• *ARTICLE*

Data Fabric, Data Mesh, And the Cloud: Data Management Architectures for the Future - Database Trends and Applications (dbta.com)

• *SUMMARY*

The article illustrates opportunities and risks associated with the emergence of next-generation data architecture such as fabric, mesh, and cloud. With the help of experts in the field, the write-up paves the way for an inquisitive audience to snatch bits of what are some advantages, obstacles, and implementations tips inside this unknown journey that will lead to better data democratization.

It all begins with a basic distinction between what is data fabric/mesh and contrasts with the cloud-based version. Insiders stress the distinctions because moving to one of these two data architectures requires an extensive rethinking of the data management and analytics process - something that companies are still struggling with. As the vice president of insights and data at Capgemini says, "They are still learning how to transition from passive, post-transactional data architectures to ones that support a data-driven organization. This is not a question of architecture as much as it is of governance and culture". Doesn't seem likewise for cloud-based architectures where the market is relatively mature and delivers great capabilities. Jones keeps explaining, "Almost all organizations in process of building a data landscape are leveraging cloud-based technology. Even traditional extract, transform, and load-based architectures benefit from the power of the cloud to enable dynamic capacity to speed up processing without requiring large-scale continual infrastructure."

Having said all of that, data fabric and mesh, might open alternative ways to process data that could not have been accessed before. Thus, it is crucial to clinching some advantages and disadvantages before a company implements such a technology. Data fabric and mesh bring more visibility and makes data easier to digest and consume. They help to truly democratize the data because data consumers don't have to worry about data discovery and can focus on experimentation, innovation, and the generation of new value from data. However, they can be complex and challenging to design and implement – oftentimes requiring extensive knowledge and experience. Therefore, likely suitable for large enterprises where is it possible to manage the burden that comes from financial investments in hardware, software, and professional staff. Additional challenges might come from data consistency, governance, quality, and other complexities – not to mention Data security. How can an enterprise mitigate cybersecurity risks while dealing with massive amounts of confidential data and meeting regulatory requirements at the same time?

In conclusion, the author explains that getting started with these types of data architectures requires a clear understanding of a business's needs with open communication and collaboration throughout the entire organization. Using diligence and planning abilities a smooth transition to the new architecture is assured.

• *ANALYSIS*

What I've learned from reading the article is that a data mesh and a data fabric both give an architecture to get data across numerous platforms and technologies. Still, a data fabric is technology-centric, while a data mesh centers around organizational change. In the fabric, the access is centralized as a rapid server cluster for network and superior resource sharing, for instance. Whereas, in the mesh, the data is stored within each domain within a firm. Each node has local storage, and computation power, and does not require a single point of control for operations.

One more distinction is that data fabric leverages automation finding, associating, perceiving, proposing, and conveying information resources for customers dependent on a knowledge graph. In contrast, data mesh depends on data domain owners to drive the requirements upfront for data products.