

CLOUD SERVICES MARKET INVESTIGATION

Summary of hearing with Amazon Web Services (AWS) on Tuesday 2 July 2024

Introductory statement from AWS

1. AWS told the CMA that it considers the competition between IT providers to be well-functioning and that cloud services meet the needs of customers both in the UK and globally in terms of pricing, innovation, product choice, variety, and quality.
2. AWS told the CMA that it considers the evidence demonstrates customers can multi-cloud, switch between cloud providers when they want to and negotiate contract terms effectively with their existing providers.
3. AWS said that it faces competition from on-premises IT and that analyst reports suggest that cloud services only make up around 15% of the IT services market as a whole. AWS said that the perception that once customers move to the cloud, they never return to on-premises is not correct. AWS stated the market investigation's narrow focus on cloud services does not contextualise the role of those services within the IT services market. AWS said, even with that narrow definition, in its opinion the evidence provided by the CMA does not support a compelling theory of harm on technical barriers, committed spend discounts or “egress fees” and any finding for the adverse effect to competition could not withstand scrutiny.
4. AWS welcomed the opportunity to discuss Microsoft’s licensing practices as in AWS’s view there is a history of cloud providers and customers being unhappy with Microsoft’s conduct. AWS said that Microsoft’s conduct is artificially imposed and could be easily fixed.

Competitive landscape

Nature of competition

5. AWS said that about 10 to 20 years ago, customers needed to make a massive capital investment spanning multiple months and years to migrate or switch on-premises data centre providers whereas today there is fierce competition in the cloud market and customers have more choice than ever before.

6. AWS explained, by way of example, that it has its own data warehousing service called Redshift, but that it also has ISV partners operating in this space which have dramatic rates of adoption on AWS. It gave an example of a customer that recently switched away from AWS.

On-premises constraint

7. AWS said that its cloud business faces competition from on-premises IT and provided examples of customers moving from the cloud back to on-premises IT solutions. AWS noted that building a data centre requires significant effort, so the fact that customers are doing it highlights the level of flexibility that they have and the attractiveness of moving back to on-premises.
8. AWS said that customers may switch back to on-premises for a number of reasons, including to reallocate their own internal finances, adjust their access to technology and increase the ownership of their resources, data and security.
9. AWS said that perceived benefits of on-premises may include closer control of assets and proximity.

Customer choice and differentiation

10. AWS told the CMA that some customers may tend to predominantly use one cloud provider because operationally it may be cheaper and easier to maintain and run a system that way due to training constraints, but generally customers will decide on a workload-by-workload basis which cloud provider to use.
11. AWS said that the way customers consider competition in cloud services applies across the spectrum of customers in terms of size and complexity. It noted that certain customers may not be able to justify investing in training to use an alternative cloud provider, so their choice may be influenced by their existing skillset.
12. AWS acknowledged that, whilst customers, especially those new to the cloud, had concerns about long-term lock-in, over time customers were choosing the cloud for its security benefits as well as increased innovation and extra depth of features and services, and that there was flexibility in being able to move back to on-premises environments, for example through the use of Kubernetes.

13. Regarding differentiation of IaaS amongst cloud providers, AWS said that there are similarities in the features offered between providers, however, it said that the service side of its cloud offering is highly differentiated.
14. AWS said it is constantly re-engineering and thinking about how to deliver better performance and enhanced features.
15. AWS said that investing in education for customers is really important for ensuring they make an informed choice about the different performance and quality characteristics of a service they might choose to use. AWS noted that it worked with customers over time to make sure that their use of AWS's services is optimised and that they are using the services effectively around factors like performance, reliability, cost effectiveness, sustainability impact, and other factors.
16. AWS said that its services were better for customisation than some other providers but may require more collaboration with the customer to get the desired outcome.
17. AWS also said that many customers will use Azure because they are already using other Microsoft services or due to contractual terms.

AI

18. AWS said that there is more competition for accelerated compute than just from Google and Microsoft, in particular from newer players that have been entering, and that some companies were investing in accelerated compute directly.
19. AWS said that competition in AI is incredibly fierce and that there has been significant change in the last six months alone.

Switching and multi-cloud

20. AWS said that, whilst AWS, Microsoft and Google may be roughly comparable in their breadth of services, this may not be important to all customers. AWS noted that, for some workloads customers may prefer a cloud provider that only offers one service very well but that does not have the same breadth of services, and that this should be considered by the CMA when thinking about their multi-clouding analysis.
21. AWS said that its customers use a myriad of different services to multi-cloud.

22. AWS acknowledged that, whilst cloud providers may theoretically have an incentive to keep their customers and therefore not focus on developing features for interoperability, AWS instead has determined that supporting customers to multi-cloud is the stronger commercial incentive and that AWS has invested in services like Kubernetes to make switching and multi-clouding easier.

Potential remedies

23. AWS asked the CMA to consider carefully any potential remedies that may overlap with the EU Data Act and the French SREN law involving data transfer and interoperability, and not just to mirror the same requirements as these regulations without appropriate economic competitive analysis.
24. AWS explained that the Data Act calls for the development of standards as part of its requirements around interoperability and AWS believes that the effort to develop broadly applicable standards has been a challenge that may simply result in an unhelpful *de minimis* standard whereas the industry already does a good job of adopting standards that customers need.
25. AWS said that it would be operationally very difficult to restrict remedies to geographic subsets of customers given that cloud services are delivered to be available and consumed across the world.

Committed spend agreements

26. AWS said that it disagreed with the CMA's conceptual framework included in the Committed Spend Agreements (CSAs) working paper, in particular, the notion of sticky demand and on the link between sticky demand and contestable demand.
27. AWS explained various aspects of how its agreements with customers work in practise and how customers perceive these.

Potential Remedies

28. AWS said that, without CSAs, there would be less predictability in AWS' revenues, which could make AWS more cautious in how it invests in the business.
29. AWS said that a potential remedy which banned any requirement for a spend commitment in exchange for a discount in the UK would be bad for customers as AWS would not be able to offer the same level of discounting it

can offer today without the benefit of the commitment in return. AWS said that this potential remedy should not apply to any cloud provider.

30. In terms of a potential remedy limiting the maximum duration of CSAs, AWS noted that the benefit of offering discounts is the certainty of the revenue, which derives from the combination of the amount of the commitment and the duration of it. AWS told the CMA that a commitment for a longer time increases certainty of revenue and makes it easier to engage in investments.
31. Regarding a potential remedy for greater transparency of CSAs which would require the publication of discount schedules and that it would certainly soften competition as competitors would be more informed of each other's discounting structures.
32. AWS said that overall, all the potential remedies would be limiting customer choice.

Licensing

33. AWS discussed how it aims to enable customers to use third party software on its cloud services and how changes in licensing terms by Microsoft from 2019 have impacted its ability to do so.
34. AWS said that it wants to provide every piece of software customers could possibly need on the cloud, including very popular Microsoft products.
35. AWS said that since 2019 there have been licensing restrictions imposed by Microsoft preventing customers from using previously purchased Microsoft licenses on AWS (BYOL restrictions). AWS said that this has had huge financial consequences for customers. AWS said that customers buying Microsoft products should have access to them forever and should be able to use it on the IT provider of their choice.
36. AWS said that it receives complaints from customers regarding Microsoft's licensing restrictions and their inability to run the software on their cloud of choice.
37. AWS explained that remote working has driven an increase in the usage of virtual desktop infrastructure (VDI) over the last several years. AWS stated that there is a significant usage of VDI by customers who have task-oriented workloads such as call centres.

Potential remedies

38. AWS commented that it supports the software licensing principles proposed by CISPE.
39. AWS said customers should be able to choose which cloud provider to use their software on. AWS said that Microsoft should have the same rules for customers on every cloud instead of singling out what are deemed as listed providers (Google, AWS and Alibaba).

Data Transfer Out (DTO)fees¹

Overview

40. AWS said that the CMA is incorrect to consider that DTO fees are an issue for switching by just looking at how many customers pay DTO fees and how much of their cloud bill is accounted for by DTO fees. AWS said that many customers pay a higher percentage of their cloud bill on DTO fees simply because of the nature of the company and how it uses the cloud as they may need to push data out to their customers.
41. AWS said that there may be some customers where DTO fees are a factor in their decision to switch or multi-cloud, but only in very limited circumstances.
42. AWS discussed the level of its DTO fees and the margins it makes on them relative to other providers and how some data on this could be misleading.
43. AWS said that hypothetically, customers may be concerned about DTO fees if they have a very significant amount of data that they wish to migrate. However, AWS said that in those instances it has services like AWS Snowball that allows the movement of significant amounts data offline.
44. AWS noted that the CMA was only considering list prices for DTO and was not considering discounts, which lower the actual costs.
45. AWS noted that DTO is more expensive than internal data transfers on a cost-per-gigabyte basis, and that its DTO charges reflect costs.
46. AWS noted that price comparisons with other competitors cannot ignore cost and quality differences in the network offering, or that other providers charge

¹ AWS refers to DTO fees whereas in the CMA's working papers and elsewhere the CMA has called these Egress Fees.

for network usage differently by absorbing charges into the price of other services.

Free switching programme

47. AWS said that it is implementing a free switching programme globally in response to the EU Data Act in line with other providers.

Potential remedies

48. AWS said the potential remedies in the CMA's egress fees working paper would risk reducing its incentives to invest in its network.
49. AWS said that potential remedies like free data transfers across the board could result in security concerns such as distributed denial of service attacks and increase bad actors' ability to commit these attacks at no cost to them.
50. AWS said potential remedies could also result in inefficient use of its network if customers did not have to pay for DTO.

Technical barriers

51. AWS said that on technical barriers many of the customers interviewed by the CMA mentioned low barriers to multi-cloud and switching. It also noted that the working papers recognise that customers have mixed views on whether there are differences in the features of comparable services across IT providers that make it harder to multi-cloud or switch. Each customer has their own unique impression of any technical challenges of switching or multi-clouding.
52. AWS said it was already being pushed by customers to invest in services which make it easier for them to multi-cloud with other cloud providers' services, so it has been educating customers in being able to multi-cloud but there will always be some inherent technical barriers that cannot be fully mitigated. These inherent barriers are also just as prevalent for on-premises solutions.
53. AWS noted that as with any technology, customers make trade-offs between different factors such as the industry, particular risk appetite, skill level, individual preferences, ease of moving their data, and risk of lock in. For example, with containerisation, customers may be able to move their workloads more easily, but this choice might be at the expense of additional features or services from a particular cloud provider.

54. With respect to potential remedies outlined in the CMA's working paper, AWS said that standardisation of the market would be detrimental to customers, innovation and competition as the industry already has standards around the use of IT services and internet communication such as TCP/IP and HTTP. It also said that it would be extremely difficult to design standards for all IT providers without it being detrimental to competition.