

The background features a dark navy blue field with abstract, overlapping shapes in vibrant magenta and deep red. Two thin, light blue lines intersect diagonally across the upper right portion of the image. The text 'AWS re:Invent' is positioned on the left side, with 'AWS' in a smaller font above 're:Invent'.

AWS re:Invent

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PR0302

Gilead Sciences: Operational excellence for cloud, data, and AI/ML

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Session agenda

- 01 AWS perspective on enterprise transformation and cloud operating model
- 02 Gilead's transformation journey in the cloud
- 03 Gilead's operational excellence strategy and lessons learned
- 04 AWS enterprise transformation best practices and getting started

AWS ProServe perspective



Building a solid cloud foundation

Getting your operating model right unlocks cloud value and enables enterprise transformation that aligns to desired business objectives

1

Business objectives
and alignment

2

Vision, strategy
and approach

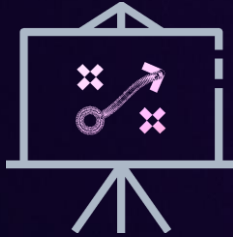
3

Execution
and delivery

Key factors to drive success and incremental value



Customer
focused



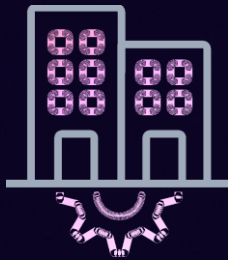
High-quality, high
velocity decisions



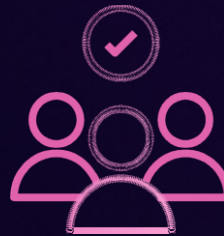
Grow capabilities
with
experimentation



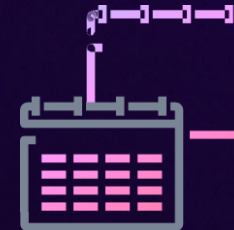
Embrace
failure



Nimble organizational
structure



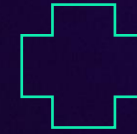
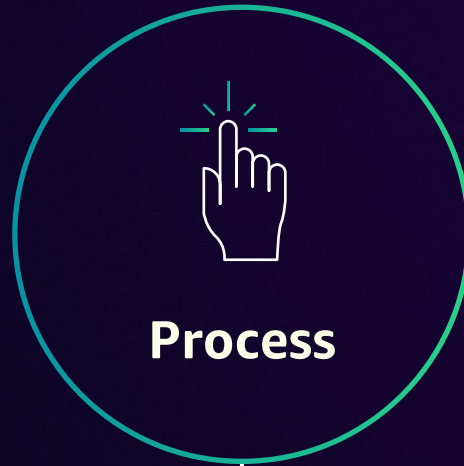
Small team
autonomy



Prioritize long-term
sustained value

Cloud adoption transforms people, process, and technology

WHILE DISRUPTIONS ARE DAUNTING, THEY PRESENT OPPORTUNITIES

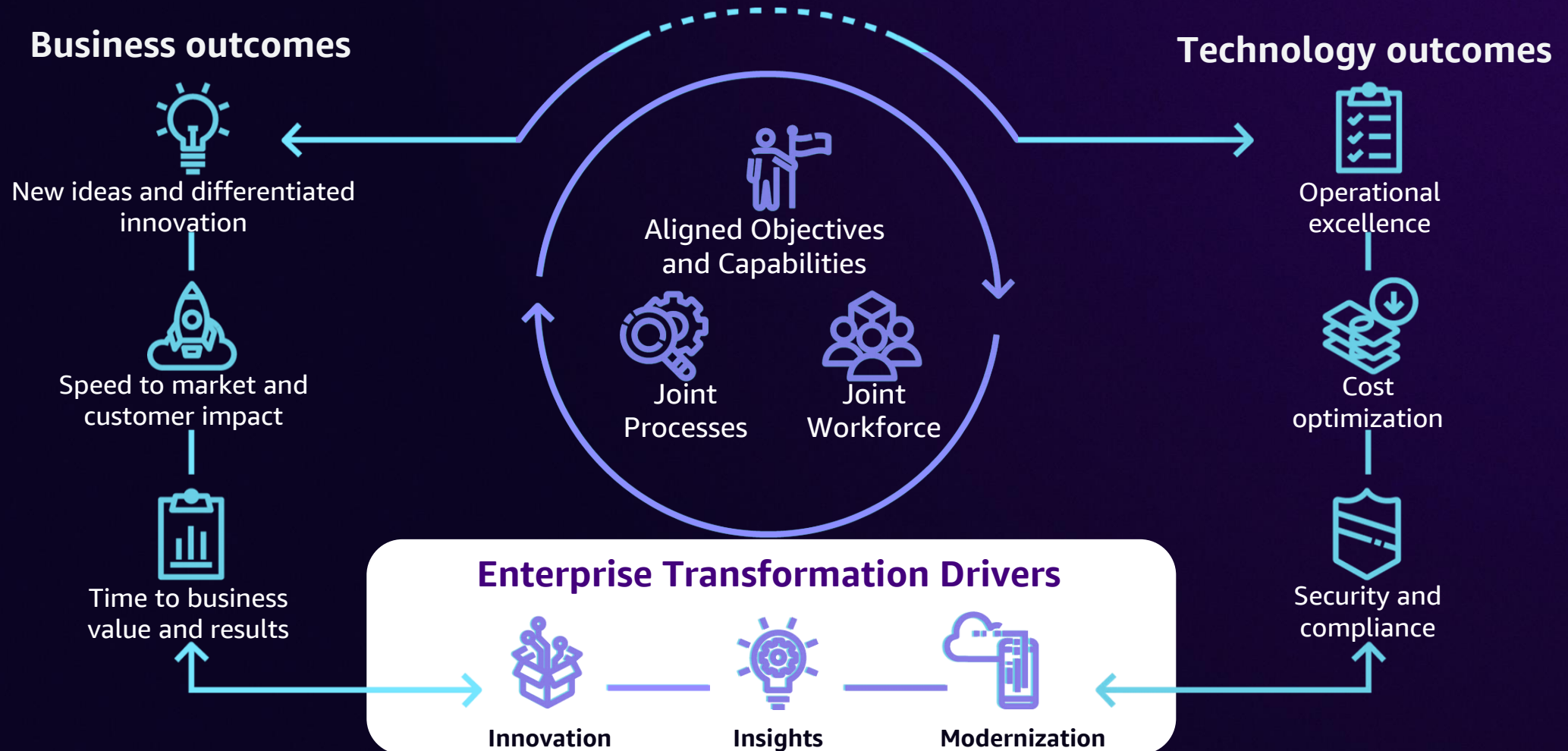


- Establish business and IT alignment to drive organizational change
- Upskill for modernization and innovation
- Leverage partnerships to help accelerate

- Implement a product-centric approach for delivery speed and agility
- Streamline and automate where possible
- Foster data-driven decision-making

- Build resilient IT infrastructure and applications
- Embrace modernization solutions

Establish a modern business model with convergent outcomes



What is a Cloud Operating Model?

- A Cloud Operating Model is a **collection of capabilities** required to build, mature, and optimize cloud environments
- An optimal cloud operating model drives business outcomes for enterprise transformation

Increase operational excellence

Leverage best practices for operational excellence on the cloud

Review current and planned processes against these to develop plans to increase maturity

Decrease time to value

Adopt cloud orientated approaches by reviewing existing manual processes and recommending cloud native improvements

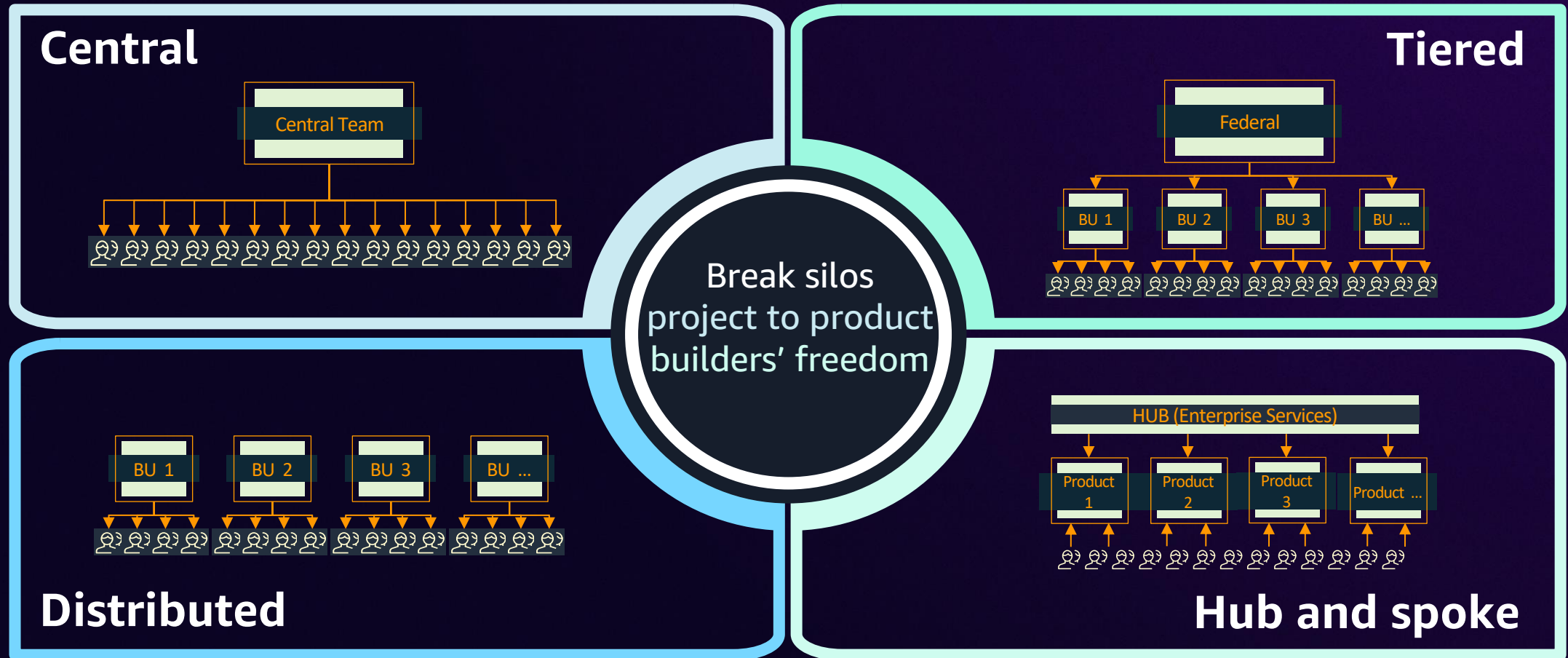
Increase transparency

Build trust across the organization by establishing clear lines of ownership, visibility and metrics aligned to the business needs

Increase ability

Evolve people, process, and technical maturity by assessing current and target state capabilities against AWS best practices to drive proactive operations approaches

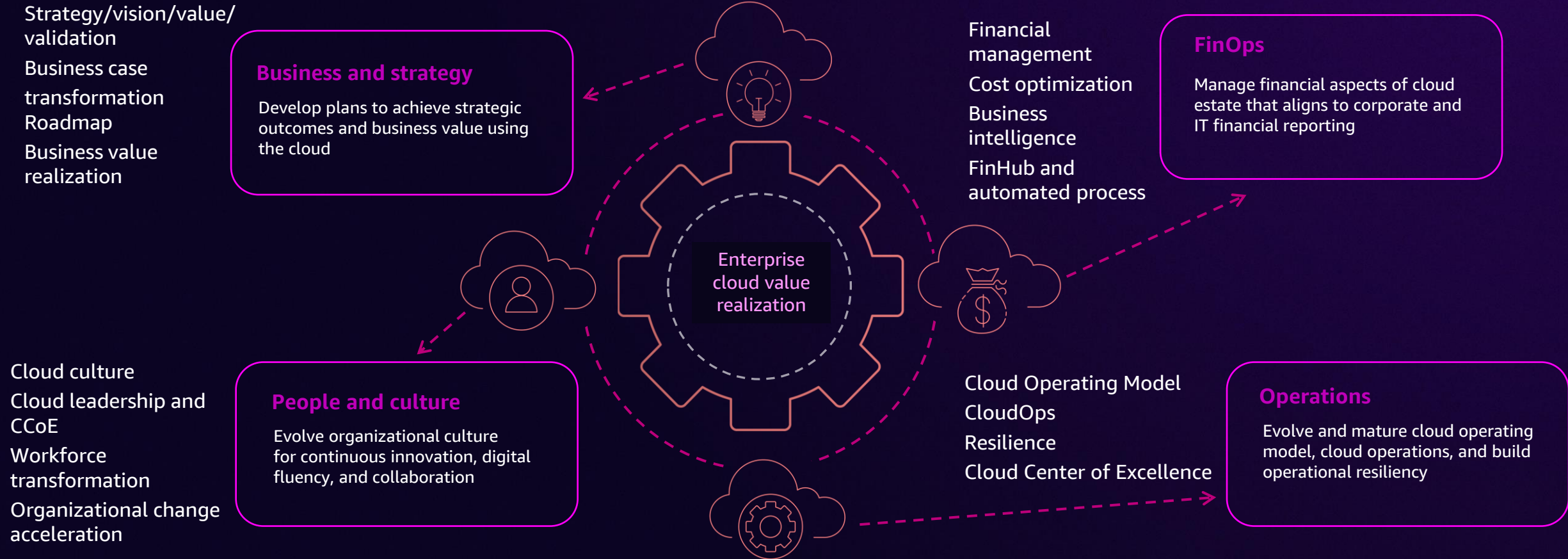
Work backwards from your business objectives to determine your target operating model



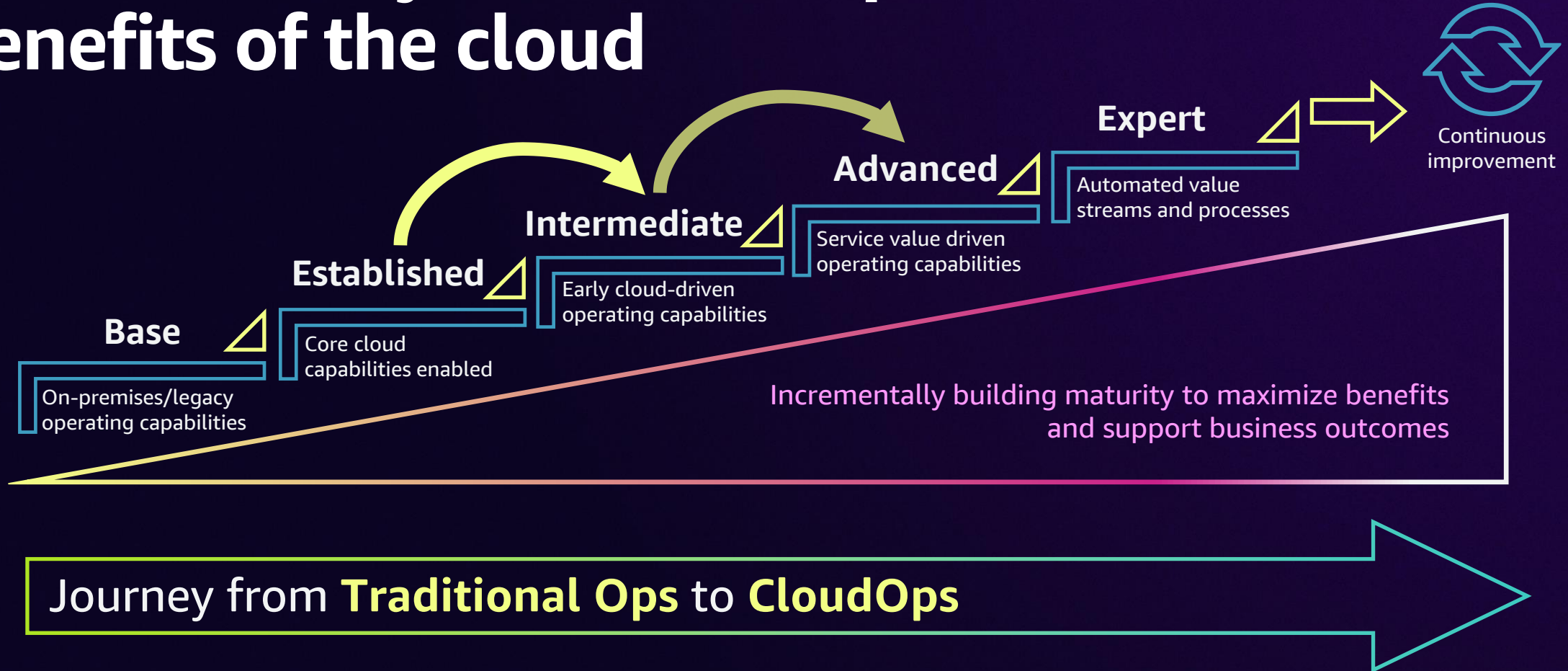
👤 👤 👤 👤 → Application/product team
👤 👤 👤 👤 → Community of practice

Set the foundation to transform your business with key capabilities

AWS ENTERPRISE TRANSFORMATION PILLARS



Build maturity across all capabilities to achieve the benefits of the cloud





Gilead's mission

To discover, develop, and deliver
innovative therapeutics for people
with life-threatening diseases



Gilead's journey with AWS



What's the adoption so far?



Cloud

>100 applications running on AWS Gilead Cloud

>85% of Gilead's revenue processed by cloud-hosted SAP system

87% workloads migrated from on-premise

Lowered carbon footprint in the last three years by over 3600 metric tons of CO2



Data & AI

>1300 data engineers, scientists, and analysts

>1000 published data products in catalog

~30 AI/ML use cases in production

>1.32 million queries per month

Adopted by all lines of business across Gilead

Benefits of converging Cloud, Data & AI



Drug discovery

- Researchers can process vast datasets in real time
- Identify potential drug candidates more quickly
- More targeted and efficient discovery processes



Drug development

- Streamline clinical trials by predicting outcomes, optimizing patient recruitment, and improving trial designs
- Minimize time to market and reduce costs



Commercialization

- Facilitate targeted marketing
- Predict market needs, optimize supply chains, and create more effective sales strategies
- Improved market penetration



Drug manufacturing

- Enable smarter, more efficient manufacturing processes
- Dynamically adapt based on real-time monitoring and optimization
- Enhance quality control, reduce waste, and better ensure compliance

Strategy for Cloud, Data & AI

Priorities



Build and modernize technology infrastructure on cloud to enable data, analytics, AI, and gen AI capabilities

Establish a compelling vision, create and communicate effective cloud, data management, and AI platform strategy and foster relationships with stakeholders



Attract, develop, and retain cloud, data, analytics, and AI talent and skills to build and operate world-class cloud, data, & AI capabilities

Foster a data product mindset and data-driven culture through data democratization; enable the Enterprise Data Science Council

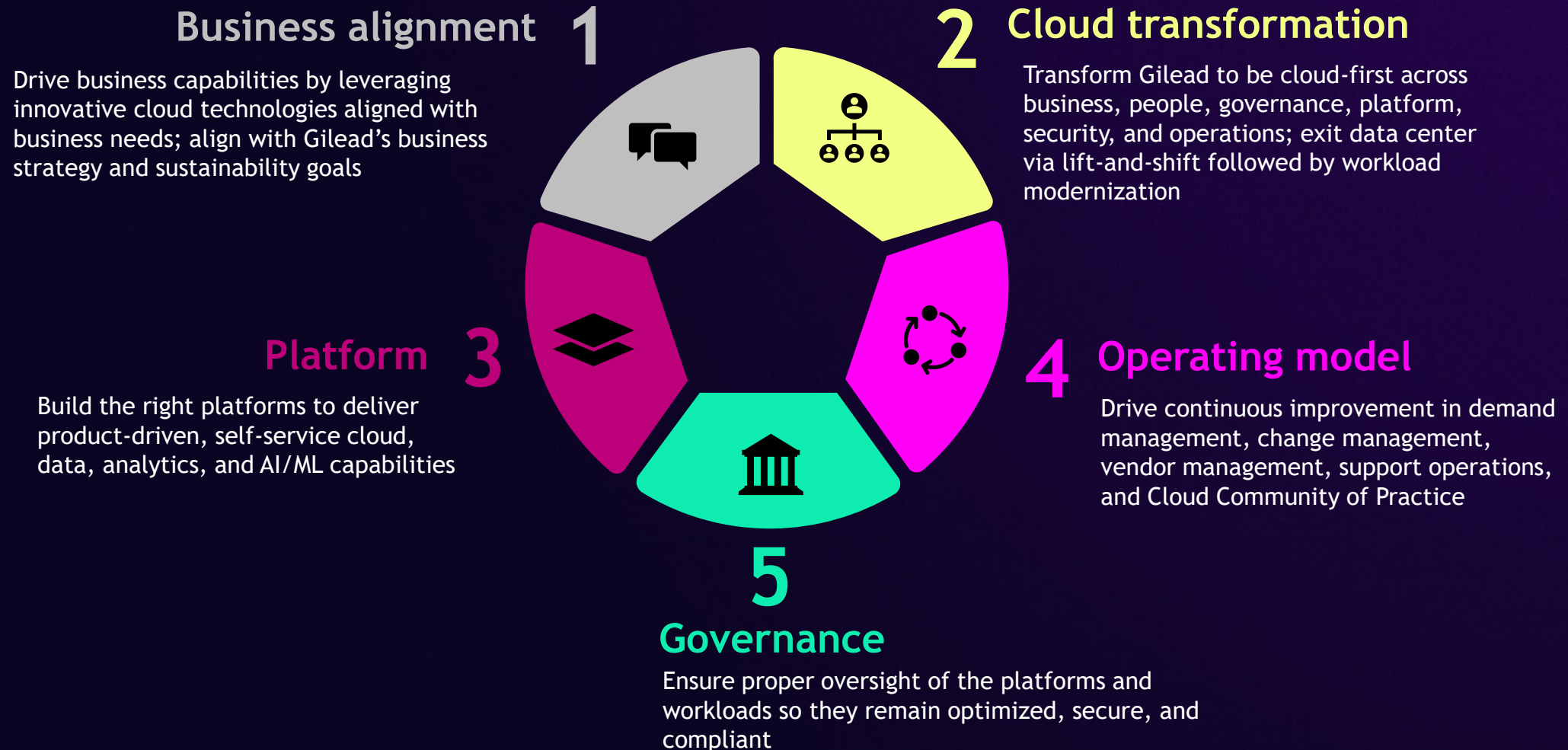


Manage privacy, security, and compliance risks and evolving regulatory requirements

Focus on governance and operational excellence for Cloud, Data, & Analytics; publish business capability roadmaps, simplify application landscape, and provide technology governance



Gilead operational excellence approach



Strategic alignment with Gilead's priorities

Gilead Long-Term Ambitions



Bring 10+ transformative therapies to patients by 2030



Be the biotech employer and partner of choice



Deliver shareholder value in a sustainable, responsible manner

Gilead Strategic Priorities

Expand internal and external innovation

Strengthen portfolio strategy and decision-making

Increase patient access and benefits

Continue to evolve our culture

Democratized access to cloud technologies, trusted data, and insights accelerates and empowers our ambitions and priorities

Cloud, Data & Analytics Organization

Gilead IT Vision and Mission:

To empower a cloud-first and data-driven culture

To deliver democratized access to cloud, data, and analytics technologies to enable the business to innovate with speed and scale

Research

Development

PDM

Commercial

Finance

HR

Corporate
Affairs & Legal

Corporate
Operations

Transformation strategy



Business

- Strategy management
- Portfolio management
- Business capability maturity assessments
- IT roadmaps
- Strategic partnerships



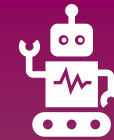
People

- Top-down direction
- Organizational design
- Culture evolution
- Cloud fluency
- Change acceleration



Technology

- Cloud platform
- Data and analytics platform
- Product-driven engineering
- Continuous integration and continuous delivery
- Workload modernization



Operations

- Observability
- Automation
- Incident and problem management
- Change and release management
- Availability and continuity management
- Capacity management

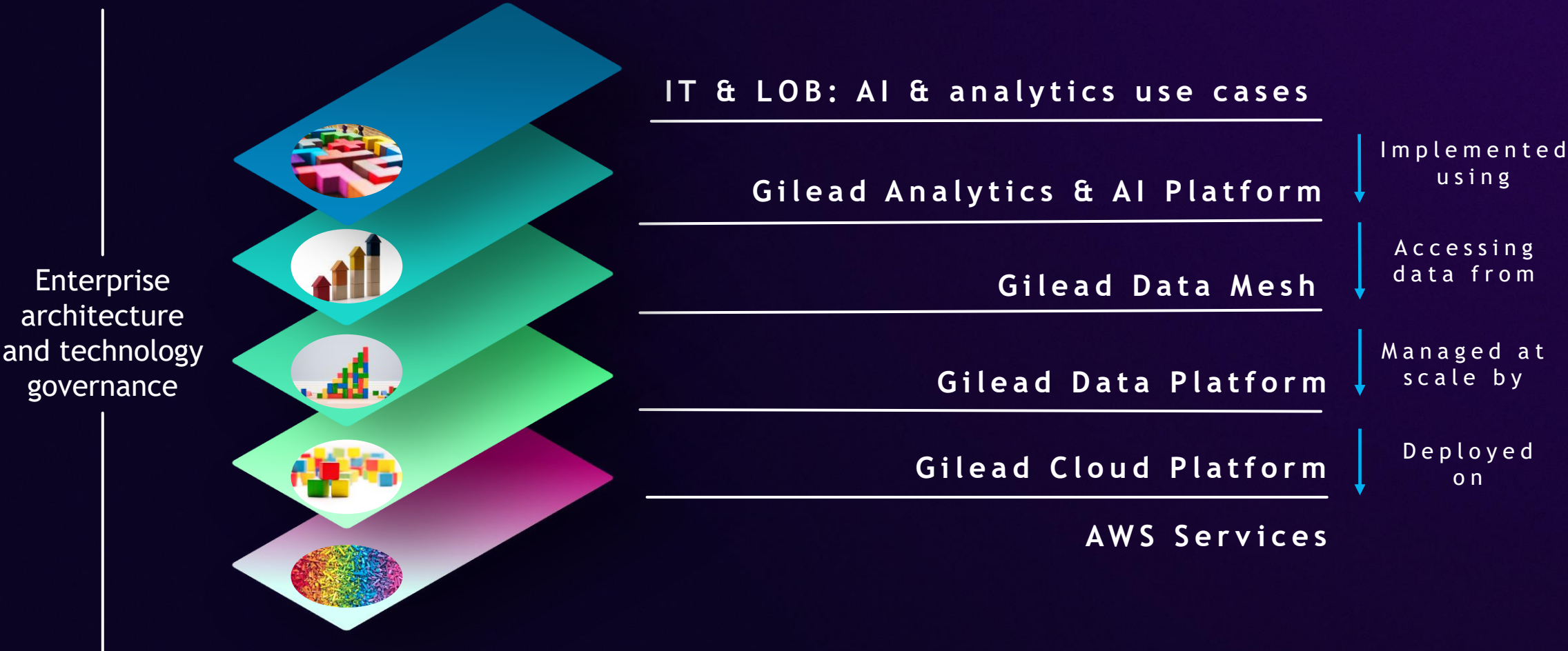
Organization transformation: Business and technology teams orchestrate to create business value

Product transformation: Reimagine solutions at the confluence of Cloud, Data, and AI

Technological transformation: Use the cloud to migrate and modernize infrastructure, data, and analytics platforms

Process transformation: Digitize, automate, and optimize business operations

Converged cloud, data, and AI platforms



Cloud platform overview

Capabilities

Automated account provisioning
Access control
Cloud portal/service catalog
Cloud infrastructure
Software development tools
CI/CD pipelines
Logging and observability
Backup and disaster recovery
Networking
Guardrails

Benefits

Self-serve experience
Productivity
Speed
Scale
Security
Cost optimization
Compliance
Innovation
Increased sustainability

Adopted by

Research | Development | PDM | Commercial | Finance | HR | Corporate Affairs & Legal | Corporate Operations

Cloud platform architecture

Foundation

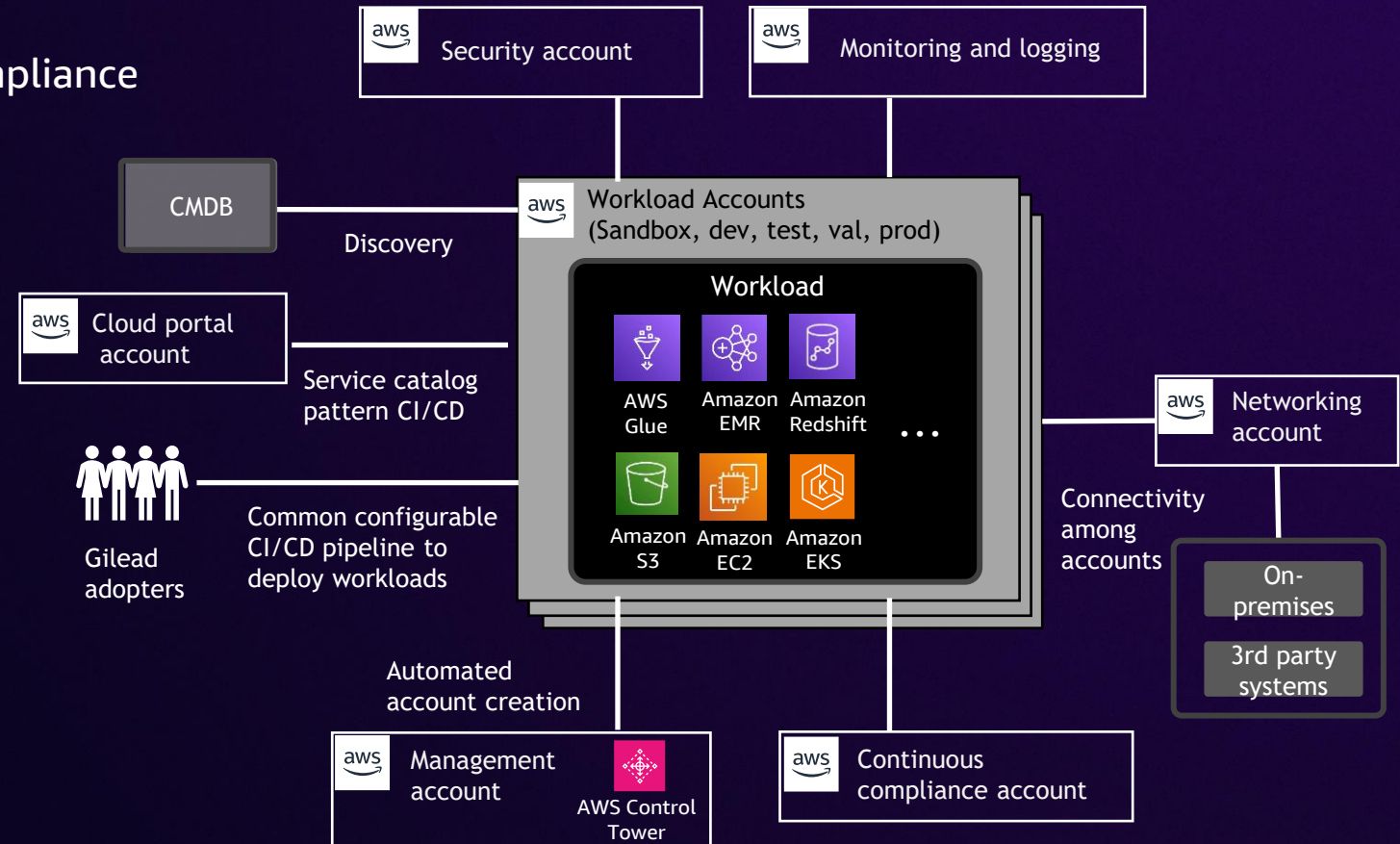
- Centralized versus distributed capabilities
- Separate workloads by environment and compliance
- Get OU structure right
- Networking foundation before migrating

Provisioning

- Establish and enforce tagging policy
- CI/CD for prod deployments
- Terraform for infrastructure-as-code (IaC)
- Automate account provisioning
- Eliminate unlinked AWS accounts

Security

- Just-in-time permissions
- Create task-specific roles
- Avoid long-lived credentials



Data and AI platform overview

Capabilities

Self-serve data delivery and AI infrastructure

ELT pipelines and framework

Data product lifecycle APIs

Enterprise data catalog

DataOps, MLOps & LLMOps pipelines

Data sharing

Data observability

Federated SQL query engine

AI Workbench & AI Hub

Benefits

Enable cross-domain use cases

Speed to insights

Cost optimization

Compliance

Performance

Improved developer productivity

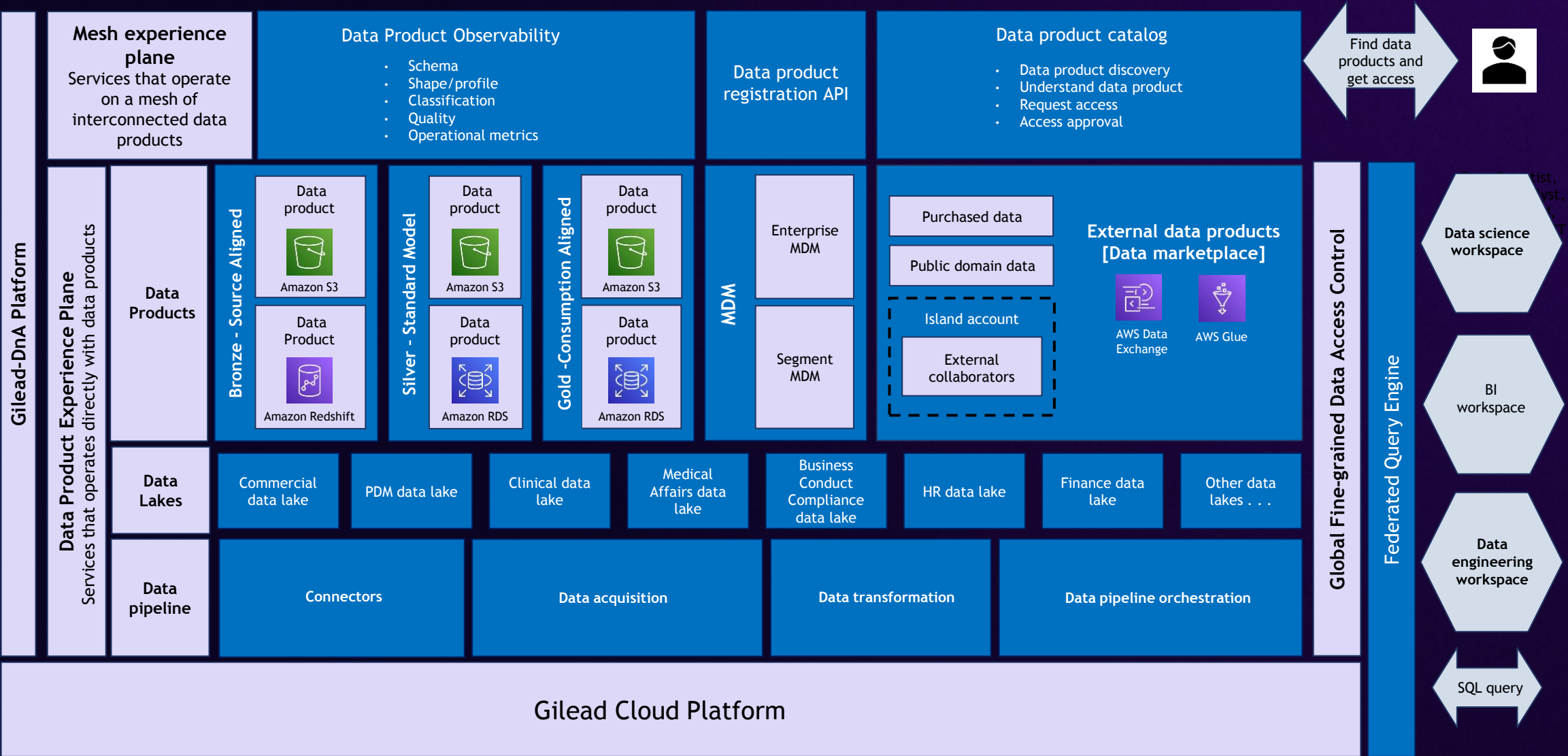
Lower entry barrier to data mesh

Improved data quality

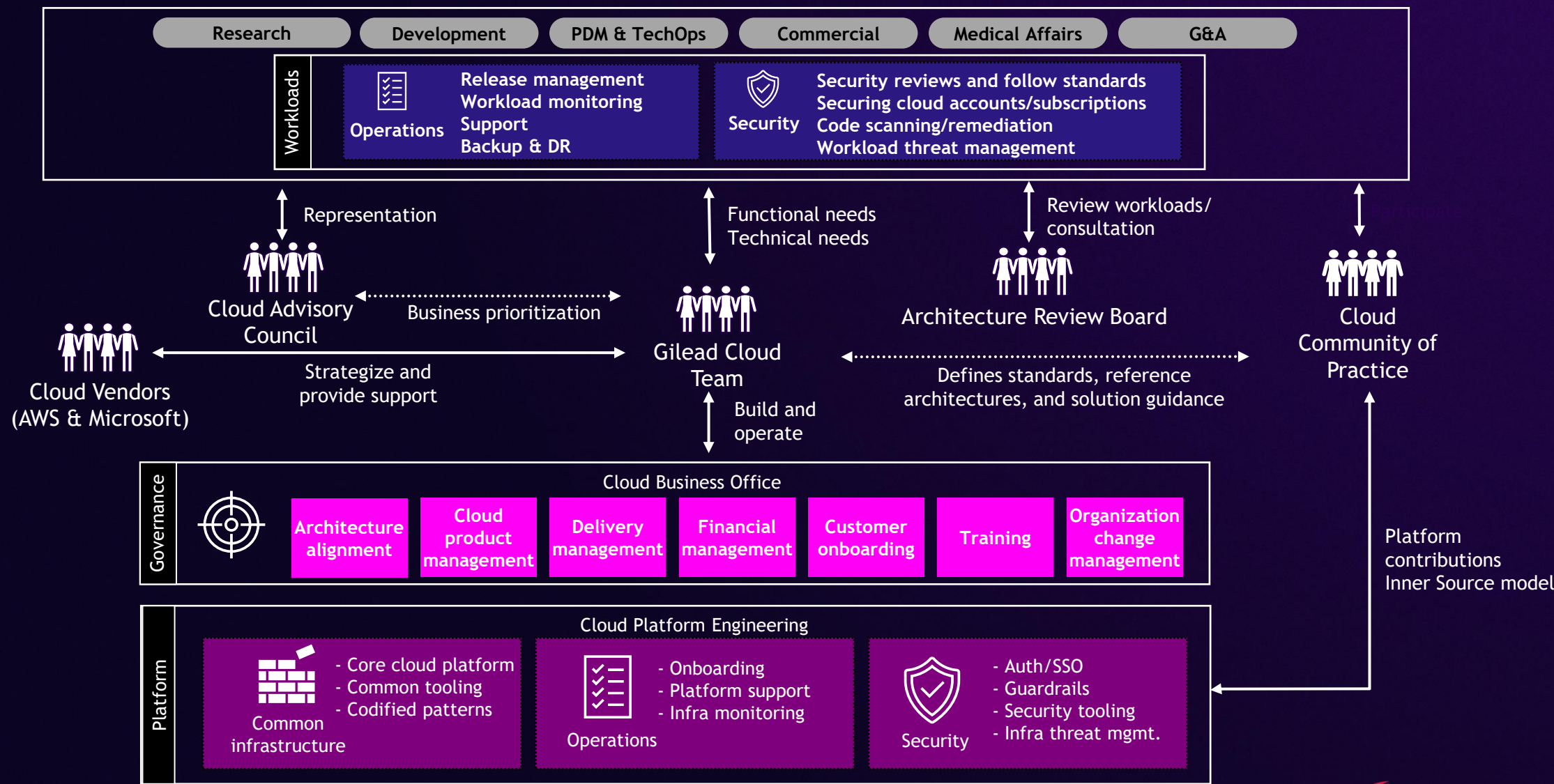
Adopted by

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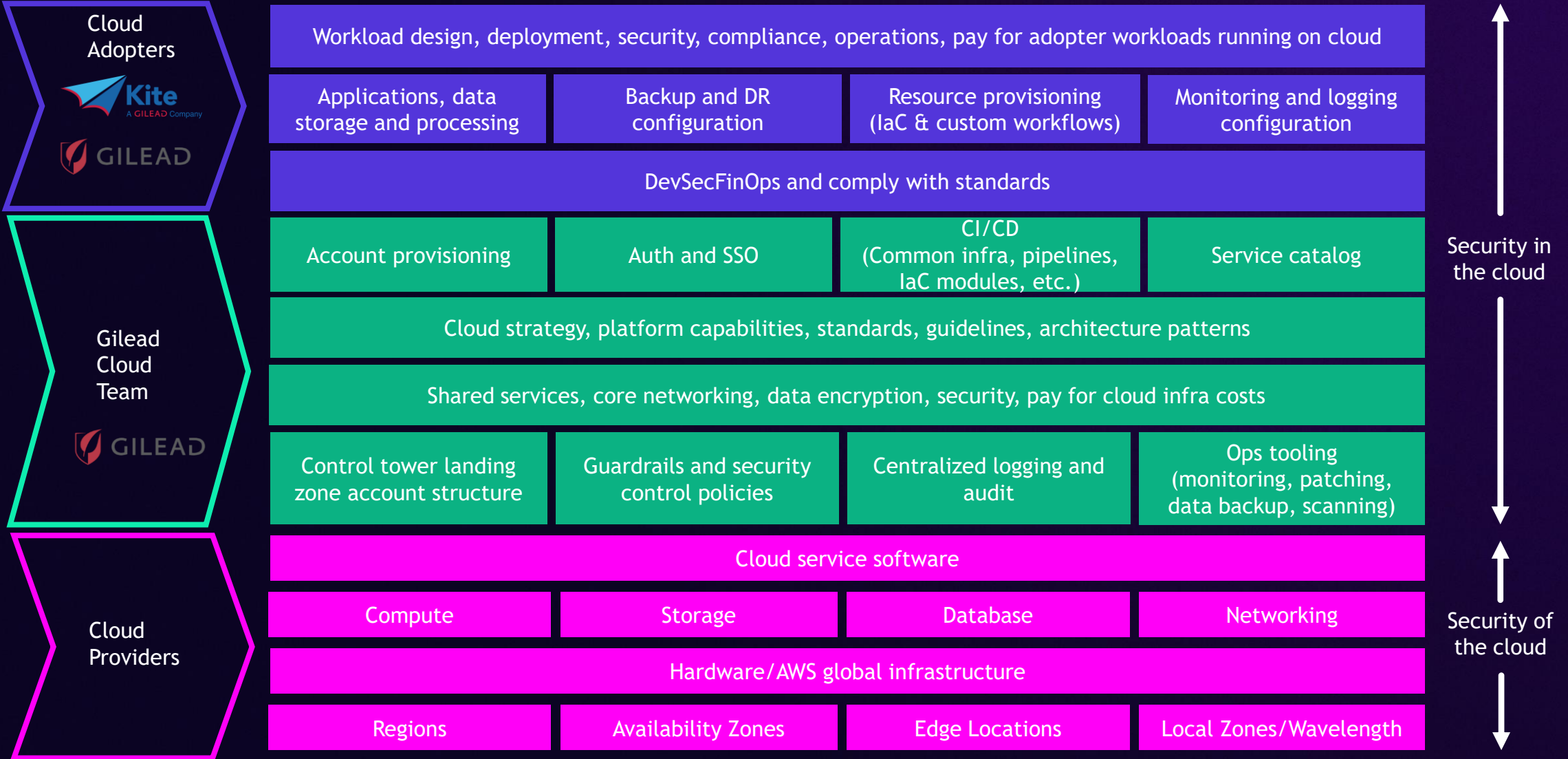
Data and AI platform architecture



Cloud Operating Model



Cloud shared responsibility model



Cloud governance



Program mgmt.

- ✓ Align platform roadmaps with business steering committees
- ✓ Agile delivery with clear ownership and interfaces
- ✓ Track critical programs centrally with distributed accountability
- ✓ Communicate changes via multiple cross-org channels



App portfolio mgmt.

- ✓ App inventory to drive rationalization, migration, investment, and modernization
- ✓ Track app business criticality
- ✓ Collaborative architect reviews and central repository
- ✓ Curated standards, patterns, and quick starts



Financial mgmt.

- ✓ Chargeback to drive financial accountability
- ✓ Self-serve comprehensive cost data product and analytics
- ✓ Cost-optimized application architectures
- ✓ AWS partnership to lower costs



Risk mgmt.

- ✓ Identify and communicate business risks based on technical risks
- ✓ Identify and quantify operational risks
- ✓ Define disaster recovery/backup strategy and test semi-annually
- ✓ Proactively plan and test high-risk or high-impact changes



Security and compliance

- ✓ Standards and Policies
- ✓ Application Security, Threat Detection, Vulnerability Mgmt., Data Protection
- ✓ Security operations interlock with Cloud operations
- ✓ Preventative SCP guardrails to enforce security standards
- ✓ Track and remediate security exceptions
- ✓ Automate GxP monitoring to enforce resource configuration

Lessons learned

- **No perfect organization structure – make decisions and adjust**
- **White glove service for business-critical applications**
- **Balance between curated platform capabilities and exposing native services**
- **Treat cloud differently from the data center – with exceptions**
- **Standardize change and incident management**
- **Online learning and competitions for cloud fluency**

AWS enterprise transformation best practices and getting started

AWS ProServe solutions that address organizational impacts of cloud changes, and accelerate adoption to the new agile ways of working

AWS Enterprise Transformation

Proven solutions

Designed to deliver business outcomes



Tailored approach

Based on best practices developed over 1000s of engagements



Everything you need

Playbook, content artifacts, references, guidance



Core capabilities

Digital Business & Strategy

- Business Value Case
- Business Value Realization
- Digital Strategy Execution
- Transformation KPIs

Operations

- Cloud Op Model
- Cloud Operations
- Cloud Center of Excellence
- Work automation

FinOps

- Financial Cost Management
- Unit Economics and Investment Value
- Business Process Automation

People

- Org Change Acceleration
- Culture & Behavior
- Transformation Leadership
- Workforce Roles & Upskilling

Design and implement your tailored cloud transformation journey to prioritize actions that support business objectives . . .

SET ORGANIZATIONAL ALIGNMENT

- 1 Organize for accelerated transformation outcomes



Define **business strategy** and align people and operations to business objectives

OPERATIONALIZE CLOUD VALUE

- 2 Decrease time to value with a programmatic approach



Mold and shape the **organization** and operationalize cloud value

SUSTAIN DIGITAL-READY CULTURE

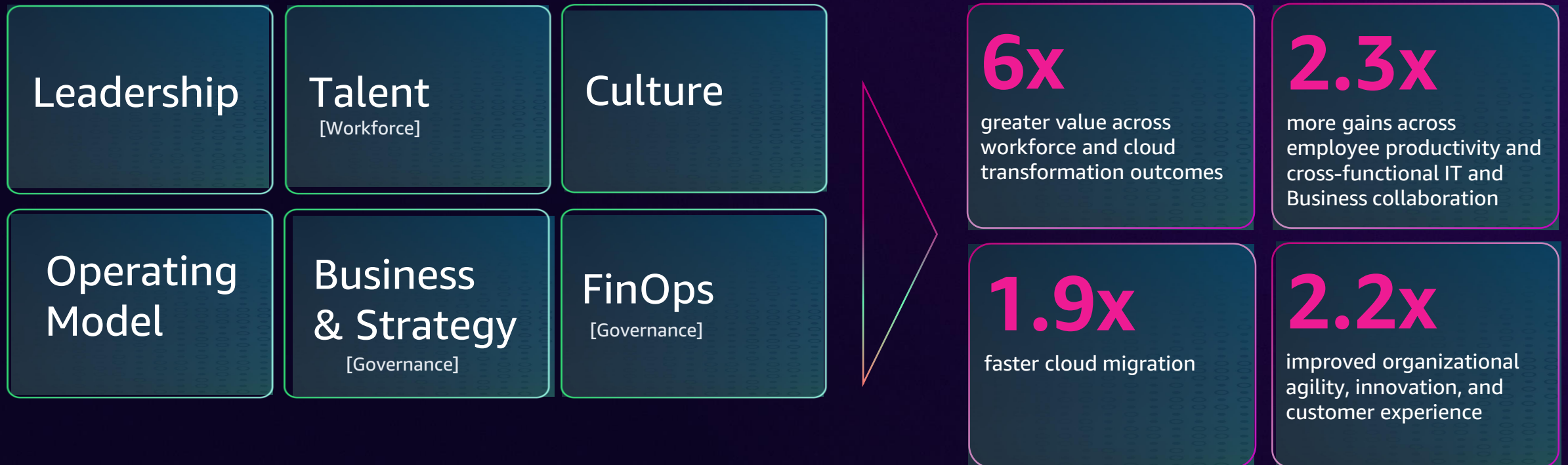
- 3 Set the foundation to transform your business



Develop **new ways of working** to evolve culture with learning, digital fluency, and innovation

① Organize for accelerated outcomes

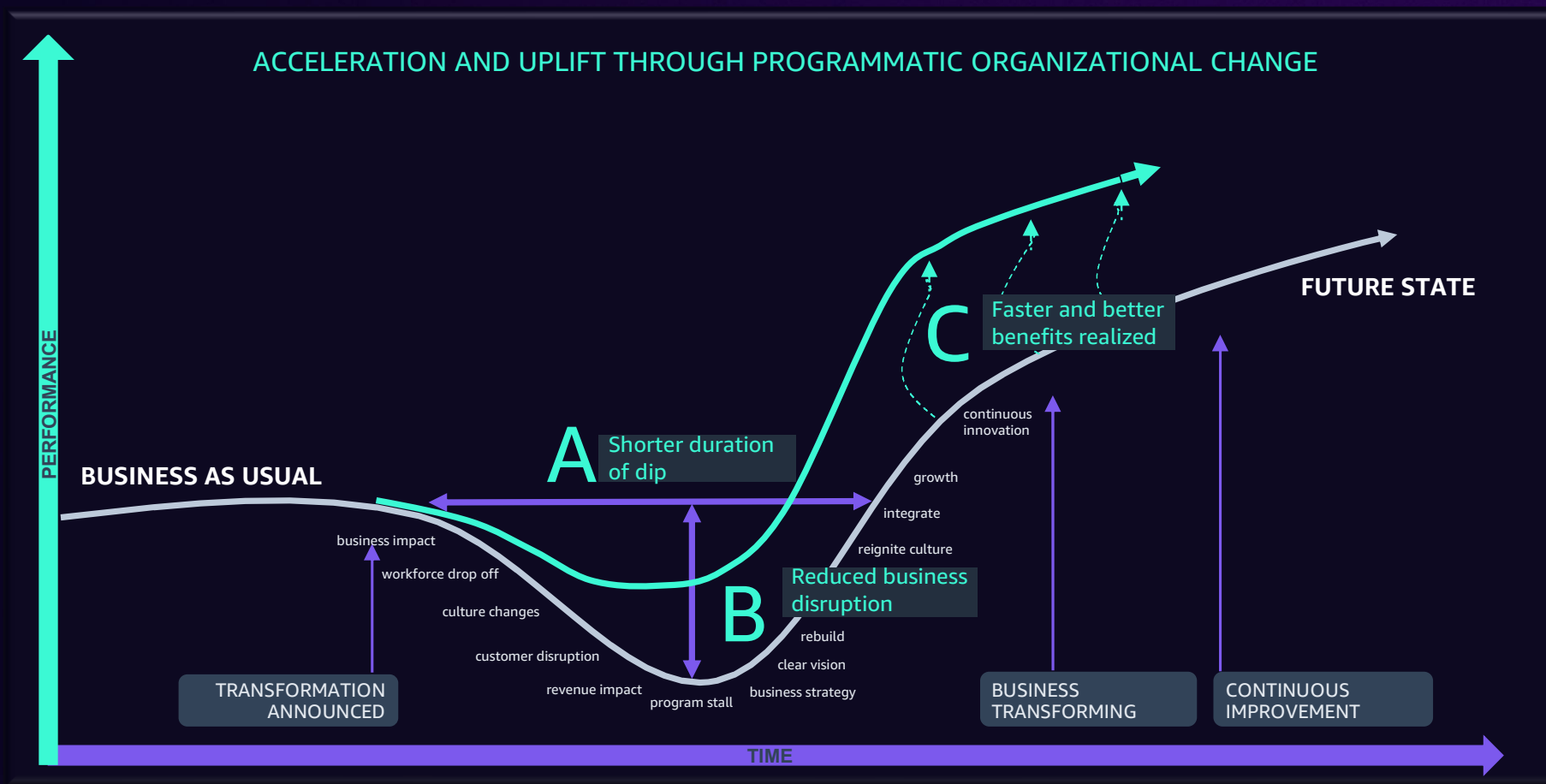
Levers to maximize strategic cloud value



② Decrease time to value with a programmatic approach

Companies that deploy a **programmatic approach** for org change transformation typically capture **7x*** better outcomes

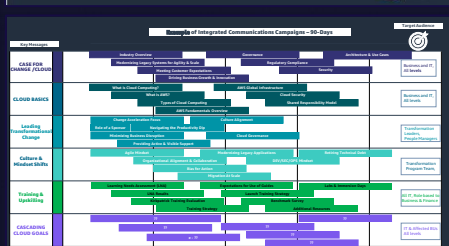
*8x in the U.S.



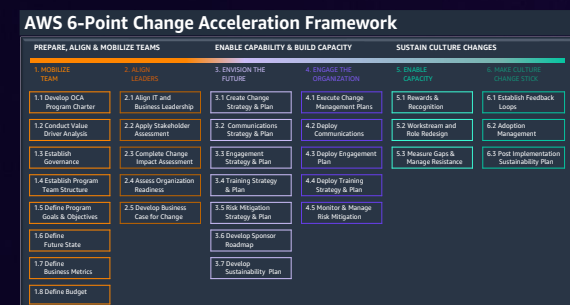
Source: Prosci, [Best practices in change management](#)

3 AWS mechanisms to operationalize new ways of working

PROPRIETARY DIAGNOSTICS



AWS CHANGE ACCELERATION FRAMEWORK



COLLABORATIVE



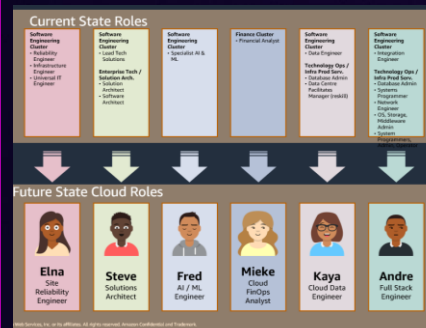
EXPERIENCE BASED ACCELERATION



IMMERSIVE EXERCISES



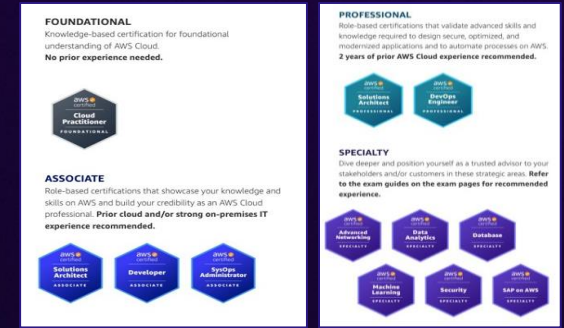
ROLE MAPPING



CLASSROOM TRAINING



AWS CERTIFICATIONS



Getting started



Create a case for change

Assess the current state of your enterprise transformation against organizational goals and identify the desired target state to achieve them



Leverage AWS Professional Services or Partners

Engage with AWS Enterprise Transformation experts or large network of AWS Partners



Decide on a strategy and approach

Develop and align on strategy, approach, and plan



Begin your enterprise transformation in the cloud

Execute on a plan to deliver value incrementally at a manageable rate of change

Thank you!

Chris Pastena

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Expert Services

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