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Market Perspective

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Virtualizing Data Architectures for Hybrid Cloud-Computing

The virtualization of business and the evolution of digital transformation to applications and systems that operate in cloud computing — or the "as-a-service" environment — has fragmented enterprise and data architectures. The role of cloud computing has become a utility to provide elastic resources in support of operational needs. For example, data in the cloud requirements are provided by third-party vendors, managing security and storage of data outside the organization.

The rapid adoption of underlying applications operating in cloud computing has fragmented the data as well as where it is accessed or consolidated. The need to dynamically access and use data that supports operational and analytics requirements is no easy feat but is possible with data virtualization technology. Ventana Research asserts that, through 2021, one-half of organizations will realize that digital transformation investments have not established the organizational readiness needs of business continuity, requiring new investment.

Digital transformation efforts with cloud computing have introduced a new hybrid and multi-cloud reality of enterprise architectures. Organizations are now faced with bridging hybrid, private and public clouds — part of what is subscribed in the business use of applications and tools across the enterprise. The typical organization is operating across Google Cloud, Amazon Web Services and Microsoft Azure, with virtualization of the technology environment in VMWare. But the means for dynamically accessing data for any range of requirements across platforms and technology is not easy. The complexity of today's cloud-computing environment across a multitude of clouds and data comes from

legacy decisions in the adoption and use of business applications, analytics, business intelligence tools and custom applications through cloud-based platforms.

Simplifying access and use of data in cloud computing requires an architectural approach that is not always top-of-mind. Consider that, according to our research, 86% of organizations expect most data will reside in the cloud, 99% expect to use and perform analytics in the cloud, and 33% have a primary data lake platform in the cloud. The challenge is to determine how to streamline the methods for which data needs to be retrieved in context of the business or technology needs without requiring an intermediary resource to perform the task.

To gain a more efficient data architecture that works in harmony with data needs, organizations should consider:

- Addressing the integration required for hybrid access to silos of data across a broad array of cloud computing environments. Accomplishing this will require linking multi-cloud data sources to a unified data platform that supports the business and technological requirements.
- Simplifying data architectures through virtualization, versus moving data in and out of cloud computing environments at increased computing costs. A query in context of the specific needs can provide the required operational and analytical efficiencies.
- Standardizing technology used for data architectures to streamline governance operations of distributed access. Managing a velocity and volume of queries across sources in the cloud requires oversight through use of data catalogues as well as methods to ensure security and privacy of data being used.
- Simplifying the data strategy to support operational needs and analytical requirements used by analysts and teams via all of the tools within the organization.

Accelerating the next chapter in digital transformation with cloud computing will require new architectures that support data computing needs, significantly streamlining data architecture and processes for the entire enterprise. Organizations must take action to ensure that operations in hybrid cloud computing environments have the technology to support data virtualization. Evolving enterprise architecture will ensure vital data is not sitting in the cloud but is being productive as needed.

Regards,

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