Infrastructure and Interoperability: Conditions for Success

**Community
of Innovation**

Community of Innovation Vision and Purpose

Develop reusable solutions and approaches to accelerate progress of state P-20W+ modernization efforts, align the market to enable innovation and scale, and share the experience to enable "fast followers."

Vision
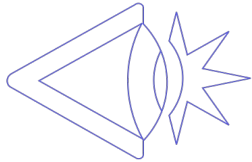
Enable cost-effective, efficient, and accessible P-20W+ systems to derive actionable data insights to **reduce time to value, lower risk and cost** for P-20W+ modernization efforts.

Mission
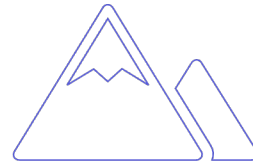
Leverage deep experiences from states and expertise from solution providers to develop **capabilities, artifacts, and products** around **common P-20W+ use cases** to support modern P-20W+ data pipelines.

Outcomes

1 Accelerate progress of core states' modernization efforts.

2 Align the market around common language, methodologies, and technical approaches to enable innovation and scale for states.

3 Structure and document the modernization experience to inspire and enable other states to be "fast followers."

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Core Group Members

California

Indiana

New Mexico

Ohio

North Carolina

South Carolina

Texas

AWS

Google

Microsoft

Community Centering

- Don't duplicate effort
- Make, find, and share easily usable products
- Create tools that solve problems P-20W+ organizations encounter during data and technical work
- Invent materials that break down user silos
- Support creation of coherence in the innovation process
- Guide others in finding and using tools to modernize
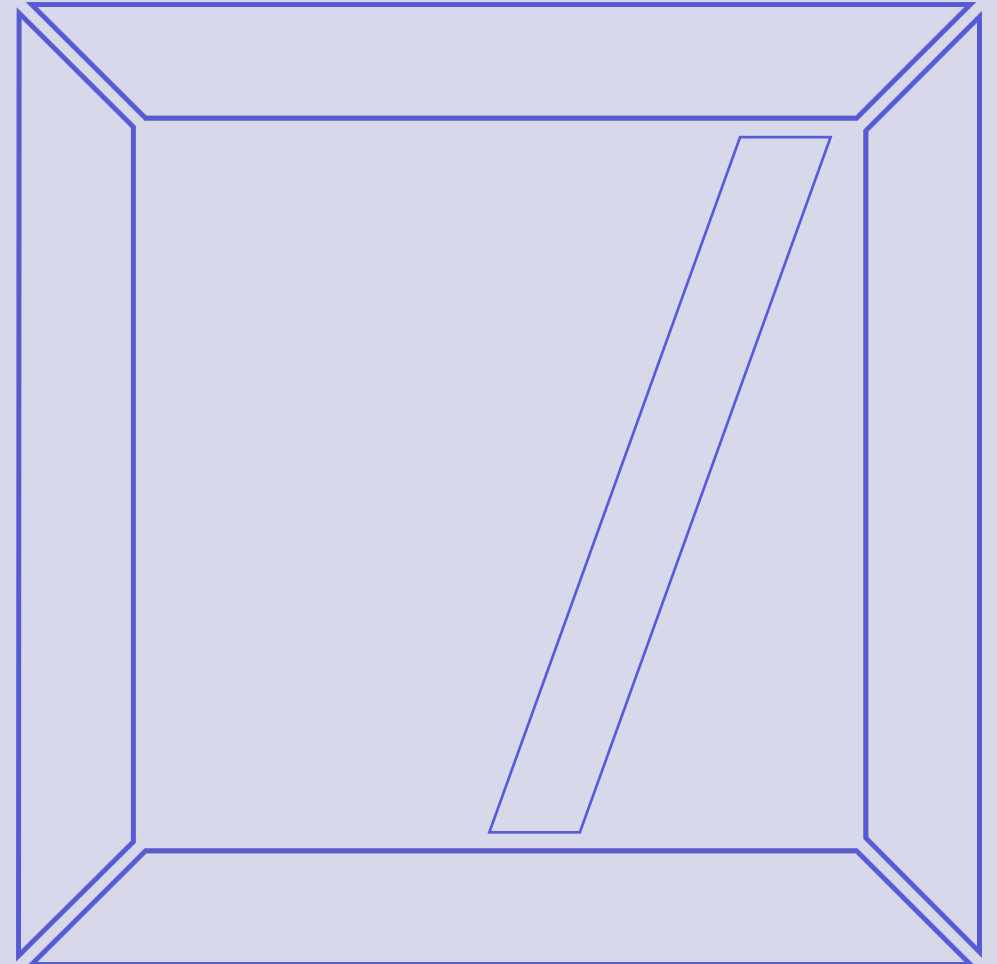
What is the P-20W+ Reference Architecture?

Blueprint for modern P-20W+ data systems

Reference Architecture

Foundation for making architectural decisions

Architecture Principles
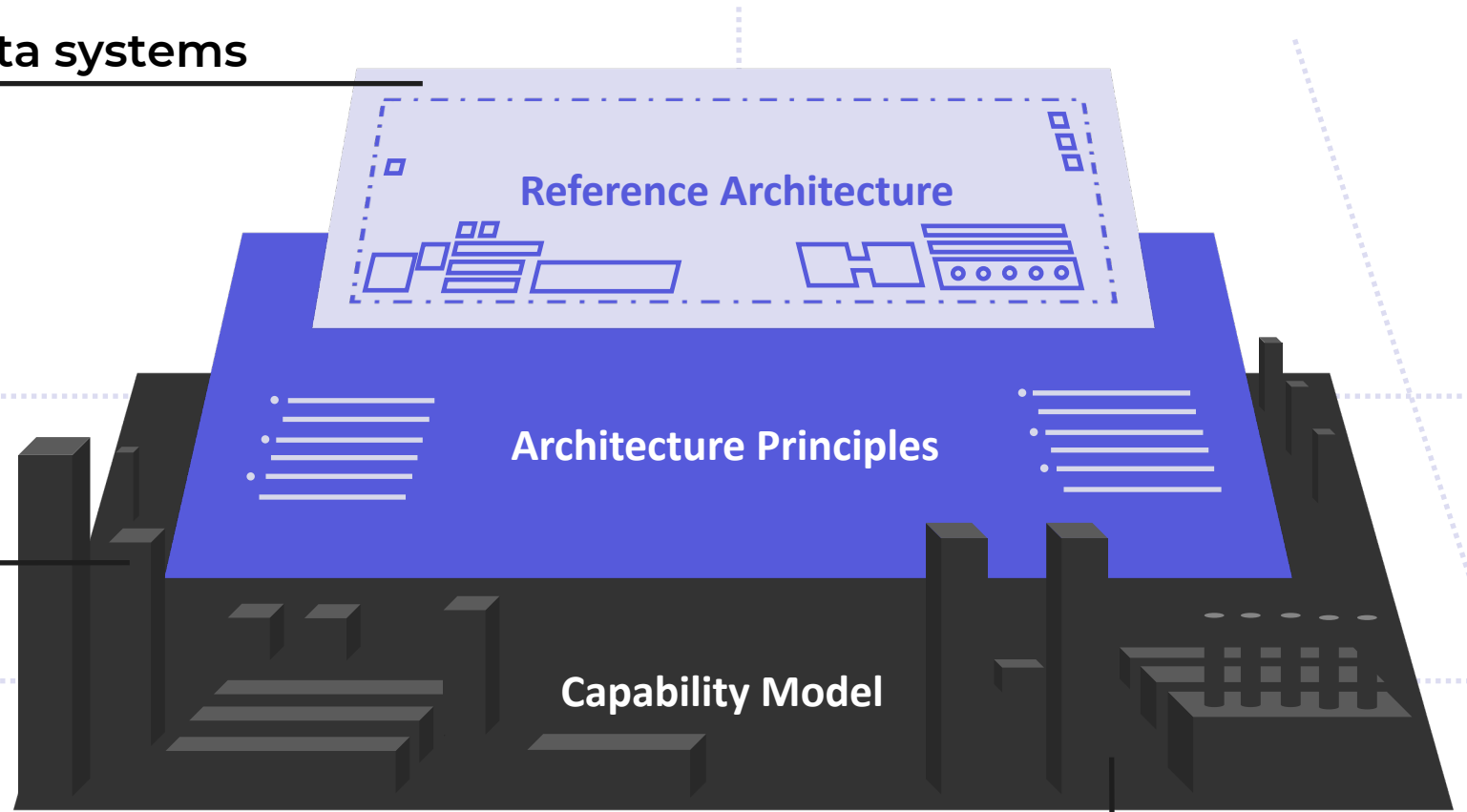
Capability Model

A plan setting scope, context, requirements

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P-20W+ Capability Model
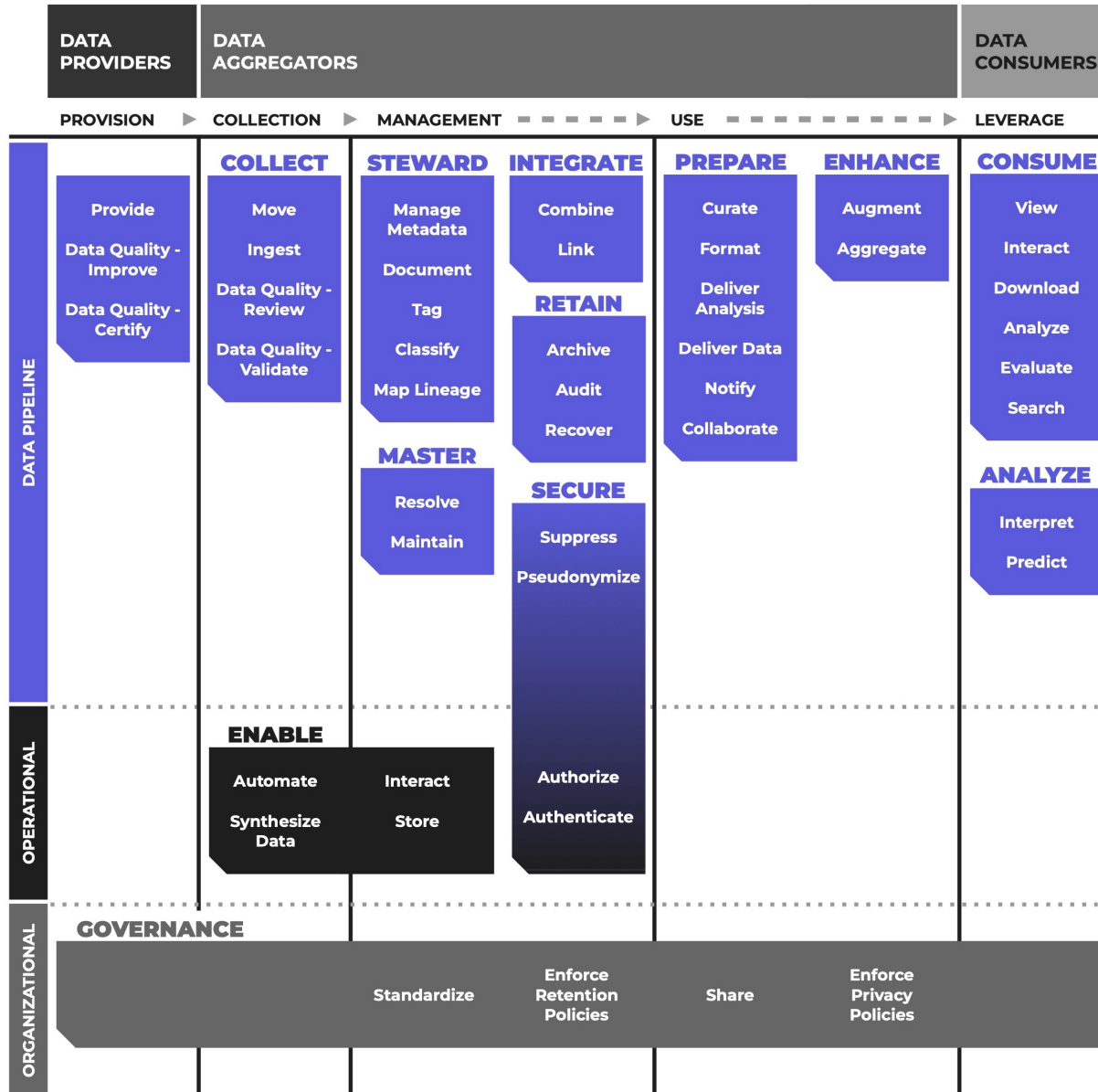
Key Points

- A **holistic view** of the **key capabilities.**

- **Assessing and enhancing capabilities** can strengthen foundation for **policy, research, and analytics.**

- **P-20W+ RA = template** for **delivering or enhancing** these capabilities.

P-20W+ Architecture Principles

Business Principles
- Common Use Applications
- Future-Proofing
- Compliance with Law

Data Principles
- Data are Assets
- Data are Shared
- Data are Accessible
- Data Providers
- Common Vocabulary and Data Definitions
- Data Security
- Data Privacy

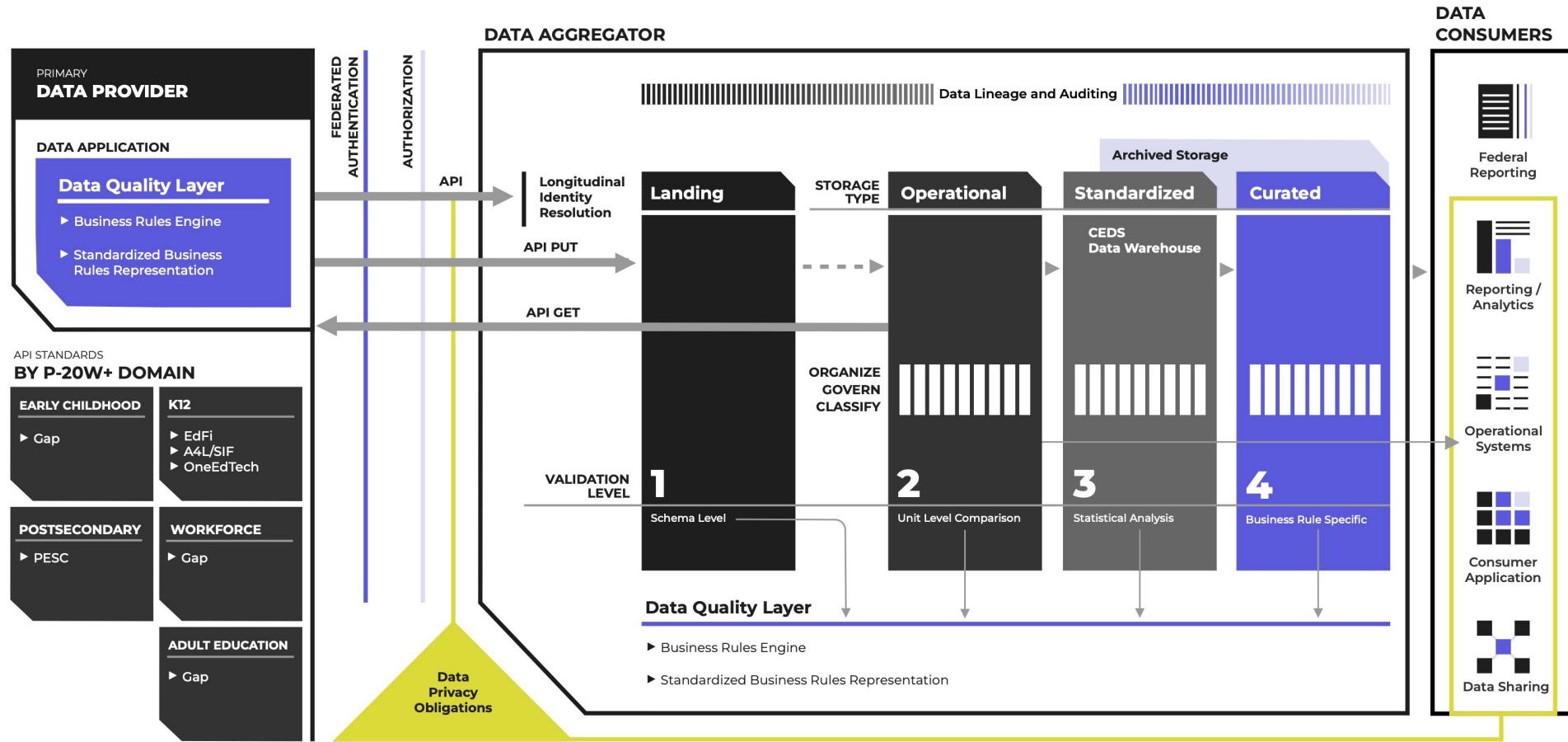## Application Principles
- Technology Independence

Technology Principles
- Control Technical Diversity
- Interoperability

P-20W+ Reference Architecture Model

Key Points

- Provides a reusable, standardized, and comprehensive framework

- Advocates for the adoption of standardized APIs

- Based on documented, open architecture principles

- Accommodates multiple data storage approaches

The Capability Model and the Reference Architecture create a **holistic framework** that encompasses both the business and technical aspects of data management.
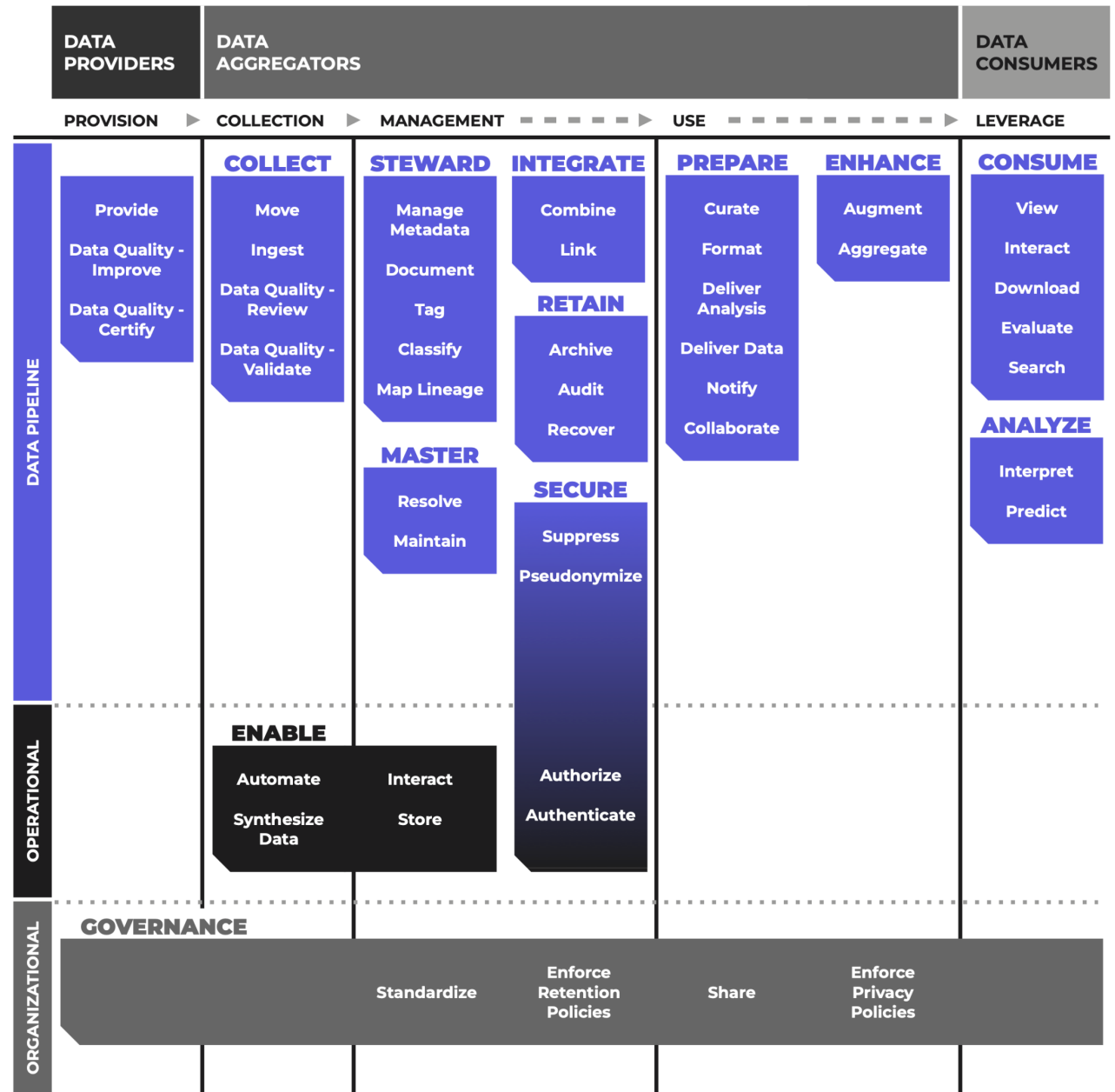
The Reference Architecture represents a **transformative tool** designed to empower states and organizations to navigate the complexities of data management and modernization work.

Let's explore how to leverage it in your work now.

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Which Capability listed below is your organization working on in the next 12-18 months?

- **Collect**
- **Steward**
- **Integrate**
- **Prepare**
- **Enhance**
- **Consume**

Definitions of each are on pages 6-8 of your packet.

DATA PROVIDERS	DATA AGGREGATORS					DATA CONSUMERS
PROVISION	COLLECTION	MANAGEMENT		USE		LEVERAGE

DATA PIPELINE

	COLLECT	STEWARD	INTEGRATE	PREPARE	ENHANCE	CONSUME
Provide	Move	Manage Metadata	Combine	Curate	Augment	View
Data Quality - Improve	Ingest	Document	Link	Format	Aggregate	Interact
Data Quality - Certify	Data Quality - Review	Tag		Deliver Analysis		Download
	Data Quality - Validate	Classify	**RETAIN**	Deliver Data		Evaluate
		Map Lineage	Archive	Notify		Search
			Audit	Collaborate		
			Recover			**ANALYZE**
		MASTER				Interpret
		Resolve	**SECURE**			Predict
		Maintain	Suppress			
			Pseudonymize			

OPERATIONAL

ENABLE

Automate	Interact
Synthesize Data	Store

Authorize
Authenticate

ORGANIZATIONAL

GOVERNANCE

	Standardize	Enforce Retention Policies	Share	Enforce Privacy Policies

Of the listed, identify **one** that **best aligns** to where you're focusing your own work over the next 12-18 months

- **Collect** – collection phase of data aggregation.
  - Related activities - gathering and acquiring data from different sources, ensuring data quality and validating accuracy and completeness.
- **Steward** – represents the management and stewardship of data.
  - Related activities – metadata management, documentation tagging, classification, and mapping of data lineage to ensure proper governance and control over data.

Capabilities continued…..

- **Integrate** – integration of data within the P-20W+ data pipeline.
  - Related activities – combining data from different sources, establishing relationships and integrating data to create a unified view for analysis and reporting purposes.
- **Prepare** – emphasizes the preparation of data for analysis.
  - Related activities – data curation, formatting, data delivery, and collaboration to ensure data are usable and in an appropriate state for analysis.

Capabilities continued…..

- **Enhance** – enhancing the data environment to derive more insights and value.
  - Related activities – data augmentation, data aggregation, and additional processing to enrich the data.
- **Consume –** the capabilities of data consumers within the P-20W+ data environment.
  - Related activities – accessing, interacting with and utilizing data, such as viewing, analyzing downloading, evaluating and searching the data to derive insights and support decision-making.

Which Capability is your organization working on in the next 12-18 months?

At your table, identify one of the Capabilities listed to focus your conversation on today.

- **Collect**
- **Steward**
- **Integrate**
- **Prepare**
- **Enhance**
- **Consume**

Capture the capability you will focus on at the top of second to last page in your packet.

Architecture Principles tell us two primary things:

1. What we're prioritizing

2. What each of those commitments means in practice. Specifically, what work is required if an organization adopts that Principle.

Which of the Architecture Principles aligns to the Capability you're focusing on?

- Common Use Applications
- Future-Proofing
- Common Vocabulary and Data Definitions
- Data Privacy
- Technology Independence
- Interoperability

Definitions of each are on pages 10-15 of your packet.

- **Common Use Applications**
  - Development of common applications used across the enterprise preferred over the development of similar or duplicative applications.
- **Future-Proofing**
  - Ensures long term viability and adaptability of the architecture. Proactively considering emerging technologies, evolving standards, and changing requirements.
- **Common Vocabulary and Data Definitions**
  - Data are defined consistently throughout the enterprise, with understandable and available definitions.

- **Data Privacy**
  - Protecting the privacy of individuals' data, measures embedded throughout an architecture to ensure confidentiality, integrity and appropriate use.

- **Technology Independence**
  - Applications are independent of specific technology choices and can operate on a variety of technology platforms.

- **Interoperability**
  - Software and hardware should conform to defined standards that promote interoperability.

Individually, please take a moment to find a Principle you feel aligns to the Capability you're working on.

Once you **identify one**, please talk with your group about:

- Why this this Principle?
- Which Implications describe your work best?
- Who has <u>similar work</u>?

Capture your answers on the second to last page of your packet!

Which part of the P-20W+ Reference Architecture depicts the technical space you're working on?
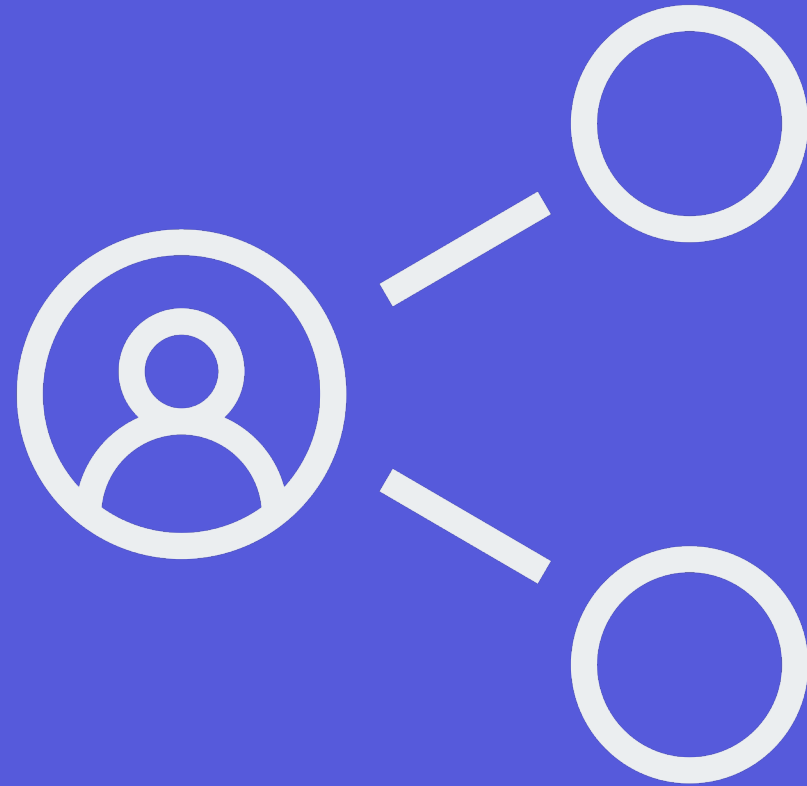
Work with your table to list:
1. at least two ways the RA can help you tell the story of your work and
2. at least two people or parts of your organization that need to hear those stories.

Write your lists down on the last page of your packet and be prepared to share your insights with the whole group.

Shared Challenges

- **What are our stories?**
- **Who needs to hear them?**

Shared Solutions

Thank you!

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