REPORT REPRINT

451 Perspective: A cloud feast heralds the era of consumption, Part 2

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Enterprise workloads are on the move, and the re-platforming to cloud and cloud-native is reaching the mainstream of the market. Cloud is the infrastructure view, cloud-native the application view. What is the opportunity?

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Introduction

This is the second of two spotlights that examine the opportunity to support hybrid environments (including on-premises cloud) via management platforms, the role of hyperscalers and other suppliers, plus the opportunity delivered by the re-platforming to cloud-native.

Enterprise workloads are on the move, and the re-platforming to cloud and cloud-native is reaching the mainstream of the market. Cloud is the infrastructure view – cloud-native the application view. Cloud consumption is overtaking cloud building as the primary driver of IT spending, and cloud is the new deployment approach for IT resources. Hybrid and multi-cloud are now design points, not just 'happenstance.' As the use of multiple services accelerates, conversion to the cloud operating model and having the right skills available are now key. It's worth emphasizing that all of this is serving a bigger purpose – enterprise buyers tell us that digital transformation remains the organizing principal for their activities.

451 TAKE

There is a Cambrian explosion of cloud service availability. Add to this the arrival of containers, microservices and other cloud-native constructs, and menus have expanded massively. Users are spoiled with choice. Given the breadth of clouds and services available in the market, the key to success will be finding the right combinations and operationalizing them to deliver the benefits as advertised by suppliers – principally speed, agility and scale.

- Most businesses tell us they plan to operate a hybrid IT environment (including on-prem and cloud) as a consequence, and this is stronger for larger businesses.
- The main use case businesses cite for hybrid cloud is being able to continuously move workloads to the right environment (best execution venue) for the sake of cost, performance, security or whatever their priority is. This is also stronger for larger businesses.
- Most businesses using public cloud say they're using multiple vendors; the main reason is they want to be able to access the unique features of those platforms.
- This will only be realized if management and orchestration across these platforms is done effectively and with transparency to assure end users that services will meet their performance standards.
- We think there's a very strong opportunity for the vendors that are able to provide the services, optimization tools and operational support that enable businesses to realize this hybrid and multi-cloud vision.

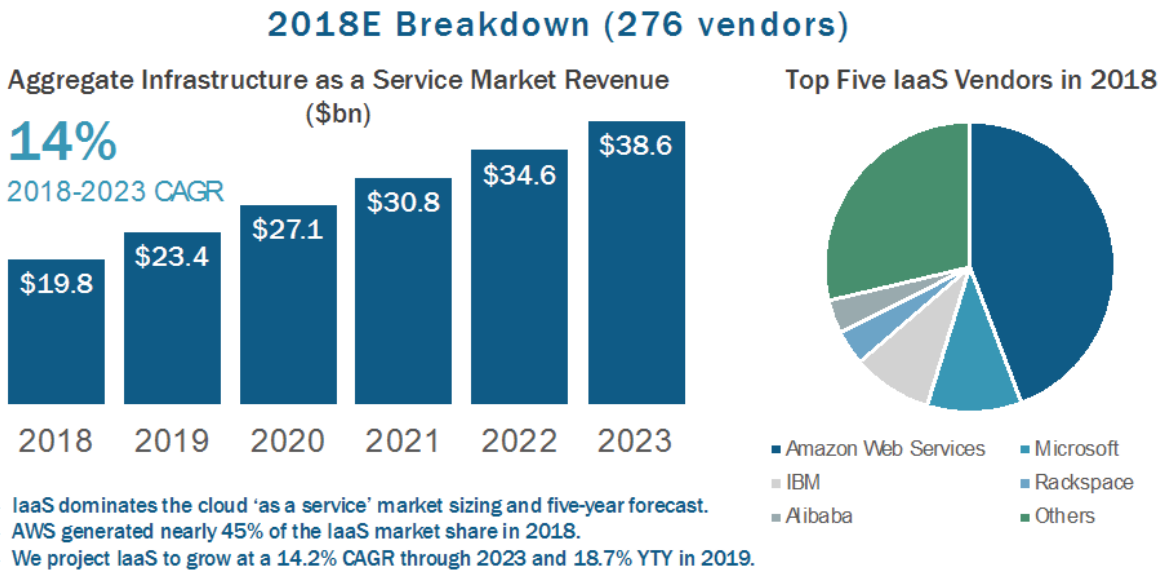
Will hyperscalers eat the world?

Given the astonishing acceleration of spending on hyperscale services, do other vendors stand a chance in the infrastructure supply market? The question we are often asked is: Aren't the hyperscalers simply going eat the world eventually? Our answer is as follows.

451 Research's Market Monitor expects the cloud IaaS market (compute, storage) to be worth about $24bn in 2019 – see Figure 1. While Microsoft and Alibaba in particular are accelerating their cloud revenue, the notable number here is that the aggregate revenue from 275 of the IaaS vendors we track only just exceeds that of AWS, to underscore the headroom AWS has in the market.

Figure 1: Infrastructure as a Service Market Overview

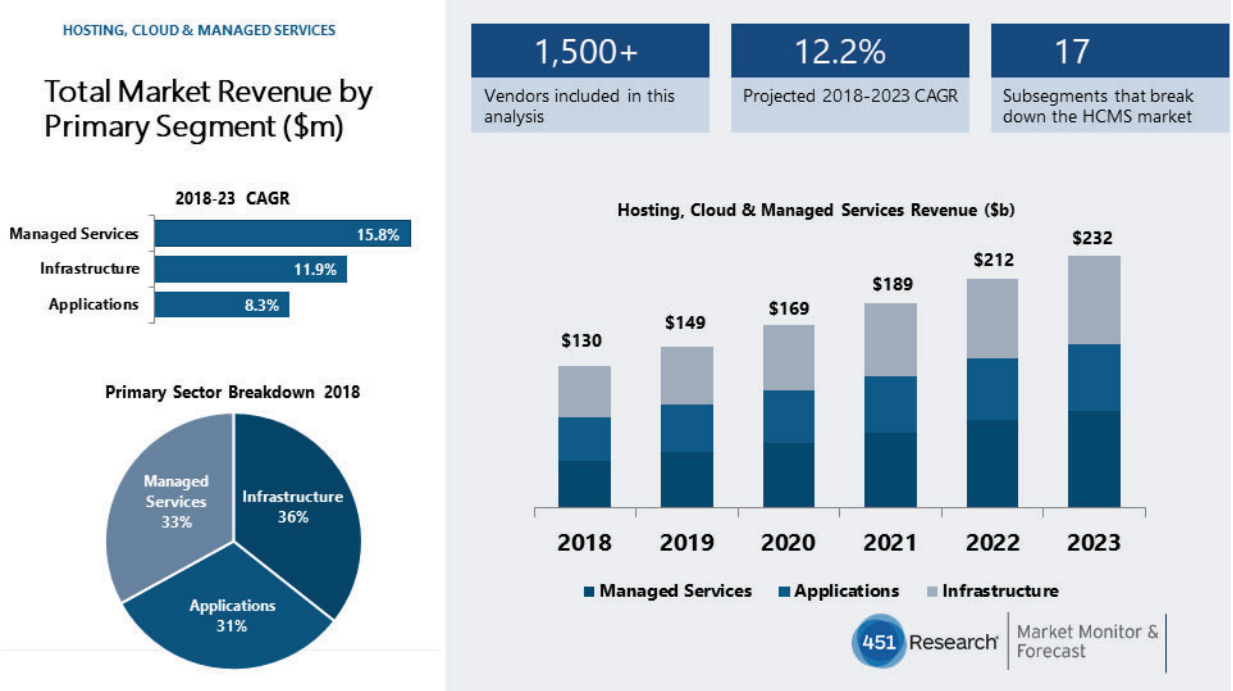
Source: 451 Research's Market Monitor: Cloud Computing as a Service, February 2019



However, when we put this into context of the overall cloud, hosting and managed services market (see Figure 2), we can see that infrastructure is only one piece of the pie. We expect the overall market in 2019 will be worth $149bn, and it remains six times bigger than the cloud IaaS market. Moreover, all of these markets are growing – it's not a zero-sum game.

Figure 2: Overall Market Value

Source: 451 Research's Hosting, Cloud & Managed Services Market Monitor



Cloud-to-ground

Hyperscalers, not content with only hosted services and recognizing that hybrid IT is here to stay, are now going after the on-premises opportunity with 'cloud to ground' initiatives such as AWS Outpost, Azure Stack, Google Anthos and Alibaba Aspara. These are managed, on-premises versions of their services where data resides on-premises and things are managed from a control plane in the cloud. For IT managers still unwilling or unable to move to hosted cloud, these could be seen as 'having your cake and eating it.' Enterprise interest in these offerings is sky high, and they are part of every conversation our team has with this audience. We think these offerings make sense where latency and data sensitivity (up to a point) are concerned. But there's also an underlying sense that this is about control, giving IT the opportunity to take advantage of a cloud-like model but at the same time keeping servers (and control) close. For AWS, Outpost is training wheels for customers that will ultimately move into its hosted services. Other vendors have a more permanent view about hybrid deployments. After all, there are still many applications and workloads that won't move to cloud.

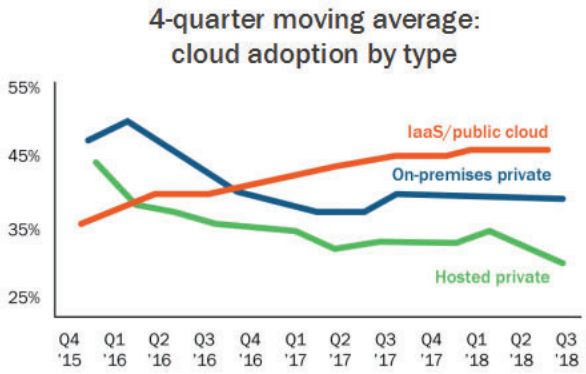
Collectively, these cloud-to-ground offerings make the existential threat more acute for 'long tail' vendors as hyperscalers start to play in their ballpark. But it's providing an opportunity, too. Demand for cloud delivered and managed on-premises is a rising tide that long-tail vendors are rapidly taking advantage of with offerings that are becoming more cloudlike, while the price of private cloud is falling (see Figure 3).

Figure 3: On-Premises is Moving
Source: 451 Research

Private cloud is getting cheaper

- Managed private cloud price fell by 22% last year
- On-premises offers are becoming more 'cloud-like'

Public cloud benefit	On-premises examples
Pay as you go	VMware Cloud on AWS, Azure Stack, TenFour
Flexible	HPE GreenLake Flex Capacity, Dell EMC Flex on Demand, Lenovo TruScale Infrastructure Services, Nutanix Go
Fully managed	HPE GreenLake, Oracle Cloud at Customer, IBM Cloud Private



The difficulty the long-tail vendors have is compounded, however, by their own legacy technology and processes – selling boxes, IT outsourcing, leasing and financial engineering and multi-year terms. There's still a lot of smoke and mirrors here. The other dimension is the extent to which these offering models can themselves act as force multipliers for the transformation of these companies – as GreenLake appears to doing for HPE.

Ultimately, it's not a battle between on-premises and off-premises. It's about how enterprises want to consume machines and pay for them and who owns the resources to deliver that. As we move toward a consumption-based, service-driven, retail-model discipline, this currently favors hyperscalers as the suppliers. As enterprises trend toward IT subscription and rental, the hyperscalers themselves are becoming the key capex spenders on hardware. The challenge for long-tail vendors is whether they can rotate their businesses quickly enough to support how customers want to purchase IT to remain relevant in the long term.

Cloud-native – the application view

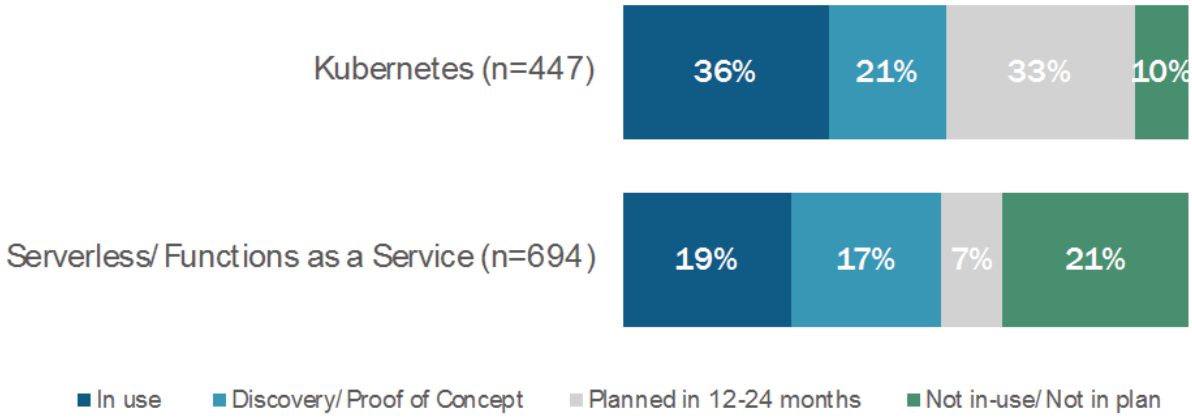
Containers, Kubernetes, microservices, serverless computing, service meshes – collectively, these cloud-native constructs are where the industry puck is heading. Like re-platforming to the internet and web, which every business undertook in the 1990s and 2000s, re-platforming to cloud-native applications and services is going to take some years. There is no question that this is happening. Moreover, there is no 'religion' here as we have witnessed in previous IT adoption cycles; the industry is entirely behind it. The Cloud Native Computing Foundation arguably 'has the conch' at this point.

As a validation of where the market is going, the cloud-native 'industry' likes to suggest that while 90% of existing applications don't use containers, 95% of new ones do. With a little more science, 451 Research data finds that more than two-thirds of enterprises are or will be using Kubernetes with two years, and more than a quarter will be using serverless computing (see Figure 4).

However, several challenges remain. The first is access to talent, which is becoming more of a constraint than access to capital. Developers and developer enablement are at a premium. The second is organizational and cultural, because transforming to new ways of working that are agile and automated are a major leap from traditional approaches that are hard-wired, waterfall and ITIL-based.

Figure 4: Adoption of Cloud-Native Technologies

Source: 451 Research's Voice of the Enterprise: DevOps 2019 and Digital Pulse, Budgets and Outlook 2019



Security also remains unresolved in the cloud-native, DevOps world (and is, therefore, a key opportunity for innovation). IT operations has historically been regarded as essentially secure. However, cloud-native development is not. Downloading containers can compromise security, which is why containers mostly run in VMs – to inherit their security. Bringing the two together as DevOps retains this inherent insecurity.

There isn't (yet) a 'killer app' for cloud-native, but like 5G in the wireless world, the chief advantage at the moment is the speed of service creation and delivery that cloud-native brings – and therefore the better customer experience. The challenge for cloud service providers is that cloud-native's 'run anywhere' mentality requires the infrastructure to become more invisible than it is today both from developer and consumer points of view – although it must not be out of reach when it is required.

Overall, cloud-native is a win-win adoption cycle for suppliers when considering the organizing principal of digital transformation, which is driving enterprise adoption. Transforming to become 'digital' requires that organizations operate continuous service delivery processes. The pipelines of coding artifacts needed to support require infrastructure that can be accessed flexibly and on demand by APIs – and this infrastructure is cloud.