451 Perspective: A cloud feast heralds the era of consumption, Part 1

AUGUST 12 2019

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Enterprise workloads are on the move, and the re-platforming to the cloud and cloud-native is reaching the mainstream of the market. The cloud is the infrastructure view – cloud-native the application view. What is the opportunity? This is the first of two reports examining this question.

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Introduction

This is the first of two spotlights that examine the opportunity to support hybrid environments (including on-premises clouds) via management platforms, as well as the role of hyperscalers and other suppliers, and 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. The cloud is the infrastructure view, and cloud-native the application view. Cloud consumption is overtaking cloud building as the primary driver of IT spending, and the 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 underlining that all of this is serving a bigger goal – enterprise buyers tell us that digital transformation remains the organizing principle for their activities.
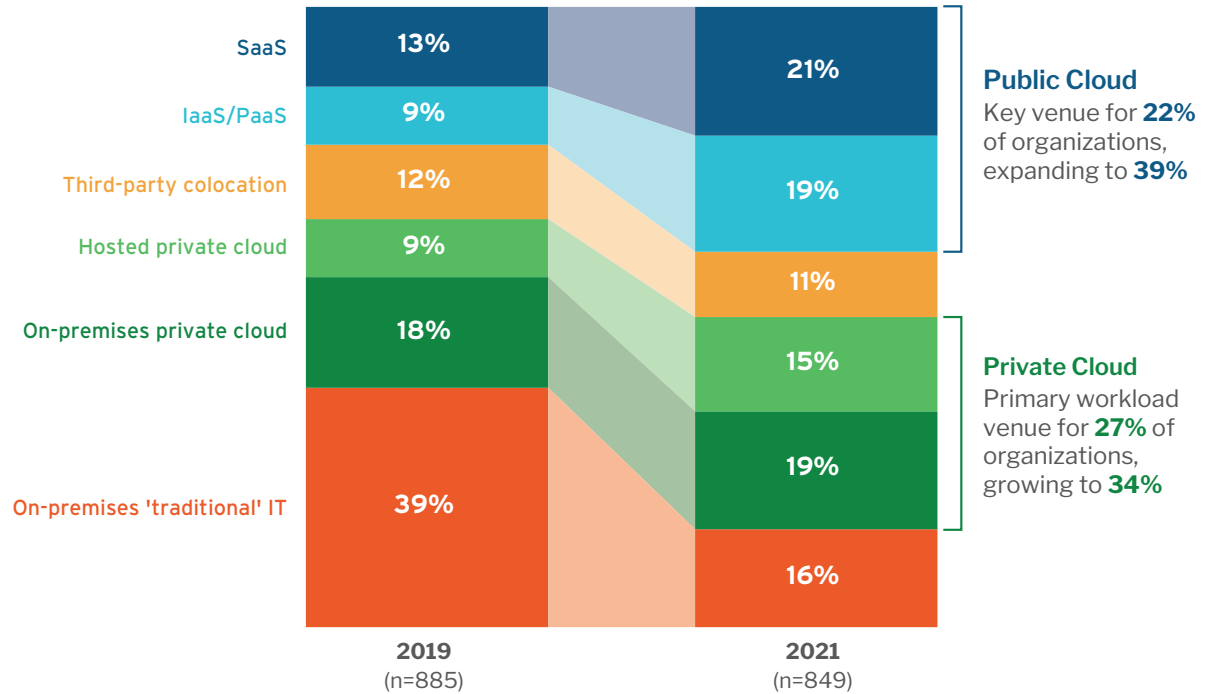
451 TAKE

There is a Cambrian explosion of cloud service availability. When you add to this the arrival of container, microservices and other cloud-native constructs – the menus have expanded massively. Users are spoiled for 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 advertised by suppliers, principally: speed, agility and scale.

- Most businesses tell us they plan to operate a hybrid IT environment (including on-premises and clouds) as a consequence, and this is stronger for larger businesses.

- The main use case that businesses cite for hybrid 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 clouds say they're using multiple vendors, and the main reason is that they want to access the unique features of those platforms.

- The above 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 strong opportunity for vendors that are able to provide the services, optimization tools and operational support that enable businesses to realize this hybrid and multi-cloud vision.

Clouds – the infrastructure view

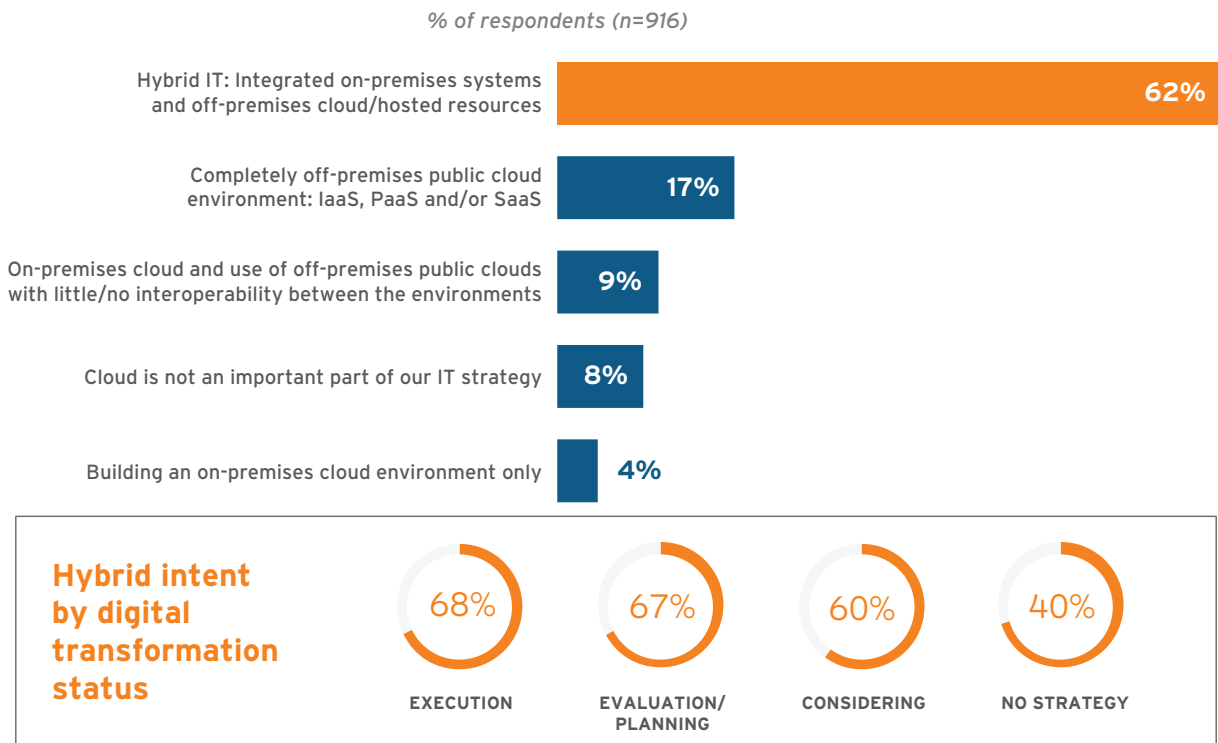### Figure 1: Primary Workload Deployment Venues, H1 2019 and 2021

Source: 451 Research's Voice of the Enterprise: Digital Pulse, Workloads and Key Projects

Venue	2019	2021
SaaS	13%	21%
IaaS/PaaS	9%	19%
Third-party colocation	12%	11%
Hosted private cloud	9%	15%
On-premises private cloud	18%	19%
On-premises 'traditional' IT	39%	16%

2019 (n=885) **2021** (n=849)

Public Cloud
Key venue for **22%** of organizations, expanding to **39%**

Private Cloud
Primary workload venue for **27%** of organizations, growing to **34%**

Workloads continue to be redistributed to and across a variety of public and private clouds. We asked over 800 IT decision makers and influencers about where they currently, and in future, expect to run workloads in 2021: 39% said they will be running the bulk of their workloads in public clouds by 2020, while 34% said they will be running workloads in a combination of hosted and on-premises, private clouds by 2020. The key finding for service providers is the rise in use of hosted environments. All types of suppliers stand to benefit; this is not a hyperscale-only party.

Figure 2: Strategic Approach to Environments
Source: 451 Research's voice of the Enterprise: Digital Pulse, Budgets and Outlook 2019

% of respondents (n=916)

Category	%
Hybrid IT: Integrated on-premises systems and off-premises cloud/hosted resources	62%
Completely off-premises public cloud environment: IaaS, PaaS and/or SaaS	17%
On-premises cloud and use of off-premises public clouds with little/no interoperability between the environments	9%
Cloud is not an important part of our IT strategy	8%
Building an on-premises cloud environment only	4%

Hybrid intent by digital transformation status

EXECUTION	EVALUATION/ PLANNING	CONSIDERING	NO STRATEGY
68%	67%	60%	40%

In our Voice of the Enterprise: Digital Pulse, Budgets and Outlook 2019 survey, we asked 916 IT professionals to describe their overall IT approach and strategy. Among the respondents, 62% said they now use a hybrid IT environment with integrated on-premises systems and off-premises cloud/ hosted resources; 17% said their IT environment is completely off-premises, distributed across various SaaS, IaaS and PaaS clouds.

In the early days of the cloud, when decentralized purchasing across different groups was the primary adoption dynamic, hybrid was something that just ended up happening. But now, the IT landscape has matured, the imperatives of digital transformation have become more apparent, and cloud-native technology is making infrastructure more 'invisible.' Hybrid is now a design point – an explicit IT strategy.
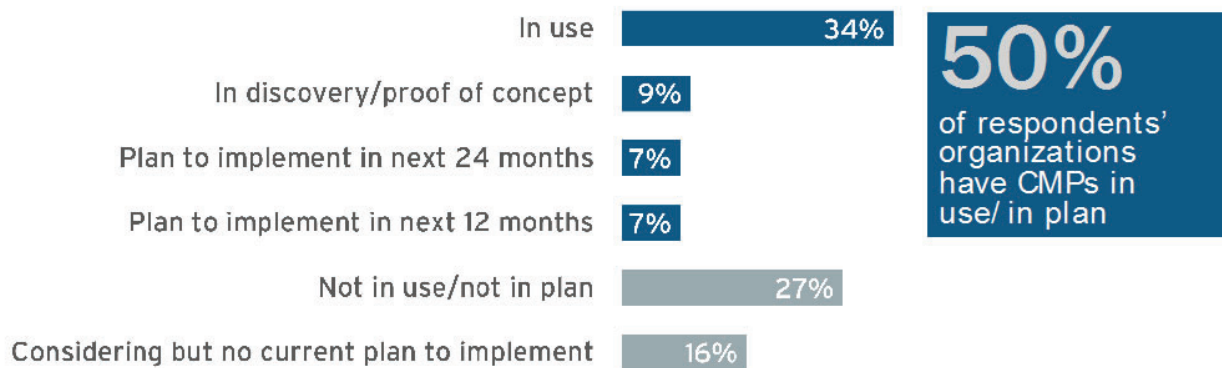
Best execution venue

As the re-platforming to the cloud accelerates, the key question is which applications and workloads, and in what sequencing, are going into which venues, over what time period. As the worlds of outsourcing, hosting, managed services and the cloud converge, the range of options that users choose from are growing exponentially. 451 Research's Cloud Price Index finds that – just among AWS, Microsoft, Alibaba, Google and IBM – there are more than 1.2 million things (SKUs) available to purchase.

Buyers need help, and BEV strategies will enable users to determine which services are right for their needs. These strategies center on the notion that every class of IT-related business need has an environment where it will best balance performance and cost, and the IT organization should be able to select that environment as part of the general practice of IT.

Enterprises tended to take DIY approaches, until the unintended consequences of decentralized cloud purchasing and the need for governance and automation drove them to require more sophisticated approaches, namely cloud management platforms. Now, CMPs are in use or in plan by more than 50% of enterprises (see Figure 3). There has been a tremendous amount of M&A here, especially in the cost management and optimization space, and there are many fewer assets available for purchase. A number of major vendors are betting their businesses on becoming the destination for multi-cloud management.
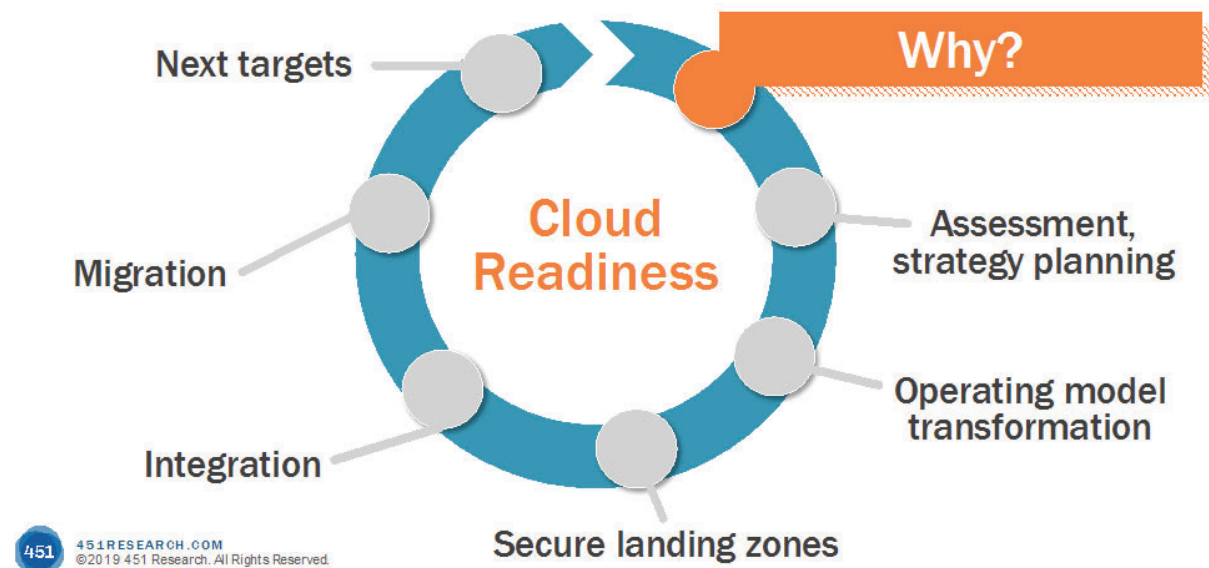
Figure 3: Cloud Management Platforms in Use
Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services, Workloads and Key Projects 2018

In use — 34%
In discovery/proof of concept — 9%
Plan to implement in next 24 months — 7%
Plan to implement in next 12 months — 7%
Not in use/not in plan — 27%
Considering but no current plan to implement — 16%

50% of respondents' organizations have CMPs in use/ in plan

There are two principal activities here. The first is preflight readiness (see Figure 4) – doing all of the things to mitigate the complexity, disruption and cost of moving to the cloud, both from an operating model perspective and the landing zone itself.

**Figure 4: Cloud Management Wheels of Fortune – Cloud Readiness**
Source: 451 Research LLC

Cloud Readiness

Why?
Assessment, strategy planning
Operating model transformation
Secure landing zones
Integration
Migration
Next targets

The second CMP activity is ongoing optimization of deployments to ensure those benefits are delivered from an economic, technology and organizational point of view (see Figure 5). This is the real prize in this journey, and where the majority of the revenue opportunity is. However, we have seen that vendors that can deliver readiness services to customers earn the right to sit at the table for consideration as suppliers of ongoing management and optimization.

Figure 5: Cloud Management Wheels of Fortune – Management & Optimization
Source: 451 Research LLC
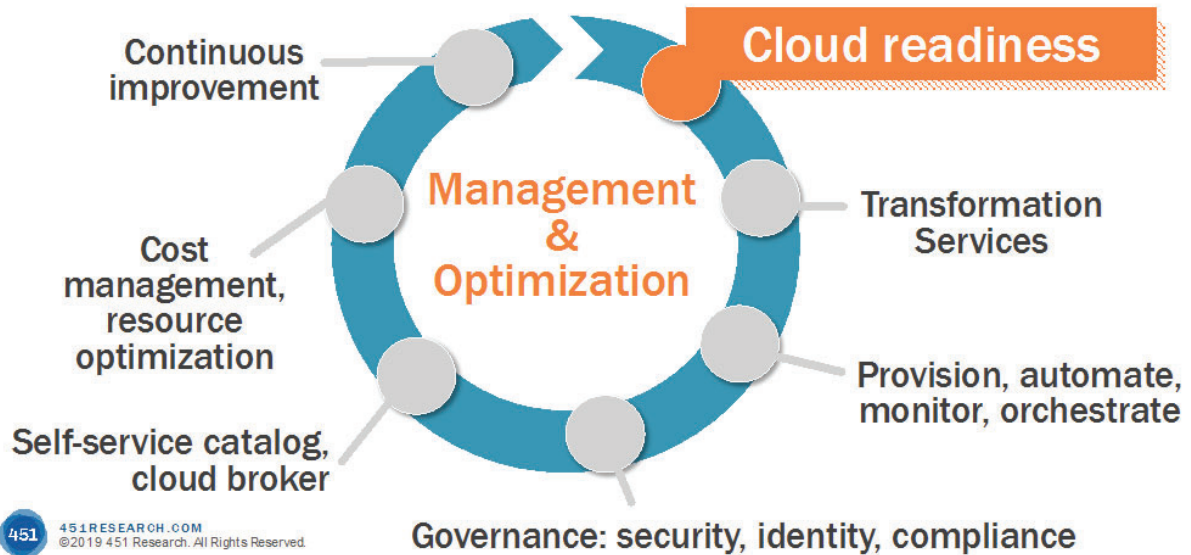
Many vendors have a single-pane-of-glass approach to cloud management, which is a bit like a universal remote control. Having just one control for all your devices is a lot more convenient than multiple controls. But each device has its intricacies, which can't be captured by a single control. As a result, you still have to keep your old remote controls for things such as channel tuning or configuration. In other words, the single remote can do the majority of things, but it'll never replace everything, because that would make the single control too complex and reduce its advantage of simplicity.

It's the same issue with the cloud management single pane of glass – it can do the common things that all providers offer, but it's not so good at the differentiated features among providers. Enterprises that work with cloud management suppliers offering loosely coupled approaches are at less risk of the single pane of glass becoming a single glass of pain.

Enterprises tell us that with the increased use of multiple clouds, it will be very important to move applications and data into, out of and around cloud instances, based on business policy and SLA. This is not about moving applications and workloads among clouds based on 'penny by penny' or 'minute by minute' changes in price. If a hurricane is forecast in one region, mobility enables an application to be moved out to another region, and back once it has passed.

Indeed, disaster recovery is the primary use case for hybrid cloud – an app may move between development, staging and production across different cloud instances operated by different groups, or between partners. This is not repatriation or a 'boomerang' effect, it's more like a revolving door, and we expect this kind of mobility to become a normal part of IT activity.

Cloud management tooling should help deliver the benefits of the cloud (speed, scale and agility) in the context of a 'health and safety' posture – economic health via optimization tools, and service enablement and delivery within the context of an organization's governance and control requirements.

In the past year, much of the buildout of CMPs has been focused on developer-centricity/enablement and the addition of cost management via optimization tools. However, at this point, security (apart from rudimentary governance) remains largely outside of the capability of cloud management platforms, and it's not yet clear whether, or how, these will come together – from either a technical or organizational point of view.