
Public cloud infrastructure services

Consultation: Proposal to make a market investigation reference

CONSULTATION:

Publication date: 5 April 2023

Closing date for responses: 17 May 2023

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1. Overview

This document sets out our proposal to make a market investigation reference into the supply of public cloud infrastructure services in the UK. It includes the case for making a reference and the proposed scope. We are seeking stakeholder views on our proposal.

What we are proposing – in brief

In October 2022, Ofcom launched a market study on cloud services in the UK. As per section 131B(1) of the Enterprise Act 2002 (EA02), we have a duty to publish our provisional view of whether we are minded to make a market investigation reference (MIR), within six months of launching our market study.

In April 2023 we published our market study interim report, which set out our provisional assessment of competition in the market for cloud infrastructure services. We believe that we have reasonable grounds to suspect that there are features in the public cloud infrastructure services market that may have an adverse effect on competition in the UK. We have identified behaviours by some providers that could raise barriers to switching and use of multiple providers, in particular:

- Egress fees for moving data out of a provider's cloud;
- Restrictions on interoperability and portability; and
- Committed spend discounts.

We are proposing to exercise our discretion to make a reference given our provisional view that there are reasonable grounds for suspecting that one or more features prevent, restrict or distort competition in the UK and our view that a market investigation is the most appropriate response.

Making a market investigation reference would be a significant step for us to take. Our proposal reflects the importance of cloud computing to UK consumers and businesses, the significant concerns we have about the public cloud infrastructure services market and our view that the Competition and Markets Authority (CMA) is best placed to undertake any further investigation.

At the conclusion of a market investigation, the CMA may impose a broad range of remedies, including market-opening measures, structural measures, or recommendations to Government or other regulatory bodies to change policy, legislation, or regulatory frameworks. We have identified some potential interventions that could be implemented through such routes, but it would ultimately be up to the CMA group to assess their proportionality and consider their effectiveness alongside other suitable remedies they may identify.

We welcome input from stakeholders on the proposal in our consultation. We will issue a final decision on a market investigation reference alongside our market study final report, no later than 5 October 2023.

2. Introduction

- 2.1 In the first half of our market study, we have been looking at whether any feature of the market, or the behaviour of providers, could dampen competition between providers of public cloud infrastructure services and therefore have an adverse effect on customers through higher prices, lower quality products or less innovation.
- 2.2 We have set out our provisional findings in our cloud services market study interim report (Interim report)¹ that is published alongside this document. Our assessment at this stage of the study is that, while there are some positive signs of competition at present, there are also clear indications that the market is not working well. We have identified barriers to competition including behaviours by some providers that raise barriers to switching and use of multiple providers. In particular, charges for egress fees, restrictions on interoperability, and committed spend discounts. In Section 8 of the Interim report, we also set out an overview of potential interventions that, in our provisional view, may address the competition concerns identified.
- 2.3 Our provisional view is that there are features of the market that act as barriers to switching and multi-cloud use, that we have reasonable grounds to suspect that these features prevent, restrict, or distort competition in the UK, and that they merit further detailed assessment by way of a market investigation reference. We are, therefore, consulting on a proposed market investigation reference into public cloud infrastructure services in the UK.

Our competition concerns

- 2.4 As set out in our Interim report, public cloud infrastructure services underpin the way we live our lives, run our businesses and access our public services. Without the cloud, many digital businesses providing services to end consumers would not be able to function in the way they do today. Cloud computing supports not only Ofcom's core sectors, but most other sectors of the economy, for example manufacturing, retail, hospitality and financial services, as well as public and voluntary sector bodies.
- 2.5 'Public cloud' is the most common cloud deployment model, where cloud services are open to all customers willing to pay, and computing resources are shared between them. It is also the fastest growing deployment model. However, the public cloud infrastructure market is relatively concentrated in the UK, with Amazon Web Services (AWS), Microsoft, and Google (collectively known as the 'hyperscalers') accounting for the majority of UK revenues and market share in 2021.
- 2.6 In our Interim report, we provisionally find that there is evidence of active competition for new customers and that some customers are likely to have some bargaining power when first migrating to the cloud. However, once a customer makes its initial choice of cloud

¹ Ofcom, 2023. [Cloud services market study, Interim report](#) (including [annexes](#)).

provider, their bargaining power is reduced, and the balance of power shifts to the initial cloud provider – most often AWS or Microsoft. This is because customers face costs to switch to an alternative provider or to purchase new requirements from a rival ecosystem. For some customers these costs are sufficiently material to limit their ability to credibly threaten to switch when they renegotiate contracts with their existing cloud provider. This is particularly the case for those that are taking several services, and where those services are interconnected or proprietary.

- 2.7 As a result, the competitive constraint of rivals is weakened, limiting these customers' ability to resist price rises or benefit from higher quality products available in the market. This is both for their existing workloads initially placed typically with AWS or Microsoft and for future workloads to be deployed on the cloud too. This means that even for a customer's new workloads that rivals could notionally compete for, in practice, the constraint rivals exert today on that customer's current cloud provider may be limited.
- 2.8 In particular, we have found that there are certain features that may prevent, restrict, or distort competition in the UK. These are:
- a) Egress fees for moving data out of a provider's cloud;
 - b) Restrictions on interoperability and portability; and
 - c) Committed spend discounts.
- 2.9 Our provisional findings have led us to suspect that the features of the public cloud infrastructure services market set out above or a combination of those features, may prevent, restrict, or distort competition. Our detailed assessment of our competition concerns and the potential interventions to address them are set out in Sections 6 to 8 of our Interim report.

Question 2.1: Do you consider that our analysis is correct with respect of the suspected features of concern in the supply of public cloud infrastructure services in the UK?

Scope of the proposed market investigation reference

- 2.10 As set out in the draft Terms of Reference in Annex 5, we propose that the market investigation reference (MIR) should cover the supply of public cloud infrastructure services in the United Kingdom.
- 2.11 For the purposes of this reference:
- a) 'Cloud infrastructure services' means services that provide access to processing, storage, networking, and other raw computing resources (often referred to as infrastructure as a service, IaaS) as well as services that can be used to develop, test, run and manage applications in the cloud (often referred to as platform as a service, PaaS).
 - b) 'Public Cloud' means a cloud deployment model where cloud services are open to all customers willing to pay, and computing resources are shared between them.

2.12 The basis of this proposed scope is explained further below within our explanation of the case for a market investigation reference.

Question 2.2: Do you consider that the proposed scope of the reference, as set out in the draft terms of the reference, would be sufficient to enable the market investigation to properly assess the features referred to above?

3. The case for a market investigation reference

3.1 Ofcom has concurrent functions pursuant to section 370 of the Communications Act 2003, with the Competition and Markets Authority (CMA), under Part 4 EA02 (Market Studies and Market Investigations), with some exceptions. Pursuant to those functions, Ofcom may decide to make a MIR to the Chair of the CMA for the constitution of a CMA Group when we have reasonable grounds for suspecting that a feature or combination of features of a market or markets in the UK prevents, restricts, or distorts competition, and a market investigation reference appears to be an appropriate response.²

The legal framework

3.2 As set out above, the reference test is one of ‘reasonable grounds to suspect’ and does not require Ofcom to conclude that there are, in fact, features of a market which prevent, restrict, or distort competition.³

3.3 Where the reference test is met, Ofcom can exercise its discretion to make an MIR. The CMA’s guidance on making MIRs sets out four criteria which we have used to help to guide the exercise of our discretion:

- a) The scale of the suspected problem, in terms of its adverse effect on competition, is such that a reference would be an appropriate response.
- b) There is a reasonable chance that appropriate remedies would be available.
- c) It would not be more appropriate to address the concerns through undertakings in lieu of a reference (UILs).
- d) It would not be more appropriate to address the competition problems through alternative powers available to the CMA or through the powers of sectoral regulators.⁴

3.4 In considering these factors, Ofcom recognises that an MIR leads to significant costs, both to the CMA (and the public purse) and to the parties involved.

The reference test

3.5 In making an MIR, Ofcom must specify the goods or services in relation to the supply or acquisition of which there may be an adverse effect on competition (AEC). However, as explained in the statutory guidance and stated in the CMA’s published guidance on the making of MIRs, Ofcom is not obliged to provide a precise definition of the market or markets to which any MIR relates. This is informed by s.131(2) EA02 which explains that

² Section 131(2) of the EA02 sets out what is to be construed as a ‘feature’ for the purposes of Part 4 of EA02.

³ This point was made clear by the Competition Appeal Tribunal in *Association of Convenience Stores v OFT* [2005] CAT 36, paragraph 7. See also more recently, *Airwave Solutions Limited & Others v CMA* [2022] CAT 4 at [9]-10 and [12].

⁴ Guidance about the making of references under Part 4 of the Enterprise Act, OFT 511, paragraph 2.1.

features of a market for goods or services are to be construed as: (a) its structure (or any aspect of its structure); (b) the conduct of persons supplying or acquiring goods or services who operate within it; and (c) the conduct of such persons' customers.

The market

- 3.6 Our market study assessment is focussed on 'public cloud'. We have also concentrated on 'cloud infrastructure services' which include services that provide access to raw computing resources, i.e. basic compute, storage and networking (often referred to as infrastructure as a service, or IaaS), as well as services that can be used to develop, test, run and manage applications in the cloud (platform as a service, or PaaS). These are the foundational elements of the cloud stack on which other cloud services (like software as a service, SaaS) are built, and where we currently see the greatest concentration of supply and factors that may pose a risk to effective competition.
- 3.7 The main suppliers of cloud services in the UK are AWS, Microsoft and Google, which provide a full range of cloud services at scale. There are a number of smaller suppliers of cloud services, some offering a full range of cloud services, while others are more specialised.

The features of the market

- 3.8 Based on the evidence and the analysis set out in our Interim report (see, in particular, Section 6), we consider that there are reasonable grounds for suspecting that the following features, alone or in combination with each other, prevent, restrict, or distort competition in the supply of public cloud infrastructure services in the UK:
- a) Egress fees for moving data out of a provider's cloud. The hyperscalers set these significantly higher than most other providers and the cost of egress fees can discourage customers from using services from more than one cloud provider.
 - b) Restrictions on interoperability and portability. We have found that customers face technical barriers to interoperability, as well as some particular practices undertaken by some cloud providers that may limit effective interoperability and portability.
 - c) Committed spend discounts. The structure of discounts can incentivise customers to use a single hyperscaler for all or most of their cloud needs. This can make it less attractive to use rival providers as new needs emerge.

Provisional view on the reference test

- 3.9 For the reasons set out above and in our Interim report, our provisional view is that there are reasonable grounds to suspect that one or more features (alone or in combination) in relation to the supply of public cloud infrastructure services prevent, restrict, or distort competition in the UK and that the reference test is met.
- 3.10 Having reached this provisional view, we now go on to consider the factors relevant to the exercise of Ofcom's discretion to make an MIR.

Provisional views on the appropriateness of a reference

3.11 While our provisional view is that the legal threshold has been met for a market investigation into the public cloud infrastructure services market, we recognise that an MIR can impose a burden on both the businesses concerned and the CMA. It is, therefore, important that we assess the potential significance of the adverse effects on competition that we have reasonable grounds to suspect exist, and that we satisfy ourselves that an MIR is the most appropriate route for a regulatory response to those effects.

First criterion: scale of the suspected problem

3.12 In determining the scale of the suspected problem, the CMA guidance identifies three factors of particular significance:

- a) The size of the market;
- b) The proportion of the market affected by the features; and
- c) The persistence of those features.

Size of the market

3.13 Cloud services are increasingly important to many businesses and organisations across the economy. We estimate that between 2019 and 2021, UK revenues for IaaS and PaaS combined grew by 25% to 30% per year, and we expect it to continue to grow in line with the global market for cloud services.⁵ In 2021 we estimate revenues to be £4.5 billion to £5.0 billion.

3.14 Most UK businesses are at some stage of modernising their IT through the adoption of cloud services. Our customer research⁶ showed that 43% of current users of IaaS/PaaS services expected to be migrating more workloads to the cloud over the next 18 months. When asked about their expectation of change in cloud spend in the next 18 months, 79% of respondents said they expected it to increase slightly or greatly.

3.15 The health of the cloud market affects the health of an increasing number of sectors. Cloud computing supports not only the communications sector, but other sectors, for example manufacturing, retail, hospitality and financial services, plus public and voluntary sector bodies. Cloud infrastructure acts as a fundamental building block for a diverse range of software applications that ultimately benefit consumers and businesses across the economy.

Proportion of the market affected

3.16 Our analysis suggests that the barriers to switching and multi-cloud we have identified will likely affect a significant proportion of the market. Around half of respondents in our

⁵ Ofcom analysis of data provided in response to our information requests and data from Synergy and IDC. Annual growth based on the compound annual growth rate between 2019 and 2021.

⁶ The market research we conducted is described in Section 2 of our Interim report.

customer survey only use a single cloud provider, and customers who multi-cloud rarely build solutions with applications and data hosted across different clouds. In the case of switching our market research which found that ‘difficulty and expense of switching providers’ was the top concern about the cloud infrastructure market being cited by more than half of respondents (59%), with concerns about egress fees and interoperability also ranking highly (55% and 52% respectively). Our evidence indicates that more mature and larger organisations, which are likely to make up most of the revenues of cloud providers, may be particularly affected by technical barriers to switching. This may be because these customers are more likely to have large numbers of applications and/or use various proprietary services offered by their cloud providers, which add to the complexity of switching cloud provider.

- 3.17 Furthermore, in the UK, the hyperscalers collectively account for around 70% to 80% of total UK revenues generated from IaaS and PaaS. Of that figure, we estimate AWS and Microsoft Azure accounted for around 60% to 70% in 2021, with Google at around 5% to 10%; a ratio that has remained broadly stable since 2019.
- 3.18 These market shares indicate that by far the majority of customers of public cloud infrastructure services will use hyperscaler services to a greater or lesser extent. Therefore, features of the market that are present in the hyperscalers’ service offerings have the potential to affect the vast majority of cloud users.
- 3.19 Apart from direct customers of public cloud infrastructure services, another heavy user group are independent software vendors (ISVs). ISVs are suppliers of cloud services that do not usually own the underlying infrastructure. In such cases, ISVs may rely on cloud providers as suppliers and as distributors (for example via a hyperscaler’s marketplace). This means that the features we have identified could also affect ISVs and their customers.

Persistence of those features

- 3.20 Our provisional view, based on the evidence gathered as part of our market study to date, is that the features of the market we have identified may have a sustained long-term presence in the market. Where competitive constraints from new entrants have changed other behaviours (for example, lowering ingress fees to zero),⁷ incentives to address our areas of concern remain low.
- 3.21 We consider the evidence that the market is relatively concentrated and that AWS has earned persistently high profits above our estimate of the weighted average cost of capital (WACC) and Microsoft Azure return on capital employed has increased since 2018 and is now above our estimate of WACC⁸ indicates it is likely that these features will persist in the future.

⁷ Cloud providers have an incentive to make it easy and cheap to move data into their cloud, because revenues from the storage, compute and other services provided relies on this data being in the cloud. Indeed, AWS charged for ingress until Microsoft entered the cloud market.

⁸ For more detail, see Annex 6 of our market study Interim report.

3.22 Looking ahead, there are EU initiatives in development that could lead to rules that would seek to mitigate some of the concerns we have identified, specifically the draft EU Data Act and Digital Markets Act. Although these changes would not apply directly to the UK market, they are intended to have an impact on a close neighbour. However, the Digital Markets Act is in the early stages of implementation and the Data Act is still in draft. Therefore, we have not been able to observe their efficacy or influence on market behaviours, and ultimately there is no evidence that they would change the dynamics of the UK market.

Provisional conclusion on the first criterion: scale of the suspected problem

3.23 We consider that the scale of the suspected problems in relation to public cloud infrastructure services has a high likelihood of adverse effects on competition which affect a large proportion of a significant market.

Second criterion: availability of appropriate remedies through an MIR

3.24 At this stage, we consider there may in principle be a number of appropriate remedies to the potential competition problems and resulting detrimental effects of the above features. At this stage, our role is to assess the availability of potential remedies but not to assess their appropriateness in any detail as this would be the role of the CMA group in its investigation.⁹

3.25 A non-exhaustive list of potential remedies that a market investigation could consider includes:

Egress fees

- a) Equalise egress fees with other charges (e.g. no higher than data transfer costs within a single provider's cloud).
- b) Place a price control that restricts egress fees to "at cost" charges.
- c) Prevent providers from charging any egress fees.

Interoperability and portability

- a) Require cloud providers to publish more comprehensive documentation on the interoperability of their cloud infrastructure services. This would include requiring cloud providers, who adopt or mimic third party open-source software, to explain the compatibility of their cloud infrastructure services with such software.
- b) Require cloud providers to 'unbundle' their own first-party services into their respective elements, with a view to allowing third-party services to interoperate with these individual elements.

⁹ Without fettering the discretion of the CMA group to identify alternative approaches or remedies (in respect of which see, section 133A(1)(a) EA02 and the sections referenced therein including in particular section 134), we provide further detail of our assessment of each of the potential remedies set out here in section 8 of our Interim report.

- c) Require cloud providers to ensure PaaS services from another cloud provider or ISV can interoperate with underlying first-party IaaS services in the same way as the first-party PaaS services.

Committed spend discounts

- a) Prohibit or restrict loyalty-inducing fee structures which risk distorting competition.
- 3.26 In carrying out a market investigation reference process, the CMA and concurrent regulators such as Ofcom have wide-ranging powers to accept undertakings or impose an Order, as well as to make recommendations. As highlighted by the examples above, we consider that there are a number of potential appropriate remedies within the scope of such powers. Feedback from affected stakeholders such as cloud providers and cloud customers suggest these interventions could deliver substantial benefits and improvements to the functioning of the market, and we are looking to gather further views on their potential efficacy here.

Provisional conclusion on the second criterion: availability of appropriate remedies through an MIR

- 3.27 We consider that appropriate remedies are likely to be available. As with all interventions of this potential scale and significance, the design and any ongoing involvement by the regulatory authority would need to be considered carefully prior to implementation.

Question 3.1: Do you have any views on our current thinking on the types of remedies that a MIR could consider (see above and Section 8 of the Interim report)? Are there other measures we should consider?

Third criterion: the availability of undertakings in lieu of a reference

- 3.28 Ofcom has the power under section 154 EA02 to accept undertakings in lieu of a reference (UILs) instead of making an MIR. Before doing so, Ofcom is obliged, pursuant to s.154(3) EA02, to: ‘have regard to the need to achieve as comprehensive a solution as is reasonable and practicable to the adverse effect on competition concerned and any detrimental effects on customers so far as resulting from the adverse effect on competition’.
- 3.29 As the CMA’s guidance notes, such UILs are “unlikely to be common”, but “where an adverse effect on competition arises from the conduct of a very few firms there may be more scope for accepting undertakings in lieu” than “when the adverse effects on competition arise from market features involving several firms or industry wide practices”.
- 3.30 It is possible that UILs may be offered following publication of this consultation. If this were the case, we would consider them.

Fourth criterion: alternative powers available to Ofcom or the CMA

- 3.31 Finally, we have considered whether alternative powers are available to us, or others, and if so, whether it would be more appropriate to use those to address the features we have identified.
- 3.32 For the reasons set out in this document, our provisional view is that a MIR is the most appropriate tool to address our concerns in relation to the features that we identify above. This is because of its focus on remedying potential AECs and their harmful effects in the future, rather than seeking redress for past conduct (for which enforcement action under the CMA's other powers might be more appropriate). We believe that an MIR will allow the CMA to evaluate the range of the factors which give rise to a potential AEC in relation to the features we identify and would enable them to do so in a timely manner.
- 3.33 We have considered Ofcom's powers in relation to competition law prohibitions on anticompetitive agreements or abuse of a dominant position and in relation to consumer law, before considering the powers available to other regulators. We have not, at this stage, identified any grounds to suggest that it would be more appropriate or effective to address one or more of the features or their effects using its competition or consumer powers.
- 3.34 Finally, the Digital Markets, Competition and Consumer (DMCC) Bill – expected to be introduced in the third parliamentary session – will establish a new pro-competition regime for digital markets. The Government intends that the DMCC Bill will empower the CMA to designate firms providing 'digital activities' with Strategic Market Status (SMS) and apply binding Conduct Requirements, to manage the effects of market power, and Pro-Competitive Interventions, to tackle the root causes of their market power. Further consideration will have to be given to the question of how the new regime will apply to the firms considered in this draft reference. We will work with the CMA to progress that thinking as greater detail on the regime becomes available.

Provisional conclusion on fourth criterion: alternative powers

- 3.35 We do not currently consider alternative powers, or another regulator, could more appropriately address the concerns we have identified.

Provisional decision on an MIR

- 3.36 For the reasons set out above, we provisionally consider that it is appropriate to exercise our discretion to make an MIR in relation to cloud infrastructure services.
- 3.37 We, therefore, propose to make an 'ordinary' MIR within the meaning of section 131(6) EA02 in respect of the supply of public cloud infrastructure services in the UK.

Question 3.2: Do you have any views on areas where we should undertake further analysis or gather further evidence as part of an MIR in relation to the supply of public cloud infrastructure services?

Question 3.3: Do you agree with our proposal to exercise Ofcom's discretion to make a market investigation reference in relation to the supply of public cloud infrastructure services in the UK?

A1. Responding to this consultation

How to respond

- A1.1 Ofcom would like to receive views and comments on the issues raised in this document, by 5pm (UK time) on 17 May 2023.
- A1.2 You can download a response form from <https://www.ofcom.org.uk/consultations-and-statements/category-2/cloud-infrastructure-market-investigation-reference>. You can return this by email or post to the address provided in the response form.
- A1.3 If your response is a large file, or has supporting charts, tables or other data, please email it to cloudreport@ofcom.org.uk, as an attachment in Microsoft Word format, together with the [cover sheet](#). This email address is for this consultation only and may not be valid after 31 May 2023.
- A1.4 Responses may alternatively be posted to the address below, marked with the title of the consultation:
- Cloud services team
Ofcom
Riverside House
2A Southwark Bridge Road
London SE1 9HA
- A1.5 We welcome responses in formats other than print, for example an audio recording or a British Sign Language video. To respond in BSL:
- send us a recording of you signing your response. This should be no longer than 5 minutes. Suitable file formats are DVDs, wmv or QuickTime files; or
 - upload a video of you signing your response directly to YouTube (or another hosting site) and send us the link.
- A1.6 We will publish a transcript of any audio or video responses we receive (unless your response is confidential)
- A1.7 We do not need a paper copy of your response as well as an electronic version. We will acknowledge receipt of a response submitted to us by email.
- A1.8 You do not have to answer all the questions in the consultation if you do not have a view; a short response on just one point is fine. We also welcome joint responses.
- A1.9 It would be helpful if your response could include direct answers to the questions asked in the consultation document. The questions are listed at Annex 4. It would also help if you could explain why you hold your views, and what you think the effect of Ofcom's proposals would be.
- A1.10 If you want to discuss the issues and questions raised in this consultation, please contact Warwick Izzard on 020 7783 4127, or by email to warwick.izzard@ofcom.org.uk.

Confidentiality

- A1.11 Consultations are more effective if we publish the responses before the consultation period closes. In particular, this can help people and organisations with limited resources or familiarity with the issues to respond in a more informed way. So, in the interests of transparency and good regulatory practice, and because we believe it is important that everyone who is interested in an issue can see other respondents' views, we usually publish responses on [the Ofcom website](#) at regular intervals during and after the consultation period.
- A1.12 If you think your response should be kept confidential, please specify which part(s) this applies to, and explain why. Please send any confidential sections as a separate annex. If you want your name, address, other contact details or job title to remain confidential, please provide them only in the cover sheet, so that we don't have to edit your response.
- A1.13 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and try to respect it. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.14 To fulfil our pre-disclosure duty, we may share a copy of your response with the relevant government department before we publish it on our website.
- A1.15 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's intellectual property rights are explained further in our [Terms of Use](#).

Next steps

- A1.16 Following this consultation period, Ofcom plans to publish a decision no later than 5 October 2023.
- A1.17 If you wish, you can [register to receive mail updates](#) alerting you to new Ofcom publications.

Ofcom's consultation processes

- A1.18 Ofcom aims to make responding to a consultation as easy as possible. For more information, please see our consultation principles in Annex 2.
- A1.19 If you have any comments or suggestions on how we manage our consultations, please email us at consult@ofcom.org.uk. We particularly welcome ideas on how Ofcom could more effectively seek the views of groups or individuals, such as small businesses and residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.20 If you would like to discuss these issues, or Ofcom's consultation processes more generally, please contact the corporation secretary:

Corporation Secretary
Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA
Email: corporationsecretary@ofcom.org.uk

A2. Ofcom's consultation principles

Ofcom has seven principles that it follows for every public written consultation:

Before the consultation

- A2.1 Wherever possible, we will hold informal talks with people and organisations before announcing a big consultation, to find out whether we are thinking along the right lines. If we do not have enough time to do this, we will hold an open meeting to explain our proposals, shortly after announcing the consultation.

During the consultation

- A2.2 We will be clear about whom we are consulting, why, on what questions and for how long.
- A2.3 We will make the consultation document as short and simple as possible, with an overview of no more than two pages. We will try to make it as easy as possible for people to give us a written response.
- A2.4 We will consult for up to ten weeks, depending on the potential impact of our proposals.
- A2.5 A person within Ofcom will be in charge of making sure we follow our own guidelines and aim to reach the largest possible number of people and organisations who may be interested in the outcome of our decisions. Ofcom's Consultation Champion is the main person to contact if you have views on the way we run our consultations.
- A2.6 If we are not able to follow any of these seven principles, we will explain why.

After the consultation

- A2.7 We think it is important that everyone who is interested in an issue can see other people's views, so we usually publish the responses on our website at regular intervals during and after the consultation period. After the consultation we will make our decisions and publish a statement explaining what we are going to do, and why, showing how respondents' views helped to shape these decisions.

A3. Consultation coversheet

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing

Name/contact details/job title

Whole response

Organisation

Part of the response

If there is no separate annex, which parts? _____

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom aims to publish responses at regular intervals during and after the consultation period. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name

Signed (if hard copy)

A4. Consultation questions

- A4.1 We are consulting on the appropriateness of a market investigation reference into the supply of public cloud infrastructure services in the UK. We would particularly welcome any specific evidence from respondents in support of their views.

Question 2.1: Do you consider that our analysis is correct with respect of the suspected features of concern in the supply of public cloud infrastructure services in the UK?

Question 2.2: Do you consider that the proposed scope of the reference, as set out in the draft terms of the reference, would be sufficient to enable the market investigation to properly assess the features referred to above?

Question 3.1: Do you have any views on our current thinking on the types of remedies that a MIR could consider (see above and Section 8 of the market study final report)? Are there other measures we should consider?

Question 3.2: Do you have any views on areas where we should undertake further analysis or gather further evidence as part of an MIR in relation to the supply of public cloud infrastructure services?

Question 3.3: Do you agree with our proposal to exercise Ofcom's discretion to make a market investigation reference in relation to the supply of public cloud infrastructure services in the UK?

A5. Draft terms of reference

The Office of Communications (Ofcom) in the exercise of its powers under sections 131 and 133 of the Enterprise Act 2002 (EA02) as provided for by section 370(3A)(b) of the Communications Act 2003 (CA03) read together with section 130A EA02 hereby makes a reference to the Chair of the Competition and Markets Authority (CMA) for the constitution of a group under Schedule 4 to the Enterprise and Regulatory Reform Act 2013 for an investigation in relation to public cloud infrastructure services in the United Kingdom.

Ofcom has reasonable grounds to suspect that a feature or a combination of features of the markets for the supply of those goods and services in the United Kingdom prevents, restricts or distorts competition. In particular, conduct which may create barriers to switching and multi-cloud.

For the purposes of this reference:

- ‘Cloud infrastructure services’ means services that provide access to processing, storage, networking, and other raw computing resources (often referred to as infrastructure as a service, IaaS) as well as services that can be used to develop, test, run and manage applications in the cloud (often referred to as platform as a service, PaaS).
- ‘Public Cloud’ means a cloud deployment model where cloud services are open to all customers willing to pay, and computing resources are shared between them.
- ‘Multi-Cloud’ means a cloud deployment model that involves the use of more than one public cloud provider by a single customer.