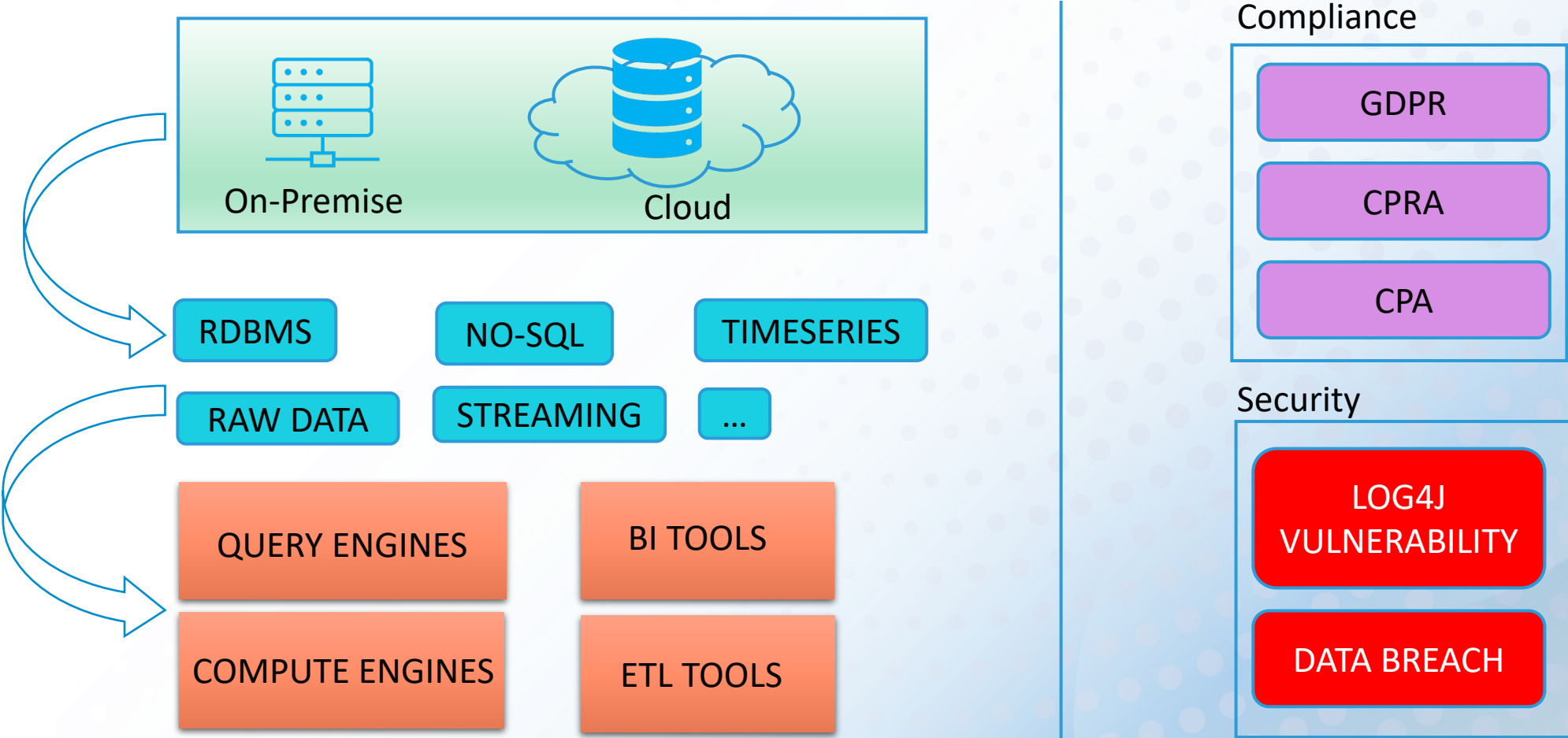


ELEVATING DATA FABRIC TO DATA MESH: SOLVING DATA NEEDS IN HYBRID DATALAKES

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Sr Principal Architect, Comcast
November 10, 2022

DATA LANDSCAPE



DATA JOURNEY – CURRENT



**RAW DATA, TABLES, VIEWS,
MATERIALIZED VIEWS**

Minimum requirements:

BASIC QUERIABILITY

LIMITED SECURITY



**TABLES, VIEWS,
MATERIALIZED VIEWS**

Minimum requirements:

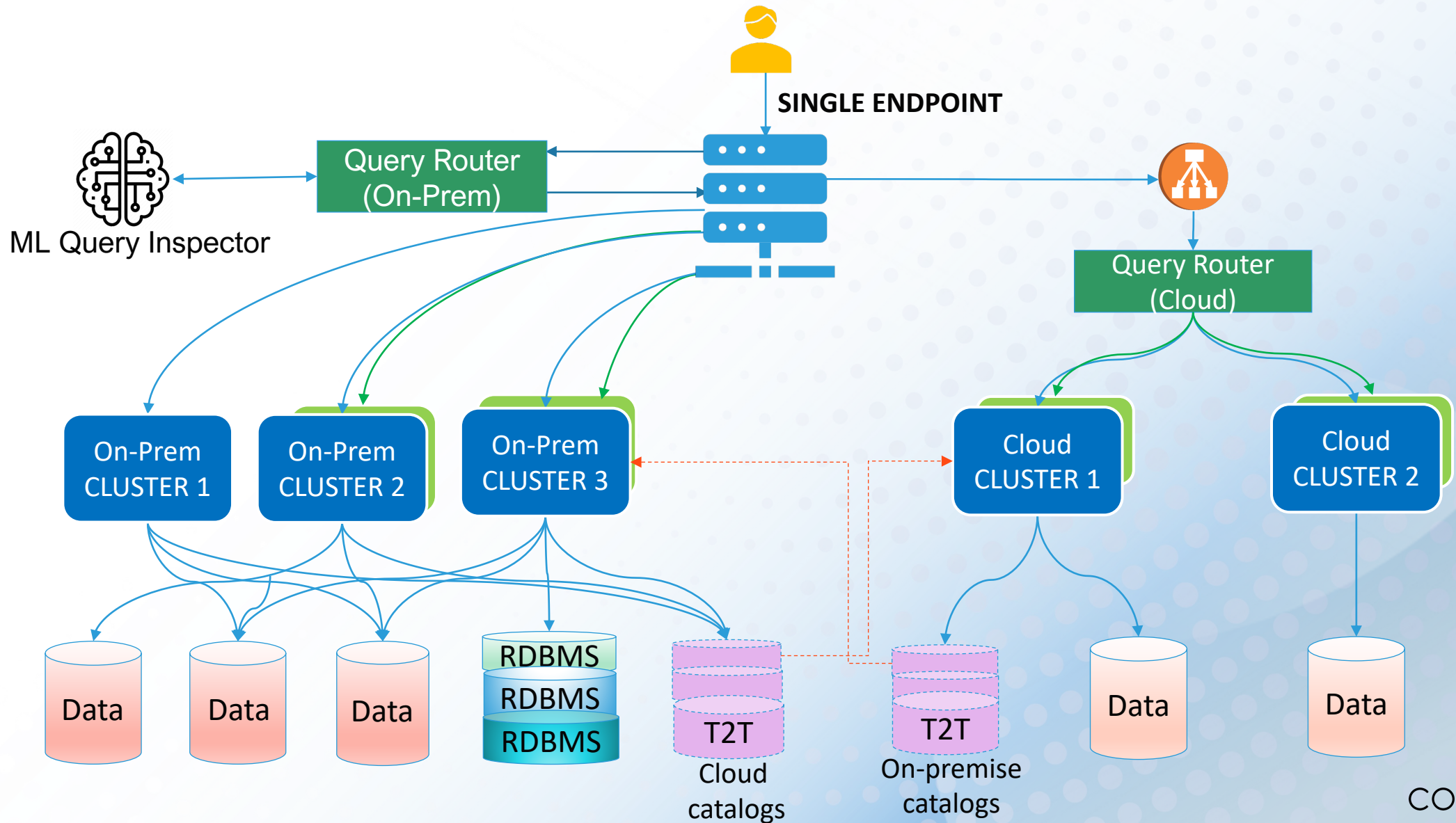
DISTRIBUTED DATA SETS

SECURITY

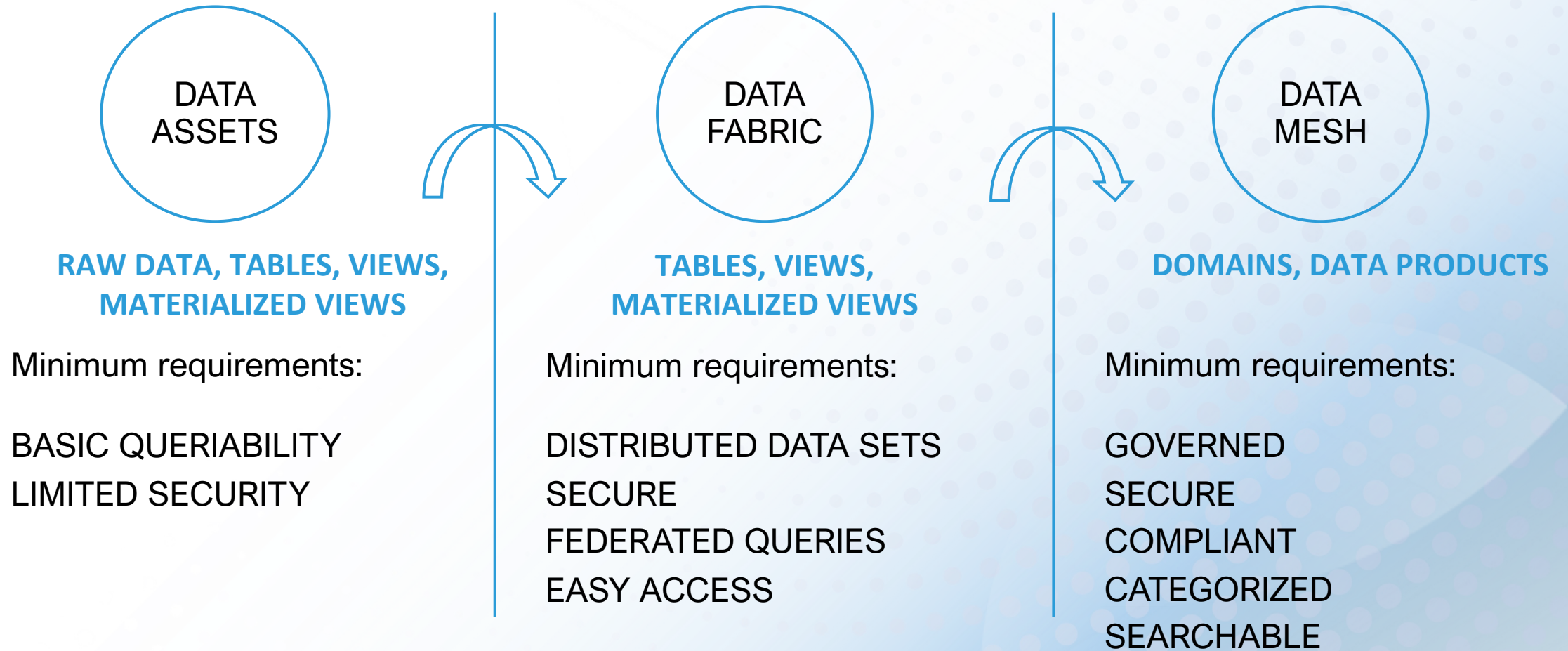
FEDERATED QUERIES

EASY ACCESS

DATA FABRIC – TRINO SOLUTION



DATA JOURNEY - NEXT



Compute/Query: Query Fabric (Trino), Databricks, Spark

DATA MESH OUTCOME



Regulatory Compliance

- CCPA, CPRA, CPA, GDPR
- Additional state / federal regulatory compliance



Data Analytics

- Improved trust in the data
- Improved availability



Data Consolidation

- Reduce storage and maintenance costs
- Reduce confusion over multiple repositories



Information Security

- Data protection
- Data deidentification



Customer 360

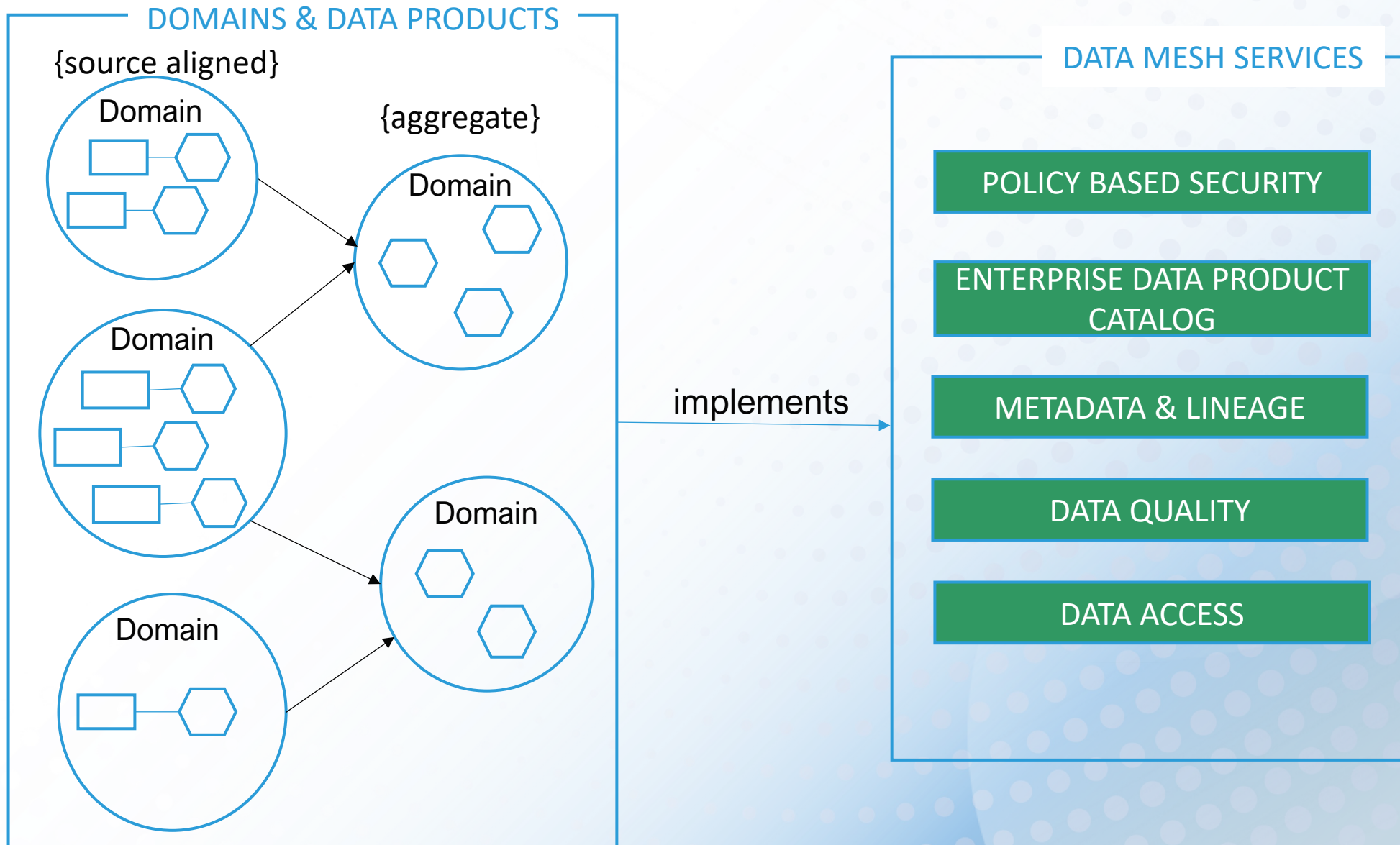
- Bridge across org silos
- Marketing
- Master Data Management



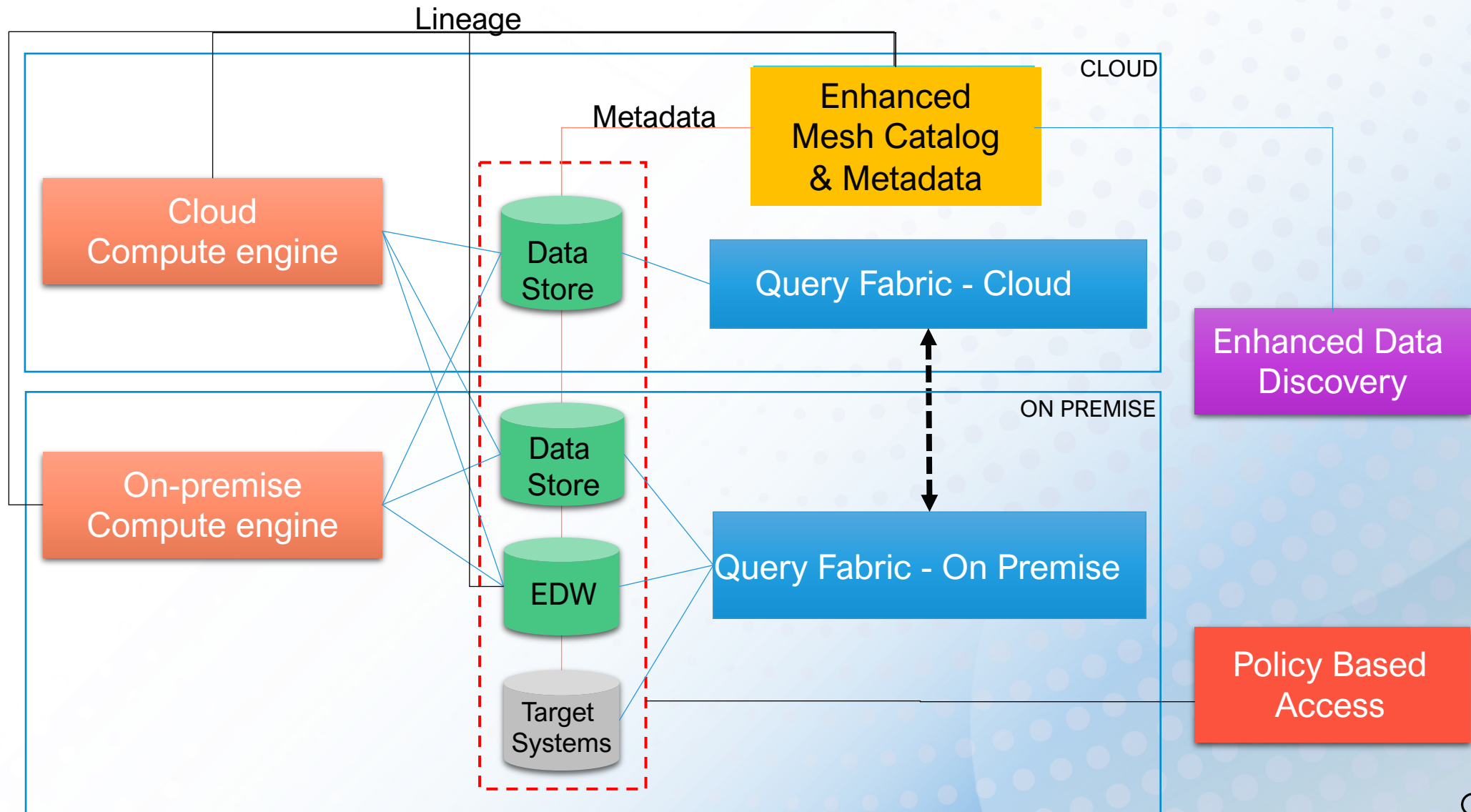
Data Quality

- Drive accountability for data
- Standards for data

DATA MESH SOLUTION



DATA MESH IMPLEMENTATION



DATA MESH GOVERNANCE

DATA ACCESS CONTROL

- Fine Grain Access
- Attribute masking
- Row filtering
- Tagging
- Policy based ABAC/RBAC

PRIVACY REMEDIATION

- Retention and Minimization
- IRR Management
- Privacy Scanning
- Categorization
- Data legal hold

FINE GRAIN DATA ACCESS



Automated Scans @ attribute-level

+



Data Owners & Steward **assign tags** to categorize data collections

+



Data Consumers **Discover & Request Access** in-line



Data Privacy & Security
Tiered Attribute Masking based on Sensitivity



general
sensitive

DATA ACCESS TAGS

Table-Level



Row Filtering



GROUP1
GROUP2

Attribute-Level



general
sensitive

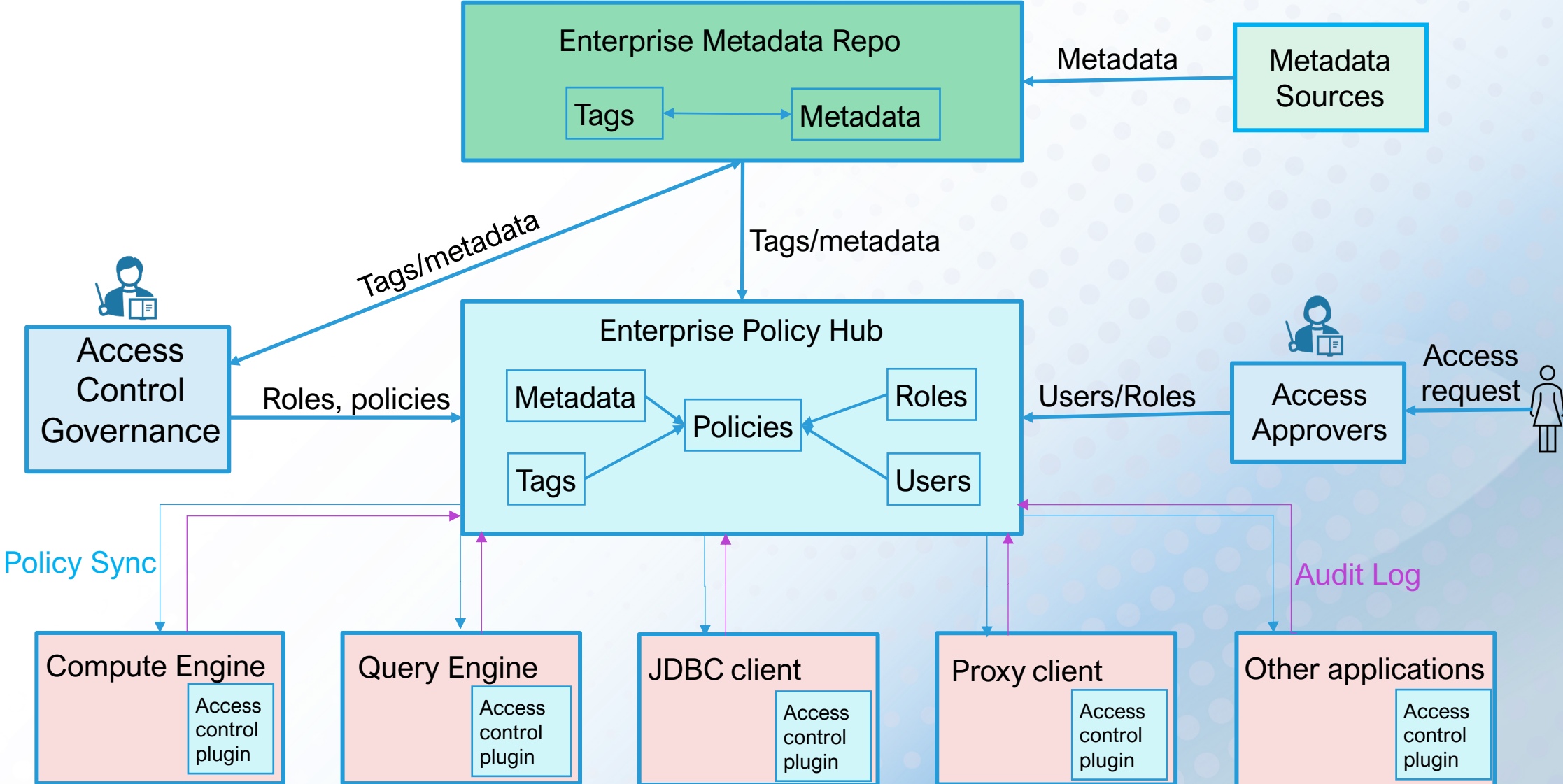
Required for All Levels:

- Group
- Data collection sensitivity

Optional for All Levels:

- Global Roles

Access Control Architecture and Flow



DATA MESH AND CULTURE CHANGE

Technology - just one piece of the puzzle

SLAs/SLOs

Interoperability

Security

Privacy

Cultural Change / Mindset Shift

Data Product mindset

Level the playing field

Collaboration and Organizational unity

DATA MESH AND GOVERNANCE – NEXT STEPS

Technology Challenges

- Mesh metastore
- Enhanced data discovery
- Data product notification
- REST data product support

Governance Challenges

- Automated retention and minimization
- Individual right requests and deletes
- Federated access policy management
- Privacy scanning/categorization
- Data legal hold

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