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Why operationalizing data mesh is critical for operating in the cloud

Patrick Barch

Sr. Director, Product Management
Capital One Software

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Agenda

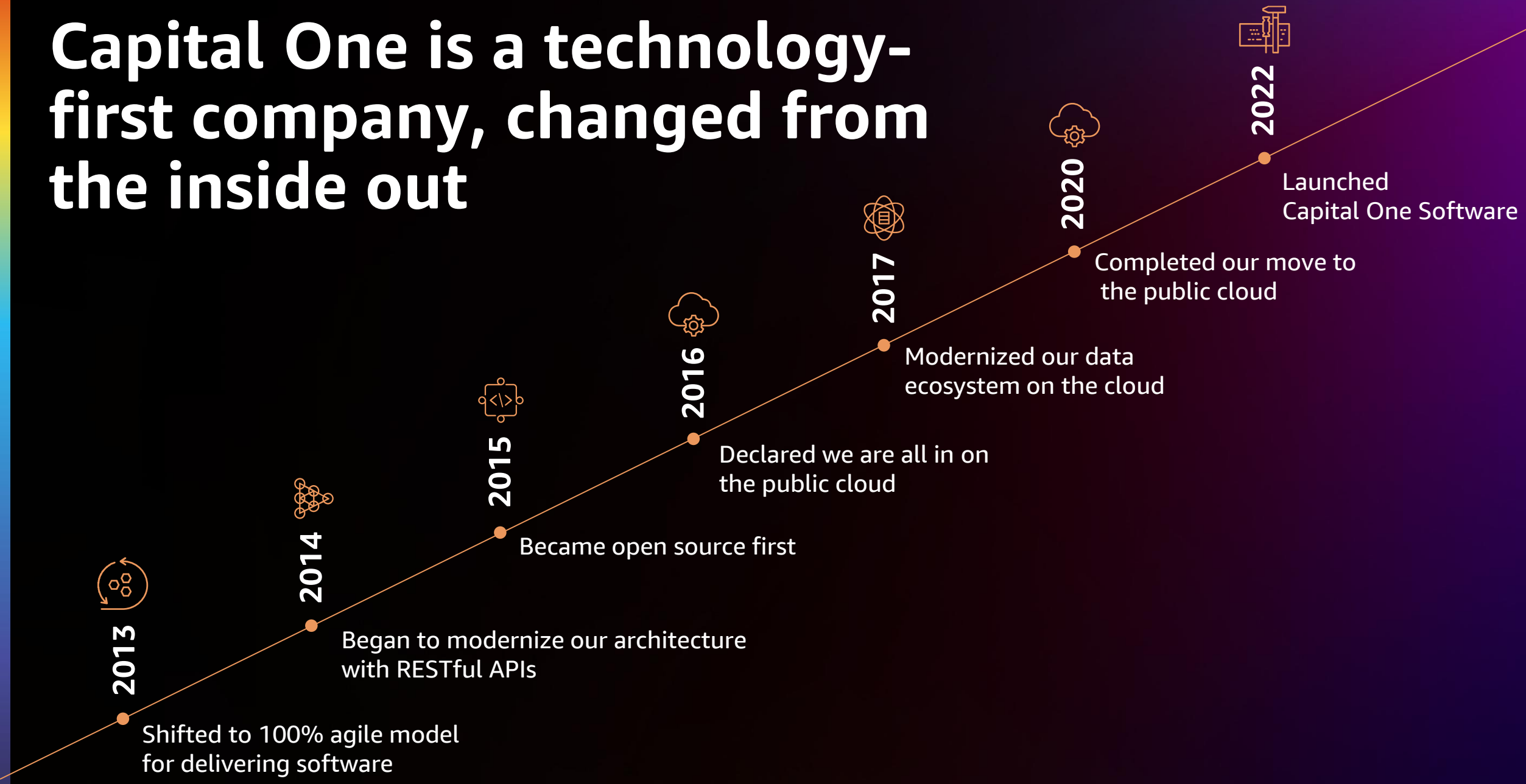
Our data transformation journey

Data mesh principles

How we operationalized data mesh at Capital One

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Capital One is a technology-first company, changed from the inside out



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Let’s take a step back and talk about the data journey we went on and the challenges we faced



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Scaling a cloud data ecosystem requires empowering several groups to work together seamlessly



Publishing

Application owner sharing high-quality data to a central location



Consumption

Business analyst looking to make informed decisions



Governance

Risk manager responsible for defining and enforcing policy



Infrastructure management

Software engineer in charge of platform management

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Most companies invest in point solutions for the various actors



Publishing

Data integration

ETL

Workflow



Consumption

Data catalogs

Data quality

Access management



Governance

Entitlements

Data protection

Reporting



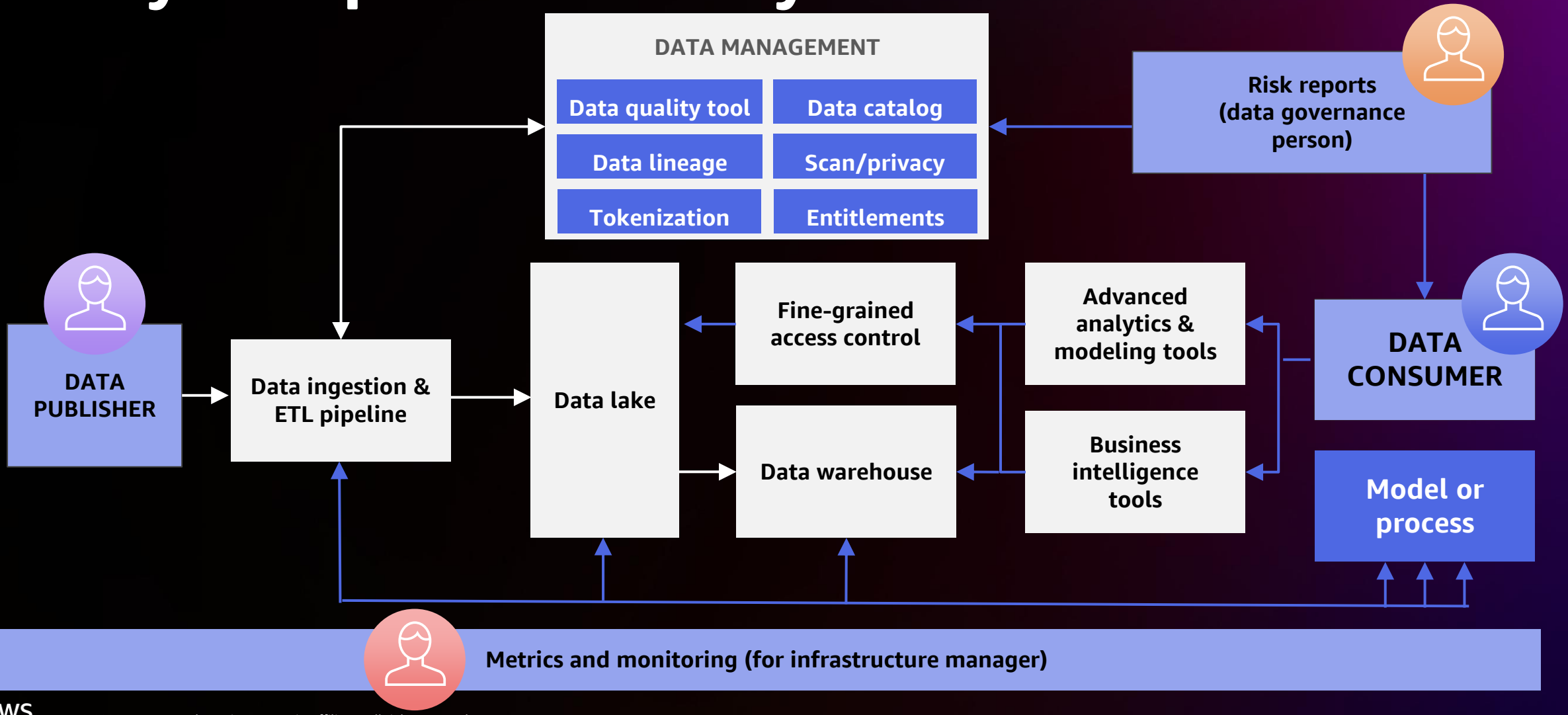
Infrastructure management

Provisioning

Monitoring

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Integrating all of those solutions can create an overly complicated ecosystem



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Who has heard of data mesh?

Domain ownership

Data as a product

Self-serve data platforms

Federated computational governance

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We solved for these problems through a two-pronged approach





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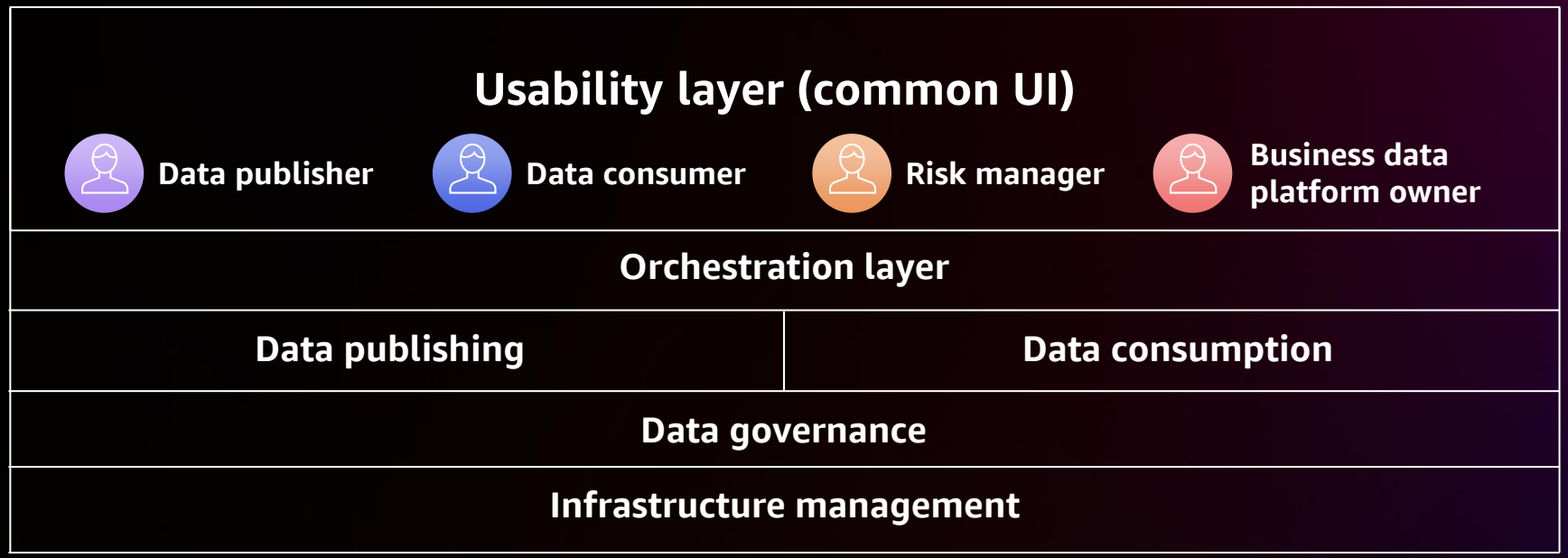
Common standards are required to enforce modern data management

- **Broke our LOBs into orgs** and units of data responsibility
- **Defined standards** for metadata curation
- **Defined data quality standards** for shared datasets
- **Defined common entitlement patterns** for our data based on sensitivity
- Made it **easy**

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Federating data management responsibility requires creating delightful, integrated experiences



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Here are four sample user journeys that the UI layer supports



A data product owner publishing a new data product to Snowflake



A data consumer discovering, evaluating, and getting access to the right data product



A risk manager defining and enforcing data protection policies



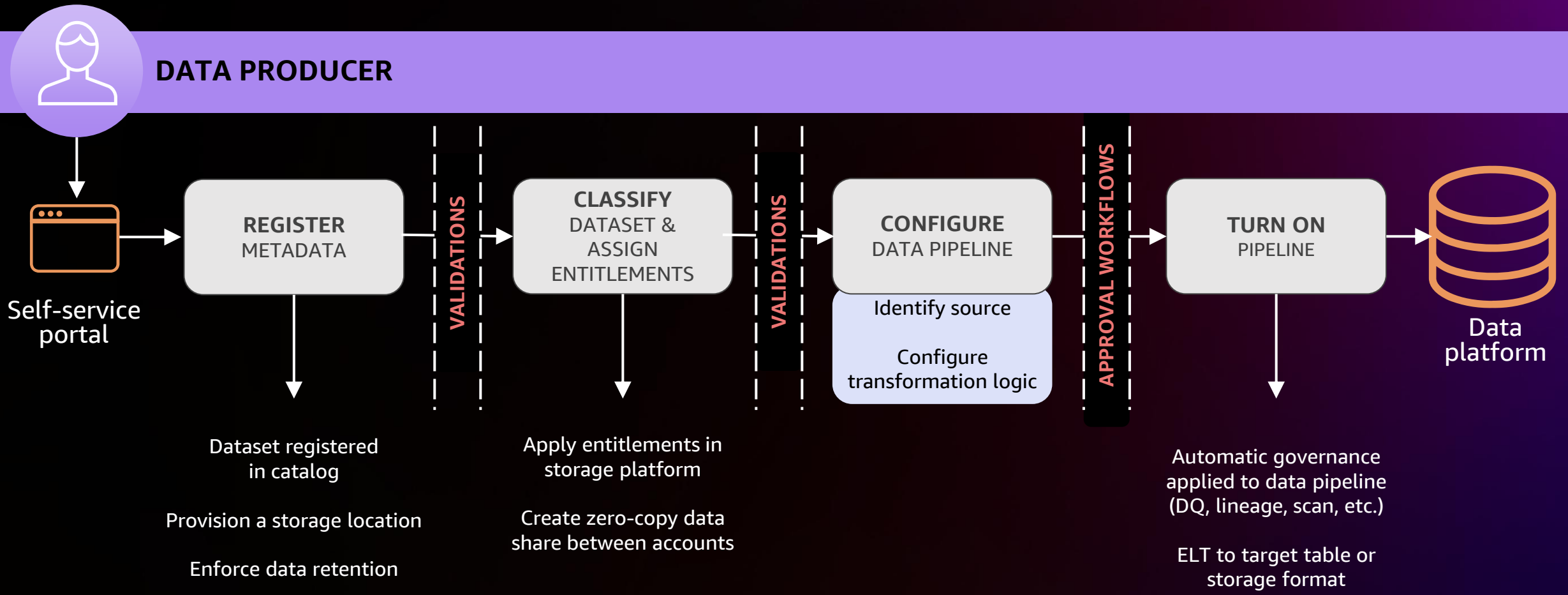
A business data platform owner managing Snowflake infrastructure provisioning and cost

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Self-service data producing experience

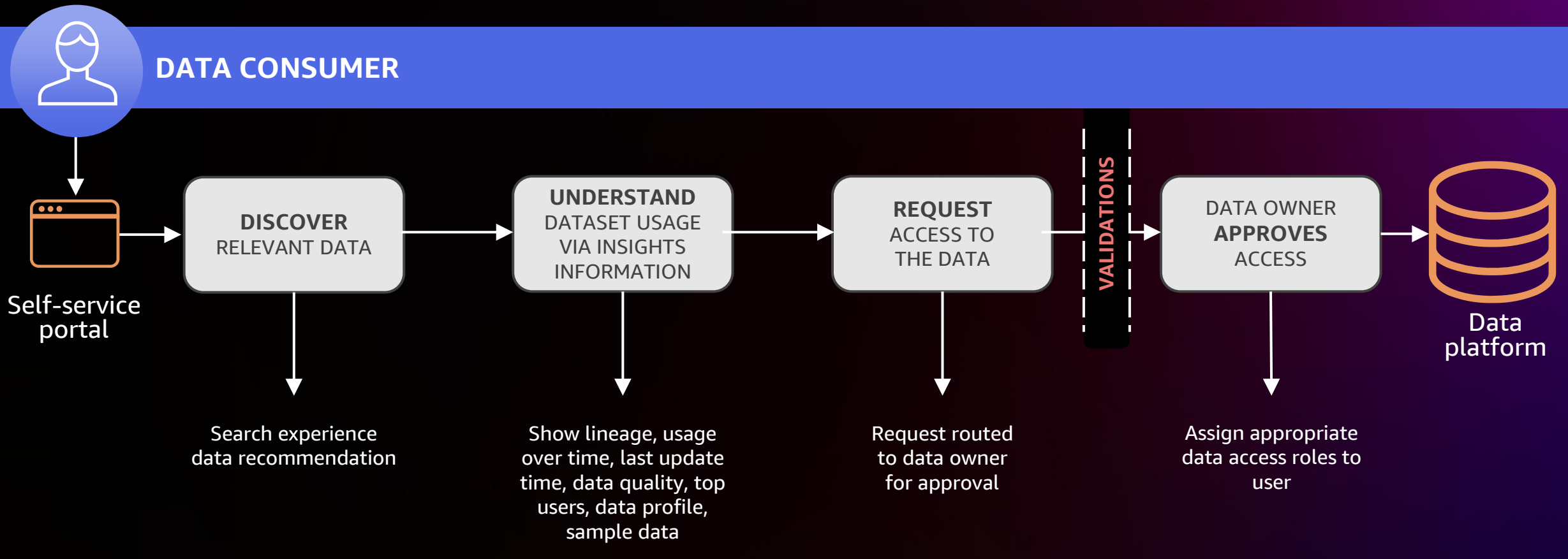
Enabling self-service data producer experience empowers business to manage their data, all while providing the necessary governance and controls around the process



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Self-service data consuming experience

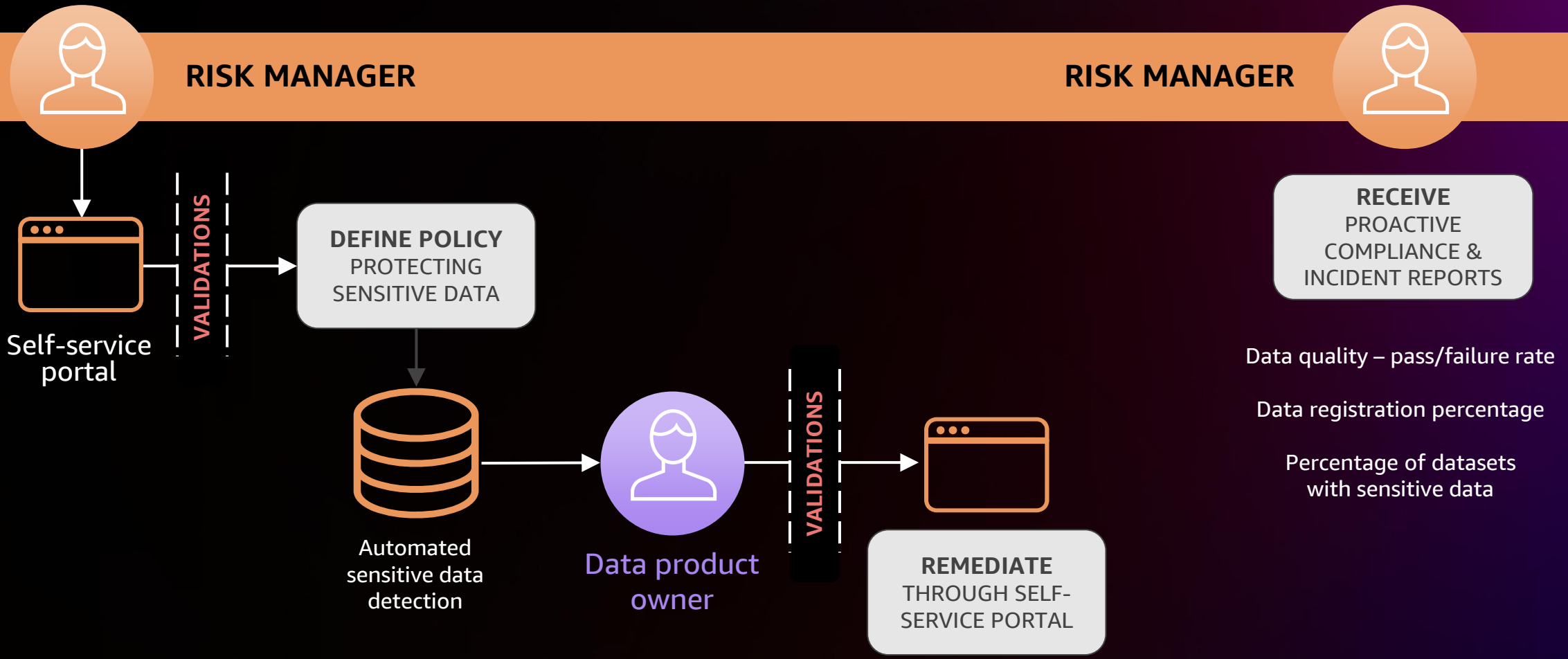
Enabling self-service data consuming experience empowers business to unleash the power of data product



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Self-service governance experience

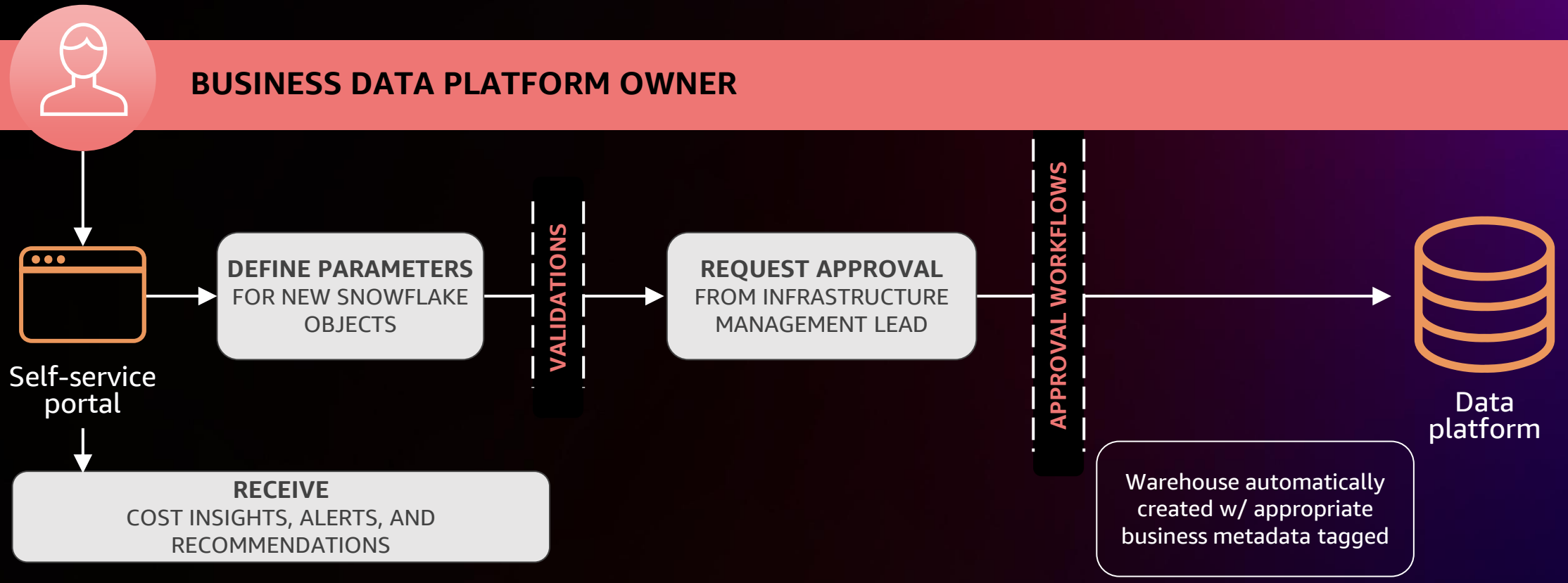
The automation of governance using custom workflows, dynamic warehouse provisioning, and self-service capabilities empowers . . .



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Self-service infrastructure management experience

Enabling self-service infrastructure management experience allows business to optimize cloud cost while helping them scale their cloud data by accelerating user adoption and decreasing time to value



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Data mesh doesn’t work unless you make it self-service and operationalize it. Central tooling should make it easy for data practitioners to do their jobs.

When you combine central tooling and central policy with federated data ownership, you can operate at the speed of business.

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