Agenda

- Level Set: What is a data mesh?

- What you need from your data platform to enable a data mesh architecture

- Dremio Arctic and data as code

- Advantages of data as code for data mesh architectures

What is a Data Mesh?

A data mesh is a modern approach to data management that emphasizes distributed ownership and governance of data within domains, who then build, manage, and share data products across the organization.

Why All the Hype?

Distributed data probably
isn't going anywhere

Line of Business
- Access
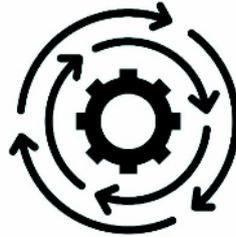- Speed + Agility

Centralized IT Teams
- Governance
- Security

Tension between
IT and Line of Business

A Sociotechnical Approach to Data Management

People

Processes

Technology

Organize people
around data

Decentralized data
management, build data
products, enable self-service

Unified Access
Layer

Pros and Cons of a Data Mesh

✓ Domain owners know and understand their data better than anyone

✓ Data mesh can be more cost efficient

✓ It may be the only realistic way to unify data sources

✗ Security and governance can be more challenging

✗ Data talent is getting harder to find

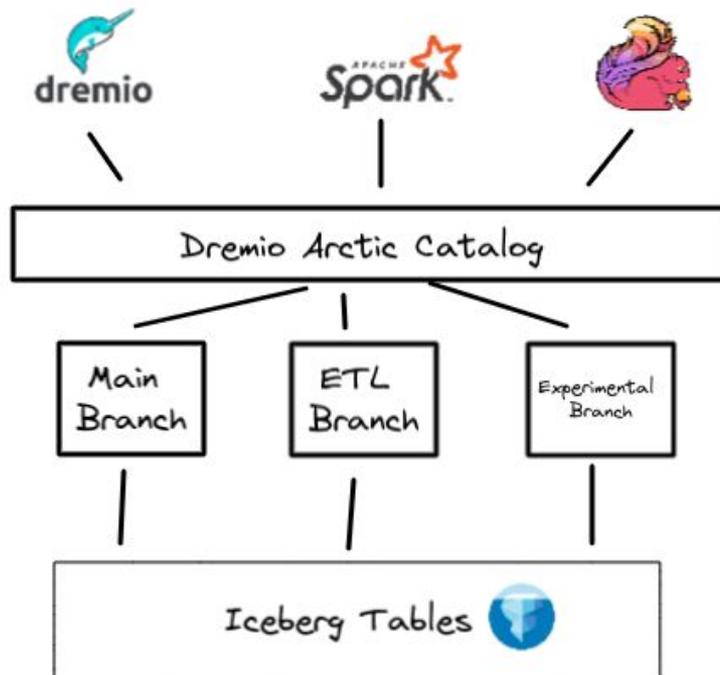✗ Self-service access to a unified and consistent view of data can be hard

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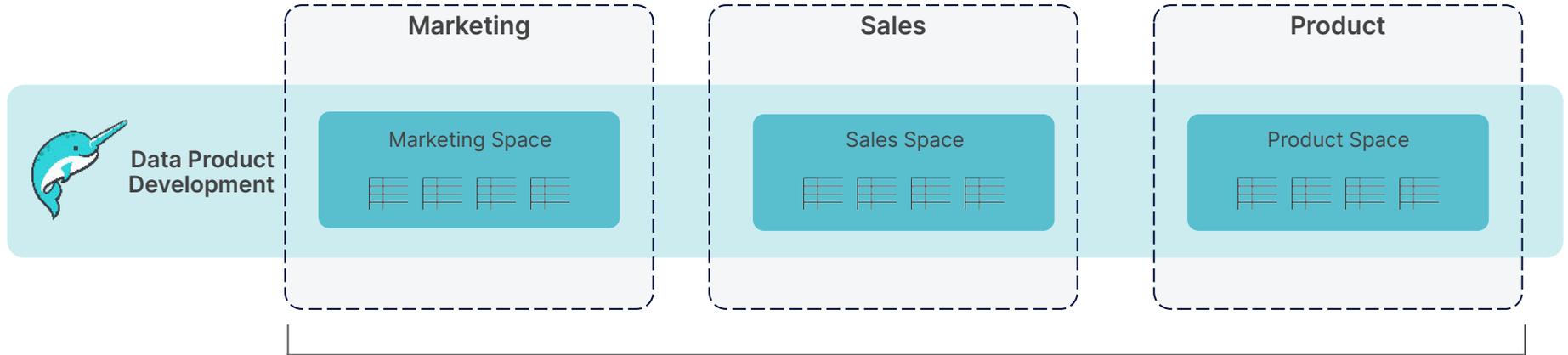Data_Waves

Dremio Arctic and Data as Code

Dremio Arctic is a Data Lakehouse Management Service
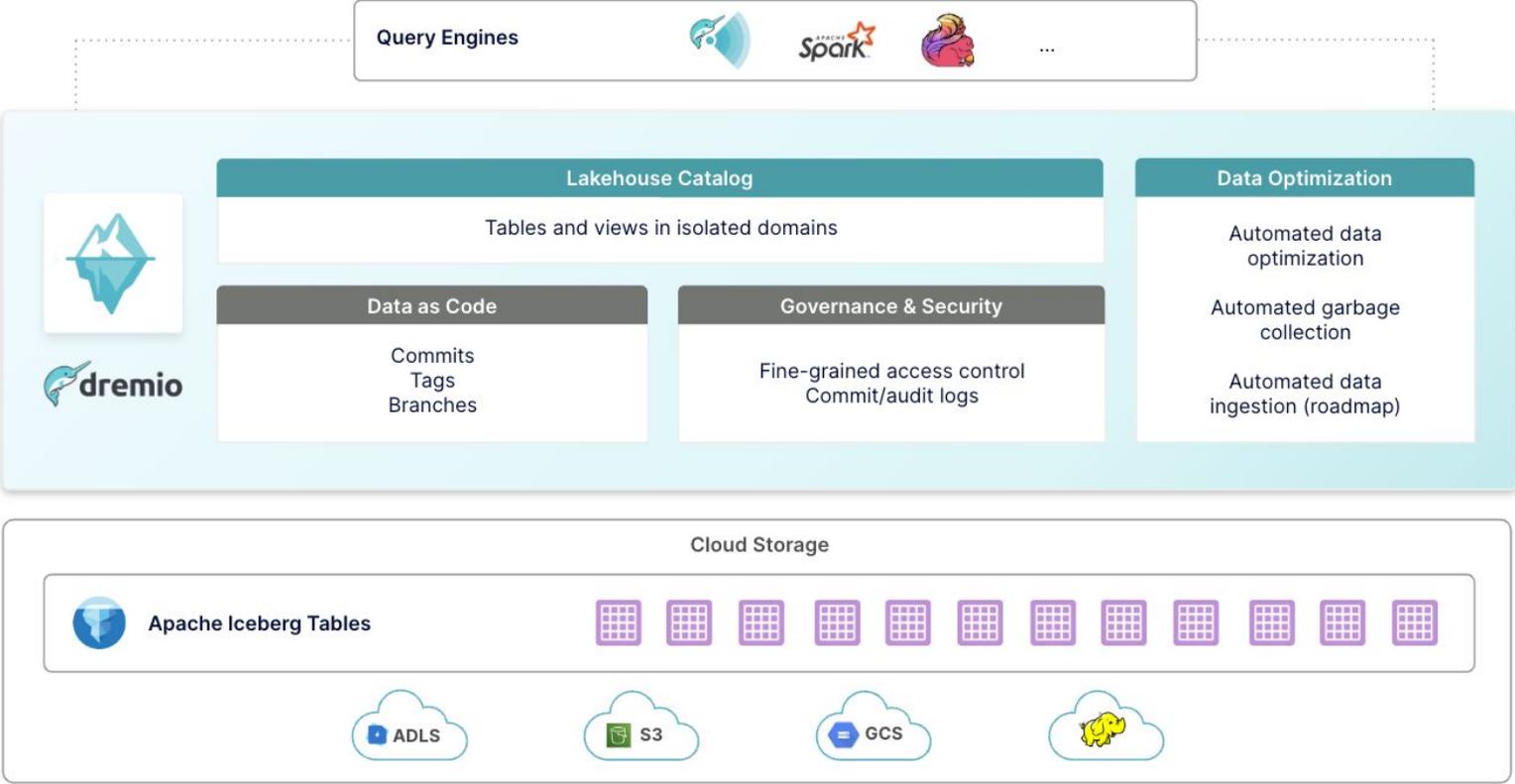
Data as Code within Dremio Arctic: A Quick Refresher on Branches, Tags, and Commits

Create the Foundation for a Domain-Oriented Architecture

Data Product Development

Marketing

Marketing Space

Sales

Sales Space

Product

Product Space

- Isolated environments for domains
- Leverage common auth and ACLs

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Data_Waves
dremio

Develop and Manage Data Products
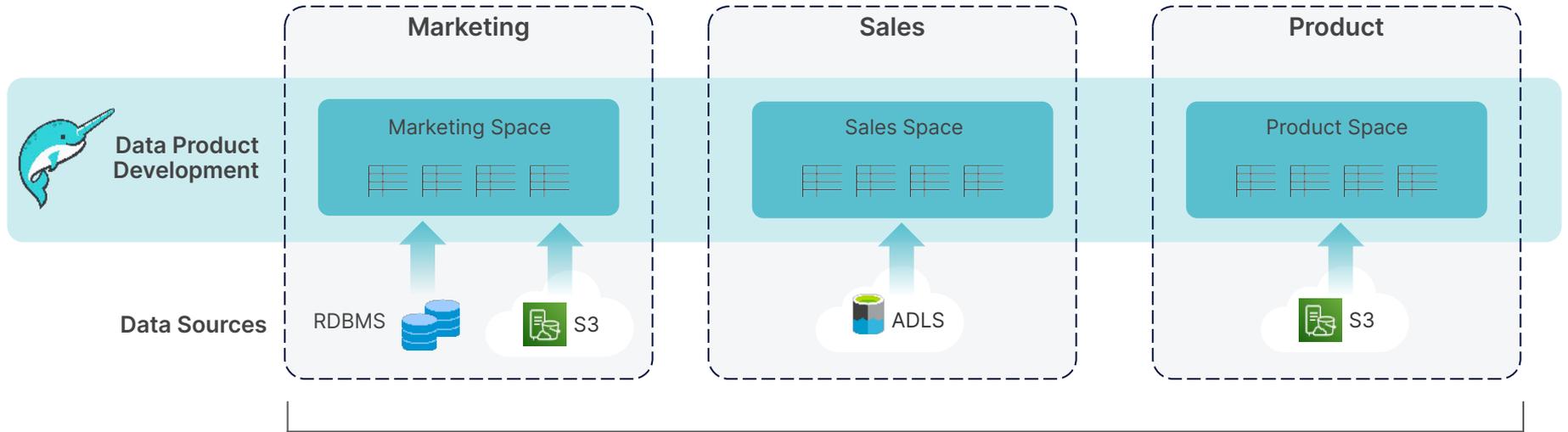
- Use data from any source to build data products
- Safely experiment and create data products without creating physical copies of data

Manage Data Products Like Code
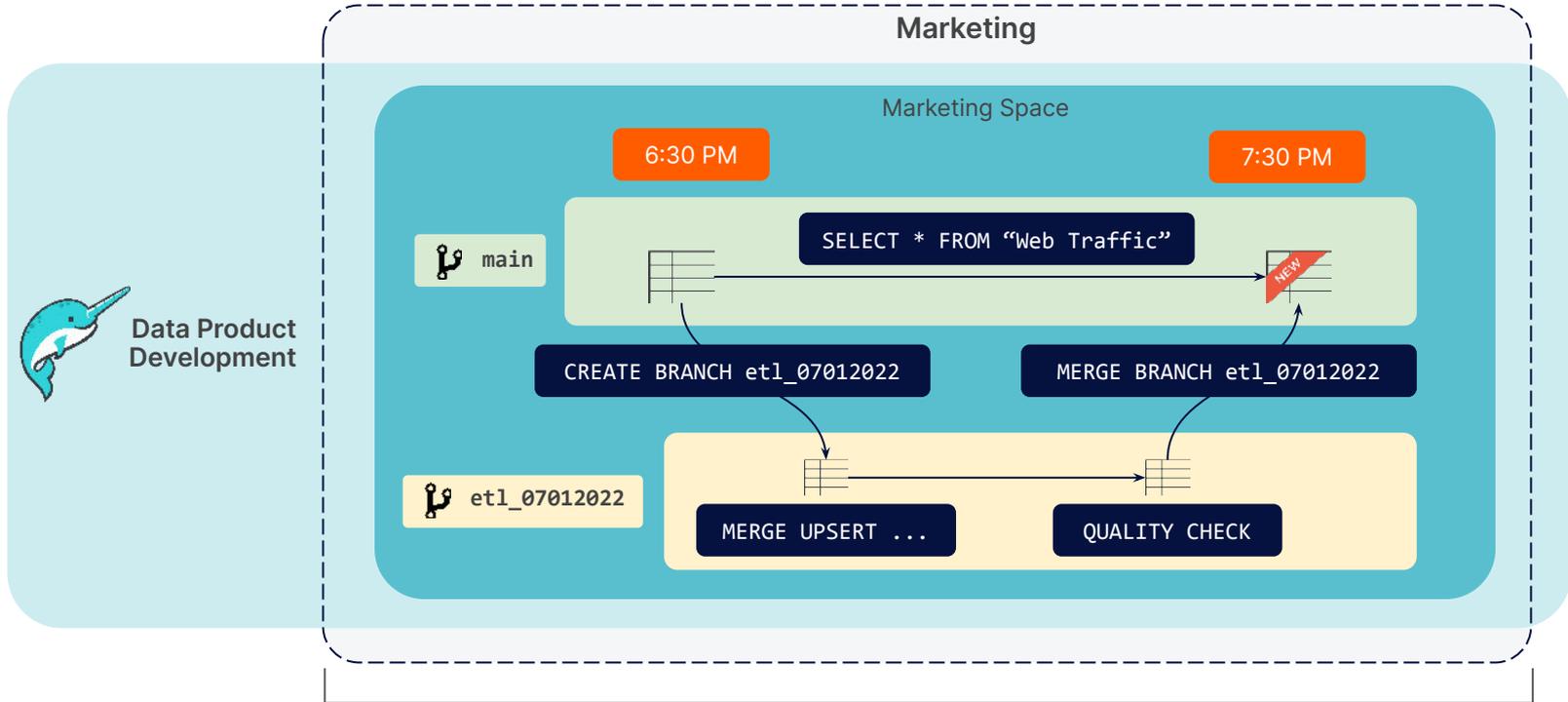
- Data engineers can use git-like branching to transform data across tables and schemas in isolation without impacting production workloads, and merge data changes once they're tested and ready
- Data consumers can only query the main branch, and can immediately access updated versions of datasets as they're pushed to the main branch

Share Data Products Seamlessly

Marketing

Sales

Product

Shared Data Products

Shared Space

Web Traffic
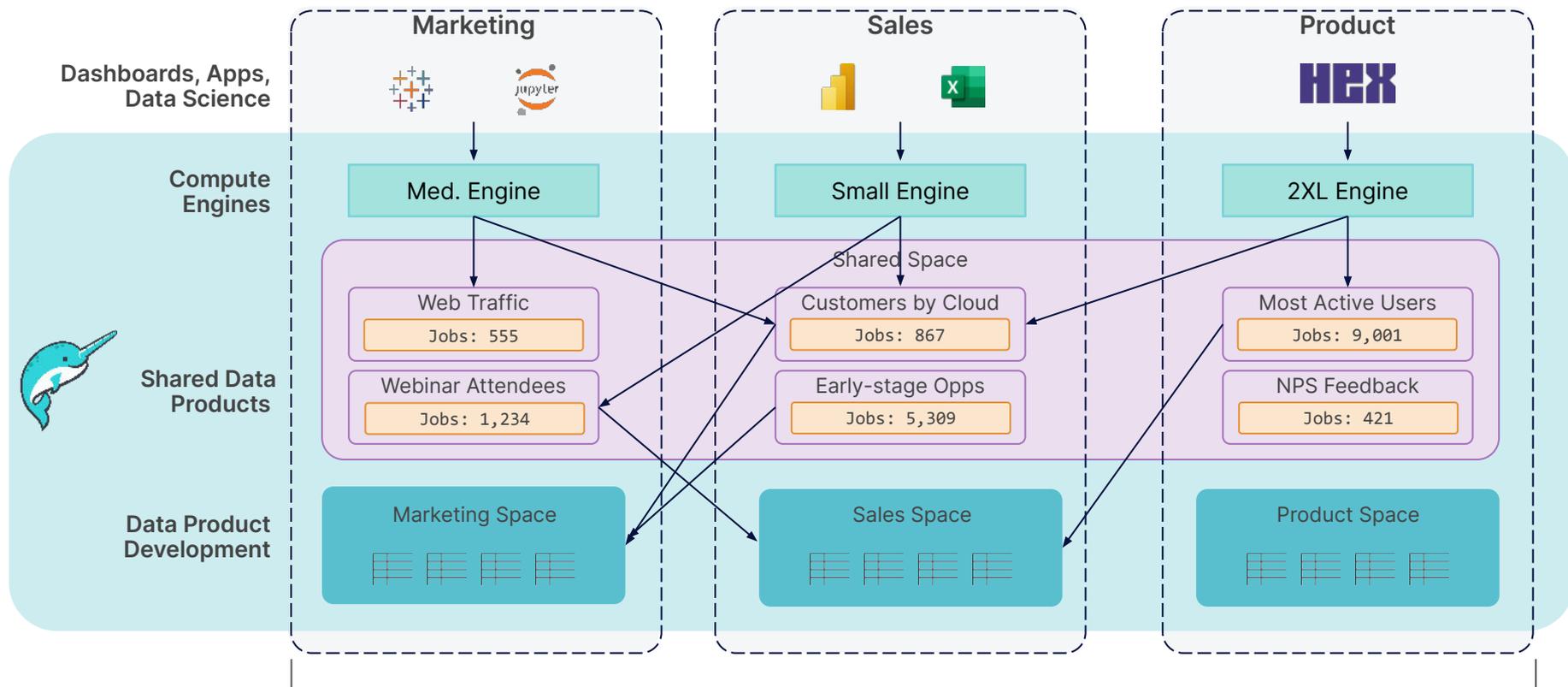`#MKTG #web #digital`

Customers by Cloud
`#SALES #AWS #Azure`

Most Active Users
`#PROD #cloud-only`

Webinar Attendees
`#MKTG #AWS`

Early-stage Opps
`#SALES #SFDC`

NPS Feedback
`#PROD #textual`

Data Product Development

Marketing Space

Sales Space

Product Space

Data Sources

RDBMS

S3

ADLS

S3
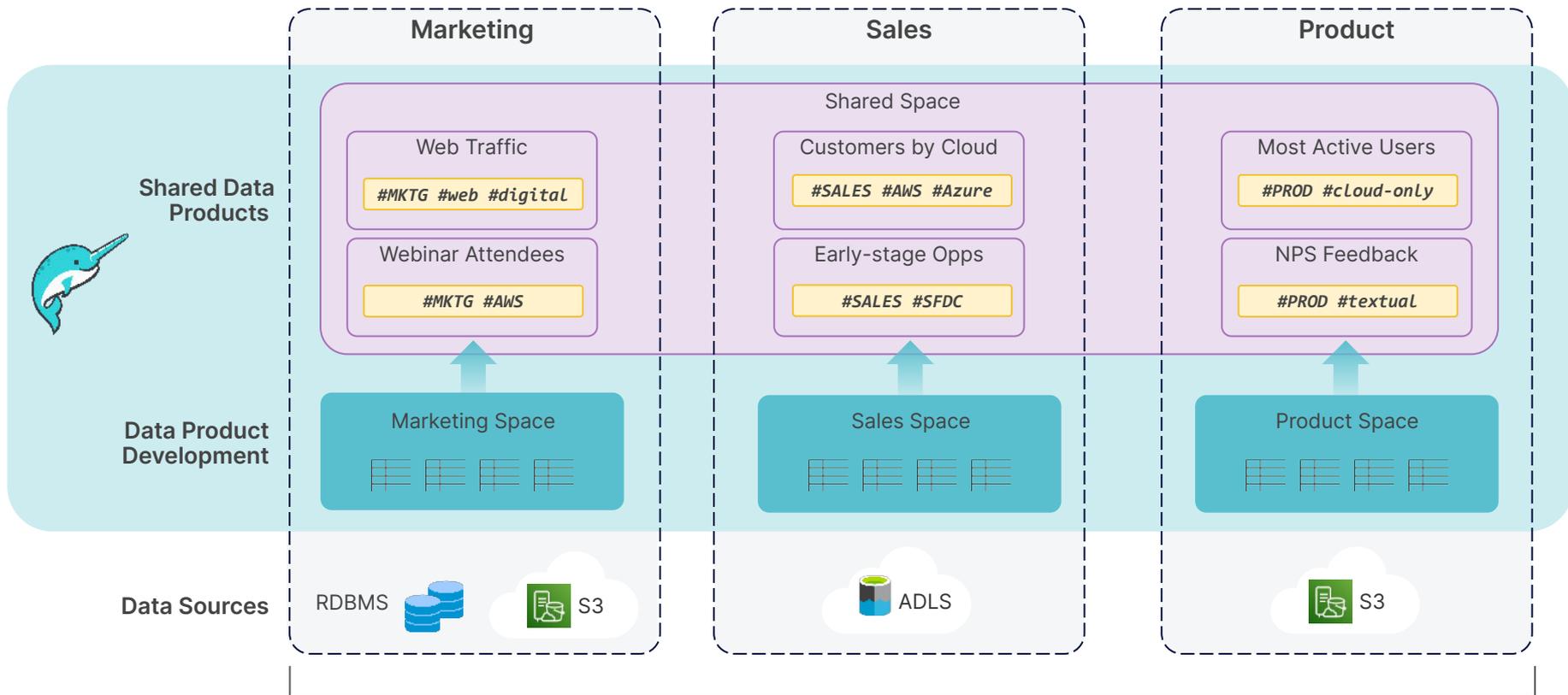
- Add context and tags to data products for others to leverage, and publish data to a shared public space when ready

Consume Data Products Easily

	Marketing	Sales	Product
Dashboards, Apps, Data Science			
Compute Engines	Med. Engine	Small Engine	2XL Engine
Shared Data Products	Web Traffic — Jobs: 555 / Webinar Attendees — Jobs: 1,234	Customers by Cloud — Jobs: 867 / Early-stage Opps — Jobs: 5,309	Most Active Users — Jobs: 9,001 / NPS Feedback — Jobs: 421
Data Product Development	Marketing Space	Sales Space	Product Space

Shared Space

- Use your favorite tools to analyze any data available to you, using live queries — no need for data extracts/imports
- Combining other domains' publicly-shared data with your own data products
- Create physically isolated, right-sized, autoscaling compute engines so domains can work without bottlenecks

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Advantages of Data as Code for Data Mesh Architectures

Collaboration

Easily identify milestones in the lifecycle of a data product. Work on data products simultaneously without impacting each other.
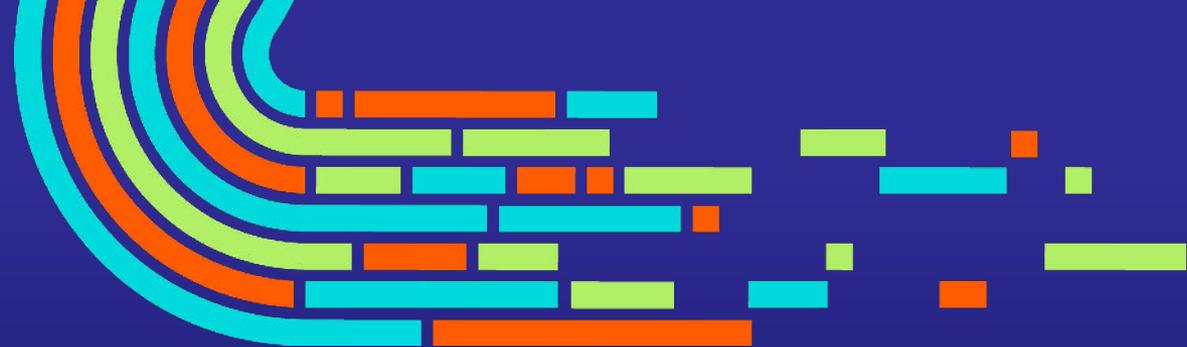
Consistency

Deliver an accurate and consistent view of the data within your production branch across data consumers.

Quality Assurance

Ensure high quality data products by making changes in isolation and testing them before making a commit.

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Thank You!

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Try Dremio Arctic in Dremio Cloud today!
www.dremio.com/get-started