

## Appendix K: Public sector procurement

### Introduction

- K.1 This appendix covers our assessment of public sector procurement and how it may impact competition in cloud services markets.
- K.2 During our investigation some stakeholders have raised concerns about the impact that public sector procurement is having on competition in cloud services.<sup>1</sup> They have said that procurement practices could have a detrimental impact on competition by unduly favouring larger providers, thereby increasing market concentration and raising barriers to entry and expansion for smaller providers.
- K.3 To assess the impact of public sector procurement practices on competition in cloud services, we have:
- (a) assessed how important the public sector is as a customer group; and
  - (b) looked at how public sector procurement practices might influence competition.

### Importance of public sector customers

- K.4 The public sector encompasses a wide variety of cloud services customers, ranging from central government departments to local authorities, including in the devolved nations and healthcare organisations.
- K.5 Whilst there are a large number of organisations within the public sector, we have heard that the majority of cloud services spending occurred within central government and some of the larger departments such as health.<sup>2</sup>
- K.6 Evidence indicated that collectively the public sector is an important customer group although we are not able to precisely measure the share of public cloud infrastructure revenues in the UK accounted for by public sector customers based on the evidence available:

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<sup>1</sup> [Former UKCloud employees' response to the Issues Statement](#) dated 17 October 2023; [Prolinx's response to the Issues Statement](#) dated 17 October 2023; [Oracle's response to the Issues Statement](#) dated 17 October 2023; [redacted] responses to the CMA's information request [redacted]; Open Cloud Coalition's submission to the CMA dated 18 December 2024.

<sup>2</sup> Note of meeting with [redacted].

- (a) Individual public sector organisations are some of the largest customers, by revenue, of most cloud providers we contacted;<sup>3</sup> With regard to this, we noted that across cloud services the top 1% of customers account for over half of revenues.<sup>4</sup>
- (b) [redacted].<sup>5</sup>
- (c) The Crown Commercial Service, which provides commercial services to the public sector including on cloud, estimates that total public sector spending on Cloud Hosting via G-cloud marketplace,<sup>6</sup> in 2022/23 was over £350 million.<sup>7</sup> We think this may represent at least 5% of UK IaaS and PaaS revenues, assuming that total public sector spending is under-estimated by this source.<sup>8</sup>

## Stakeholder concerns

- K.7 We have received submissions raising issues around the competitive outcomes from public sector procurement policy and implementation.<sup>9</sup>
- K.8 First, these concerns covered how central government policy and procurement frameworks are designed and constructed and also how they are implemented. In overview, they submit that certain mechanisms, as well as the overall approach, used by public sector procurement favours incumbent market leaders.<sup>10</sup>
- K.9 Second, there were concerns about how the matters we are investigating elsewhere (technical barriers, egress fees, licensing practices, economies of scale) impact public sector customers' ability to switch and/or multi-cloud; and competitors' ability to win public sector business. These concerns and evidence

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<sup>3</sup> Responses to the CMA's information requests [redacted].

<sup>4</sup> See Chapter 2.

<sup>5</sup> [redacted] response to the CMA's information request [redacted].

<sup>6</sup> The G-cloud framework is a digital marketplace for the public sector which hosts 31,000 products. [G-Cloud 13 - CCS](#)

<sup>7</sup> CCS response to the CMA's information request [redacted].

<sup>8</sup> £350 million may be an under-estimate because not all public sector IaaS and PaaS spending will go via the Cloud Hosting lot in the G-cloud marketplace. Total revenues are c.£7 billion as explained in Chapter 3.

<sup>9</sup> [Former UKCloud employees'](#), [Prolinx's](#), [OVHcloud's](#) and [Oracle's responses to the Issues Statement](#), dated 17 October 2023. Available at: [Cloud services market investigation](#); Open Cloud Coalition submission to the CMA dated 18 December 2024.

<sup>10</sup> [Former UKCloud employees'](#), [Prolinx's](#), [OVHcloud's](#) and [Oracle's responses to the Issues Statement](#), dated 17 October 2023. Available at: [Cloud services market investigation](#); Open Cloud Coalition submission to the CMA dated 18 December 2024. Specific concerns raised include : Government agencies may not be permitted by law to take a short-term loss on switching costs to a new Cloud Service Provider in order to realise a long-term gain on price and/or performance ([Oracle's response to the Issues Statement](#)); public sector customers may combine several distinct needs within a single tender ([OVHcloud](#)); it is common for policies, rules and procedures to be waived, changed or ignored to enable hyperscalers to comply ([former UK Cloud employees'](#) response to the Issues Statement and Open Cloud Coalition submission to the CMA dated 18 December 2024.); pay-per-use pricing leads to customers using additional features or services without formal tender process often without knowledge of their organisation ([Prolinx's](#) and [former UK Cloud employees'](#) response to the Issues Statement),

from public sector customers, are incorporated into our wider competitive assessment.<sup>11</sup>

K.10 Third, the submissions also raised some issues that we consider are outside the scope of our investigation because they do not relate to competition matters but rather industrial strategy and national resilience considerations and whether UK-owned providers should be favoured.<sup>12</sup> They also raised issues relating to data protection laws and regulations. The Information Commissioner's Office oversees compliance with UK data protection law and will consult on updated draft guidance on cloud computing in early 2025.<sup>13</sup>

## Impact of public sector procurement policies and practices

K.11 In order to assess the impact that public procurement policies and practices may have, we have looked at:

- (a) Central government procurement policy;
- (b) memorandums of understanding negotiated by the Crown Commercial Service (CCS) with cloud providers;
- (c) procurement frameworks operated by CCS, namely the G-cloud framework and Cloud Compute and the more recent Cloud Compute 2 framework;<sup>14</sup> and
- (d) adherence to these policies and frameworks by individual departments and public bodies.

## Central government procurement policy

K.12 The Cabinet Office has varying degrees of control of public sector spending: for example its guidance is mandatory for central government and strongly recommended to the wider public sector. The Central Digital and Data Office (CDDO) is part of the Cabinet Office and sets strategy and direction with regards to Cloud Services across the public sector.

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<sup>11</sup> In many respects public sector customers are no different to private sector customers: they aim to use cloud services for the same reasons; they also have similar requirements and face similar choices to private sector customers. As a result, evidence from public sector customers who were contacted as part of this investigation is considered as part of our competitive assessment elsewhere in this report. For example, their views on egress fees and technical barriers are incorporated into our evidence base within those chapters. The exception is Committed Spend Agreements, as the Memorandums of Understanding in the public sector operate differently: the negotiation is conducted by a separate body, CCS, to the individual customers who make procurement decisions and there are no minimum spend requirements for public sector customers to access MoU terms. We present evidence from CCS and individual public sector customers on how the MoUs operate further down in this document.

<sup>12</sup> [Prolinx's response to the Issues Statement](#), dated 17 October 2023.

<sup>13</sup> [Former UKCloud employees Response to issues statement](#) dated 3 November 2023.

<sup>14</sup> [Our plans for new and updated guidance - ICO](#).

<sup>14</sup> [Cloud Compute 2](#).

- K.13 The Cabinet Office said that there are two key objectives of the policies and practices set centrally: to secure advantageous commercial terms for government and to encourage a diverse supplier landscape where competition is present, for both commercial and resilience reasons.<sup>15</sup> This is in keeping with the Cabinet Office’s guidance on Market Management.<sup>16</sup>
- K.14 The Crown Commercial Service (CCS) is an executive agency, sponsored by the Cabinet Office, which brings together policy, advice and direct buying; providing commercial services to the public sector – effectively operationalising Cabinet Office policy. CCS designs the main frameworks through which public sector customers procure cloud services and it negotiates Memorandums of Understanding (MoUs) with cloud providers to set terms for public sector customers.
- K.15 The most relevant policies and guides are the cloud guide for the public sector ‘The One Government Cloud Strategy’ (OGCS) and The Cloud First Policy.<sup>17</sup> Each public sector organisation then makes its own procurement decisions according to these frameworks, policies and guides.
- K.16 The Cloud First Policy sets out the government’s view that, when procuring new or existing services, public sector organisations should default to public cloud first, using other solutions only where this is not possible. This policy is mandatory for central government and strongly recommended to the wider public sector. However, this guidance states that whilst Cloud First means Public Cloud, ‘Public Cloud is not always achievable, therefore community, hybrid or private deployment models are acceptable in specific circumstances’.
- K.17 The policy leaves the supplier decision to individual organisations but highlights that ‘[o]rganisations should always challenge themselves on the selection of a specific vendor...’ and ‘that Government wants to be users of a range of vendors. This allows risk to be spread and helps manage market dominance. Where incumbent vendors are used, organisations should be aware of and actively manage vendor lock-in’.<sup>18</sup>
- K.18 The OGCS has more detail for government workers responsible for deciding and setting cloud strategy, implementing migrations to cloud and managing cloud usage. In particular there is a section on balancing technical lock-in which challenges organisations to consider the risk that they become dependent on the products and services from particular providers. This policy encourages organisations to balance the risks and benefits of lock-in and how it can be

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<sup>15</sup> Note of meeting with Cabinet Office [redacted]; [Government Cloud First policy](#).

<sup>16</sup> [Market Management](#).

<sup>17</sup> [Government Cloud First policy](#); [Cloud guide for the public sector](#).

<sup>18</sup> Ibid.

mitigated through, for example, having a team with experience of more than one provider.

## Memorandums of understanding

- K.19 CCS has agreed MoUs with six providers (which also include SaaS) to date. These are: AWS, Microsoft, Google Cloud, Oracle, IBM and Hewlett Packard Enterprise.<sup>19</sup>
- K.20 It states that they aim to ‘use the combined purchasing power of the government to achieve better commercial results, such as agreeing greater discounts for smaller departments.’<sup>20</sup> However one small cloud provider did raise concerns about these MoUs concentrating public sector spend with the providers who have MoUs in place, at the expense of smaller providers.<sup>21</sup>
- K.21 There is some difference between the MoUs. CCS told us that, whilst it used a standard template, the MoU can vary as a result of negotiation with cloud providers.<sup>22</sup> A public sector customer also told us that terms of the most recent MoUs negotiated differed from those negotiated earlier (with the most recent ones on the whole offering improved terms and benefits for public sector customers).<sup>23</sup>
- K.22 The MoUs set a baseline of minimum terms for public sector customers. Individual customers can negotiate further improvements to those terms.

## Procurement frameworks

- K.23 There are two main cloud services procurement frameworks set by CCS: G-Cloud and Cloud Compute 2 (which launched in November 2023, with the previous iteration being Cloud Compute).
- K.24 G-Cloud hosts 31,000 products across different providers and layers of the stack. In 2022-23, the G-Cloud framework was used to purchase £363 million of hosting services, which is the one of the ‘lots’ that we think maps most closely to IaaS and PaaS.
- K.25 G-Cloud was historically the main procurement route for public sector customers for IaaS and PaaS. Customers who use G-Cloud do not have to run competitive tendering processes because the products have been pre-approved and

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<sup>19</sup> See [Cross-departmental memorandums of understanding](#).

<sup>20</sup> [Cloud guide for the public sector](#).

<sup>21</sup> [redacted] response to the CMA’s information request [redacted].

<sup>22</sup> Note of meeting with Crown Commercial Services [redacted].

<sup>23</sup> [redacted] response to the CMA’s information request [redacted].

customers are able to purchase via direct award, once they have specified a business case.

- K.26 Cabinet Office indicated that, historically, customers already using cloud services might have been less likely to participate in a competition as switching providers could increase costs associated with change, such as egress fees, engineering and development costs.<sup>24</sup> One cloud provider also raised concerns about the lack of competition when procuring via G-cloud, particularly when combined with MoU discounts.<sup>25</sup>
- K.27 Cloud Compute 2 which is more recent requires customers to run a competitive process. CCS told us that, going forward, its policy is to encourage the use of Cloud Compute 2 to improve the proportion of contracts going through a competitive channel.<sup>26</sup>
- K.28 CCS said it had spoken to four or five larger UK government departments to convince them to use Cloud Compute 2 and to migrate their services away from G-Cloud. CCS said that it was promoting multi-cloud, [redacted], and was encouraging those suppliers to do the same with a view to fragmenting the market.<sup>27</sup>

### **Adherence to central policy**

- K.29 These policies, strategies and frameworks are set centrally by the Cabinet Office but implemented individually by different public sector organisations. The Cabinet Office told us that departments can choose their cloud provider freely.<sup>28</sup>
- K.30 The Cabinet Office told us that there are a number of channels through which it and the CCS can aim to ensure consistency with their policies:<sup>29</sup>
- (a) For example, a cloud commercial community set up within government shares best practice regarding cost optimisation at monthly meetings.
  - (b) A Data Functional Leadership Group considers what should be included within MoUs including upskilling and training.
  - (c) It has some 'harder' levers such as the spend assurance process that allows CDDO to review proposed spend that has a technology aspect.

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<sup>24</sup> Note of meeting with Cabinet Office, [redacted].

<sup>25</sup> [redacted] response to the CMA's information request [redacted].

<sup>26</sup> Note of meeting with Crown Commercial Services, [redacted].

<sup>27</sup> Note of meeting with Crown Commercial Services, [redacted].

<sup>28</sup> Note of meeting with Cabinet Office [redacted].

<sup>29</sup> Note of meeting with Cabinet Office [redacted]; Note of meeting with CCS.

K.31 We have reviewed some published strategies from departments, including the NHS Cloud Strategy,<sup>30</sup> and the Cloud Strategic Roadmap for Defence.<sup>31</sup> We see some inconsistency between the central policy and these strategies. Both strategies and the Defence strategy in particular, recommends and promotes the use of ‘hyperscale cloud.’ Whilst this term is not defined in either strategy and is used widely in cloud services, it is generally understood to mean the very largest cloud providers.

K.32 [redacted].<sup>32</sup>

## **Impact of public sector on competition in cloud services**

K.33 To assess the impact of public sector customers on cloud services, we have assessed:

- (a) The use of different cloud providers within the public sector, including looking at indicators of shares of supply, where available, for this customer segment; and
- (b) Customer evidence, both individual public sector customers we have engaged with and those centrally responsible for procurement.

## **Use of cloud providers within the public sector**

K.34 The data available to us did not allow us to calculate shares of supply of cloud providers in the public sector. This was because:

- (a) Public sector customers are not classified consistently by cloud providers. For example it is not clear to us whether NHS spending would qualify under ‘Public sector’ or ‘Health’ in different providers’ classification systems. There may be some inconsistency within providers as sales management information is compiled by individual teams, as well as inconsistency in classification between providers.
- (b) There is no single source of data on public sector customers. The Cabinet Office told us that these data issues make it difficult for it to measure the impact of its own policies.<sup>33</sup>

K.35 We had some indicators:

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<sup>30</sup> [NHS Cloud Strategy adoption plan - NHS England Digital](#).

<sup>31</sup> [Cloud Strategic Roadmap for Defence](#).

<sup>32</sup> Note of meeting with [redacted].

<sup>33</sup> Note of meeting with Cabinet Office, [redacted].

- (a) Public sector customers feature in the lists of top 20 customers by revenue of the majority of cloud providers. The largest public sector customers by spend are with AWS and Microsoft.<sup>34</sup>
- (b) [redacted].<sup>35</sup>
- (c) [redacted].<sup>36</sup>
- (d) CCS Framework spend data for Cloud Hosting spend under G-Cloud shows 56% of spend going to AWS<sup>37</sup> but none of Microsoft, Google or Oracle appear as a top ten Hosting supplier. This suggests that this figure should be interpreted with caution as spend on Microsoft hosting may be showing as spend via resellers.

## Customer evidence

- K.36 We gathered evidence from some public sector customers on the cloud services they purchase, the providers they use, their willingness to switch between providers and adopt multi-cloud architectures and the commercial relationships they have with their provider(s).
- K.37 The evidence indicated that:
- (a) Most public sector customers we have spoken to use AWS or Microsoft, although other providers are used as well.<sup>38</sup>
  - (b) Some large public sector customers we spoke to that operate a two public cloud strategy use both AWS and Microsoft.<sup>39</sup>
  - (c) None of the public sector customers we spoke to had experience of switching.<sup>40</sup>

## Our assessment

- K.38 The public sector is an important customer group for cloud providers and we estimate that it may represent at least 5% of UK IaaS and PaaS revenues.<sup>41</sup> Public sector customers are likely to grow use of cloud services with the majority

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<sup>34</sup> Responses to the CMA's information requests [redacted].

<sup>35</sup> [redacted] response to the CMA's information request [redacted].

<sup>36</sup> Note of meeting with [redacted].

<sup>37</sup> [redacted] response to the CMA's information request [redacted].

<sup>38</sup> Responses to the CMA's information requests [redacted].

<sup>39</sup> Responses to the CMA's information requests [redacted].

<sup>40</sup> [redacted] response to the CMA's information request [redacted].

<sup>41</sup> [redacted] response to the CMA's information request [redacted].



of workloads still to be migrated and UK government policy explicitly promoting further migration of services to the cloud.<sup>42</sup>

- K.39 UK government policy recognises the risks of market concentration and customer lock-in with regard to cloud services. It has a number of policies which seek to address this.<sup>43</sup> In particular its latest policy Cloud Compute 2 requires competitive tendering.<sup>44</sup> In fact, most cloud providers we spoke to said public sector customers already tender competitively.<sup>45</sup>
- K.40 We have seen some inconsistency between the central policy and individual strategies. In particular, we found two instances of policies appearing to specify the use of ‘hyperscalers’.<sup>46</sup>
- K.41 We have been unable to calculate shares of supply for providers to the public sector but based on the available evidence, AWS and Microsoft appear to be the largest providers to the public sector. Their share of supply to the public sector appears to be at least the same as their overall position in cloud services and there is some evidence that their joint share may be even higher in the public sector. We propose suggesting that Cabinet Office and the CCS continue their work to improve the data they collect on public sector procurement of cloud services so that outcomes can be better assessed and any risks of market concentration are visible.<sup>47</sup>
- K.42 We have not seen any evidence that that public sector procurement practices have a detrimental impact on competition in the market by unduly favouring larger providers. We consider the leading positions of AWS and Microsoft amongst public sector customers are likely driven by the features we have identified elsewhere in this report and therefore some of the concerns raised with us have been addressed in our wider assessment. But we propose suggesting that UK government should promote and share best practice and address inconsistencies in public bodies’ cloud procurement strategies where necessary. This is important as public sector use of cloud continues to grow.

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<sup>42</sup> Note of meeting with [redacted].

<sup>43</sup> One Government Cloud Strategy and [Government Cloud First policy](#).

<sup>44</sup> Note of meeting with [redacted].

<sup>45</sup> Responses to Ofcom’s information requests [redacted].

<sup>46</sup> [NHS Cloud Strategy adoption plan - NHS England Digital; Cloud Strategic Roadmap for Defence](#).

<sup>47</sup> This would be consistent with the NAO’s recent report on efficiency in government procurement, that recommended improvements to data collection and making better use of that data to improve government decision-making National Audit Office, [Efficiency in government procurement of common goods and services](#), accessed 4 September 2024.