Cloud repatriation: What it is, what it isn't, and why it's not going away

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Publication date: Friday, September 3 2021

Introduction

Cloud repatriation, a company's decision to move workloads or applications from the public cloud to a private cloud alternative, has been perceived by some in the industry as an indicator of declining interest in public cloud services, perhaps suggesting troubled times ahead for hyperscalers. Others, however, suggest that it might be time to retire the notion of repatriation (with its connotations of a return to the natural order of things in the aftermath of hasty or misguided decisions) in favor of a term that more accurately captures the dynamic nature of IT in the service of digital business – 'workload mobility.' The repatriation terminology is also imprecise because it implies an absolute and permanent transition away from the public cloud, when the shift may in fact be temporary or involve only a limited number of workloads.

Cloud repatriation does not signal the beginning of the end for cloud providers, but rather the end of the beginning for cloud itself. As most enterprises wrap up their initial explorations of the cloud, they become more skilled with the technology and are better positioned to determine the best execution venue – public/off-premises or private/on-premises – for each workload. Ultimately, the cloud repatriation discussion underscores two important trends in enterprise IT: application mobility and the appeal of hybrid IT architecture.

The 451 Take

There is much debate surrounding what the cloud repatriation phenomenon could mean for the future of the industry. Where you stand depends on where you sit. The hyperscale cloud players may dismiss or downplay the notion by touting the flexibility/agility virtues of public clouds, while the datacenter incumbent vendors point to the security and operational control benefits of on-premises/private infrastructure (and suggest that the repatriation trend is much larger or permanent than it actually is). However, data on cloud repatriation is almost always taken out of context. Most organizations no longer look for a single all-encompassing solution to their IT needs, but rather an IT estate that accommodates the cost, performance and governance requirements of different workloads (a notion we've been calling 'best execution venue' for years now). Data from 451 Research's datacenter/colocation- and IaaS/PaaS public cloud-focused surveys shows that cloud

repatriation is indeed happening, but it's not about to put the hyperscalers out of business. Some organizations are opting for on-premises/private cloud environments for good reasons – some of which are about public cloud, while others have more to do with organization/governance issues and availability of cloud expertise/skill. Movement of applications, workloads and data between environments will not be a one-time event; it will become a standard IT practice. It's a revolving door, not a boomerang.

Cloud repatriation: What the numbers show

451 Research conducted its <u>Voice of the Enterprise: Datacenters 2021</u> survey between June and July, gathering data from more than 600 datacenter/colocation respondents. In it, 48% of respondents indicated that they had transitioned a workload or application away from the hyperscale public cloud providers (e.g., Amazon Web Services, Microsoft Azure, Google Cloud Platform) to some other venue in the past 12 months, as shown in Figure 1 below.

At first glance, this might seem like an alarming number, but it simply reflects whether organizations have had some type of back-to-on-premises experience within the past year. It should not be taken to mean that nearly half of workloads moved out of public cloud environments (hyperscaler platforms or otherwise) during 2020-2021. The percentage of organizations with their own datacenters or leased colocation facilities that opted for cloud repatriation has decreased over the past five years. In a similar survey conducted in 2016, 68% of respondents indicated that their organizations had removed some item from the hyperscale public cloud in the previous 12 months.

When considering where those companies went with their workloads, 87% of respondents opted for self-managed infrastructure, out of which 86% selected their own datacenter and 14% a colocation facility. On the other hand, 28% chose infrastructure managed by a third party, suggesting that there was a small overlap of companies that opted for a combination of both solutions. For firms that selected a third-party option, 40% chose a hosted private cloud, 21% a small-scale public cloud and 13% managed colocation, also pictured in Figure 1.

Figure 1: Cloud Repatriation
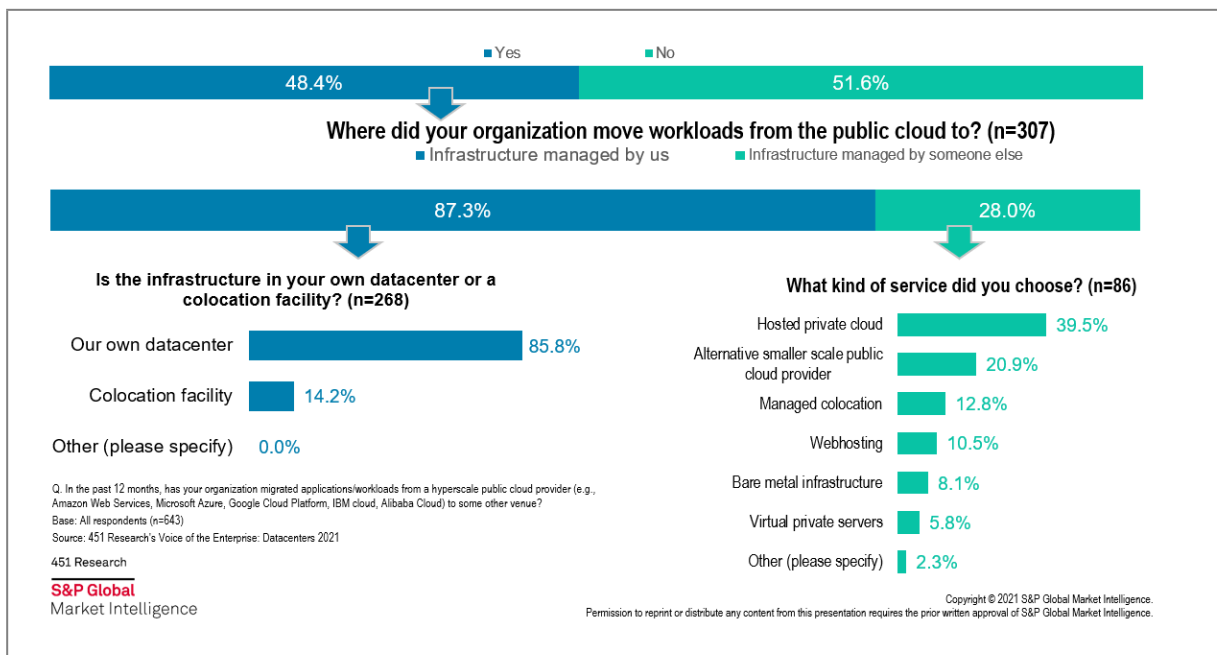
Source: 451 Research's Voice of the Enterprise: Datacenters 2021

Analyzing the results of a different survey gives us a different story. In <u>VotE: Cloud, Hosting & Managed Services, Budgets & Outlook 2021</u>, we surveyed organizations currently using IaaS/PaaS public cloud services and found that only 6% had 'repatriated' applications or data from public clouds to on-premises or enterprise colocation/datacenter environments in 2020, with 14% planning to do so in 2021 (see Figure 2). By contrast, during the 2016-2017 timeframe, 34% of IaaS/PaaS users reported having shifting workloads from public clouds to on-premises/private environments.

Figure 2: Retreat From Public Cloud
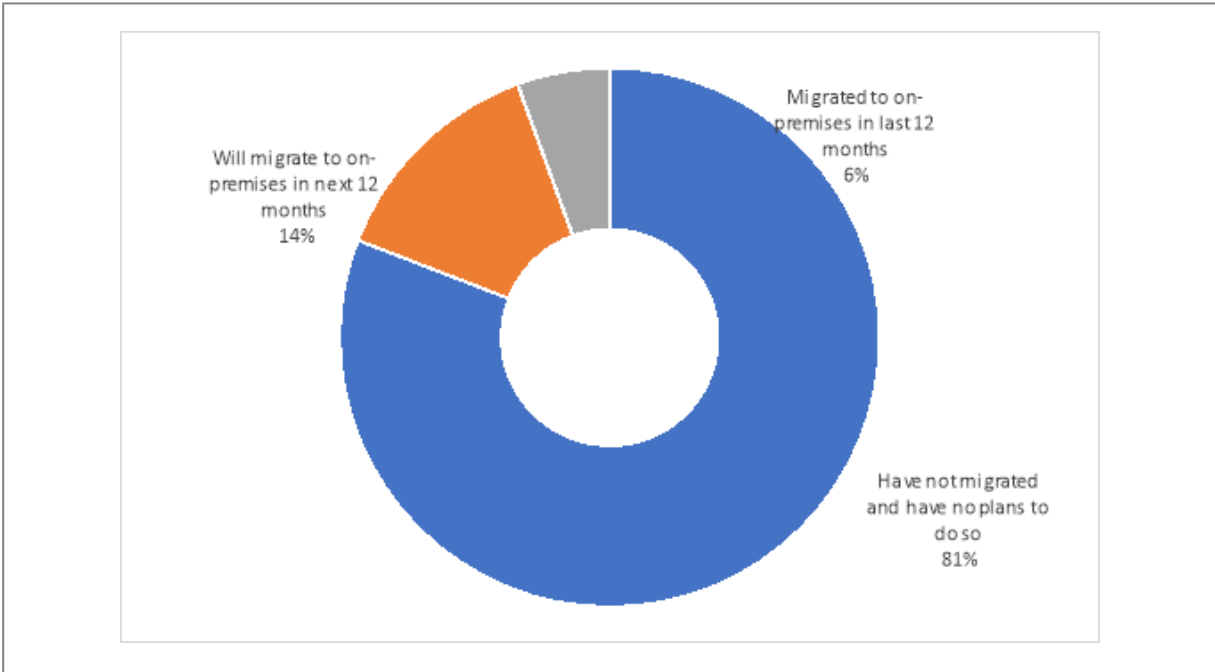
Source: 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services: Budgets and Outlook 2021
Q: Please describe your organization's experience with and plans about migrating applications or data from an IaaS/PaaS public cloud environment to an on-premises or enterprise colocation/datacenter environment.
Base: All respondents (IaaS/PaaS users), abbreviated fielding (n=162)

The reasons behind repatriation

Our VotE: Datacenters 2021 survey results indicate that cloud repatriation is not going away anytime soon, and that enterprises perhaps know well in advance why public cloud may not be suitable for certain workloads. When asked about the likelihood of shifting workloads out of public cloud within the next 12 months, half of organizations with their own datacenters and those using colocation facilities responded in the affirmative.

Repatriation is somewhat of a loaded term because it could imply that movement back to company-owned/-operated datacenters or colocation facilities is a strategic move rather than the tactical result of an ineffective/suboptimal cloud deployment. Furthermore, the term may reflect implicit (negative) commentary on the merits/desirability of public cloud environments overall. That being said, multiple factors can be behind organizations' decisions to move workloads away from the public cloud, not all of which necessarily indicate displeasure with hyperscaler public cloud services.

In our VotE: Datacenters 2021 survey, shadow IT – the unsanctioned use of public cloud – was the top factor behind moving workloads/applications away from hyperscaler public clouds in the next 12 months (25% of datacenter/colocation respondents are planning such a shift). Information security concerns represented the second-most-common reason (23% of those surveyed). Application

lifecycle considerations (i.e., different IT environments for test/dev and production) emerged as the third-most common (22%), followed by regulatory/governance requirements (18%) and data locality or sovereignty (16%).

Not surprisingly, operational issues emerge as organizations modernize and transform their IT environments, and public cloud is not without challenges. Information security concerns loom large as barriers to public cloud adoption or expanded deployment, as do cost control/optimization, cloud skills/expertise shortages and data management considerations. Interestingly, cost predictability and application performance, which typically emerge as key barriers to public cloud adoption, were not cited by VotE: Datacenters respondents as among the top five repatriation drivers.

Public cloud and private on-premises/colocation IT will coexist, as indicated by the 57% of organizations that point to hybrid environments as the organizing principle for their IT environments. This convergence is also evident in vendor/service-provider product development. The hyperscalers' cloud-to-ground initiatives (e.g., AWS Outposts, Azure Stack, Google Anthos, IBM Satellite) provide options for organizations seeking private/dedicated infrastructure tethered to the cloud but deployed in on-premises datacenters or other edge locations. Similarly, the datacenter infrastructure incumbents (e.g., Dell, VMware, HPE) are pivoting toward cloud-like 'as a service' operating models.

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