EDB DAYS · TRACK 01

The Executive Playbook

Strategic Value of the EDB Data & AI Platform

Vibhor Kumar · VP, CX Technical Advisor · September 2026

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ABOUT THE SPEAKER

Vibhor Kumar

VP, CX Technical Advisor

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Vibhor is a Global Vice President at EDB, specializing in performance engineering and cloud-native database architecture.

With 20+ years of experience, he is a recognized thought leader in deploying production-ready PostgreSQL on Kubernetes. He holds a Master's in Computer Applications and possesses extensive expertise in Oracle, DB2, and digital transformation.

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SPEAKER INTRODUCTION

Anil Kumar

Head of Product Management, Database Portfolio

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Leading the Database Portfolio

Owns product across EPAS / PGE, Postgres Distributed (PGD), the ops stack, and the new in-database AI layer (KernelIQ, SemanticIQ).

Two Decades of Systems Experience

Built mission-critical platforms across Postgres, NoSQL, and cloud-native infrastructure — at EDB, Couchbase, Microsoft, and Intel.

Work spans across:

Distributed databases, high availability, Kubernetes-native operators, and AI-ready data platforms.

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WHAT WE'LL COVER

Agenda

01 Introductions

02 EDB's understanding of Mastercard's goals

03 EDB's enterprise-ready, simplified data platform & portability

04 EDB app migration journey — high-level methodology and mobilization

05 Next steps

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VISION: UNIFIED DATA TO AI PLATFORM

Strategic Priorities

		JOINT STRATEGIC INITIATIVES	BUSINESS VALUE
1	**DBE Architecture, Operations, & Appliance**	▪ DBE AI Operations and Estate Management ▪ Sovereign platform benefits (High Performance, Cost Efficiency)	▪ **3.2 hrs/month (Operations), 4 hrs for database engineering** ▪ **Cost model review, SDAF appliance benefits**
2	**Application Performance, Scale & Capacity**	▪ Nexus PGD Application Real-Time Transaction Processing performance scaling ▪ Loyalty Application Acceleration and Monetization	▪ **10x to 100x Nexus TPS Improvement (Horizontal scale)** ▪ **Offers Application TPS improvements**
3	**App Migration Factory Setup**	▪ Application Modernization with Unified Data Platform, Accelerated TTM, Operational Efficiency & Risk Mitigation ▪ Migration Best Practices Guidance, Process & Automation; Global EDB Days for LOB Adoption	▪ **TTM benefits — Deploy Issuer 15-min vs. 3-mo** ▪ **Meet SLA — Real-Time Replication Spark Query**
4	**Loyalty Analytics & AI Factory**	▪ Real-Time Loyalty Marketing Analytics using EDB Lakehouse (OLTP to OLAP) ▪ Real-time analytics to AI campaign authoring & next-best-offer, PG AI Vector DB	▪ **Up to 60% Cost Improvement** ▪ **Projected $450 Million New Revenue**

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DE FACTO CHOICE FOR DEVELOPERS & AI IMPLEMENTERS*

Why Postgres? Why EDB?

THE OSS STANDARD

- De facto choice for developers & AI implementers
- Cost efficiency
- Rich functionality & versatility (multi-modal)
- Community & innovation

Postgres is the...

"...most admired, most desired database."

* Stackoverflow, IDC, DB Engines

WHY EDB?

- 20 years driving enterprise-grade Postgres
- Deeply committed to the community OSS foundation
- Positioning Postgres in the modern data landscape
- Delivered an integrated, modern data platform in 2025

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WHY PGD

PGD — PROVEN WHERE FAILURE IS NOT AN OPTION

Production numbers from the installed base — infrastructure people notice only when it stops

90%

OF US 911 CALLS

routed through PGD — plus Spain's 112 line in the Canary Islands

75+

FINANCIAL INSTITUTIONS

run PGD in production — including 50+ core banking systems

250

NODES, ONE CLUSTER

the largest single PGD cluster operating in production today

70+ TB

IN ONE CLUSTER

of transactional data under a single distributed cluster

80M

USERS IN 30 DAYS

onboarded at India's largest bank on PGD

GB

ELECTRICITY GRID

PGD balances Great Britain's national clean-energy grid

THE PATTERN **When downtime means stopped payments, dropped 911 calls, or a dark grid — they run PGD.**

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WHY MIGRATE NOW

Legacy Modernization & AI Acceleration

LEGACY MODERNIZATION

5-20 days
Toolkit & copilots migrate Oracle; assessment in 30 mins

65,000+
Postgres vs. community database migrations

99.999%
Extreme availability with geo-distributed, hybrid, active/active clusters to eliminate Oracle RAC

7x/4x/150x
Throughput price performance vs. Oracle / SQL Server / MongoDB

AI & ANALYTICS ACCELERATION

3x faster
Gen AI time-to-market vs. DIY with AWS (days, not months)

6x faster
Postgres vs. community; up to 90% better value than cloud

100%
Automated AI embeddings, data pipelines, storage & retrieval workflows with low-code RAG optimization

4.22x faster
On average for queries per second vs. other vector databases

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EDB × MASTERCARD

A DECADE OF BUILDING THIS TOGETHER

Your requirements have shaped this product — and they are shaping what comes next

THE STANDARD

Your AAA pattern — active-active-active across three AZs with external consistency — is the reference architecture PGD is engineered for.

THE PROOF

18+ months of continuous operation on your Tier-1 switch — rolling upgrades, zero downtime, no maintenance windows.

THE STANDARD BEARER

Postgres is now the default for the overwhelming majority of your new applications — the largest database estate in your environment.

SHIPPED ON YOUR ASK

Large Object replication · Integrated Connection Manager · Transaction pooling · Automatic partition management · Quorum Commit

ON THE ROADMAP YOU DRIVE

PGD Shard Tables Phase 1 · VACUUM FULL CONCURRENTLY · Enhanced auditing & login controls · Authenticated TDE & KMIP

> ***"This is exactly what we have been asking for."***
> Mastercard architecture leadership — PGD 6 deep dive, 75+ architects, March 2026

THE MODEL **You tell us what the platform must do. We build it. It ships. This hour is the next round of that loop.**

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EDB named a Leader in The Forrester Wave™

Report link

30X

FASTER ANALYTICS

Complex queries run directly on operational data in Postgres — no ETL lag, no separate warehouse.

18X

MORE EFFICIENT STORAGE

Lakehouse integration with object storage costs a fraction of all-SSD purpose-built stores.

ZERO

VENDOR LOCK-IN

Open Postgres extensions replace proprietary single-purpose engines, one at a time.

ONE

SYSTEM, EVERY MODEL

SQL, vector, JSON, time-series, and key-value — unified instead of sharded across tools.

Forrester evaluated 14 suppliers — only these four were named Leaders.

EDB — LEADER | ORACLE | MICROSOFT | MONGODB

Where EDB scored the highest

VISION | **INNOVATION** | **ROADMAP** | **PARTNER ECOSYSTEM**

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SECTION 02

EDB Postgres AI Data Platform

- Simplify the data landscape
- Deliver true portability
- Deliver enterprise-grade security

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EDB Postgres AI: All-in-One Platform

DATABASE	ANALYTICS ACCELERATOR	AI FACTORY	HYBRID MANAGEMENT
ENTERPRISE POSTGRES	ANALYTICS ENGINE	VECTOR ENGINE	HYBRID OBSERVABILITY
ORACLE-COMPATIBLE SERVER	LAKEHOUSE CONNECTOR	AI PIPELINE	HYBRID DBAAS
COMMUNITY POSTGRESQL	GREENPLUM WORKLOADS	GENAI BUILDER	HYBRID MULTIMODAL DATA
MULTI-MODEL EXTENSIONS		AGENT STUDIO	PERFORMANCE MGMT
MGMT & OBSERVABILITY		MODEL SERVING	MIGRATION MGMT
KUBERNETES OPERATORS			
SUPPLY CHAIN SECURITY			
MIGRATION TOOLS			
HIGH AVAILABILITY			

DEPLOY ANYWHERE	ENGINEERED SYSTEM	HYBRID SOFTWARE	MANAGED PLATFORM
SOVEREIGN ASSURANCE	MANAGED SERVICES	PILOT-TO-PRODUCTION SLAS	OUTCOME EXECUTION

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Enterprise Postgres

PRIOS
- RESILIENCY
- CONTROL & SECURITY
- ADDRESS COMPLEXITY
- PORTABILITY

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ENTERPRISE POSTGRES

Superior Postgres support: SLO-backed response, remediation, and resolution time

DB **security** enhancements: **encryption** (TDE), enhanced **audit, privilege** management

High availability/resilience for **mission-critical** workloads and online maintenance

Tools for administrators to deploy, operate, and maintain estates; diagnose problems; minimize downtime

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Modernization – Consolidation

PRIOS
- RESILIENCY
- CONTROL & SECURITY
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- PORTABILITY

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MODERNIZATION

Migration off legacy database platforms, with Postgres adoption expertise

Automation, developer experience enhancement (K8s); **cloud-native**, **hybrid/multi-cloud**

Analytics on Postgres/Lakehouse implementation + DWH/MPP

Accelerated **GenAI/agentic AI** implementation — no code/low code

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Sovereign Data & Portability

PRIOS
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SOVEREIGN DATA

Hybrid on-premises and public cloud support for **data management**

Pre-built **engineered system** for DBaaS and AI workloads

Sovereign AI: critical industries with sensitive information “bring the models to the data”

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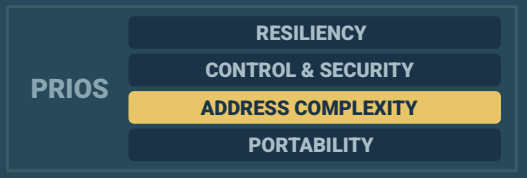
Opportunity: Unified Query Engine

Move from database to data platform in Postgres — combine structured/unstructured & diverse workloads



CHALLENGES

- Too many query engines
- Governance gaps
- Legacy silos and modern data stack fragmentation

EDB POSTGRES AI SOLUTION

- **One platform** for querying across all data
- **Familiar Postgres interface,** no new skill sets required
- **Real-time data processing:** improve efficiency, flexibility, scalability, security

EDB POSTGRES AI

With unified governance & management

Transactions

Postgres enhanced for first-class, highly available, distributed apps

Analytics

Accelerate performance for your most demanding workloads

AI

Built with AI, built for AI: a next-generation experience ready for your AI apps

- **Building on Postgres's** industry-renowned transactional workload support
- **Postgres is extended** for analytics workloads with significantly faster performance than traditional
- **Data warehouse quality of service** on cheaper storage without expensive ETL
- **Reduced complexity** with a one-stop Postgres solution for transactions, warehouse, and advanced analytics

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Simplify the Data Pipeline & Refactored Microservices

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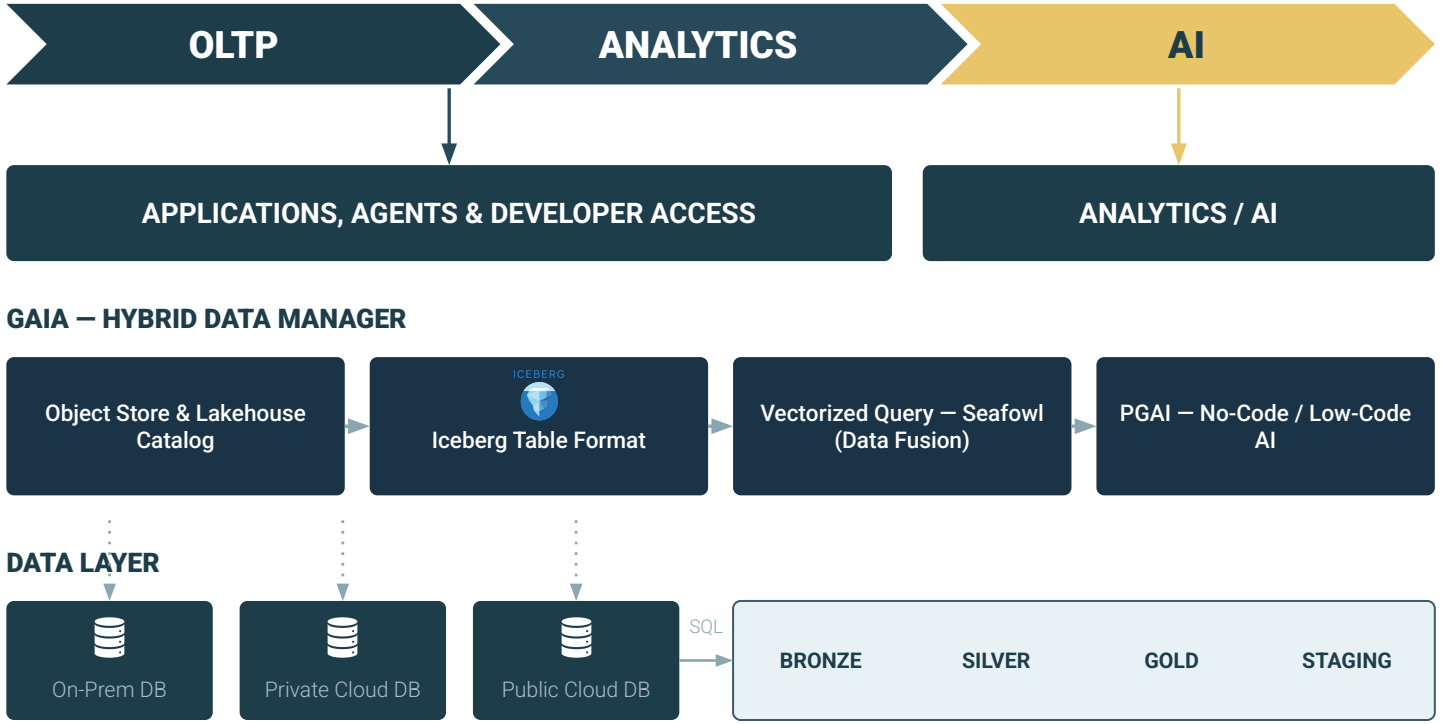
- CONTROL & SECURITY
- **ADDRESS COMPLEXITY**
- PORTABILITY



VALUE PROPOSITION

- **Unified data interface** across workload types and agentic/conversational AI applications
- **Disaggregate storage and compute** to allow independent scaling; tiered storage for cost optimization of aged data
- **Postgres observability** with key KPI/metrics on a single pane of glass across systems
- **Reduced TCO, complexity;** improved sustainability

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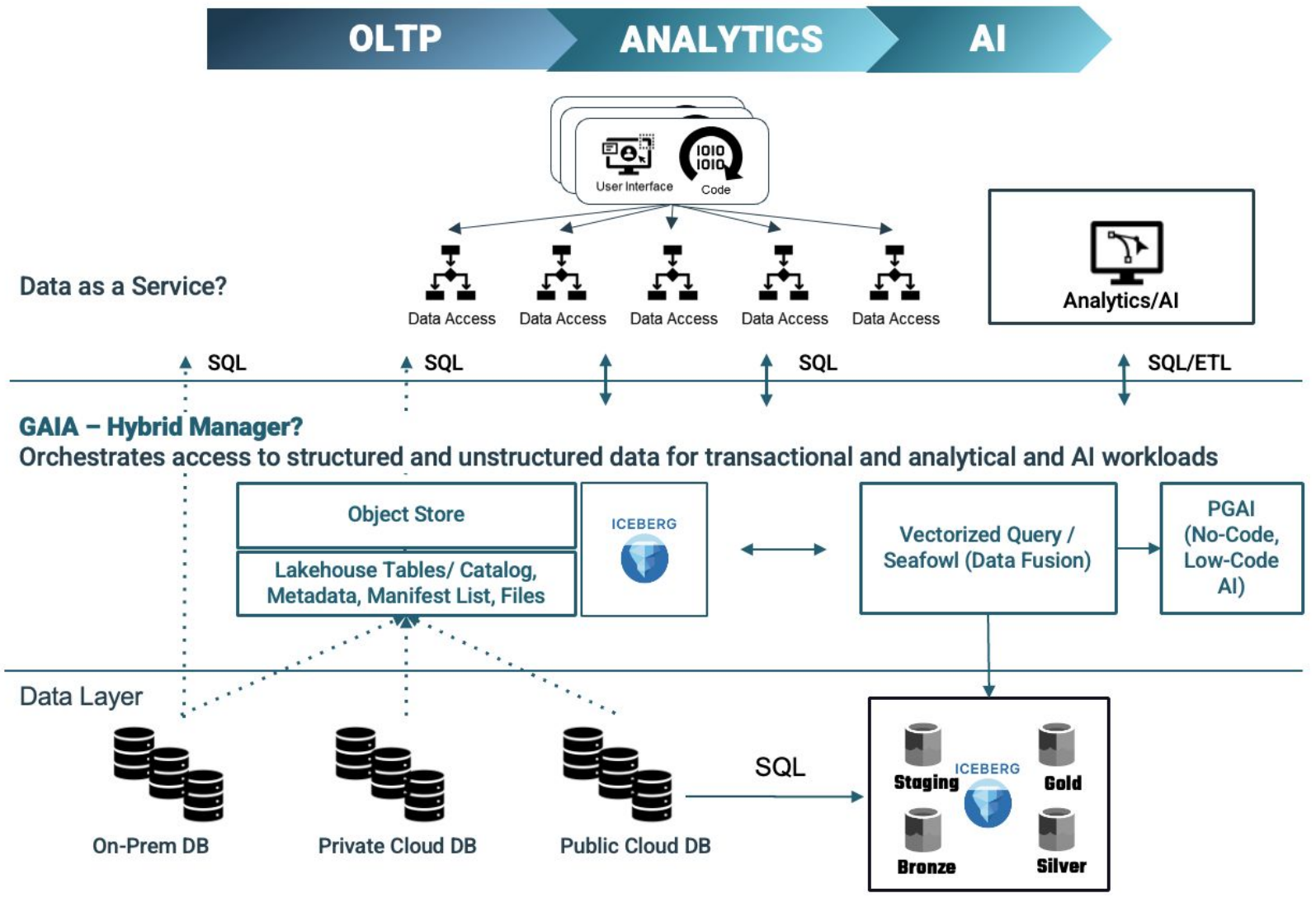

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THE FULL DATA LIFECYCLE

Converged Analytics at a Glance

Modernize & innovate faster

Open Source + Sovereign

Own your strategy and your infrastructure

Unified Data Lifecycle

One catalog unifies governance, engines & agents

58% Lower TCO

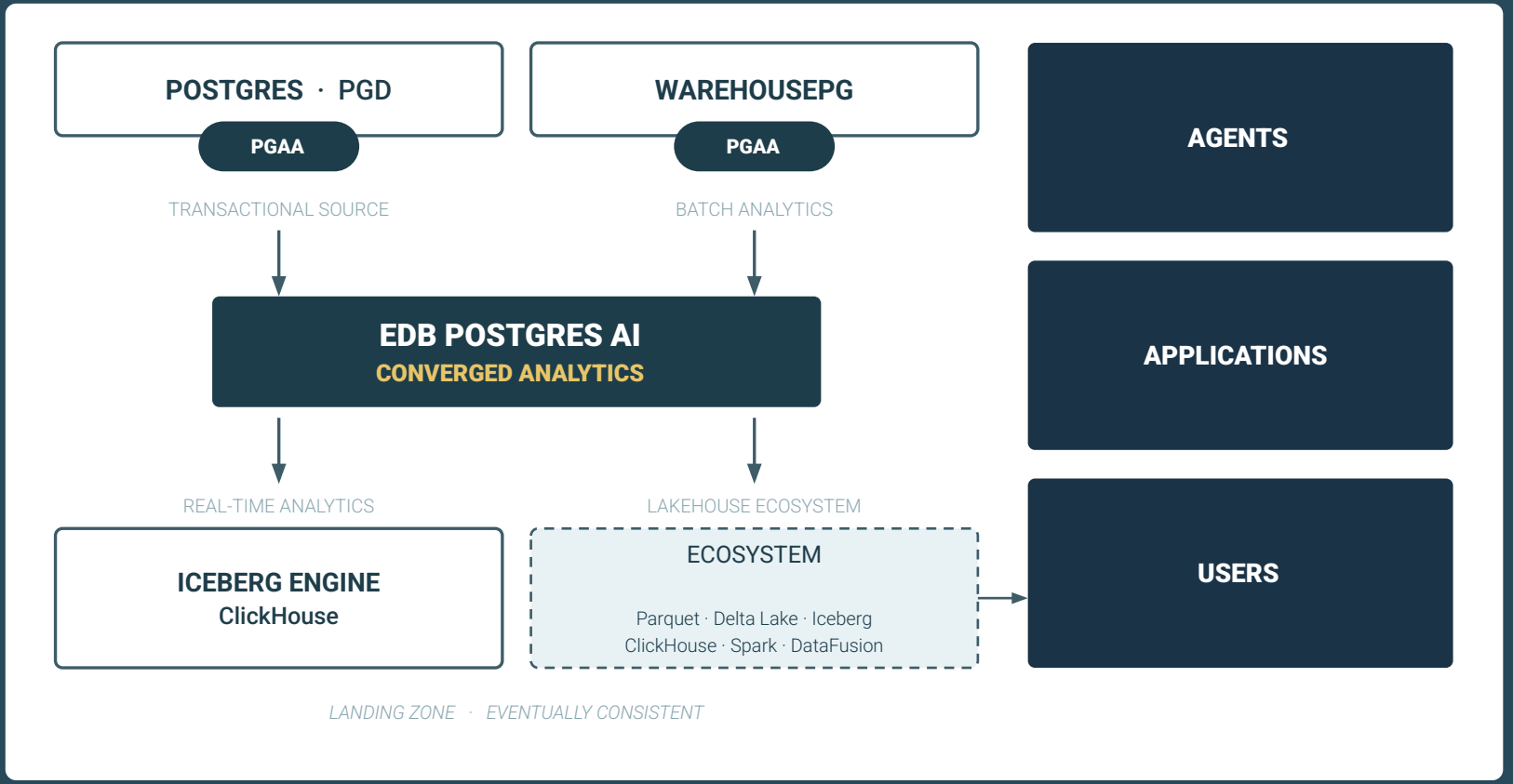
vs. Cloud Data Warehouses (independent benchmark)

50–100× Faster

With GPUs, for the heaviest workloads

One Strategic Partner

#1 Postgres contributor · proven enterprise OSS



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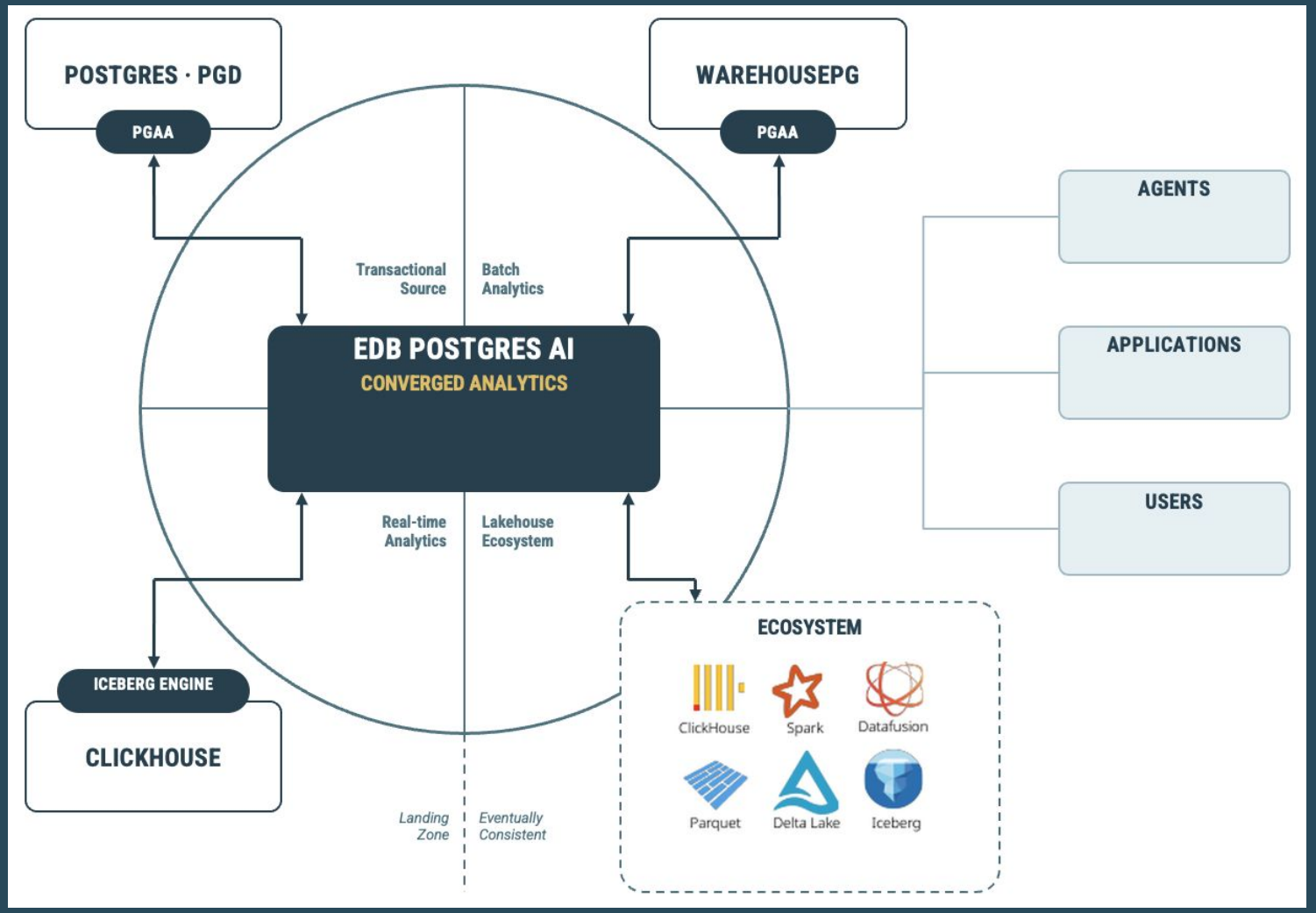

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Hybrid & Workload Portability

PRIOS
- RESILIENCY
- CONTROL & SECURITY
- ADDRESS COMPLEXITY
- PORTABILITY

MODERN ESTATES ARE MULTIDIMENSIONAL

(and can be complex to deploy/manage and consume)

FRAGMENTED · DUPLICATED EFFORT

- **Managing Postgres** on premises, in AWS, in Azure, in GCP — required skill sets are multiplied and duplicated
- **Pricing and real costs** are inconsistent
- **Maintaining multiple builds** because not all features/extensions are supported in all environments
- **Monitoring and consumer experience** are inconsistent — throttling time-to-market

THE EDB APPROACH

EDB has the databases, tools, and people to run Postgres consistently anywhere.

UNIFIED · CONSISTENT PLATFORM

- **Deploy on premises & hyperscaler,** plus multi-cloud — with consistent binaries & UI
- **Five 9s,** online maintenance
- **Single pane of glass** to deploy, operate, and maintain your Postgres estate, on premises or in cloud or both

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SECTION 03

Migration/Modernization Decisions

- Finding a path forward
- Tools and processes
- Mobilize migration for your organization

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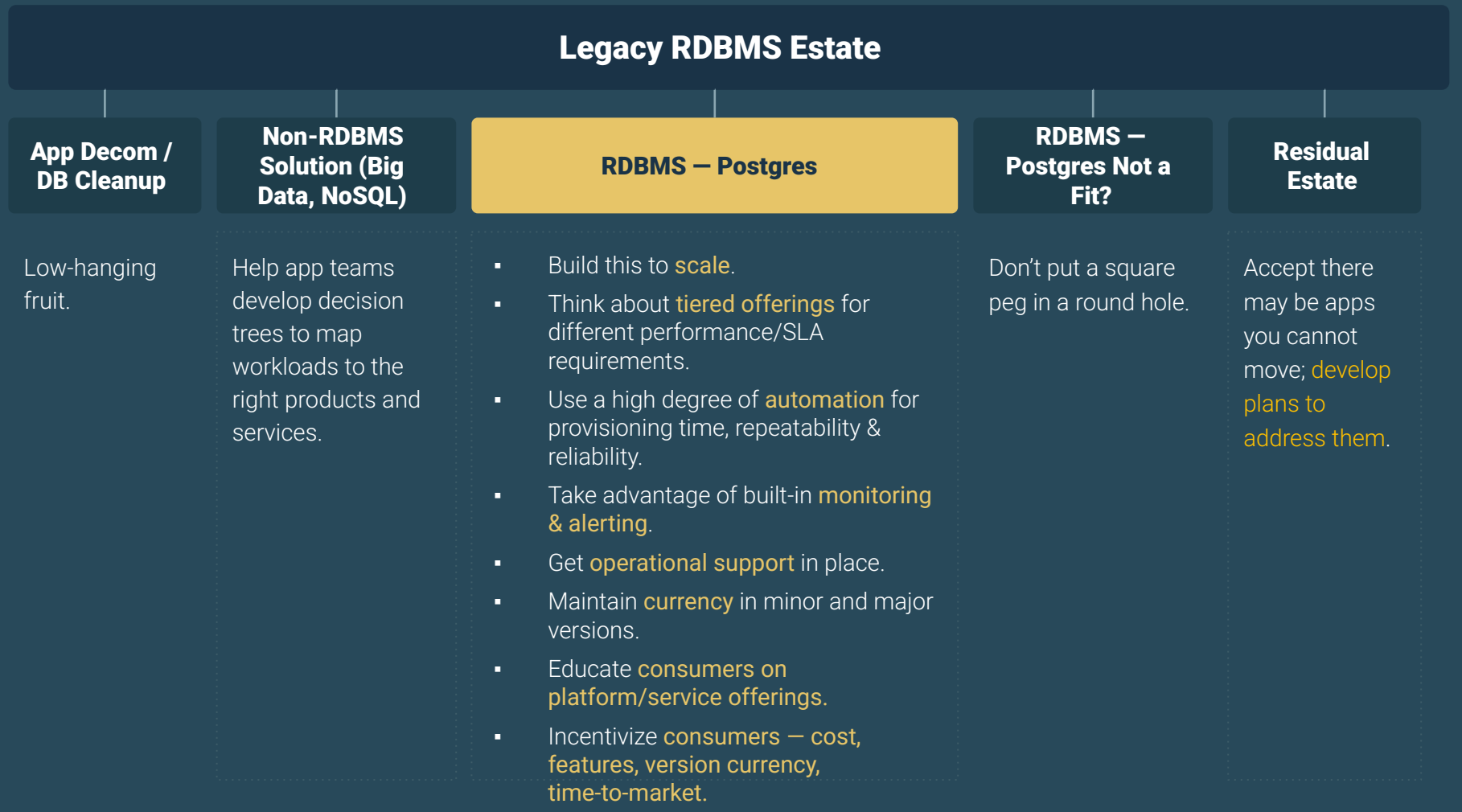
What Is the Right Path for You?

There are many options to reduce/exit a legacy database estate.

Our experience is that there is value in investing up-front time to evaluate.

Understand which are most applicable to you.

Determine readiness of target platforms.



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EDB Migration to Postgres Journey

1

PREMIGRATION

DISCOVERY

- Drivers + Goals Validation
- Scope/Timeline/Priority
- Estate-Wide Assessment

BUSINESS CASE

GO / NO-GO?

2

MOBILIZING

ESTABLISH PROGRAM

- Stakeholders, Governance
- Metrics and Targets
- Socialize

DESIGN + BUILD TARGET PLATFORM

DESIGN THE PROCESS

- Migration Process Definition
- Test / Iterate with Pilot Apps
- Teams, Roles/Resps

3

EXECUTION

STEPS PER APPLICATION

- Detailed DB Assessment
- Schema Remediation
- Data Migration
- App Tier Remediation
- System + App Test
- Performance Tuning
- Integration Testing
- Env Lifecycle Testing
- Prod Go-Live
- Legacy Env Decommission

BUILD / MAINTAIN MIGRATION DEMAND PIPELINE & SCHEDULE

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Journey Overview Business Case

A graphical view depicting movement of run costs over time and saving/avoidance opportunities.

MIGRATION ROI MODEL

For 1,000 applications, 6,000 databases, 24,000 cores of Postgres and 0 cores of PGD

Annual OpEx reduced from today by

50% ($24.7M → $9.99M)

Cumulative cost avoidance over term

$44,464,313

One-time migration cost to achieve

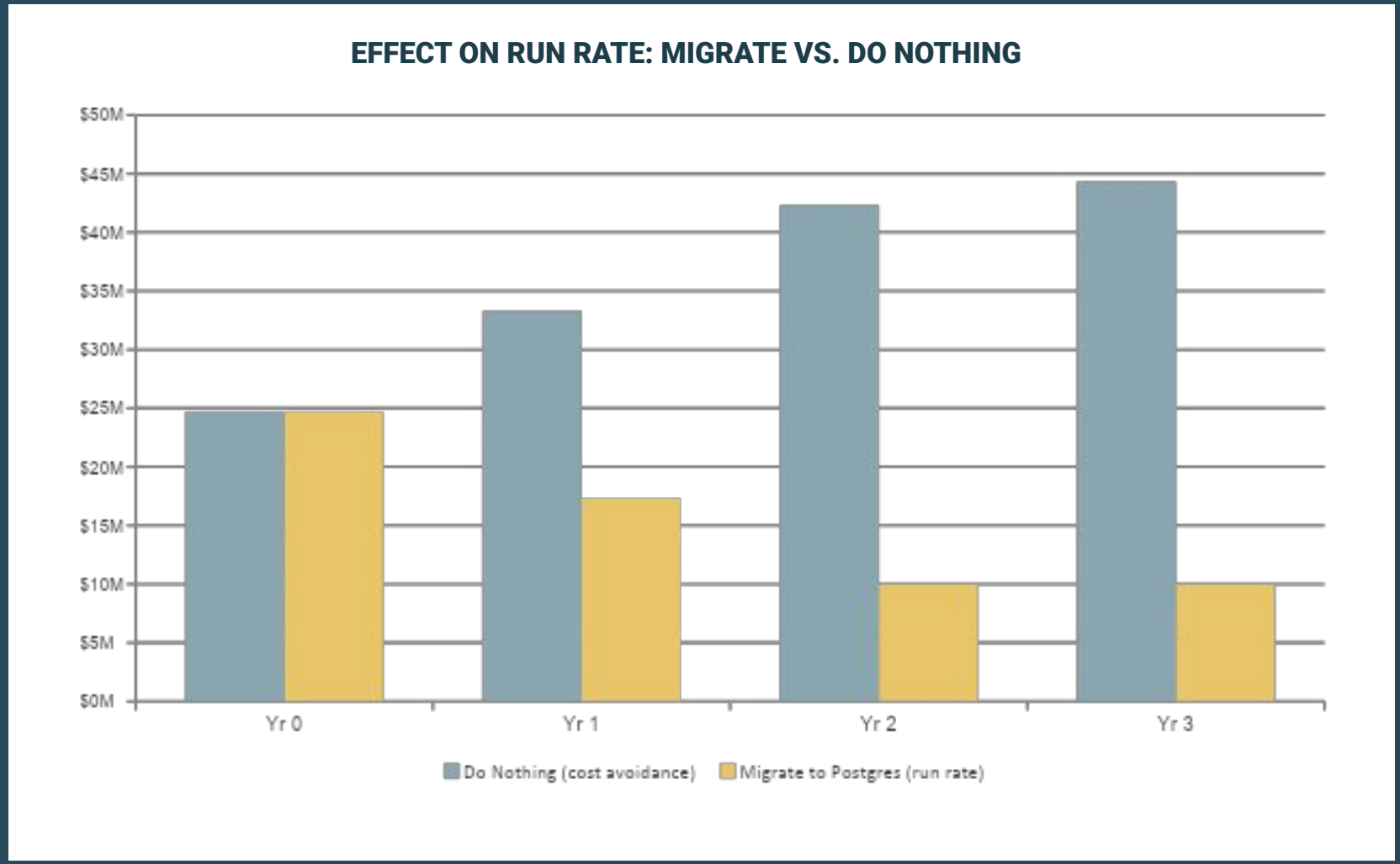
$23,296,500

Return on investment

In year 2

[+] INPUTS

- Customer Estate Information
- EDB Subscription Choice
- EDB Support Plan Choice
- EDB Variables
- Financial Model Parameters



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Mobilizing Your Organization

Technical capabilities are key, but make sure you **build support**

1 Solidify Your
Migration Goals

2 Are Your Target DB
Platforms Ready?

3 Program Approach
Top-down, organic growth, or other?

4 Stakeholders &
Governance

5 Business Case,
Contractual Options & Funding

6 Define Metrics,
Set Targets & Tracking

7 Socialize Process,
New Platform Capabilities

8 Mobilize Technical
Migration Process

9 Application Community
Enablers & Incentives

10 Partner with Other
Initiatives? (e.g., EOL)

A CONTINUOUS CYCLE OF MOMENTUM

Not a one-time project — a durable operating model your organization keeps running.

Topics can be workshopped with customers as required.

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THANK YOU

Vibhor Kumar · VP, CX (Data & AI) Technical Advisor

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