Google

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CMA CLOUD SERVICES MARKET INVESTIGATION
Google Cloud's response to the CMA's Provisional Findings Report dated 28 January 2025

I. Introduction and Executive Summary

1. Google Cloud welcomes the opportunity to comment on the CMA's Provisional Decision Report (**PDR**).

2. We strongly agree with the CMA's finding that Microsoft's software licensing practices are giving rise to an adverse effect on competition (**AEC**) on the cloud infrastructure market. We note that the CMA's findings follow a robust and thorough assessment of the effects of Microsoft's conduct that draws from a wide body of both quantitative and qualitative evidence from market participants, customers and other stakeholders. The results of the CMA's analysis confirm that these licensing practices have allowed Microsoft to leverage its significant market power across several software markets to foreclose its closest rivals on the cloud infrastructure market, AWS and Google Cloud, to the detriment of UK cloud customers.

3. As discussed in more detail below, we broadly support the package of remedies that the CMA recommends to address Microsoft's harmful licensing practices[1] *provided* that the strategic market status (**SMS**) investigation required to implement such remedies is launched without delay so as to avoid any further harm to the UK cloud market. By restricting UK customers' choice of cloud service provider (**CSP**) based on purchasing decisions those customers may have originally made in the early 2000s on Microsoft-dominated software markets, Microsoft's conduct runs directly contrary to the Government's economic growth objectives and stops UK businesses taking advantage of the full benefits of cloud computing.[2] There is a need for urgent intervention to prevent further long-lasting harm to the competitive structure of the market, and to protect the many UK businesses and public sector bodies whose choice of CSP has been, or will be, artificially restricted as a result of Microsoft's conduct. We urge the CMA to promptly initiate a SMS investigation and impose relevant conduct requirements on Microsoft immediately upon designation. The CMA's in-depth market investigation establishes a firm evidence base for the CMA to designate Microsoft with SMS in relation to their cloud activities and swiftly implement the proposed package of remedies.

4. By contrast, we do not consider that the proposed remedies on egress fees, which go further than the EU Data Act in certain important respects, are either necessary or proportionate.

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1 Subject to our comments below regarding Active Directory and additional market investigation remedies required to prevent additional harm from arising before conduct requirements are in place.

2 The Government's 'Invest 2035: The UK's Modern Industrial Strategy' Green Paper (the **Industrial Strategy Green Paper**) recognises the importance of fair competition to securing economic growth, including in the digital sector: "*Businesses can invest with certainty when they know that they are protected from unfair competition and consumers can buy with confidence. Competition policy creates incentives for businesses to innovate and allows more productive firms to increase their market share … In the digital and technologies sector … a key concern for competition is large firms with dominant positions gained through … lock-in, and network effects*" (p.38). This is also in line with the CMA's prioritisation principles: "*By promoting competition, we drive innovation, productivity, and growth across the UK economy and across all 4 nations of the UK. Competition gives businesses the incentive to offer greater choice, value, and quality.*" (para. 1.2). See also, the Government's Strategic Steer to the CMA which notes that: "*The primary mission of this government is economic growth. Free and fair competition and effective consumer protection support growth by driving forward innovation, increasing productivity, and encouraging investment – including international direct investment – into the UK.*"

Should the CMA persist with its view that some form of price control is necessary, even if those are applied only to AWS and Microsoft as the two players with significant market power on the cloud infrastructure market, the CMA should (1) remain open to practical and pragmatic proposals for determining in-scope and out-of-scope data transfers (keeping in mind that CSPs will often not be able to automatically distinguish between exit, cross-cloud and serving data transfers); and (2) ensure that any remedies align with, and are no more onerous than, the equivalent requirements under the EU Data Act. This is important, given (as the CMA recognises[3]) other CSPs – such as Google Cloud – will have little option commercially but to respond to any changes imposed upon AWS and Microsoft.

5. We agree that any remedies designed to address harm resulting from technical barriers to interoperability should be restricted to AWS and Microsoft, as the only CSPs with significant market power. However, the most consequential technical barrier relates to the interoperability restrictions that Microsoft imposes on cloud-agnostic IAM services (which non-Azure cloud customers rely on to manage access and authenticate users) – a position which should be understood as forming part of Microsoft's broader strategy to foreclose cloud competitors. Specific remedies are required to address this harm.

6. We look forward to continuing our engagement with the CMA on these issues.[4]

II. Competitive landscape

A. We agree with the CMA's provisional findings on the structure of, and respective providers' positions in, the cloud infrastructure market

7. The CMA's provisional findings on competitive conditions in the UK cloud market and the market power of AWS and Microsoft are robust and supported by a wealth of qualitative and quantitative evidence. Notably:

   a. Shares of supply in the UK public cloud market are measured on a number of different metrics, including demand and supply-side metrics and within narrower segments (i.e., IaaS and PaaS), going back several years.[5] **Across all metrics, as the CMA rightly observes, AWS and Microsoft are the largest providers (whose shares are persistently high).**[6] The evidence is clear that Google and other CSPs are significantly smaller.

   b. **All forward-looking metrics assessed by the CMA (e.g., share of year-on-year revenue growth and data centre capacity, based on providers' own forecast positions) confirm that these market positions are likely to endure.**[7] There is no evidence that would support a contention that there will in the near-term future be a major shift in the competitive conditions in the UK cloud market or the relative market positions of CSPs. Indeed, the evidence shows that Microsoft has a much

3 PDR, Appendix W, para. W.170.
4 In order to assist the CMA, we have organised this response by reference to the chapter structure in the PDR and avoided repeating in detail content from our previous submissions made throughout this market investigation.
5 PDR, paras. 3.138 *et seq.*
6 PDR, para. 3.210.
7 Ibid.

higher share of new customers than any other CSP and that Microsoft's rate of new customer acquisitions is significantly outpacing other CSPs.[8]

c. **The CMA's provisional findings are further reinforced by customer feedback,[9] analyst reports,[10] and the CMA's profitability assessments.**[11] No credible evidence in relation to the structure of the market and the market positions enjoyed by AWS and Microsoft has been put forward that contradicts these provisional findings.

8. Looking ahead to remedies, the extensive data and evidence gathered as part of this CMA market investigation and the preceding Ofcom market study – over a period of 27 months – provides a clear and compelling evidence basis for the Digital Markets Unit (**DMU**) to conclude quickly that AWS and Microsoft have SMS in the cloud infrastructure market.

B. We welcome the measures being proposed by the CMA to ensure that public sector procurement processes foster greater competition on the cloud infrastructure market

9. Insofar as it relates to Microsoft's licensing practices, the CMA's observation that "*the leading positions of AWS and Microsoft amongst public sector customers are likely driven by the features we have identified elsewhere in this report*"[12] is consistent with our experience in competing for public sector customers. As the CMA rightly observes, the public sector is an important customer group for CSPs, which – through its procurement policies and decisions – can influence market outcomes. It is therefore of serious concern that public sector customers are being forced to choose Azure as a result of Microsoft's anti-competitive licensing practices. We therefore support the CMA's proposed recommendations to: (1) the Cabinet Office and Crown Commercial Services that they continue to improve data collection on public sector procurement in relation to public cloud services; and (2) the UK Government that it promotes and shares best practice and address inconsistencies in public sector cloud procurement strategies. Critically, public sector procurement policies around best practice must be designed in a way that: (1) consciously avoids amplifying AWS' and Microsoft's significant market power; and (2) guards against customer lock-in.

III. Microsoft software licensing practices

10. We welcome the CMA's provisional finding that Microsoft's software licensing practices give rise to an AEC and the package of remedies proposed to address the AEC. Subject to our continued concern regarding: (1) Microsoft's planned restrictions on the use of software on Listed Providers' infrastructure by independent software vendors (**ISVs**) and managed service providers (**MSPs**), due to come into force in October 2025; (2) the need to ensure that Google's position is not worsened [✂] in advance of remedies being imposed; and (3) Active Directory (see Section V below), and while recognizing that the devil will be in the detail, the proposed remedies appear to represent a robust, effective and proportionate starting point to restore effective competition in cloud infrastructure services.

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8 PDR, paras. 3.196, 3.200.
9 PDR, paras. 2.14, 2.22, 2.28.
10 PDR, para. 3.169.
11 PDR, para. 3.252 *et seq.*
12 PDR, Appendix K, para. K.42.

11. In light of possible circumvention risk, we can understand why the CMA has a preference to use its Digital Markets, Competition and Consumers Act (**DMCCA**) powers to address the AEC, rather than impose a remedy order at the conclusion of this market investigation. We can support this approach (as set out in Appendix W of the PDR), *provided* that SMS designation and the imposition of conduct requirements occur rapidly so as to avoid any further harm to the UK cloud market.

A. The CMA is right to identify an AEC in relation to Microsoft's software licensing practices

12. We agree with the CMA's provisional finding that Microsoft's software licensing practices, which unfairly hinder competition in the cloud services market, give rise to an AEC. In particular, we endorse:

a. **The CMA's conclusions that Microsoft holds significant market power through several of its key software products**, including Windows Server, SQL Server, Windows 10/11, Visual Studio, and its productivity suites, resulting from *inter alia* the "significant" market shares of each of the products, and customer evidence that it would be difficult and costly for them to move away from Microsoft software.[13] We also support the CMA's finding that considering Microsoft's market shares for each of these products in isolation risks understating its true market power given the way in which Microsoft bundles these products (e.g., through the Enterprise Agreement) and the technical benefits of using them together.[14] We also agree with the CMA's observation that its conclusions on the significant market power of Microsoft's software products would remain unchanged even if the market definitions were broadened (or narrowed) to include (or exclude) rival software products.[15]

b. **The CMA's recognition that Microsoft charges Google significantly higher wholesale prices** for Windows Server than its own retail prices – "*at least [1000-2000]%" and "up to [4000-5000]%*" according to the CMA's analysis.[16]

c. **The CMA's analysis on the criticality of the relevant Microsoft software products as inputs to the downstream cloud services market**, particularly for its Windows Server product, which is important enough on its own to give Microsoft the ability to foreclose. We note and agree with the CMA that a key indicator of Windows Server's importance as an upstream input is its significance to rival cloud providers' cost bases. In particular, we note the CMA's finding that if Azure customers were charged the wholesale prices Microsoft charges Google Cloud for Windows Server and SQL Server under the SPLA (as opposed to the retail prices Microsoft charges them), the costs of those software licences would be up to [100-200]% of those customers' total spend on Windows Server VMs & SQL Server IP.[17] This serves to

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13 PDR, paras. 6.124, 6.126-6.127, 6.134-6.143, 6.148-6.149, 6.151-6.152, 6.157-6.159, 6.162-6.166, 6.168, 6.174-6.177, 6.179-6.184, 6.186, 6.191-6.198, 6.200-6.204, 6.206-6.207, 6.236-6.238.

14 For example, "*all customers said there were technical benefits to using Microsoft products together.*" PDR, paras. 6.209 *et seq.*

15 PDR, paras. 6.128, 6.153, 6.169, 6.187, 6.208.

16 PDR, table 6.7. Although this cost comparison is between the prices charged to Google under our SPLA and Microsoft's retail prices to customers benefiting from Azure Hybrid Benefit (**AHB**), the CMA has also found that [70-80]% of Azure spend is generated by Windows Server customers benefitting from AHB. PDR, Appendix T, para. T.82.

17 PDR, table 6.6 and para. 6.291.

highlight the significance of Windows Server as an upstream input. The CMA is also right to dismiss Microsoft's flawed methodology for calculating the materiality of Windows Server and SQL Server licences as cost inputs for Google and AWS, which contradicts its own submissions.[18] [19]

d. **The CMA's finding that Microsoft's conduct is foreclosing Google and AWS on the cloud services market**, having regard to the extensive body of both quantitative and customer evidence presented by the CMA. This evidence includes *inter alia* the significant mark-up noted above of wholesale pricing of its software products imposed by Microsoft on Listed Providers; the especially high usage of Windows Server and SQL Server on Azure compared to on GCP (e.g., up to [300]% higher on Azure for Windows Server);[20] and customer feedback that Microsoft's software licences are "*an important selection factor*" for their cloud strategies.[21] Consistent with the CMA's findings, Microsoft's licensing practices harm the UK public sector[22] and UK enterprises alike (and are particularly harmful to smaller UK businesses[23]). The consequence for all of these customers is higher prices and less choice.

13. We agree with the CMA's findings that Microsoft's conduct is worsening its closest rivals' competitive offerings, including with regard to pricing,[24] and limiting customers' choice of cloud.[25] It follows that the conduct does not and cannot give rise to relevant customer benefits (**RCBs**).[26]

14. For completeness, we reiterate the arguments set out in Section V of our follow-up submission of 23 August 2024 regarding the factual and legal flaws in Microsoft's Intellectual Property Rights (**IPR**)-related arguments. Put simply, we do not deny that Microsoft has the right to monetise its IP. Critically, though, Microsoft's IP rights would be unaffected by the CMA's recommended remedies – the contemplated interventions would not deprive Microsoft of its

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18 In particular, the CMA rejects Microsoft's use of a customer's total cloud spend as the relevant denominator in calculating the proportion of CSPs' cost bases that are made up of Windows Server input costs. Instead, customers make cloud procurement decisions on a "*less aggregated level*", with Microsoft itself having submitted to the CMA that it competes for each workload (thus directly contradicting its own methodology). Additionally, Microsoft's analysis underestimates the costs of Windows Server by: (i) calculating those costs as a proportion of AWS' and Google's *revenues* rather than costs, which inflates the denominator by including AWS' or Google's (respective) margins in the analysis; and (ii) relying on current usage levels of Microsoft's products on AWS or GCP, which may be impacted by the ongoing foreclosure effect of Microsoft's licensing practices. PDR, paras. 6.250-6.260.

19 PDR, table 6.4.

20 PDR, paras. 6.463-6.476.

21 PDR, paras. 6.477-6.497.

22 PDR, para. 4.134.

23 As the CMA's analysis by cloud spend band shows, customers in the 10k-1m spend band are amongst the worst affected by Microsoft's licensing practices. Specifically, the CMA finds that for customers in this spend bracket the average percentage difference between the wholesale prices AWS and Google pays for Windows Server compared to Microsoft's customer-facing prices is [4000-5000]%. (See PDR, Appendix T, table T.23.) Similarly, the CMA's SPLA input cost analysis indicates that the combined Windows Server and SQL Server input costs would be up to 100% to 200% of the spend on Windows Server VMs and SQL Server IP on Azure for customers in the same 10k-1M revenue bracket. (See PDR, Appendix T, table T.10.)

24 PDR, para. 6.513.

25 PDR, para. 6.536(b).

26 See s. 134(8)(a) of the Enterprise Act 2002. RCBs can come in the form of: (i) lower prices, higher quality or greater choice of goods or services; or (ii) greater innovation in relation to such goods. Microsoft's conduct results in higher prices.

IP in any way nor undermine its ability to make a return. And while the remedies do not undermine Microsoft's IP, it is also important to note that asserting the existence of IPR does not exempt conduct from scrutiny – either under competition law or under the DMCCA.

B. We broadly agree with the package of remedies recommended in the PDR

15. We welcome the CMA's finding that a robust package of inter-related remedies is needed to address the harmful effects of Microsoft's licensing conduct on competition in cloud. We consider that, in principle, the proposed remedies (Remedies A-C) can, taken together, rectify the most harmful aspects of Microsoft's pricing and non-pricing practices.[27] Taking each component part of the overall remedy in turn:

    a. **Remedy A (fair, reasonable and non-discriminatory (FRAND) pricing)**. We welcome the CMA's proposal to require Microsoft to apply a FRAND approach to pricing its software products, regardless of the cloud infrastructure on which they are hosted and agree that such a remedy is needed to address Microsoft's ability to favour (and its practice of favouring) its own cloud services by using (direct or indirect) pricing mechanisms to make its software products more expensive when used on rival cloud infrastructure.[28]

    Given the extent of Microsoft's wholesale mark-ups under the SPLA (which as noted above, can be up to [4000-5000%] higher than its retail prices for Azure customers) and the importance of these products as inputs for AWS and Google,[29] such a requirement is critical to ensuring that rival Listed Providers can compete with Microsoft without having to price below cost.

    Additionally, we welcome the CMA's proposal that Microsoft be required to publish clear and transparent information relating to the FRAND-based pricing of its software products across Azure and non-Azure clouds.[30] We agree with the CMA that such a requirement is necessary to allow for monitoring of Microsoft's compliance with the FRAND-based pricing requirement.[31]

    b. **Remedy B (product functionality and technical performance)**. We broadly agree with the CMA proposal to include a remedy restricting Microsoft from using commercial practices that affect technical performance and functionality of software products depending on which cloud they are deployed on. Such a remedy is necessary to prevent Microsoft using non-price licensing practices to unfairly favour Azure (e.g., by limiting key ancillary features to Azure customers or making software only available on Azure).[32]

    c. **Remedy C (licence transfer)**. We broadly agree with the CMA's proposal to address Microsoft's use of licensing practices relating to the deployment of previously purchased software products on a customer's cloud of choice.[33] Microsoft's refusal

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27 We set out our specific concerns regarding Active Directory in Section V below.
28 PDR, Appendix W, para. W.246. See also W.279 *et seq.* on direct and indirect pricing mechanisms.
29 PDR, para. 6.526.
30 PDR, Appendix W, para. W.248(c).
31 PDR, Appendix W, para. W.291.
32 PDR, Appendix W, para. W.292 and W.293.
33 PDR, Appendix W, para. W.311.

to permit BYOL significantly inhibits competition and customer choice in the cloud infrastructure market, preventing customers from deploying licences for which they have already paid on the cloud infrastructure of their choice. Remedy C will enable end customers to deploy software they have already purchased on the cloud of their choice, enabling CSPs to compete on the merits for the provision of actual cloud infrastructure rather than on the basis of artificial charges and discounts that Microsoft has created via its licensing rules and rebates.

16. In relation to all three of the inter-related remedies, we agree that there is a need to include a combination of rules-based and principles-based obligations to comprehensively address the AEC caused by Microsoft's licensing practices. In particular, we agree that high-level principles, which supplement a more targeted set of rules-based interventions, are required to manage circumvention risk.[34]

17. Separately, we consider that any package of remedies should also:

    a. explicitly reverse Microsoft's planned restrictions on the use of software on Listed Providers' infrastructure by ISVs and MSPs, for the reasons previously submitted.[35] Given that the restrictions are due to come into effect in October 2025 and are straightforward to reverse, and taking into account the likely duration of any SMS investigation, the CMA should require this pursuant to its market investigation powers so as to avoid further harm arising (both to ISVs and MSPs and, ultimately, to UK customers); and

    b. explicitly prevent Microsoft from taking any steps to worsen the position of Listed Providers [✂] or impose further discriminatory measures against Listed Providers pending the imposition of remedies by the DMU (again, using the CMA's market investigation powers). Without action from the CMA there is nothing to prevent Microsoft from significantly worsening [✂] in advance of the DMU imposing remedies in order to maximise its opportunity to profit from its current anti-competitive conduct. [✂].[36]

C. Proposed remedies can, in principle, address the competitive harm caused by Microsoft's software licensing practices, *provided* they are implemented swiftly by the DMU

18. While we note that a number of the difficulties the CMA would face in designing a remedy could be addressed in a market investigation order, we recognise that enforcement under the DMCCA brings a number of benefits.[37]

    a. We welcome the fact that, as part of SMS designation, the CMA can iterate remedies over time to counteract the risk of circumvention by Microsoft. Of relevance in this context, we note that the European Cloud Competition Observatory (**ECCO**), (the

34 PDR, Appendix W, para. W.243.
35 PDR, Appendix W, para. W.252(c).
36 [✂].
37 PDR, Appendix W, para. W.361.

body responsible for monitoring Microsoft's settlement with CISPE)[38] has reported that Microsoft is currently "off-track" in meeting those settlement terms. ECCO further notes that recent SPLA price rises by Microsoft "*appear to undermine*" Microsoft's commitment to ensuring that its SPLA licensing programme will offer CISPE members "*a competitive means for them to combine Microsoft software with their own cloud infrastructure in ways that are free of price discrimination*" and that "*CISPE's requirements, necessary under the MOU, are being considered* [by Microsoft's engineering teams] *equally alongside other product development demands.*"[39]

b. We also agree that the DMCCA's monitoring tools and enforcement powers are suitably robust to ensure compliance with any conduct requirements imposed on Microsoft.[40] This is important considering that many customers are still yet to migrate their on-premises workloads to the cloud, and should be given free choice of CSP at this critical point of first migration.

19. However, the benefits of addressing the licensing AEC via the DMCCA regime can only be brought to bear if an SMS investigation into Microsoft is opened promptly:

a. As the CMA has recognised, cloud services revenues have seen sustained year-on-year growth in the UK.[41] This is in large part driven by on-premises migrations from traditional enterprise customers (i.e., the customer group being foreclosed by Microsoft's licensing practices): as IDC has found, the share of public cloud usage driven by workloads migrated from on-premises and/or hosted private cloud is rapidly growing, from only 19% in 2022 to 36% in 2023 and 56% in 2024.[42] Microsoft also recognizes the importance of on-premises migration for cloud growth and that we are currently "*in the middle innings of cloud [migration]*".[43]

b. During this period of rapid growth in the overall size of the UK cloud infrastructure market, Microsoft's licensing practices have allowed it to leverage its dominance in Server OS to unfairly capture a disproportionate share of traditional enterprises' Windows Server workloads. As the CMA has found, Microsoft won between

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38 Microsoft's settlement with CISPE to withdraw its complaint to the EC, which followed Microsoft's previous settlements with OVHcloud, Aruba and the Danish cloud community, is consistent with its playbook of seeking ways to shut down complaints without solving the fundamental underlying issues that affect market structure. Indeed, we note that despite Microsoft's earlier settlements with these parties, Microsoft's restrictions are continuing to negatively impact customer choice.

39 See ECCO's report here. Microsoft's other failures to comply with commitments include e.g., European Commission, Antitrust: Commission fines Microsoft for non-compliance with browser choice commitments, 6 March 2013.

40 PDR, Appendix W, para. W.362.

41 PDR, para. 2.8.

42 IDC, U.S. Cloud Migration Multiclient Study, December 2023, slide 17. The results were based on a survey of US customers with 1015 observations. We consider that the rate of growth in the UK is likely to be similar.

43 "*And then finally, 5 is a little bit like the real estate rule. Instead of location, location, location, for us it's migration, migration, migration. Because there's still an awful lot of long tail cloud growth out there and we're still really only in the middle innings of cloud. You know, everybody, sort of the hype cyclists switched to AI, but let's not forget that there is an awful lot of money yet to be had in migrating SQL Server, Windows Server, VMware.*" Judson Althoff, EVP & Chief Commercial Officer, 3 December 2024, UBS Global Technology Conference. See also "*We are seeing continued growth in cloud migration*" Satya Nadella, CEO, 30 October 2024, Microsoft Q1 2025 Earnings Call Transcript.

[60-70]% of total UK shares of new customer revenue in 2022 and 2023,[44] highlighting the artificially restricted choices UK customers face (and, by extension, higher prices) at the point of migration. Notably, the CMA states that average usage of Windows Server on Azure was "over 300% higher" than on GCP in 2023.[45] Once on Azure, Microsoft's complex structure of terms and conditions and the cumulative reinforcing effects from links between Microsoft products keeps its customers on Azure.

20. Urgent action is therefore needed to prevent further market distortion and short- and long-term harm to the growth of the UK economy.[46] Imposing conduct requirements under the DMCCA process will only be meaningful if done quickly. We are at an inflection point for the UK cloud infrastructure market. Standing by – while the licensing practices that the CMA has found give rise to an AEC continue – will allow Microsoft to entrench its unfairly earned position of significant market power in cloud. It is therefore crucial that the CMA act quickly to address Microsoft's abusive licensing conduct.[47]

21. As noted above, we consider that the CMA should use its market investigation powers to (i) require Microsoft to reverse its planned restrictions on the use of software on Listed Providers' infrastructure by ISVs and MSPs; and (ii) explicitly prevent Microsoft from taking any steps to worsen the position of Listed Providers [✂] or impose further discriminatory measures against Listed Providers pending the imposition of remedies by the DMU.

IV. The scope of any remedy in relation to egress fees should be clear, and limited to what is necessary and proportionate to address any perceived AECs

22. If the CMA decides to maintain its position that egress fees contribute to an AEC, we agree that any remedy should be restricted to AWS and Microsoft, as the two players with market power accounting for 60-70% of the UK's IaaS and PaaS markets.[48] We agree with the CMA's perspective that a remedy directly imposed on AWS and Microsoft (which collectively account for the vast majority of the cloud market) is likely to "*chang[e] the commercial conditions*" in the wider sector.[49] Because of this, we make the following comments on the scope of the CMA's proposed remedy:

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44 PDR, table 3.9.

45 PDR, para. 6.468.

46 As noted in the PDR (para. 9.34 and footnote 2118), the market dynamics of the cloud infrastructure market, which include Microsoft's licensing practices, mean there is a risk of digital firms entrenching, and taking advantage of, their strategic position by creating an 'ecosystem' of accompanying products and services that expands into new markets and undermines their competitors. The longer Microsoft's conduct is allowed to continue, the greater the risk of long-term harm.

47 For completeness, we agree with the CMA that CISPE's settlement with Microsoft – which excludes Listed Providers – does not address the relevant AEC: Appendix W, para. W.273. In any event, Google has serious concerns regarding the implementation of the CISPE settlement, which can be addressed if the proposed remedies were adopted under the DMCCA regime. In particular, despite CISPE's commitment to transparency and pre-settlement claims that "*any agreements will be made public, subject to scrutiny and monitoring by third parties*", the settlement agreement has not been publicly disclosed, such that customers and other CSPs have limited ability to monitor Microsoft's compliance with the terms. We also note that at the time of settlement, CISPE announced that an "independent" body, the ECCO, would be established to monitor Microsoft's compliance with the settlement agreement and ensure fair software licensing in the cloud. However, Microsoft has a position on the ECCO, compromising the independence of that body. In any event, as noted above, ECCO has reported that Microsoft is currently "off-track" in meeting those settlement terms.

48 PDR, para. 9.58; Appendix W, para. W.170.

49 Appendix W, para. W.170.

a. **the CMA should remain open to practical and pragmatic proposals for determining in-scope and out-of-scope data transfers** (keeping in mind that CSPs will often not be able to automatically distinguish between exit, cross-cloud data transfers (in-scope egress) and serving and transit data transfers (out-of-scope egress)); and

b. **any remedies should align with, and be no more onerous than, the equivalent requirements under the EU Data Act**.[50]

23. We consider these points in more detail below.

A. The CMA should not dismiss the technical challenges of distinguishing between switching and cross-cloud egress fees and serving egress fees

24. We agree with the CMA's observation that serving and transit egress are not relevant to its assessment of barriers to multi-clouding (or switching),[51] and understand the scope of the CMA's proposed remedies to be limited to 'true exit' and 'cross-cloud' egress.[52] However, as Google and other CSPs have previously submitted to the CMA, there are practical challenges in determining the purpose of data transfers. At paragraphs W.175 *et seq*. of Appendix W, the CMA considers and dismisses many of the concerns raised by CSPs regarding the technical difficulties in identifying and distinguishing in-scope egress (i.e., switching and cross-cloud data transfers) and out-of-scope egress (e.g., serving egress). The CMA suggests that in-scope egress fees could instead be determined by reference to the destination of the transfer, which the CMA notes could be determined using ASNs or alternative methods.

25. As set out in our response to the Egress Fees Working Paper, the use of ASNs is subject to significant technical limitations, and only indicates the destination IP (typically the CSP peer, rather than the end-recipient) to which data is sent.[53] This means that CSPs are generally unable to identify multi-cloud transfers because ASNs cannot distinguish whether data is actually transferred to the same customer's workloads stored on the destination CSP (i.e., in a

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50 For the avoidance of doubt, we also disagree with the CMA's suggestion that any remedy should extend to premium tier networking products. Premium tier products are designed for specific use cases where customers place a premium on factors such as low latency or high performance (e.g., for mission-critical applications where reliability is paramount). While the CMA is right to note that cloud providers are incentivised to invest in the quality of their network products, a ban on charging for egress fees for these 'premium' products – even if they only applied directly to AWS and Microsoft – would significantly distort market incentives to make the necessary investments needed to be able to offer bespoke, premium products. Customers are also likely to have less networking options to choose from, in particular for switching & multi-cloud use.

51 PDR, para. 5.364 (see also, para. 5.498, which notes that only cloud-to-cloud egress may be relevant to switching and multi-cloud). As set out in 'Egress Fees: Supporting Fairness and Investment in Cloud' (the **Egress Fees Ofcom Paper**) submitted to Ofcom on 16 August 2023 and shared with the CMA on 11 October 2023, we define serving egress as the transfer of data externally to serve end-users via the internet in the ordinary course of business, and transit egress as the transfer of data internally from one geographical area or region within Google Cloud's network to another in the ordinary course.

52 PDR, Appendix W, para. W.175, and PDR, para. 5.364. As set out in our Egress Fees Ofcom White Paper, we define cross-cloud egress as the external transfer of data to another CSP as part of a multi-cloud configuration in the ordinary course, and 'True Exit' egress as the transfer of all of a customer's data as part of a one-off migration when switching CSPs.

53 Indeed, as described in Google Cloud's response to the RFI [✂], ASNs cannot even identify reliably whether data has actually been transferred to a CSP's services, as ASNs can only indicate the overall company to which that ASN relates. For example, data sent to Amazon could be sent to AWS or Amazon.com.

multi-cloud configuration) or whether the data goes to a third-party hosted on the destination CSP (e.g., serving egress). Relying on this methodology would result in data transfers that are in no way connected to switching or multi-clouding being captured by the remedy. We consider that a very sizable portion of data transfers could fall into that 'false positive' bucket. Nor is it appropriate for the CMA to dismiss these concerns by noting that such a remedy would "*incentivise cloud providers to develop more accurate systems for classifying data transfers*".[54] Not only would this involve the collection and processing of large volumes of sensitive customer data by CSPs, which customers may find undesirable, it also severely underestimates the technical complexities associated with developing such a system, which would inevitably entail significant implementation and ongoing compliance costs calling into question the proportionality of the remedy. This is important considering customers generally do not consider egress fees to be the main or even one of the main barriers to switching and/or multi-cloud,[55] which suggests that the potential beneficial effect of an intervention (i.e., to reduce barriers to switching and/or multi-cloud) is unlikely to outweigh the potential negative consequences, including the significant costs to businesses.[56]

26. As the CMA notes, [✂]. This is a pragmatic solution. We do not consider that it would be necessary, let alone proportionate, for the CMA to insist on an alternative method for determining in-scope data transfers [✂]. Imposing further regulatory burdens on businesses, in circumstances where pragmatic and workable solutions are already being introduced, will create unnecessary barriers to trade in the UK[57] and will affect challenger CSPs, including Google, more than those with significant market power.

B. The remedies should not be more onerous than Article 29 and 34 of the EU Data Act

27. The CMA's proposal to ban cross-cloud egress fees for AWS and Microsoft rather than cap them at cost goes beyond the equivalent requirement under Article 34(2) of the EU Data Act. By proposing stricter measures than are required under the EU Data Act, the CMA adds regulatory compliance costs on CSPs doing business in the UK that are neither necessary, nor proportionate. Such an outcome would not sit comfortably with the Steer from the Government that the CMA should give appropriate consideration to the need to support international competitiveness in the digital sector when considering remedies.[58]

The CMA's objections to an at-cost remedy are misplaced

28. The CMA rejects an at-cost remedy on the grounds that:

    a. depending on how it is structured, it would give rise to more specification risk than a ban; and

54 Appendix W, para. W.178.
55 PDR, paras. 5.396 and 5.405.
56 See CC3 (Revised), Guidelines for market investigations: Their role, procedures, assessment and remedies, in particular para. 352(b).
57 As noted in the Government's Strategic Steer to the CMA, para. 2.1: "*The CMA should consider the actions being taken by competition and/or consumer protection agencies in other jurisdictions internationally, and, where appropriate, seek to ensure parallel regulatory action is timely, coherent and avoids duplication where these parallel actions effectively address issues arising in markets in the UK.*"
58 Ibid.

b. an at-cost remedy would still involve some costs to customers switching and multi-clouding and so would be "less likely"[59] to achieve the CMA's aim than a ban on in-scope egress fees.

29. Both of these objections are misplaced.

30. Regarding specification risk (a. above), the CMA argues that there would inevitably be a choice to be made between lighter touch guidelines (which it claims would have a greater monitoring and enforcement risk and regulatory burden) and a detailed price control determination (which it claims would require substantial time and resources to be invested, and would carry higher design risk), with both options involving trade-offs.[60] While we recognise that if the CMA were considering an entirely new market-wide remedy, there might be important trade-offs to be made, this concern is less acute in the present circumstances. In particular, the CMA would be able to draw from the considerable expertise that CSPs, telecoms providers and other connectivity providers have built up in recent years in anticipation of Article 34(2) of the EU Data Act coming into force to design a comprehensive and workable methodology for calculating relevant costs.[61] Then, from a monitoring and enforcement perspective, the CMA would only need to concern itself with monitoring two CSPs' compliance with any methodology/ies imposed (AWS and Microsoft).

31. Regarding the argument that a ban on fees would be more effective than an at-cost remedy in achieving the CMA's objectives (b. above), this fails to take proper account of the need for remedies to be proportionate. In comparing the proposed at-cost remedy to a price ban, the CMA does not appear to give any consideration to whether an at-cost remedy would be sufficiently likely to achieve its aim (i.e., what would be the least onerous effective measure).[62] Nor does it consider whether any purported incremental benefits (which in light of the customer feedback received by the CMA can be assumed to be marginal, at best) outweigh the incremental disadvantages to directly and indirectly affected CSPs (i.e., whether a ban produces disadvantages that are disproportionate to the aim).[63]

The CMA's approach would add unnecessary regulatory compliance costs on CSPs doing business in the UK

32. The CMA briefly considers whether there is a potential tension with the EU Data Act in Appendix W. It concludes that no such tension arises on the grounds that: (1) the EU Data Act only applies to "EU customers"; and (2) Microsoft and AWS can ensure compliance with both regimes by not charging cross-cloud egress fees to EU customers.[64] However, this position raises important policy considerations.

33. First, as the global rollout of CSPs' free switching programmes illustrates, there is no easy way to distinguish between EU and UK, or even EU and non-European customers. Many enterprise

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59 PDR, Appendix W, para. W.165.

60 PDR, Appendix W, para. W.162.

61 Such a methodology could include adjustment mechanisms to account for variable costs and clear rules for calculating egress-specific costs, thereby addressing the CMA's concerns in Appendix W, paras. W.163 and W.164 of the PDR. Moreover, as the CMA acknowledges, the DMCCA regime is well suited to remedies that require iteration (see e.g., PDR, Appendix W, para. W.362).

62 CC3 (Revised) "Guidelines for Market Investigations: Their Role, Procedure, Assessment and Remedies", para. 344(a) and (b).

63 CC3 (Revised) "Guidelines for Market Investigations: Their Role, Procedure, Assessment and Remedies", para. 344(d).

64 Appendix W, para. W.206.

customers will be active across jurisdictions, and the apparent location(s) of Google's commercial / sales relationship with a given customer is not necessarily reflective of where that customer is principally based or headquartered.[65] Thus, while it is true that from a purely legal perspective the EU Data Act only applies to EU customers, as a technical matter, there would be no straightforward way of distinguishing between 'EU customers' and 'UK customers'. Such challenges would be compounded in the event of conflicting regulatory regimes which risk defining the geographic boundaries of customers differently.

34. Second, the CMA's suggestion that AWS and Microsoft can ensure compliance with both regimes by foregoing revenues that fall within scope of the EU Data Act regime that they are legally entitled to recover again does not sit comfortably with a proper proportionality assessment, or the Government's Steer that the CMA should give appropriate consideration to the need to support international competitiveness in the digital sector when considering remedies.[66]

35. Ultimately, a patchwork of divergent regulatory requirements across Europe (all pursuing the same aim) would result in unnecessary costs to CSPs and bring no incremental benefits to customers – and in these circumstances, can easily be avoided.

36. For the reasons set out above, the CMA should therefore: (1) make clear that [✂] is an acceptable means of identifying in-scope data transfers; and (2) ensure that the proposed remedy is aligned, and goes no further than, the EU Data Act. While we appreciate that the CMA may wish to monitor the effects of such carve outs, we note that the iterative nature of conduct requirements under the DMCCA regime is ideally suited to this.

V. Technical barriers to interoperability

37. We agree with the CMA's observation that challenger CSPs, including Google, are incentivised to promote switching and multi-cloud and, by extension with the CMA's suggestion that any remedies designed to address harm resulting from technical barriers to interoperability should be restricted to AWS and Microsoft, as the only CSPs with significant market power. We are proud of our continued investments and innovations in pioneering multi-cloud technology. On this basis, we welcome any measures that would reduce technical friction to switching and help drive customer multi-clouding (provided they do not unduly restrict incentives to innovate or allow AWS and Microsoft to take advantage of the standard-setting process to favour their own technology at the expense of smaller providers). The most critical technical barrier for the CMA to address, however (in light of its AEC finding with respect to Microsoft's software licensing practices), is Microsoft's selective refusal to provide the information necessary for third-party cloud IAM providers to be able to interoperate seamlessly with Active Directory – a position which should be understood as part of Microsoft's broader foreclosure strategy. Specific remedies are needed to address this harm.

A. Google Cloud is incentivised, and committed, to reducing the technical barriers to interoperability

38. We endorse the CMA's view that challengers, such as Google Cloud, "*have a greater incentive to reduce barriers*" by promoting interoperability and innovative workarounds to technical

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65 For example, as flagged to the CMA in [✂].

66 Strategic Steer to the CMA, para. 2.1.

barriers.[67] Consistent with this, we welcome the customer feedback recognising our efforts to reduce technical barriers and support interoperability between clouds.[68]

B. Microsoft's technical restrictions in respect of its IAM tools are not the result of *bona fide* technical differentiation and are exacerbating the lock-in effects of its restrictive licensing practices

39. As the CMA has observed, CSPs with market power, such as Microsoft, may in some instances be less incentivised to promote customer switching and multi-cloud.[69] In particular, we consider that the restrictions Microsoft selectively imposes to prevent competing cloud IAM solutions from seamlessly interoperating with must-have Microsoft software (e.g., on-premise Active Directory, Office 365 and Windows Server workloads) to be the most harmful example of artificial technical barriers, and an extension of Microsoft's software licensing practices.

40. We respectfully disagree with the CMA's provisional conclusion that Microsoft's IAM services and tools do not create additional barriers beyond those experienced in relation to other IAM services and tools.[70] As explained in the **Annex** (and previous submissions),[71] Microsoft leverages a number of critical touchpoints with its software ecosystem to implement a multi-pronged technical foreclosure strategy against third party IAM services (and indirectly, rival CSPs).

41. Contrary to Microsoft's submission,[72] the information it publishes in the Open Specifications documentation does *not* enable competing IAM providers to achieve complete, or even adequate, interoperability with Active Directory in order to provide customers with comparable solutions to Entra ID. Nor is it the case that multiple IAM service providers support "*comprehensive integration*" with Active Directory today. Likewise, Microsoft's decision to selectively strike deals with some identity providers to give them special access to provisioning for Microsoft 365 / Office 365 does not meaningfully address harm to customers whose choice remains unfairly restricted.

42. While Google has developed partial technical workarounds (most notably Managed Active Directory), the closed nature of Active Directory makes it very difficult and costly (commensurate to use) for us to maintain this solution as a viable alternative to using Entra ID on Azure. The result, as customer feedback received by the CMA highlights, is that customers' choice of cloud IAM provider is effectively determined by their prior reliance on Active Directory.[73]

43. The CMA has found – and we agree – that IAM is an important area for customers' ability to switch and integrate multiple clouds.[74] IAM is therefore another lever deployed by Microsoft to

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67 PDR, para. 9.46 and Appendix W, para. W.22.

68 Customers noted that a key benefit of using Google Cloud is "*good integration with other platforms*" and that "*Kubernetes helped streamline application development for portability and provided open APIs that support workload portability*": PDR, paras. 2.30 and 5.254.

69 PDR, para. 5.21.

70 PDR, para. 5.199.

71 See e.g., Google Cloud's response to the CMA's Technical Barriers Working Paper.

72 Microsoft submission to the CMA dated 8 August 2024, CMA Cloud Services MIR – Identity and Access Management Follow-Up.

73 Customers noted that they "*chose Entra ID based on their use of Active Directory*" and that their "*use of Microsoft 365*" means that they are "*required to use Entra ID*". PDR, paras. 5.186 and 5.188.

74 PDR, para. 5.192.

extend its on-premises market power into the cloud market, compounding the foreclosure effects of its anti-competitive licensing practices. It is critical that this artificial barrier to effective competition is addressed in any remedies package. Third parties should be granted equivalent interoperability with relevant Microsoft software for IAM provisioning that Microsoft grants to its own first-party services.

C. Conduct requirements under the DMCCA are necessary to address the technical barriers arising from Microsoft's artificial IAM restrictions

44. There is a risk that, if left unaddressed, Microsoft could seek to circumvent any remedy addressing its licensing practices by reinforcing interoperability challenges relating to Active Directory.

45. So as to guard against this risk, at a minimum, Microsoft should be required to make technical changes to Active Directory and other services that cloud-agnostic IAM services rely on to interoperate with Microsoft software, and/or grant access to relevant documentation, APIs or source code, to ensure that customers can migrate Microsoft-related workloads to their choice of cloud (see **Annex**). Such intervention should be implemented alongside the package of remedies put forward by the CMA to address Microsoft's anti-competitive licensing restrictions.

VI. CSAs

46. We agree with the CMA's provisional finding that CSAs do not harm competition in cloud services markets and therefore do not give rise to an AEC.[75] As we have noted previously,[76] volume-based discounts are generally viewed positively by customers, including small businesses and startups, and do not impede customer switching or multi-cloud. CSAs are an important competitive tool to encourage customers to switch some or all of their workloads away from the incumbent providers.

VII. Concluding remarks

47. We are strongly encouraged by the extensive work undertaken by the CMA in this cloud market investigation to date, in particular with regards to assessing the competitive conditions in the UK cloud market, the market power of the two largest players and the effect of Microsoft's conduct. We would invite the CMA to re-consider the scope of remedies that would be necessary/proportionate in the ways suggested above. We would also encourage the CMA to recognise the need for (i) a specific technical remedy for Microsoft's Active Directory and (ii) a discrete set of market investigation remedies to prevent foreseeable licensing changes to Microsoft software that, if introduced, would worsen competition in cloud. We look forward to continuing to engage with the CMA on these issues in the coming months.

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75 PDR, paras. 7.126-7.128.

76 See Google Cloud's Response to the CMA's Committed Spend Agreements Working Paper.

Annex [✂]