

Mobile browsers and cloud gaming market investigation

Statement of Issues

Background

1. On 22 November 2022, the Competition and Markets Authority (CMA), in exercise of its powers under sections 131 and 133 of the Enterprise Act 2002 (the Act), made a reference for a market investigation in relation to the supply of mobile browsers and mobile browser engines, and the distribution of cloud gaming services through app stores on mobile devices (and the supply of related ancillary goods and services) in the United Kingdom.
2. For the purposes of this investigation:
 - (a) ‘mobile browsers’ means applications which enable users of mobile devices to access the world wide web;
 - (b) ‘mobile browser engines’ means the underlying technology which applications on mobile devices use to transform web page source code into content with which users can engage;
 - (c) ‘cloud gaming services’ means services which allow for the streaming of games from remote servers to users’ devices;
 - (d) ‘distribution through app stores on mobile devices’ means the availability of applications for download through an app store;
 - (e) ‘mobile devices’ means smartphones and tablets.
3. The CMA, acting through a group of independent members constituted from its panel,¹ is required to decide whether any feature or combination of features of each relevant market prevents, restricts or distorts competition in connection with the supply or acquisition of any goods or services in the UK or a part of the UK.² If the CMA decides that there is such a prevention,

¹ Margot Daly (Inquiry Chair), Robin Foster, Cyrus Mehta and Claire Whyley.

² See section 134(1) of the [Act](#).

restriction or distortion of competition, it will have found an ‘adverse effect on competition’ (AEC).³

4. If the CMA finds that there is an AEC, it has a duty to decide whether it should take action, and/or whether it should recommend others take action, to remedy, mitigate or prevent the AEC concerned or any detrimental effect on customers so far as it has resulted from, or may be expected to result from, the AEC.⁴ If the CMA decides that action should be taken, it must also decide what action should be taken and what is to be remedied, mitigated or prevented.⁵

The purpose of this statement

5. This issues statement sets out the framework for our investigation, including:
 - (a) our initial hypotheses concerning which features of the markets for the supply of mobile browsers and the distribution of cloud gaming in the UK, if any, may be adversely affecting competition; and
 - (b) which potential remedies may be suitable to address any AECs that we may find, or any detrimental effect on customers resulting from any such AECs.
6. This statement does not represent our emerging or provisional views, findings or conclusions on either the competition issues or remedies, should these be needed. We have yet to determine whether any competition concerns arise in the supply of mobile browsers and mobile browser engines and the distribution of cloud gaming services through app stores on mobile devices in the UK.
7. The hypotheses set out in this issues statement do not imply any pre-judgement of an AEC; they are solely potential hypotheses to be tested. Our investigation is at a very early stage, and the purpose of identifying these hypotheses is to present some early thinking on these issues for comment and to help frame our investigation.
8. In determining the focus of our initial lines of enquiry, we have taken into account the evidence gathered and analysis carried out in the course of the Mobile Ecosystems Market Study (Market Study),⁶ comments received in

³ As defined in section 134(2) of the [Act](#).

⁴ Section 134(4) of the [Act](#).

⁵ Section 134(4) of the [Act](#).

⁶ [Mobile ecosystems market study case page](#)

response to the consultation on the Market Study Interim Report and in response to the CMA's consultation on the scope of the proposed market investigation.⁷ In addition, we have had regard to an advisory steer that we have received from the CMA Board.⁸

9. We intend to build upon the evidence gathered during the Market Study and propose to focus our investigative efforts on expanding the analysis and evidence base relevant to the issues identified in the Market Study, as well as areas of concern identified through the CMA's consultation on this market investigation.⁹ As the investigation progresses, further issues may be identified and explored. We may discuss these issues with relevant parties to the investigation and/or publish our emerging thinking on them in order to engage with relevant parties.

Industry background

Mobile browsers and browser engines

10. Mobile browsers are applications that enable users of mobile devices to access and search the world wide web and interact with content on it.¹⁰ The web connects and informs people at a greater scale than any previous technology and plays a unique role in society as an open platform for people and businesses to share ideas and services. Browsers are critical to the web and its future.
11. Alongside downloading apps from app stores,¹¹ browsers are the most important way for users of mobile devices to access content and services over the internet, including webpages and web apps.¹² There is evidence that users spend a higher proportion of their time online on browsers than on any other single native app.¹³
12. Browsers comprise two main elements:

⁷ [Mobile browsers and cloud gaming: responses to consultation](#)

⁸ [CMA board advisory steer.](#)

⁹ [Mobile browsers and cloud gaming case page.](#)

¹⁰ Web browsers provide the same function on desktop and other devices.

¹¹ These are 'native' apps which are written to run on a specific operating system and, as such, interact directly with elements of the operating systems in order to provide relevant features and functionality

¹² Web apps are accessible via web browsers like a regular webpage and therefore do not need separate versions for separate operating systems. Web apps have more functions compared to traditional webpages, including opportunities for interactions and they can partially operate offline.

¹³ Approximately 17% of users' time is spent on mobile web browsers (Safari and Chrome), with the next closest apps being Facebook with 14% and YouTube with 8%. [Kargo & Verto Analytics - Web vs App report 2019.](#)

- a browser engine, which transforms web page source code into web pages (or web apps) that people can see and engage with; and
 - a branded user interface which has user-facing functionality such as favourites, browsing history and storing the user's data such as passwords and payment details. A default web search engine is set as part of the browser.
13. Browsers are primarily monetised through search: in return for setting a particular search engine as default, browsers receive a share of the advertising revenue generated by their users' searches.
 14. The browser engine needs to be compatible with the web page so that it can properly access web page source code and display its content. It also determines the ways in which users can interact with the web page, including the range of possible user inputs (such as, camera or microphone). As a result, browser engines significantly influence the content that is developed on the web and impact the products and services which consumers can access online.
 15. Web content can also be accessed through native apps' in-app browsers.¹⁴ Examples of native apps with in-app browsers include chat apps such as Snapchat, social networks such as Facebook, search widgets such as Google Search and email clients such as Gmail. Dedicated browsers and in-app browsers use the three browser engines run by Google (Blink), Apple (WebKit) and Mozilla (Gecko).
 16. The two most used mobile browsers are Apple's Safari and Google's Chrome. Apple and Google also run the two main browser engines: all browsers on iOS must run on Apple's Webkit browser engine and Google's Blink engine is widely used on Android, although on Android browsers may use other engines.
 17. Browsers are also necessary to enable people to access web apps. These are potential alternatives to native apps. They have additional functionality compared to a traditional webpage and, unlike native apps, do not need to have separate versions developed for each mobile operating system.
 18. The Market Study found evidence that the quality of all browsers on Apple devices is limited by the slower pace of development of WebKit, that web

¹⁴ In-app browsers typically have a reduced feature set compared to a dedicated browser app, with features (such as push notifications) typically arriving later on in-app browsers than on dedicated browsers. Steiner, Thomas. 'What is in a web view: An analysis of progressive web app features when the means of web access is not a web browser.' Companion Proceedings of [The Web Conference 2018](#).

developers have cancelled features due to a lack of support by WebKit, and that businesses bear higher costs from having to rely on native apps compared to web apps, and from working with bugs and glitches that are inherent in WebKit.

Distribution of cloud gaming services

19. Cloud gaming allows people to play games from remote cloud servers. The games are streamed to the user's device(s), rather than downloaded before play. Cloud gaming services offer users access to a catalogue of games on a single app rather than downloading each game on an individual app.
20. In this way, cloud gaming services can provide users of mobile devices with access to a range of high-quality games which would otherwise only be available on devices with greater hardware capabilities such as video game consoles or computers.
21. Cloud gaming services can be distributed to users on mobile devices in one of two ways: they can be provided as native apps, which are distributed through app stores, or they can be provided as web apps, which users can access through browsers.
22. The Market Study found that the distribution of cloud gaming services appeared to be functioning poorly. In particular, it found that Apple, via its App Store policies and guidelines, in effect obstructs cloud gaming services from being available on iOS devices, in particular because it does not allow a single app to provide a catalogue of games.

Our hypotheses or theories of harm

23. We propose to investigate theories of competitive harm based on both the structure of the market(s) and the conduct of relevant firms within these or other related markets.¹⁵
24. The Market Study found that Apple and Google have substantial and entrenched market power in the supply of mobile browsers and browser engines. We will investigate whether Apple and Google have unilateral market power which is a source of competitive harm, and whether they are protecting this in anti-competitive ways.
25. The Market Study also found that Apple and Google have substantial and entrenched market power in the supply of mobile operating systems and the

¹⁵ CC3, paragraph 155 and following.

distribution of native apps. We plan to investigate whether they are using these positions to weaken competition in the 'downstream' supply of mobile browsers and browser engines, and the distribution of cloud gaming services.

26. We also propose to investigate certain agreements between Apple and Google, in relation to browser search revenue sharing.

Browsers and browser engines

27. In relation to browsers and browser engines we propose to focus our investigation on the following questions:
- (a) whether indirect network effects (arising from the need for browsers to be compatible with websites) reinforce the positions of Google's Blink browser engine and Apple's WebKit browser engine and act as a barrier to expansion for competing browser engines;
 - (b) whether Apple is using its position in the supply of mobile operating systems to restrict competing browsers' ability to develop competitive features, in particular by requiring that all browsers on iOS use Apple's WebKit browser engine;
 - (c) whether Apple and Google are using their position in the supply of browser engines to restrict rival browsers' access to functionality which is available in the WebKit and Blink browser engines;
 - (d) whether Apple and Google are restricting others' in-app browsers in a way which is weakening rivalry from rival browsers and browser engines;
 - (e) whether Apple and Google are using choice architecture to reinforce the positions of their browsers and raise barriers to expansion for competing browsers; and
 - (f) whether search revenue sharing agreements between Apple and Google reduce their incentives to compete in browsers and browser engines on iOS.
28. These concerns could mean that development and innovation on the web is slower than it might otherwise be. This would mean the loss of new mobile products and services which might otherwise benefit consumers, businesses and the economy. It would also mean that existing products and services are worse quality or more expensive than they otherwise could be. Ultimately, consumers could be losing out on some of the benefits of the world wide web.

Indirect network effects and unilateral market power

29. The Market Study found that, both globally and in the UK, Apple's Safari browser and Google's Chrome browser are the largest browsers on mobile devices. In their respective mobile ecosystems, both Apple and Google have very high shares of browser usage and their combined share of supply on mobile devices in the UK is around 90%, with Safari having a usage share of close to 50% and Chrome above 40%. Samsung Internet is the only other browser with a share above 5%.¹⁶
30. Apple's WebKit browser engine and Google's Blink browser engine are in even stronger positions, with Apple's WebKit browser engine having a share of supply of 100% on iOS in the UK and Google's Blink browser engine having a share of supply of over 95% on Android in the UK.¹⁷
31. The Market Study found evidence that there are indirect network effects in the supply of browser engines, as web developers typically ensure that their websites and web apps are compatible with the most popular browsers, but not other browsers. The Market Study found that indirect network effects create a barrier to expansion by smaller browser vendors, who struggle to differentiate themselves by making new functionality available to web developers as this functionality is less likely to be adopted.
32. Where a small number of incumbents have high market shares and face weak competition as a result of barriers to expansion, this can constitute a source of competitive harm.¹⁸ We will investigate whether high market shares and network effects restrict competition in the supply of browsers and browser engines.

The WebKit requirement on iOS

33. The Market Study found that Apple has substantial and entrenched market power in the supply of mobile operating systems and that Apple requires all browsers on iOS to use its browser engine, WebKit.
34. The Market study also found that:
 - (a) due to its WebKit requirement, Apple makes decisions on which features to support for all browsers on iOS, which not only restricts competition (as it materially limits the potential for rival browsers to differentiate

¹⁶ See [CMA Reference decision](#), paragraph 3.26

¹⁷ [Mobile ecosystems market study](#) Final Report, Table 5.2.

¹⁸ [CC3](#), paragraphs 178-9 and 216.

themselves from Safari on factors such as speed and functionality) but also limits the capability of all browsers on iOS devices, potentially depriving iOS users of useful innovations they might otherwise benefit from; and

(b) the WebKit requirement may limit the function of web apps and so may impede their more widespread adoption on iOS specifically but also on Android, raising developers' costs and harming innovation.

35. We will investigate whether the WebKit requirement prevents competition between browser engines and (as a result) hinders browser competition.

Restrictions on browser functionality

36. The Market Study found evidence that Apple and Google are restricting some functionality of their browser engines for their own browsers and preventing rivals from accessing it. The Market Study found in particular that there are a range of functionalities that exist in Safari that are not available to other browsers on iOS. At least some of these significantly affect the functionality that other browsers are able to offer on iOS and may limit their ability to compete effectively with Safari.

37. We will investigate whether functionality in WebKit and Blink which is made available to Safari and/or Chrome, but not other browsers, hinders competition between mobile browsers.

Restrictions on in-app browsers

38. The Market Study found that in-app browsing and the diversion to browsers from hyperlinks in native apps play an important and growing role in allowing users to access the web.

39. The Market Study found that current implementation of in-app browsers may undermine the effectiveness of consumer choice of browser and reinforce the positions of browser engines such as WebKit and Blink.

40. In particular, the Market Study found that the way in which in-app browsing works on iOS and Android may reinforce the competitive position of Apple and Google in browser engines in the following ways:

(a) on iOS, there is a requirement that in-app browsers use a WebKit-based implementation, such that similar concerns to those related to the WebKit restriction on iOS also apply to in-app browsers (that is, there is less differentiation and more limited feature support); and

- (b) on Android, there appears to be browser engine choice for in-app browsers, but default settings and preinstallation makes it difficult for developers to implement in-app browsers based on a browser engine other than Blink.
41. In the Market Study, the CMA also heard concerns that Apple may restrict the customisability and functionality of in-app browsers through changes that restrict the use of certain implementations.¹⁹
42. The Market Study noted that allowing developers to choose the implementation of in-app browsing may limit consumer choice, as it can mean that hyperlinks are not directed to a consumer's chosen default browser. On the other hand, it may also create room for developers to compete to develop and customise their in-app browser. We plan to gather further evidence on this issue.
43. We will investigate the ways in which the handling of hyperlinks and implementation of in-app browsers in native apps on iOS and Android may weaken browser and browser engine competition.

Choice architecture

44. The Market Study found that several aspects of the design and layout of the user interface on mobile devices may encourage the use of Chrome and Safari, including that:
- (a) Safari is the only browser pre-installed and set as the default browser on iOS;
- (b) through agreements with device manufacturers, Google ensures that Chrome is pre-installed on most Android devices, and frequently placed in a more prominent position than other browsers; and
- (c) browser switching may be reduced by the complexity of changing the default browser.
45. We will investigate whether Apple and Google may use choice architecture to hinder competition on mobile operating systems and to reinforce the position of their own browsers and browser engines.

¹⁹ See [Mobile ecosystems market study](#) Final Report, chapter 5.

Revenue sharing agreements

46. The Market Study found that Google has a large number of agreements with mobile device manufacturers and browser vendors (including Apple) that support widespread use of its services, including its search engine and its browser, Chrome. As part of many of these agreements, Google shares a proportion of its search advertising revenue. These agreements are numerous, complex and interrelated.²⁰
47. In particular, the Market Study found that, in certain contexts, Google pays Apple a share of the search revenue it earns from browser traffic on iOS which may dampen incentives for competition between browsers on iOS.
48. We will investigate the effects of search revenue sharing agreements on competition between browsers on iOS. In doing so, we will prioritise contractual or revenue sharing agreements whose primary purpose and/or effect appears to be to limit the ability or incentives for browser vendors to compete with one another.

Theory of harm in relation to the distribution of cloud gaming

49. The Market Study found that Apple's control over its mobile ecosystem allows it to set the 'rules of the game' for app developers, who rely on its App Store to reach customers and have limited ability to negotiate over terms, and that App Store policies and guidelines may have had the effect of restricting the emergence of cloud gaming services on iOS devices.
50. Cloud gaming services give users instant access to a catalogue of high-quality games, streamed from the cloud, on their mobile devices. The cloud gaming industry has been experiencing rapid growth: a report submitted to the Market Study by Apple estimated that cloud gaming revenue would experience a compound annual growth rate of c.65% between 2019 and 2024, representing an absolute growth of around \$8 billion over that period.²¹ However, the rate of growth of the user base of cloud gaming services has been faster on Android than on iOS.²²
51. The Market Study raised concerns that Apple may have the incentive to hold back cloud gaming services for several reasons, including that:

²⁰ See also the Online platforms and digital advertising market study, [Final Report](#).

²¹ [Mobile ecosystems market study](#) Final Report, paragraph 6.225.

²² [Mobile ecosystems market study](#) Final Report Appendix I, paragraph 31.

- (a) Gaming constitutes most of the revenue Apple generates through the App Store.²³ Cloud gaming services offer an alternative method of game discovery and distribution to the App Store and Apple may have an incentive to undermine the ability of cloud gaming providers to access iOS users in order to retain its market power in native app distribution and discovery on iOS.
- (b) Mobile device sales are an important revenue stream for Apple. If cloud gaming services become widely popularised, they may reduce the importance of high-quality mobile device hardware. Apple may have an incentive to hinder the take up of cloud gaming services in order to preserve its market power in mobile devices and operating systems.
52. We propose to focus our investigation on whether Apple's App Store policies effectively ban cloud gaming services from the App Store and whether this weakens competition in the distribution of cloud gaming.

Remedies

53. The Market Study set out a range of potential interventions that could open up competition in mobile ecosystems. We have taken those which were identified in relation to mobile browsers and cloud gaming as the starting point for our consideration of potential remedies which may be suitable to address any AECs that we may find.
54. We are at a very early stage of considering potential remedies and, as our understanding of the markets and the potential issues develop, we expect our consideration of potential remedies to evolve, including possible structural or other types of remedies, should we find evidence that these may be effective at addressing any harms that we may find.

The CMA's approach to remedies

55. When deciding whether (and if so what) remedial action should be taken to address an AEC, the CMA is required 'in particular to have regard to the need to achieve as comprehensive a solution as is reasonable and practicable'.²⁴ In doing so, the CMA considers – individually or as a package²⁵ – how comprehensively the potential remedy options address the AEC and/or the resulting detrimental effects on customers; and whether they are effective and

²³ [Mobile ecosystems market study](#) Final Report, Appendix B, Figure B.29.

²⁴ Sections 134(6) and 138 of the [Act](#)

²⁵ [CC3 revised](#), paragraph 328.

proportionate.²⁶ In our assessment, we will consider the links, complementarities and dependencies between any remedies that would appear to be effective and proportionate as well as of the package as a whole.

56. Should we provisionally find that there are one or more AECs, then our provisional decision on any remedies would be contained in our provisional decision report, at which point parties would have a further opportunity to comment. Our final decision on any remedies will be contained in our final report.

Mobile browser and browser engine remedies

57. We currently intend to focus on the following measures which may be effective in increasing competition within the markets for mobile browser and browser engines, should one or more AECs be found. We will also consider other potential remedies if parties are able to provide relevant evidence and reasoning as to why these would be comprehensive, effective and proportionate.

Removing Apple's restrictions on competing browser engines on iOS devices

58. We will investigate whether removing Apple's restrictions on competing browser engines on iOS devices would reduce any barriers to entry and expansion in mobile browsers, increase the ability of browsers to differentiate themselves and offer greater choice to consumers, and potentially lead to greater support for innovations such as web apps.
59. In designing any remedy to remove Apple's restrictions, we would need to consider the impact such changes would have on consumers in terms of the performance of mobile browsers on iOS, in particular relating to measures around security. We note that, in designing any such remedy, if appropriate, there may need to be measures put in place to mitigate any legitimate concerns identified, for example through the use of minimum standard requirements.
60. We will consider whether any minimum standards for third-party browser engines should also apply to Android, in addition to iOS.
61. In addition to a potential requirement on Apple to remove restrictions on alternative browser engines, it could also be effective to mandate access to certain functionality for alternative browser engines on its devices to ensure that competing engines start from a level playing field. This may include

²⁶ [CC3 revised](#), paragraph 329.

specific requirements to support the functionality of web apps on alternative browser engines.

62. We will also consider whether a similar requirement would be appropriate on Android should we find that Google reserves superior access for the Blink browser engine.
63. We will gather evidence to determine what functionality would be required for a remedy which removes browser engine restrictions on iOS to be effective. Potential options include:
 - (a) requiring equality of functionality/access with the operating systems' browser engine; and
 - (b) granting alternative browser engines access to certain APIs or functionality on the operating system.
64. We would also need to consider the practicalities of opening up iOS devices to third party browser engines, such as how this could be technically implemented, and what the associated costs to Apple and competitors are likely to be under different scenarios of minimum standards or functionality.

Requiring Apple and Google to provide greater access to functionality for rival browsers

65. We will investigate whether, if Apple and Google provided greater access to functionality for rival browsers, this would increase competition between mobile browsers, allowing for greater differentiation between them and offer greater choice to consumers as well as leading to greater competitive incentives for Apple and Google to invest in their own browsers.
66. In order to address any AECs found from self-preferencing of browsers, we would consider further remedies requiring Apple and Google to provide equal access to functionality through APIs for rival browsers. Potential options include:
 - (a) requiring equality of API/functionality access, whereby the controller of the operating system is not allowed to withhold access to device functionality exclusively for their own browser; and
 - (b) requiring Apple and Google to open up access to specific operating system functionality, other than the functionality they make available to their own browser and native apps.

67. In designing and evaluating potential remedies, we would need to consider any security implications arising from increased functionality for third party browsers, what technical implementation changes would be needed and the costs of implementing these changes under different methods and scenarios.
68. In addition, we would need to consider the risk of circumvention when designing any remedies.

Requirements that make it more straightforward for users to change the default browser within their device settings

69. We will investigate a potential remedy to introduce requirements on the operating system providers, Apple and Google, to make it easier for their users to change their default browser. Such a requirement could reduce friction for users and empower them to make effective choices about their browsers.
70. In assessing any such remedy, we would need to consider what the modified user journey for changing the default browser setting would look like and the impact it could have on enabling users to switch.
71. We would also need to consider the likely costs of designing and implementing the modified user journey.

Choice screens to overcome the distortive effects of pre-installation

72. The Market Study found that while some users make a deliberate choice of browser, preinstallation and defaults can be powerful forms of choice architecture which strongly influence browser choice.
73. We will investigate whether a potential remedy such as a choice screen to provide users with an active choice over their browser could enhance effective browser decision-making and reduce barriers to competition in mobile browsers.
74. The effectiveness of any such remedy would rely on the design and layout of the choice screen shown to users. In evaluating a potential choice screen remedy we would need to consider the costs of designing and implementing the choice screen.

Requirements to enable users to choose their default browser for in-app browsing

75. A possible remedy to increase competition in in-app browsing could be to require greater choice for users to choose their in-app browser.

76. In assessing any such remedy we would need to consider who is best placed to make this choice (that is, the end user or the app developer) and any technical changes required to enable greater choice of in-app browsing. In addition, we would need to consider appropriate choice architecture for any modified user journey.

Requirement for apps to respect the user's default browser choice for in-app browsing

77. A possible remedy to increase competition in in-app browsing could be to mandate that any in-app links open with the user's default browser as set on the operating system.
78. The effectiveness of such a remedy will rely on whether users have adequate choice with regards to their default browser. In assessing any such remedy, we would need to consider what technical changes are needed to support the remedy and the costs of implementing these changes.

Remedies related to Revenue Sharing Agreements

79. These remedies would aim to generate competition between mobile browsers on iOS devices by addressing the possible impact of revenue sharing agreements to the extent that these dampen competition between mobile browsers.

Cloud gaming services remedies

80. We intend to focus on the following measures which, in the event that we find any AECs, may be effective in increasing competition within the supply of cloud gaming services.

Requiring Apple to remove its App Store restrictions on cloud gaming services

81. The aim of this remedy would be to ensure that consumers are not unduly restricted from accessing cloud gaming services through the App Store.
82. We consider that a number of possible alternative and complimentary remedy options could be available to facilitate access to cloud gaming services on iOS devices. Potential options include:
- (a) Apple (and any other App Store operator) would be required to review and amend its guidelines to ensure cloud gaming providers are not unduly impacted, either directly or indirectly, by one or more guidelines in place.

- (b) Enabling prompts about cloud gaming services web apps in the App Store when consumers are searching for cloud gaming apps. Apple would be required to show a message within the App Store noting that a cloud gaming app was available as a web app when a consumer searches for a cloud gaming app on the App Store.
- (c) Making the App Store approval and rejection process more transparent and consistent.
- (d) Enabling sideloading of native apps on iOS.
- (e) Enabling distribution of web apps through the App Store.
- (f) Enabling installation of alternative app stores on iOS. Apple would be required to allow iOS consumers to install alternative app stores that distribute cloud gaming services apps.

Responding to this issues statement

- 83. We are publishing this statement now to assist those submitting evidence to focus on the potential issues we envisage being relevant to this investigation and any potential remedies to address any AECs that we may find.
- 84. We invite parties to tell us, with reasons, if they believe either that (a) the issues we have identified should not be within the scope of our investigation or are mischaracterised, or (b) there are further issues we have either not identified but which we should consider. We ask respondents to support their views with relevant evidence (including original documentation and analysis).
- 85. We welcome views on the potential remedies including any general observations and views on each of the separate potential remedies discussed above and, in particular, on the following specific issues:
 - (a) the potential for the remedies to effectively address any AECs;
 - (b) the magnitude of associated costs and who would incur them;
 - (c) are there additional steps needed to ensure that security, privacy or any other relevant consumer benefits are not unduly compromised, and if so, what they may be;
 - (d) the potential for unintended consequences and/or distortions to competition to arise from these potential remedies and how these could be mitigated; and
 - (e) the effectiveness of the potential remedies if they apply only to the UK.

86. We welcome views on any other potential measures/remedies we have not set out above, including structural, with evidence on why they would be effective.
87. We will hold hearings with interested parties to discuss the issues and potential remedies set out in this statement. As our thinking develops, we expect to issue further documents prior to the publication of a provisional decision report containing our provisional findings on the issues. If we were to provisionally find one or more AECs, the provisional decision report would also contain our provisional decision on remedies.
88. Any party wishing to respond to this issues statement should do so in writing, no later than midnight, Tuesday 17 January 2023 by emailing browsersandcloud@cma.gov.uk.