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Questions & Answers

Demystifying Data Mesh

We recently hosted a virtual fireside chat with guest speaker Michele Goetz of Forrester, and we are continuing the conversation with this Q&A Paper.

Data Mesh is a socio-technical data management paradigm that challenges the traditional monolithic data architectures with a decentralizing approach to ultimately make data usable in companies. It promises to solve the bottlenecks of a centralized data management architecture such as data lakes and to bridge the gap between the business needs and the technology.

The core principles are:

- Shifting the mindset from data as a treasured asset to a product that is used
- Decentralization and distribution of responsibility to the domains
- Platform that enables self-service for the domains with data integration and management capabilities
- Federated computational governance

Q What do you think are/will be the biggest challenges/obstacles of organizations that are looking at/implementing the Data Mesh concept?

The efforts and activities Data Mesh encourages are not new, but the direction organizations approach data is. Data has been a very bottom up approach and started by looking at the data and its condition within a data warehouse and data lake. But the semantics and nuances that make data contextual and relevant are stripped away in those environments to allow for more use cases and analytic approaches. The hardest thing organizations will work through is to describe data from the business process, decisions, and customer experience down in order to reconstitute the data. That demands line of business subject matter expert and decision maker participation. But the experience of working with data, which they see as a technical competency, and their own data literacy has to be evolved to bring the business perspective back to the data.

● Top 5 Data Challenges are Driving Data Mesh

#1

Keeping data and the speed of business and customers in sync

#2

Decision makers can't deal with data that is messy, diverse or large

#3

Lack of foundational investments

#4

Accessibility, availability, and/or readiness of data to use

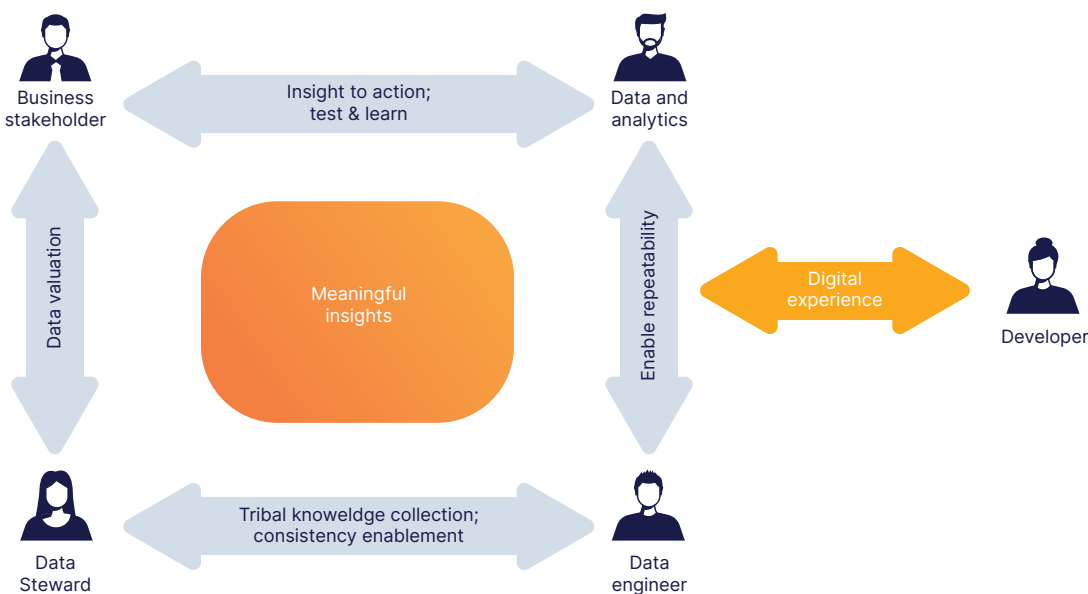
#5

Maturity of technology around security

Q What do you think are the 5 key factors that companies need to consider when implementing the Data Mesh concept?

- #1 Data literacy of employees and decision makers is number one. The consumers of data need to understand their role, responsibility, and more importantly how to acquire and use data for decisioning and delivering the value proposition.
- #2 Self-service, a key data mesh principle, changes how data consumers engage with data. A data experience that is embedded into the way data is created, consumed, updated, and removed where the data consumer works, the business application, and not another data management tool.
- #3 Put semantics first. Approach data not as oil but as the digital representation of the business. While data management systems detangle data from our processes, operations, transactions, and decisions, semantics needs to travel and stay with the data or the ability to re-use that data is difficult.
- #4 Community and collaboration strengthen the value chain for data. No one sits in a cubicle cell all day working with data and running numbers anymore. Subject matter experience from technical, analytic, business, and governance roles are required to get to the insights and then deploy those insights from screens to decisions.
- #5 Package and deliver value, not data. Data as a product is a key data mesh principle. But the product is not a technical deliverable but a set of technical components and data that combined support a business decision, process, or outcome. And with that, the ROI of data is innate, and the products provide new launch points for new value as they are deployed, optimized, and re-used and re-purposed.

● Data is Collaborative



Q What is the difference between Data Mesh and Data Fabric? Can you have a Data Mesh and a Data Fabric in the same company?

Data Mesh is the approach, Data Fabric is the platform. Firms can invest in and deploy a data fabric. And they can achieve value from that. But Data Mesh ensures the business lens is the leading factor for data capture and consumption. However, that does have implications on Data Fabric. The data flow is the priority, not the database. Thus, firms embarking on Data Mesh are defining and expanding their data integration architectures to address the flow and pathways of data, the schema governance, and the types of pipeline capabilities (ETL/ELT, data virtualization, microservices, APIs, streaming, etc.) in context of SLAs, the business outcomes, and time to value.



What use cases can be enabled by Data Mesh? In how far do they differ from the ones that can be enabled by Data Fabric, if at all?

All use cases for data benefit from Data Mesh. However, where exponential returns occur is in operational and transactional systems where digital systems are embedded with intelligence. Firms can get started with Data Mesh principles to support analytics and data science, or even modernization and migration to new platforms and applications. But, without fully embracing the fourth principle – data as a product – data and insight remains constricted to dashboards and charts and slower decisioning. Thus slower and restricted business results. The goal for Data Mesh should be on what revenue is being created? What new value is being delivered? Go beyond IT efficiency metrics of data engineering and analyst man hours and time spent. The big ROI is the upside business impact that the CEO and Board sees.



What comes after Data Mesh and why?

Community is the biggest trend now as it pertains to data and data science. Data Mesh is the gating factor to being able to work not only within the four walls of the organization, but to be effective and creating new data and partner ecosystems. Data sharing, insight sharing, co-development of machine learning models, and co-development of data driven products and services all need the Data Mesh foundation. Common language, common policies, modern ways of working, and productization of data are what shape Communities designed to develop and deliver shared IP and value.



Michele Goetz
VP and Principal Analyst

FORRESTER



Dr. Nick Golovin
Founder and CEO



About Data Virtuality

- **Founded:**
2012 by Nick Golovin (PhD) in Leipzig, Germany after 8 years of research
- **Offices:**
Munich, San Francisco, Leipzig
- **Solutions:**
Data Virtuality Platform SaaS
Data Virtuality Platform On-Premises
Data Virtuality Pipes Professional
Data Virtuality Pipes
- **Acknowledgements:**
Honorable Mention in 2022 Gartner Magic Quadrant for Data Integration Tools
- **Awards:**
Most Innovative Data Management Provider 2022, 2021 and 2019 (A-Team Insights)
2020 and 2019 Deloitte Technology Fast 50

Message: info@datavirtuality.com

Visit: datavirtuality.com

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