gruber conveniently failed to mention is that Apple's banning of third-party browser engines on* ***iOS is repressing innovation in web apps****."*
>
> Richard MacManus - NewsStack

While this remedy is a strong starting point, we believe it should be further strengthened.

It is critical that Apple's **restrictions on Safari/WebKit do not become a ceiling that limits what third-party browsers can achieve.** As competitors in app distribution, third-party browsers should have access to any underlying hardware or software functionality for which they can demonstrate a reasonable need.

Furthermore, Apple should be required to share the exact API versions used by its own browser engine and Safari. Allowing Apple to dictate custom APIs for third-party browsers would create significant regulatory challenges, as the complexity and volume of potential restrictions could be used to subtly undermine competition.

Regulators need only examine Apple's Digital Markets Act (DMA) compliance for evidence of such tactics. For instance, Apple has little incentive to prioritize bug fixes for APIs it does not rely on, particularly when those APIs support browsers it would prefer not to compete with on its platform.

The CMA should seek information from browser vendors on the relative stability and reliability of Browser Engine Kit, which Safari does not use, but which Apple has made available to third-party browsers wishing to use their own engine.

4.15. Requirement that Apple Provide Equivalent WebKit Access for all WebKit-based browsers on iOS

> *"A requirement mandating Apple to provide equivalent WebKit access for all WebKit-based browsers on iOS."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We support this remedy. While browsers dependent on the iOS-bundled version of WebKit face inherent limitations in competing with Safari, they should not be further disadvantaged by artificial restrictions.

Developers should also be free to create their own modified versions of a WebKit based browser under the same rules in 4.13. Requirement for Apple to Provide Equivalent Access to Functionality for Browsers Using Alternative Browser Engines.

4.16. Requirement that Apple allow both Bundled Engine and Remote Tab In-App Browsing

> *"A requirement for Apple in respect of in-app browsing to provide interoperability with bundled engines for in-app browsing and allow sufficient cross-app functionality to enable third-party browsers to provide in-app browsing in native apps."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

This remedy is likely based on the Browsers and Cloud Gaming MIRs Provisional Decision Report.

While the MIR team demonstrates a strong understanding of the technical aspects of in-app browsers (IABs) and their functionality, **we fundamentally disagree on the core issue that needs to be addressed**.

Our primary concern lies in the silent overriding of users' default browser choices. This occurs in many places such as Apple's SFSafariViewController, Google's Android Google Search App, ByteDance's TikTok, and Meta's apps like Instagram and Facebook Messenger.

We firmly believe that users' choice of default browser, the one that opens HTTP/HTTPS links from non-browser apps, should be meaningful and respected. This is based on a combination of what is best for businesses and consumers. Companies seeking to have users adopt their browsers should persuade them to make an active choice, not bypass this choice through technical overrides.

We have explored this issue extensively in our paper.

We also responded in detail to this in our "OWA - Mobile Browsers and Cloud Gaming - Response to Provisional Decision Report" in section 3.3 and 3.4.

4.17. Requirement that Apple not Receive Search Advertising Revenue from Chrome on iOS

> *"A requirement for Apple not to enter into agreements with Google where it receives search advertising revenues connected to the use of Chrome on iOS."*
>
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We fully support this remedy.

This issue was covered in the Browsers and Cloud Gaming Provisional Decision Report.

> *"We have provisionally found that competition between mobile browsers on iOS is likely further weakened by an agreement between Apple and Google, pursuant to which Google pays Apple a significant share of the search advertising revenue earned from traffic on Safari and Chrome on iOS.*
>
> *This means Apple and Google earn significant revenue when their key rival's mobile browser is used on iOS, reducing their financial incentives to compete. In fact, the extent of this revenue-sharing is so large that the revenue share they earn from their competitor's product is lower but similarly significant to the revenue share they earn from their own, so that the incremental revenue from winning a customer is limited. We have provisionally found that this is likely to reduce competition between the two main mobile browsers on iOS devices."*
>
> MIR - Provisional Decision Report

We wholeheartedly agree with this finding.

Google's revenue sharing agreements for default search engine placement on smaller browsers both funds them and provides them an incentive to gain greater market share.

However, Google's revenue sharing agreements for default search engine placement with Apple not only undermines competition in the search engine market but also undermines browser competition on iOS. These agreements, which are substantial in scale (estimated at USD $20 billion annually), ensure that Google shares revenue not only from searches conducted via Safari but also from searches made through Chrome on iOS. This removes the main incentive for Google to expand Chrome's market share on iOS.

Additionally, unlike other browser vendors, where a significant portion of such revenue is reinvested to improve the browser or its underlying engine, Apple retains the vast majority (we estimate well over 95%) of this revenue rather than reinvesting it into Safari. This practice further weakens the competitive dynamic in the browser market on iOS.

4.18. Requirement that Apple and Google make Choice Architecture Changes for Browsers

> *"A requirement for Apple and Google to make changes to choice architecture for browsers."*
>
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We fully support this remedy.

Operating systems should not be allowed to self-preference their own browsers and must enable users to make a fair and informed choice about which browser they want to use. The CMA should work to eliminate any barriers or preferential treatment that gives the operating system's own browser an unfair advantage.

Users should be clearly informed that they have the ability to switch browsers and that alternative options are available.

Switching browsers must be simple and frictionless.

Once a user selects a browser, both the operating system and apps running on it should fully respect that choice.

4.19. Requirement that Google may not pay OEMs nor Make API access conditional on Prominent Display and Default Settings for Chrome on Android

> *"A requirement that prevents Google from making payments to OEMs and its licensing of its first-party apps and proprietary APIs conditional upon the prominent display and specific default-settings for Google Chrome on Android devices."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We fully support the remedy.

We support remedies that would prohibit Google from bundling Chrome's placement and default status with Google Play, whether directly, through fees, revenue-sharing agreements or other such means.

Additionally, we would advocate for banning Google from leveraging its other properties on Android, such as Gmail, as mentioned in the browsers and cloud gaming provisional decision report, to prompt users to switch their default browser to Chrome.

Browsers should compete based on their merits, not on the ability of their vendors to exploit other properties (be it operating systems, operating system in-app browsers, apps, search engines, or app stores) to pressure, manipulate, or coerce OEMs or consumers into adopting their browser.

4.20. Requirements that Apple allow Browsers to use their own Engines and Install and Manage Web Apps

> *"A number of the above requirements would need to be complemented by ensuring Apple: (i) permits browser apps to use alternative browser engines; and (ii) enables browser vendors using alternative browser engines to install and manage progressive web apps."*
> SMS Investigations into Apple's and Google's mobile ecosystems - Invitation to Comment

We fully support these remedies.

These are, in our opinion, the most critical remedies to be implemented to restore not just mobile browser competition but to also apply significant competitive pressure on both Apple's and Google's app stores.

Web Apps and the browsers that power them, are a key component to address the mobile app duopoly controlled by Apple and Google. When Web Apps, which rely on interoperable, open-source, free, and untaxed technologies, are allowed to compete fairly with native app ecosystems, these ecosystems would face significant competitive pressure from both consumers and developers. By eliminating the anti-competitive practices that hinder Web Apps and the browsers that support them, the CMA can unlock significant new opportunities for UK businesses and higher quality, cheaper and more interoperable software for consumers. This will also greatly reduce the lock-in of these mobile ecosystems as a significant percentage of software would now be interoperable.

5. Web Apps

> *"We all rely on browsers to use the internet on our phones, and **the engines that make them work have a huge bearing on what we can see and do**. Right now, **choice in this space is severely limited** and that has real impacts – **preventing innovation and reducing competition from web apps**. We need to give innovative tech firms, many of which are ambitious start-ups, a fair chance to compete."*
>
> Andrea Coscelli - Chief Executive of the UK's Competition and Markets Authority
>
> (emphasis added)

The lack of competition on mobile ecosystems is, at its heart, a structural one. Gatekeepers wield vast power due to the security model that these devices are built on. Traditionally, on operating systems such as Windows, macOS and Linux, users can install any application they want, with no interaction from the operating system gatekeeper, either by the business or the end user. Users can then grant these programs the ability to do anything they desire.

Locking down what applications can do, such as restricting which APIs they can access behind user permissions, is not by itself anti-competitive and can bring legitimate security advantages. However, the manner in which it has been implemented on mobile devices is both self-serving and in its current form, significantly damages competition.

This damage surfaces in several forms:

First, the gatekeeper can control what is allowed to be installed on devices they have already sold to consumers, often for a significant profit. They utilize this device-level control to demand a 30% cut of all third-party software that the consumer installs, not on merit, but simply because they control the only mechanisms available to businesses to release that software, and can further block or hinder the consumer from using or acquiring services outside of their app store.

The second is more subtle. In order to deliver their "native" apps to consumers on Android or iOS, developers must create custom applications in specific programming languages for each individual platform. Typically, companies will require separate development teams for each OS. This not only multiplies development and maintenance cost, but puts in place an invisible barrier to interoperability. Even the built up expertise for creating software for a specific platform provides significant lock-in advantages to the platform's gatekeeper.

Finally, even if a developer has no desire to interact with the gatekeeper, they are forced into a commercial and legally binding relationship with them. This is due to the fact that

the gatekeeper inserts itself between the customer and these third party developers. With smartphones now 15 years old, this may seem normal to us now, but imagine if Microsoft demanded that every software provider signed an onerous contract with them or be barred from releasing a product on Windows. What would have been unacceptable, anti-competitive behavior to both consumers, businesses and regulators on desktop, has been tolerated on mobile simply because these computers were considered a "new" category.

Mobile devices are just small computers whose primary input is touch, there is no sacred or magical property that means they have to run on a proprietary app store model. Nothing is stopping mobile computers running on the open model that desktop computers run on, just as there is nothing stopping a desktop computer running the app store model. Inertia and great profits are however powerful forces.

Apple is inserting themselves front and center between consumers and app developers. They insist all developers for iOS/iPadOS (including developers who have no intention of using their app store) pay them $100 per year, that they sign the full Apple developer program contract and submit themselves to what is effectively app store review (although nominally locked to security). Worse, in the EU, they are attaching significant recurring penalty fees to developers who dare to make their software available outside of Apple's app store. Apple is using every tool at their disposal to dissuade developers from leaving their app store.

Apple's key excuse to impose this control is security. Apple's argument is, in essence, that only they can be trusted to vet what consumers are allowed to install on their devices. All third parties must submit to their review.

What is needed is a way to securely run interoperable and capable software across all operating systems. Luckily, such a solution already exists and is not only thriving on the open system of desktop but is dominating, and that dominance is growing every year. The solution is of course, the Web and more specifically Web Apps. Today, more than 70% of users' time on desktop is done using web technologies, and that looks set to only grow.

Web Apps have a number of properties that allow them to solve this critical problem. They are run in the security of the browser's sandbox, which even Apple admits is "orders of magnitude more stringent than the sandbox for native iOS apps.". They are truly interoperable between operating systems. They don't require developers to sign contracts with any of the OS gatekeepers. They are capable of incredible things and 90% of the apps on your phone could be written as one today.

So why aren't they thriving on mobile? The simple answer to this question is lack of browser competition on iOS and active hostility by Apple towards effective Web App support, both by their own browser and by their OS. Apple's own browser faces no competition on iOS, as they have effectively barred the other browsers from competing by prohibiting them from using or modifying their engines, the core part of what allows browser vendors to differentiate in stability, features, security and privacy.

Apple has seen the Web as a threat to their app store as far back as 2011, when Philip Schiller internally sent an email to Eddie Cue titled "HTML5 poses a threat to both Flash and the App Store".

> *"Food for thought: Do we think our 30/70% split will last forever? While I am a staunch supporter of the 30/70% split and keeping it simple and consistent across our stores, I don't think 30/70 will last unchanged forever. I think someday we will see a challenge from another platform or a web based solution to want to adjust our model"*
>
> Phil Schiller - Apple Upper Management

This attitude appears not to have changed. Faced with the genuine possibility of third-party browsers effectively powering Web Apps, Apple's first instinct appears to have been to remove Web Apps support entirely with no notice to either businesses or consumers. Luckily, under significant pressure, Apple backed down from this particular stunt at the last moment.

Apple is very explicit in its public statement that they initially planned to remove the functionality as the DMA would force them to share it with third-party browsers. Even in their statement backing down, they make it clear they do not intend to allow third-party browsers that use their own engine to be able to install and manage Web Apps. In both statements, Apple cites "security" as the reason for their decisions.

Unfortunately for Apple, it has been unable to prove that Safari or WebKit are actually more secure than its competitors. When obligated by the CMA to provide evidence to back up its assertion that WebKit was more secure than Blink or Gecko, Apple failed to do so.

> *"... the evidence that we have seen to date does not suggest that there are material differences in the security performance of WebKit and alternative browser engines."*

> *"Overall, the evidence we have received to date does not suggest that Apple's WebKit restriction allows for quicker and more effective response to security threats for dedicated browser apps on iOS"*
>
> UK CMA - Interim Report into Mobile Ecosystems

Apple's actions not only hurt the Web ecosystem, third-party businesses (be they browser vendors or software developers), but also make their devices worse for their own consumers. By depriving their consumers of the choice and competition that fair and effective browser and Web App competition would bring, they are worsening the functionality, interoperability, stability, security, privacy, and price of services on their devices.

A reasonable person might argue *Why would Apple make their own devices worse, surely better devices means more hardware sales?* This behavior comes, however, with key advantages for Apple, even if they harm Apple's own consumers.

Critically, service revenue is of growing importance for Apple as their hardware sales have peaked and are declining. Apple has not had a "hit" new product for 14 years, namely the iPad, and, if you are being generous, 9 years for the Apple Watch. It does not currently seem likely that Apple's VR/AR headset will have any significant impact on Apple's overall hardware sales.

The CMA cites two incentives: protecting their app store revenue from competition from Web Apps, and protecting their Google search deal from competition from third-party browsers.

> ***"Apple receives significant revenue from Google by setting Google Search as the default search engine on Safari,*** *and therefore benefits financially from high usage of Safari. [...]* ***The WebKit restriction may help to entrench this position*** *by limiting the scope for other browsers on iOS to differentiate themselves from Safari [...] As a result, it is less likely that users will choose other browsers over Safari, which in turn* ***secures Apple's revenues from Google****.*
>
> *[...]*
>
> *Apple generates revenue through its App Store, both by charging developers for access to the App Store and by taking a commission for payments made via Apple IAP. Apple therefore benefits from higher usage of native apps on iOS. By requiring all browsers on iOS to use the WebKit browser engine,* ***Apple is able to exert control***

> ***over the maximum functionality of all browsers on iOS*** *and, as a consequence, hold up the development and use of web apps. This limits the* ***competitive constraint that web apps pose on native apps****, which in turn protects and benefits Apple's App Store revenues."*
>
> UK CMA - Interim Report into Mobile Ecosystems
> (emphasis added)

These two revenue streams are vast, even for a company of Apple's size. Apple collected $85 billion USD in App Store fees in 2022, of which it keeps approximately 30%. Apple reportedly receives $20 billion USD a year from their Google Search engine deal, accounting for 17.5% percent of Apple's annual operating profits.

A third and interesting incentive the CMA does not cite, but which the US's Department of Justice does, is that this behavior greatly weakens the interoperability of Apple's devices, making it harder for consumers to switch or multi-home. It also greatly raises the barriers of entry for new mobile operating system entrants by depriving them of a library of interoperable apps.

> *"****Apple has long understood how middleware can help promote competition*** *and its myriad benefits, including increased innovation and output,* ***by increasing scale and interoperability****.*
> *[...]*
> *In the context of smartphones, examples of* ***middleware include internet browsers****, internet or cloud-based apps, super apps, and smartwatches, among other products and services.*
> *[...]*
> ***Apple has limited the capabilities of third-party iOS web browsers, including by requiring that they use Apple's browser engine, WebKit.***
> *[...]*
> *Apple has sole discretion to review and approve all apps and app updates.* ***Apple selectively exercises that discretion to its own benefit****, deviating from or changing its guidelines when it suits Apple's interests and allowing Apple executives to control app reviews and decide whether to approve individual apps or updates. Apple often enforces its App Store rules arbitrarily.* ***And it frequently uses App Store rules and restrictions to penalize and restrict developers that take advantage of technologies that threaten to disrupt, disintermediate, compete with, or erode Apple's monopoly power.****"*
>
> DOJ Complaint against Apple
> (emphasis added)

Interoperability via middleware would reduce lock-in for Apple's devices. Lock-in is a clear reason for Apple to block interoperability, as can be seen in this email exchange where Apple executives dismiss the idea of bringing iMessage to Android.

> *"The #1 most difficult [reason] to leave the Apple universe app is iMessage ... iMessage amounts to serious lock-in"*
>
> Unnamed Apple Employee

> *"iMessage on Android would simply serve to remove [an] obstacle to iPhone families giving their kids Android phones ... moving iMessage to Android will hurt us more than help us, this email illustrates why."*
>
> Craig Federighi - Apple's Senior Vice President of Software Engineering

The CMA has the power to fix all of these underlying issues and unleash a powerful, open, interoperable and secure competitor to not only Apple's app store but also Google's.

This will also remove a heavy burden from new entrants into the operating system market; lack of apps. No longer will developers need to develop custom apps for each operating system, any operating system with good web app support and browser competition will support all web apps automatically. Web Apps support operating systems that developers have not even heard of. The impact of allowing them to compete fairly on mobile will be profound.

We are delighted that the CMA is going to directly tackle this issue under the DMCC and is already highlighting it in their SMS investigation.

6. Browsers and Cloud Gaming MIR

The Browsers and Cloud Gaming MIR team have done excellent work and analysis. Even though we have disagreements on some of the many issues that they have covered, on the whole they have succinctly and accurately covered an immensely complex set of issues and created appropriate remedies in the vast majority of cases.

A significant concern we do have, however, is that in the provisional report, the MIR has essentially deferred enforcement to the CMA / DMU under the Digital Markets, Competition and Consumers Act 2024 (DMCC). Even if the CMA acts with maximum efficiency in this SMS investigation, our understanding is that it will likely take until late 2025 to formally designate these companies. At that point, further investigations and enforcement measures, despite leveraging the MIR's research and findings, are likely to be lengthy and resource-intensive. This timeline risks delaying meaningful remedies to these anti-competitive issues by at least an additional two more years.

We recognize that regulatory processes are inherently slow and acknowledge that the DMCC and the DMU (Digital Markets Unit) was created specifically to address these challenges with tech giants. However, the stark reality is that by the time the DMCC can compel Apple and Google to address these issues, browser and web app competition will have been undermined for over 17 years. This will also mark five years since we first raised these concerns with the CMA and since they were first identified in the CMA's mobile ecosystems study.

We have urged the MIR team to reconsider its approach and immediately implement at least a minimum of a core set of the most critical remedies (such as removal of the WebKit restriction).

Once the DMCC is in effect, the DMU can take over the responsibility for ongoing enforcement, addressing any remedies that have been bypassed or whose objectives remain unfulfilled. Fully deferring the task of identifying and enforcing remedies to the DMCC will allow Apple and Google to continue the anti-competitive practices that the MIR's own findings have clearly identified as harmful to competition and the broader market. Moreover, from the CMA's perspective, accelerating enforcement by two years represents a strong return on the investment made into this market investigation reference, ensuring that the identified harms are addressed sooner, enabling a more competitive and innovative digital ecosystem.

In working paper 7, the MIR outlined the following remedies:

- A1 - Requirement for Apple to grant access to alternative browser engines to iOS.
- A2 - Requirement for Apple to grant equivalent access to iOS to browsers using alternative browser engines.
- A3 - Requirement for Apple to grant equivalent access to APIs used by WebKit and Safari to browsers using alternative browser engines.
- A4 - Requirement for Google to grant equivalent access to APIs used by Chrome.
- B1 - A requirement for Apple to enable remote tab IABs for WebKit-based browsers.
- B2 - A requirement for Apple to enable remote tab IABs for browsers wishing to use alternative browser engines.
- B3 - A requirement for Apple to allow alternative webviews to Apple's iOS WKWebView.
- B4 - A requirement for Apple and Google to implement remote tab IABs using the default browser.
- B5 - A requirement for Apple and Google to make users aware of being in an IAB by implementing changes to the interface or implement disclosures.
- B6 - A requirement for Apple and Google to implement opt-out settings for in-app browsing.
- C1 - A requirement for Apple and Google to ensure that multiple browsers are pre-installed, using defined criteria.
- C2 - A requirement for Apple and Google to ensure the use of browser choice screens at device set-up.
- C3 - A requirement for Apple and Google to ensure the placement of a default browser selected by the user in the 'dock' / 'hot seat' or on the default home screen at device set-up.
- C4 - A requirement for Apple and Google to ensure that a user's choice of default browser is always followed across all browser access points.

- C5 - A requirement for Apple and Google to ensure the use of browser choice screen(s) after device set-up.

- C6 - A requirement for Apple and Google to make adaptations to the user journey for changing their default browser.

- C7 - A requirement for Apple and Google to share user data on default browsers settings with browser vendors.

- C8 - seeks to ensure that third-party browser vendors use the same volume and frequency of prompts as Safari or Chrome currently do, suggesting that users change their default browser.

- C9 - A requirement for Apple and Google to allow users to uninstall Safari browser app on iOS and Chrome on Android devices.

We strongly support the majority of the proposed remedies and detailed our perspectives extensively in our remedies response paper. Overall, we found these remedies to be necessary, practical, and proportionate.

For any remedies or anti-competitive behaviors the MIR team decides to delegate entirely to the CMA under the DMCC, it is essential that the CMA/DMU is prepared to act swiftly and decisively once the DMCC is operational.

There are a small number of important remedies that we believe should also be considered, which we cover in the next section.

7. Additional Remedies that should be Considered

We have 4 additional remedies that the CMA should consider in their initial SMS investigations into Apple and Google.

They are:

1. **A requirement for Apple to implement Install Prompts for iOS Safari.**
   "A requirement for Apple to implement Install Prompts for iOS Safari."

2. **Allow feature parity between Web Apps and native apps.**
   "Where feature parity between Web Apps and native apps is possible, Apple must technically enable it and it should not be artificially prevented either by OS rules or OS design. Apple must not self-preference their own apps, apps sold via their app store or their own services over Web Apps."

3. **Only allow strictly necessary, proportionate, and justified security measures to browsers using their own engine.**
   "Apple and Google can only apply strictly necessary, proportionate, and justified security measures to browsers using their own engine. All security rules and their justifications must be publicly published. All security rules for browser vendors should be available in a single public up-to-date document. Changes to these rules should be subject to regulatory scrutiny"

4. **Obligate Google to share WebAPK Minting**
   "A requirement for Google to share WebAPK Minting with third-party browsers on Android subject to strictly necessary, proportionate, and justified security measures. This sharing should enable browsers on Android to install Web Apps and manage the Web Apps they have installed using their own browser engine."

In our previous response to the Browsers and Cloud MIR we have **included detailed reasoning** for why each of the other remedies are proportionate and necessary.

8. Lessons from Other Regulators

The DMCC serves as the UK's counterpart to the EU's Digital Markets Act (DMA). Since the DMA came into force on March 7, 2024, there has been time to assess how various gatekeepers have responded to its requirements.

Our primary concern is Apple's compliance with the DMA. Among all designated gatekeepers, Apple has taken the most aggressive stance, implementing measures that appear deliberately designed to undermine the spirit and intent of the regulation.

We have extensively documented Apple's DMA compliance issues, particularly regarding browsers and web apps.

We urge the CMA to closely examine these tactics and incorporate specific countermeasures into its bespoke code of conduct to prevent similar anti-competitive behavior in the UK.

8.1. Alternative Contracts

For developers looking to distribute their apps directly or through third-party app stores, Apple has required them to sign new contracts with different fees, even for apps still available on Apple's own App Store.

The EU Commission has launched an investigation into this practice, emphasizing that Apple should not be allowed to offer contracts in the EU that fail to comply with the DMA. This investigation is ongoing.

We believe the CMA should ensure that all app developers with apps available in the UK automatically receive the rights granted under the bespoke measures for Apple, without being obligated to opt in at different pricing structures.

8.2. Core Technology Fee

Apple charges developers who dare to list in other app stores on iOS or make their app available directly from their own website a new fee called "Core Technology Fee".

We have written extensively about why we believe such a fee should not be allowed.

The legality of this fee is also subject to an investigation by the EU Commision. This investigation is ongoing.

We believe the CMA should seek to preemptively prohibit such fees when creating their bespoke measures for Apple.

8.3. New Browser App for the EU

As part of its compliance with the Digital Markets Act, Apple was required to not impose a browser engine on third-party browser vendors.

Apple's contract for the browser engine entitlement (the collection of permissions for APIs required for a browser engine) made it clear that the Web Browser Engine Entitlement will only be provided in the EU. They will force browser vendors to submit a brand new application called an "Alternative Web Browser Engine App (EU)" in the contract.

Your Application must:

> *"Be distributed solely on iOS in the European Union;*
>
> *[...]*
>
> *2.4 The Entitlement Profile is compatible and may only be used with Applications solely distributed within the EU on devices running iOS 17.4 or later ... You are permitted to use the Entitlement Profile only in connection with Your Alternative Web Browser Engine App (EU) developed or distributed under this Addendum and with Apple-branded products"*
>
> Apple's Browser Engine Entitlement Contract

The rule to ship a separate app in the EU does not affect Safari, as the WKWebView is under Apple's sole control, contains Safari's engine and is updated in lockstep with Safari. That is to say: the system provided browser engine is Safari's engine, hence they are automatically exempt from this rule.

For a third-party browser to make this transition, they would need to ship a new app, and then advertise to the existing users to switch to the new app. The ramifications of this is so severe it's unlikely any browser vendor would be willing to take this step as it causes serious issues:

This is the primary remaining barrier to browser vendors using their real engine in the EU. Apple is insisting that these browser vendors ship a new browser in the EU, rather than upgrade its existing one, forcing them to regain all their EU users from scratch.

> *"Instead, transaction and overhead costs for developers will be higher, rather than lower, since they must develop a version of their apps for the EU and another for the rest of the world. On top of that, if and when they exercise the possibility to, for instance, incorporate their own browser engines into their browsers (they formerly worked on Apple's proprietary WebKit), they must submit a separate binary to Apple for its approval. What does that mean exactly?* ***That developers must ship a new version of their app to its customers, and 'reacquire' them from zero.****"*
>
> Alba Ribera Martínez - Deputy Editor at Kluwer Competition Law Blog
> (emphasis added)

8.3.1. Potential Solutions

The issues above are of course entirely of Apple's own making. Apple's decision to restrict browser competition on iOS to the EU, while potentially entirely legal under the DMA, is the root cause of this harm.

There are a three potential solutions open to Apple including:

Solution A. Allow Browser Engines Globally

Solution B. Two Binaries for One Bundle ID

Solution C. Global Dual Engine Binary with Toggle

8.3.1.0.1. Solution A - Allow Browser Engines Globally

Apple could allow browsers to compete fairly with their own engines globally. This is the only option that would enable fair competition.

However we believe this is an unlikely option since:

1. The DMA has no ability to impose extra-jurisdictional remedies, and OWA is unaware of other legal mechanisms that could force this change.

2. Apple's revenue from Safari is reportedly $20B USD per year, an amount so significant that it's unlikely Apple would willingly enable competition unless compelled.

3. Enabling browser competition on iOS globally in the provision of features of Web Apps, will increase Web Apps ability to contest the Apple's app store which is a significant source of revenue for Apple.

The CMA noted both of these potential motives for Apple's rule locking browsers to the WKWebView in their report.

> ***"Apple receives significant revenue from Google by setting Google Search as the default search engine on Safari,*** *and therefore benefits financially from high usage of Safari. Safari has a strong advantage on iOS over other browsers because it is pre-installed and set as the default browser. The WebKit restriction may help to entrench this position by limiting the scope for other browsers on iOS to differentiate themselves from Safari (for example being less able to accelerate the speed of page loading and not being able to display videos in formats not supported by WebKit). As a result, it is less likely that users will choose other browsers over Safari, which in turn secures Apple's revenues from Google.*
>
> *Apple generates revenue through its App Store, both by charging developers for access to the App Store and by taking a commission for payments made via Apple IAP. Apple therefore benefits from higher usage of native apps on iOS. By requiring all browsers on iOS to use the WebKit browser engine,* ***Apple is able to exert control over the maximum functionality of all browsers on iOS*** *and, as a consequence, hold up the development and use of web apps. This limits the* ***competitive constraint that web apps pose on native apps****, which in turn protects and benefits Apple's App Store revenues."*
>
> UK CMA - Interim Report into Mobile Ecosystems
>
> *(emphasis added)*

The reason we have included this as an option is that by providing it as the best and most reasonable option from a competition point of view. It gives us a frame of reference for Apple's other options. The other options, while possibly legal, are still anti-competitive and place competing vendors under significant burden.

8.3.1.0.2. Solution B - Two Binaries for One Bundle ID

Allow browser vendors to provide two signed binaries under one application (one bundle id).

These two binaries would be:

One - A signed binary which contains the real browser with its own engine to ship to the EU and other jurisdictions that mandate Apple allow browsers be able to choose and modify their engine. This would need to include the ability to do A/B testing with WKWebView.

Two - A signed binary which contains the version of the browser which is forced to use Apple's WKWebView which can be shipped in other jurisdictions.

An update mechanism that can then toggle which binary to deliver based on if the end user is an EU resident. This would likely require some development work on Apple's part to update their distribution mechanism and to ensure that both binaries can continue to access user data.

One problem with this solution is the question of what happens when users become or cease to be EU residents. This would necessitate a complex swap over procedure by the browser vendors where local storage data is copied from one version of the browser to another. This could be a significant source of bugs.

8.3.1.0.3. Solution C - Global Dual Engine Binary with Toggle

Allow browser vendors to ship a single binary globally which contains both the browser vendor's own engine and the WKWebView version. For regulatory jurisdictions that haven't yet forced Apple to allow competition, the browser would use the WKWebView, and for those who have, the browser would use the browser's own engine.

Apple can indicate to the browser app whether they are allowed to use their own engine, and based on that the browser could then decide if they wish to use their own engine.

Likely only a small technical change would be required for this solution to work. That is for Apple to provide some mechanism to let browser vendors detect whether they can use their engine or not, as legally required. Aside from that this would likely require no technical changes on Apple's end, they would simply need to update their contracts to allow it. In the event Apple is unwilling to develop such an API, Apple can simply update their contracts and each browser vendor can detect whether a user is an EU resident to the best of their abilities using their own mechanisms such as IP address.

8.3.1.1. Summary

It is not acceptable for Apple to use their mechanics of restricting browser engines to the EU to suppress and undermine browser competition in the EU. If Apple can not be compelled to allow browser competition globally on iOS, they should be compelled to make browser competition on iOS within the EU **at least** minimally viable. The aim should be to allow third party browser vendors to effectively contest Safari's features, performance, security and privacy on a fair playing field.

This is important context for the CMA. The CMA will be immediately confronted by the problem once they attempt to force Apple to allow browser vendors to compete fairly on iOS.

8.4. Breaking Apps while on Holiday

Apple has stated that it will prevent all updates for apps downloaded from third-party app stores that are outside the EU for more than 30 days.

Apple has not released any explicit statement on what will happen to browsers using their own engine downloaded from Apple's app store if the user (an EU resident) leaves the EU for greater than 30 days. Given Apple is attempting to block even browser vendors from testing on their own test devices outside the EU, it seems likely they will attempt to extend a similar policy to third party browsers which use their own engine even if they are downloaded from Apple's app store.

> *"If you leave the European Union, you can continue to open and use apps that you previously installed from alternative app marketplaces. Alternative app marketplaces can continue updating those apps for up to 30 days after you leave the European Union, and you can continue using alternative app marketplaces to manage previously installed apps. However, you must be in the European Union to install alternative app marketplaces and new apps from alternative app marketplaces."*
>
> Apple's statement on breaking updates for EU residents outside the EU for greater than 30 days

The CMA must determine its stance on this issue and whether it constitutes a circumvention of the obligations it plans to impose on Apple.

This decision will also impact third-party app stores and apps downloaded directly from developers.

There seems to be no legitimate security concern in this case, Apple is merely complying strictly with legal requirements and nothing beyond that. If Apple can make life awkward for businesses and consumers wishing to take advantage of additional competition in a way that is legal, Apple appears to be willing to do so.

8.5. Divide and Conquer

We are concerned that Apple will use the same tactics to prevent the usage of browsers and web apps even between the EU and the UK.

That is they will for example demand that browser vendors wishing to use their own engine will be required to ship 3 apps:

- A Webkit one globally (and for their existing UK and EU consumers)
- A brand new EU browser using its own engine starting from 0 users
- A brand new UK browser using its own engine starting from 0 users

The CMA should at a minimum implement rules that guarantee that the browser using its own engine available in the EU should also be available in the UK.

This will be important as more and more countries, such as Japan and Australia, force Apple to allow browser (and browser engine) competition on iOS. Each version of a browser that vendors have to ship prohibitively (and pointlessly) raises costs for the vendor.

Solution A and Solution C solve this issue more directly.

8.6. Developer Testing

Apple is not allowing developers of websites and web apps who serve EU customers, but do not live in the EU to effectively test their software on competing browsers which use their own engine.

We had hoped that Apple might reasonably foresee these complications and voluntarily cease this continued anti-competitive behavior and make it possible for developers to test their products outside of the EU. Unfortunately, Apple seems content with making the web less interoperable and more difficult to develop for.

As the DMA is (likely) unable to compel Apple to allow browser vendors to compete on iOS with their own engines globally, we propose the following potential solutions:

> *"Any developer with an Apple developer account should be able to download the EU versions of browsers globally onto their own iOS devices for the explicit purpose of testing. This will allow them to test their software in these browsers, which is critical in allowing Web App/website developers to compete. Apple should not be allowed to add undue friction, charge a fee, or restrict these browsers in any way that might significantly undermine the extensive manual and automated testing that major web based products undergo. This will allow the millions of web developers that service the EU to test their products."*

Apple may point to TestFlight as a possible solution, but this is insufficient. There are hard usage caps of 10,000. Given there are 1.1 billion websites worldwide, we would anticipate that the number of developers that need to test for mobile browsers in the EU would be in the millions and likely comparable to the number of developers who download beta versions of Firefox/Chrome/Edge.

Apple may also point at the xCode simulator as a possible solution, however this is not acceptable, as many bugs will only appear on real devices, and development of user interfaces will often require the developer to be able to interact with the device to test the responsiveness and feel of the interactions. This sort of testing is not possible in the simulator.

This is another issue that the CMA will need to consider.

8.7. Interop for iOS

The EU Commission has opened a specification proceeding into Apple's interoperability request process. The proposed measures include increased upfront transparency of internal iOS and iPadOS features, timely communication and updates, fair and transparent handling of rejections and a more predictable timeline.

Given that the CMA is considering forcing Apple to provide equivalent API access to browsers, many aspects of the investigation will be relevant.

8.8. Third-Party Device Interoperability

The EU Commission has opened a specification proceeding to outline the proposed measures the Commission considers Apple should implement to effectively comply with its interoperability obligations in relation to several iOS connectivity features,

predominantly used for and by connected devices. These can be notifications, automatic Wi-Fi connection, AirPlay, AirDrop, or automatic Bluetooth audio switching.

Many aspects of this investigation will likely be relevant to obligations that the CMA may wish to impose. Additionally, we would advocate that browsers and their installed web apps be able to interoperate with third party devices.

9. Toward A Brighter Future

OWA believes that the Web's unmatched track record of safely providing frictionless access to information and services has demonstrated that it can enable a more vibrant digital ecosystem. The web's open, interoperable, standards-based nature creates an inclusive environment that fosters competition, delivering the benefits of technology to users more effectively and reliably than any closed ecosystem.

OWA's goal is to ensure that browser competition is carried out under fair terms, that user choice in browsers matters, and that web applications are provided equal access and rights necessary to safely contest the market for digital services.

The CMA has a critical opportunity to fix key issues that have undermined both browser and Web App competition for over a decade to the benefit of both UK consumers and UK businesses. This will improve interoperability, contestability, and fairness leading to lower priced and higher quality apps, not only for the UK but for the entire world.

OWA believes competition, not walled gardens, leads to the brightest future for consumers, businesses, and the digital ecosystem.

10. Open Web Advocacy

Open Web Advocacy is a not-for-profit organization made up of a loose group of software engineers from all over the world, who work for many different companies and have come together to fight for the future of the open web by providing regulators, legislators and policy makers the intricate technical details that they need to understand the major anti-competitive issues in our industry and potential ways to solve them.

It should be noted that all the authors and reviewers of this document are software engineers and not economists, lawyers or regulatory experts. The aim is to explain the current situation, outline the specific problems, how this affects consumers and suggest potential regulatory remedies.

This is a grassroots effort by software engineers as individuals and not on behalf of their employers or any of the browser vendors.

We are available to regulators, legislators and policy makers for presentations/Q&A and we can provide expert technical analysis on topics in this area.

For those who would like to help or join us in fighting for a free and open future for the web, please contact us at:

Email	contactus@open-web-advocacy.org
Web / Web	https://open-web-advocacy.org
Mastodon	@owa@mastodon.social
Twitter / X	@OpenWebAdvocacy
LinkedIn	https://www.linkedin.com/company/open-web-advocacy