MOBILE BROWSERS AND CLOUD GAMING MARKET INVESTIGATION

Summary of issues hearing with Apple held on 11 July 2024

1.   The CMA explained the purpose of the hearing and recent updates to the market investigation, highlighting the working paper publications and the deadlines for responses. The CMA also noted relevant documents and submissions from Apple for the forthcoming discussion.

Apple's overall business model and product development

2.   Apple stated its business model is primarily focused on the supply of hardware and that Apple aims to deliver high levels of privacy, security and user experience. Apple explained that the development of its software and services is largely dictated by the impact it will have on its hardware business. Apple's objective is to create a holistic ecosystem that both users and developers can benefit from.

3.   Apple's organisational structure means decisions for new features and developments are made by including different teams from across the business. Apple stated feedback from users and developers is integrated into the decision-making process from a wide variety of sources.

4.   Apple continuously makes changes as it receives user feedback. This can be through feedback from in stores or from calls to AppleCare, or social media posts.

The requirement for browsers operating on iOS devices to use Apple's WebKit browser engine, and browser functionalities

5.   Apple explained that one of the reasons the WebKit requirement[1] is in place is to ensure users get the best security, privacy, and performance on iOS devices, and is important to overall competition between browsers on iOS.

6.   Apple considered that new features recently introduced on third-party browsers on iOS including ad blocking, VPN, AI and environmental features demonstrated competition between browsers. Apple submitted that browsers, like Edge and Chrome, are able to provide and advertise similar functionality on both Android and iOS.

7.   Apple stated that it aims to provide developers with all the functionality they need to build great apps.

8.   Apple disagrees with submissions from browser vendors which suggest that browser vendors are unable to innovate and improve their browsers on iOS in the same way as

---

[1]The requirement that all browsers on iOS use Apple's WebKit browser engine. See Issues statement, paragraph 27(b).

on other platforms.[2] Apple stated that it considers developers' feedback on features that the developers would find useful and considers, amongst other factors, whether to make these features available based on privacy, security, performance and complexity, as well as whether the features would be desired by users. Apple stated that it often creates and implements new features based on feedback from developers.

9.　　Apple stated that making functionality within the iOS architecture available to browser vendors can be complex, and can create security, privacy, or stability risks. Apple submitted that when it develops new functionality within its iOS architecture, it aims to make it available to third parties on day one, or otherwise as soon as and to the extent practicable.

10.　　In Apple's view, requiring all browsers to use its WebKit browser engine ensures that browsers on the platform provide users with a strong base level of security, privacy, performance, and battery life. Apple described how the fragmentation of browser engines that is seen on other platforms can lead to significant patch gaps (where a browser is using an outdated version of a browser engine), and therefore puts users at risk. Apple explained that by requiring that all browsers use WebKit on iOS, it is able to ensure all browsers are updated at once with the latest security and privacy updates and this takes the responsibility away from individual developers who would otherwise need to implement these updates on their apps themselves.

11.　　Apple outlined its view that a browser engine needs to be able to handle a whole range of complex privacy and security threats.

In-app browsers

12.　　Apple explained that it offers a range of in-app browsing implementation options for developers, on a spectrum for ease of use and customisability. The most appropriate implementation of in-app browsing depends on the developer's specific use case, and developers can also use multiple implementations if they want. Apple considers that it offers sufficient flexibility to app developers when it comes to in-app browsing implementations on iOS.

13.　　Apple considers that the easiest to use in-app browsing implementation that it offers on iOS (ie SFSafariViewController) does not invoke Safari when in use, but it is separate from Safari. Therefore, Safari does not benefit in any way from app developers deciding to incorporate SFSafariViewController in their apps for in-app browsing. Safari is only used if the user clicks on the icon in the bottom right of SFSafariViewController and Safari happens to be the default browser for that user.

14.　　Apple stated that it has not heard any feedback from app developers that in-app browsing does not work well on iOS; as such, Apple considers that developers are generally satisfied.

15.　　Apple stated that this may also be because developers consider that in-app browsing is a low salience topic.

---

[2] Working Paper 2, paragraph 3.10.

Choice architecture

16. Apple explained the design decisions that it takes in relation to how users choose or switch between browsers on their phones are not based on formal research or studies but the industry knowledge from their developers and feedback it receives (including after launch).

17. Apple stated that it avoids presenting decisions to users where it views it to be unnecessary. Apple aims to ensure that users are not interrupted during their use of apps and instead have the choice to change from default options of their own volition by means of an easy process.

Cloud gaming

18. Apple explained that both web apps and native apps offering cloud gaming services faced latency and capacity issues in the remit of cloud gaming service providers rather than this issue being specific to Apple's own technology. Apple said that technological advances over time could address these issues.

19. Apple referred to changes made to its App Store Guidelines in January 2024 which permitted cloud gaming native apps on the App Store.[3] Apple said it is in conversation with multiple cloud gaming companies to provide their services on iOS.[4]

20. Apple said that it did not believe there was a rationale for expanding its "reader rule", which allows users to access content in a native app purchased on another platform, to cover gaming apps.[5] Apple said that it introduced the "reader rule" to enable more traditional media app users to access content they had previously purchased elsewhere outside the App Store, and gaming apps were different as users tended to need to buy in-game content while playing the game in question.

21. Apple explained its view that some cloud gaming app developers are already developing multiple in-app payment systems on other platforms and it viewed complaints from some parties as trying to avoid paying Apple for using the services that iOS and the App Store provide.

Summary of remedies hearing with Apple held on 18 September 2024

22. The CMA explained the purpose of the hearing and recently published working paper on potential remedies. The CMA also noted relevant documents and submissions from Apple for the forthcoming discussion.

---

[3] App Review Guidelines - Apple Developer, accessed on 19 June 2024.
[4] Apple said that the recent launch of Antstream's cloud gaming iOS native app and the prior existence of several other apps in compliance with Guideline 4.7 (eg by Tencent and NetEase) provided evidence of Apple's support for such apps. Further, Apple stated that it wanted to facilitate cloud gaming services launching on iOS and that it had recently engaged with a cloud gaming services provider with a view to bringing their services to the App Store.
[5] Guideline 3.1.3(a)

Overview

23. Apple noted its view that remedies are not necessary because it considers that the evidence before the CMA does not support a finding of an AEC.

24. Apple raised a concern that the proposed remedies would not protect or enhance competition in the market or that they would benefit only a small section of the relevant markets.

25. Apple raised the concern that the current remedy proposals lacked clarity and noted that it was difficult to provide a view on the cost of implementing such proposals. It stated that understanding the remedies in more detail would allow it to better quantify how much resource and cost would go into making the changes the remedies would require. Apple stated its view that any remedies should not extend beyond the UK.

26. Apple stated that altering platform design and policy could have negative effects on safety, privacy, security and user experience on Apple's devices. Apple told us it had concerns around security and privacy requirements being dictated by competition authorities, as this has historically led to potential risks in security and privacy of operating systems. Apple explained the example of the Microsoft CrowdStrike incident, where Microsoft was prohibited from fixing a security breach in its Windows operating system on desktop due to competition remedies that had previously been imposed on it.

27. Apple explained its concern that any remedies could potentially prevent Apple from benefiting from the investments and developments it has made on its platform, technology and ecosystem by limiting its ability to differentiate itself from its competition. Apple also highlighted that it would have no incentive to develop services, such as WeatherKit, if it could not commercialise the technology.

28. Apple also raised a concern that third party developers would not be incentivised to develop their own technology if they had access to Apple's technology free of charge.

WebKit Restriction

29. Apple stated that allowing alternative browser engines, as has been implemented in the EU, brings additional risks for users and Apple wants to avoid exposing its users in other jurisdictions to those risks where possible.

30. Apple explained that its key concerns related to allowing alternative browser engines in the EU include:

    (a) the resource and cost of implementation;

    (b) users being uninformed that a browser has changed to using a different browser engine; and

    (c) the increased size of a browser app if it has to ship with an alternative browser engine, as well as the increased size of updates and disk usage on iOS devices.

31. Apple explained the rationale for its requirement in the EU (as part of Apple's plan for compliance with the Digital Markets Act) that browser apps using alternative engines

submit a separate binary from apps using the WebKit browser engine (the 'separate binary' requirement):

(a)   Apple stated there would be a security risk from allowing a browser app to migrate to using an alternative browser engine without the 'separate binary' requirement. Apple explained that the alternative engine would then be present in the browser app binary worldwide, and Apple would not be able to stop the engine code from being executed out of the jurisdiction where the remedy was imposed, meaning that an attacker could potentially execute that code to access all levels of the system. Developing solutions to prevent this would involve substantial engineering effort.

(b)   Apple stated that the separate binary requirement was important to ensure users make an informed choice, on the basis of the app product page, given the implications of alternative browser engines for security, privacy and performance. Without a separate binary for a browser using a different browser engine, users would have no way of knowing that a browser that chose to no longer use WebKit was instead powered by an alternative browser engine

(c)   Alternative browser engines would take substantial storage space (hundreds of Megabytes (MBs), whereas Safari takes 14 MBs only). This would waste storage space and slow down overall device performance.

(d)   Apple explained that it does not consider that a requirement, for web browsers wishing to use an alternate browser engine, to use a separate app binary in order to do so within a specific region would be a significant barrier to browser engine development. Apple stated that using separate binaries across regions is a standard practice and that it is not difficult to move users to a different version of an app, citing historical examples where this had been the case.

32.   The CMA asked how the 'separate binary' requirement supports browser developers' need for A/B testing and gradual roll-out. Apple stated that there is little history of browser vendors doing this and it was unclear how it would work. Nevertheless, Apple added it was something that it was considering.

In-app browsers

33.   Apple stated that potential remedies could also reduce the security and privacy of in-app browsing compared to SFSafariViewController.

Choice Architecture

34.   Apple stated that users are informed and empowered to choose their preferred browser through searching on the App Store.

35.   Apple referenced the consumer research that the CMA had commissioned.[6] Apple believes the findings of the survey support its view that users are confident with installing new browsers and that the proposed remedy for pre-installed browsers would therefore be unnecessary and may degrade product security and quality.

36.   Apple discussed its experience of implementing default browser choice screens under the EU Digital Markets Act. Apple stated that it felt strongly that the choice screen it had initially introduced in March 2024 was compliant with the legislation. Apple noted that it had been compelled to make changes to the choice screen after the European Commission had opened a non-compliance investigation into its original design.

---

[6] Verian Group, Mobile Browsers Consumer Research: Understanding and usage of mobile browses on smartphones for the Competition and Markets Authority (CMA) web browsers market investigation, August 2024.