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Shelter-in-place: 451 Research survey shows why some database workloads remain on-premises

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Adoption of cloud-based database services is increasing, but not all workloads find their way to the cloud. 451 Research's Voice of the Enterprise: Data & Analytics, Data Platforms survey explains why some database workloads remain on-premises.

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Introduction

451 Research's Voice of the Enterprise: Data & Analytics surveys have consistently shown that enterprises are planning to move data platform workloads away from traditional on-premises noncloud architecture, with growth expected in IaaS/PaaS/SaaS and hosted private cloud deployments. The latest survey, Voice of the Enterprise: Data & Analytics, Data Platforms 1H20, is no exception, but also provides detail in terms of the specific approaches enterprises are planning to take in terms of relocating their data platform workloads to the cloud, as well as why some existing workloads will remain on-premises and why some new workloads are going to be deployed on traditional server infrastructure.

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While there is a tendency to talk about workloads 'moving' from traditional on-premises infrastructure to the cloud, 451 Research's latest *VotE: Data & Analytics* survey highlights that only 23% of respondents are actually planning to 'lift and shift' their existing on-premises data platform workloads to off-premises cloud environments (although a further 22% are planning to replace them with off-premises alternatives, and 15% plan to re-architect for off-premises environments). In fact, a higher proportion (25%) are planning to retain existing data platform workloads on-premises, but to re-architect and redesign using cloud-native frameworks. Data security, data sovereignty and leveraging existing IT investments are the primary reasons for doing so, and are also the top three drivers for deploying new data platform workloads on physical server infrastructure on-premises, although availability of staff/expertise is also a significant influence on the latter.

Migration patterns for existing data platforms

In recent years, 451 Research's *VotE: Data & Analytics* surveys have provided a consistent picture of the decreasing use of on-premises, noncloud infrastructure for data platform deployments. Our new *Voice of the Enterprise: Data & Analytics, Data Platforms 1H20* survey shows that the shift continues.

While 49% of respondents say they use traditional on-premises noncloud infrastructure for deploying data platforms today, only 37% plan to do so two years from now. Instead, we anticipate usage of data platform workload locations to be split almost evenly two years from now, between on-premises private cloud (39% of respondents), hosted private cloud (38%), IaaS (38%), traditional on-premises noncloud (37%) and SaaS (36%).

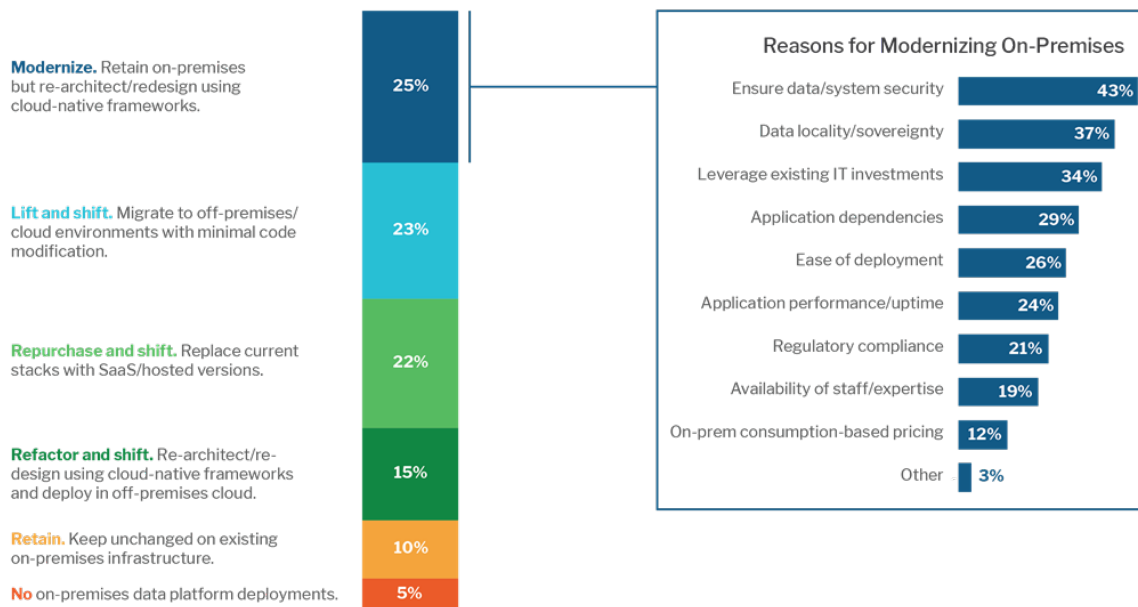
While the overall direction of travel for data processing workloads is away from on-premises traditional infrastructure, not all workloads are moving in the same direction. When asked about their plans for existing on-premises data platform/application stack deployments, just 10% of respondents expect to retain them unchanged on-premises.

Meanwhile, 15% are planning to re-architect using cloud-native frameworks and deploy in off-premises cloud environments; 22% are planning to replace current on-premises data platforms/application stacks with SaaS or off-premises hosted versions; and 23% are expecting to migrate the workloads to off-premises/cloud environments, with minimal changes to the application code or business logic.

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While only 10% of respondents expect to retain data platform workloads unchanged on-premises, a further 25% of respondents are planning to retain workloads on-premises, but will re-architect them using cloud-native frameworks. The primary reasons for taking this approach are to ensure data and system security (43% of respondents), to provide control over data locality/sovereignty (37%), and to leverage existing IT infrastructure or datacenter investments (34%).

Figure 1: Direction of Movement for Existing Workloads and Reasons for Modernizing On-Premises



Source: 451 Research's Voice of the Enterprise: Data & Analytics, Data Platforms 1H20

Deployment plans for new data platforms

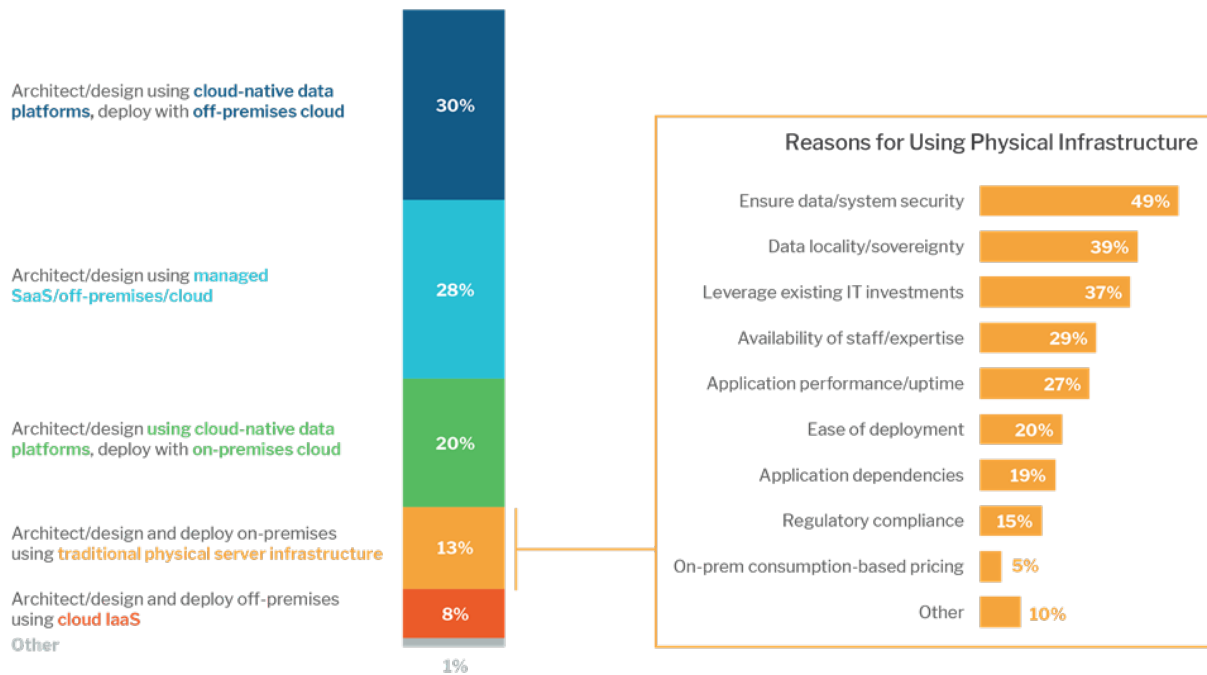
New workloads are more likely to be developed and deployed in off-premises/cloud environments, with 30% of respondents architecting using cloud-native data platforms and deploying in off-premises cloud environments, 28% using managed SaaS or off-premises cloud platform services, and 8% architecting and deploying off-premises using cloud IaaS.

One-third of respondents are planning to deploy new workloads on-premises, however, with 20% using cloud-native data platforms and deploying in on-premises cloud environments, and 13% planning to architect and deploy on-premises using traditional on-premises server infrastructure.

As a follow-up, we asked respondents to explain why they would choose to do the latter: architect and deploy new data platform workloads on-premises using traditional on-premises server infrastructure. As with existing workloads remaining on-premises, the primary reasons given are to ensure data and system security (49% of respondents), to provide control over data locality/sovereignty (39%), and to leverage existing IT infrastructure or datacenter investments (37%).

Availability of staff/expertise (29%) is a more important consideration for deploying new workloads on traditional on-premises server infrastructure than it is for retaining existing workloads on-premises while re-architecting using cloud-native frameworks.

Figure 2: Direction of Movement for New Workloads and Reasons for Using Physical Server Infrastructure



Source: 451 Research's Voice of the Enterprise: Data & Analytics, Data Platforms 1H20

The inevitability of hybrid IT

The expected ongoing use of on-premises and public cloud infrastructure for both existing and new data platform deployments points to the significance of hybrid IT strategies. While many companies may initially have stumbled into the use of multiple cloud computing environments alongside the continued use of existing on-premises IT investments, today hybrid IT is viewed not only as the logical and inevitable consequence of an abundance of choice in relation to computing and data storage location options, but also as a strategic imperative that enables enterprises to make the most efficient use of the variety of infrastructure location options.

As such, it is not surprising that many enterprises are concerned about the ability to run the same database on multiple cloud/datacenter environments. In total, 85% of respondents completely (42%) or mostly (43%) agree that the ability to run the same database on multiple cloud/datacenter environments is an important consideration for their organization when selecting a new data platform.

That figure rises to 91% for the most data-driven companies (58% completely agree, 33% mostly agree), as well as 91% of those that grade their organization's success with data and analytics initiatives as very successful (64% completely agree, 27% mostly agree).

One caveat remains: While it is rated an important consideration, other factors may take precedence. Only 17% of all respondents select support for both on-premises and cloud deployment as a criterion used for selecting their current data platform suppliers (reliability and security top the list with 42% and 40%, respectively), although it was selected by a higher proportion of the most data-driven companies (29%).